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BY

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OBSERVATIONS ON THE TEACHING OF CLINICAL MEDICINE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON PRACTICE OF MEDICINE AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS, MAY 5-8, 1903.

WILLIAM SYDNEY THAYER, M.D.
BALTIMORE.

A hundred years ago the young American republic bought from the French government that great tract of land of which the little frontier city of Nouvelle Orleans was the chief settlement. It is a happy chance that brings us together on the centennial anniversary of the Louisiana Purchase in this metropolis of the south.

One hundred years—a small space of time in the world's history, and yet what events have been crowded into this little period! A hundred years ago the country west of the Mississippi was a wilderness. To-day we meet, a national body, the majority, perhaps, of our members coming from what was then forest and prairie, inhabited only by savage and wild beast. And the young democracy, then all but unknown to the powerful empires of the east, has become the dominating factor in the markets of the civilized world.

In this amazing growth and expansion, in this tremendous accumulation of wealth and strength and power, it was scarcely to be expected that our contributions to science would keep pace with those of the Old World, where accumulated wealth, settled conditions and well equipped institutions of learning naturally tempt the studious and contemplative mind to problems of science and research. And yet, how many of the great discoveries and inventions of the century have come from this new country! In our own branch of learning the record is one of which we may well be proud. The discovery of anæsthesia, the demonstration by Holmes of the contagiousness of puerperal infection, the studies by the students of Louis on typhoid fever, the accomplishments of Bigelow and Sims and McDowell and, lastly, the noble work of Reed, Lazear, Carroll and Agramonte in Cuba and of those who have demonstrated to the world the practical value of their great discoveries—these are but a few examples of an honorable record.

And during this period what a change has come over the condition of medical education in this country! One hundred years ago there were three schools of medicine in America: the Department of Medicine of the College of Philadelphia, the first school of medicine in the United States; the Medical School of Harvard College, and the Dartmouth Medical School of Hanover, N. H. To-day there are over one hundred and fifty.

One hundred years ago only the most favored and fortunate were able to receive anything like a systematic medical training. Not that there were not educated physicians in America. There were in Carolina and New England, in New York and Virginia and Pennsylvania men who had profited by the inspiration and opportunities offered in the best schools of Europe. Many a young man, however, was obliged to begin his studies by "reading medicine" in the office of some older practitioner. His theoretical knowledge was gained from a few books, his main instruction came through the practical observation of disease, gained by assisting at the operations and visits of his preceptor.

In some of our early medical schools the requirements were, however, such as may well surprise those of us who consider the fact that within fifteen years medical schools in this country were giving a degree of doctor of medicine for one year's study. "Although," says Thatcher in 1828 (American Med. Biography, 80, Boston, 1828) "there is no uniform standard of attainment established in order for graduation, in most of our schools it is required that before a student can be admitted to an examination for a degree he must have attained to the age of 21, have studied three years with some regular physician, attended two full courses of lectures on the different branches of medicine, and, if he has not enjoyed the advantages of a college education, he must furnish satisfactory evidence of having made respectable classical attainments, and particularly that he has acquired a competent knowledge of the Latin and Greek languages, has studied mathematics, natural and experimental philosophy, geography and belles lettres. In several of our schools it is required that he shall have attended the clinical practice of some infirmary for a specified term. It is also required that before he can receive his degree he must pass a close examination in the different branches of medicine and write and defend a thesis on some medical subject."

The first schools of medicine were, for the most part, founded in connection with hospitals, and the actual study and observation of the patient was an important part of the student's curriculum. The multiplication of medical schools, however, proceeded with great rapidity. The number of students in some of these institutions was so great as to preclude the possibility that each individual should have sufficient practical experience from the amount of clinical material at hand, while in other instances schools giving the degree of doctor of medicine were established entirely independently of hospitals or infirmaries. Ten years ago the requirements for admission to many of these schools were almost *nil*. It was not uncommon to hear that this or that good

fellow whom one might have known but a day before as the driver of a horse car, had taken his degree in medicine. On investigation it might be found that for the past one or two years he had been attending evening classes, and at the end of this period had stepped from the platform of his car to the bedside of the patient with a degree attesting that he was a competent practitioner of medicine.

Within thirteen years I remember to have heard a colleague relate with pride that he had just accomplished in one year his whole course in medicine at a university with an old and honorable name, practically without clinical advantages. This is, to say no more, far from the ideals of our ancestors.

In the last few years, however, great changes have come into our methods of teaching. Four years' actual work in a medical institution are everywhere required. In our better schools anatomy, physiology, pathological anatomy, pharmacology are no longer taught as they used to be, by lectures to an untrained body of men. In many instances the student begins his medical studies with a training which has already taught him to think and investigate for himself; and our duty as teachers is coming to be rather that of guides and leaders than of simple lecturers.

The teacher to-day must be a student and investigator in his own line. The time is passing when the professor of anatomy or physiology can be a practitioner of medicine. His whole time must now be given to his studies and his teaching, and his immediate duties are not so much to lay facts before his students as to show the student how to find them out for himself.

And so it is in all these branches. The student in the laboratory sees, acts, controls, verifies. While of old he was expected and required to believe what was said to him, he is to-day taught rather to doubt that for which he can not obtain proof. And in like manner throughout the greater part of the course the didactic lecture is passing—such matters the student can read—and is being replaced by practical anatomical, physiological, pathological, pharmacological, experiment and experience. The same methods have come into the teaching of physical diagnosis in its restricted sense, as well as of minor surgery—lectures and demonstrations have largely given way to practical experience in small sections. In some of our schools the teaching in these branches compares with the best that can be found in the world.

But when we arrive at the last stage, the study of pathological physiology in the individual, the observation and care and treatment of the patient, we find, strangely enough, that the advances which have been made in our methods of instruction have not kept pace with those in the other branches. If there be one opportunity in the course of the study of medicine which it would seem most necessary for us to provide for our students, it should be the privilege of watching and studying at the bedside those diseases which they are most likely to meet with in practice. It was the first necessity recognized by our ancestors; it is the first necessity that would be appreciated by any non-medical man; and yet I believe that any one who investigates the matter will realize that it is one of the weakest points to-day in our American system of medical education.

What actual clinical experience does the average medical school of this country offer?

The clinical instruction offered in most of the better schools in this country consists in:

1. Exercises in physical diagnosis proper, which may include good practical work in small sections, but which commonly consist more of lectures and demonstrations than practice and experience.

2. Clinical lectures in which but few, if any, of the class approach the patient.

3. Ward visits which are too often infrequent.

4. Exercises in which students report individually on cases which have been assigned to them for study.

The requirement of a continuous service of students as assistants in hospital wards is almost unknown in this country.

The student who has graduated from such a school may, and often does, leave the institution with a fairly good training in methods of purely physical diagnosis. But how few of us in this room at the time we left the medical school, had ever followed a case of typhoid fever, pneumonia, measles or scarlet fever from beginning to end. And yet there is but one way by which one can learn to recognize and treat these diseases—and that is by bedside experience. Clinics, occasional visits, books and lectures, these weigh but little in the balance. If, as would seem to be the case, the medical records of our late war with Spain reveal a strange lack of familiarity on the part of many physicians with such important diseases as malarial and typhoid fevers, this is due largely to the failure of our medical schools to offer them the necessary bedside experience in the course of their early training.

And again, how few of us as students ever had brought practically before us the vital questions of when and how to administer stimulants in acute infectious diseases; whether, in any given emergency, those drugs should be given which raise or depress the blood pressure. But these are matters which may mean the life or death of the patient, and it is a sad fact that nothing is more common than the administration of nitroglycerin in conditions of profound vasomotor collapse by conscientious men who have missed in their education just that which early and well-directed clinical observation and experience might have brought them. This defect in our medical teaching is further emphasized when we compare the curriculum in most of our schools with that which is required in England and France. In London and Edinburgh, for instance, schools require of a student at least six months' service as a clinical clerk in the medical wards and a similar length of time as a dresser in the surgical department of the hospital. In Paris the student is required to give his whole morning to ward work of this nature for two years—one year in medicine, one in surgery.

That it is desirable that we in America should offer in our schools and require for our license to practice an amount of practical experience equal to that required in Europe is obvious.

Of the necessity for such requirements if we wish to keep pace with the progress of the world and properly educate our medical men there can be no question.

Of their practicability there can also be no doubt when we consider that such methods have been in force for many years in a country where individual liberties are as jealously guarded as they are in England.

Why is it, then, that so serious a defect exists?

The reasons are various and not altogether simple. The more important would seem to be:

1. The absence of state or national laws requiring such work.

2. The multiplicity of medical schools and the existence of many such institutions unconnected with hos-

pitals of sufficient size to furnish material for the instruction of the students.

3. A wide-spread prejudice existing in many hospitals against the admission of students to the wards and against the use of patients in general for purposes of instruction.

1. The first of these reasons is, of course, the most important. Until the states require such experience for a license to practice there will always be schools which will give a degree for less work. It is for us individually as physicians and collectively as we are associated in teaching bodies to strive to raise the standard and to hasten the day when such requirements are put in force.

2. It is the absence of these requirements which is, in great part, responsible for the multiplicity and inferior quality of some of our medical schools. With proper state regulations institutions unable to offer the requisite amount of bedside experience would of necessity go out of existence. The hospital is the most important part of a school of medicine, and that school which does not own or, to some extent, control a hospital sufficiently large to furnish practical experience for its students is not only incomplete, it is a pernicious and dangerous institution. It is greatly to be hoped that state or national laws, as well as the force of enlightened public opinion, may soon remedy the evils caused by the existence of such establishments.

3. As a matter of fact, however, most even of our larger and better supplied institutions do not, as they should, own or wholly control the hospitals on which they depend for clinical material, and the vague fear that the admission of students to the wards may prove prejudicial to the interests of patients or institution deprives these schools of an enormous amount of valuable material. That this fear is wholly without foundation is a fact which is clear enough to any one who has had experience with active ward teaching. But there is another side of the question, to which attention has recently been called by Dr. Osler,* which is of very great importance to the hospitals themselves. The duties of the house physician with the recent advances in methods of precision in diagnosis and study of disease in ward and laboratory, have in latter years increased to a degree that demands outside assistance if the patient is to be properly studied, properly watched, properly treated. Much of this work can be done better by advanced students than by any other class of assistants. To assign three or four advanced students as clinical clerks to a ward of twenty-five or thirty patients, letting each student be responsible for the history, the examination of the secretions, the general observation of four or five patients, under the control of the ward physician, is to give the physician invaluable assistance in the keeping of records, in accuracy of observation, in the detection of many points in the progress of the disease, points which may be, and often are, of vital importance to the patient. The admission of students to the wards of hospitals in this capacity is not only without harm to the patient but is of the greatest practical value. That the careful study of each case resulting from such a system is, moreover, without annoyance to the patient I can testify from my experience of the past thirteen years in Professor Osler's wards, in which I have seen the direct transition from one system to another. To the student this experience is invaluable, and it seems to me to be absolutely necessary, if the degree of doctor of medicine is supposed to represent a qualification for practice.

Such experience, however, is of limited value unless it be associated with frequent and careful ward visits from the instructor. And these visits make considerable demands on his time. Teaching, direction of the research work of the department, the study of the material afforded by the clinic, these should be the main duties of the professor of medicine—duties incompatible with other than a purely consulting practice. To make this possible our universities must recognize the fact that the professorship of medicine, as well as the professorship of anatomy, should be properly endowed. Only by the adoption of some such system as this can we hope to bring our instruction in the practice of medicine to the level of that which is given in Europe.

For proper ward teaching the clinic must be so organized that the professor shall have several regularly appointed assistants, who shall take part in the investigation and instruction going on in the department. This is desirable, not only for the instruction of the students, but for the education of teachers. If we are to approach the infinite number of problems in pathological physiology which come before us every day in the observation of disease in anything like the manner in which such problems in normal physiology are studied in the laboratory, we must have a regular staff of assistants. No laboratory of physiology, for instance, could accomplish scientific work if the entire staff consisted of the professor and a number of young internes appointed annually from the graduating class. It is only through the opportunities offered by such positions that younger men are enabled to acquire that experience which fits them for the task of teaching.

The problems involved in the study and teaching of clinical medicine differ in no essential from those connected with the study and teaching of physiology, and until we recognize this fact and meet it squarely our clinics will remain unproductive and our teaching inadequate.

The most serious impediment in the way of advance in our methods of clinical study and teaching is the wide-spread institution of rotating services in our hospitals. In no service where the head of the department changes every three or four months can really valuable investigation be accomplished. And the best instruction can not be given to students in wards presided over only by a visiting physician and young, annually appointed, assistants. A permanent service, even though it be small, and a fixed staff of assistants offer incalculably greater advantages for study and research and teaching.

It is, of course, evident that instruction of this sort in larger schools can not be given in one clinic or by one man. The day must come when every well equipped hospital shall be at the same time a laboratory for the study and teaching of clinical medicine, offering the clinical advantages required by the central university or by state regulation. Every physician or surgeon holding an appointment at a large hospital or out-patient department should be encouraged to teach.

The hospital will gain by the supply of the best trained assistants and by the education of the staff, for there is no training so good as that of teaching, and there are no such spurs to work and progress as the questions and suggestions of the enthusiastic student.

The student will gain, in a few months, experience which it might require years to accumulate after graduation, and he will acquire that experience, as I have said

* Med. News, N. Y., 1903, lxxxii. 49.

elsewhere, at a time when he is free from the prejudices and preconceived ideas which are sure to obscure the judgment of the man who has gained his medical experience second hand from books or lectures.

The general public will gain the simple protection which any civilized government owes its citizens.

In this very city there are opportunities such as exist in scarcely any other community of this country for the realization of our ideals in medical instruction—a city of over 300,000 inhabitants, a fine old hospital of nearly 900 beds, a single school connected with a university of honorable past and most promising future. Tulane University has been a leader in this branch of medical education, but it can do more. The university can still offer to the hospital and the hospital to the university that which might make New Orleans the model for the rest of the country.

Original Articles.

THE BOY'S VENEREAL PERIL.*

[The author believes that the objects of this paper will be furthered by substituting initials for his name and by omitting his address in reprints thereof.]

FERD. C. VALENTINE, M.D.
NEW YORK.

I. INTRODUCTORY.

Many important books have been written and many valuable papers contributed to medical journals on the dangers of venereal diseases. All show that venereal diseases are more perilous to the individual, the family and the state than are all other ailments combined.

Study and effort directed to their abatement lead to the inevitable conclusion that venereal diseases are due essentially to prostitution, clandestine and public. The knowledge that venereal diseases are due mainly to prostitution does not, however, reveal the means of curing the evil: 1, Because all efforts to reduce public prostitution have proven and are always likely to prove futile; 2, because clandestine prostitution is necessarily beyond all efforts to limit its still greater power for evil.

The principal cause for the physical and moral wrecks produced by prostitution lies in ignorance. The same ignorance misleads many of the victims of prostitution to regard lightly the ailments thereby acquired.

The need for public enlightenment being manifest, many earnest men, I among them, have advocated lectures to the people on these subjects. More mature thought has, however, brought the conclusion that such lectures would fall short of their purpose, principally because, to be effective, instruction must be given at the opportune moment. A state of receptivity dependent on a condition so individual as mental, physical and sexual puberty must necessarily, in any assemblage, form as varying a factor as there are people present.

Obviously the effective teaching of these matters can be done only in private. It would seem at first glance that this is the father's duty. But some, indeed many men are so far removed psychologically from those nearest them that they could never successfully undertake this delicate task. Such men must relegate the duty to the physician, the teacher or the clergyman.

Among teachers and clergymen many have vague, and often gravely erroneous ideas on these subjects. Indeed, a majority of them has not received even rudimentary education on the structure and functions of the genito-urinary organs. They consequently have no knowledge whatever of the diseases due mainly to misuse of the genesic function.

If, for the reasons given, the father, clergyman or teacher is disqualified from imparting the necessary warnings, it may be well to direct the youth to study the third, fourth and fifth divisions of this paper.

II. THE DANGERS OF VENEREAL DISEASES.

In occasional contributions to our medical journals one eminent man or another asserts that the exercise of the sexual act is unnecessary for the preservation of health. As far as I know this has not been refuted. One reason for this silence may be, and probably is, that such refutation would be more likely to be read than were the articles contested. They would, as all such things do, fall into the hands for which they are least intended and be perverted to serve as scientific endorsement for libertinage and profligacy.

Wiser and deeper students may, in the course of time, establish whether illicit relations between the sexes is ever a vital necessity. For the present it suffices to say that young men are everywhere beset by temptations and induced by the spirit of evil, by the jests of their companions and by the solicitations of mainly clandestine offenders to seek sexual gratification, the desire for which is thus awakened.

The present purpose would not be advanced by a discussion of the need of sexual gratification for the maintenance of health. Moreover, the subject seems too individual for generalization and therefore not capable of wide application.

So much, however, experience shows, that no matter what volumes may be written on the wisdom of male sexual purity, whatever the endeavors of moralists, there will be, as there always has been, a vast majority who disregard precepts which oppose their desires. In consequence there is, as there always has been and will be, an overpowering multitude of men who acquire venereal diseases to the detriment of themselves, their families and the state.

To what extent this detriment goes is incalculable, as statistics on the subject can not be reliable. It will suffice here to note that conservative authors estimate that one-eighth of all the patients in the hospitals of New York are inmates thereof because of venereal diseases or their consequences.[1]

Those in hospitals represent but a small fraction of the people attainted. The latest study of the question[2] made by a body of physicians appointed by the New York County Medical Society for the purpose, makes the appalling declaration that 200,000 people infected with venereal diseases are walking the streets of our city.

The working and consequently earning power of these people is materially reduced. If every infected person loses only $1 per day, then the loss of earnings from this cause alone amounts to *sixty million dollars* per year. This loss is directly or indirectly borne by all, even those who are so inexpressibly selfish as to have no feeling for the sufferings of others.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

1. Specific mention of the works of such eminent writers as Morrow, Sturgis, Tarnowsky and others, is intentionally omitted here because they are well known to the medical profession. Laymen who may desire further information on these subjects, can easily obtain from their physicians the titles of the best works that treat of them.

2. Morrow: Report of the Committee of Seven on the Prophylaxis of Venereal Diseases in New York City. Medical News, No. 25, 1901.

The heaviest part of the burden rests on physicians, who must give their services gratuitously to over 66 per cent. of their patients. But they do not complain of their unrecognized philanthropy, nor do they advertise it. They exercise it as the most important part of their priesthood.

Men who devote their lives to the relief of misfortunes which bring the deepest woes, are daily astounded at the consummate ignorance that prevails among all classes regarding what is, from the nature of things, a generally tabooed subject. It is not only the uncultured, uneducated man who is the victim of unbridled passions; his cultured, educated and intellectual brother is equally and just as frequently unfortunate. There is no excessive charity in here using the word "unfortunate," for he is truly unfortunate and it avails nothing to consider him otherwise; nor is there any excessive optimism in the conviction that if all men could be informed of the dangers of venereal diseases, fewer would contract them, or having contracted them would neglect them as they now do.

Honest endeavors are continually made, especially by physicians, to enlighten the public on this subject. But their excellent counsel must ordinarily be limited to persons who have already acquired the disease, and for whom the topic has at the time absorbing interest.

The ignorance that prevails on these subjects is far-reaching in its effects. The patient, uninformed of the dangers to his health and life, generally does not seek early and radical treatment for the infection. More frequently still, associating venereal diseases with the only mention of them that has come to his notice, namely, in the advertisements of quacks, he consults one of these harpies or their congeners, the patent-medicine dealers. Later on, and often too late, he learns that every community has conscientious practitioners who scientifically study these diseases. Only then does he discover that he has wasted time, injured his health and imperiled his life through his ignorance and the shamelessness of those who have taken advantage thereof.

As little as the patient knows of the dangers to himself of venereal diseases, so little is he aware of the menace to his family. He should know at least two facts, which in efforts laid before the profession were elsewhere discussed. These facts are:

1. That of all women who die of diseases of the reproductive organs, 80 per cent. are victims of gonorrhea, of which their husbands imagined themselves cured.

2. That of all children born with seeing eyes who became hopelessly blind within a few days after birth, 80 per cent. lost their sight because of infection by gonorrhea, of which the fathers imagined themselves cured. (This paragraph refers to the time before the Credé method of protecting children's eyes at birth was employed.)

The patient is, as a rule, as ignorant of these frequent results as he is of the danger which venereal diseases are to the community. The need, therefore, of instructing the people at large on these subjects is manifest. As said before, however, the knowledge usually is imparted after the damage is done.

Many physicians, I among them, have striven to aid in combating this most dangerous ignorance. Although the papers written were received in a most cordial and kindly fashion, they could not meet the fundamental defect which prevails, that of preliminary education in those whom physicians must instruct. This shortcoming was made painfully apparent by letters from practitioners in all parts of the country.

Manifestly, then, there is need for explanation to the young which will appeal to them at the most susceptible age, that of puberty. To meet these evident requirements I have, at various times, attempted to construct an essay that would serve the ends in view. But at almost every line I was confronted by the dread that, by the very writings, the youthful mind might be directed to temptations that might not otherwise come to it.

It was my fortune, at the second conference for the Prophylaxis of Venereal Diseases, held at Brussels early in September, 1902, to receive a copy of Professor Fournier's article addressed "To Our Sons When They Have Reached Their Eighteenth Year." This admirable paper, written temperately, with much wisdom and great tact, indubitably meets the requirements of the sons of intellectual people. The temptation at once presented itself to translate Professor Fournier's paper, but throughout it is permeated with the spirit which makes it so eminently acceptable to the French line of thought. It would not apply as well in our own country, where the Anglo-Saxon manner of thinking and living predominates. Appreciating the need of a similar effort it is now attempted in the hope that better pens will take up the matter for the benefit of the rising generation.

The proposition, as suggested before, involves the problem, at what period of the young man's life this information should be imparted to him. Those closest to him must be the judges of the opportune moment.

The remainder of this paper consists of:

1. The evidences of awakening genesic tendency.

2. Masturbation and the impulses or defects that lead thereto.

3. The evil influences that mislead youths into immorality.

4. Prostitution, public and clandestine, and the mental and physical destruction they bring.

5. Gonorrhea, chancroid, chancre, and their sequelæ.

6. Advertising quacks, nostrum venders and an exposé of the methods they employ to swindle those afflicted with real or imaginary genitourinary and other ailments.

7. The reasons why a youth with a real or fancied illness due to immorality should consult a physician whom he knows, or whom his father knows.

8. The reason why reputable practitioners do not advertise.

These matters, being addressed to boys, are necessarily presented in such elementary outline and puerile language that they have no place in a scientific publication. The author therefore requests their omission here, but for completeness will add them to the reprints of this article, which will be furnished to physicians on request to that effect.

31 West Sixty-first Street.

DISCUSSION.

DR. JAMES J. WALSH, New York—The great universities of Europe, especially those in Berlin, have deliberated on this question, and the students are taught what is meant by venereal diseases and what their significance is. This is certainly not a pleasing question for deliberation, but it is an exceedingly important one. At the University of Berlin a course on the significance of venereal disease, open to all the students, is supported out of the emperor's purse, and is very largely attended, thousands of young men attending such lectures. The time must come, and shortly, too, in America when the universities do something to protect the students and give them this much-needed knowledge. At the present time all

the universities are necessarily situated in the large cities, and the young men from the country are invited to come to the city, where they meet with the dangers of city life. I think it is our duty to give these young men such knowledge as will protect them against the physical evils of venereal diseases. Faculties which do not make some provision for this are neglecting a serious duty. Any objections to such a course being instituted in our universities are founded on pusillanimous prudery.

DR. F. W. ROBBINS, Detroit—I think the paper is written in a strong style and will impress the readers. I think that mental impression is of more importance to the youth than the mere knowledge. It seems to me that the period of life at which the intelligent young are instructed in these matters is, in most respects, too late. There are two periods in the boy's life when he should be impressed with this knowledge: 1. The early period, which comes at the ninth or twelfth year. Children at this period can scarcely be expected to be much impressed with such a paper in which there is so much discussion. Then it is that the boy more particularly requires the attention of the father and not of the physician. 2. At a later period, when the boy goes to school, he should be given this knowledge. I believe it is an injustice to allow these boys to go without this precious knowledge. I think it is not so much the knowledge as the mental impression which keeps these boys moral.

DR. DELANCEY ROCHESTER, Buffalo—I am particularly interested in Dr. Valentine's paper because twelve or fifteen years ago I presented a paper on a similar subject before the American Academy of Medicine. I believe the proper time for giving such instruction to these boys is during the high-school period, and the best way of imparting this knowledge is by the proper teaching of physiology in the schools by physicians. The whole subject of physiology should be taught and not—as at present—only part, and that imperfectly. The truth should be taught; and that is that there are two great functions of the organism, namely, the preservation of the individual and the perpetuation of the race; that the functions of the various organs of the body are subsiduary to one or other of these great functions.

A thoroughly careful and competent teacher could show by the history of the complete separation of the sexes in plant and animal life that there has been developed the most beautiful in flowers and the noblest in animals. Time does not permit me to elaborate the scheme, but I thoroughly believe that physiology taught in this way would arouse in each one a noble respect for the human body in all its parts and a determination to do all in his power to develop a perfect human being and to keep it pure and holy. I believe that by careful selection of teachers physiology could thus be taught in the public schools.

DR. THEODORE POTTER, Indianapolis—My experience has led me to somewhat the same conclusions as Dr. Valentine has reached. There are two periods in the boy's life when such instruction can be given: 1. At the time of puberty, when the boy is at home under the influence and control of his parents and family physician; 2, when he goes to school or college. At this latter period he will look on such instruction as may be given him in a serious way. If I am allowed to differ with the last gentleman who spoke, I must say that I question whether the public school or the intermediate school will give the proper opportunity for giving such instruction, because the boy is more or less immature at that time and looks on such teaching as frivolous and makes a joke of it. Later he will listen and take it in a more serious way. When attempts have been made by public school teachers to instruct the boys in this country they take it as a sort of joke; but this is not so among the college students. It really is surprising what a great amount of ignorance is displayed by those young men who are entering or who have gone through college. I have had experiences in the west as well as the east in institutions, and I have seen the most lamentable examples of young men, not bad men at all, who have gotten into trouble largely through ignorance. This is the point: The young man goes free for the first time when he enters college and, since human nature is imperfect, when he reaches this time of freedom something goes wrong and it is largely through lack of proper instruction. I believe Dr. Valentine is right when he states that when the young men attend college, reaching the age of maturity, then is the time that serious instruction should be given.

It has been my habit, and this I think should be done by the physicians all over the country, to say to my patrons who have boys, that I am going to talk to a few boys at my house and if they wish they may send their sons. Invariably I have met with a willing response, and I know that my efforts have been crowned with success, so far as instructing them is concerned.

DR. M. M. SMITH, Austin, Texas—I desire to lay special stress on the influence exerted by the home circle in the prevention of venereal diseases in young men. During the earlier years of the boy's life he is constantly with the mother and if she is careful of his conduct and associates and watches him carefully and teaches him obedience and morality during these years, instead of spending much of her time at card parties or other amusements, when the boy runs loose about the streets during her absence, he will show the value of this watchfulness in his character. Equally important is the duty of the father, and especially is this true when the boy reaches the age of puberty. This is the time the father should be his companion and friend, and especially watch his conduct and companions and guide him safely over these few years when he is developing into complete manhood. A little denial of lodge meetings or the absence from clubs or other social functions will result beneficially to the boy's welfare in life. It is too often the case that the parents are earnestly at work to further some charitable and noble enterprise in that public-spirited manner; but at the same time they are neglecting their own children at a time when their influence will leave its effects all through their lives. The subject should engage the attention of the parent, the teacher and the physician; in fact, on the proper solution of the subject depends the future welfare of the nation.

DR. FRANK A. JONES, Memphis, Tenn.—I doubt very much the propriety of bringing this matter before the laity as advocated. By doing so there will be a tendency for the boy of young age, who is disposed to look further into such matters, to investigate further with disastrous results. We meet sexual neurasthenia which is purely an imaginative condition; many come to us with trivial affections and even talk of suicide, and this may be the result of publicity being given to such matters. I do not think this subject should be placed before the public. Try and enjoin on the young men this, that the way of the transgressor is hard. I think the young men can be reached better through the medical profession than through the public press or other means of publicity. I think it would be wise to distribute Dr. Valentine's article by the thousands to various physicians in the American Medical Association.

DR. E. L. STEPHENS, Des Moines—Before the boy reaches the age of puberty I think he should be taught the sacredness and naturalness of the sexual instinct, and this can be done in a quiet way. There has been published a book, "Almost Fourteen," by Mortimer Warren, which I think is most suitable to place in the hands of young men, and the only one that I have been able to find after nearly forty years' search.. That is, I believe, the only one that can be safely placed in the hands of young men as being scientific and pure. Since the American Medical Association has been reorganized we now have a means whereby we can legitimately place such information before the public; previously it could only be done by quacks. Now each councilor in each district has the privilege of using the public press for disseminating proper information. Why not take this opportunity for exercising this point? I would not think it proper, nor would I advocate placing posters in water closets, etc., but we can present through the public press the right ideas and the right information which would offset the wrong impressions given the laity by charlatans and quacks.

DR. WALTER SHROPSHIRE, Yoakum, Texas—I think that if anything is to be accomplished toward protecting the young

of this country it should be done at a time when it would be effective. When the boy reaches college it then is too late. If we should wait until some definite period we should select that period when such instruction would be most efficient and that is concomitant with the development of the sexual function in the boy. When he first learns of this function he should be taught the dangers of its misuse. I really believe that physicians should teach physiology in the public schools and, at the same time, they should teach regarding the sexual function and the dangers which its abuse entail.

DR. FERD. C. VALENTINE, New York—Naturally it was impossible in the brief synopsis which I presented to cover the entire ground; that has been largely done by the gentlemen who so kindly discussed my effort.

With regard to Dr. Walsh's remarks, I may say that the universities in Germany, beginning in Berlin with Lassar, have given instructions to students regarding the dangers, etc., of venereal diseases. Lectures are delivered to students of all the departments of the university. The brilliant success of Lassar was so encouraging that it caused an increase in the number of such lectures, with exceedingly good results. But you may ask how many of those young men who came there to be educated and were instructed in venereal diseases had not unfortunately educated themselves. In Berlin the war is directed against the repetition of contracting such diseases, as well as instructing regarding their nature and results. I agree with Dr. Walsh, that some method should be introduced in this country to teach the young men the evils of venereal diseases. I wish to emphasize his remarks and say that university students who attend these lectures derive much benefit at the time when they certainly are qualified to receive such instruction.

What Dr. Robbins says regarding the time for receiving such instruction is undoubtedly correct, but he says it is not so much knowledge but impression which is of value, and that they should be taught at an impressionable age. But what is that age? That varies with the individual. There are some boys who are impressionable at the age of 12. I am now treating one not quite 14 years old, who has a gonorrheal prostatitis. This boy is the only son, in a good family, and has been correctly raised. With six others he was solicited by a girl of 14; all six contracted gonorrhea. Had he been instructed at the period when he was of the impressionable age his misfortune might have been averted.

FAT NECROSIS OF THE KIDNEY.*

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DUBUQUE, IOWA.

When we consider the rather superficial location of the kidney, its importance and the various pathologic changes to which it is liable, it is strange that for so long a time it eluded careful examination and escaped the surgeon's knife. In the past five years, however, the surgeon has made determined, successful efforts to make good that deficit.

Fat necrosis in the tissues of the body is neither a new process nor a new discovery. It has long been recognized in the several tissues of the human body, notably in the abdomen, in the abdominal walls, in the subperitoneal fat, in omental structure and in the pancreas. For a long time it was supposed to be due to some form of pancreatic disease, but it is now well known to occur independently of any affection of that organ. The accepted physiologic view is that fat may be formed in both animal and vegetable bodies from albuminoid matters. Proteids break up in the body into nitrogenous and non-nitrogenous compounds. This is demonstrated in the human subject and by experiments on the lower animals. The non-nitrogenous compounds not being completely oxidized in the cells are formed into fat. The process actually occurs wherever fatty substitution takes place in the animal cell. Hoppe-Seyler takes the view that fat is not directly formed from albumin, but that glycogen is first formed and that fat is a resultant product. Volt's view, and the one generally accepted, is that fat is formed directly from proteid material. Graham Lusk,[1] after quoting various experiments along this same line, concludes, "It seems rational that in acute fatty metamorphosis of the cell that dextrose found may be quantitatively converted into fat."

The physiologic fact, I think, as well as the chemical changes underlying it, are reasonably well understood and generally accepted, but the etiologic factors, active and predisposing, are by no means clearly settled. Fat necrosis, as the term is employed in this paper, denotes a type of necrosis to which certain tissues are liable, separate and distinct from fatty degeneration. It presupposes the fact of fatty degeneration and, subsequently, a necrosis forming of the entire structure of fatty emulsion.

According to Stengel, there are a few microbes which form emulsifying ferments, which may cause this fatty emulsion. The term "liquefaction necrosis" probably better conveys the correct meaning. Ziegler says, "A liquefaction necrosis may occur in the tissues where the cell wall becomes dissolved in the fluid present in the part." "Fatty degeneration may so terminate," says this distinguished authority. Bacteria is said by some observers to be concerned in this change. The part played by these organisms is still under investigation. Dörsch says, "The cortex of the organ is most frequently involved, though the medullary portion is frequently affected in a minor degree." Hektoen considers this condition due usually to the escape of the fat-splitting ferment, resulting in the formation of fatty acids and lime salts. Gaylord states that fat in the kidneys occupies the space between the lobules in the connective tissue.

There are many causes assigned for the formation of a fat necrosis in the tissue, either with or without liquefaction:

1. Changes in the supply and composition of the blood.
2. Diminished oxygen.
3. Blood diseases.
4. Narrowing of the arteries supplying the part. (Narrowing of the blood vessels of the heart leads to fatty degeneration, according to Hektoen.) Fatty degeneration of the kidney in pregnancy is due to disturbed circulation, says Stengel.
5. Persistent venous congestion. Displacement of the kidney producing, as it certainly does, changed blood supply, diminished oxygen, torsion of the renal artery and, together with a constant venous congestion, is a sufficient cause for liquefaction necrosis of the organ.

In the literature which I have been able to examine the references to this subject have been sparse indeed. A case is reported by Dr. T. Charlewood Turner[2] of a girl 13 years old who died of pericarditis. The autopsy revealed a fatty kidney, and he described a necrosis with softening and, though it is not distinctly stated that the necrosis affected the fatty tissue, yet from the present light I think this a fair presumption, that the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. Report before the American Physiological Society, Boston, Tenth Annual Meeting.
2. Transactions Pathological Society of London, 1886.

softening was due to a liquefaction necrosis in the fatty substance.

Dr. Ephraim Cutter,[3] New York, contends that many organs of the body are subject to fatty substitution, and that necrosis of this fat is often present.

E. W. Cushing[4] describes the case of a patient who passed urine, one-fifth of which was oil, several days before death, and that among other things the post-mortem examination revealed a necrosis of fat about the kidney, producing oil which escaped with the urine.

Thomas Oliver[5] reports, from his private practice, two cases of oil in the urine. He asserts that there was present in these cases a fat formation and a tendency for molecules of fat to form into globules, which, by solution of the cell wall, made their escape into the pelvis of the kidney. There is evidence enough to establish the possibility of oil formation in the structure of the kidney itself. Newbaur, in his work on the urine, speaks of the rare appearance of this constituent in the excretion derived from the kidney from this fatty substance. Fat globules are held in solution by the albumin present. Roberts, in his work on urine and urinary disease, may also be quoted to the same purpose.

It is believed, therefore, that a liquefaction fat necrosis is possible in the substance of the kidney; that a dislocation of the kidney may form the active cause for this change, and that the case briefly described below falls under this category.

April 23, 1902, I was consulted by Miss M. D., aged 22, of Welsh parentage, with unexceptional family history and personal history, free from disease, except some slight illness in childhood. She gave a history of a tumor-like mass, discovered by her about one year before, in the left hypochondriac region, extending down to two inches above the umbilicus. The November previous she consulted her physician, who found the enlargement, which he described at that time as freely movable, and made a thorough examination of the patient, with a negative result, except that he found general loss of strength and great languor. Her symptoms remained practically unchanged, except increased weakness, which led her to seek further assistance. She entered the hospital on the afternoon of April 23, and the examination which I made the following day resulted negatively, except that there was an accelerated, weakened condition of the pulse, and a tumor located as above described. The tumor seemed to be nearly one-half larger than the normal kidney, and by pressure could be returned nearly to the normal kidney location.

April 25, a lumbar kidney incision was made in the usual manner, and the kidney brought up into the wound and the fibrous capsule grasped by a clamp. The capsule gave way and there was discharged from the kidney a yellowish semifluid substance to the amount of 12 to 14 oz., and resembling in color an emulsion of cod liver oil and iodoform, containing a peculiar flaky or shredded material. By digital examination I found that, practically, the whole kidney substance had been destroyed. I stitched the kidney into the wound, leaving free and unobstructed drainage. Some of this semifluid material drained from the kidney for several days. Some of the material saved in the test tubes I submitted to Dr. Geo. Mengis, Dubuque, Iowa, for chemical and microscopic examination, and he reported the material composed almost entirely of an emulsion containing oil, fatty cells, together with fibrous and connective tissue. A fatty substitution had taken place in the kidney, followed by liquefaction necrosis, which had, practically, destroyed its secreting structure.

It is believed that this girl primarily suffered from a floating kidney, which, by torsion of the renal artery, produced the pathologic changes described. The recovery following the operation was uneventful, with the exception that for three or four months she suffered from weakness and rapidity of the heart's action.

In a letter received not long since from her physician, Dr. C. W. McLaughlin, Washington, Iowa, I learn that she has completely recovered. The sound kidney seems to be doing well the work of elimination.

3. Paper before Mississippi Valley Medical Association, published in Medical Age, Detroit, Oct., 1895.
4. Paper before Boston Society for Medical Observation, published in Boston Med. and Surg. Jour., May 17, 1881.
5. British Med. Jour., Dec. 27, 1879.

SURGICAL TREATMENT OF NEPHRITIS.*

ALEXANDER HUGH FERGUSON, M.D.
CHICAGO.

"The Surgical Treatment of Nephritis or Bright's Disease" was the title of a paper published by me March 11, 1899, in THE JOURNAL of the American Medical Association. This is the first announcement that has ever appeared recommending a surgical treatment for Bright's disease. The date of this publication has been overlooked by Dr. G. M. Edebohls in all his articles. Dr. Edebohls' first paper, entitled "Chronic Nephritis Affecting a Movable Kidney as an Indication for Nephropexy," appeared in the *Medical News*, New York, April 22, 1899, one month and eleven days after my first article.

Feb. 10, 1899, a symposium on nephritis was the program of the Chicago Academy of Medicine, and the surgical treatment was assigned to me. At this meeting I related two cases of interstitial nephritis symptomatically cured by *decapsulation and multiple punctures*. I removed a portion of the kidney in each case, which was pathologically reported on by Drs. Klebs and Zeit, and they pronounced it interstitial nephritis. In these two instances no positive diagnosis was made before operating.

At that meeting I related several earlier cases, but inasmuch as I had not examined a section of kidney tissue microscopically in any of them, I thought it wise not to publish anything but the two cases in which that was done. Dr. R. B. Preble, while denouncing splitting of the capsule, etc., as dangerous and useless, terminated his remarks as follows:[1]

While Dr. Ferguson's paper was interesting, still the bulk of the cases do not apply to nephritis at all (claiming that my diagnoses were in error), and the latter cases which were demonstrated to be nephritis have not recovered from their nephritis, but have been relieved of a purely subjective symptom.

Time has proven him to be wrong.

HISTORY.

In 1902 an article from the pen of Guiteras,[2] on the "Surgical Treatment of Bright's Disease," gave an excellent historic review of work leading up to this subject. He, too, overlooked my first publication, March 11, 1899. He gives the more recent developments, and has added three cases operated on by himself. It is my intention in this short paper to briefly give the evolution of the surgical treatment of nephritis, and add a few more cases of this disease treated surgically.

Reginald Harrison made a mistaken diagnosis in three kidney cases (1878, 1887 and 1893) of an abscess in one and stone in the other two. He cut down on them and found acute nephritis instead. It was fortunate for his patients that he and his associates were in error,

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. THE JOURNAL A. M. A., March 11, 1899.
2. New York Medical Journal, May 17, 1902.

for the operation cured them, and let me ask if in these cases a diagnosis of acute nephritis had then been made. would the knife have been recommended? I think not!

Newman (1896) observed in two cases the beneficial influences fixation of the kidney had on albuminuria. In 1899 Tiffany successfully incised the capsule and parenchyma of a kidney affected with chronic nephritis, complicated with nephralgia. In 1886, Péan removed a kidney for nephralgia and chronic nephritis.

In October, 1899, Pousson collected 25 cases and added 2 of his own; of hematuric nephritis, 10 cases; nephritis with nephralgia, 2 cases; subacute infectious nephritis, 4 cases; acute infectious nephritis, 9 cases. The kidney was removed in 11 of these, opened in 13, and 1 exploration, with 21 reported cured. These operations mentioned by Pousson included those of Harrison, Weir and Israel, and were undertaken, not with the object of curing Bright's disease, acute or chronic, but for some suspected surgical condition, such as abscess, tumor, stone, etc.

In 1899 Israel reported 14 cases of hematuria and nephralgia treated by nephrotomy. In 12 of these there was evidence of chronic nephritis. It must be remembered that Israel did not aim at a surgical treatment for Bright's disease, and recommended an operation only when there was hematuria or nephralgia.

In November, 1890, Naunyn, in writing of nephrotomy for bleeding in nephritis, stated that "nephrotomy may some day play a far greater rôle in the treatment of Bright's disease."

Edebohls, April 22, 1899; 1901, and 1903, has given to the medical world his conceptions of the surgical treatment of nephritis, his operations and results. I wish here to commend that work. He observed the beneficial effects of nephropexy eleven years ago. "My first case was operated on as long ago as Nov. 29, 1892; my fifth April 1, 1897."[3] In speaking of his sixth case, in the same article, he says: "This operation, performed on Jan. 10, 1898, constitutes the first operation ever undertaken on the kidney with the deliberate purpose of curing chronic Bright's disease and, in so far, marks a period in the history of the affection." This case was published in his first paper (April 22, 1899), after my first publication.

Dr. Edebohls' work has taken root, and we are here and there hearing of good results from other surgeons. Physicians in the first rank recognize that there is a surgical treatment for nephritis. To Dr. Edebohls is due the credit of individually working out this surgical treatment and operating on more cases of Bright's disease than any other surgeon. While I am constrained to claim priority (first in publication), I can not but feel proud of the distinction and record the Doctor has made for himself in trying to solve the limitations of kidney decapsulation in nephritis. Dr. Edebohls'[4] published experience amounts to no less than 51 cases treated by operation. It will be seen in the description of my experience, our work has been developing contemporaneously.

I shall now very briefly refer to the development of kidney surgery before giving my personal work on nephritis. It is only thirty-five years since the kidneys have been operated on at all. Like many of the other internal organs of the body, diseases affecting them were treated by internal medication. We can appreciate how Peaslee (1868) felt when he removed a kidney by mistake, taking it for a solid ovarian tumor. Although the patient died on the third day of peritonitis, two lessons have been learned by his mistake. First, the feasibility of nephrectomy, and second, that urine was secreted abundantly by the other kidney. Spencer Wells' case also died, but not from suppression of urine.

The following year (1869) Simon of Heidelberg purposely and successfully attacked the kidney for a ureteral fistula in a woman. I have no doubt that his experiments on dogs in this line better fitted him to successfully perform the operation.

Within seven years after the first removal of a kidney by Peaslee, no less than 233 nephrectomies were collected by Gross (1885). It would take some considerable time to reckon the number of nephrectomies up to date. The operation was extended beyond its reasonable and legitimate limits. Chief among the indications for the removal of a kidney were stone, pyonephrosis, hydronephrosis, tuberculosis, floating kidney, nephralgia, hematuria, and tumors.

Nephrotomy for stone (nephrolithotomy) was first performed by Morris of London only twenty-three years ago (February, 1880). Then nephrotomy gradually supplanted nephrectomy in many cases.

Nephropexy, by Hahn (1881), was the next important advance in renal surgery.

PERSONAL EXPERIENCE.

In 1899 I explored a kidney suspected of containing a stone, in a young man, 24 years of age, suffering with renal colic. There was blood in the urine, and the kidney was very tender on pressure. The exploration consisted in exposing the organ and passing a darning needle, blunt end foremost, through it in many directions. No stone was found, but temporary relief from pain and hemorrhage was given. Within a year afterward he returned to see me. Bright's disease became more and more marked, and four years afterward he died of parenchymatous nephritis.

In my early fixation of floating kidneys, I used a stout chord of chromic catgut and passed it through them four or five times and, while using this stout cord, no complaints came from our patients after the operation. But just as soon as we began to use fine catgut or silk and grasp only the capsule two cases returned, complaining of pain, as before, although the kidneys remained fixed. In 1900 I explored one of these for stone with the knife; found nothing; had free hemorrhage, which was checked with iodoform gauze. This made a symptomatic cure; the nephralgia completely subsided, and she is now well. After this I did some fixations by cutting through the capsule, rolling it a little to each side, and passing sutures through it and through kidney tissue as well, with satisfactory results.

My first decapsulation, deliberately undertaken, was for "Nephritis and Floating Kidney."

NEPHRITIS AND FLOATING KIDNEY.

CASE 1.—*History.*—June 17, 1896, Edna L., aged 25, entered the Post-Graduate Hospital complaining of a painful, tender, floating and enlarged right kidney. Urine scant, ℥xx in twenty-four hours; contained 30 per cent. albumin.

Operation.—Nephrorrhaphy; capsule stripped off. Urine increased in quantity, and albumin decreased. Nephritis was diagnosed as a complication. Case lost sight of (hospital record).

DOUBLE DECAPSULATION FOR NEPHRITIS AND FLOATING KIDNEYS.

CASE 2.—*History.*—Sept. 9, 1897, Mrs. B. G., aged 30, entered the Post-Graduate Hospital complaining of pain in the region of both kidneys. She had been suffering for twelve years, particularly from her right side. She was operated on three years previously for ovarian abscess, and one year previously (in

3. New York Medical Record, Dec. 21, 1901.
4. Medical Record, March 28, 1903.

1896) for right floating kidney. Had one child twelve years of age. Her father died at 30 years of consumption. Her urine was very abundant, pale, and contained a trace of albumin. She was considered hysterical. Interstitial nephritis diagnosed. Both kidneys were floating freely.

Operation.—Capsule stripped from both kidneys, and sutured to lumbar fascia. She made a good recovery, and marvelously improved. Within six months she was able to do all her housework.

No cure was expected in this case, decapsulation being performed with the object simply of relieving her pain and tenderness. She was, two years later, symptomatically cured of her Bright's disease. It then occurred to me that all cases of tender and floating kidneys were cases of interstitial nephritis, and from this date (September, 1897) I expressed my convictions at my clinics.

MICROSCOPIC EXAMINATION OF KIDNEY TISSUE FOR THE FIRST TIME. LEFT FLOATING KIDNEY; INTERSTITIAL NEPHRITIS (BRIGHT'S). DECAPSULATION AND PUNCTURE.[5]

CASE 3.—*History.*—Mrs. M., 37 years of age and weighing 250 pounds, entered the Post-Graduate Hospital complaining of just two symptoms; (*a*) Dizziness, and (*b*) pain in the region of the left kidney. Taking morphin for the pain. Ill for three years. Began to have these symptoms after childbirth. Urine scanty, ℥xxiv in twenty-four hours. Normal, except a few hyaline casts.

Operation.—Jan. 4, 1899, I decapsulated the kidney, made multiple punctures in it, fastened it up, and removed a portion for examination. The immediate relief was astonishing to us all. Even the next day she declared that she was free from her old pain.

Pathology.—Microscopic examination of kidney tissue revealed interstitial nephritis.

In 1900 she returned, complaining of pain in her pelvis, and through the vagina I removed a left ovarian cyst. At this time her urine was normal in quantity and quality, but occasionally, such as after a hard day's work, she had an aching feeling in her left side, for which electricity was used. I have heard from her repeatedly during the past year, and she is symptomatically cured, it now being over four years since the operation.

INTERSTITIAL NEPHRITIS (BRIGHT'S); RIGHT FLOATING KIDNEY. DECAPSULATION. NEPHROTOMY (DRAINAGE); NEPHRORRHAPHY.[6]

CASE 4.—*History.*—Mrs. W., aged 26; chronic pain over right kidney, which was freely movable. Was taking from two to eight grains of morphin per day for the pain. (See full report.[6]) Had two confinements, one miscarriage, pulmonary hemorrhage, trachelorrhaphy, chills and fever (supposed to be malaria), cholecystotomy.

Operation.—Finally I operated on her right, tender, floating kidney. Owing to the septic condition of her urine, I thought the kidney was septic also, but it was not.

Pathology.—Microscopic examination of kidney tissue revealed the unmistakable changes of interstitial nephritis.

The immediate result was admirable. The albumin and casts cleared away before she left the hospital. After the first three days after the operation, she did without morphin, even though a habitué. Two years later she was well, and a later report brings the same good news.

INTERSTITIAL NEPHRITIS; NEPHROTOMY AND DRAINAGE OF LEFT KIDNEY.

CASE 5.—*History.*—Mrs. H.; aged 32. From Livery City, Iowa. Complains of pain and tenderness in the region of left kidney, which began two years previously, and then lasted severely for twelve hours, and had bloody urine. During 1897 and 1898 she had several attacks of pain and tenderness, referred to her left kidney, sometimes passing blood in urine, and often accompanied with chills and fever. During the last six months the attacks were more frequent, but no blood was passed with the urine. Mild chills and feverish sensations accompanied nearly every attack. On going over the case thoroughly, a diagnosis of recurrent interstitial nephritis was made.

Operation.—Nephrotomy was performed March 16, 1899, and kidney drained for twelve days. Patient left the hospital after three or four weeks, with marked general improvement, and entirely relieved of her pain and tenderness over the kidney.

Pathology.—The microscope shows interstitial nephritis.

INTERSTITIAL NEPHRITIS (LEFT). DECAPSULATION AND MULTIPLE PUNCTURES. GAUZE AND TUBE DRAINAGE TO KIDNEY.

CASE 6.—*History.*—Mrs. C., aged 43; dressmaker. In August, 1898, frequent urination; pain in back and over left kidney. Urine contained blood, albumin, casts; was highly colored and scanty, as reported by her attending physician at that time. Ever since this attack, kidney has been tender, but the urine has become abundant, three or four times the normal quantity, of low specific gravity (1,005), and always contained albumin and usually casts. Menstruation began at 14 and has been irregular. Edema of feet and hands; eyelids swollen and eyesight poor. Had pneumonia three times; inflammation of the bowels twelve years ago (probably appendicitis); abscess (1893) in pelvis opened into vagina; gonorrhea from her husband fourteen years ago (1885). Her mother died of ovarian tumor and interstitial nephritis. The region of the left kidney was tender.

Urine segregated, and that from the left side showed the following changes: "The specific gravity of both specimens is so low that I thought a mistake had been made, and we got water for examination. Doubting whether this was urine at all I tested for urea, and found 0.2 per cent. in both urines (should be 2 to 3 per cent.). There are some chlorids and phosphates, but the centrifuge shows no sediment of any kind, except a few squamous epithelial cells and oil globules in both specimens. No albumin; no sugar in either specimen. Reaction: Neutral in both specimens. No bacteria found in either urine. No casts." (Zeit.)

Pathology.—Report of kidney tissue: Interstitial nephritis.

Operation.—June 28, 1899. Left hospital in twenty-three days, improved in all her symptoms. In three months, urine much improved. Symptoms of nephritis almost absent. At the end of six months she resumed dressmaking. Her gain in general was slow, but gradual. During 1900 she had to cease working for a week out of every six or eight. In November, 1902, she was confined to bed for two weeks, and house for three weeks longer, with influenza. Both kidneys were sore and tender, but fortunately no active inflammation of them manifested itself. It was fully four months before she regained her usual health. Now she replied: "I am well; that is, much better than before the operation. I am working all the time, but have to be careful But I enjoy life. It makes me feel happy that for six months there has not been even a trace of albumin in my urine."

NEPHRITIS. DECAPSULATION.

CASE 7.—*History.*—Mrs. D., Redland, Iowa. Post-Graduate Hospital. Aged 34. Complains of: 1. Constant pain in the region of right kidney, with some pain in the left, off and on. 2. Inability to work for the last two years. 3. Urine irregular in quantity. 4. Shooting pains into back and thigh. Pain often severe all night, and during the day it is increased on motion. 5. Is weak, dizzy, constipated, and is troubled with palpitation of the heart.

Had a child two years ago, and has not been well since then. When 15 years of age, was struck in the right inguinal region with a baseball, following which she had colicky pains in that region for some time. Family history negative. Urine too abundant, ℥cxvi in twenty-four hours, of low specific gravity, 1,005; a trace of albumin; no sugar; casts, granular, hyaline; and contained indican. A diagnosis of interstitial nephritis was made.

Operation.—Decapsulation of right kidney. At the end of the third week urine in quantity only ℥xlv in twenty-four hours, and much freer from casts. (Portion of kidney removed was lost in the operating room.)

The patient left the hospital on the twenty-third day, free from her painful symptoms. Recent report not given. A

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year after the operation she was symptomatically relieved, and felt that she was cured.

MOVABLE KIDNEY AND NEPHRITIS. DECAPSULATION; MULTIPLE PUNCTURES.

CASE 8.—*History.*—Mrs. J. E. B.; aged 45; married. Admitted May 7, 1901; discharged July 2, 1901. Housewife; Swedish. Diagnosis: Movable kidney and nephritis. Parents both died from some acute lung trouble at an advanced age. Has seven brothers and sisters living and well. Patient has always been well. Married at 39; no children; never pregnant.

Present Illness: About five years ago she noticed pain in the right side of the abdomen, above the crest of the ilium and in back. About one year later she discovered a lump in the right side. It was easily movable in any direction, the limit being the center of the abdomen, costal cartilages, and below to McBurney's point. Has no severe pains at this time. Has worn elastic bandage for some time. Was able, but with difficulty, to attend to her household duties. For the last six months a dull, aching pain in the region of kidney has been constant. Menses now regular and normal. Bowels constipated. Lost some weight.

Operation.—Placed patient in saddle, which brought the kidney well up to parietes. Incision four inches long. Stripped kidney of its capsule. Made multiple punctures and anchored as usual. Drainage of gauze in wound.

Urine examination: Before operation, specific gravity 1018; acid reaction; slight albumin; hyaline and epithelial casts; no sugar. Temperature before operation, 98 to normal; pulse before operation, 80. Temperature after operation, maximum, 101; pulse after operation, maximum, 110.

Result: Dr. E. M. Brown saw the patient December, 1902. She was then entirely well.

PARENCHYMATOUS NEPHRITIS AND STONE. DECAPSULATION AND NEPHROTOMY.

CASE 9.—*History.*—Mr. F. R., aged 38, of Luther, Ind., entered the Post-Graduate Hospital June 26, 1901. Complained of (*a*) pain in left side, running down to the testicle; (*b*) attacks of sharp pains, laying him up; (*c*) urine scanty and high colored. He passed gravel a year ago, after an attack of renal colic; then got some relief. The last few months the attacks have been more frequent, and recently the pain in the region of the kidney has become constant. The urine contained pus, blood, casts, bacteria, albumin, increase of chlorids and some bile.

Operation.—Decapsulation was made, because the capsule was firmly adherent. Nephrotomy was then performed, and several small calculi removed. Removed a section of the kidney and drained the kidney with a tube. This tube was left *in situ* until the discharge was free from pus and germs. He made a good recovery, left the hospital July 19, 1901, free from pain and greatly improved in his general health.

Pathology.—The report of tissue by Zeit and Klebs was that of parenchymatous nephritis, with cloudy swelling, regenerated epithelium, with granular and epithelial casts in tubes.

Result: Both immediate and remote, excellent.

RIGHT FLOATING KIDNEY; SUBACUTE NEPHRITIS. DECAPSULATION AND NEPHRORRHAPHY.

CASE 10.—*History.*—Miss H., single, aged 32; musician; American. Admitted April 16, 1902. P. and S. clinic. Discharged May 18, 1902. Condition improved. Examined by Dr. E. M. Brown, March, 1903. Well.

Family history: Father and mother living and well. Four sisters and one brother living and well. One sister died during confinement.

Personal history: Diseases of childhood. Always well until ten years ago; began to get pale and weak. Exhausted on the least exertion, also very nervous. Bowels constipated. Appetite fair. Uncomfortable after eating. Began menstruating at the age of 13 years. Always regular, but painful. Eight years ago had dilatation and curettement for painful menstruation.

Present trouble: About eight years ago the patient had a fall from horse, since which time she has noticed a lump in right side of abdomen, which is very movable. Also complains of pain in right groin and appendiceal region. Tenderness of gall bladder also.

Urine examination; On admission, color amber. Specific gravity 1012: Reaction acid. Albumin none. Sugar none. Epithelial and granular casts. Urates and mucus.

Operation.—Usual kidney incision; kidney brought up and stripped; anchored to fascia. One strip of gauze for drainage. Appendix found suspicious and removed.

Pathology.—Microscopic examination showed slight change in interstitial tissue and parenchyma.

Temperature before operation, normal to 99. Pulse before operation, 76 to 90. Temperature after operation, maximum, 101.06. Pulse after operation, maximum, 112. Recovery uneventful.

DISPLACED AND FIXED KIDNEY. DECAPSULATION AND NEPHRORRHAPHY.

CASE 11.—*History.*—Mrs. B., of Ashkum, Ill, aged 33. Referred by Dr. Ernest. Entered Chicago Hospital complaining of (1) pain in abdomen, especially on the right side; extreme tenderness on pressure; (2) intense pain, as if on fire, which patient insisted was the case; (3) great weakness, loss of weight and strength; (4) mental and constitutional condition much deranged.

Very unsatisfactory history, except that symptoms began after an attack of measles, followed by typhoid in February last, since which time patient has been gradually growing worse. In bed and unable to rise for over three months.

Physical examination revealed a firm, movable tumor, of the shape of a kidney, on a level with the umbilicus on the right side. This could not be returned to the kidney fossa. Urine: Specific gravity 1014; urea, 2.2 per cent.; albumin, peptone, indican, pus, epithelia, cylindroids and phosphates all present. Feces: No pus or blood, very fetid. Blood: Hemoglobin, 45 per cent.; red corpuscles, 4,500,000; leucocytes, 11,000; no Widal reaction.

Operation.—April 22, 1902. Exploratory incision down on tumor, which proved to be the kidney. All the abdominal organs examined and found normal. Incision closed. Lumbar incision made and kidney drawn up into it. Kidney congested and capsule thick and firm. Capsule stripped off and section of it and kidney removed for examination. Kidney sutured in place and drained with gauze and incision partly closed. Patient transfused, 1,000 c.c. of normal salt solution on table.

After-treatment: Patient given normal salt, one pint per rectum, every four hours for several days, and liquids *ad lib.*, by mouth. Pulse 120 and irregular. Temperature 102.8. During first four days patient had involuntary bowel movements, after which she began to retain normal salt and rectal feeding. Wound received daily attention and was kept clean.

On the twelfth day temperature was normal and pulse stronger and regular. Patient was able to be up on the twenty-seventh day, and on the thirty-eighth day following operation was able to be taken home.

Pathology.—Specimen normal, except for a few inflammatory cells. Present condition, patient in good health and well. Remarks: I fail to see what my operation had to do with her recovery. A. H. F.

RIGHT FLOATING KIDNEY. DECAPSULATION AND NEPHRORRHAPHY. GALLSTONES. CHOLECYSTOTOMY.

CASE 12.—*History.*—C. Hosp. Dr. McKibbon, referred. Miss F., of Kalamazoo, Mich., aged 24; stenographer. Complains of (1) pain in right lumbar region, aggravated by exertion; (2) some swelling of ankles and of eyes; (3) headache and nervousness; (4) loss of appetite, constipation.

Illness began two years ago with pain in right side, which extends up to shoulder and down right leg. In February last it became worse and patient is now in almost constant pain. Urine: Specific gravity, 1024; no albumin nor casts. Epithelium (squamous).

Operation.—May 26, 1902. The kidney was found movable and prolapsed, and the gall bladder was palpable. Kidney decapsulated and punctured and sutured to lumbar wall. Gall

bladder drained after removal of stones from it and the cystic duct.

Kidney was drained for two weeks. Patient had temperature of 100 till the eighth day, when it rose to 104. This was accompanied by great nausea and vomiting. Wound was dressed. Stomach washed out and patient given hypodermoclysis, a pint and a half of normal salt and a pint per rectum every four hours. Temperature dropped to normal in two days, and patient made a good recovery, leaving hospital on thirty-second day with small sinus, which soon closed. Now satisfactorily relieved.

PARENCHYMATOUS NEPHRITIS. DECAPSULATION OF BOTH KIDNEYS.

CASE 13.—*History.*—Mr. B., aged 37. Referred by Dr. Wm. E. Quine. Complains of (1) pain in both kidneys, greatest in right; (2) highly albuminous urine; (3) general anasarca and ascites, with pitting over tibia on pressure.

When attending college about seventeen years ago patient contracted syphilis, for which he was treated three years and declared cured. Three years ago came to Chicago, suffering from anasarca, ascites and albuminuria. His life was despaired of, but by mercurial inunctions all symptoms except albuminuria cleared up. Patient was sent to warm climate, where he improved rapidly, stopped the treatment, grew worse, and under doctor's instructions began treatment again. Improvement now was slow and unsatisfactory. Recently patient has not been so well and was referred for decapsulation.

Right kidney is palpable and tender. Left kidney not palpable, but tender on pressing over it.

Urine: Twenty-four hours, ℥xxxii. Albuminous (50 per cent.). Granular casts in abundance. Pavement epithelia. Blood and bacteria present.

Operation.—Aug. 19, 1902. Right kidney exposed; the capsule, which was firm and adherent, was stripped off and the kidney punctured. Gauze drainage inserted down to kidney.

Patient made good recovery. Urine began to increase from the beginning, being ℥xli on the second day. The albumin likewise decreased, until on leaving on the eighteenth day there was only about one-half of 1 per cent. There was a slight fistula, which was rapidly closing.

Second Operation.—Patient returned Sept. 30 for operation on left kidney. Urine: Twenty-four hours, ℥xxxi. Albumin, 2¾ per cent. Casts: hyaline and granular. Left kidney drawn into wound and decapsulated. Drained down to kidney with plain gauze.

Patient made good recovery, leaving hospital on seventeenth day, with incision closed. Urine improved in quantity almost from the first day, the following being the daily quantities in ounces: 31, 31, 21, 32, 49, 53, 38, 58, 52, 66, 62, 82, 94, 65, 74. The albumin decreased to 0.15 per cent.

April 26, 1903. Mr. B. now reports that his general health is good and sends the following report of his urine: Twenty-four hours, ℥lxxxv; color, light amber; reaction, acid; specific gravity, 1015; albumin, 0.05 per cent. (by centrifuge); leucocytes, a few red cells, small, as if from the kidney. Renal cells, some fatty and a few fine and medium casts.

Pathology.—Microscope shows parenchymatous nephritis with hyaline degeneration.

FLOATING KIDNEY. DECAPSULATION AND FIXATION.

CASE 14.—*History.*—Miss B., Newport, Wis., aged 24, nurse. Complains of (1) severe pain in gall bladder, but no colic; (2) jaundice, which is sometimes marked; (3) pain in back, which radiates down the right iliac fossa and legs: (4) drowsiness; (5) puffiness of eyes and swelling of wrists and hands; (6) temperature, 99 to 101; (7) loss of weight; lassitude.

Urine normal. Has a soft, compressible tumor continuous with the liver, and another movable and firm, which can be replaced to kidney fossa. Patient had a severe attack of pain radiating down the right leg in September, 1900, and a second in March, 1901.

In August, 1902, pains returned in right side, and shortly after this she noticed jaundice for the first time. A second attack compelled her to stop work, and after a short time she returned for operation.

Operation.—Oct. 4, 1902. The gall bladder was drained. The kidney was decapsulated and punctured freely several times and drained; then sutured in place. Kidney drained for two weeks and closed. Patient made a good recovery.

Pathology.—Microscopic examination reveals, practically, a normal kidney; the slight cloudiness and congestion being due to the chloroform and manipulations.

Present condition: Free from symptoms. Urine normal. Has some pelvic pain at and following menstruation.

BRIGHT'S DISEASE AND PELVIC DISEASE. DECAPSULATION OF ONE KIDNEY AND LAPAROTOMY.

CASE 15.—*History.*—Mrs. J. C. W., Chicago, aged 41, housewife. Complains of (1) backache; (2) pain in left side in lumbar region, extending up into shoulder and down into leg; (3) burning pain in feet, with swelling; (4) pain in pelvis; (5) dysmenorrhea; (6) headache, nervousness, sleeplessness; (7) frequent micturition; (8) nausea and at times vomiting; (9) constipation; (10) belching of gas after meals, but has good appetite.

Symptoms began eight years ago with nervous prostration. Following recovery she had a pelvic abscess, which was drained. Had excellent health until about two years ago, when she was treated for uterine troubles. Gives no good history as to when her kidney trouble began, but bladder has given her trouble for four or five years. Her kidney is easily palpable in abdomen, and replaceable to kidney fossa. She has some uterine displacement and strong pelvic adhesions, involving the ovaries and tubes.

Urine: Quantity in twenty-four hours, ℥xxx; specific gravity, 1030. Strongly acid. Hyaline and granular casts. Epithelium, small, round, spindle and pavement. Red blood cells and leucocytes. Bacteria. Cylindroids. Uric acid. Calcium, oxalate and urates in heavy deposit.

Operation.—Dec. 4, 1902. Curettage. Freeing of pelvic adhesions. Removal of both tubes and part of each ovary. Kidney decapsulated, punctured, fixed and drained.

Patient's temperature for a week was from 101 to 102, and during the second week she was wandering mentally, but later became rational and made a good recovery, leaving the hospital on the twenty-ninth day. Kidney tissue changes are both interstitial and parenchymatous.

Present condition: Relief of all symptoms (except the bladder). Gaining rapidly in strength and weight.

RIGHT FLOATING KIDNEY. NEPHRALGIA. DECAPSULATION; NEPHRORRHAPHY; APPENDECTOMY. KIDNEY TISSUE NORMAL.

CASE 16.—*History.*—Miss H., Bradford, Ill., aged 24. (Dr. Hawkins.) 1. Burning pain in right kidney, with exacerbations. Pain radiating down in region of appendix, which region was also troubling her. 2. Pain over whole right side of abdomen and down the right thigh. 3. Inability to work. 4. Loss of strength and confined to the house. 5. Attacks of pain in lumbar region, which would disable her for a week at a time, with frequent and painful urination.

Patient has been complaining about three years with symptoms referable to this kidney, and the pain in the region of the appendix was grafted on it in the last two months. Right kidney floating, enlarged and tender. Kidney could be pushed down into the iliac region. There was also tenderness over the appendix.

Urine: ℥xl, pale and clear. Specific gravity, 1007; neutral. Urea, .2 per cent. No albumin and no casts.

Operation.—Feb. 25, 1903. (1) Curettement and packing of uterus. (2) Appendix removed through kidney incision. (3) Kidney drawn up; decapsulated; capsule sutured to wall and incision closed.

Patient did well for three days following operation, when she had a slight rise in temperature to 99.6, and in pulse to 100, with pain in region of right ovary and tube, which spread over the whole abdomen. There was nausea and slight vomiting. Blood examination: 57,800 leucocytes, mostly polymorphonuclear form.

On the fifth day incision opened and gauze drainage inserted. There was no exudate, and there were no signs of infection.

Patient continued with signs of peritonitis, and died on March 9, just twelve days after operation.

Autopsy.—Peritoneal cavity had considerable fibrinous exudate. Kidney and wound normal. Cultures sterile. Appendix stump normal. Right tube slightly inflamed. Left tube and its region congested and inflamed. Cultures showed streptococcus. Descending colon as high as splenic flexure, and the sigmoid congested and inflamed, with fibrinous exudate. Cultures showed streptococcus infection. Death caused by streptococcus infection, probably an old infection of the left tube lighted up by the curettement, or by an infection following the curettement, which is doubtful.

CASE 17.—*History.*—Mrs. H., Chicago, aged 48. (Dr. Peacock.) In Chicago Hospital. Dr. Ferguson, consultant in operating room. Patient complains of (1) pain in the back, radiating down the right side and right thigh; (2) no urinary control; up several times at night and during the day; (3) pain in right iliac fossa.

Previous history: Ten years ago patient had ovaries removed. The commencement of pain is very indefinite, but it became quite severe during the last year.

The kidney is freely movable and very tender. Urine: Specific gravity, 1020; acid; urea, 1.5; hyaline and granular casts; small round epithelium. Considerable blood.

Operation.—March 20, 1903. Appendectomy by Dr. Peacock. Kidney decapsulated and punctured. Sutured in position. Gauze drainage inserted down to kidney. Incision closed. Patient made good recovery, leaving the hospital on the nineteenth day.

Present condition: Patient up and around the house. Relieved of all symptoms. Does not have to get up during the night, and urinates about every four hours during the day.

OBSERVATIONS.

For a synopsis of the histories of the foregoing cases I am indebted to my first assistant, Dr. Hugh Neil MacKechnie, and my associate, Dr. E. M. Brown. It will be observed that my personal experience dates back to 1889. In 1896 a nephritis in a floating kidney was deliberately treated by decapsulation, but not until Jan. 4, 1899, did I begin to remove sections of the diseased kidneys under treatment, and study them under the microscope. While the reports given above are incomplete, from lack of space, still it will be seen that our treatment was justified by the results. In the vast majority of my cases the kidneys were movable and also chronically inflamed. In only two cases was decapsulation carried out for parenchymatous nephritis. The results so far have been excellent and astonishingly prompt. The symptoms of the cases, regarding urinary changes, digestive disturbance, nervous phenomena, skin signs, circulatory and respiratory changes were recognized as not of the severest types of nephritis.

I did not operate on cases with urine extremely scant, very marked hypertrophy of the left ventricle of the heart, edema of the glottis and lungs, Cheyne-Stokes breathing, marked general anasarca, etc., etc. The urinary changes can not be absolutely depended on to indicate the tissue changes taking place in the kidneys until at least a late stage has arrived. It was noticed that a tender kidney is often relieved after its fellow has been decapsulated.

PATHOLOGY.

The pathology, macroscopically observed and handled on the operating table, and a study of the microscopic condition of the organ in a living patient are of superlative interest and importance. An enlarged kidney may have few or no histologic changes, while one normal in size is often surprisingly diseased. A contracted kidney is usually very much destroyed. The intimate relationship between the capsule and cortex of the kidney by adhesions does not give us an accurate idea of the extent of the inflammation. Neither does the appearance of the fatty capsule. The only scientific procedure to pursue to obtain anything like an accurate knowledge of the *status presens* of a kidney under operation is to remove a V-shaped piece of the cortical and pyramidal tissues and study it microscopically.

MICROSCOPIC OBSERVATIONS.

In ten of the seventeen cases a portion of kidney was examined and studied. There were no pronounced changes in three. The pain and tenderness in these three cases of floating kidney must have been caused by something else than inflammation. In five instances the interstitial form of the disease was demonstrated by the microscope, which in these verified the clinical or provisional diagnosis. The microphotographs prepared by Professor Zeit reveal a picture of chronic interstitial nephritis. The proliferation and hyperplasia of connective tissue and areas entirely connective tissue, with obliterated or waxy glomeruli. One also sees islands of partially changed kidney tissue, with atrophic tubules, and tubules with desquamated epithelium; flattened epithelial lining in tubules of diminished caliber and some swelling in the lining of the epithelial cells. The hyaline casts in the tubules are worthy of notice, as are also the thickened capsules of glomeruli and the concentric layers of connective tissue with many nuclei, etc.

OPERATION.

(*A*) *Superficial Oblique Incision.*—Make the skin incision a finger's breadth below the twelfth rib and parallel to it. Cut down to muscular tissue; then dissect the skin and fat from the muscles downwards to the crest of the ilium.

(*B*) *Deep Vertical Incision.*—Go through the rest of the structures as if to remove the kidney through the lumbar route, along the outer border of the quadratus lumborum. In cutting the lumbar fascia, keep well backwards.

(*C*) *Fat.*—On exposing the fat do not tear and traumatize it, as is so often done, but carefully cut with the knife its thin fibrous covering. Do not insert the hand to pull at the fat, but seize hold of it with many pressure forceps and deliver it externally. It will now be found that the kidney is immediately beneath your fingers in the wound.

(*D*) *Delivering the Kidney.*—Do not use the hand to deliver the kidney. Firm pressure on the abdomen and traction made on eight or ten forceps applied to the fat, close to the kidney, will easily bring a movable kidney outside the wound. In some few instances the renal vessels are too short to allow the kidney to be delivered at all. Indeed, it is not necessary to have the kidney dragged out in order to decapsulate it, but if it comes out easily, I do it. When the kidney is situated rather high, and the traction on the forceps does not promptly bring it down, I find a long narrow retractor, with a slight concavity outwards, passed beyond the upper pole, greatly facilitates its delivery.

Splitting and Peeling the Capsule Off.—Incise the capsule longitudinally over the vertex of the kidney for about two-thirds its length, peel it from the cortex with the handle of the knife or finger until it is entirely separated, then slip one end of the kidney through the slit in the capsule, and then the other, and it will be seen that it forms a collar around the hilum of the kidney. If the kidney is movable, I utilize the capsule to suture it in place, and the organ is left in contact with raw muscular tissue which is more vascular than the

fatty capsule and is, therefore, a more suitable structure to form vascular adhesions with the denuded organ.

Disposal of the Perirenal Fat.—Do not remove it or tear it to pieces, but gently displace it to the lower end of the kidney. It is but poorly supplied with blood vessels, therefore as little of the surface of the kidney as possible is left in contact with it, but when placed it furnishes an additional support to the organ.

Puncturing the Kidney.—In most of my cases I have freely punctured the cortex of the kidney in many places. This not only furnishes free drainage for inflammatory products, but also insures a thorough determination of blood to the parts, which hastens resolution and favors repair. It must also be remembered that the fibrous tissue formed for the purpose of repair in the absence of pyogenic organisms has a tendency later on to clear away rather than increase in bulk, and subsequently contract and become cicatricial. Of this we see many instances in surgery.

Drainage.—Drainage should always be established for five to eight days after decorticating the kidney. My experience leads me to use plain gauze and a small rubber tube for this purpose. It is astonishing the quantity of blood serum and urine that saturates the dressing for a couple of days. When drainage ceases remove the tube, and afterwards withdraw the gauze as it becomes loose.

Closing the Wound.—Use small-sized catgut to coapt the muscles and silkworm gut for the skin, the drainage tube and gauze emerging from the outer angle of the wound. After applying the dressing, place a firm pad of gauze or cotton on the abdomen below the ribs whenever nephrorrhaphy has been necessary.

HOW IS A CURE EFFECTED?

This has not yet been fully worked out. It is my opinion that the excellent immediate results are due to the relief of kidney tension and that the permanent benefit accrues in the cases demanding it from the establishment of collateral circulation with the diseased cortex. There are many instances of the formation of vascular adhesions in different parts of the body to support this latter fact.

EXPERIMENTS.

Before experiments on animals can throw any light on this subject we must first produce nephritis in them. In the production of this all efforts have been unsuccessful. I notice in the *Annals of Surgery,* April, 1903, Dr. H. A. Johnson writes on "Results of Decapsulation of the Kidney," being work done on dogs. He operated on 15 dogs; 5 died in from three hours to three days after the operation. The animals surviving the operation were killed. "Changes were studied two, four and eight days; two, three and four weeks; two and two and one-half months." The chief observation in his article is the eighth, viz., "In no case was there any considerable anastomosis between the renal and perirenal blood channels." It must be observed that in these experiments the kidneys of the dogs were normal and did not require additional blood channels for physiologic purposes, and also the organs were returned within the fatty capsule, which is but sparsely supplied with blood vessels.

In conclusion, I have no hesitation in affirming that decapsulation of the kidney in acute, subacute and chronic nephritis, both interstitial and parenchymatous, is a practical and effectual surgical procedure. Its limitations are not yet determined. While it can be pointed out that regeneration of kidney tissue is possible, it is folly to claim this procedure to be a panacea for Bright's disease.

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DISCUSSION

ON PAPERS OF DRS. WHITACRE, GUTHRIE AND FERGUSON.*

DR. ARTHUR DEAN BEVAN, Chicago—The treatment of suppression of the urine is a subject to which my attention has recently been called by a number of cases, and one which I do not believe has been very well worked up by the profession. Recently I presented to the Chicago Surgical Society a case of anuria treated by surgical interference, and I found that the great majority of the members had not dealt in this manner with any case of anuria. This was my first case, the subject was rather new to me, and it gave me an opportunity to investigate it with some care. I came to the conclusion that the method had not been sufficiently emphasized and felt that the disease should be treated as a surgical entity. I attempted to make a clinical classification which would enable us at the bedside to determine on what line we should work in order to aid the patient. The classification which I decided on was as follows: 1, Obstructive anuria; 2, reflex anuria; 3, nephritic anuria.

The reflex condition, of course, is the one which is the most common and which gives the best prospects for relief under surgical interference. The reflex anuria, I came to the conclusion from the study of the cases, was a rather rare condition, although from the work of Getzel, the assistant of Israel, there can be but little doubt that such a condition does exist. Getzel's experiments, by increasing the renal tension, show that it would decrease the quantity of urine, in either or both kidneys, according to the application of the pressure, and when the tension was increased to a certain point in both kidneys, there would be entire suppression of the urine. Of course, in case of hydronephrosis on one side, fixture of the hydronephritic sac has been followed by relief of the anuria. The case presented by Dr. Whitacre, I think, comes under the nephritic group. Since reading this paper before the Chicago Surgical Society I have had an opportunity of doing a nephrectomy under nitrous oxid gas. The operation can be done in from five to eight minutes, during which time you can easily keep up the anesthesia, and this kind of anesthetic is especially valuable, as we are never sure of diagnosis until we make an exploratory operation. It may be a case of nephritic anuria; it may be a case of the obstructive variety, or there may be a stone in the kidney. A nephrectomy gives an opportunity of exploring the pelvis and relieving any abnormal condition which may be a cause of the anuria. I should throw out of consideration the decapsulation of the kidney for anuria and would say that the operation of choice was a nephrectomy under an anesthetic which could do no danger to the kidney tissue, such as nitrous oxid gas or infiltration anesthesia.

DR. WM. JEPSON, Sioux City, Iowa—It is hard for us to say, with our present knowledge, of just what value decapsulation of the kidney may be. One of the papers deals with the topic of who was the originator of the treatment by decapsulation; I know that Edebohls was not the originator, because we know that Redner did this operation in 1892 at the suggestion of Professor White, and he reported a number of cases before the British Surgical Association in 1898, in which he had this topic under consideration. In 1899 Israel reported 19 cases. So that I think we are safe in stating that Dr. Edebohls was not the originator of this method. Harrison reported 6 of these operations in 1896, and called attention to this method of stripping off the capsule in order to relieve the tension, and then, in addition, there were the cases of Professor Israel. Babinsky carried out these observations, and his work was proven by the fact that he removed sections of the kidney in order to determine just what the lesion was. Therefore, in cases of chronic nephritis we can hope for very little benefit from stripping of the capsule, but it is in those cases where we have an interstitial nephritis with an involvement of the surrounding

* The paper of Dr. Whitacre appeared in THE JOURNAL, May 23, 1903.

structure and thickening of the capsule, and especially where we have a hemorrhage under the capsule, that this method will do the greatest amount of good. On the other hand, you will remember that Edebohls concedes the idea that by separating the capsule from the kidney it produces a restitution in the normal functions, even to the extent that the whole tubules have radically become regenerated. Now, with such opposing views, should we not be very careful and considerate as to whether these operations do or do not do the kidneys good? I am sure that we have all observed that marked benefit would follow an operation which was primarily undertaken as an exploratory operation. I think probably splitting of the capsule or of the kidney produces this change.

DR. ARCHIBALD MCLAREN, St. Paul, Minn.—I wish to emphasize the point made by both Drs. Bevan and Jepson, namely, that the advantage which we sometimes get in these cases of painful and uncomfortable kidneys, is often due to the splitting of the capsule, without the decapsulation. There are not many of us who are ready to recommend stripping the capsule in chronic nephritis as yet. We may later come to believe that this is the proper procedure. I can remember a number of cases where the conditions found were inexplicable with the results produced by merely splitting of the capsule, such as relief from the pain, disappearance of the albumin, etc., and many of these cases got considerable permanent relief. I have seen a few cases that have been decapsulated; although they received some immediate benefit, this improvment did not last long.

DR. RICHARD H. GIBBONS, Scranton, Pa.—The first man in all the world to recommend surgical interference for the cure of Bright's disease was Edebohls. All the others who did the operation did it incidentally, just as Dr. Ferguson did. They did not do the operation for the relief of Bright's disease; they did the operation for tension or some other cause which they supposed existed, but which they did not find when they operated. It was for this same reason that Israel did the exploratory operation and split the capsule, but Edebohls not only split the capsule, but he entirely decorticated the kidney; not only one kidney, but both kidneys, and afterward found that the condition could be relieved by surgery, and there is no man to whom credit for this work more justly belongs than to Edebohls, as he came out and recommended it for the condition, and would have had to have accepted his share of the damnation had it proved a failure. I believe so much in this method of splitting the capsule and detaching it in chronic Bright's disease as to have done the operation on my own sister, and at the same time I took out her appendix. I have had a number of cases of Bright's disease recover by this treatment, and many of them have been cases which have been proved to be this disease by the subsequent examinations of one of the best pathologists in Philadelphia. I had a case recently where I detached the capsule, and in which there was a number of multiple cysts in both kidneys, and the patient got well. Only four weeks ago to-day I operated on a young lady with a retroverted uterus, loose appendix and diseased kidney on the right side. She had all the symptoms of appendicitis, the diagnosis having been confirmed by Dr. Brooks of the Post-Graduate Hospital, New York. I referred her to Edebohls, as I hesitated to advise an operation without her seeing him. He recommended operation with fixation and decortication, which was almost entirely what I had recommended. She left the hospital last Sunday; her symptoms were improved in every way and the albumin in the urine very much diminished. Another case in relation to Dr. Whitacre's paper was a young woman on whom six weeks before I had operated for appendicitis, and expected to fasten a loose right kidney. I found a number of abdominal adhesions and decided to take out the appendix anteriorly. She got no relief and showed the usual symptoms of appendicitis and loose kidney. I operated on her several months afterward and fixed the right kidney, but did not touch the left kidney. She had all the symptoms of chronic Bright's disease, as proven by Dr. Brooks' examination. She immediately went into a state of surgical anuria. She died the latter part of the sixth day from complete suppression of urine, having passed six ounces up to that time. If I had only opened that woman on the left side, exposed her left kidney and decorticated it, the probabilities are that she would not have died from that condition.

DR. RAMON GUITERAS, New York—I think that the operation for chronic Bright's disease is still in its infancy, and it behooves us all to work with the object of improving our technic and bringing this operation to a position where it will be generally accepted by the profession.

Last year I read a paper before the American Genito-Urinary Association at Atlantic City, which was a preliminary report on this subject, and next week I am about to present a similar paper before the Congress of American Physicians and Surgeons in Washington. As there are so many varying opinions as to the advisability of attempting such an operative procedure, I have written to 150 of the most prominent surgeons in this country, and have mailed them circular letters covering the most important points connected with the operation, and have been very much pleased to find how many of them have responded to my letters. The opinions of these gentlemen, however, vary much. Some condemn it as an operation having no surgical or pathologic *raison d'etre*, while others reply at length, describing their experiences in a most enthusiastic manner.

Of course, as you know, the object of decapsulation of the kidney in this operation is to increase its circulation. Some of the leading medical men have likened the kidney after this procedure to the lung where there is a double circulation, the bronchial fortifying the pulmonary system. Dr. Johnson of San Francisco, in order to test the truth of this assertion, operated on a number of dogs in which he decapsulated the kidney for the purpose of investigation. He states that the blood supply is but slightly increased, if any, and a new capsule forms which in time becomes thicker and denser than that of the original one. It would take too much time to consider the question of Bright's disease, but as you know it is a disease of the kidney where either the connective tissue, the blood vessels, the Malpighian tufts or the tubules must be involved. Bad cases of Bright's disease very often show very little in the urine, while cases of transient albuminuria and cylinduria are often seen where no pathologic changes have occurred in the organ, although such changes will occur. if the cause of the transient trouble is not corrected. These latter cases, we believe, are benefited or permanently cured by the operation mentioned.

Considerable has been said of late concerning unilateral Bright's disease, and some have spoken of this disease as present at times in only one kidney, or its being more marked in one kidney than in the other. It is a very difficult thing, it appears to me, on exposing the kidneys to say this kidney has nephritis and the other one has not, or this has nephritis to a greater or less extent than the other. Such fine discernment from a gross pathologic standpoint from viewing the outside of the organ when the capsule has been stripped off is, to my mind, next to impossible. In order to investigate the subject of unilateral nephritis I had the autopsy records of 500 cases of deaths from chronic Bright's disease looked over, and in only one case did I find the record of a purely unilateral affection, and this one, to my mind, could not be relied on. In only 14 cases out of the 500 did the records show that one kidney was more involved than the other. In nearly every case a very careful pathologic examination was made after removal of the organ.

DR. L. L. MCARTHUR, Chicago—Last year I undertook the relief of a chronic interstitial nephritis in the case of a young woman referred to me by members of this Society, Dr. Favill of Chicago and Dr. Norman Bridge of Los Angeles, who for six months had had the patient under treatment, and finding her but slightly benefited by medical assistance, treatment, change of climate, etc., had recommended removal of the capsules of her kidneys and requested me to do it.

I had little confidence in any good that might arise from the operation, but agreed to it because of the reports contained in the literature. Before the operation, I took pains, in addition to the examinations which they had made, to make a sep-

arate collection of the urines from both kidneys at three successive times for three successive weeks. The urine, when microscopically and chemically examined, showed the presence of Bright's disease equally affecting both kidneys. I then said that I would decorticate one kidney to see whether that kidney would be benefited as compared with the other. I did so. The quantity and quality of the urine from the operated kidney was very much increased and improved as compared with the other kidney. The patient improved physically; in fact, she was so much better that in the course of about three months she came back and urged the decortication of the capsule of the other kidney. Her condition physically was better; the edema of the eyelids had disappeared and the face assumed a more normal color.

I removed the capsule of the opposite kidney and its urine soon assumed as good a condition as that from the other kidney. Segregation was made in order to determine whether there was improvement or not.

There is surely some value in this operation, although just what the value of it may eventually be remains for time to tell. I do not think it is going to be good for every case of chronic or acute Bright's disease; we must yet learn to pick out the cases which will be benefited, and I would like to say further, in regard to Dr. Whitacre's case, that I think it is a mistake to cut away the capsule, since by a little procedure the capsule can be preserved and will make a good platform for the fixation of the kidney. This consists in making a transverse equatorial incision on the posterior aspect of the kidney, loosening the capsule first of one-half then of the other; when loosened the poles of the kidney can be delivered, leaving the empty capsule in one piece in front of the kidney. This can then be used to suture to those structures to which the movable kidney is usually fixed by a nephropexy. A detailed report of this case will be published later.

DR. F. A. DUNSMOOR, Minneapolis—One thing has not been said here to-day in the papers read. Experiments were made ten years ago by Dr. Wyman of Detroit, to demonstrate the production of Bright's disease in dogs by temporary ligation of renal vessels associated with stripping of the capsule, half of the method now used for a cure. In regard to the case of anuria, I agree with Dr. Bevan that many of the cases of post-operative anuria are due to the anesthetic, as the operations were made with perfectly aseptic methods and, therefore, it would seem that this could be the only cause for the anuria. I also wish to agree with him and with the last speaker that it is not necessary to strip the capsule completely, since the incision relieves the tension.

DR. RANDOLPH WINSLOW, Baltimore—I wish to mention a case under my care, which is somewhat different from those that have been mentioned, but which, nevertheless, is in the same line. A young woman who had been confined in the central portion of North Carolina, was evidently in a thoroughly septic condition in consequence of that procedure. After many weeks, her condition having become so bad that her life was despaired of, she was sent to Baltimore. She came practically on a litter, and it was feared she would die before she could get into the hospital. She did not improve on medical treatment; there was pain over the right kidney and pus in her urine with a septic temperature chart. She was subjected to a cystoscopic examination, without determining anything in particular and, owing to the fact that she had pain over the right kidney, it was thought that there was some trouble with that organ. The kidney was exposed and apparently there was no abscess connected with it. I presume there was some pyelitis. There was nothing which, in my opinion at the time, justified either removal of the organ or nephrotomy. I punctured the kidney in a number of places and then stripped the capsule from it. The patient improved rapidly. The pus disappeared from the urine and in a very short time she was sufficiently well to go home, and continued well when last heard from.

DR. H. J. WHITACRE, Cincinnati—In reference to the classification suggested by Dr. Bevan: First, I did not have the pleasure of reading this valuable article until mine had been completed, and, second, had I read the article I would not have followed the classification. My experience in this condition leads me to believe that this classification is incorrect. Dr. Bevan has given his classification into the obstructive, the reflex and the nephritic forms. One object of my paper was to present serious objections to the inclusion of obstructive lesions under the heading of suppression of urine. I do not believe that this form belongs under the heading of suppression of urine at all, no more, indeed, than does retention of urine.

I wish to likewise make objection to his second and third forms. True suppression of urine always concerns the parenchyma of the kidney, therefore all forms must be nephritic and a reflex suppression must likewise be a nephritic form. The classification which I have presented includes these two forms and more too. In all cases of true suppression of urine the parenchyma of the kidney is at fault. This may be a reflex fault, a degenerative lesion, the result of lessened heart action, the result of an anesthetic, or the direct result of trauma. Objection has been made in the discussion to the operative treatment of suppression of urine as irrational and improper. It was impossible for me to read my entire paper. It will be found, however, in the complete paper that such is by no means advised for all forms of suppression of urine. It is by no means advised that a degenerative lesion be submitted to operation, but that every possible agent be employed to improve the nutrition of the degenerated cells and to improve the flow of good blood to them. Nobody would think of treating a suppression of urine which occurs in shock from lowered blood pressure by administering an additional shock. Suppression from trauma could not be improved by adding another trauma. It is the purpose of the paper to classify the etiologic factors present and to show that operative treatment by decapsulation is not only rational, but actually demanded in those cases of suppression of urine that result from a reflex circulatory or vasomotor disturbance in the kidney. My reasons for recommending this treatment have already been given in that section of my paper which deals with the pathology.

Dr. Bevan has recommended nephrotomy as a more rational operation. It seems to me that a nephrotomy would not meet the indications, unless it split the kidney from end to end. The tension is exerting its deleterious influence on every cubic mm. of kidney parenchyma, and a single short incision would relieve the tension over only a very limited area. I do not see the advantage of opening the pelvis of the kidney. it is not at fault at all. I should most unhesitatingly recommend such procedure when there is reason to suspect a calculus in the pelvis.

Dr. McArthur has recommended that only an equatorial segment of capsule be removed, or, if the entire capsule has been stripped off, that this be turned back under the kidney and used to anchor it. I think that I caused a kink in the ureter of a floating kidney by doing this very thing.

I have done decapsulation for Bright's disease once on the large white type of kidney. The results were not satisfactory, however, and I felt at the time of the operation that the operative procedure was in reality not relieving his kidney very much. I do not believe that this type of kidney will yield good results by this method.

DR. ALEX. H. FERGUSON, Chicago—I think there are one or two points in regard to the operation that ought to be made a little clearer. When the kidney is exposed the fat ought not to be taken away, but left displaced below it. The sudden effect which this operation has on the urine and the symptoms of the disease is simply marvelous. They are usually better even the next day, and the old pain is gone, and the albuminuria and the casts decrease within a couple of weeks. But how is this effected? That is the question that concerns us. First probably by relief of the tension. That would pertain to those cases in which there was intracapsular tension, such as would be produced by acute inflammation, like those cases of Reginald Harrison. In all the acute and subacute cases there is pain and tension, but later comes a stage where there is no

tension, but just the reverse, a contracted kidney. There are various stages of contracted kidney that are more or less benefited by decapsulation. How does this come about? By collateral circulation, I think. Now experiments have been performed on dogs by Johnson of San Francisco, and in no case, he states, was there any considerable anastomosis established between the renal and perirenal blood channels. He returned the kidney back into the fatty capsule, where there would not be much attachment of a vascular nature seen. Experiments on dogs with normal kidneys do not bring the results that operations on a person who is suffering from nephritis do. I had a patient who came to me suffering from an infection of the kidney. I opened the kidney and the wound closed rather too soon, and the patient went home; the pain returned and she came back. I then opened the kidney again and removed a portion of the organ. There was a vascular connection formed between the kidney and the pseudocapsule.

In regard to this claim to priority, I do not wish to be misunderstood. But when a certain man does certain work and publishes it, not in an obscure medical journal, but in THE JOURNAL of the American Medical Association, on a certain date, and another man does certain work along the same line and publishes the result of his labors one month and eleven days afterward, it would seem that the first author should be the one entitled to first credit. But that does not matter very much.

EVOLUTION OF THE MAMMALIAN STRAIGHT GUT.

WITH SPECIAL REFERENCE TO PERITONEAL CHANGES INCIDENT TO ROTATION.*

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As is generally conceded, the adult peritoneum of man, while a macroscopic structure of liberal proportions, is, nevertheless, complex beyond the ken of the ordinary student, without embryologic study. To such an extent have certain organs as spleen, liver, stomach, pancreas and colon migrated from their primitive location in the posterior mid-line of the body cavity, and contracted such intimate and deceptive physiologic adhesions, that even embryologic speculation as to the *rationale* of their migration was slow of general acceptance by the profession. If, now, to these numerous physiologic departures there be superadded pathologic departures incident to inflammatory processes, some conception of the difficulty confronting the student in his dissecting-room study may be imagined.

Within recent years our standard text-books on anatomy were monumental in their respective chapters on the peritoneum, to the most flagrant violation of perspicuity. There is no longer doubt that in the study of the abdominal organs and their investing peritoneum, two methods must be pursued: 1. The practical method by which each organ, with its corresponding peritoneal investment, is to be identified and studied *in situ*. 2. The embryologic method, by which the products of the primitive straight gut, Wolffian bodies, Müllerian ducts, and indifferent sexual gland are studied, in their successive developmental stages, from the simple to the complex. According to Huntington, the peritoneum of certain lower animals should be studied along with the human peritoneum, because in them the permanent adult arrangement corresponds to one of the early embryonal human stages. Huntington says:

It is doubtful if the detailed developmental stages in man can ever be clearly comprehended unless the student will for himself examine the conditions, and perform the manipulations (of rotation) in one of the lower animals. The necessity of keeping the three dimensions of space in mind, and the fact that certain structures during and after rotation cover and obscure each other, make diagrams and drawings unsatisfactory unless the actual examination of the object itself is combined with their study. The cat answers every purpose of this study admirably.

It is believed that the mechanical device here presented will be of some advantage to the teacher in presenting the difficult subject of the anatomy of the peritoneum to large classes of students. It has the further advantage, by virtue of its strength and stability, of being available for the use of students, who can readily learn its proper manipulation. The device, constructed principally of rubber dam and inflatable bags and tubes, simply reflects the embryologic illustrations in our text-books. It is not intended to supplant the practical study of the peritoneum of man or the lower animals. We believe it shows with tolerable accuracy the mechanical principles involved in the following points:

1. The primitive straight gut attached (a) to the posterior abdominal wall by a dorsal mesentery; (b) to the anterior wall as low as the umbilicus by a ventral mesentery; (c) to the umbilical region by the intra-embryonal part of the yolk stalk.

2. A dilation of the gut tube, differentiating the primitive tube into stomach and intestine, and its investing peritoneum into mesogaster (ventral and dorsal) and mesentery.

3. A drawing out of an U-loop of gut from the dorsal wall, increasing the length of the mesentery, and presenting an upper and a lower limb separated at the neck of the loop by the superior mesenteric vessels.

4. Evagination of liver and gall ducts from the ventral wall of the duodenum into the anterior mesogaster, showing location of the primitive gastrohepatic omentum and the derivation of the hepatic peritoneum from the anterior mesogaster.

5. Evagination of pancreas and its duct from the dorsal wall of the duodenum into the posterior mesogaster, showing the primitive peritoneal investment of this organ.

6. Location of the spleen in the posterior mesogaster, in close proximity to the pancreas, showing the gastrosplenic omentum and the phrenicosplenic ligament derived from the posterior mesogaster.

7. The broad ligament of the liver, the hepatic peritoneum, the gastrohepatic or lesser omentum, the gastric peritoneum, the mesoduodenum, the splenic and pancreatic mesenteries, and the gastrosplenic omentum—all of which are derived from, and are specialized parts of the primitive mesogaster.

8. Rotation of the mesogaster whereby liver, stomach and spleen begin to assume their adult relations, and dimly foreshadow the beginning of the lesser cavity of the peritoneum.

9. Evagination of posterior mesogaster to the left, showing the formation of (a) the greater omentum; (b) the foramen of Winslow; (c) implantation of the posterior mesogaster and pancreas on posterior abdominal wall, to the left of the mid-line of the body.

10. Rotation of the U-loop of the intestine from left to right about the long axis of the superior mesenteric vessels, showing the transverse duodenum passing beneath these vessels, and taking up its adult position.

11. Differentiation of the gut caudad to the attachment of the yolk-stalk into a large and small intestine.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

The following summary, founded largely on Heissler, includes the salient points in the evolution of the alimentary canal and its accessory organs, and points out (a) the condition of the structures during the period of primary parietal peritoneum before rotation; (b) the migration of organs, consequent on rotation, when they acquired their adult position and relations; (c) the structural changes in certain localities, in both visceral and parietal peritoneum, incident to adhesion between peritoneal surfaces; (d) the mechanism of rotation, whereby liver, stomach, spleen, pancreas, duodenum and intestines departed to greater or less degree from their primitive location in the mid-posterior line of the abdomen. I also append observation on 200 cadavers with reference to rotation.

1. The abdominal part of the alimentary canal, in the second week of embryonal life, consisted of a gut tract separated in part only from the yolk-sac.

2. In the third week, the gut tract assumes somewhat the form of a straight tube, presenting, near the head-end, caudad to the future stomach, the beginning of an evagination, the future liver.

3. In the fourth week the straight gut dilates cephalad, initiating the future stomach. The lumen of the bile passages is completed, and the liver-diverticulum divides, thus foreshadowing the future major lobes of the liver; the pancreas is evaginated from the duodenum, growing subsequently into the mesoduodenum and posterior mesogastrium.

4. The original straight gut in the fifth week becomes somewhat convoluted, and foreshadows the first tangible evidence of its future complexity in the U-loop, and a disposition to differentiate into large and small intestine. The loop consists of (a) an apex attached by the vitelline duct to the yolk-sac; (b) of a descending limb, which subsequently develops the major part of the small intestine caudad the duodenum; (c) of an ascending limb from which the future cecum, ascending and transverse cola, and distal end of the ileum are derived. The loop, by traction exerted through the yolk-sac, now projects its developing coils (up to the tenth week) through the open abdominal walls into the hollow of the umbilical cord, thus forming, according to Huntington, the so-called umbilical embryonal intestinal hernia. It should be noted that growth proceeds from the apex of the loop; that growth of the descending limb of the loop is rapid, while that of the ascending limb is slow.

5. In the sixth week the duodenum, enclosed in the mesoduodenum, and presenting its well-advanced hepatic and pancreatic evaginations, is fully differentiated from the stomach, and develops its primary duodenal loop. At this period the cecum is formed by buddation and the rectum is developing.

6. In the seventh week the transverse and descending cola are indicated, and, by a process of unequal growth, the cephalic end of the colon differentiates into cecum proper and appendix vermiformis.

7. In the eighth week the gall bladder is formed, and the anlage of the spleen is first observed.

8. In the tenth week the loop of small intestine, which up to this time was encouraged to protrude into the hollow of the umbilical cord, begins to enter the abdominal cavity, a circumstance due to the closing in of the somatopleure on the future umbilical opening.

9. In the twelfth week the histologic characters of the adult peritoneum become established and rotation occurs, a process by which organs, thus far in the mid-line of the body cavity, begin to assume their adult relations.

At this period, the third month of fetal life, immediately preceding rotation, the parts of the alimentary canal with their investing peritoneum and blood vessels, are about as represented in the model. It may be in order now to review the salient features presented before rotation, in order that the post-rotatory locations and relations of organs, with consequent loss of peritoneum in certain places, may be better appreciated.

The stomach appears in the mid-line as a dilatation of the initial end of the intestine between two layers of peritoneum known as mesogastrium. As the stomach enlarges it displaces these two layers, and gastric peritoneum is the name given to the displaced membrane.

The double layer of peritoneum, which, enclosing the stomach, proceeds, ventrad to the anterior and dorsad to the posterior abdominal wall, under the name of ventral and dorsal mesogastrium respectively.

The liver, developed as an evagination from the ventral surface of the duodenum, acquires its artery from the gastroduodenal which originally traversed the space of the posterior mesogaster and entered the anterior mesogaster. As the liver grows, it displaces peritoneum (anterior mesogaster) and the displaced membrane is called hepatic peritoneum. The liver is now seen to occupy a place in the mid-line of the body, anterior to the stomach, between two layers of ventral mesogaster.

The two layers of peritoneum bridging the space between the stomach and liver, is a part of the anterior mesogaster called the gastrohepatic (and containing the root structure of the liver) or lesser omentum. Likewise, the two layers of anterior mesogaster extending from the liver to the diaphragm constitute the falciform ligament of the liver.

Pancreas.—The pancreas arises as an evagination from the duodenum. It grows into the mesoduodenum and into the adjacent segment of the posterior mesogaster.

The spleen develops from mesodermic tissue near the cephalic end of the stomach, between two layers of the posterior mesogaster, and subsequently takes up its adult location as a result of rotation.

The mesogaster at this period consists of two layers of peritoneum, enclosing the stomach, liver, spleen and pancreas. Its four parts unoccupied by these organs are the falciform ligament, the lesser omentum, the part attached to the posterior wall of the abdomen, and the great omentum.

The primitive duodenum extends from the stomach to the neck of the U-loop of intestine. It obtains at an early period its nourishment from the primitive gastroduodenal artery, from which the hepatic artery is ultimately derived. It has a well-marked dorsal mesentery, the mesoduodenum, consisting of two peritoneal layers.

The U-loop, from which the small intestine caudad of the duodenum and the future ascending and transverse cola are derived, is between two layers of primitive dorsal mesentery, which finally differentiates into the mesentery proper and the mesocola of the ascending and transverse cola.

It will be observed that at this period, before rotation, the walls are covered by primary parietal peritoneum, and that the alimentary canal, liver, stomach and pancreas are invested by primary visceral peritoneum.

As a sequence of rotation, a transposition of organs occurs by which the liver and spleen appear laterad to the stomach. The stomach itself assumes now a more horizontal position in place of its vertical embryonal position, and consequently retaining distorted relations to liver and spleen, through their respective omenta.

The posterior mesogaster evaginates to the left, forming great omentum, and its cavity the lesser cavity of the peritoneum. As Huntington puts it:

> The changes which are to be observed in the later stages, depend principally on a peculiar feature characteristic of the development of the dorsal mesogastrium. This feature consists in the extreme redundancy of the membrane, which grows out of proportion to the requirements of its visceral connections, and to a certain extent becomes independent of the direct mechanical purpose of carrying blood vessels to the viscera.

The mesoduodenum immediately succeeding the stomach has right and left surfaces which embrace the head of the pancreas. It falls to the right, presenting thereafter ventral and dorsal surfaces with the head of the pancreas resting on the vertebral column, vena cava, and right kidney.

Note the relation of the duodenum, superior mesenteric vessels and colon at the neck of the U-loop. Upon rotation, the duodenum is ventrad, the colon dorsad, with the vessels between. After rotation, the relation of the duodenum and colon are reversed.

Mechanism of Rotation: (a) The large intestine passes ventrad and dextrad across the jejunoileal coils toward the cephalic end of the abdominal cavity, and lies transversely along the greater curvature of the stomach. (b) The cecum turns to the right against the caudal surface of liver and ventrad of duodenum, and reaches the ventral surface of the right kidney. The colon is crowded cephalad; the small intestine to left and downward. The small intestine rotates about the axis of the superior mesenteric vessels, bringing the transverse duodenum beneath these latter, and in contact with the vena cava and aorta.

Peritoneal losses, the result of adhesion, are sustained in the following localities: (a) The ascending and descending cola lose their visceral peritoneum at contact point with the walls, while their respective mesocola become secondary peritoneum for the posterior abdominal walls in these regions. (b) The second stage of the duodenum loses its visceral peritoneum dorsad, where, as a result of rotation, it continges the abdominal wall and right kidney; also where it lies dorsad to the hepatic flexure of the colon. (c) The transverse duodenum suffers peritoneally where it rests beneath the superior mesenteric vessels, and on the vena cava, aorta and vertebral column. (d) The great omentum suffers concrescence of peritoneum at the contact point of the left kidney, pancreas, transverse colon and mesocolon, and on the posterior abdominal wall in the neighborhood of the diaphragm.

The following observations on peritoneum and alimentary canal were made with special reference to developmental sequences of rotation, on 200 bodies, and appear as a dissecting-room record:

1. Non-concrescence of great omentum. In ten instances adhesion between anterior and posterior layers of great omentum had not occurred.

2. Foramen of Winslow obliterated. In twenty-five instances, obliteration of the foramen of Winslow, presumably from inflammatory causes, had taken place. In seven of these twenty-five cases there were evidences of extensive inflammation of the right pleura. This would seem to be a practical illustration of the possibility of a septic fluid in the right pleural cavity gaining access to the peritoneum through the hiatus diaphragmaticus.

3. Meckel's diverticulum. In fourteen instances Meckel's diverticulum was present. The longest was five inches, the shortest one inch in length; the smallest was about the size of an ordinary sewing thread, and patulous.

4. Ascending mesocolon. In twenty-two instances there was a well-defined mesocolon and mesocecum. This was evidently a case in which fusion had failed to occur between the primitive mesocolon and the parietal peritoneum. The mesocolon was traceable to mid-line.

5. In twenty-six cases there was a well-defined descending mesocolon, and undoubtedly instances of a survival of the primitive descending mesocolon.

6. Primitive mesentery. In seven instances the only mesentery proper was a primitive one, attached about the superior mesenteric vessels.

7. Long mesosigmoid. In twenty-five instances the mesosigmoid was unusually long. In one case the omega loop was 28 inches in length.

8. Little fat in great omentum. In forty instances the great omentum contained practically no fat. In four of these forty cases, adhesion had not taken place between the anterior and posterior layers of the great omentum.

9. Mesentery of gall bladder. In four instances the gall bladder had a distinct mesentery; in one case it was 2 inches in length. (Now on display in pathologic exhibit.)

10. Extensive adhesions. In forty-five cases there were extensive peritoneal adhesions, both local and general. Especially extensive in regions of gall bladder and appendix.

11. Non-concrescence. In five instances there was no concrescence between the deep layer of the great omentum and the transverse mesocolon.

12. Loss of mesosigmoid. In twenty-three instances there was complete loss of mesosigmoid.

13. Arrested rotation. In four instances arrested or faulty rotation deposited the large intestine entirely to the left of the median plane of the body.

14. There are two varieties of peritoneal adhesions. (1) Physiologic; (2) pathologic. Histologically the two differ in degree only, and I believe it is generally conceded that the physiologic ones are the weaker.

979 Jackson Boulevard.

DISCUSSION.

DR. LEMOYNE WILLS, Los Angeles—I have been fortunate to teach this branch for the past fourteen or fifteen years, and I know of nothing harder to teach a student than the practical understanding of the peritoneum. I think it is a great pity that Dr. Eckley did not have his apparatus here to-day, and I hope to be able to get one and use it. I do not think the practitioners of medicine who have been practicing fifteen or twenty years know very much about anatomy, and it would be a very good thing if we had more papers like this.

DR. RICHARD H. GIBBONS, Scranton, Pa.—This paper is far more important than a peck-measureful of papers on appendicitis. There is nothing that has given me more courage to go out and do my work than the teachings I got from Dr. Leidy on the peritoneum.

Veratrum Viride in Puerperal Eclampsia.—De Bustamente adds his testimony to that of others in regard to the value of veratrum viride in eclampsia. He reports in the *Revista Med. Cubana* four cases thus treated. The convulsions were definitely arrested in all, but severe vomiting followed in 2. One patient was injected three times on following days, the last time as a prophylactic measure, when premonitory symptoms indicated the return of the convulsions. Her pulse fell from 99 to 60 and 54 each time in an hour afterward. He injected 1 gm. of the fluid extract, but in future will inject half the amount at a half-hour interval, in the hope of obviating the vomiting. The effect on the eclampsia was unmistakable and has convinced him that this drug is superior to all others yet known for this affection.

PITYRIASIS ROSEA.

AN ERYTHEMATOUS ERUPTION OF INTERNAL ORIGIN.*

LUDWIG WEISS, M.D.
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NEW YORK.

The disease of which I intend to speak to-day does not belong to those very frequently observed. Its frequency, according to statistics, is between 5 and 12 per cent. of all skin affections presenting themselves for treatment. When we consider that the affection, by not causing imminent symptoms, is apt to be overlooked by the patient, its frequency will be somewhat augmented. If we add to this fact that the discernible features of the disease greatly resemble another skin eruption—tinea maculosa and circinata—we have another source of increased frequency, which must be accounted for when estimating the ratio of its occurrence among the dermatoses.

It is strange that even busy dermatologists will at times encounter no case at all, while at other times the well-known mysterious multiplicity of cases will materialize itself by a string of cases within a limited period. Hyde saw 87 cases in 18 months. The spring and fall seasons seemingly enjoy the distinction of producing the disease. Generally speaking, it is a borderline question between herpes tonsurans maculosus and squamosus corporis and pityriasis rosea; the latter, an erythematous eruption of internal origin.

HISTORY.

An affection like pityriasis rosea, with its sudden onset and with its profuse crop of lesions resembling those of an acute exanthema in some respects, could not easily have escaped the attention of dermatologists. It was not unknown to the older authors. In the chaotic condition of dermatology before Hebra, skin affections were described solely by their most discernible signs and effects, regardless of their anatomo-histologic conditions, and labeled with names the purport of which is sometimes hard to grasp. To mention only a few instances: Willan, the pathfinder in dermatology, in 1798, under the name, roseola annulata, mentions an affection which corresponds with the circinate form of the disease in question.

Rayer, in 1828, by the term, erythema annulatum, describes a skin disease which closely resembles pityriasis rosea.

In 1857, Erasmus Wilson,[1] under the name of lichen annulatus serpiginosus, describes a skin affection, "small, flat, erythematous discs, bounded by a sharp and distinct margin . . . . and converted into rings." A description which closely resembles pityriasis rosea.

In 1862, Bazin,[2] in describing the different forms of pityriasis, mentions one variety, pityriasis rubra aigu, depending on internal causes, especially on a "gouty and herpetic diathesis." He terms it pityriasis maculata et circinata. The former answers the description of the maculous form of our pityriasis rosea. Bazin was the first to mention also the annular form, and by so doing describes a hitherto unnoticed form of the disease, believing it to be of idiopathic origin.

Shortly after, in 1868, the affection was recognized by Hardy,[3] and excellently described under the name of pityriasis circiné. He cautions against confounding it with tinea circinata (*l'herpes circiné*), giving valuable differential diagnostic points.

The first to make the affection known as a disease *sui generis* was Gibert,[4] in 1860, one of the many great talents that the "St. Louis" in Paris has produced. His classical description is yet recognized as the standard by which the affection which bears his name is diagnosed. Gibert, however, describes only the macular variety of the disease, which is rather strange and adds somewhat to the confusion existing. As the disease in almost every instance occurs in the maculo-annular form, we must infer that Gibert has seen a peculiar macular form of it, or that there may be two forms of pityriasis rosea.

The disease was practically unknown here and on the continent with the exception of France, where the older authors had described it, as we have seen, rather imperfectly under various designations; when Duhring,[5] in September, 1880, in a paper read before the fourth annual meeting of the American Dermatological Association, independently and without the knowledge of the researches of others, published his six cases, giving an excellent description of the affection. Therefore, he may justly claim the honor of having been the first American to deal with it. In comparing his cases later he found them to correspond with an affection described by Bazin under the name of pityriasis maculata et circinata. Failing to find an account of it in Gibert's work he gives the honor of priority to Bazin. This, however, was an oversight, as in the third edition of Gibert's book, which appeared in 1860, two years before Bazin's, on page 402, Gibert describes the disease which bears his name as pityriasis rosea.

The views on this disease took a sudden change when Hebra,[6] in 1876, described what he thought to be a disseminated form of body ringworm, occurring as an acute and general eruption in form of maculæ of pale red color, with a fine furfuraceous scaling. He and Kaposi called it herpes tonsurans maculosus et squamosus. It is strange that such acute observers do not mention the annular form as we are wont to see it, according to the modern description of pityriasis rosea. From this time on the path of pityriasis rosea became a troubled one. The first to take up the gauntlet against its parasitic nature was Horand[7] in Lyons, 1876. He describes seven cases in children, resembling pityriasis rosea and corresponding with Hardy's description of the disease. He declares it to be of non-parasitic nature, although two brothers who slept in the same bed had it.

The contemporary literature shows only a few and solely French contributions. In 1877 Vidal,[8] who called it erythéme desquamatif pseudo-exanthematic, and Metton;[9] in 1880 Nicholas,[10] whose description rather fits eczema seborrheicum psoriasiforme, published accounts of the affection. In 1881 Oatman[11] published his case resembling tinea versicolor, except that it was brighter and redder.

Behrend,[12] in Berlin, 1881, was the first German author to write on this subject. He declares pityriasis rosea an independent disease, not extremely rare and most probably of parasitic, although not of trichophytic origin. He wants it to be termed roseola furfuracea herpetiformis. In 1882 Vidal[13] describes a parasite found in the scales of pityriasis rosea which he calls microsporon anomoen or dispar; the pathognomonic significance of which is, however, much contested.

The literature on this topic now became somewhat more extensive concerning the entity of pityriasis rosea. Hans[14] describes a case where a whole family developed pityriasis circinata from a trichophytic dog. From this he tries to establish the identity of both diseases. In 1882 Weyl[15] pleads for the independent standing of the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

affection, and Behrend[16] again emphasizes that it is not only different from ringworm, but coincides with Vidal by believing in a parasitic and non-parasitic form of the disease.

In 1882 Jamieson[17] calls it an imitator like most skin diseases. In 1884 Colcott Fox[18] describes the affection in children and establishes Gibert's claim of priority. In 1885 Chapard[19] and Kinnier[20] wrote on this affection, and Ferrari[21] coincides with Vidal as regards the presence of his parasite.

Blanc,[22] Bulkley, Fox and Robinson[23] describe this affection, being doubtful as to its origin. In 1886 Jaquet[24] writes of this disease as having some connection with gastric dilatation. In 1887 Brocq[25] published his celebrated article in which he draws attention to the so-called "herald patch" as a distinctive diagnostic sign. Peroni[26] observed a small epidemic of herpes tonsurans maculosus et squamosus Kaposi, which he thinks to be a roseola furfuracea trichophytica. He alleges its contagiousness, which is, however, open to doubt. In 1888 Boeck[27] speaks of the disease, and Unna[28] touches on the relation of pityriasis rosea to seborrheic eczema.

In 1899 Barduzzi[29] describes three cases with no fungus found; his inoculation experiments, as did Weyl's and Koebner's, proved negative. Moingeard[30] regards it as a general infection with a cyclic course. Jaquet[31] again emphasizes its connection with gastric disturbances, and Besnier[32] points out the analogy existing between pityriasis rosea and eczema seborrheicum and its coincidence with gastric disorders. Fournier[33] dilates on a case, persisting four years, remarkable for the confluency of its lesions. Feulard[34] thinks dilatation of the stomach to be an etiologic moment. Hallopeau[35] relates a case of four years' standing and von During[36] declares it to be an independent disease. Mracek[37] describes a case of herpes tonsurans universalis complicated by polyarthritic rheumatism. In 1890 Thibierge[38] enlarges on the importance of the Fournier "medallions," and gives an excellent histologic résumé. Köbner[39] mentions a case in a syphilitic with mucous patches of the pharynx, finding micrococci; to which, however, he does not attribute any etiologic dignity.

In 1891 Moingeard[40] regards it as a general infection. Tenneson[41] reports a case of six months' standing. Lefevre[42] describes a case where the eruption did reappear intermittently on the same places.

In 1892 Lassar[43] states that many eczemas of unknown origin are caused by pityriasis rosea being irritated by treatment, and touches on its mechanico-chemical etiology. Havas[44] cites a case of herpes tonsurans maculosus with fungi of trichophytosis.

In 1894 Oro and Mosea[45] published a very exhaustive exposé of the entire question of pityriasis rosea. In 1895 Phillips[46] reports a case of nine months' standing complicated by jaundice. In 1896 Corlett[47] gives excellent points in differentiating this affection from syphilitic eruptions. Tandler[48] gives an exhaustive histologic report of the affection in question.

Sabourin[49] reports a case each of pityriasis rosea and trichophytosis cutanee, finding no fungus in the first, but finding it in the latter, and states that the two affections had nothing in common with each other. Kromayer[50] thinks it is caused by extraneous agents. In 1899 Rasch[51] writes on the topic, and Blaschko[52] points out that in pityriasis rosea there is exfoliation from the center to the periphery, while in psoriasis desquamation takes place from the periphery to the center. Fournier[53] regards it as a pseudo-exantheme of non-contagious character.

In 1900 Hollmann[54] and Loewenbach[55] render up-to-date histologic contributions, and Levallé[56] describes it as a constitutional affection like syphilis. Fiocco[57] regards it as of endogenic origin of toxic nature. In 1902 Sabouraud[58] furnishes an excellent histologic description.

ETIOLOGY AND PATHOLOGY.

The etiology of pityriasis rosea is considered uncertain. There is a tendency at present to regard it as a constitutional affection. The earliest observers thought it to be dependent on an arthritic or herpetic diathesis and classed it among the "arthritides pseudo-exanthematiques." (Gibert, Hardy, Bazin.)

A minority of observers, however, think it to be of mycotic origin. Hebra, Kaposi, Hans and Havas hold the eruption as identical with herpes tonsurans maculosus et squamosus, and consequently of trichophytic origin. Behrend and Weyl regard it as a parasitic disease of some kind. Vidal holds his contested microsporon dispar to be the causative factor, and Ferrari coincides with him. Bulkley and Lustgarten[59] lean towards its microbic origin, and think that all cases are not identical in their etiology.

The frequent coincidence of pityriasis rosea with gastric disturbances can not be ignored any longer or looked on as accidental. Excellent observers have recorded such a combination. Jaquet found it combined with gastric dilatation and cites Bouchard, who found pityriasis rosea five times in patients so afflicted. Feulard and Besnier attribute a causative influence to gastric dilatation, and Tenneson alludes to the fact that other dermatoses are also caused by gastrointestinal disturbances. Phillips have seen a case of nine months' standing, complicated twice by jaundice, and Allen[60] reports cases with acute or chronic digestive derangements, and also a case of an habitual drunkard, who had seven attacks, especially after swearing off, which seemed to disturb his digestive organs. Fordyce and Piffard[61] regard it as caused by a parasite of unknown origin. Fiocco states that in seventeen patients having had this affection the urine constantly contained peptone and indican and that its toxicity was greatly increased. Moingeard already regarded it as a general infection. Sherwell[62] in his cases noticed a rheumatic tendency and has seen it associated twice with the puerperal state. Fox and Jackson[63] regard it as non-parasitic. Stelwagon, Crocker, Hyde[64] look on it as a disease *sui generis*.

My cases also suffered from various chronic stomach disorders, and some of them reported having had acute gastric disturbances when the eruption first appeared. Besides this affinity between stomach disorders and pityriasis rosea, most authors concede the existence of systemic disturbances, due to some micro-organism, absorbed by the circulation and distributed on the skin (Crocker). The sudden outbreak, the character of the eruption, its non-contagiousness, its cyclic course, diffuse distribution, the mode of its appearance and its rare recurrence, all point toward the opinion that the disease in question is of endogenous origin, most probably transmitted to the skin by autointoxication. Although recurrences have been reported by Allen, Fiocco and a few others, yet this would not vitiate against the disease being of endogenous origin. In rare instances we find a recurrence of smallpox, or measles also, without questioning in the least their endogenic origin.

Those who yet believe in its extraneous causation deduce their views from observations contestable. According to Lassar, Hutchinson, Kromayer, it developed after the donning of new, unlaundered underwear, or from old

underwear that had been kept in ill-ventilated places. Their cases occurring mostly in the spring and fall when such a change in wearing apparel usually takes place, they look on pityriasis rosea as a seasonal disease of extraneous origin. Lassar reports a case where the pressure of a defective spring from a truss caused the eruption.

Kromayer has seen a case develop on both legs after putting on new stockings. Bulkley[65] observed a case in an attendant at a Turkish bath; so did Allen,[66] whose patient had a number of recurrences, though constantly undergoing steaming and washing of the surface. It can be seen from these few selections that a chemical or mechanical irritation, especially of textile fabrics, is looked on as an etiologic factor. Lassar has seen similar irritative conditions to cause or aggravate lichen, eczema or psoriasis.

To refute this assumption I may be permitted to state that irritation may cause, in persons so disposed, an eruption of some kind or resembling the one already existing. We all know the proneness of syphilitics to evolve on irritation kindred lesions to those already existing. Syphilis and irritation is a caption well known to us. The condition called urticaria factitia, where mechanical irritation of the skin provokes red elevations with pale centers, simulating symptomatic urticaria almost absolutely, is another instance of mimicry of skin lesions through outside influences. But we are not authorized to say that these mechanical irritations play the rôle of an etiologic factor. Here the vasomotor disturbance of the skin predisposes it to respond in this peculiar way and not the action of the finger nail or lead pencil which does the provoking scratching.

Some people may possess a latent disposition to develop pityriasis rosea, an eczema, a lichen or a psoriasis; they may in a manner have developed already—probably yet unnoticed—initial lesions of their kind, when a casual mechanical or chemical irritant will furnish the necessary impulse for the spreading of an already existing or the provocation for certain new lesions. Here, again, the disposition is the etiologic factor and not the provoking irritant.

I therefore think the theory that a chemical or mechanical irritant alone will cause pityriasis rosea to develop is untenable. Beside, in a case of pityriasis rosea recently observed by me, where an abdominal bandage was worn after an operation for appendicitis, it was just the area covered by this bandage which was devoid of a single lesion.

As to the cases of the bath attendants, I think the constant steaming and washing served as the provocative agent to these individuals so predisposed. A mycotic process would surely have yielded to the continuous cleansing procedures to which these people were exposed. Besnier[67] has shown that the most diverse pathogenetic elements may cause identical erythemas, a proposition which everyone of us has no doubt verified. Provocation of lesions similar to already existing parent lesions are frequently observed. I have repeatedly elicited lesions of lichen planus in patients so affected by a slight scratch of a needle.

As to the contagiousness of the disease, this has been thought of only in connection with a parasite ab extra. I have dwelt on this point in the etiology, but will mention a few more cases, which seemingly point towards the contagiousness of the disease.

Crocker[68] observed two cases in a family, Zeissler[69] in a husband and wife, Fordyce[70] in husband and wife and two sisters, Fox[71] in mother and child, but regards it as accidental; Johnston[72] in a boy 5 years old, where the throat showed eruptions identical with those of the skin, even to the scaling. The fact that different members of a family had the disease is not proof conclusive of its contagiousness. The few cases occurring in families are *nil* when compared to the promiscuous appearance of the disease in general. In families the same environment, the same food, similar habits prevailing, may cause similar diseases, without taking recourse to contagion. The disease is known to have occurred in small epidemics among people in different walks of life.

I had a series of cases within a comparatively small space of time: within the last two weeks of my service at the German Poliklinik five cases presented themselves for treatment. All of them complained of general and three of them of gastrointestinal disturbances before and while the eruption took place. In all of them the urine contained indican, but I could not find peptone as did Fiocco. Again, it is significant, in spite of the numberless examinations by the most competent men that the presence of a fungus has not yet been revealed.

PATHOLOGY.

Philippson[73] aptly maintains that, while according to the teachings of general pathology the propagation of diseases in the system is due to pathogenic substances carried through the blood, in dermatology this mode of propagation is rarely taken into account. In the pathology of exudative erythemas their vasomotor origin and angioneurotic character are usually emphasized. But it is equally true that the metastatic theory offers a more natural and tangible explanation. This is under certain restrictions true. It is the transmission of irritant substances to the skin, the alterations in the walls of the vessels that cause the erythema lesions. If pityriasis rosea be a skin affection of exogene (mycotic) origin, the irritation ab extra would surely cause a more active inflammation of the epidermis; but, being of endogene (toxic) origin, the mild changes in the upper strata of the skin are explained. The irritative substance on its way from the blood to the surface undergoes certain alterations, satisfies certain affinities, is attenuated, as it were. The process will invade the deeper strata of the skin first and, expending its force, the main lesions will be found there.

If pityriasis rosea be a mycotic disease, this external irritant would invade the upper strata of the skin first, causing there the main anatomo-histologic changes to appear. But this is not the case here, because the erythematous macule has its starting point from within outward. On the other hand, ringworm works its way from without inward. This conception of the evolution of pityriasis rosea makes the seeming incongruity of Loewenbach's studies better understood. He has found in pityriasis rosea, with its clinically mild symptoms, more profound histologic changes in the cutis than in ringworm of the body where the clinical symptoms and the epidermic changes are of a more formidable character. This means that the milder pityriasis rosea affection is combined with deeper histologic changes and the severer affection—ringworm—with milder ones. Of course, as the process advances, ringworm will show deeper histologic lesions also. And there will be a period where an older lesion of ringworm will histologically resemble a recent lesion of pityriasis rosea in the deeper structures.

It is of only secondary importance for our purpose whether this erythema is caused by vasomotor disturbances or by vessel alterations. The main factor is that

the maculæ of pityriasis rosea are of an erythematous character clinically as well as histologically.

According to my histologic findings, the local lesions of pityriasis rosea are caused by the alterations of the vessel walls, produced most probably by the circulating toxins. This is what Philippson has found to be the case in erythema. Török and Vas,[74] who also contest the angioneurotic origin of urticaria, maintain that erythematous alterations of the skin are nothing else than the reactive irritation phenomena of the vessels. I would add that erythema is the simplest kind of inflammation, an inflammation of a very mild type, a metastasis caused by the alterations of the walls of the vessels of short duration.

Pityriasis rosea shows clinically only congestive hyperemia of oval or circular maculæ of pale red color, shading off towards the center into yellowish red, paling on pressure; and histologically emigration of leucocytes, edema of the cutis and no perceptible change in the epidermis, with only slight furfuraceous scaling. While in the typical inflammations graver tissue and epidermic changes are present. Such lesions have a brighter color, do not fade on pressure, do not show the particular changes of hue in color; they show infiltration and desquamation on a highly inflamed basis. Mracek[75] remarks that strict proof has not been adduced yet whether an angioneurotic process can not eventually cause inflammatory changes in the skin.

In applying these enumerated characteristics to pityriasis rosea we must concede that the affection is of an erythematous character and, like all erythemas, of endogenous origin. The pathogenic substance may have been produced either in the system or carried into it from outward sources and then transported by the blood current into the capillaries of the skin. From these conditions erythematous lesions result.

SYMPTOMS AND DIAGNOSIS.

After what has been said previously little remains to characterize the symptoms of pityriasis rosea. The clinical picture presents at first small flat papules of variable size, out of which develop discreet, barely elevated, moderately irritable, oval or round maculæ. The color is of reddish or pale red or salmon tint, and paling on pressure.

Just the same as the histologic picture, so the clinical form and color differ with the age of the lesions. As the maculous circinate and annular forms present different evolutions of the original type, so the tint accompanying each stage will be different according to the age of the lesions. It will vary from a pale red or salmon to a dull reddish color of the fully developed lesion. Fading begins in the center, extending towards the margin and lending then a grayish tint, like milk-coffee to the vanishing eruption.

The margins of the lesions pass imperceptibly into the surrounding healthy skin. There is no vesiculation, exudation or papulation present. By peripheral extension and central subsidence the annular variety is produced.

But even this annular variety hardly shows a palpable border. The discs fade off in the center to a pink, and in the ringed variety, through central involution, a wrinkled or shriveling minutely radiated center is produced (plissé), which lies within an oval border of a roseate zone, lightly scaly towards the margin. This configuration represents Fournier's "medallions." About two weeks after the appearance of the "herald patch," the whole trunk becomes covered with innumerable spots, discs and circles; a profuse eruption like that of an exanthema taking place all over the body with the exception of the hands, feet and genitalia, which are almost never involved. Sometimes the maculous form alone supervenes, but mostly the macular circinate form is represented. The appearance of the eruption, however, does not always show this—so to say—classical type. In rare instances it shows up in a rudimentary way, exhibiting only scarcely visible spots of dull red macule, especially in the axillary regions. I have seen a case of follicular involvement, somewhat greasy to touch, resembling eczema seborrheicum. At first the lesions do not show any scaling, but later fine furfuraceous scales appear. *On scratching a recent not yet scaling patch with the finger nail, invariably some scaling can be produced in its center, which is the more surprising, as there was apparently not the slightest indication of such.* I regard this sign as *pathognomonic,* as I could not elicit it in any other lesion of an erythematous character. With its help we were enabled in our class to diagnose the eruption in its earliest stages, verifying it later in every instance. The explanation for this strange condition is found in the histologic change of the rete cells. The slight intercellular compression which the edema exerts on the succulent rete cells is not strong enough to cause desiccation of them in their upward move. Later, when a more abundant parvicellular infiltration has taken place, the regeneration of the epidermis cells and with it their desiccation and following desquamation will be a livelier one and a spontaneous desquamation will ensue.

A very useful help to diagnosis is the "herald patch," "plaque primitive" of Brocq, "plaque maitresse" of Besnier, our primary or parent spot. This is a hyperemic disc with a tawny yellowish center, of various dimensions, from the size of half a dollar to several inches in diameter. However, it is not present in every case. But, as it appears about two weeks before the general eruption breaks out, and as patients rarely present themselves before this time, there is a strong possibility of its being overlooked. I have seen it only twice in fourteen cases; once under the right clavicle and once in the left epigastric region. Allen[76] observed it occupying the whole chest wall. Behrend under left clavicle, assuming an annular form, and on the left sterno-mastoid region. Fournier on left forearm. Fordyce on abdomen, etc.

This primary lesion, appearing two to three weeks before the general eruption sets in, lends the disease, as to its evolution, a resemblance to syphilis. It has a primary lesion, an acute course, spontaneous involution and is often associated with slight systemic disturbances, like rise of temperature, anorexia, etc.

One of my cases presenting itself at my class, and in which the face was also affected, showed quite grave catarrhal symptoms—conjunctivitis, coryza, puffed face, reddened tonsils and swollen cervical glands accompanying the acute development of the affection. These acute symptoms usually cease as the eruption has established itself. But, in most of my cases, I have heard complaints of lassitude and more or less discomfort up to the time when the eruption commenced to fade away. Itching did not annoy my cases enough to complain of it.

I will only mention a few of my cases cursorily:

CASE 1.—J. M., 22 years old, presser, presented himself at the German Poliklinik with an eruption showing dissemination over trunk, arms and legs, including face, of rosy spots and circles, not raised over the level of the skin, with slightly furfuraceous scaling. The youngest maculæ do not show scaling, but slight desquamation can be elicited by scratching. Complains of general malaise, face somewhat puffed, eyes suffused from a conjunctivitis. Microscopic exam-

ination revealed no fungus, only the common microspores of the skin.

CASE 2.—L. M., 26 years old, private patient, traveler, healthy looking individual. Shows general eruption of a macular and circinate form on the trunk, front and back, on upper thighs, and a few on the crures. Face not involved; pretty lively desquamation. The very intelligent patient complains of lassitude before and since the outbreak of the eruption. He distinctly remembers having had stomach and

Fig. 1.—X 125. Showing spindle cell inflammation around vessels in the papillæ and also lower down in the cutis, edema in rete fairly well preserved, stratum granulosum, and separation of cells in stratum corneum.

intestinal disturbances previous to the appearance of the eruption. No fungus found. Remembers herald patch under left clavicle about ten days before eruption.

CASE 3.—L. B., 24 years old, upholsterer. When presenting himself at my class, he had the eruption for three weeks, disseminated over the whole body down to the ankles, also on face. On neck, coalescing maculæ and segments of rings, very

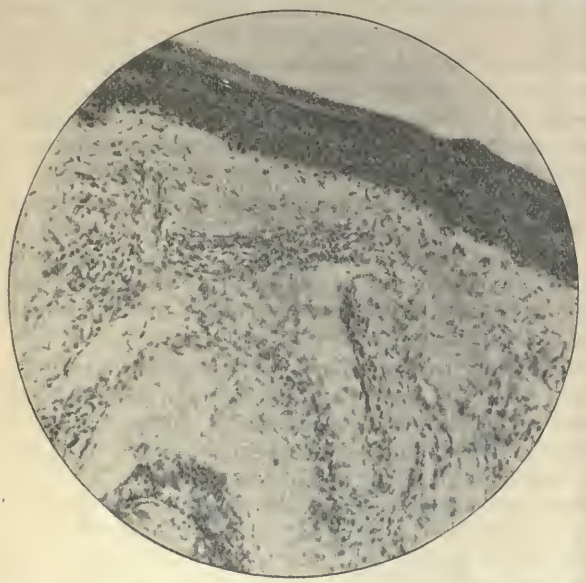

Fig. 2.—X 125. Showing spindle cell inflammation around small vessels in a papilla, and the vessel filled chiefly with white blood cells. The entire epidermis is well preserved.

irritated—most probably from collar—raised and accordingly very scaly. This case exhibits the most abundant desquamation in all my observation. Patient has a few maculæ on buccal lining, distinctly characterized by their redder appearance from the surrounding mucosa. No syphilis. Very light smoker. Remembers no herald patch, but complains of chilly sensation, loss of appetite and weakness, which enables him to work only half time. When the eruption appeared he had a sore throat, whether coincidentally or not can not be decided. No fungus.

CASE 4.—A. M., 36 years old, teacher. Presented himself at my class and shows a general maculous, only rarely gyrated eruption of three weeks' standing, disseminated especially on chest down to the pubis and on back. Face not involved, neither are extremities. Slight itching. Remembers herald patch to the left of the navel about four weeks ago, which he

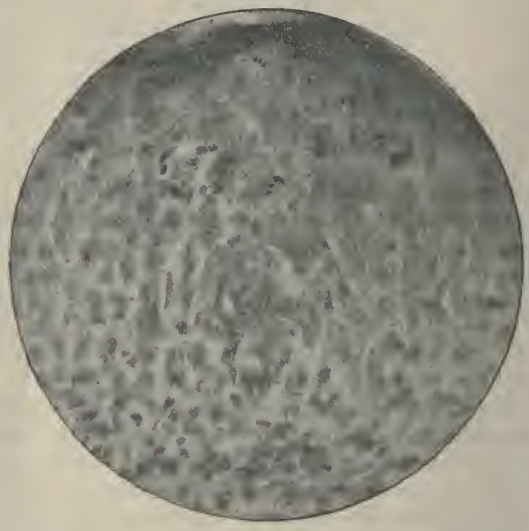

Fig. 3.—X 350. Shows how the products of inflammation in the papillæ break through into the corium. The intercellular edema is very marked.

thought to be of no further consequence. About two weeks ago he felt general malaise and, as his children were down with measles and his throat was somewhat irritated, he had himself examined elsewhere and found, to his dismay, an eruption which was thought to be measles. On examining him, I found no temperature, no cough, no other objective symptoms besides the eruption, which was vanishing in some and appearing in other places. Some furfuraceous scaling. On macule not yet scaling, such can be elicited as usual by scratching with finger nail. Beside slight itching, no subjective symptoms. No fungus.

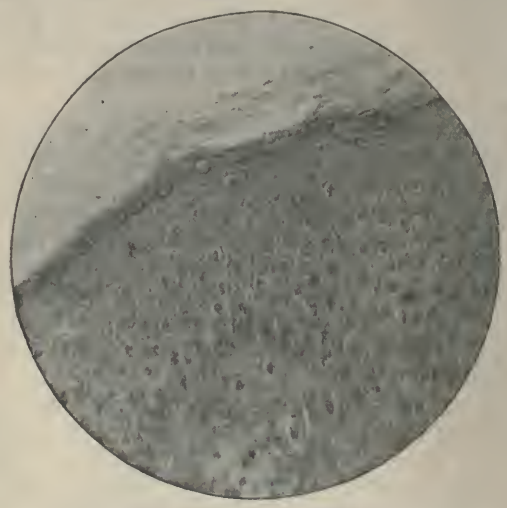

Fig. 4.—X 350. Shows how fine exfoliation takes place which appears as scales clinically, stratum granulosum not much altered, prickle cells and intercellular edema; inflammation in the papillæ.

I will not enumerate any more cases, of which I had fourteen in my service and two in private practice within four months, as they do not show any aberration from the well-known clinical features. When possible, a piece of skin was dissected and histologic examination was made. From the scales, cultures were sown out, which, however, in every case proved to be negative.

MICROSCOPIC REPORT OF PITYRIASIS ROSEA.

1. The examinations of scraping (epithelial scales) from the eruption proved absolutely negative as to the finding of any fungi, both by the direct examination of the scales and by cultural methods on potatoes, bread and water, nutrient agar, etc.

2. The examination of sections made from the extirpated tissue did not reveal the presence of any fungi when stained according to the most approved methods of Waelsh, Unna, Sahli, etc.

3. The histologic examinations of the specimens seem to give much more information as regards the pathology of the disease.

The picture is one of an inflammation, characterized by a proliferation of spindle cells around the blood vessels in the cutis, besides the ordinary change of a mild exudative inflammation, viz., emigration of leucocytes, exudation of serum and diapedesis. (Fig. 1.)

In the early stage of the disease (macular eruption) this spindle cell formation can already be noticed around the blood vessels. (Fig. 2.) In the more advanced stages this spindle cell formation is very characteristic. As this process takes place around all the small-

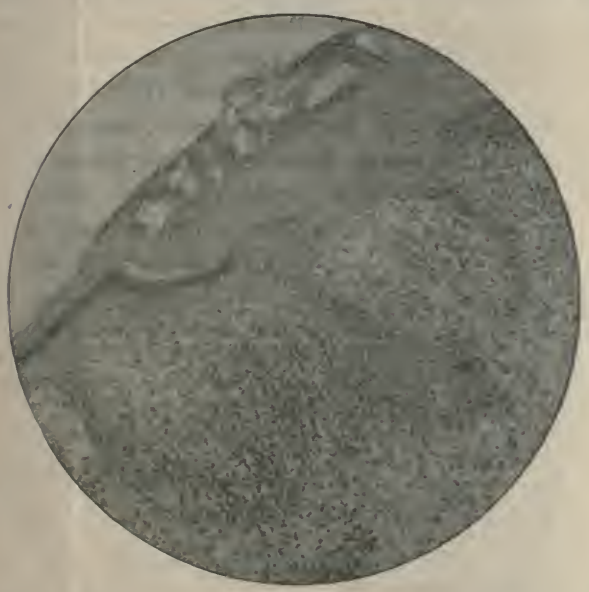

Fig. 3.—X 125. Herpes tonsurans corporis. Shows great changes originating in epidermis, with secondary round cell infiltration just beneath corium. (*By courtesy of Dr. Max Joseph, Berlin.*)

er vessels, it is at once evident how the corium becomes broken and infiltrated in many places, as the small vessels in the cutis run up in the papillæ just to underneath the corium. (Fig. 4.)

The consequence of all this is that the cutis and epidermis become edematous and appear very loose and succulent. (Fig. 4.)

In the epidermis the cells in the rete appear succulent and the lymph spaces enlarge. The stratum granulosum is well preserved except in a few places.

The stratum corneum is also edematous and the result is that there is a separation of the individual cells. This accounts for the fine exfoliation clinically. There is no tendency to the formation of vesicles. (Fig. 5.)

As the disease is not a localized one in the true sense of the word, but really a general eruption, I am inclined to look on the same as one which is due to some irritant which is brought to the periphery from within the body, the same as in erythemas, and therefore regard the condition as an erythematous disease.

To define the microscopic picture, I would say that we have a mild subacute exudative inflammation, affecting chiefly the cutis and tending toward resolution.

I will show you the micro-photograms of the specimens later, which will conclusively show their anatomo-histologic character and secure for the affection a place among the idiopathic erythematous eruptions.

DIFFERENTIAL DIAGNOSIS.

The disease with which it is most frequently confounded is the *disseminated ringworm* of the body. This is due more to a certain preoccupation and bias than to actuality, because there is no more identity between the two affections than there is between varicella and pemphigus, or between measles or a maculous drug eruption. The gross form looks somewhat alike, that is all. Herpes tonsurans maculosus and circinatus, if it should begin with a large solitary spot, will differentiate itself from the "herald patch" by its more clearly defined hyperemic outlines, its raised margin and the regularity of its circle. There is slight vesiculation around the borders and the papular element is more pronounced. The circinate ringworm does not start from so many centers and does not show symmetry and never breaks out so suddenly and profusely. As an auxiliary I may mention that circinate ringworm likes the region of the dorsum of the wrist, the region under the chin, the sides of the throat. The center of a ringworm patch which has extended towards the periphery recovers and looks normal, not wrinkled and tawny, as in pityriasis rosea. The hairs are always affected in ringworm; never in pityriasis rosea. The patches of ringworm extend centrifugally very rapidly; in pityriasis rosea they are more fixed. And last, but not least, the fungus of the trichophyton tonsurans can be found in every case, while it has never been found in our affection.

I firmly believe, as a pupil of the great Hebra and with due reverence to his master genius, that had he lived to see the evolution of our etiologic knowledge, he would have been the first in his high-minded integrity to recede from an untenable position and declare his cases of herpes tonsurans maculosus et squamosus to be what they really are—a diffuse erythemato-squamous systemic affection.

The other diseases with which pityriasis rosea could be confounded I can dismiss with greater dispatch. From *seborrheic eczema* it differs in its distribution. Here, too, the border is more raised, the lesions show a deeper infiltration, the scaling here is a more prominent symptom, the lesions are of a brighter red and have a peculiar fatty, greasy touch.

I have found seborrheic eczema to spontaneously yield scales, even in places where it is exposed to maceration, *while pityriasis rosea will do this only when scratched.* While common on trunk, its predilection of site is on center of chest and back. I have found associated with it extensive seborrhea of the scalp and a hyperemic and scaling corona seborrheica on hairline border, either entirely encircling the head or partially so, and then mostly on post-auricular or temple region. The individuals so affected are mostly anemic and exhibit the peculiar shiny greasy-gray aspect of their skins with slight general pityriasis. Furthermore, there is no such sudden development as in pityriasis rosea.

As to *roseola syphilitica,* the distinguishing points are many. And yet, men like Vidal and Fournier confess to having mixed up pityriasis rosea with it, and that only the characteristic medallions helped them to make a diagnosis. It is with the *early syphilide* and not with

the later manifestations with which it is most frequently confounded. Many lightning cures of alleged syphilis are attributed to the skill of the medical attendant and the administration of mercury, where nothing else than a natural involution of pityriasis rosea lesions has taken place.

The macular syphilide is also a general eruption, but it is redder and does not show the roseate hue of pityriasis rosea. Neither is the salmon color of the center present, nor does its center clear up at all, but the whole lesion fades away simultaneously without forming circles. In the syphilitic lesion the papular element is more pronounced; there is clinically and histologically a higher type of inflammation present. Scratching of a macule with the finger nail does not elicit, like in pityriasis rosea, fine furfuraceous scaling; neither is there spontaneous scaling present. In the late secondary annular syphilide we find the lesions absolutely elevated above the surface of the surrounding skin, infiltrated, of high red color, but scaling very scarce and elicited only with difficulty by scratching. Although exceptional, the throat may be slightly affected in pityriasis rosea—in syphilis we will always find acute disturbances of the buccal mucosa and tonsils and involvement of the glands. These points will suffice for a diagnosis, even if a history of syphilitic infection is wanting.

I may mention as an auxiliary that I have found that syphilitic efflorescences, when touched with the finger nail, always make the patient complain of pain, while on the normal skin, or in other erythematous eruptions, this interference is not felt at all.

From *psoriasis* it is easily distinguished, when the latter is well developed. A confusion can occur only in the recent punctate lesions in persons who are perspiring abundantly, or in summer, when the lesions naturally are moist. But, on scratching, we have here the punctate hemorrhages. The topography of the lesions—extensor surfaces involved with predilection—must be taken into consideration. In the so-called atypical psoriasis with anomalous localization, or in those cases where the scales do not show the white mortar-like brittle characters, but only soft, greasy, grayish-white scales of eczema seborrheicum psoriasiforme, the diagnosis may be doubtful for a moment. But here, too, the absence of a herald patch, the polycyclic evolution, the scaling, the amount of which in these atypical cases even far exceeds the most abundant scaling of pityriasis rosea, will soon clear up the diagnosis which, I am sure, will but rarely if ever confront the dermatologist.

TREATMENT.

There is hardly a necessity for such. Against the general malaise, a saline cathartic; against the anorexia or other gastric and intestinal disturbance, the exhibition of diluted muriatic acid and nux vomica will be in order. If itching is complained of, bran baths and mild salves, probably with the admixture of salicylic acid or resorcin, are to be recommended, or spirituous lotions of the same drugs may be applied.

The much-vaunted influence of higher percentuated salves with salicylic acid, resorcin, sulphur, naphthol, with a view of their parasiticidal virtues, is absolutely *nil*. There is no fungus to kill in this affection, and whatever changes these salves may elicit on the skin—bleaching and desquamation—are due to their reductive qualities of the remedies incorporated in them.

In the foregoing I have tried to add a modest mite towards the elucidation of the pityriasis question, the place of which dermatosis in the system, I hope, will soon be established beyond a reasonable doubt.

In conclusion, I wish to express my thanks to Dr. Henry Kreuder of New York City for his valuable assistance in preparing the accompanying microphotographs and histologic examinations.

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DISCUSSION.

DR. HENRY G. ANTHONY, Chicago—I am perfectly familiar with pityriasis rosea and its diagnosis, and I have looked on it for a considerable length of time as a rare form of disease in my practice, but during the past year I have seen a number of cases, and discussing the subject with other dermatologists in Chicago have learned that there are a number who agree with me that the disease is decidedly on the increase and that we are now seeing more cases than ever before.

I have always looked on the disease as parasitic. Of course, in the present stage of our knowledge of the disease nothing can be said definitely in regard to this.

The result of treatment I do not lay any stress on because I have never treated it internally, my medication has always been external and the duration of the disease has always been possibly as it would have been without treatment.

As to the spot of origin, I always look for that, and in two cases recently have found it between the scrotum and the thigh. That is a location which is not usually mentioned.

DR. L. DUNCAN BULKLEY, New York—I was surprised at Dr. Weiss' mention of the frequency of this disease; it seemed to me greater than I have observed, although I see cases of it all the time. I think it most absurd that Hebra should ever have called it a diffuse ringworm. It is the most stupid thing we ever had from the Vienna School, and beyond question it has caused confusion in the minds of some people. For two or three reasons I have always been led to regard pityriasis rosea as a microbic disease. In nine cases out of ten the development is from above downward, commencing on the shoulders or neck and developing down rather than upward, which is the history of most parasitic diseases. The ringworm-like spread of the eruption has always seemed to me distinctly indicative of a parasitic element, although we have never yet identified any microbe or produced it by inoculation.

One gentleman has spoken of the treatment. I think it disappears with the use of bichlorid. No eruption of urticaria will disappear as a case of pityriasis rosea disappears under the proper use of bichlorid of mercury. I have never found constitutional treatment do any good.

DR. A. W. BRAYTON, Indianapolis—I can recall on my fingers the cases I have seen. I have been inclined to look on it as a cutaneous expression of an infective disease like scarlet fever or other members of the cutaneous exanthemata. I recall a girl of 20, in excellent health, the first case I ever saw; the others occurred in a group, one might say. I saw no more cases until within two years. I recall a healthy man of 35 or 40, next a young physician of 26 or 27, an optician of 50 years, and a healthy woman with a child five or six months old, which she was nursing. Three of these cases were promptly diagnosed as syphilitic eruptions. None of the persons was sick. I have seen six cases in my practice in Indianapolis in the last ten years, and all have been well marked, and there has been no difficulty in the diagnosis. In only one case did I determine the antecedent primitive patch on the trunk. The cases occurred in married people; there was appearance of the disease in the husband or wife of those affected.

DR. M. L. HEIDINGSFELD, Cincinnati—I am very much interested in this exhaustive and well-prepared paper, as well as the investigations of Löwenbach and a few of the other authorities mentioned. I have always felt a little skeptical in regard to the finer shades of differences which Löwenbach and others have attempted to draw between herpes tonsurans maculosus et squamosus, and pityriasis rosea. I have endeavored to confirm for my own personal satisfaction, from carefully selected cases, the pathologic differences, but have failed to note the distinguishing characteristics. I must also beg to differ with the essayist on purely clinical grounds, that pityriasis rosea has an internal pathogenesis. The fact that a fungus can not be detected in the scales under the microscope, means practically nothing. Cases of unquestioned herpes tonsurans frequently fail to show fungi. In selected cases, you may even start a dermatosis with a fungous inoculation, and though the dermatosis may continue to spread, the fungus may soon disappear, so that its presence can no longer be detected. Not only the action of the parasiticides, but also its usual origin and spread from a single patch, besides a mass of other clinical data, speaks strongly for its external nature and extraneous origin. I believe the burden of proof is strongly in favor of its external origin, and in the effort to establish an internal cause, if we invoke to our aid the sympathetic and vasomotoric systems, we are casting aside very plain and almost definite evidence for theories that are, I believe, at best, vague, indefinite, illusory.

DR. JOHN A. FORDYCE, New York—Dr. Weiss quotes me as favoring the parasitic origin of this disease. I made a statement some time ago in the Dermatologic Society to that effect, based on an observation of two cases in one family, two sisters who occupied the same room, and, I think, the same bed. That is the only instance I have had in which I could find evidence of contagion. I have observed in the last two months two cases of pityriasis rosea with atypical distribution where the lesions were chiefly on the extremities, the trunk being only slightly involved.

DR. LUDWIG WEISS, New York—I know there is a difference of opinion as to the pathogenic origin of this disease. Is it not strange that with our well-developed methods of investigation, finding bacilli everywhere, in this disease we are not able to find anything outside of the micrococci of the skin? Why can not we find the causative microbe in the scrapings? Why can not we find it in excisions and staining? The eruption appearing in families seemingly points toward its contagiousness. I have extensively dwelt on this point. Our colleague, Dr. Zeisler, and Mrs. Zeisler had it ten years ago, and at that time Dr. Hyde and other gentlemen, in discussing these cases, said there was a question whether it was parasitic or not. It was not decided, but most of the gentlemen present said it was a disease *sui generis*. The evolution of the disease from above downward is not a criterion, I think, inasmuch as we have heard from Dr. Fordyce that it appears primarily on the thighs also. A parasitic disease will not come out from so many centers as pityriasis rosea does. You will see by the photographs that it develops over the whole body. In these lesions the borders are not raised, and you will not find any microbes in the scrapings. Why does the microbe, if present, disappear on the body, and why is it so tenacious when it appears on the scalp? It is strange that the same microbe should behave so differently in different parts of the body. As to general malaise and gastro-intestinal troubles, there is no doubt that they occur coincidently, and this shows it is some systemic disturbance that causes pityriasis rosea, and that it belongs to the erythematous diseases.

As to the differential diagnosis, Fournier himself confesses to having treated a case once, thinking it was syphilis. It is really no reproach for us to say that we are in doubt, although I do not think any dermatologist will have it, because outside

of the general history of syphilis there is one pathognomonic symptom I would again like to emphasize. If you scratch with your finger nail a very recent lesion which appears red, you will, even on a perspiring skin, immediately elicit fine scales. This is a symptom you will not find in any other erythematous disease and never in the erythematous syphilid. We have tried it dozens of times, and it helped us in the diagnosis always.

The bichlorid solution does a great deal of good; it relieves congestion and causes exfoliation of the skin. From this circumstance I would not say that the eruption is necessarily parasitic. As it stands now I think the general opinion is against its parasitic nature. I think I was able to show in these micro-photographs that the disease commences in contradistinction to the parasitic affections in the lower strata of the skin.

INFLUENZA IN CHILDREN.*

WM. CARVER WILLIAMS, A.B., M.D.
CHICAGO.

It is the writer's conviction that influenza is a more malignant malady in children than is generally acknowledged (a conviction fortified by his own experience and further strengthened by material gathered among his friends and from the literature), which has led him to venture this paper.

Without being able to furnish much, if anything, that is new on the subject, it yet seems justifiable here to emphasize some of the manifestations and possible calamities which may be traced to this disease.

Influenza vera, when the victim is a child, differs from the same disease in adults in proportion to the difference in constitution, vital resistance and recuperative power. It should not be forgotten in this connection that the disease is of a markedly toxic nature. The admirable article in Ashby and Wright's work states, however, that children are less likely to have some of the ordinary symptoms, such as backache, rigors and pain in the limbs, and more likely to earache, glandular swellings and a cough resembling whooping cough. The latter is also mentioned by Forchheimer. Blackader likewise states that the invasion in children is more often insidious and slow than in adults. These statements seem to be borne out in our experience. The very multitude of its manifestations, with the ensuing difficulty in accurate diagnosis, has so confused our statistics on influenza as to render many of them misleading; yet we are probably in greater danger of under- than of over-estimating its gravity.

Washburn and Ayre report 12 cases of death from pneumonia in children, of which the autopsies showed the Canon-Pfeiffer bacillus present as the main factor in the disease in 8 of them, though previously unrecognized.

Dr. F. E. Wynekoop, of the Chicago Department of Health, in a personal interview, stated that of the 2,460 examinations made just previous to the interview of cultures from throats in cases of suspected diphtheria, 677 showed the Canon-Pfeiffer bacillus as the only pathogenic organism, while of these 677 cases, in 173 the diagnosis of diphtheria was definitely made from the clinical findings—yet the Klebs-Loeffler bacillus was not present.

Age appears to have no influence on the susceptibility of the individual, and, while very young infants are somewhat less frequently attacked, there is some question as to whether it may not be due to better protection rather than to natural immunity. In fact, there is nothing either in the literature nor in my own experience which warrants a belief in the existence of a complete natural immunity. The question of susceptibility would, therefore, appear to be one of the comparative degree to which different constitutions succumb to the disease—one child may have a so-called mild attack followed by recovery in a few days, while a brother or sister may be sick one or two months or longer. Much depends on the state of vital resistance of the victim, as in other diseases, but even more, in the writer's estimation, on the previous health of the mucous membranes. In a series of some fifty cases showing some of the more serious manifestations, he has rarely failed to obtain a definite history of indigestion, constipation, a common cold or some other previous disturbance of the mucous membranes.

Owing to the almost universal dissemination of the pathogenic organism during an epidemic, there is comparatively little possibility of accomplishing much in the way of prophylaxis at such times. And yet, because we know that the disease may be conveyed by contact, we should insist on such precaution as can be enforced to prevent this. Children should not be exposed to the contagion in the persons of other members of the family, nor sleep in illy ventilated rooms, nor breathe the vitiated air of public rooms and conveyances. Neither should they be allowed to risk contracting ordinary catarrhal "colds" from exposure. Mothers should be warned not to neglect attention to the children's bowels, and to allow them all the fresh air possible. Thus they may be enabled to resist and defeat an attack which might otherwise prove serious from this all too powerful enemy.

The division of the disease into various types for separate consideration is more or less arbitrary. The truth of the matter is, regardless of how the division is made, that every case one sees is of a mixed type. In other words, it is a case of influenza, and not of catarrh or neurasthenia—a specific infection, giving rise to various symptoms of which sometimes one, sometimes more than one, may be prominent, but of which a number are invariably present.

Those cases in which catarrh figures as the most conspicuous indication are perhaps more frequently met with. Starting with a rhinitis, or rhino-pharyngitis, the inflammation may spread either to the respiratory or alimentary tracts, or both. Wherever there is mucous membrane we may have this inflammatory reaction excited by the activity of the Canon-Pfeiffer bacillus. Thus we may find our little patients suffering from a rhinitis, a conjunctivitis, an otitis media, an inflammation of the accessory sinuses or of the pharynx, larynx, bronchi, lungs, stomach or bowels. The seat of choice for the severer forms of the infection is doubtless influenced greatly by the comparative resistance of the mucous membrane in various localities. The more nearly normal and healthy the membranes the fewer will be the grave manifestations of the disease. Hence the previously mentioned warnings in regard to the matter of prophylaxis.

The catarrhal manifestations of the disease appear, then, to be due mainly to the micro-organism itself. On the other hand, the nervous and circulatory and febrile types may be regarded as of toxic origin. The Canon-Pfeiffer bacillus, as in the case of that of Klebs-Loeffler, produces an exceedingly active and deadly toxin, capable not only of overpowering the vital organs, but of actually destroying their structure, to some extent, through degeneration. This being so, one can readily

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

see how multiform in appearance and how serious in extent may be the history of such cases. One need not read far into the literature of the subject to find them, reported by careful observers, of meningitis, multiple neuritis, hemiplegia, neurasthenia and various mental disturbances—of endocarditis, pericarditis and myocarditis, arteritis, hemorrhagic nephritis and various other anomalies of the circulation with their consequences. Professor Monti of Vienna adds to these a glandular class, which includes those cases in which the lymphatic and other glands are chiefly involved, with a minimum of other clinical findings. I have included this class because I have known of several cases which would fall therein.

A form of the disease, until recently too little considered, is the chronic form, first described by Filatow. Cases have since been reported by Lord, Finkler, Wassermann, Ortner and others, where as high as 60 per cent. of cases having chronic cough, for instance, were caused by influenza bacillus, as proved by bacteriologic examination, in many instances it being found in pure culture.

Relapses and sequelæ during apparent convalescence are common, particularly the former. One can never be certain even when the child is to all appearances entirely restored to health that no sequels will follow. The writer has in two or three instances seen grave troubles develop days after recovery seemed complete.

The case reports which follow have been chosen without any attempt at covering the field. Aside from their individual interest, however, they indicate how widely divergent may be the chains of symptoms in disease traceable to the Canon-Pfeiffer bacillus, as well as the severity to which they not infrequently attain. It will be noticed that they are all more or less difficult to classify according to any of the rules laid down in different text-books.

CASE 1.—Baby W., aged 5 months, was taken ill in February, 1900, with what seemed a mild attack of influenza. The attack was, however, followed in four or five days by a bronchopneumonia, which ran an apparently typical course. As convalescence from this occurred, it was noticed that the child refused all food and even water. Examination of the throat revealed a highly inflamed catarrhal pharynx and fauces. Bacteriologic examination showed the characteristic influenza bacillus in large numbers. The angina and attendant dysphagia continued, in spite of all local and constitutional treatment, for so long a time that the child was in apparent danger of immediate starvation. There was also a middle ear complication. The little patient gradually developed decided symptoms of rachitis, which persisted until she was taken into the country in June of the same year. She did not regain the normal strength of children of her age until after she was a year old.

CASE 2.—M. C., aged 4 years, had a severe primary attack of influenza, verified by culture, in January, 1902, involving the middle ear and mastoid cells. The latter, however, never became suppurative and gradually responded to treatment—leeches, icebag, etc. Though the tympanic membrane was punctured three or four times, no pus was ever obtained. When the local trouble had subsided, the temperature still remained above normal, ranging mostly from 101 to 102.5, sometimes after exertion rising to even 104. A careful physical examination revealed a heart murmur, heard most plainly near the base and transferred most strongly toward the right. No other findings. This led to a diagnosis of post-influenzal endocarditis, and the child was kept in bed for three and a half months. During this time there was no appreciable improvement, the temperature curve and the heart murmur remaining about the same at the end as they were at the beginning of the confinement. About May 1 the little patient developed some indications of chorea, which yielded readily to treatment. She was allowed to get out of bed, was sent into the country and began to improve from that time on. The temperature gradually resumed its normal status and the murmur has been slowly diminishing ever since, till at the present time, something more than a year after its appearance, it is barely perceptible. She is in every other respect apparently strong and well.

CASE 3.—Baby L., aged 8 months, taken ill during the month of January, 1900. Several other children in the family had been ill with undoubted influenza for several weeks. The little fellow became sick gradually. For several days a slight catarrhal condition of the mouth, eyes and nose had been present. Very soon he refused to eat and developed continuous fever, which was characterized by great severity. For days the temperature remained over 104, occasionally reaching 105.5 and even 106. His pulse was rapid, extremities were cold and blue, respirations were rapid and the patient showed some cyanosis. The most careful physical examination of the chest revealed only a few râles—indeed, the changes in the chest were insignificant as compared with the severe temperature range. The examination of the heart was negative. The abdomen at times was tympanitic. Food was taken in small quantities and only partly digested. The stools were thin, though diarrhea was not a marked symptom of the disorder. The ear was repeatedly examined by a competent otologist with negative findings. At another time the accessory sinuses, including the antrum of Highmore, were most carefully examined and no positive signs of disease found in these regions. After ten days of such alarming symptoms, the patient brightened, the temperature fell and he was undoubtedly on the mend. After several days of apparent improvement the patient again relapsed into the condition previously described. Two such relapses occurred. On each occasion alarming symptoms returned and it appeared that the resistance and the strength of so young an infant was hardly sufficient to withstand so severe an infection. After a course of several weeks, the patient recovered and very soon regained his strength.

The whole course of this infection was remarkable for the almost entire absence of symptoms save the hyperpyrexia and the great prostration. The catarrhal symptoms of the mouth, nose and pharynx were insignificant in comparison with the febrile condition of the child.

CASE 4.—J. R., 8 months old, taken ill about Christmas, 1899, with an otitis. During January had an attack of influenza, with typical catarrhal symptoms, followed by a pneumonitis, during which there developed symptoms of meningitis, such as retraction of head, strabismus and twitching. At this time there was nothing locally to indicate a connection between the meningitis and the ear trouble, which appeared rather better than worse. During the pneumonia the temperature ranged from 102 to 105. A typical crisis occurred, and the temperature resumed normal, or nearly so. After a few weeks the contraction of the neck abated and there followed a paresis so that the child was unable to hold up its head. This condition lasted nearly six months. There was a similar condition in all of the voluntary muscles. Reflexes were diminished. The child was three and a half years old before being able to walk.

At present, 5 years old, though he seems bright and interested in his surroundings, taking part in the games of his playmates, he is unable to talk more than two or three words. He makes his wants known cleverly enough by signs.

I have purposely omitted all mention of treatment of influenza in children, for the simple reason that my study and experience has led me to the belief that there is no specific treatment for any of its forms. The treatment is purely rational and symptomatic, and the indications can only be met as they arise. As these are so numerous and varied an attempt to cover the subject would be obviously useless as well as practically without value.

CONCLUSIONS.

I feel justified, both from experience and from perusal of the literature, in drawing the following general conclusions:

1. Children of any age, even early infancy, are susceptible to the influenza infection.

2. Repeated relapses and grave sequelæ are frequent in cases where the initial seizure is mild as well as where it is severe. Therefore, no attack should ever be considered as "mild" nor as recovered from until a sufficient time has elapsed.

3. Clinical diagnosis should always be supported by the evidence of the microscope, whenever possible, as the practical certainty thus obtained may be of great value in explaining future developments.

I desire to acknowledge no small indebtedness to Drs. I. A. Abt, J. C. Cook, M. P. Hatfield and J. W. White for their kindness in furnishing clinical histories and other data toward the writing of this paper.

58 East Forty-third Street.

DISCUSSION.

DR. R. B. GILBERT, Louisville, Ky.—I regret that the essayist has not given us the treatment. I have been looking for some article on the management of the disease and its sequelæ. I hope some one will elaborate this part of the subject. The ravages of the disease in the young are, of course, much more rapid and severe than in the adult, and often influenza is not recognized until bronchopneumonia has developed and a fatal termination has occurred. I recall a case during the height of an epidemic of influenza in our city in which the mother gave birth to a child while still in the febrile stage. The child presented the same symptoms and died in a few days.

DR. CHARLES G. KERLEY, New York—I agree that the treatment is wholly symptomatic and I do not understand how there can be a distinct method of treatment because in different seasons and epidemics it attacks by preference different parts of the body.

Two years ago there was an intestinal type in New York City, characterized by a diarrhea bordering on the dysenteric type and associated with intense prostration. This year the complication which seemed to be particularly frequent has been involvement of the ear. I have had ten cases this year in private practice in which it was necessary to perform paracentesis, and this does not represent all of the cases in which there was ear involvement. It is evident that the treatment must vary greatly with the prevailing type. One symptom which is usually prominent is prostration. I have seen two children die from the grip simply from the intensity of the intoxication, for the autopsy failed to show any lesion to account for the death. Another prominent symptom is fever, a point which has been well brought out in the paper. I have seen cases in which the high temperature could not be accounted for even by the most careful clinical examination by anything else than the grip. I am inclined to think that some of the cases reported as typhoid fever in children were really instances of grip infection. Many of these cases of grip run along for two or three weeks with hardly any symptoms but fever and intestinal disturbance. All that we can do is to carefully feed these children, control any tendency to hyperpyrexia and employ general supporting measures.

DR. P. J. BARCUS, Crawfordsville, Ind.—It has been pointed out in recent years that when there is an epidemic of scarlet fever at the same time as an epidemic of the grip, because of some possible antagonism between the two diseases, the type of epidemic of scarlet fever is somewhat milder than usual. I have observed such conditions present during the last six months in our vicinity, but I am unable to state whether this explanation is the correct one. It would be interesting to know the real facts. The recent epidemic of grip with us has been milder than usual. I do not think it is possible to formulate any general plan of treatment; it must be symptomatic because of the great variations in the type of the disease. Coal-tar remedies and indeed anything which tends to create depression should be avoided.

DR. H. M. MCCLANAHAN, Omaha—We have seen a great deal of the grip in our city during the past winter. Two symptoms, hyperpyrexia and extreme prostration, have impressed me as very important, and I frequently make the diagnosis on these symptoms. I have not had the opportunity of making the bacteriologic tests, and have, therefore, been compelled to depend on clinical examinations. I have noted that in these cases hydrotherapy has failed to control the fever as in other conditions producing high temperature. Another fact which has impressed me is the frequency of middle-ear trouble and mastoid abscess following the grip. The record of my cases shows that there are more cases of middle-ear disease from grip than from scarlet fever, and the same is true of mastoid abscess. I have adopted a treatment in a number of cases which is not at all new. It is simply the use of quinin bisulphate by suppository in doses of from six to twelve grains daily. It does not cause depression as do the coal-tar products. A few months ago I saw a case in consultation in which the attending physician was pushing phenacetin, although the child's finger nails were already blue. I remonstrated with him, insisting that such a line of treatment was very dangerous. I have seen recently a form of grip showing well-marked nervous symptoms.

DR. THEODORE J. CATLIN, Delano, Minn.—I recall a case, seen last winter, occurring in a boy who suffered a relapse. The fever kept up a long time, and the diarrheal symptoms were marked. The family called in another physician in my absence, and he made a diagnosis of typhoid fever, stating that he made this diagnosis not only on the symptoms mentioned, but on the presence at that time of a distinct eruption. I have met with other cases having skin eruptions similar to scarlatina and some of a marbled appearance. I would be pleased to hear if others have met similar skin symptoms in influenza.

DR. C. F. WAHRER, Fort Madison, Iowa—I should like to ask regarding a classification of the different forms of the grip, and also where is the anatomic seat of this disease. Some years ago, when it first appeared, it was thought that its anatomic seat was in the cerebrospinal system. We then met with the nervous and the catarrhal forms. The treatment is not satisfactory, but is symptomatic and purely empirical. If we knew the anatomic seat of this disease we might be able to suggest a more definite line of treatment.

DR. JOHN C. COOK, Chicago—In a hospital where I do the pediatric work I saw two babies die suddenly within forty-eight hours after birth, their mothers being ill with the grip. I have seen four cases of cerebral troubles this winter, all in consultation, in which the onset was as clearly that of grip as possible. In three of the cases at least one parent had the grip. A week from the time that one of the children had been seen by the attending physician I saw the case. The child was quiet and the only indication of meningeal trouble at the time was that one leg was a little stiff. Two days later the child had Cheyne-Stokes respiration, was rigid and presented the circulatory disturbances of the skin pointing to meningeal complication. Death occurred four days later. In another case, that of a baby nursing from a mother who was thought to have had the grip, the child had appeared stupid for four days before I saw it. Examination showed the pupils unequally dilated, and not responsive to light, the child totally blind. I was assured that the child had not been blind before this illness. It is still blind.

With regard to eruptions, influenza appeared in my neighborhood early in the autumn with an eruption, and the first two or three cases I saw presented an eruption closely resembling that of scarlet fever. As a rule, the throat symptoms were absent, as were also the rapid pulse and high temperature. In addition, all of the symptoms were those of grip. In the five or six cases which I allowed to mingle with the others in the family there was no spreading of the eruption to the other members, showing that the disease was not scarlet fever.

DR. J. H. HANNA, Covington, Tenn.—I saw a case presenting an eruption which I thought to be that of scarlet fever. A few months later measles appeared in the family, and the child developed the same set of symptoms minus the eruption. There was every symptom of measles at the time except the eruption, and although I looked confidently for the measles eruption it did not come. After this had subsided another

member of the family had measles. Three weeks ago the same symptoms developed and continued for several days, with all the symptoms of measles save the eruption. After the fourth day the measles eruption appeared and was well marked and typical.

DR. W. C. WILLIAMS, Chicago—I labored under a misapprehension when I prepared my paper, and consequently wrote so long a paper that it was necessary to omit many portions in the reading. This accounts for certain omissions to which reference has been made. There can be no question that the infection gains entrance through the mucous mmbranes just as in diphtheria. Some of the German investigators claim to have discovered the germ in the blood itself, and on the valves of the heart where there had been an endocarditis, but the evidence presented is not conclusive to my mind. I had an interesting series of four cases of eruption to report, in three of which the eruption closely resembled the rash of scarlatina. However, other children did not contract the disease. Along with this rash there were not the usual symptoms of scarlatina. All of these cases happened to be followed by an acute general adenitis, indicating that it was a sequence to whatever infection attacked the skin. With regard to treatment, I can only repeat what I said before, i. e., a bronchitis or an enteritis or other manifestation should be treated just as if there were no grip element. I would suggest the use of antiseptic douches to the mucous membranes, although admitting that the trial of this measure has not given encouraging results.

THE TREATMENT OF SCARLET FEVER, ITS COMPLICATIONS AND SEQUELÆ.*

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OMAHA.

It is difficult to discuss intelligibly the treatment of a disease having such wide variations in its clinical manifestations. In speaking of the cases, I shall use the designations: malignant, mild, severe and septic. Malignant cases are those overwhelmed by the poison and terminating fatally in one or two days. I shall say nothing of the treatment of this class. Mild cases are those presenting the characteristic symptoms without complications, the fever subsiding in from five to seven days. Severe cases are those having high temperature, profuse rash, often nervous symptoms, erythematous sore throat, but without membranous exudate. Septic cases are those presenting the symptoms of scarlet fever and, in addition, membranous exudate on the tonsils and other portions of the throat. These cases may or may not be severe at the inception. This is the class of cases in which we have the streptococci infection. These clinical divisions are simply made to indicate the kind of treatment more clearly. The subjects of quarantine, the isolation of the patient, the preparation of the room and the care necessary on the part of the attendants, while important, will not be considered in this paper. Certain general principles of treatment apply equally to all cases, and to these I shall first call your attention.

DIET.

To my mind the diet is exceedingly important and not rightly appreciated. For some years I have adopted the rule of keeping all patients on a liquid diet for not less than four weeks, the object being the prevention of renal complications. According to my observations, this sequela usually follows the mild cases. During the last year I have seen five cases of nephritis following the mild forms of scarlet fever. These cases were not under my care during the acute attack. On the other hand, I have not observed this in any case where the principles of treatment indicated were faithfully carried out. By a liquid diet I mean milk, properly modified to suit the age of the patient. Many cases can be continued on this simple diet. In others we may vary it by the use of thin broths and fruit juices. In young children it is possible to modify the milk to suit almost every case. I have seen but two exceptions; for these whey was substituted with satisfactory results. In all cases the patients should have an abundance of water. In order to encourage the taking of food I recommend the use of carbonated waters, weak lemonade, orangeade, etc. I wish to emphasize the point that this diet is to be continued the full four weeks and not the first or second week, as it usually recommended. The continuance of the liquid diet during the period of convalescence is, to my judgment, the key to the situation.

REST IN BED.

The second general principle of treatment is to require that the patient be kept in bed during the entire course of the disease. I am aware that this is exceedingly difficult in mild cases, but, in my judgment, these are just the cases requiring this extreme care. The patient out of bed by the end of the first week and having the freedom of the house is more likely to be exposed to changes of temperature, to draughts of air, etc.; the influence of this exposure on the cutaneous capillary circulation adds to the work required of the kidney, and increases the danger from this source. In the severe cases it is not difficult to keep the child in bed, and I have a conviction that this is one reason why fewer cases of nephritis follow this severe form of scarlet fever.

LOCAL AND OTHER MEASURES.

In the mild cases, diet and rest in bed constitute the most important part of treatment. A spray or gargle of some mild antiseptic should always be used. Dobell's solution, properly diluted, or Seiler's tablets, dissolved in water, usually meet the indication.

I have very little confidence in any local treatment preventing otitis media. In my observation this complication occurs as frequently in mild as in severe cases. The bowels should be moved freely at the beginning of the attack and as soon as vomiting has ceased some mild aperient should be given. The bowels should move regularly during the entire course of the disease. The initial vomiting seldom requires special treatment. In cases where this is an early symptom, all food should be withdrawn for twelve to twenty-four hours. A simple fever mixture of liq. ammon. acet., properly diluted, may be given for the first few days.

ANTIPYRESIS.

Severe cases require more active treatment. When the fever is 104 it should be controlled. I have no doubt that the nervous manifestations are due to high temperature, as well as to the infection. Among antipyretic remedies, hydrotherapy ranks first. It is not only generally most efficient but, more important, it is the safest. However, in private practice the prejudice of the laity frequently prevents its proper application. Sponging with cool water is sometimes sufficient. More efficient, however, is the application of a towel dipped out of warm water about the body of the child, then, over this, is applied several thicknesses of a towel, wet with cold water. Should these means prove inefficient, I next em-

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ploy the cooled bath. An ordinary wash boiler, half full of warm water, is placed beside the bed. Over this a sheet is thrown. The child is immersed, the sheet preventing any undue shock and lessening the fear of the child. Gentle friction of the body is now employed, then an attendant adds a quart of cold water and removes a quart of the warm water. This process is continued until the temperature of the water is reduced from 100 to 70, in the course of a few moments. The child may remain in this bath from eight to fifteen minutes. The body is then wiped dry and the child placed in bed. Among antipyretics, I prefer sodium salicylate; two or three grains may be given every hour. This will usually moisten the skin and lower the temperature.

SEDATION.

In some cases extreme restlessness, especially during the first two or three days, require attention. I think it wiser to relieve this symptom than to permit the child to waste its energy by tossing about. To meet this indication I prefer chloral hydrate; two grains every two hours for four or five doses will usually insure quiet sleep. If the heart's action is rapid or weak this remedy may be guarded by the addition of digitalis, one to three drops of the fluid extract being given with each dose of the chloral. If, in addition to the restlessness, there are nervous symptoms, as rolling of the head, oscillation of the eyeball, indicating a disturbance of the high nerve centers, applications of the cold compress to the head are indicated. If the ice cap is not accessible, I use the ice poultice. This is made by spreading dry flaxseed meal over a piece of cloth large enough to cover the head, then distributing over this cracked ice and covering all with a piece of gauze.

TREATMENT OF THE THROAT.

In the septic cases there is a membranous inflammation of the throat and nasopharynx, with increased action of the muciparous glands. These mucous membranes present a large absorbent surface richly supplied with lymphatics, and in these cases we have enlargements of the surface of the gland, continued fever and a general infection. In these cases treatment of the throat and the nasopharynx is extremely important. In my experience there is no treatment so efficacious as irrigation of these parts with a warm salt solution. This is to be accomplished by means of the fountain syringe. It is usually better to wrap the child in a sheet so that it will be completely under the control of the attendant. I personally supervise this treatment, at least for the first time. The mouth and throat are first to be irrigated; when irrigating through the nose the mouth must be kept open. It is my opinion that fluid is not driven in the eustachian tube unless the patient attempts to swallow during the treatment. If the jaws are kept separate deglutition can not take place. The amount of purulent material that is washed away in some of these cases in a single treatment is remarkable. These treatments are to be repeated according to the exigencies of the case; two or three in twenty-four hours, for two or three days, are usually sufficient. I have seen the temperature drop two or three degrees after this treatment. In cases where the discharge from the throat and nose is fetid, the use of permanganate of potassium, five grains to the pint, is of benefit.

In the septic cases, stimulants are always indicated and should be given frequently and at regular intervals. The condition of the heart should be our guide in the use of strychnin or other cardiac stimulants.

CARE OF THE SKIN.

The skin should be carefully treated in all cases. The use of oily applications is of benefit in hastening desquamation and in preventing the infection of the room. In some cases itching is a symptom so annoying as to require attention. For the relief of this symptom my patients have received the greatest benefit from a 1 per cent. solution of carbolic acid. If this fails then the lead water solution liq. plumbi acet., 1 gram to the pint, may be employed. When the fever has subsided the patients should receive a daily bath with soap and water in order to remove the dead epithelium. This treatment is to be continued until desquamation is complete.

GLANDULAR INVOLVEMENT.

Inflammation of the cervical glands occurs in all septic cases. There is little to be gained by treatment except to add to the comfort of the patient. I am in the habit of using the belladonna salve and sometimes over this the ice poultice. Suppuration of these glands occasionally takes place and adds greatly to the gravity of the case. Treatment is surgical. Cellulitis is a serious but rare complication. I have met with but two cases. It is usual to make several incisions in order to promote drainage.

JOINT AND HEART COMPLICATIONS.

Scarlatinal arthritis is usually manifested in older children and young adults. In my experience the wrist and elbow joints have usually been involved. I have seen two cases of suppurating arthritis, one of them terminating fatally as a result of the general infection. The affected joints are usually very painful. The treatment I have found most satisfactory is the application to the joint of a salve composed as follows, sodium salicylate 1 dram, lanolin 4 drams, simple ointment 4 drams. This is thoroughly applied to the joint; which is covered by a layer of cotton batting, held in place by a roller bandage.

The heart should be carefully watched in all cases of scarlet fever. The possibility of inflammatory lesions, both endocardial and pericardial, should be recognized. I have recently lost a case from heart failure at the end of the second week. A rapid pulse, after the subsidence of the fever, or a weak second sound, should place us on our guard.

AURAL PROPHYLAXIS.

The treatment of otitis media is more important than many seem to think. Involvement of the middle ear is due to extension of inflammation along the eustachian tube. It is usually purulent, and when so the pus finds an exit through the external meatus, because of rupture of the membrana tympanum. The symptoms of the middle ear trouble are often vague. If old enough the child may complain of pain or it will be noticed to pull at the ear. Sometimes, however, the first evidence of ear trouble will be the appearance of pus in the external canal. The operation of paracentesis, while theoretically correct, is seldom employed in private practice. A careful examination of the ear should be made in all cases of scarlet fever. When the membrane has been punctured or when it has ruptured, prompt treatment should be instituted. I have for a number of years adopted the following plan of treatment. The attendant is provided with two medicine droppers, a warm boracic acid solution is prepared, the child is placed on its side with the affected ear uppermost. The dropper is filled with the solution which is gently instilled into the ear. The attendant takes the second dropper and, by compressing the bulb, withdraws the fluid from the

ear. This is repeated frequently and until the canal is free from pus. Then the ear is filled with a 50 per cent. solution of peroxid of hydrogen to which a little bicarbonate of soda has been added. This is again washed out by the boracic acid solution, and the canal gently dried with absorbent cotton. This treatment is repeated from two to four hours and continued from day to day until the discharge ceases. Involvement of the mastoid cells has not been frequent in my cases of scarlet fever. When it does occur, prompt incision with drainage is indicated.

Scarlatinal nephritis is the most important sequela of scarlet fever. In all cases frequent examination of the urine should be made. We can usually have warning of impending danger. The earliest symptoms of the nephritis are swelling beneath the eyes or on the dorsum of the foot, with a lessened quantity of urine. The treatment of this sequela in the early stage and its prompt recognition are important. The important points of treatment are rest in bed, a liquid diet and the avoidance of stimulating diuretics and the increasing of the function of the skin and bowels.

In cases seen early, these principles of treatment are usually sufficient.

DISCUSSION.

DR. R. B. GILBERT, Louisville, Ky.—This is certainly a very important subject, for the successful management of scarlet fever is a great desideratum. It is well known that many of these cases are not brought to a successful issue. I agree with most of the statements made in the paper. One treatment not referred to was popularized some time ago and advocated by the late Dr. J. Lewis Smith, the idea being that scarlet fever tended directly toward death from the onset, and that, therefore, from the first the treatment should be supporting. He often began the treatment by giving the ammoniocitrate of iron. It has been my own custom to use this remedy in these cases regardless of what other conditions might arise. I believe many cases are benefited by it, and that the method is superior to the plan of waiting until the patient has already become anemic. Mild diuretics are also indicated, though, of course, we should employ no highly stimulating diuretic. Mild carbonated waters should be given in abundance, and by such free elimination we should seek to minimize the danger of nephritis. I am not thoroughly in accord with the use of so many baths. It is difficult to carry out in private practice, and in a few instances in which I have insisted on such baths and the patients have died I have been accused of contributing to their death. A great deal can be done toward the successful management of scarlet fever by inunctions, and I know of nothing better than lard, which is cheap and always at hand. It may possibly be made a little more efficacious by the addition of carbolic acid, although it is chiefly of use in controlling the itching. I have often seen cases of scarlet fever at the beginning of the desquamation in which the temperature of the patient was reduced two degrees by a thorough inunction. Only two years ago I was asked to take charge of a case that had been under the care of an intelligent homeopathic practitioner of my city. His medicines had exerted no controlling effect on the fever, and as exfoliation had already begun and the chief symptoms were the high temperature and the intense itching, I recommended a general inunction with lard. After waiting thirty-five minutes we found that the boy was so comfortable that he was dozing, though sufficiently awake to say to me: "Doctor, please do that again, it makes me feel so good." I do not think there is any need for any heroic treatment of the temperature unless the maximum daily temperature exceeds 102 F. When it does go beyond this point I make use of sodium salicylate made from the natural source.

DR. G. A. HERMANN, Hamilton, O.—I wish to refer to a case in which a boy was doing so well that I discharged him as cured. I was greatly surprised in a few days when the father told me the child was dead. On inquiry I found that the boy had passed very little urine for the last twenty-four hours. Death had evidently resulted from nephritis. In another case in which I neglected the kidneys I had much trouble with the child for two years, trying to restore the general health. Since these experiences I have been most careful to attend to the functional activity of the kidneys.

DR. J. H. HANNA, Covington, Tenn.—I recall the case of a child of about 6 years of age, who fell and bent her arm. I put it in a splint and kept it there for four weeks, after which the arm was straight and apparently in excellent condition. About four weeks later the child fell again and bent the same arm in an opposite direction. The arm could then be straightened just as one would a green stick. It was kept in a splint for three or four weeks. Once more the child fell with the splint, and succeeded this time in bending the arm in the opposite direction again. It seemed to me that in that case there was a deficiency of lime which caused this bending of the bone. There had been some little trouble with the kidneys. After this the arm did well. With regard to inunctions, I think vaselin is one of the best remedies for this purpose, and I am of the opinion that it prevents the spread of the disease by preventing the dissemination of the desquamated epithelium. If carbolic acid is simply stirred into the vaselin to make a 10 per cent. cintment, it will be found that the mixture is very unevenly made, and this may cause serious trouble.

DR. CHARLES G. KERLEY, New York—I support the reader of the paper in everything he has said. I would like to keep my scarlet fever patients in bed at least four weeks. I am also in favor of cold applications when the fever needs attention. Mothers must be taught that there is no danger in such applications in any of the exanthema. The idea that the disease will "strike in" is an old and exploded fallacy. I do not approve of a fountain syringe for nasal irrigation, preferring to use instillations by means of a teaspoon, or some similar method. I am not particularly fond of carbolic acid in oily mixtures for the skin dressings, being rather afraid of absorption. I much prefer some simple inunction, such as vaselin, and think it answers every purpose.

According to my observation, very few cases of scarlet fever die from scarlatina poisoning, but usually through some of the complications. The parts which must be watched particularly are the ears, the heart, kidneys and the lungs. I have seen a few cases of endocarditis develop in connection with scarlet fever. It is very necessary to examine the urine at least every other day.

I am glad attention was called to the fact that there may be a suppurative otitis entirely unassociated with pain. I have been called in consultation not a few times because there was a high temperature which could not be accounted for. On looking into the ear the cause of the fever was found in an otitis which had not made itself known by the presence of pain.

DR. B. R. SHURLY, Detroit—There is one phase of the treatment of scarlet fever to which I desire to refer, i. e., the administration of antistreptococcus serum. I have had but two malignant cases during the past year, which have given me an opportunity to use this serum, and, unfortunately, in both instances the serum was not administered until late in the disease. There was a fatal result in both cases. I should like to hear further reports of the results from this treatment. It seems to me that the key to the whole situation is to be found in the throat; the complications of otitis media, endocarditis and kidney trouble are simply due to absorption from the pathologic state of the nasopharynx. This emphasizes the importance of thorough irrigation of the nose and throat in the various stages of this disease.

DR. E. T. SHELLY, Atchison, Kas.—I wish to inquire with regard to the use of diphtheritic antitoxin in scarlet fever. I think Dr. Holt has recommended that children in institutions suffering from any of the exanthemata and having suspicious throats should be given diphtheria antitoxin.

DR. JOHN M. DODSON, Chicago—With regard to the use of antistreptococcus serum, I should like to say that Dr. Class of Chicago, whom I know to be an earnest and enthusiastic worker, believed a few years ago that there had been discov-

cred in a certain diplococcus the specific cause of scarlet fever. He was at that time connected with the health department of Chicago. At the meeting last year rather positive statements were made with reference to this organism as the causal factor, and it was pronounced to be unquestionably the cause of scarlet fever. I feel very sure that that statement was made on insufficient grounds. In the laboratories of Rush Medical College a very thorough study of the organisms found in the throat and blood of scarlet fever patients has been made during the past year, and it has been determined that the organism I have already referred to is not a specific organism, and can not be identified as a definite micro-organism to accord with the statements made by Dr. Class. At one time it was thought that garden earth was a very necessary culture medium, but it was soon discovered that the organism would grow on a great many media, and that the organism itself was not uniform in its morphologic or cultural characteristics. I may add that streptococci are not always present in scarlet fever, although they are present in the majority of severe cases, and many of the phenomena of scarlet fever are traceable to streptococcus secondary infection. I think it is likely that some other organism not yet discovered, possibly a protozoön, is the cause of scarlet fever. Herein lies the difficulty of using the antistreptococcus serum. Another difficulty is that there is a large number of varieties of streptococci, and each variety requires a serum produced by that particular variety to successfully antagonize it. This seems to be an insuperable obstacle in practice. When streptococcus infection arises we are compelled to use whatever antistreptococcus serum is available, and it is more than probable that it will be from an entirely different variety of streptococcus, and be, consequently, wholly ineffective. The practice in Chicago seems to be to determine, if possible, the nature of the membranous angina before resorting to the use of diphtheria antitoxin. In the majority of cases the sore throat of scarlet fever is not due to the diphtheria bacillus, although this organism is sometimes present.

DR. A. G. PERSON, Snyder, Texas—I have had one case recently which seems to me to clearly sustain the recommendation of the essayist in favor of a milk or liquid diet. The first case in the epidemic occurred in a girl of 15. I recommended that she be kept in bed on a milk diet. She recovered rapidly, and as her appetite improved she insisted on a mixed diet. Her father wrote me, while in New Orleans attending the Polyclinic, that she had a relapse and a very severe kidney complication. Six other children have all passed safely through the disease, as they could be more easily controlled.

DR. ORVILLE A. KENNEDY, Louisville, Ky.—I desire to emphasize the importance of watching all through the course of the disease for complications and of guarding against the spread of the disease. To prevent ear and throat complications keep the nasopharynx thoroughly cleansed. To prevent kidney complications, a liquid diet is most important. To prevent the spread of the disease inunctions are very useful. For this purpose I use, and find it very effective, not only to prevent the spread of the scales, but to allay the itching, a solution of thymol and eucalyptol in olive oil. The patient should be thoroughly anointed with this two or three times a day.

DR. H. M. MCCLANAHAN, Omaha—In the case of scarlatinal nephritis, occurring about the third or fourth week, I question the wisdom of giving any diuretic at that time, as I consider it better to give the kidneys physiologic rest by stimulating the activity of the skin and bowels. As to the use of cool baths, it does seem to me that when we are convinced of the efficacy and virtue of a treatment it is our duty to educate the public as to its importance. A number of years ago I encountered a prejudice against baths and declined to treat certain cases because the parents would not allow me to exercise my own sincere judgment. With regard to inunctions in private practice, I would say that I make use of a mixture made by taking four tablespoonfuls of lard, placing this quantity in a cup and heating it in hot water for half an hour, and then adding a cake of white wax and a teaspoonful of the oil of eucalyptus. This makes an elegant and thoroughly sterile preparation. In my practice it is extremely rare to have a pulmonary complication in case of scarlet fever, and I presume it is more common along the coast. I am glad the fact has been emphasized that an otitis not infrequently develops in scarlet fever without any pain. I think it is the duty of the physician in this disease to examine the ears with a mirror at intervals of two or three days. I do not feel that I can speak with authority on the use of antistreptococcus serum. I have used it on the theory that the complications of scarlet fever are generally due to some variety of streptococcus, and this view has been borne out by the excellent article recently published by Hektoen. I have always understood that the membranous sore throat of scarlet fever is not, as a rule, due to the Kelbs-Loeffler bacillus, and hence it does not seem to me wise to give the antidiphtheritic serum in those cases. Again, I have never yet seen a case of laryngeal stenosis complicating the membranous sore throat of scarlet fever.

TETANUS PROPHYLAXIS AND SUSPECTED WOUNDS.

JOSEPH McFARLAND, M.D.
PHILADELPHIA.

In 1899, in association with E. M. Ranck, I published a paper in the *Journal of Comparative Medicine and Veterinary Archives* entitled "Tetanus Toxin and Antitoxin." In addition to general facts regarding tetanus, the tetanus bacillus and the toxin and antitoxin, there were recorded some practical experiences with the antitoxin as a prophylactic, which, probably because of the nature of the rest of the paper, escaped the attention they deserved.

The observations to which I again call attention were made in one of the large antitoxin factories of this country on a number of horses somewhat exceeding 800, and continuing over a period of nearly four years. These 800 horses were used for immunization experiments in manufacturing different therapeutic serums, and were constantly being injected and bled at frequent intervals, and occasionally suffered from local lesions consequent upon the irritative action of the injected toxins.

At the time the laboratory and stables were in an old building, which, though it was kept very clean and occasionally disinfected, seemed to be badly infected with tetanus. Our first attempts at stamping out the disease were by thoroughly cleansing and disinfecting the stables, and washing the horses with disinfecting solutions, as well as by exercising every precaution to prevent the dissemination of dust.

In spite of these precautions, the death rate from tetanus sometimes rose so high as to make us seriously consider abandoning the quarters, or temporarily suspending business. The highest death rate was in 1898, when it reached 10 per cent., and it was not until we had had this experience that I instituted the regular and systematic immunization with antitetanic serum, as a means of preventing the disease, and every horse was immunized every three months. The periodical treatment consisted of an injection of from 10 to 25 c.c. of a low grade of antitetanic serum, the injection being repeated in about ten days. The effect was immediate and striking, and taking the result by years, we find the following: 1897, no precautions taken to prevent tetanus, death rate 8 per cent.; 1898, no precautions taken until late in the year, and then antitetanic serum used unsystematically and in insufficient doses, death rate 10 per cent.; 1899, systematic immunization of every horse, carried out as described, death rate from tetanus, 1 per cent.; 1900, systematic immunization of every horse continued, death rate less than 1 per cent.

These observations show the thoroughly reliable result to be obtained by the proper and systematic employment

of antitetanic serum as a prophylactic. Such employment does not apply to antitoxin factories only, but has a far-reaching application in all departments of human and veterinary medicine. We averaged 200 horses a year in the stables mentioned. In two years the deaths from tetanus numbered 36, in the next two years about 4. We, therefore, saved the lives of 32 horses by this prophylactic treatment.

Every day there apply for treatment in the dispensaries of our large cities patients suffering from lacerated and punctured wounds of the hands and feet that are suspicious in character, and concerning which one is in doubt whether tetanus may not develop. In spite of the ordinary antiseptic treatment, in many of these cases tetanus does develop, and many of the patients die.

Those familiar with the treatment of tetanus by any of the methods yet suggested (including that with antitoxin) are quite familiar with the fact that after tetanus once develops, the probability of curing the patient is very slight.

The practical conclusion that must be drawn from the observations on the antitoxin horses seems to me inevitable; that in all suspicious wounds, that is, all wounds at all likely to be followed by tetanus, the antitoxin should be administered as a prophylactic. This I have urged repeatedly in other writings, and have taught my pupils from year to year, but there are objections that have some slight weight. The antitetanic serum is expensive, does not keep indefinitely, and must be administered by subcutaneous injection, which alarms and pains the patient. In many cases, therefore, dispensaries and practicing physicians are unable to provide and employ the serum, a matter of economy and penury which undoubtedly costs life.

I was very much interested during December, 1902, by a description given me by Dr. Damaso Rivas, who, returning from the laboratory of Professor Calmette at Lille, related to me some experiments that he had seen conducted there, and in which he had participated, which showed that antitetanic serum, while not absorbed from the skin or mucous membranes, is readily absorbed by denuded surfaces, and when the dry serum is dusted on wounds it is readily absorbed, and confers immunity on animals. I at once recognized the practical importance of this observation, and conducted a series of experiments to show how useful dry antitetanic serum as a dusting powder might be. It did not take many experiments to prove the correctness of Professor Calmette's observation.

Experiment 1.—Sixteen adult guinea-pigs were employed. The abdomen of each was shaved, and with a sharp scalpel the skin was cross-hatched, as in performing the operation of vaccination, and an area of about 1 cm. in diameter was abraded. With a platinum loop a drop of a pure culture of the tetanus bacillus was thoroughly rubbed into the abraded surface, and in one-half of the animals the seat of operation was dressed with cotton saturated with collodium; in the other half the abraded surface was thickly sprinkled with pulverized antitetanic serum, and then similarly dressed with collodium. The results were striking. Every animal of the first series died with typical tetanic convulsions, while every one of the second series lived and showed no symptoms.

In order to compare the effects of mixed infection, I performed the following experiment:

Experiment 2.—Eight adult guinea-pigs were prepared by shaving the abdomen and cross-hatching the surface, as described. Each was now infected with a suspension of garden earth, which was rubbed into the injured surface. In four cases the surface was dressed with collodium; in the remaining four, thickly sprinkled with the antitetanic powder and then dressed with cotton and the collodium. These animals all recovered, there evidently being no tetanus bacilli in the garden earth employed.

It then occurred to me that if an active but harmless antiseptic could be combined with the antitetanic powder the powder might be doubly useful; first, in preventing tetanus; second, in inhibiting the growth of other micro-organisms. As best adapted for this purpose, I selected chloretone, which is both analgesic and antiseptic, and performed the following experiment:

Experiment 3.—Eight guinea-pigs prepared as already described were infected with pure cultures of the tetanus bacillus. In four the wound was simply dressed with cotton and collodium; in the remaining four, thickly sprinkled with the dusting powder, consisting of antitetanic powder and chloretone, then covered with cotton and collodium. The unprotected animals died in two days with typical tetanic convulsions. Of the remaining animals, one died on the sixth day of tetanus.

This showed that the combination of equal parts of chloretone and antitetanic powder had too greatly diluted the antitetanic powder, and made it less useful than when the purer dried serum was used. It was suggested that chloretone, which is cheaper, might suffice, and that if wounds were dusted with it, an antitetanic serum would be unnecessary. So another series of experiments was undertaken.

Experiment 4.—Eight guinea-pigs were employed, all prepared and infected with the tetanus cultures, as usual, and in one-half the wound was thickly sprinkled with chloretone, then dressed with cotton and collodium. All of these animals died of tetanus.

I was loath to publish the results of these experiments until I had learned what Professor Calmette intended to do with the observations he had already made, and accordingly corresponded with him, telling him of my experiments, and of the important bearing I thought they had upon the prophylactic treatment of possibly infected wounds. He answered that within a day or two from the time he wrote me, he was expecting shortly to make a communication on the subject, and a later mail brought me a pamphlet containing his communication made to the Academy of Science at Paris, May 11, 1903, in which his own and Dr. Rivas' experiments are given, and in which the results of the experiments performed in his laboratory and in my laboratory are shown to be uniform.

The advantages of this method of treatment are many. The dry antitetanic serum preserves its activity indefinitely. It requires no instrumental administration, etc., but can be conveniently sprinkled, from the bottle in which it is dispensed, on the wound after the surface has been thoroughly cleansed and prepared to receive it. It is devoid of irritating properties, slowly dissolves and is absorbed, and when thus applied has the double advantage of neutralizing the toxin of the tetanus bacillus as it is elaborated in the wound, and of being absorbed into the patient's blood, where it remains to neutralize any toxin subsequently formed and absorbed.

I feel that these experiments of Professor Calmette and myself should have a most important bearing on dispensary practice, and that particularly in those districts of our country where tetanus is known to be frequent, the powder should be systematically employed for dressing of wounds, and in lieu of the observations to which attention is directed in the opening of this communication, I would recommend a very wide application of the antitetanic serum for prophylaxis against tetanus in both human and veterinary practice.

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SPRING WATER AND TYPHOID FEVER.

The firmly rooted popular belief in the superior excellence of ground water, and especially of spring water, is not difficult to understand. The usual clearness and brilliancy of such waters, together with their coolness, render them highly attractive to the eye and pleasing to the taste. In times of typhoid epidemics "pure spring water" is a shibboleth of undoubted commercial value. A strong and wholly natural preference for ground water as a source of town supply has been evinced on many occasions. The citizens of Ithaca, after becoming fully aware of the origin of the late typhoid epidemic, could not express too deeply their abhorrence of surface water. In France for many years *les eaux des sources* have held the highest position in the estimation of most municipal authorities, and in that country spring waters have been widely accepted as the most desirable source of municipal supply.

The last decade, however, has seen a profound change in the position accorded by sanitarians to spring waters. From many quarters evidence has accumulated that the delectable appearance of spring water too often masks a treacherous nature. Gärtner,[1] in a recent monograph on this subject, has brought together a formidable array of outbreaks of typhoid fever attributed with greater or less certainty to spring water. He clearly shows that in many instances the trusted spring water is nothing but unfiltered surface water of dubious antecedents. In chalk and limestone regions especially, where the existence of extensive subterranean channels and crevices renders it exceedingly difficult to determine the sources from which a spring is fed, the danger of surface contamination is ever present. The calamitous typhoid epidemic at Worthing, England, in 1893, will at once occur to the student of epidemiology as a case where the fissures in chalk were responsible for an unusually extensive outbreak of disease. In some regions small brooks or rivers which are known to receive sewage pollution may disappear wholly or in part in openings in their beds, only to emerge at a remote point as gushing and copious "springs" which confiding inhabitants will make use of for drinking purposes with a calm assurance of safety which would indeed be ludicrous if it did not so often lead to appalling consequences. The changeable character of spring water, both as regards turbidity and bacterial content, its dependence upon the amount of rainfall, upon the topography of the country and the underlying geological strata, and above all, the often insuperable difficulty of learning the real origin of the water, are not features that increase its desirability as a source of supply. Gärtner points out that geologists are largely responsible for the growth of the modern views regarding the uncertain character of spring water, and quotes with unqualified approval a statement by the geologist, Heim, that he would drink the filtered water of Lake Zurich with a feeling of greater security than the water from the majority of springs with which he was acquainted. "Springs are changeable; to-day good, tomorrow, perhaps, unsafe."

If a widespread reaction has already set in against the indiscriminate use of ground waters it is amply justified. There have been several noteworthy illustrations of the unsafe character of spring water in the hygienic annals of recent years. The water supply of Paris, which is perhaps the most extensive modern system of municipal spring water supply, was for a time highly vaunted as an example of a naturally pure water, as compared with the "merely purified" water of Berlin and other European capitals. Pure spring water was eloquently contrasted with filtered surface water; innocence was said to be better than repentance. It was not long after its introduction, however, before the Paris supply fell under a cloud. The epidemics of typhoid fever in 1894 and 1899, and the searching investigations to which they gave rise, have shown unmistakably that the spring water from the region of the Vanne is not only not beyond suspicion, but that it is actually responsible for an excessive amount of typhoid fever in Paris. The facts brought to light by these and similar inquiries have caused a decided change in the opinion of French sanitarians regarding the character of spring water, and recent utterances by Brouardel and others indicate that in France spring water has had its day as the ideal for a supply.

In addition to the epidemiologic evidence, recent bacteriologic investigation has also cast doubt on the universally wholesome character of waters of this class. Horton[2] has reported finding the colon bacillus in water from a number of springs and driven wells, and concludes as the result of his investigations that the fact that water is derived from a drilled well can in no wise be taken as a guarantee of its potability.

We can no longer hesitate to admit the fact that many spring and ground waters are nothing but insufficiently filtered surface waters which may, indeed, have traversed long distances underground, but which have met in their course no layer of soil or sand of purifying power. To continue to place implicit trust in waters of this sort is to tempt further "accidents" of a kind with which medical literature already teems.

1. Klinisches Jahrbuch, ix, 1902.

2. Journal of Hygiene, vol. iii, 1903, p. 155.

FAT BABIES AND HEALTH.

In a recent issue an English contemporary[1] calls attention to the mischief which is being done by the present standard that is accepted as regards healthy babies. As this paper well says, at baby shows the prize is practically always given to the fattest baby. There is a tradition current among mothers, as far as the memory of man runneth, that fat babies are just the pink of perfection. The surest index of this is that all manufacturers of artificial infant foods advertise their wondrous virtues by photographs of thoroughly rounded, and at times positively obese dumplings of babies. Mothers are very proud of their young hopefuls if they are a mass of curves and dimples with deep folds at all the joints and cushions of fat that conceal their anatomy so effectively as to make them formless little masses of humanity. They have been encouraged in this idea by the mistake of some of the classic painters who have pictured babies of this kind as if they were models of all that is finest in babyhood.

Fatness is said to be a distinctive quality of superlative beauty in the harems of the East, but there is no need to appeal to the antifat-cure crowded advertising columns of our magazines to prove that this standard is not generally accepted among the occidentals. Fatness is no more truly beautiful in a baby than in an adult. Opposed to the traditions that fat babies are healthy is the generally accepted medical opinion that, on the contrary, very fat infants are especially prone to succumb to certain diseases. Very few physicians dare to give a good prognosis when their child patient is very fat. This is not surprising since the blanket of fat in which all the child's organs are wrapped absorbs all the heat manufactured during the course of a fever, and makes antipyretic measures very difficult of application. Besides, the presence of fat seems of itself to be a distinct hindrance to the exercise of organic function with consequent lowering of vital resistance. Whether fat babies are more liable to infection than others is not definitely decided, but it is well known that they are at least as prone to the minor infections, such as colds, and to the so-called ordinary diseases of childhood, as are much thinner babies.

It seems worth while to call attention to this subject just at this time because it is during the warm weather that fat babies are distinctly at a physical disadvantage. They swelter and chafe, and, as can readily be understood, are much more uncomfortable than are their thin fellows of the same age. They lose sleep easily, and are thus predisposed to nervous complications in any serious illness. Yet all the winter months before the dreaded second summer fond, anxious mothers have been mainly engaged in securing the accumulation of as much fat as possible on baby under the mistaken notion that this means good health.

There is no doubt that some of the responsibility for the persistence of the erroneous idea of the correlation of fat and health in infants must accrue to physicians who have either encouraged or at least have not properly opposed the notion. As the *Lancet* says, "Fat babies to the touch are cold, gelatinous and flabby, with none of the elasticity and tone characteristic of the vigorous, healthy, breast-fed baby. When fed a large proportion of carbohydrates of sugar, infants are apt to have a curiously translucent, almost opalescent appearance of the tissues." This represents the true state of the fat baby which is rather a pathologic specimen than the model of health they are considered to be by the judges at the baby shows. There is no doubt that if this idea could be properly brought before the public many infants would be healthier and more resistant to infection than is the case at the present time, when deliberate "feeding for fat" is almost the rule, though such infants are rather seriously handicapped than helped by the additional weight they have to carry in the race of life.

1. Lancet, June 20, 1903.

A LAW AGAINST "NASTY ADVERTISEMENTS" IN MICHIGAN.

The new Michigan Medical Practice Act, which goes into force in a short time,[1] had added to it just before its final passage an amendment which authorized the Board of Registration in Medicine to revoke the certificate, after due notice and hearing, of any registered practitioner who inserts advertisements in newspapers, pamphlets, circulars or other written or printed paper relative to venereal disease or other matter of an obscene or offensive nature derogatory to good morals. This amendment was unanimously passed by the legislature, and with practically no opposition; not even from the newspapers. The profession in Michigan has become well organized, and was thus able to take up this work with reasonable hope of success. It was this effort of a united profession, backed by one or two newspapers, which made success possible. Due credit should be especially given to one newspaper, the *Detroit Journal*, which for a long time has refused to admit to its pages any quack advertisements, and which fought for and was one of the factors in securing the amendment.

It is to be regretted that this work can not at once be carried further, and that these nasty, as well as demoralizing, advertisements can not be entirely eliminated from our newspapers everywhere. The Michigan law only reaches the advertising quacks in Michigan, and does not affect the same class who reside in other states and yet who may advertise in the Michigan newspapers. If the legislators in other states will enact similar laws and give the licensing boards the right to revoke certificates for such advertising—and such legislation can be had in every state if the profession will go about it in the right way—then we may hope to purge our profession of its greatest curse, and remove from newspapers the filthy and disgraceful advertisements, not only in Michigan, but elsewhere. The law is a most righteous one, no matter from what point of view we may look at

1. See page 45.

it, and Michigan has certainly set an example for other states to follow. This is not of interest to the medical profession alone, but much more in the interest of the public and good morals generally. In fact, it is in the interest of preventive medicine. The result of the wretched stuff sent out by these advertising quacks is not only debasing, but is also the means of making many who read it hypochondriacal, and has a direct tendency to the increase of mental disease. It is the policy of this class of advertisers to demoralize, as well as to frighten, their victims, and then to rob them. The corrupting influence of such advertisements is manifest to everyone, but their mentally weakening and depressing influence is best evidenced before the practicing physician. It is time that our legislators should be called to a sense of their responsibilities in this matter.

We earnestly urge those who are interested in legislation everywhere to consider the advisability and possibility of getting such an amendment to the now existing Medical Practice Acts, as that to which we have above referred, and to make it to apply not only to those who advertise within the state, but also to those who advertise in papers beyond its limits.

FOURTH OF JULY INJURIES.

As long as we celebrate the Fourth of July in the customary manner, we may expect the usual number of injuries on this day. This is one of the cases in which we can do little in the way of preventive medicine, yet while we may not hope to reduce the number of accidents, by proper care we may be able to minimize the ill effects which so frequently follow them.

The injuries common to Fourth of July accidents may be divided into two classes: (1) Those which produce considerable damage to the person, but are attended with little danger to life; (2) those which are comparatively trivial, so far as the damage done is concerned, but which are attended with great danger to life. In the first class may be placed such injuries as the loss of a portion or all of a hand or arm, due, for instance, to the explosion of a giant cracker. In these cases, although the loss of tissue may be great, the end is usually in recovery. They should all be treated as infected wounds from the start, and great conservatism should be exercised in the removal of injured parts.

It is to the second class to which attention is particularly directed. To this class belong the numerous small wounds produced by the toy pistol, the blank cartridge, the fulminate cap, etc. These wounds often appear trivial and unimportant on the surface, but herein lies one of their chief dangers. They appear so trivial that frequently they are neglected. Their principal characteristic is the penetration of the soft parts by a small particle of foreign matter, such as the wad, particles of unburned powder, a portion of a cap, etc. These foreign bodies carry into the depths of the wound the ordinary pyogenic germs or the much more dangerous tetanus bacillus, and unless the wound receives the proper treatment from the start, the most disastrous results may follow.

The tetanus bacillus finds around a foreign body in the depth of a small penetrating wound from which the air is excluded, the best possible conditions for its development and growth. Such being the case, the plan of treatment is well defined. No matter how innocent or trivial these wounds may appear on the surface, they should invariably be laid open freely at the earliest possible moment, either under local or general anesthesia, in order that it may be thoroughly done; all foreign matter sought and removed; the wound cleansed with an antiseptic solution—1-1,000 bichlorid or dilute peroxid, and dressed as an open wound to which the air has free access.

If this line of treatment be instituted early, there will be little danger of tetanus. In case the wound is not seen until some days after its reception, the same open method of treatment should be instituted, but in addition, it is advisable to inject tetanus antitoxin as a prophylactic. By following this simple plan, many of the deaths due to lock-jaw after apparently slight Fourth of July injuries will be prevented.

ACCIDENTAL INFECTION WITH BLASTOMYCOSIS.

The clinical report in THE JOURNAL last week[1] of a remarkably interesting and important case of accidental infection with blastomycosis (more properly oïdiomycosis) by Dr. Newton Evans, calls for a word or two of further comment.

It will be recalled that the infection followed an insignificant wound received at an autopsy of the case of systemic blastomycosis reported by Ormsby and Miller and discussed at that time briefly in the editorial[2] columns of THE JOURNAL. The clinical cause and the gross appearances of the case of accidental inoculation are well described in Dr. Evans' paper. The special feature of the case to which it seems well to direct attention is the fact that this is the first known instance of blastomycetic infection in which the exact source of the disease is established. That source undoubtedly being another case of blastomycosis, we have here the nearest approach as yet at hand to establish definitely upon unassailable basis the pathogenic importance of the blastomycetic organisms concerned, or mold-fungi, and which appear to be identical in the two cases. It has not yet been possible to produce experimentally in animals any process at all similar to blastomycetic dermatitis in man, and consequently more or less doubt has been expressed on various sides, principally by clinicians, as to there really being any disease like blastomycetic dermatitis. This is evident enough from the discussion of Dr. Evans' paper.

In Germany the so-called "American disease" has been ridiculed freely, especially by Kromayer, and this in spite of the fact that the clinical course of the disease

1. Journal A. M. A., June 27, 1903, p. 1772.
2. Journal A. M. A., May 23, 1903, p. 1444.

and the gross appearances of the lesions are quite distinctive and characteristic, while at the same time the histology of the lesions is peculiar and distinctly different from that of cutaneous carcinoma, tuberculosis and syphilis. The history of blastomycetic dermatitis shows that attention was first called to its occurrence in Chicago by pathologists whose interest was arrested primarily by the distinctive histologic peculiarities of the lesions. Now the situation of the organisms in the cutaneous lesions, often away from the surface, and their relations to the well-known miliary abscesses, speak strongly against accidental presence, while the absence of tubercle bacilli, as shown best by negative results from inoculation of guinea-pigs, serves to exclude definitely at least tuberculosis. And then the development of generalized blastomycosis with massive accumulations of blastomycetes in the lungs and elsewhere demonstrates further their pathogenic importance, as well as the eventual seriousness of the disease.

Finally, we have Evans' case of undoubted accidental inoculation to still further clinch the matter. The fact that the disease in this case described by Evans seems to be localized in the skin, while the source of the infection was a general blastomycosis, resembling greatly the so-called protozoic disease of Posadas, Wernicke, Rixford and Gilchrist, would go to strengthen the claim advanced by Ricketts[3] that the "protozoic disease" is a manifestation of the same infectious process as blastomycetic dermatitis.

AN ENDOWMENT FOR MEDICAL EDUCATION.

Some months ago we announced a professional gift to the medical department of the University of Chicago—Rush Medical College—by Mr. Rockefeller. Representations had been made to Rockefeller of the needs of the institution if it is to carry out the ideals in medical education that its friends desired, the necessary amount being put at $7,000,000 to $10,000,000. Mr. Rockefeller then made his offer to give the required amount provided $1,000,000 was raised by Chicago. July 1, 1903, was set as the date at which the money should be raised. On Tuesday the committee having the matter in charge unofficially represented that the million dollars had been raised. Few realize what this means to medical education of the United States. It is of national interest, for it means a long step forward, and one that will affect the medical education of the United States. It is not Chicago only, but the whole country that will profit; it is not the medical department of the University of Chicago alone, but all medical educational institutions that will feel the impetus and be benefited.

SOIL NITRIFICATION AND MOSQUITOES.

The extinction of malaria is one of the great medical questions of the day, and it is only natural that active minds should constantly find new points bearing on this subject. One of the latest suggestions is that given by Dr. Arthur R. Waddell in the *Lancet*, June 6. In experiments on the destruction of mosquitoes and mosquito larvæ he was impressed with the observation that very minute quantities of ammonia were decidedly fatal to these insects. Using strong liquor ammonia as a standard, a solution of 1 in 4,000 proved absolutely fatal for mature larvæ, and a solution so much weaker killed immature larvæ that he made the calculation that 1 in 20,000 or 30,000 would be sufficient to make water uninhabitable for them. His experiments indicated that ammonia is poisonous to mature larvæ in all its combinations. This suggested to him the fact that the nitrification of the soil might be one of the active factors in the prevention of malaria through its unfavorable effects on the growth of mosquitoes, and he thought that he saw evidence of this in the decrease of malaria under more scientific cultivation in certain parts of Great Britain. He attributes this to the enormously increased use of nitrogenous manures and the cultivation of plants whose roots give support to nitrifying bacteria, such as clover, etc. Against this, though he does not mention it, might be stated the fact that virgin soil is particularly favorable to malaria, though its nitrogen content has not been exhausted by cultivation, and that malaria in this country decreases with cultivation, even without a very extensive addition of nitrogen fertilizers. Still, there may be something in the author's suggestion, and at least it is worthy of consideration.

A HOUSE ENDEMIC OF MALARIA.

An interesting example of the mosquito origin of malaria is furnished by a house endemic reported by Jancsó.[1] It seems to explain how fresh cases may occasionally spring up in winter, aside from the well-recognized relapses. In November and December, with ice and snow on the ground, there occurred in the hospital, both among the patients and the staff of assistants, nine cases of malaria, recognized as such by the clinical behavior and by the detection in the blood of the parasites, in every case those of the estivo-autumnal variety. The explanation of this occurrence, unusual for the time and place, was found in the fact that a few days before the cage containing several specimens of anopheles that had been experimentally infected with this variety of plasmodium was overturned accidentally, the mosquitoes escaping, but not, as was thought at first, being destroyed by the cold. As was later discovered, the insects had sought out wards and rooms that, while not as warm as the incubator temperature they had left, still enabled them to live, and to bite several patients ill of diseases other than malaria, as well as several well individuals, among whom was Dr. Jancsó himself. The culprits were found, and several were examined, showing the sporozoites that had developed from the previous experimental feeding. Dates, clinical features, microscopic findings in the blood and in the mosquitoes are all carefully given, so that the proof seems conclusive that the origin of this house epidemic certainly lay in the bites of the twenty escaped and infected anopheles. This outbreak of malaria in winter, at a time when mosquitoes are supposed to be dead or hibernating, is, therefore, no argument against the mosquito theory, as some would

3. Journal of Medical Research, 1902, vi, No. 3.

1. Jancsó: Deutches Archiv für Klinische Medicin, Bd. lxxvi, p. 474.

be inclined to contend at first thought, but a convincing proof as to the rôle of the mosquito in the transmission of the disease. It teaches a lesson, too, as to the great care that should be exercised in experimental work with these insects, particularly when they are infected with the more dangerous estivo-autumnal parasites. One of the nine victims in this endemic was a sufferer from typhoid, and a second succumbed to pneumonia. Secondary or mixed infection with malaria is a serious matter.

Medical News.

ILLINOIS.

Chicago.

Smallpox.—Only two new cases of smallpox were received in the Isolation Hospital during the week ended June 20. One child, 28 days old, died in the hospital, fifteen were discharged recovered and eighteen remained under treatment at the close of the week.

Low Mortality.—The remarkably low mortality rate of the month continued during the week ended June 27. The 454 deaths reported represent an annual rate of 12.54 per 1,000. For the twenty-seven days of the month the rate has been 12.70, as compared with 13.12 for June, 1902, and with an average of 14.12 for the ten Junes of 1893-1902 inclusive.

Personal.—Dr. Rachelle Yarros has gone to Europe for a year of study.——Dr. William L. Ballenger has been elected to the chair of otology, rhinology and laryngology, made vacant by the resignation of Dr. Moreau R. Brown.——Dr. Frank Allport has been elected clinical professor of ophthalmology in the Northwestern University Medical School.

Exercises at Rush.—On June 17, 180 students, including 6 women, received degrees at the convocation of Rush Medical College. Dr. Simon Flexner, Philadelphia, made the doctorate address on "An Era of Medical Discovery." Dr. Frank Billings, dean of the faculty, announced that the major portion of the $1,000,000 required to secure the $8,000,000 required for hospital and advanced clinical work had already been secured.

Englewood Hospital Incorporated.—A new corporation has been organized, known as the Englewood Hospital and Training School. This will succeed the Englewood Union Hospital, which will surrender its charter. The new institution is not for pecuniary profit. The plan contemplates the purchase of land for $20,000, on which will be erected a hospital building to cost $80,000, and to accommodate 148 patients, and this building will be equipped at a cost of $20,000.

MARYLAND.

Personal—Dr. Lawrence C. Freeny, Pittsville, Wicomico County, has been elected resident physician and superintendent of the Peninsular Hospital, Salisbury.

Sanitarium for Liquor and Drug Habitues.—Dr. Edwin Geer of Baltimore has purchased 68 acres for $30,000 in Green Spring Valley, Baltimore County, and will build thereon a sanitarium for the treatment of persons addicted to liquor and drug habits. It will be called the Cecil Heights Sanitarium and will accommodate 23 patients. The consulting staff consists of Drs. H. M. Hurd, T. A. Ashby, C. G. Hill, J. D. Blake, Geo. J. Preston, John W. Chambers and Thos. S. Latimer, Baltimore.

Selects Site for Naval Hospital.—Surgeon-General Rixey, U. S. Navy, visited Annapolis last week to select a site for the naval hospital to be erected in the Academy grounds. The highest point in the grounds was chosen. A building several stories in height, with accommodations for about 100 persons, and to cost from $100,000 to $150,000, is contemplated. The "open-air" plan will be followed, and the wards will be separated so as to secure abundant light and ventilation. Wards for officers and men will be in different parts of the building.

Baltimore.

Operating Rooms Opened.—The new operating rooms of St. Agnes' Hospital were opened with formal ceremonies and a banquet June 25.

Adopts Standard Classification.—Health Commissioner Bosley, in order to preserve uniformity, has adopted the system of mortality statistics in use by the U. S. Census Office and approved by the American Public Health Association.

University Appointments.—At the University of Maryland Dr. John R. Winslow has been made clinical professor of diseases of throat and nose, Dr. R. H. Johnston demonstrator in the department, and Dr. Hubert Richardson demonstrator of physiologic chemistry.

Lowered Death Rate.—The cool weather kept down the death rate last week. The deaths numbered only 135, 26 being from consumption and 9 from pneumonia. The death rate per 1,000 was 12.50, the usual proportion of 1 to 2 between whites and colored being observed.

Echoes from the Crim Sale.—The medical books belonging to the Crim collection of antiques, etc., were sold last week, and with them the entire collection has been disposed of. The entire receipts amount to about $80,000. The 400 charts belonging to the late Professor Robey and used by him in his anatomic lectures brought only $32. The Bourgery anatomy, eight volumes folio, brought only $24. As previously stated, the University of Maryland Medical School ultimately received the great bulk of the estate. Dr. Crim's house brought only $100 at public sale, but it was much out of repair, and there was a large ground rent on it.

Personal.—Among those who sailed from this port to Bremen on June 27 were Drs. Henry L. Hilgartner, A. Crawford, W. A. Jack, Anna Johnston, and M. P. Tilley.——Dr. A. Kerr Bond has gone to England, where he will spend a month in the Manchester Children's Hospital.——Dr. T. P. McCormick will spend July at Groton, Conn.——Drs. Thomas McCrae and W. G. McCallum sailed for Europe June 27.——Dr. B. B. Lanier will spend the summer at the White Sulphur Springs, Va., and Dr. John A. Luetscher at Ocean City, Md.——Dr. A. H. Whitridge is in London.—Dr. John Turner is in London.——Or. C. C. Bombaugh will spend the summer at Newport.——Dr. L. McLane Tiffany sailed for Bremen on June 16.——Dr. J. J. Abell has received the degree of A. M. from the University of Michigan.

MASSACHUSETTS.

Boston.

Resignations Demanded.—Because of disobedience to rules, the resignations of the three senior surgical house officers of the Massachusetts General Hospital were demanded by the trustees and received by them. The trouble originated in a disturbance in the house officers' quarters, for which the seniors were held responsible.

The City's Health and Mortality.—Two weeks of rain have given Boston a death rate of 12.71 per 1,000 for the two weeks ending June 27, or a total of 283 deaths. Of this number 57 were under one year old and 85 under 5 years old. Pneumonia caused 26 deaths; heart disease, 26; bronchitis, 5, and marasmus, 5. There were reported 80 cases of diphtheria with three deaths; 55 of scarlet fever, with 1 death; 50 of typhoid fever, with 3 deaths; 103 of measles, with 4 deaths, and 29 of tuberculosis, with 32 deaths.

Floating Hospital in Commission.—The Boston Floating Hospital opens again for patients on Tuesday next. Dr. Robert W. Hastings will again serve as resident physician, and will be assisted by Drs. Milton G. Sturgis, John F. Fennessy, and Nathaniel L. Berry. Two junior house officers and six medical assistants, all advanced medical students, complete the house staff. Drs. Samuel Brick, Frederick Coggeshall and Arthur W. Fairbanks are the visiting physicians for this season. Arthur I. Kendall is to serve as the Fellow of the Rockefeller Institute for Medical Research, working to determine the relation of the Shiga bacillus to the cases of ileocolitis in the vicinity of Boston. No marked changes have been made in the hospital boat, but the various departments have been perfected for the best use of space in the very limited quarters.

NEW YORK.

A Gift from Rockefeller.—A gift of $25,000 has been received from John D. Rockefeller toward the fund of $60,000 being raised for a central building for the Stony Wold Sanitarium at Lake Rushaqua, New York.

Health Officer Dismissed.—At a meeting of the Rochester Common Council the recommendation of the public safety committee which has been investigating the recent smallpox epidemic in the city that Health Officer George W. Goler be dismissed, was adopted by the council.

Dr. Didama an Octogenarian.—On June 17, Dr. Henry D. Didama, Syracuse, dean of the medical profession of

Onondaga County; dean of the faculty of Syracuse Medical College; a member and once vice-president of the American Medical Association; some-time president of the New York State Medical Association, celebrated his eightieth birthday anniversary. Numbers of his friends called on the venerable physician, bearing congratulations and gifts. Save for his abundant white hair there was little in Dr. Didama's appearance to indicate the advanced age which he had attained. He entertained his guests with reminiscences of his early experiences when, fifty-two years ago, he entered on the practice of medicine.

Syracuse College Commencement.—On June 10, a class of 29 received diplomas and had the Hippocratic oath, as modified by Dr. Didama, administered by the adapter, at the commencement exercises of the Syracuse College of Medicine. The text of the oath is as follows:

JUSJURANDUM.

You, and each of you, do solemnly promise that, according to your ability and judgment, you will keep this obligation and stipulation.

That you will follow that regimen which, according to your best judgment, you consider to be for the benefit of your patients and abstain from whatever is injurious. That you will give no deadly medicine to anyone if asked, nor suggest any such counsel. That, with purity and holiness, you will pass your life and practice your art. That into whatever houses you enter you will go for the advantage of the sick, and will abstain from every act of mischief and corruption. That whatever, in connection with your professional practice, or not in connection with it, you may see or hear, you will not divulge, holding that all such things should be kept secret.

Do you so promise?

While you continue to keep this promise inviolate, may it be granted to you to enjoy life and the practice of your art, respected always by all men; but should you break through and violate this obligation, may the reverse be your lot.

Improvement in Care of Insane.—The New York State Commission of Lunacy has inaugurated a number of measures of improvement in the care of the insane during the past few months, including the reorganization of the Pathologic Institute where more than 60 medical men connected with the hospitals have been instructed during the past winter in clinical pathologic and physiologic psychiatric work. A system of medical interneship has been inaugurated in the hospital and nearly 30 have entered during the present year. Through the efforts of the commission, the legislature has recently passed an act appointing a medical inspector to the insane with 39 institutions under charge, which has never been inaugurated before, especially in the case of private asylums. Certain conditions and changes are projected, such as the foundation of a hospital on the colony system, the attachment of a tuberculosis hospital to three of the existing state institutions, the enlargement of the working colony, the inauguration of summer camps, the building of nurses' homes, officers' residences, etc. A bill providing for emergency commitments, as recommended by the Lunacy Commission, was passed by the legislature at its last session, which it is thought will be of great benefit, especially as regards urgent cases which were heretofore sent to jails and station houses. The food supply has been improved, and through the efforts of New York State, the federal government has passed a law making a limit of three years instead of one for deportation of alien insane, that is to say, immigrants becoming insane within three years after landing may be sent back to the country from which they came. The movement for the establishment of a reception hospital for acute curable cases in large cities has gained strength, and while the bill for a psychopathic hospital in New York City failed to pass, the attempt will be renewed with the next legislature, and it is hoped with success.

Buffalo.

Pure Water Investigation.—The Board of Aldermen has voted an appropriation of $2,000 for experts to investigate the requirements of a pure water supply for Buffalo.

Personal.—Dr. Roswell Park is ill with erysipelas.——Dr. Harvey R. Gaylord of the New York State Cancer Laboratory has recovered from his recent illness and has sailed for Europe.——Dr. Burt C. Johnson has returned from Europe.——Dr. Max Keiser will spend the summer in Vienna.——Dr. A. L. Benedict sailed for a six weeks' visit to Europe.

May Health.—The monthly health report for May shows an annual death rate of 15.69 per 1,000. The principal causes of death were as follows: Consumption, 39; diphtheria, 6; typhoid fever, 8; debility, 36; cancer, 14; apoplexy, 16; meningitis, 23; endocarditis, 10; valvular disease of the heart, 26; pneumonia, 48; appendicitis, 8; nephritis, 26; and violence, 40. Total deaths for May, 497, as compared to 422 for May, 1902.

Protest Against Goodsell-Bedel Bill.—At the regular quarterly meeting of the Erie County Medical Association, held June 8, 1903, Dr. A. A. Jones presiding, the following resolutions, presented by the committee on public health and charities, Dr. Julius Ullman, chairman, were unanimously adopted:

WHEREAS, There has recently been passed by the legislature of the State of New York an act to amend the public health law in relation to the establishment of public sanatoria, hospitals or camps for the treatment of tuberculosis; which act reads: "A hospital, camp or other establishment for the treatment of patients suffering from the disease known as pulmonary tuberculosis shall not be established in any town, by any person, association, corporation or municipality unless the board of supervisors of the county and the town board of the town shall each adopt a resolution authorizing the establishment thereof and describing the limits of the locality in which the same may be established.

WHEREAS, This bill, known as the Goodsell-Bedel bill, which has become effective by the signature of his excellency, the governor, makes it impossible for any city in the state, fraternal order or individual to establish such an institution except under conditions which are practically prohibitive; and

WHEREAS, Such sanatoria, hospitals and camps for consumptives, properly conducted, have proven most valuable in the treatment of tuberculosis, greatly decreasing the mortality rate and, by the observation of hygienic laws, have prevented the spread of the disease; and

WHEREAS, The location of such sanatoria actually relatively decreased the mortality from this disease in villages where so located as compared to other villages of like inhabitants; and

WHEREAS, There are in the State of New York many consumptive poor who are in urgent need of such sanatoria treatment; and

WHEREAS, This law, as enacted, is detrimental to the lives of thousands of citizens of this state now suffering from tuberculosis; and

WHEREAS, The spread of this disease, especially in crowded cities, will be augmented, thus making it an act of great injustice and inhumanity; therefore

Resolved, That the Erie County Medical Association urgently petition the legislature of the State of New York for its immediate repeal; and

Resolved, That copies of these resolutions be sent to his excellency, Governor Odell, the executive officers of the state and the senators and assemblymen representing this district at Albany.

New York City.

Cornell Commencement.—The fifth annual commencement of Cornell Medical College was held in New York, June 3.

Dog Muzzling Ordinance Passed.—Despite considerable opposition the board of aldermen, in response to a demand from the New York County Medical Association and from others familiar with what such legislation has accomplished in the way of controlling hydrophobia, has enacted the following ordinance:

Hereafter it shall be unlawful to permit any dog to go abroad at large in any of the streets, highways or public places in the City of New York unless such dog shall be securely muzzled so that it be impossible for it to bite, tear or otherwise wound with the teeth any human being or other animal.

Alleged Antitoxin Frauds.—As a result of the prosecution of a number of physicians for alleged procuring of antitoxin for sale under the pretense of distributing it without cost to indigent people, considerable indignation has been aroused among members of the profession, and this has found expression in resolutions of protest adopted by the East Side Physicians' Club, which are in part as follows:

Resolved, That the physicians of the East Side, in mass meeting assembled, deplore the circumstances and emphatically protest against the unmerited and summary procedure of the department of health, a procedure which demoralizes the community, offends the profession, and gravely injures the accused physicians and their families by branding them as common criminals.

So far, the defense has been that the physicians only charged a proper fee for the administration of the antitoxin, and did not charge for the antitoxin itself.

PENNSYLVANIA.

Gift to Hospital.—On May 14, the twenty-fifth anniversary of their wedding day, Mr. and Mrs. Horace Brock of Lebanon signified to the board of managers of the Good Samaritan Hospital their intention to present to the institution a home for nurses.

State Board Examinations.—From June 16 to 19, inclusive, the State Boards of Medical Examiners held simultaneously sessions in Pittsburg and Philadelphia. There were 391 applicants for license before the regular board. Announcements of results of the examinations will be sent to the applicants on July 31.

Legacy to University of Pennsylvania.—By the will of the late Dr. Spencer Morris, Mount Morris, a university graduate of 1871, the university is made his residuary legatee. The interest of the sum bequeathed, amounting to about $400, will be given each year to the student who shall pass the best examination for the degree of Doctor of Medicine.

Crusade Against Impure Foods.—The Dairy and Food Bureau, through its commissioner, continues its crusade against impure

foodstuffs. Retail dealers have recently been put under bail to answer in court to the charge of selling impure lard, cocoa and vinegar. There is a rumor that dealers will test the constitutionality of the law creating the Dairy and Food Commissioner.

Philadelphia.

Bathhouses Open for Season.—The thirteen public bathhouses of the city were opened for the season June 15. During the first week they were patronized by 122,086 persons.

Voodoo Doctor Guilty.—George P. Hossey, the negro herb doctor, charged with furnishing the wife of William G. Danz arsenic for the poisoning of the latter on June 26, was pronounced by the jury guilty of murder in the first degree.

Enforce Anti-Spitting Ordinance.—The superintendent of police has recently ordered police lieutenants strictly to enforce the ordinance of March 9, 1903, imposing a fine of $1 and costs for each offense of spitting on sidewalks, in public conveyances or places of public resort.

Physician Gets Fraction of Fee.—Dr. Walter C. Browning, it will be remembered, presented a claim of $350,000 for professional services against the estate of the late State Senator Chris L. Magee. The court's decision recently rendered in Pittsburg allows Dr. Browning $34,163.

Typhoid on the Wane.—Typhoid fever, which for months has been almost epidemic, has shown a marked decrease in the past few weeks. For the week ended June 20, 147 new cases were reported, as against 238 for the previous week. For the same period 37 new cases of smallpox were reported.

The Late Dr. Thomas G. Morton.—The faculty of the Philadelphia Polyclinic and College for Graduates in Medicine has recorded by resolutions its sense of deep loss in the death of Dr. Thomas George Morton, one of the founders of the institution and throughout the period of its existence successively professor and emeritus professor of orthopedic surgery.

University Commencement.—At the one hundred and forty-seventh commencement of the University of Pennsylvania, June 17, a class of 107 graduated in medicine. Honorary degrees were conferred on seven distinguished men. One of the latter was Colonel William Crawford Gorgas, U. S. Army, to whose sanitary administration at Havana is due in large measure the comparative immunity of that city from yellow fever and other contagious diseases. The degree of Doctor of Science was fittingly bestowed on Colonel Gorgas.

Strauss Gives Pasteurizing Plant.—In accordance with the plans of Dr. Edward Martin, director of the Department of Health and Charities, a central plant to provide at cost pasteurized and modified milk for infants is being established on Filbert, near 15th street. The proposed plant will prepare 10,000 gallons of milk daily. Private subscriptions will defray the expense of preparation. The plant is said to be the gift of Mr. Strauss of New York, and the Children's Aid Society will have charge of the distribution of the milk. Milk will probably be provided free of charge where parents are too poor to pay. A census of infants under one year is being taken by the police to determine where distributing stations are most needed. Four additional milk inspectors have been appointed, and it is the purpose rigidly to enforce the laws against the selling of impure or adulterated milk. Shops will be closed and fines imposed where fraud is detected.

Pollution of the Schuylkill.—The recent inspection of the Schuylkill River by Dr. A. C. Abbott, chief of the bureau of health, and a corps of assistants, in order to determine sources of pollution, has led to the conclusion that the water supply of Philadelphia could not be worse, and that its quality has not improved in the last five years, since the agitation for purity began. Filth of all description is thrown into the river, and as much of the pollution is outside the city limits, if any practical good is to come from the inspection, it must be by cooperation of the State Board of Health. The latter body will be asked to unite with the city officials in using all lawful means to prevent contamination of the river. Upper Roxborough's filter plant was placed in operation on June 26. It will finally filter about 18,000,000 gallons a day. It is at present limited to 8,000,000 gallons a day to allow the beds to ripen. To stop pollution of the Schuylkill, steps have been taken by the department of health to abate 76 nuisances in Manayunk. Chief Abbott has had printed and distributed to every householder "boil water" cards. The cards are provided with hangers, and are to be hung on water faucets. The notices read: "Important to householders.—Water containing typhoid germs is rendered harmless by boiling one minute. Boil water in the evening. Keep it in a clean, cool place over night. Keep free from dust."

GENERAL.

Colleges Combine.—The consolidation of the Saginaw Valley Medical College, Saginaw, with the Michigan College of Medicine and Surgery, Detroit, was consummated, June 29.

The Health of Cuba.—The monthly report of Dr. Carlos J. Finlay, chief sanitary officer for the Island of Cuba, says the showing for 1902 and the beginning of 1903 is very satisfactory, not only in regard to the complete exemption from yellow fever and smallpox, but also in the number of deaths from malaria and in the total mortality. There has been no smallpox on the island since July, 1900, nor yellow fever since September, 1901.

Frauds on Physicians.—A correspondent in Wisconsin has requested THE JOURNAL to warn its readers against two firms whose silvery-tongued solicitors have made him and many of his professional brethren yield their signatures and their money. The first is a "Medical Exchange," in which physicians are invited to buy stock, thereby securing the privilege of purchasing surgical instruments and supplies at considerably below market price. The exchange, it seems, is migratory, and is believed by some of its stockholders to be a fraud, as they have been unable to get money, goods or satisfaction from the concern. The second firm is a so-called "Art Publishing Company" of Chicago, which, he avers, has furnished him with engravings from worn-out plates, and thus far has failed to keep the promise implied in its contract of furnishing him in addition, free of charge, a premium ranging from a set of dishes or stem-winding watch (metal not being defined) to a musical instrument.

CANADA.

High Infant Mortality.—The Montreal health department has announced that one-half of the deaths in that city last week were of infants. The normal weekly death rate is about 115, but the total deaths last week amounted to 186, of which number 93 were children. It is considered that this high death rate is due to the inferior quality of the water supply.

No Federation of Universities in Maritime Provinces.—The alumni of King's College, Windsor, N. S., held an important meeting June 17, at which 300 members were admitted to the Alumni Association. The proposal to consolidate with Dalhousie University was warmly discussed and voted down. It is proposed to reorganize King's College, to reconstruct the faculty and to have a new dean.

Amalgamation of Trinity and Toronto Medical Colleges.—Progress has been made in this matter to the extent that the corporations of the two medical faculties have agreed to amalgamation. It now depends for final consummation on the action of the corporation of Trinity University whether they will accept federation with the University of Toronto. The meeting for this purpose will be held in the early part of July.

Vaccination By-Law Illegal.—Judgment has been rendered by Mr. Recorder Weir of Montreal declaring the vaccination by-law illegal in so far as it tends to prevent an employer from allowing his employes to enter any office or factory without holding a certificate of vaccination. Action had been taken by the city against a life assurance company for allowing an employe to frequent the office without the necessary certificate of vaccination.

Personals.—Dr. A. E. Garrow, Montreal, has returned home after three months spent in German hospitals.——Dr. R. Ernest McConnell of Volksrust, Transvaal, is visiting his father, Dr. J. B. McConnell of Montreal.——The following Toronto physicians have gone to England for the summer: Drs. F. LeM. Grasett, R. A. Reeve, Alexander McPhedran, D. King Smith, and Mr. Irving H. Cameron.——Dr. Arthur Jukes Johnson has been appointed chief coroner for the city of Toronto.

FOREIGN.

Mortality of European Capital Cities.—London's mortality for 1902 was at the rate of 18.64 per 1,000; that of Paris, 18.4; of Vienna, 19.4, and of St. Petersburg, 23.

Memorial Meeting in Honor of Gerhardt.—The late Prof. Carl Gerhardt of Berlin would have been 70 years old if he had lived to May 5. On that date a memorial ceremony was held at the Berlin Charité, addressed by Professor Martius of Rostock. A portrait of Gerhardt was presented by his assistants, to be placed in the medical clinic formerly under his charge.

New University Buildings at Berne.—The installation of the Berne University in its new quarters was duly celebrated June 4. The buildings have cost about a quarter of a million dollars, and on the campus a statue of Alb. von Haller is to be erected.

The Divided Twin Dying.—The young Hindoo, Radica, is slowly succumbing to the disease which caused the death of her twin sister from whom she was separated a year or two ago. She is confined to her bed and has been admitted to the "Cancer Home" at Paris as an incurable.

Study of Malaria in Russia.—The Russian National Medical Association, which honored the memory of Pirogoff by changing its name to that of the "Pirogoff Association of Russian Physicians," has equipped and sent out two expeditions for the study of malaria, one in the Caucasus and the other in the Woronesh province. The latter is in charge of the privat docent of bacteriology at Moscow, Dr. Berestnew.

Adulterated Milk.—A writer in the *Journal des Debats* attributes the high and increasing infant mortality of Paris and the provinces to the use of watered milk and the failure of the authorities properly to inspect the milk supply to hospitals. In Hanover, otherwise a healthy city, the infant mortality is said to be 60 per cent. higher than that of Washington, D. C., where strict inspection of milk is maintained.

Foreign Medical Students in France.—There are only four medical students from the United States inscribed in the French medical colleges at present. The number has not been above six since 1896 and 1897, when it was respectively 14 and 10. The more stringent regulations since then have reduced the total number of foreign students from about 1,054 to 585. The total number of French medical students has also diminished from 7,779 to 6,960.

Convalescent Home for Physicians in Germany.—The appeal for funds to erect a resort for convalescent members of the profession in Germany has been mentioned in these columns. It has already met with a response, as the director of the stock company exploiting the baths at Salzschlirf has donated a beautiful tract of land for the purpose at Ilbeshausen, Hess. Hills, dales and virgin forest combine to render it an ideal spot. A committee is to be appointed to solicit subscriptions and the project will probably soon be realized.

A Paris Physician Condemned for Larceny.—The *Journal de Méd. de Paris* gives the particulars of a case which has been pending in the courts for two years. A physician was accused of stealing some statuettes, an umbrella and some cosmetics at a large department store. He confessed that he took the goods to pawn them to get food to eat. He stated that he had only a single patient and that the latter was ill only at long intervals. The case was appealed, but the decision of the lower court was confirmed, condemning the physician to six months' imprisonment.

Medals for Victims of Professional Duty.—The Paris authorities have bestowed medals on seven nurses in the hospitals who during the past year have contracted a contagious disease from some patient in their care. The medal is awarded to "victims of professional duty." A pension is given the family of persons who have died "victims of professional devotion," referring to some exceptional act of self-sacrifice. This pension was recently awarded to the family of a young French physician in Algiers who himself proceeded to disinfect the premises where plague had occurred when no one else would approach the place.

The New Cancer Research Institute at Berlin.—In order to provide better facilities for von Leyden's research on cancer in connection with his medical clinic, the Berlin University authorities have erected a laboratory and two wards in the grounds of the Charité Hospital, near Koch's barracks, for this purpose. Each ward has eight beds with two private rooms. The institution was formally inaugurated June 8. Dr. F. Blumenthal has charge of the work, assisted by F. Meyer, L. Michaelis and the chemist Wolf. Loewenthal and Braunstein are voluntary assistants.

French Committee on Public Hygiene at St. Louis.—Professor Brouardel of Paris is president of the committee and Boix of the *Archives Gén. de Méd.* is secretary, with Ledé and Manson as assistants. The vice-presidents are E. Besnier, L. Labbé and Leroy des Barres. Bordas and A. Josias have been appointed to deliver addresses. All are prominent and well-known scientific workers. Josias' address on serotherapy of typhoid fever was one of the most interesting communications at the Madrid Congress. Labbé has been recently elected a member of the Institut, and his friends collected subscriptions to present him with a medal as a souvenir of the occasion. Brouardel's fame is international as a leader in hygiene and forensic medicine.

Measures Against Dispensary Abuse at Paris.—Lermoyez states that at the Saint-Antoine clinic of laryngology, etc., in his charge all applicants suspected of being capable of paying are given some soothing prescription and told to return in a week, urgent cases excepted. Their names and addresses are taken as usual, but are written on a pink slip as "suspects," and the pink slips are sent to the office, where they are given to the persons connected with the investigating force of the "medical aid at home" service. In due time the pink slips return marked "treatment refused" or "granted," as may be. These measures have been found necessary by the authorities in the various hospitals as the placards warning that the service is restricted to the poor have proved insufficient to check this abuse. Lermoyez's article in the last *Presse Medicale* is a very amusing sketch of the subject, describing his surprise when his attention was called one day to the fact that his charity service seemed to be becoming a gathering point for society people. He condemns in strong terms the practice which seems to be widespread at Paris for practitioners to send to this free service some of their pet, well-to-do clients with a letter commending them to the special attention of the physicians in charge. The dispensary abuse injures the poor, the tax-payers, and above all, the members of the profession. It is like making the man who is to be hung send out and buy the rope. He relates some curious examples of the abuse, and refutes the arguments that might be raised against the present plan, among others the plea that putting the patient off for a week might conflict with his leaving town if he lived in the country: "Why should the tax-payers of Paris pay for dilating the urethral strictures or curetting the adenoid vegetations of people who reside at the other end of France?"

Death Rate of British Towns.—Merthyr Tydvil, according to the registrar-general's report for 1902, is the deadliest town in Great Britain. It has an infant mortality of 185 per 1,000; it led all towns for death by violence, and was near the unenviable top as regards smallpox, fever and diarrhea. In order of decreasing deadliness come Liverpool, Wigan, Manchester, Middlesborough, Burnley, Hanley, Bootle, St. Helens, Newcastle-on-Tyne, Oldham, Preston, South Shields, Rhondda, Stockport, Sunderland and Birmingham. The healthiest of 76 great towns is Hornsey, where the death rate is only 9.80 per 1,000. This is much better than the whole of England and Wales, whose death rate is 16.28, and better even than the smaller towns and rural districts, whose rate is 14.80. Other most healthy great towns are Walthamstow, Leyton, East Ham, Willesden and Croydon; and the healthiest seaside towns of size are Bournemouth (13.05), Hastings (13.91), Yarmouth (15.50), and Brighton (15.59). London's rate is 18.64, which is well above the average, and places the metropolis forty-eighth on the list. The worst towns for measles were Burnley, Bristol, Barrow and Cardiff, and for scarlet fever West Bromwich, Burnley, Bolton, St. Helens and Wigan. Diphtheria was worst in Hanley, Rhondda and Middlesborough, and whooping cough in South Shields and Barrow. In London itself the healthiest suburbs are Hampstead (10.8—a shade below Hornsey), Stoke Newington (13.4), Wandsworth (13.5), Lewisham (13.6), Paddington (14.6). The worst places to live in are Finsbury, Southwark, Holborn, Bermondsey, Bethnal-green, Shoreditch, Stepney and the city. The year was a healthy one for London, and disease was much below the average, excepting smallpox, cancer, suicide and homicide. There were 329 deaths from horses and vehicles, 3,410 from other violence, 535 suicides, 71 homicides and 7 executions.

Correspondence.

The Transmission of Yellow Fever.

A REPLY TO DR. AGRAMONTE.

WASHINGTON, D. C., June 26, 1903.

To the Editor:—In connection with my paper published in THE JOURNAL of May 23 several statements made by my esteemed colleague, Dr. Aristides Agramonte, in his letter published in the JOURNAL of June 13, call for reply, and I beg to be permitted to submit the following necessary explanations: With manifest feeling Dr. Agramonte takes exception to the omission of his name in the early part of my paper—and natur-

ally too, in view of his lack of knowledge of the facts—and proceeds to show that I was in error in my statement that the decision to put the mosquito theory to a practical test was arrived at during a consultation between Drs. Reed, Lazear and myself. He then makes certain statements in regard to our late colleague, Dr. Lazear, with which, with one exception, I heartily agree, and which no one, so far as I know, has ever, openly or tacitly, attempted to deny or conceal. I am then accused of being an unbeliever at the time when I was bitten, and the letter closes with an arraignment of me for attempting to deprive Finlay of the "glory of his discovery," and an emphatic assertion of Finlay's right of priority.

In the first place Dr. Agramonte's name was omitted because he was not present at the meeting referred to, which took place at Columbia Barracks, where we were quartered, on the eve of Dr. Reed's departure for the United States in the beginning of August, 1900. As Dr. Agramonte resided in Havana and had a separate laboratory at Military Hospital No. 1, he was absent from many similar consultations. It is true, however, as he states, that he was present at a previous meeting, when the mosquito theory was brought up, and it is also true that the various theories and probabilities were the subjects of constant consideration and discussion. At the meeting in question Carter's observations pointing to a period of incubation or development in an intermediate host were brought up, so also was the erratic manner in which the disease seemed to jump from house to house, often across a street or farther, without intercommunication between the inhabitants, in other words the transmission of the disease through the atmosphere; the numerous points of resemblance between the modes of dissemination and seasonal occurrence of yellow fever and malaria, etc. These were not new topics, for they had been discussed almost daily, and a decision was promptly arrived at to put the mosquito theory to a practical test, and if that failed of result, to resort to anaërobic cultivations, particularly from the intestine. The serious nature of the work decided on and the risk entailed on it were fully considered, and we all agreed, as the best justification we could offer for experimentation on others, to submit to the same risk of inoculation ourselves. The fact of the meeting, the conclusions arrived at and the agreement to submit ourselves to the bites of contaminated mosquitoes are susceptible of proof, for they were stated by me in a letter written a few months later to the widow of our devoted colleague (Dr. Lazear) in response to her request for a detailed statement of the circumstances attendant on her husband's death.

I acknowledge frankly that I was, in a measure, an unbeliever at the time I submitted to inoculation, for the evidence Finlay presented was far from convincing, chiefly because he had worked in a hotbed of the disease. I was perfectly willing, however, to take a soldier's chances, and afterward enjoyed the satisfaction of being the first person to become aware, by actual proof, of the efficacy of the mosquito, and the first genuine case of experimental yellow fever on record. These facts are also susceptible of proof. There was strong ground for the assumption on the part of certain persons that I did not believe in the mosquito theory, even after I suffered my attack. During my convalescence I was plied with questions by Doctors Finlay, Guiteras, Agramonte and others who inquired whether the mosquito had anything to do with my attack. My replies were always evasive and intended to mislead, because of the necessity for the strictest secrecy to avoid premature publicity. I made only one exception in a medical officer of the regular army, now in Washington, whom I knew to be an intimate and trusted friend of Major Reed. As a matter of fact the results were not communicated to Dr. Agramonte until Dr. Reed was about to leave the island a second time, with the completed report to be read at the meeting of the American Public Health Association at Indianapolis in October, 1900. He then told me he was about to carry the paper into Havana and acquaint him with its contents; on his return he manifested much amusement over Dr. Agramonte's astonishment when the news was imparted to him.

Lastly, perhaps, it is natural that the Cuban ex-member of our board should desire to see Dr. Finlay awarded credit for the discovery, but Dr. Finlay is no more entitled to credit for the discovery of the mosquito theory of the transmission of yellow fever than Manson is for the discovery of a similar theory for malarial fever. The cases are precisely analogous, except that Finlay attempted to prove his hypothesis and failed; Manson did not enjoy the opportunity, and he gives full credit to Ross. According to the article cited by Agramonte (*Medical Record*, New York, May 27, 1899), Dr. Finlay is also entitled to credit for another discovery, viz.: that malarial infection is transmitted by flies from the bloody dejecta of patients, through the intermediation of food and beverages. Finlay here makes the statement that "Koch's assertion that 'where there are no mosquitoes there is no malaria,' is altogether too absolute."

Those who are interested in the subject of yellow fever are referred to the statements of Dr. George H. F. Nuttall of the University of Cambridge, in No. 2, Vol. III, of the *Journal of Hygiene*, which has just been brought to my notice.

JAMES CARROLL, M.D.

Pension and Accident Acts in New Zealand.

HUNTLY, N. Z.

To the Editor:—We have in this country much legislation which is somewhat experimental in type and nearly always socialistic in form. This is certainly very much of a haven for the laboring man. He has his old age pension, etc. There is one law which may prove of interest: "The Accident Compensation Act." An employer is responsible for all accidents occurring to his employes. The employer insures his men in an accident insurance company. The coal mine in this town pays over $1,150 per annum as a premium. I will give some cases showing the effect of the act.

I was called to the local coal mine to see a man who had fallen in the mine, causing an incised wound about 3 in. long over the spine and in the lumbar region. There was no apparent injury to the spine or cord. He was under my care for three weeks; the wound healed perfectly. The man was permitted to go to Auckland for a change. While there he apparently became worse and then returned to us with a diagnosis of traumatic neurasthenia. The accident compensation act gave the man half the daily wage he received before the accident. He also received aid from the local miners' accident society. The total amount received per week was more than he previously earned while at work. The company which carried the insurance for the mine sent an agent, who bought off the miner. The latter soon recovered and manifested enough energy to immediately walk four miles.

Another miner, while lifting, received a hernia, went to the local hospital and was operated on. He has received aid for the past four months.

I may say that an employer uses great care in selecting his men. One man with defective hearing, who was in the employ of the mine several years, was discharged when the act came into effect. He can now only secure employment on contract.

The friendly societies are now much of a disturbing element to the medical men of Auckland. They have decreased their fee of £1 ($4.85) per annum to 15 shillings ($3.60). The British Medical Association Branch in New Zealand opposed this and threatened to ostracize any who might accept the societies on such fees. The societies then established their own dispensary and called for four men, each to receive $1,940 per annum and act for the societies only. Three men were secured who will have under their care about 2,000 souls. The societies recently brought their grievance before the premier. He partially made a promise to place some new clause in the Arbitration and Conciliation Act, a board of which settles all disputes between the employer and the employe.

Recently the *Gracchus* from England via Africa brought smallpox to one of our many ports. This has brought to prominence a law not in the past closely adhered to. All children must be vaccinated within four months after registration of birth, unless the parents forward a statement that they are conscientiously opposed to vaccination. Public vaccinators are appointed for each district, and all vaccine is furnished by the public health department.

P. M. KELLER.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

EHRLICH'S TRIPLE STAIN.

ROUND LAKE, MINN., June 20, 1903.

To the Editor:—Please publish in your next issue of THE JOURNAL Ehrlich's "triple stain" for blood and technic.

HENRY WIEDOW.

ANS.—It is given in von Jaksch's Clinical Diagnosis as follows: "Ehrlich's Triacid Mixture.—This consists of 115 c.c. of a saturated watery solution of orange-green; 125 c.c. of a saturated watery solution of acid fuchsin to which 20 per cent. alcohol has been added. To this are added 125 c.c. of a saturated watery solution of methyl-green and 77 c.c. absolute alcohol, the mixture being well shaken the while."

State Boards of Registration.

The New Michigan Law.

The amended Michigan law provides for a board of registration, five from the regular school, two each from the homeopathic and eclectic and one from the physio-medical school of practice. The governor may select such appointees from the latest lists furnished by the respective state societies of the said schools; such lists to contain at least treble the number of names that each society has members on the board. In case of failure to furnish such lists he may appoint according to his own judgment. All such appointees shall be legally registered physicians and graduates in good standing of reputable medical colleges and actively engaged in the practice of medicine for at least six years immediately preceding the time of appointment.

SECTION 3.—On and after the date of the passage of this act, all men and women who wish to begin the practice of medicine and surgery in any of its branches in this state, shall make application to the State Board of Registration in Medicine, to be registered and for a certificate of registration. This registration and certificate shall be granted to such applicants as shall give satisfactory proofs of being 21 years of age and of good moral character, but only on compliance with at least one of the following conditions contained in subdivisions one, two and three of this section:

First. The applicant shall be registered and given a certificate of registration if he shall satisfactorily pass an examination before the board on the following subjects: Anatomy, physiology, chemistry, pathology, materia medica and therapeutics, toxicology, histology, practice of medicine, surgery, obstetrics, gynecology, mental and nervous diseases, diseases of the eye, ear, nose and throat, bacteriology, hygiene, public health laws of Michigan and medical jurisprudence; said examination to be conducted as follows:

(*a*) The applicant shall pay a fee of $25.00 prior to examination. Provided, that the examination fee for graduates of any medical school in the State of Michigan, approved by said board, shall be the sum of $10.00.

(*b*) The examination shall be in writing, oral, or both.

(*c*) The questions on all subjects, except in materia medica and therapeutics and practice of medicine, shall be such as may be answered alike by all schools of medicine.

(*d*) The applicant shall, if possible, be examined in materia medica and therapeutics and practice of medicine by those members of the board, or by a qualified examiner appointed by the board, belonging to the same school as the applicant, and no applicant shall be rejected because of his adherence to any particular system of practice.

(*e*) An average percentage of at least 75 per cent. of correct answers shall be required from every candidate. No additional fee shall be charged by this board for the registration of those who successfully pass such examination. Provided, however, that such applicant for examination shall have a diploma from a legally incorporated, regularly established and reputable college of medicine within the states, territories, districts and provinces of the United States, or within any foreign nation (provided such foreign nation accord a like privilege to graduates of approved medical colleges of this state) having at least a four years' course of seven months in each calendar year, as shall be approved and designated by the board of registration in medicine. Also provided that such applicant shall have, previous to the beginning of his course in medicine, a diploma from a recognized and reputable high school, academy, college or university, having a classical course, or shall pass an examination equivalent at least to the minimum standard of preliminary education adopted and published by the board before examiners appointed by and in accordance with the regulations of aforesaid board, and at such time and place as the board may designate. Provided, a student entering a college in Michigan having a preliminary examination of a standard approval by the board of registration in medicine shall not be required to take this examination. Provided, that this requirement of preliminary education shall not apply to those students who, on the date of the passage of this act, were regularly registered as students of legally organized and reputable medical colleges approved of by said board. And provided, also, that the requirement of medical education shall not apply to those graduates of legally organized and reputable medical colleges approved of by said board who had graduated from such colleges previous to the date of the passage of this act, and students complying with the other provisions of this section who on January 1st of the present year were regularly registered as students of legally organized and reputable medical colleges of this state, approved of by said board, may obtain a certificate of registration as graduates of such colleges and without examination by the board on payment of a fee of $10.00. The board of registration in medicine shall, from time to time, adopt and publish a minimum standard of medical education, and no medical college shall be approved and designated by said board under this subdivision one, of section three, unless, in the judgment of the board, it conforms with such standard.

Second. The applicant shall be registered and given a certificate of registration if he shall present a certified copy or certificate of registration or license which has been issued to said applicant in any foreign nation where the requirements of registration shall be deemed by said board of registration in medicine to be equivalent to those of this act. Provided, such country shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be $25.00.

Third. The applicant shall be registered and given a certificate of registration if he shall present a certified copy of certificate of registration or license which has been issued to said applicant within the states, territories, districts or provinces of the United States where the requirements for registration shall be deemed by the board of registration in medicine to be equivalent to those of this act, and shall otherwise conform to the rules and regulations agreed on between the state board of which he is a licentiate and said board relative to the recognition and exchange of certificates between states. Provided, such states shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be $25.00.

Fourth. If any person shall unlawfully obtain and procure himself to be registered under this section, either by false and untrue statements contained in his application to the board of registration in medicine, or by presenting to said board a false or untrue diploma or license, or one fraudulently obtained, he shall be deemed guilty of a felony and, on conviction thereof, shall be punished by a fine of not less than $300.00 nor more than $500.00, or imprisonment at hard labor for not less than one year, nor more than three years, or both, at the discretion of the court, and shall forfeit all rights and privileges obtained or conferred on him by virtue of such registration as a physician or surgeon.

Fifth. Any person who shall swear falsely in any affidavit or oral testimony made or given by virtue of the provisions of this act, or the regulations of the board of registration in medicine, shall be deemed guilty of perjury and, on conviction thereof, shall be subject to all the pains and penalties of perjury.

Sixth. The board of registration in medicine shall refuse to issue a certificate of registration provided for in this section to any person guilty of grossly unprofessional and dishonest conduct of a character likely to deceive the public, and said board shall, after due notice and hearing, revoke a certificate issued subsequent to the date of the passage of this act, or subsequent to the date of the passage of Act No. 237 of the Public Acts of 1899, for like cause or for offenses involving moral turpitude, habitual intemperance, the drug habit, or for fraud or perjury in connection with obtaining of a certificate of registration or for a certificate obtained or issued through error, when such offenses shall have been legally established in a court of competent jurisdiction. And, provided further, after the passage of this act, the board may, at its discretion, revoke the certificate of registration, after due notice and hearing, of any registered practitioner who inserts any advertisement in any newspaper, pamphlet, circular, or other written or printed paper, relative to venereal diseases or other matter of any obscene or offensive nature derogatory to good morals.

SEC. 7.—Any person who shall practice medicine or surgery in this state without first complying with the provisions of this act, or any person who shall violate its provisions (except as heretofore provided in Section 3 of this act) shall be deemed guilty of a misdemeanor and, on conviction thereof, shall be punished by a fine of not more than $100.00, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment, for each offense. It shall be the duty of the prosecuting attorneys of the counties of this state to prosecute violations of the provisions of this act.

Marriages.

R. B. USSERY, M.D., to Miss Buyde Allen, both of Shiloh, Tenn., May 21.

JOHN OSCAR ELROD, M.D., to Miss Eyleen Roberts, both of Forsyth, Ga., June 10.

ROWLAND H. HARRIS, M.D., to Elizabeth M. E. Kerr, at Battle Creek, Mich., June 18.

S. LEO OREN, M.D., Lewistown, Ill., to Miss Helen A. Wise of Davis, Ill., June 11.

DON ALVADOR BARNHART, M.D., to Miss Susie Hammett, both of Huntsville, Mo., June 10.

GREEN EWING HILL, M.D., Girard, Ill., to Miss Hattie N. Miner of McVey, Ill., June 10.

MINOR H. DAY, M.D., Donora, Pa., to Miss L. Jean Mechling of West Sunbury, Pa., June 3.

ELMER D. GARDNER, M.D., Hancock, Mich., to Miss Lulu Skinner of Flint, Mich., June 30.

GEORGE T. MEACHAM, M.D., to Miss Carrie Reed, both of Taylorville, Ill., at Vandalia, June 9.

JAMES ARTHUR VAN HORNE, M.D., Chicago, to Miss Lutie Huntoon of Waterford, Mich., June 10.

ERNEST M. FREEMAN, M.D. Long Beach, Cal., to Mrs. Jessie E. Zavitz of Westminster, Cal., June 3.

FRANK KENWORTHY, M.D., to Miss Eleanor Selene Seebick, both of East End, Pittsburg, Pa., June 17.

RICHARD W. MCCRACKEN, M.D., Union Grove, Wis., to Miss Anna B. Wetmore of Beloit, Wis., June 17.

WALTER N. CHINN, M.D., Hague, Westmoreland County, Va., to Miss Emily Baskerville of Dinwiddie County, Va., June 25.

Deaths.

Isaac Newton Love, M.D.

The many friends of Dr. I. N. Love were shocked to hear of his sudden death, for he was supposed to be in excellent health. Isaac Newton Love was born in Barry, Ill., Sept. 13, 1848, and was, consequently, nearly 55 years of age at the time of his death. At the age of 13 he went to St. Louis to live in the family of his uncle, Dr. J. T. Hodgen, the famous surgeon. After a high-school course he entered the St. Louis Medical College, and was graduated from that institution in 1872. He served as an interne in the St. Louis City Hospital for two years, and then became assistant to Dr. Hodgen. He devoted his attention chiefly to diseases of children, and built up a large practice. For a time he was city physician of St. Louis, and was also instructor in physiology in the college from which he graduated. In 1887 he was elected president of the Mississippi

ISAAC NEWTON LOVE, M.D.

Valley Medical Association, and in the same year was made secretary of the Pediatric Section of the Ninth International Medical Congress. In 1889 he was appointed professor of pediatrics in the St. Louis College of Physicians and Surgeons. He was elected a trustee of the American Medical Association in 1889, and was three times re-elected, serving continuously as a trustee until 1901. In 1893 he was elected vice-president of the American Medical Association, and in 1889 he presided over the Section of Diseases of Children. He founded the *Medical Mirror* in 1890, which he conducted up to the time of his death. He was professor of diseases of children in the Marion-Sims College of Medicine of St. Louis, preceding his removal to New York.

Three years ago he left St. Louis and located in New York City, where he established himself, and was prepared, as he said, to do the best work of his life. In the short time he was there he succeeded beyond expectations in building up a large practice, and his life gave promise of a practice and a social position equal to that which he once enjoyed in St. Louis. On May 29 he went abroad with a patient who had been operated on by Dr. W. T. Bull, and after seeing her comfortably located in Paris, he returned, sailing on the *Aurania*. He appeared remarkably well and happy, and was exceedingly popular on shipboard. He frequently expressed himself as feeling ten years younger, and manifested his good feelings and high spirits in his customary exuberant way. He was chosen by the passengers to present to the captain and officers of the steamer, resolutions of commendation and thanks, and on June 18, while the steamer was in New York Harbor and nearing her pier, he had risen to perform this pleasant task, had read the resolutions and was delivering the presentation speech in his usual happy and felicitous manner when he suddenly clapped his hand to his head, fell to the deck and died in his cabin a few minutes later. The cause of his death was probably rupture of a blood vessel of the brain. He leaves a widow and two children, Delphine and Hodgen, the latter being about 18 years of age.

Dr. Love probably had as large a personal acquaintance among the members of the medical profession in America as any one physician. He was a man of remarkable social qualities and personal attractiveness, and this made him a most agreeable and genial companion. As one of his old associated says of him, he was fond of his friends, faithful to them, and remarkably free from all petty personal or professional jealousies. He was optimistic in his nature, and generally saw the silver lining of passing clouds. He had a genial and friendly disposition. On the day of his death the Editor of THE JOURNAL received a congratulatory letter written by Dr. Love, while in England, in which he spoke enthusiastically of his trip and of his prospects in New York.

The funeral services were held June 22, at St. Paul's Methodist Episcopal Church, New York. The body will eventually be interred in St. Louis.

Orpheus Everts, M.D.

In the death of Dr. Orpheus Everts, at his home in College Hill, Cincinnati, June 19, the profession has lost a man of most attractive personality, a physician of broad attainments and power, and an alienist of more than national repute. Orpheus Everts was born Dec. 18, 1826, in Salem Settlement, Union County, Indiana. He studied medicine under the direction of his father, Dr. Sylvanus Everts, and was graduated from the Indiana Medical College, La Porte, in 1846. At the opening of the Civil War he went to the front as major-surgeon of the 20th Indiana Volunteer Infantry, in which position he remained throughout the war. At the close of the war he devoted his attention especially to diseases of the nervous system; in 1866 he was appointed superintendent of the Indiana Hospital for the Insane at Indianapolis, and filled this position for eleven years. He was also professor of nervous and mental diseases in the Medical College of Indiana. He became well known as an alienist, and had a large consultation practice. He was frequently called on to testify in important medicolegal cases, notable the trial of Guiteau for the assassination of President Garfield.

Since 1880 he has been made superintendent of the Cincinnati Sanitarium. He had been a member of the American Medical Association for a number of years, and was a member of the Ohio State Medical Association and of the Cincinnati Academy of Medicine. One of the last acts of his professional life was to prepare a paper for the Section on Nervous and Mental Diseases of the American Medical Association, for the New Orleans meeting. This paper will appear in THE JOURNAL at an early date.

He had been ill for some weeks. He is survived by a widow, a son—Dr. C. C. Everts of Indianapolis—and two daughters.

John W. F. Moore, M.D. Jefferson Medical College, Philadelphia, 1894, a member of the American Medical Association, Pennsylvania State Medical Society, and some time president and treasurer of the Butler County Medical Society. He was accidentally killed, June 13, by a fall into an unguarded areaway between two buildings. A fracture of the skull at the base of the brain was sustained, and although he lived twelve hours he never regained consciousness. He was 35 years old.

Henry Melville Chase, M.D. Dartmouth Medical College, Hanover, N. H., 1863, formerly an assistant surgeon in the United States Navy, and since 1866 a resident of Lawrence, Mass., died suddenly at his home in that city, June 15, from heart disease, aged 65. He was a member of the Massachusetts Medical Society and of the Lawrence Medical Club, and for several years served Lawrence as a city physician.

Charles F. Deetken, M.D. Long Island College Hospital, Brooklyn, N. Y., 1874, one of the oldest practitioners of Council Bluffs, Iowa, died suddenly at his home in that city, June 19, from heart disease, aged 61. The Council Bluffs Medical

Society, at a special meeting held June 20, adopted resolutions in memory of Dr. Deetken.

Arthur E. McBride, M.D. Louisville Medical College, 1883, died at his home in Sterling, Ill., June 12, from tuberculosis, after an illness of two years, aged 42. He was a member of the Illinois State Medical Society, the North Central Illinois Medical Society, and was retiring president of the Whiteside County Medical Society.

Edward W. Parker, M.D. Medical College of Ohio, Cincinnati, 1872, a member of the American Medical Association, president of the pension board of Gallia County, Ohio, and formerly assistant physician at the Columbus State Hospital for the Insane, died suddenly from heart disease at his residence in Gallipolis, aged 53.

David R. Francis, M.D. College of Physicians and Surgeons, New York, 1866, aged 60, was found dead in his office in Mansfield, Ohio, June 11, under circumstances suspicious of foul play, as a pocketbook which contained a large amount of money was missing, and as a severe contusion was found on the head.

William Winthrop Betts, M.D. Albany (N. Y.) Medical College, 1883, a specialist on climatology, who was obliged to leave Minneapolis on account of his health, went to Utah, and later to Southern California, died at the Christian Hospital, Los Angeles, June 15, from Bright's disease, after a long illness, aged 41.

Anthony L. Carrick, M.D. College of Physicians and Surgeons, Dublin, Ireland, 1852, of Cincinnati, for two terms coroner of Hamilton County, Ohio, and during the Civil War was surgeon of the Second Tennessee Cavalry, died suddenly from paralysis, June 22, at the home of his son-in-law in East Walnut Hills, aged 79.

Alden Edward Bessey, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1870, a member of the Maine Medical Association, and sometime president of the Kennebec County Medical Society and the Waterville Clinical Society, died at his home in Waterville, Maine, June 15, aged 65.

William Harrison Foster, M.D. Medical College of Georgia, Augusta, 1867, professor of materia medica and therapeutics in that institution, for twenty years city physician of Augusta, died at his home in that city, June 17, from cholera morbus, after a short illness, aged 63.

Delos L. Heath, M.D. University of Michigan, Ann Arbor, 1853, died at his home in Seneca Falls, N. Y., June 10, from heart disease, after an illness of a few weeks, aged 75. During the Civil War he served as surgeon in the Twenty-third Michigan Volunteer Cavalry.

Nelson H. Henderson, M.D. College of Physicians and Surgeons, Chicago, 1886, a member of the American Medical Association, died at the Lakeside Hospital, Chicago, June 23, from septicemia following infection received while operating, May 13, aged 45.

Marion Jasper Dudley, M.D. Macon (Ga.) Medical College, 1856, one of the oldest physicians in the state, a captain-surgeon in the Civil War, and who was born and lived all his life in Gordon County, Georgia, died at his home in Sonoraville, June 20, aged 75.

Thomas J. Buchan, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1884, was shot and instantly killed at his home in Eastman, Ga., June 14, by his son, who was endeavoring to protect his mother from his father's violence.

Charles H. David, M.D. Victoria Medical College, Montreal, P. Q., 1878, a specialist in diseases of the ear, nose and throat, Bridgeport, Conn., died at the home of his brother in Waterbury, Conn., June 18, after a lingering illness, aged 47.

George W. Chrouch, M.D. Middlebury (Vt.) Medical College, died from the effect of an overdose of morphin, at his home in Shaftsburg, Mich., June 19, aged 59. He was a member of the American Medical Association.

Thomas Hammill Hicks, M.D. Medico-Chirurgical College, Philadelphia, 1887, an eminent chemist and metallurgist, died at his home in Fort Wayne, Ind., June 6, from angina pectoris, after a short illness, aged 52.

David B. Fonda, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1878, for four years county physician of Cook County, Ill., died in Jefferson Park, a suburb of Chicago, June 20, aged 68.

Thomas T. Marshall, M.D. Kentucky School of Medicine, Louisville, 1884, died at his home in Floydsburg, Ky., June 26, from abscess of the liver, after an illness of two months, aged 43.

Francis A. Miles, M.D. Medical College of the State of South Carolina, Charleston, 1854, died from paralysis at his home in Greenville, S. C., June 16, after an invalidism of seven years.

Fred C. Miller, M.D. Bennett College of Eclectic Medicine and Surgery, 1883, county physician of Pierce County, Wash., died from diphtheria at his home in Tacoma, June 7, aged 45.

Marion F. Marble, M.D. American Medical College, Cincinnati, 1855, died at his home in Gardiner, Maine, June 15, from paralysis, after an invalidism of fourteen years, aged 77.

Moses J. Bushenville, M.D. Barnes Medical College, St. Louis, 1899, of Bowbells, N. D., died at a hospital in Minot, June 20, from typhoid fever, after an illness of a week, aged 35.

Frank H. Crocker, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1882, died from pneumonia at his home in Gardiner, Maine, after an illness of one week, aged 51.

A. E. Levinson, M.D. University of Minnesota, Minneapolis, of Duluth, Minn., died in St. Mary's Hospital, Duluth, June 19, one day after an emergency operation for appendicitis.

Francis Ferdinand Marshall, M.D. College of Physicians and Surgeons, New York, 1886, of New York City and Jacksonville, Fla., died in the former city, June 21, from cancer.

Harry G. Forrest, M.D. Chicago Homeopathic Medical College, 1893, of Jackson Center, Pa., died at Greenville, Pa., from heart disease, June 9, after a long illness, aged 38.

Edward P. Luce, M.D. Cincinnati College of Medicine and Surgery, 1862, a surgeon during the Civil War, died at his home in Bayonne, N. J., June 12, aged 75.

J. N. Perkins, M.D. Columbus (Ohio) Medical College, a member of the Oregon legislature in 1863, died at his home in Eagle Harbor, Ore., June 10, aged 87.

Theodore Connell, M.D. University of Pennsylvania, Philadelphia, died at the home of his father in Scranton, Pa., June 15, after a prolonged illness, aged 32.

George N. Jennings, M.D. Rush Medical College, Chicago, 1864, formerly of Tonica, Ill., died suddenly from heart disease at Covina, Cal., June 1, aged 65.

John C. Halstead, M.D. New York University, 1883, died at his home in New York City, June 17, after a prolonged illness, from tuberculosis of the bladder.

Jacob A. Bollinger, M.D. Missouri Medical College, St. Louis, 1879, of Oakford, Ill., died, June 3, at the Jacksonville Sanitarium, after a long illness.

Hiram A. Phillips, M.D. University of Louisville, 1875, died at his home in Lexington, Ky., June 18, after an illness of several months, aged 52.

W. T. Herrington, M.D. American Medical College, St. Louis, 1889, died at Grant's Pass, Ore., June 17, from paralysis, after a long illness.

Mordecai J. Ambrose, M.D. Medical College of Ohio, Cincinnati, 1837, died at his home in Cincinnati, June 5, after a long illness, aged 89.

Francis Grandy, M.D. University of Michigan, Ann Arbor, 1852, Fairfield, Mich., died in Adrian, Mich., June 19, aged 75.

Sterling Loomis, M.D. Yale Medical School, New Haven, 1898, died recently from heart disease, aged 30.

Deaths Abroad.

F. Saxer, M.D., professor and prosector at the Institute of Pathologic Anatomy at Leipsic, aged 40. He had been connected with the similar institute at Marburg, and had published many articles on the development of the blood corpuscles and lymph glands, on syringomyelia, gliomata and epithelial tumors of the central nervous system, dermoids and teratomata, pneumonomycosis aspergillina, etc. His death was due to an abscess in the brain, which developed from an apparently insignificant infection of one hand.

M. Huizinga, M.D., formerly professor of physiology at Groningen, died there June 2, aged 63. He was particularly interested in chemotaxis, the physiology of the nerves, albuminoids, peptones, etc., and contributed many articles to science on these subjects as also on ozone from the chemical and biologic standpoints, and on the history of physiology, etc.

Joseph De Smeth, M.D., formerly professor of psychiatry and general pathology at Brussels, died there June 10. He was one of the leading alienists of Europe, and had for many years had charge of the unfortunate Princess Carlotta, widow of Maximilian.

J. Iszlay, M.D., professor of odontology at Budapest.

Miscellany.

The Twenty-fifth Anniversary of Dr. Victor C. Vaughan's Graduation.

On the 18th of June, in the presence of the alumni students, colleagues and friends, a volume of contributions to medical research, containing 34 papers, was dedicated and presented to Dr. Victor C. Vaughan by his colleagues and former students in honor of the twenty-fifth anniversary of his doctorate.

Pres. James B. Angell announced that it was his pleasant duty as official head of the university to express the feelings of the authorities as well as of the alumni and undergraduates on this interesting occasion. The custom, as borrowed from the Germans, of thus recognizing the services of a man who had been of eminence and use was a very pleasant one. He was one of those present who was old enough to remember Dr. Vaughan when the latter was very young. He alluded to the changes that have been made in medical education from what it had been in times past. In earlier times the instruction was very largely given by lectures, and some members of the faculty strenuously urged that it was far more profitable for a student to go through a course and hear the same lectures the second time than to hear them the first time. We must not interpret too literally as correct that view of the case.

The laboratory course had come into use since the period of which he spoke, and it was due very largely to the dean of the department, with doubtless the assistance of his associates, that so great emphasis is now placed on this new and more profitable mode of scientific instruction. He could hardly speak in detail of the important part Dr. Vaughan has played during the past twenty-five years, but it was with very great pleasure that those who had witnessed his career as a student had seen him early fulfilling the promise which he had then given of the brilliant scientific discoveries which he has made, and that that promise had been more than redeemed up to the present time, so that his name is well known, and the name of the medical department of the university through him, not only in this country, but also in all European countries. Dr. Angell said that he was sure that every one connected with the university feels grateful to Dr. Vaughan for the services he has rendered, and they were still glad to look into his face and see that he is still a young man and has doubtless a long career yet before him, and all would be very glad to come here twenty-five years hence to another and more imposing celebration.

Prof. Albert B. Prescott of the University of Michigan made the presentation on behalf of the contributors. Professor Prescott said he was honored in being asked to say something in the presentation of this gift. It was a privilege as well as an honor to speak on the part of those contributors who were the most cherished and influential of the medical alumni of the university. In making this gift a memorial volume had been wrought out piece by piece in the unwearied toil of strenuous life. For its making we have a quarter of a century, a period in the life time of an alumnus, an era in the history of the university. This Festschrift is a symposium of scientific learning, a production of permanent value and an essential record of the advancement of science and of the profession of medicine. It consists of thirty-four separate investigations, each one a chosen product of its author's personal power.

If he were competent to speak of these records of researches, he would not have time to even enumerate them, but he recognized that they were from members who had become authorities in the world, by their work and experience in scientific pursuits. As he looked over the titles he saw that they formed a syposium of research covering the fundamental principles and presenting a series of discoveries, which unite together naturally and inevitably to constitute a tribute of honor to the man to whom the gift was being made. The book belongs to him by virtue of its history and by virtue of its subject matter. It was an acknowledgment of the service he had rendered to the world of science and to the university, to the cause of medical education, to advances in scientific work wherever undertaken.

In accepting the volume Professor Vaughan modestly said that the world had been more than kind to him, that he had received many honors which might have been more worthily worn by others, but he never had received one which he appreciated more highly than the present one. He owed much to the University of Michigan. After he had secured the best education possible in his native state, the state of Michigan offered him what he desired in his further studies and within the range of his scanty purse. Whatever he had done and whatever he might do in the future, will hardly repay the University of Michigan for what it had done for him. That was his feeling toward the university. He also acknowledged his indebtedness to those who make up the university, for their assistance and co-operation, those with whom it had been a pleasure to be and an inspiration to work to be associated with them. Of all the research work he had ever done the greatest and best was that, by the authority of the board of regents, he had been able to collect together a faculty of medicine, every member of which was a master in his specialty. It is easy enough to have a good medical school if you have a good faculty and good students. He owed much to the students, and the spirit for good, honest work, and the inclination to be gentlemanly and honorable had always prevailed among the student body of the university. It was an honor that he had been associated as teacher with some of the greatest scientific men of the country; but they did not owe their eminence to him; they would have been great, and probably greater still, had their instruction been received from others. He wanted to specially express his thanks to him from whose hands he had received this volume. Dr. Prescott was the Nestor of scientific research in the university then as he is now, and from him more than any other man he had received his inspiration. President Angell had explained how his classmates and himself got through the university. It was necessary in order to get them through that the lectures be repeated for two succeeding years, and in this way they were finally nourished sufficiently to become doctors and to be turned out on the world. In accepting this volume he would not regard it as a trophy of any achievement, but as a tribute of love and respect, which he prized more highly than anything else. He expected to derive from it inspiration for further work and find comfort from it in his hours of rest. When he is through with it he will bequeath it to his children as his most valuable earthly possession. He took it that the volume was presented to him as a result of the spirit of scientific research of those who have made these contributions, and he hoped the honorable board of regents would grant him the privilege to give a word of advice and to say that we should encourage the young man who is able to do scientific work. It was not until experimental research came in that the world began to grow and develop. It is scientific research that has made the German universities the centers, not only of science, but of letters as well. Scientific research has not always found a most congenial atmosphere in American universities; it has not always been appreciated as much as it might be. The question is, whether the American university of to-day is to become a center of evolution of knowledge and discovery or only an enlarged and amplified high school. Has not the state the right to ask of its universities the very best knowledge possible on every subject in which the welfare of the people may be involved? In conclusion he said he could not adequately express his feelings, but wished to thank all for this highly appreciated gift.

Medical Organization.

Jackson County (Miss.) Medical Society.

At an adjourned meeting held in Scranton, June 10, the new constitution, in conformity with those of the Mississippi State Medical Association and the American Medical Association, was adopted.

Ellis County (Texas) Medical Society.

Twenty physicians of Ellis County met at Waxahachie, June 16, and organized a county medical society, with Dr. James C. Loggins, Ennis, president, and Dr. Charles W. Simpson, Waxahachie, vice-president.

Jefferson County (Wis.) Medical Society.

Fifteen physicians of Jefferson County met at Watertown, June 16, and organized a county medical society, electing Dr. William W. Reed, Jefferson, president, and Dr. Charles E. Lander, Johnson Creek, secretary.

Chickasaw County (Iowa) Medical Society.

Physicians of Chickasaw County met recently at New Hampton and organized a county medical society, with Dr. Ira K. Gardner, president, and Dr. Nicholas Schilling, secretary and treasurer, both of New Hampton.

Grand Forks County (N. D.) Medical Society.

Twenty physicians of the county met at Grand Forks, June 10, to form a county medical society. A temporary organization was effected, and Drs. Henry H. Healy and John D. Taylor, Grand Forks, and Dr. Willam H. Welch, Larimore, were made a committee on organization to report at a meeting to be held this month.

Hillsborough County (Fla.) Medical Society.

At the regular monthly meeting, held at Tampa, June 2, the constitution and by-laws as recommended by the American Medical Association was unanimously adopted. The following officers were elected: President, Dr. Urban S. Bird; vice-president, Dr. James T. Green; secretary-treasurer, Dr. W. Parks Adamson; board of censors, Drs. W. P. Lawrence, Leslie W. Weedon, and John S. Helms, all of Tampa.

San Luis Obispo County (Cal.) Medical Association.

A number of physicians met at San Luis Obispo, June 6, and organized a county medical association with the following officers: Dr. Joseph S. Jackson, San Luis Obispo, president; Drs. John K. McLennan, Paso Robles, and Byron F. Dawson, Cayucos, vice-presidents; Dr. E. A. Dial, San Luis Obispo, secretary, and Dr. J. J. Knowlton, San Luis Obispo, treasurer. The association will apply for affiliation with the state medical society.

Fairfield County (Ohio) Medical Society.

Under the direction of Dr. Theodore W. Rankin, Columbus, the physicians at Fairfield County organized a county medical society at Lancaster, June 16, with the following officers: President, Dr. John H. Goss, Lancaster; vice-president, Dr. George S. Courtright, Lithopolis; secretary, Dr. George O. Beery, Lancaster; treasurer, Dr. Samuel Renshaw, Sugar Grove, and censors, Drs. John J. Silbaugh, Lancaster; Oliver P. Driver, Bremen, and E. N. Heston, Thurston.

Pottawatomie County (Iowa) Medical Society.

About 40 physicians of the county met in Council Bluffs, June 17, and organized a county medical society, with Dr. Donald McCrae, Council Bluffs, president; Dr. Samuel W. Tobey, Oakland, vice-president; Dr. F. W. Dean, Council Bluffs, secretary; Dr. Grant Augustine, Minden, treasurer, and Dr. Henry B. Jennings, Council Bluffs, delegate to the Iowa State Medical Society. The society adopted the constitution and by-laws suggested by the American Medical Association.

Indianapolis Medical Society.

At its meeting held June 23, the Indianapolis Medical Society-The Medical Society of Marion County, Ind., by unanimous vote, adopted the constitution and by-laws as suggested by the American Medical Association. While the constitution and by-laws of the Indianapolis society were satisfactory to the local profession, yet in the interests of uniformity and harmonious work, and to set an example which would influence other societies, this body cheerfully fell in line with the new movement in this respect, as it is doing in others. The membership of this society has now reached 220, and it is hoped to greatly increase this number in the immediate future.

Societies.

Butler County (Pa.) Medical Society.—At the annual meeting, Dr. John E. Byers was elected president; Dr. Robert J. Grossman, vice-president, and Dr. William B. Clark, secretary, all of Butler.

Newcastle County (Del.) Medical Society.—At the annual meeting in Wilmington, June 19, Dr. Frank Belville, Delaware City, was elected president; Dr. R. Raymond Tybout, Wilmington, secretary, and Dr. Peter W. Tomlinson, Wilmington, treasurer.

Southern Oregon Medical Association.—The twelfth annual meeting was held in Medford, May 12. Dr. H. Percival Hargrave, Phoenix, was elected president; Dr. George E. Houck, Roseburg, vice-president, and Dr. Robert E. Smith, Grant's Pass, secretary and treasurer.

West Tennessee Medical Association.—The twelfth annual meeting was held in Jackson, June 11 and 12. The following officers were elected: Dr. William T. Watson, Lexington, president; Drs. D. Warren Scates, Martin, and Robert W. Tate, Bolivar, vice-presidents, and Dr. Isaac A. McSwain, Paris, secretary and treasurer.

Southwestern Kentucky Medical Society.—This society met, May 12 and 13, at Paducah, and elected the following officers: Dr. Horace T. Rivers, Paducah, president; Drs. E. B. Shelton, Blandville, and Charles N. Crawford, Lynn Grove, vice-presidents; Dr. Van A. Stilley, Benton, secretary, and Dr. Charles H. Brothers, Paducah, treasurer.

Spokane County (Wash.) Medical Society.—At the annual meeting held in Spokane, May 7, the following officers were elected: Dr. Edwin L. Kimball, Spokane, president; Drs. Harry S. Martin, Spokane, and H. H. Slater, Deer Park, vice-presidents; Dr. George A. Gray, Spokane, secretary, and Dr. William L. Hall, Spokane, treasurer.

Gibson County (Tenn.) Medical Society.—The semi-annual meeting was held in Humboldt, June 19. Dr. John T. Faucett, Trenton, was elected president; Dr. Benjamin S. Penn, Fruitland, vice-president; Dr. Basil T. Bennett, Trenton, secretary and treasurer, and Dr. George W. Penn, Humboldt, representative to the Tennessee State Medical Association.

Worcester North District (Mass.) Medical Society.—The forty-fifth annual meeting was held in Worcester April 28. Dr. H. Porter Hall, Leominster, was elected president; Dr. Edward A. Sawyer, Gardner, vice-president; Dr. Walter S. Sawyer, Fitchburg, secretary; Dr. Eustace L. Fiske, Fitchburg, treasurer, and Dr. Luther G. Chandler, Townsend, commissioner of trials.

Medical Society of the State of North Carolina.—To complete the report which appeared in THE JOURNAL of June 20, the election of Drs. John H. Williams, Asheville; John C. Rodman, Washington, and S. Fred Pfohl, Winston, as vice-presidents, and of Drs. J. Howell Way, Waynesville, and Albert Anderson, Wilson, as members of the House of Delegates, must be noted. In 1904 the society will meet in Raleigh, on June 1.

Southern California Medical Society.—The thirty-first semi-annual meeting was held in Avalon, Santa Catalina Island, June 3 and 4. The following officers were elected: President, Dr. John C. King, Banning; vice-presidents, Drs. Frank Garcelon, Pomona, and Luther M. Powers, Los Angeles, and secretary and treasurer, Dr. Frank D. Bullard, Los Angeles. The next meeting will be held at Redlands in December.

North Missouri Medical Association.—At the annual meeting held in Columbia, June 19, the following officers were elected: President, Dr. W. V. Yates, Callao; vice-presidents, Drs. Edwin S. Cave, Mexico, and A. N. Wood, Sumner; corresponding secretary, Dr. William O. Hawkinson, Roanoke; recording secretary, Dr. J. H. P. Baker, Salisbury, and treasurer, Dr. Robert Haley, Brookfield, (re-elected). Kirksville was selected as the place for the next meeting.

Norwich (Conn.) Medical Association.—On May 18 this association celebrated its twenty-fifth anniversary. The exercises consisted of an address of welcome by the president, Dr. Patrick Cassidy; a historical sketch of the society by the secretary, Dr. Rush W. Kimball, and an address by Dr. W. Gilman Thompson, New York City, on "The Clinical Value of Recent Laboratory Tests." About 50 physicians of Eastern Connecticut were present at the banquet which followed.

Wayne County (N. Y.) Medical Association.—At the annual meeting held in Lyons, June 2, Dr. James W. Putnam, Lyons, was elected president; Dr. Mary A. Brownell, Newark, vice-pres-

ident; Dr. George S. Allen, Clyde, secretary, and Dr. Darwin Colvin, Clyde, treasurer. Drs. Jennie M. Turner, Lyons, Lucius H. Smith, Palmyra, and John T. Myers, Sodus, were added to the executive committee, and Dr. Thomas H. Hallett, Clyde, was made a member of the nominating committee, Fourth District Branch.

Congress of Dermatology.—Unusual inducements are offered to members of this congress, which will meet at Sarajevo, Bosnia, September 21 to 23. The Bosnian government has offered a free special train from the borders of Bosnia to Sarajevo, and for several excursions to other points. Very moderate stipulated charges in the hotels are also promised. By invitation of the Hungarian confrères at Budapest, the members are to spend a day there on their way to the congress. Dr. L. Glück of Sarajevo is at the head of the executive committee of the congress.

Association of Medical Officers of the Army and Navy of the Confederacy.—The sixth annual meeting was held in New Orleans, May 19, 20, 21 and 22. The election of officers resulted as follows: Dr. Stanford E. Chaille, New Orleans, who, on account of age and infirmity declined, whereupon Dr. John R. Gildersleeve, Tazewell, Va., was elected; Drs. James D. Croom, Maxton, N. C., William E. Brickell, New Orleans, F. R. Calhoun, Cartersville, Ga., and James M. Holloway, Louisville, Ky., vice-presidents, and Dr. Deering J. Roberts, Nashville, Tenn., secretary and treasurer (re-elected).

Naturforscher Congress.—The seventy-fifth annual congress of the German Association of Physicians and Naturalists will be held this year at Cassel, convening September 21 to 26. The Berlin professor of chemistry, van t'Hoff, will preside. The addresses at the two general meetings will be by Behring on "Tuberculosis," Griesbach on "School Hygiene," Ramsay, London, on the "Periodical System of the Elements" and by Ziehen, Utrecht, on the "Physiologic Psychology of Sentiments and Sensations." Radiotherapy will be the chief theme in the medical section, with addresses by Jensen and Rieder. These congresses are always attended by thousands and have been important landmarks in the history of science in Germany. The aim is to bring together theory and practice, the laboratory worker and the general practitioner, with scientific workers of all kinds. Penck, Vienna, will deliver an address on "Geologic Time"; Schwalbe on the "Prehistoric History of Man," and Alsberg on "Hereditary Degeneration in consequence of Social Influences."

Medical Society of Delaware.—The one hundred and fourteenth annual meeting was held in Dover June 9. Dr. George W. Marshall, Milford, made a report of the meeting of the American Medical Association, to which he was a delegate. The following officers were elected: Dr. Harry G. M. Kollock, Newark, president; Drs. Paris T. Carlisle, Frederica, and Laurence M. Cahall, Bridgeville, vice-presidents; Dr. John Palmer, Jr., Wilmington, secretary; Dr. Joseph M. Martin, Lewes, assistant secretary; Dr. William C. Pierce, Wilmington, treasurer; Drs. Henry J. Stubbs, Wilmington, Joseph R. Smith, Cheswold, and David Hall, Lewes, councilors; Dr. George W. Marshall, Milford, delegate to the American Medical Association, and Dr. Willard Springer, Wilmington, alternate. It was decided to submit to the governor the following names from which to select members of the State Board of Medical Examiners: Drs. Ezekiel W. Cooper, Camden; Francis L. Springer, Newport; Henry W. Briggs, Wilmington; L. August H. Bishop, Dover; Robert G. Ellegood, Concord; William T. Skinner, Glasgow; Charles Green, Greeneville; John Palmer, Jr., Wilmington; Oliver D. Robinson, Georgetown, and David Hall, Lewes. Resolutions were adopted favoring legislation looking to the examination of the eyes and ears of school children. The society adjourned, to meet at Lewes, June 14, 1904.

MASSACHUSETTS MEDICAL SOCIETY

One Hundred and Twenty-second Annual Meeting, held in Boston, June 9 and 10, 1903.

The President, Dr. George E. Francis, Worcester, in the Chair.

First Day.

The morning of the first day was devoted to visiting hospitals and dispensaries. At 2 p. m. the society met in two sections at the Medical Library on the Fenway.

Examination of Stomach Contents.

DR. ELLIOTT P. JOSLIN, Boston, speaking on "Inferences to Be Drawn from the Examination of the Contents of the Stomach," explained how simple are the tests necessary for such examination of the fluid obtained by the stomach tube from the fasting stomach, and pointed out the great aid thereby gained for diagnosis and treatment. His paper was ably discussed by Dr. R. H. Chase.

Dietetic Treatment of Constipation.

DR. HENRY F. HEWES, Boston, maintained that nearly every case of constipation can be controlled by adding to the diet suitable quantities of cereals, fats, vegetables, fruits or fermenting carbohydrates, using only as a last resort senna in stewed prunes.

Surgical Treatment of Gastric Ulcer.

DR. JOHN C. MUNRO, Boston, urged the joint study of every case by the physician and surgeon. Most cases are medical, but in those cases which are not, operation should be done early. Great advances have been made in the surgery of the stomach in the last three years.

Section in Surgery.

In this section the chief papers were on "Rupture of the Quadriceps Extensor Muscle," "Surgery of the Esophagus," "Prostatectomy," and "Adeno-Carcinoma of the Intestine." These papers were much more freely discussed than those in the medical section, the meeting adjoining only when it was necessary for the councilors to meet.

Councilors.

About 100 members of this representative body met to transact the necessary annual business of the society. The secretary reported the addition of 173 new members during the past year and the death of 42. The treasurer reported a balance of $11,289 on hand, total disbursements of over $26,000, and permanent funds amounting to $37,494.

Arrangements for 1904.

It was voted that the next meeting be held on the second Wednesday in June, 1904, in Boston. The Shattuck Lecture for 1904 will be given by Dr. Juan Guiteras. Dr. Harold C. Ernst, Boston, was elected orator for next year. The officers were re-elected with the exception of vice-president, for which office Dr. J. F. Alleyne Adams, Pittsfield, was chosen.

Shattuck Lecture.

The Shattuck Lecture was given in the John Ware Hall in the Medical Library by Dr. Theobold Smith, Boston, on "The Sources, Favoring Conditions and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts." It was a most exhaustive paper, the result of eight or ten years' study of the subject, and was illustrated by lantern views. Considerable portions were omitted in the reading. The author believes that "there is no evidence, experimental or otherwise, that the malaria germs exist outside of their hosts, man and the mosquito." He endeavored to explain immunity, and dwelt on the latent character of the disease, maintaining that infected human beings must be the starting point for any epidemic. Early malaria came from the Indians. Later we have derived it from Italian, Hungarian and negro laborers.

Tobacco and the Heart.

DR. RALPH C. LARRABEE, Boston, said the action of the heart is reduced by even moderate amounts of nicotin, the effect being noticed very quickly. Tobacco smoke contains, he said, from nothing to 50 per cent. of nicotin. Allowing that smoking must prevail, he would advise smokers to use long-stemmed pipes and to keep them clean, and not to smoke cigars too close to the end. No harm will result, he said, from suddenly and completely ceasing the smoking habit.

Posture in Gynecology.

DR. DANIEL H. CRAIG, Boston, demonstrated that the abdominal pressure induced by coughing, sneezing and straining in women suffering from pulmonary disease probably has a large influence in determining displacements of the pelvic viscera, notably the ovary and uterus.

Anatomy Not an Exact Science.

DR. THOMAS DWIGHT, Boston, presented a paper on "Problems of Clinical Anatomy," in which he effectively disposed of

the idea that anatomy is a completed exact science. He showed by large models what wide variations may exist in skull, vertebræ, aorta and tarsal bones, and explained how surgeons, not knowing of these frequent variations, are misled by *x*-ray photographs.

Privileged Communications.

DR. DAVID W. CHEEVER, the "Nestor" of Boston physicians, was greeted with much applause when he came forward to make "A Plea for a Change in the Massachusetts Law in Regard to Privileged Communications." He maintained that the adage of Hippocrates, "Nothing heard in the sick-room should ever be heard outside of it," should be put in practice legally, unless, 1, the patient consented; 2, it was necessary for the doctor's self-defense, or 3, it was necessary to expose crime. All New England and nearly half the states of the Union are following the English law, which obliges the physician to disclose in the courts of justice such information as may have been acquired in a professional capacity, even if it involves the character of the patient's family or disgraces the memory of the dead. New York and about one-half of the states in the Union have adopted the Roman law, which not only exempts the physician, but forbids him from disclosing such information. He pleaded for a change in the Massachusetts laws bearing on this subject, and he suggested that if confidential communication must be disclosed as an aid to justice it should be communicated to the judge in private.

WALTER SOREN, ESQ., Brookline, showed "The Workings of the New York Law," which was devised to protect the patient, and quoted a large number of cases and decisions by the New York courts as determining three points: 1, when the relations of physician to patient become "professional"; 2, what information obtained during this professional relation is excluded, and 3, what information is necessary to the physician to enable him to act.

Tuberculosis.

DR. HERBERT L. BURRELL, Boston, delivered the annual address on "Tuberculosis" and illustrated by numerous lantern views. He said:

> The line along which we should work is that of giving the patient greater resistance to the disease. This can be done especially through the use of sanatoriums and other special methods of treatment, including all forms of outdoor treatment. These methods were widely adopted in Germany, where the sanatoriums were supported from the reserve of $175,000,000 fund accumulated as a result of the Bismarck laws regarding insurance of working people. In Germany, moreover, an amount of attention had been given to tuberculosis by the insurance companies that might well be imitated here. There is now a drift of opinion toward the view that change of climate is not so important as other methods of dealing with the disease. Hospitals, with few exceptions, recognize the necessity of outdoor treatment. Sometimes, as in Germany, the patients are kept out of doors all night. Yet, thus far, outdoor life for consumptives is not adequately recognized. There are two errors which continue to be associated with the outdoor treatment—the sending of patients to sanatoriums when they are in an advanced stage of the disease, and failure fully to recognize in the treatment of consumptives the physiologic value of rest.

He urged physiologic rest for the affected organ or part, whether treated medically or surgically, and pointed out the great benefits to be obtained from sunshine, air, diet and care in sanatoria.

Entertainment.

The festivities of the meeting which began in the Cotting lunch, served immediately after the councilors' meeting, repeated in the evening at the reception to the officers, ended at 1 p. m., Wednesday, in the annual dinner served in Symphony Hall, where over 1,200 physicians dined together. After-dinner toasts were responded to by Attorney-General Parker, Rev. M. H. Hall and others.

BUFFALO ACADEMY OF MEDICINE.

Regular Meeting, held May 20, 1903.

Dr. Herman E. Hayd, Chairman, presiding.

Early Diagnosis of Gastric Cancer.

PROF. C. A. EWALD, Berlin, delivered an address on this subject. Since the great strides made in recent years in the domain of abdominal surgery the question of an early diagnosis by the internist of gastric carcinoma has become an important one, for if the case can be correctly diagnosed sufficiently early before metastases have occurred the surgeon may radically remove the growth and the case may result in recovery.

There are cases which show one or all of the following symptoms: 1, A tumor; 2, swelling of nodes, axillary, inguinal, etc.; 3, cachexia, and 4, changes in secretion. These cases are not difficult of diagnosis, but when diagnosed it is too late for radical operation.

Early Symptoms.

The question of early symptoms should be considered when the tumor is not far advanced, when no metastases exist and where there is a possibility of the removal of the growth in its entirety.

The school of Kaussmaul and von den Velden wanted to prove that wherever free HCl was diminished or absent it was sufficient to diagnose cancer of the stomach, but Ewald demonstrated many cases where, although there was an absence or diminution or free hydrochloric acid secretion, they were not cancer, as, for example, neuroses, achylia gastrica, etc.

Boas stated that the presence of lactic acid was an important symptom for cancer. This also has been proven a mistaken belief, for lactic acid depends on one or all of three conditions: 1, No hydrochloric acid secretions; 2, stagnation of gastric contents, and 3, no peptic enzymes. When these three conditions present themselves lactic acid is formed, and it may exist in cases other than cancer. A case of cancer of the gall bladder with pyloric obstruction due to pressure and secondary dilatation of the stomach was cited where lactic acid was present, and where no cancerous infiltration of the stomach could be detected on postmortem examination. The same conditions which apply to the value of lactic acid apply also to the thread-like Oppler-Boas bacilli, which are a lactic-acid forming bacilli.

Gastric Ulcer and Cancer.

Rokitansky and other pathologists showed years ago that many cases of gastric ulcer are transformed in time to carcinoma. If, then, we could detect this transformation sufficiently early an early diagnosis of gastric cancer could be made. In ulcer there is hyperchlorhydria; so soon as the metamorphosis to cancerous degeneration occurs the hydrochloric acid is diminished or disappears. Cases of chronic ulcer going on slowly and which in time give suspicious signs of cancer may be detected if the gastric contents are analyzed and alteration of secretion is noted.

A Polish physician, Gluczinski of Cracow, by making three analyses of stomach conditions: 1, The fasting stomach; 2, after the Ewald test breakfast, and 3, after a more complete meal, found that if these analyses gave the same results of hypersecretion then the ulcer still existed; if, on the other hand, there were variations, say hypochlorhydria or absence of HCl in one or two or three of the test meals, then a suspicion of a beginning cancerous degeneration existed. Gluczinski operated on one case in which after these test meals a suspicion of cancer was diagnosed, and found a beginning degeneration from ulcer to cancer.

Case Report.

Ewald used this method in four cases and gives his result in one:

> CASE 1.—Man; aged 39; father had cancer of stomach. Patient has complained for several years of oppression after meals, nausea, eructation and vomiting of undigested stomach contents. He is emaciated, has lost weight. No tumor was detected and there was no glandular enlargement. He had vomited blood once. This probably came from the stomach. The stomach was dilated and there was succussion. Tests were made after Gluczinski. Acidity, 60; mucus and slow digestion of mucus. The fasting stomach showed mucus and no acidity; Ewald's acidity, 72; free hydrochloric acid, 50. After a full meal acidity, 28; no free HCl, but combined HCl.
>
> As a result of these examinations and the history, the case was diagnosed as early carcinoma of pylorus. The operation of pyloric resection and gastroenteric anastomosis was performed by Professor Krause. The patient made a complete recovery. Macroscopic and microscopic examination of the pyloric sclerosed tissue failed to reveal carcinoma. The case was a hypertrophic enlargement of muscles of pylorus which often follows gastric ulcer, so in this case the method described by Gluczinski failed.

Tryptophan Test.

A new method has lately been described by Dr. Glässner, assistant to Ewald. It is called the tryptophan reaction. Into

a small vessel containing 10 to 20 c.c. of filtered stomach contents containing free hydrochloric acid, place a small piece of carcinomatous tissue. A glass tube filled with albumin is then placed into this vessel. After a time—about 24 hours—both ends of the albumin tube will show a digestion of the albumin. If the solution is then filtered and a solution of bromin is added, a red coloration will show the tryptophan reaction. If the tissue added is cancerous, this reaction follows, if not, no reaction takes place.

As yet the number of cases in which this test has been made are not large enough to make positive statements as to its value.

Must Rely on Old Methods.

Professor Ewald believes that we still have to rely on other methods for our diagnosis, for after all we must fall back to the detection of the tumor for diagnosis, so that he who is well trained to examine the abdomen by palpation, percussion, etc., will be better able to detect a growth earlier than he who does not practice this form of examination. He recommends that by examining a patient in a warm bath the muscular rigidity may be overcome and more satisfactory results obtained in detecting a growth. He also often uses an ether spray in a circumscribed area over the region of the tumor to relax the muscles.

Epochs of American Medicine.

In conclusion Professor Ewald spoke in laudatory terms of the American institutions which he had visited. He spoke of these epochs of American medicine: 1. When instruction was sought in England; 2, when American physicians visited the French masters, and 3, the present or German epoch. He predicted that in the near future, with the great advances in the medical art in America, the tide would turn and that continental students would seek American institutions and medical education.

Luncheon for Professor Ewald.

Following the address Dr. A. L. Benedict gave a luncheon for the members in honor of Professor Ewald.

NEW YORK STATE MEDICAL ASSOCIATION.

Nineteenth Annual Meeting of the Fourth District Branch, held at Buffalo, N. Y., June 16, 1903.

The President, Dr. J. William Morris, Jamestown, in the Chair.

President's Address.

The president made a brief report of the work which had been done in the past year. At the last annual meeting only three counties—Erie, Chautauqua and Steuben—were represented. This year ten counties were represented by delegates. Last year the membership was 176; at this meeting it was 336. There are still four counties in the district—Ontario, Yates, Livingston and Niagara—which are unrepresented, but he expressed the hope that delegates from these counties would be present at the next meeting.

Election of Officers.

The following officers were re-elected: President, Dr. J. William Morris, Jamestown; vice-president, Dr. Bernard Cohen, Buffalo, and secretary, Dr. William J. Thornton, Buffalo. Dr. Henry A. Eastman, Jamestown, was elected treasurer. Drs. Alvin A. Hubbell, Buffalo, and George L. Preston, Canisteo, were elected delegates to the state association. The following were elected members of the executive committee: Drs. George H. Witter, Allegany County; William H. Vincent, Cattaraugus County; Orrin T. Shaw, Chautauqua County; Allen A. Jones, Erie County; Albert P. Jackson, Genesee County; Thomas A. O'Hare, Monroe County; Edward Munson, Orleans County; Charles O. Green, Steuben County; James W. Putnam, Wayne County, and Philip S. Goodwin, Wyoming County. The committee on arrangements for service for the ensuing year is made up as follows: Drs. J. William Morris, Jamestown; Allen A. Jones, Alvin A. Hubbell, George A. Himmelsbach, William I. Thornton, Bernard Cohen Arthur G. Bennett, Grover W. Wende and William J. Thornton, Buffalo.

Significance of Uterine Retrodisplacements.

Dr. Samuel M. Brickner, New York City, read a paper on "The Obstetrical Significance of Retroversion and Retroflexion of the Uterus," which was a strong argument against the retention of the dorsal posture after childbirth. He declared that too many physicians insisted on keeping their patients on their backs too long after childbirth.

Dr. Carlton C. Frederick, Buffalo, said that, other things being normal, he never insisted on any particular attitude in bed, so long as the patient remained in bed, but that he was opposed to keeping patients in the dorsal position.

Cancer of the Lungs.

Dr. John Herr Musser, Philadelphia, President-elect of the American Medical Association, delivered the principal address of the afternoon, which dealt with the most recent conclusions and discoveries in relation to malignant disease of the lungs, and reported three cases of cancer of the lungs which had come under his observation, one of which bore a close similarity in its symptoms to tuberculosis. Dr. Frederick Holme Wiggin, New York City, president of the New York State Medical Association, accompanied Dr. Musser to Buffalo and participated in the discussion which followed his address.

Banquet.

A dinner was given at the Iroquois in the evening in honor of Dr. John Herr Musser of Philadelphia, President-elect of the American Medical Association, and Dr. Frederick Holme Wiggin of New York City, president of the New York State Medical Association. Dr. Allen A. Jones, Buffalo, was toastmaster, and informal addresses were made by the presidents of the Fourth District Branch Association, the New York State Medical Association and the American Medical Association.

NEBRASKA STATE MEDICAL SOCIETY.

Thirty-fifth Annual Meeting, held at Lincoln, April 28 to 30, 1903.

The President, Dr. Allen B. Anderson, Pawnee City, in the Chair.

Welcome.

Rev. H. C. Swearingen, Lincoln, welcomed the society on behalf of the city, and Dr. Robert C. McDonald, Fremont, responded for the society, thanking the citizens for the cordiality and sincerity of their welcome.

Reorganization.

The Committee on Reorganization recommended, by its chairman Dr. Alexander S. Von Mansfield, Ashland, adoption by the society of the constitution and by-laws suggested by the American Medical Association. Fifty-nine counties of a possible sixty-five made the necessary organization in anticipation of the reorganization. The state is divided into twelve councilor districts, containing the following counties:

No. 1.—Douglas and Sarpy.
No. 2.—Lancaster, Cass and Otoe.
No. 3.—Gage, Johnson, Nemaha, Pawnee and Richardson.
No. 4.—Knox, Cedar, Dixon, Dakota, Antelope, Pierce, Wayne, Thurston, Madison, Stanton and Cuming.
No. 5.—Burt, Washington, Dodge, Colfax, Platte, Boone, Nance and Merrick.
No. 6.—Saunders, Butler, Seward, Polk, York and Hamilton.
No. 7.—Clay, Fillmore, Saline, Nuckolls, Thayer and Jefferson.
No. 8.—Cherry, Keya Paha, Boyd, Brown, Rock, Holt, Grant, Hooker, Thomas, Blaine, Loup, Garfield and Wheeler.
No. 9.—Custer, Valley, Greely, Sherman, Howard, Dawson, Buffalo and Hall.
No. 10.—Gosper, Phelps, Adams, Furnas, Harlan, Franklin and Webster.
No. 11.—Red Willow, Hitchcock, Dundy, Chase, Hayes, Frontier, Lincoln, Perkins, Kieth, Arthur, McPherson and Logan.
No. 12.—Deuel, Sheridan, Dawes, Box Butte, Sioux, Scottsbluff, Banner, Kimball and Cheyenne.

The report of the committee and the new constitution and by-laws were adopted.

A scientific program of the usual number of papers was read and discussed. The society more than doubled its membership and the attendance was larger than any previous meeting.

Election of Officers.

Officers for the ensuing year were elected as follows: President, Dr. Benjamin F. Crummer, Omaha; vice-presidents, Drs. G. W. Shidler, York, and P. Emmett Plumb, Gothenburg; secre-

tary, Dr. A. D. Wilkinson, Lincoln (re-elected); corresponding secretary, Dr. H. Winnett Orr, Lincoln (re-elected); treasurer, Dr. James L. Greene, Asylum (re-elected); and councilors: First district—Dr. Byron B. Davis, Omaha; second district—Dr. Albert R. Mitchell, Lincoln; third district—Dr. John W. Bullard, Pawnee City, and fourth district—Dr. Edward Tanner, Battle Creek. The other eight councilors hold over. Omaha was selected as the place of the meeting for 1904..

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held May 5, 1903.

The President, Dr. Wm. Egbert Robertson, in the Chair.

Treatment of Tapeworm.

DR. SAMUEL P. GERHARD read a paper in which he called attention to the three specimens which were most commonly met, i. e., the beef tapeworm or *Tænia saginata*, the pork tapeworm or *Tænia solium*, and the broad tapeworm or *Bothriocephalus*, the former being the one most commonly met in this country. He called attention to the necessity of thoroughly cooking the meat before it is eaten, which, together with cleanliness on the part of those engaged in handling it, and systematic and regular inspection of the cattle and the meat after it is in the market, he believed would materially decrease the number of cases of this condition. He remarked on the difficulty in removing the worm and considered that the treatment which was applicable to worms of one character was applicable to all. The preparation of the patient prior to the administration of the remedy he considered a most important factor; the patient should be required to fast for twenty-four hours before the medicine is administered, during which time the bowels should be thoroughly emptied by means of purgatives. Among the drugs mentioned were the male fern, the bark of the pomegranate, and its alkaloid, pelletierin; the last two, however, are very impalatable and may produce toxic effects in doses large enough to be effective. Oil of turpentine, while formerly used to a great extent, owing to its nauseating taste and difficulty of administration, has somewhat fallen into disuse. Kamal is a very active drug, but its use is contraindicated, because it causes nausea and vomiting in many instances. Powdered pumpkin seeds were thought to be a valuable and harmless remedy, especially in children. He emphasized particularly the importance of removing the whole worm in all cases, for if the head or any of the segments remain it will develop again in from six to eight weeks. He believed that the great drawback to the administration of many of the remedies was the very large dose required, being in some instances as much as a pint of a bitter nauseating liquid, to be taken at one or two draughts, necessitating loss of time, and being a very serious matter with a weak and debilitated patient.

He reported a method which he had found very satisfactory. The patient is instructed to thoroughly clean out the bowels by purgatives the day previous to the administration of the remedy. In the morning, as early as possible, a twenty-grain capsule of pelletierin tannate is given, and after this has operated fully, which is usually in about two or three hours, the following prescription is administered:

℞. Olei resinæ aspidii
Etheris, āā 3ii
Hydrargyri chloridi mitis .....gr. xii

This is divided into sixteen capsules and one given every ten minutes, no food being taken. In about two or three hours the worm will be expelled whole, with its head intact. He stated that he had recently employed this method in seven cases, with very satisfactory results; the depression is generally very slight and does not last longer than two or three hours, and if it does exist light food can be administered after the worm is expelled.

DR. L. NAPOLEON BOSTON gave a microscopic exhibition of intestinal parasites, consisting of the beef worm, trichina, echinococcus and ankylostoma.

DISCUSSION.

DR. A. C. MORGAN stated that he had used the remedies recommended with very satisfactory results. He believed that a positive diagnosis of tapeworm should not be made unless the segments were found in the stool, although the larvæ are not discoverable there. He referred to the predisposition of the embryo of various worms to lodge in the pectoral muscles, the biceps, the diaphragm and particularly under the tongue, and in a patient suffering from what is apparently muscular rheumatism, but in reality larvæ, there will be irregular temperature, some fever and increased pulse. Interference with the action of the diaphragm, tenderness of the various muscles and symptoms of pleurisy are also important diagnostic symptoms. He believed that the oil of turpentine was contraindicated, if the kidneys were not in perfect working order.

DR. SAMUEL WOLFE referred to the difficulty of diagnosis of this condition, as the various forms of intestinal parasites do not give rise to particular symptoms, and the conclusion can probably only be positively reached after seeing a worm, and the condition may exist for a considerable time without any being passed. He felt that they were more apt to occur during some acute infectious disease, or some decided constitutional disturbance, especially when the disease has assumed the malignant form, he having observed in several instances during the infection that worms were passed in very large numbers. In cases of tapeworm, he believed, if the worm was of any size, segments would usually be discoverable in the stools.

DR. LUTHER C. PETER attributed poisonous effects to the castor oil which was administered in most cases.

DR. GIBBON reported the case of a child who, during the three or four months previous to the passing of segments, had been given raw Hamburg steak. He also referred to a case which had come under his observation in the Children's Hospital, where a child was seized with coughing and the nurse removed one or two large worms from its mouth. He believed that the migration of the worms was particularly common in typhoid fever, in some cases causing the perforation.

DR. HARRY LOWENBURG reported the case of a Polish child who was brought to him a short time ago suffering from hematemesis. Being familiar with the fact that these people fed their children on raw pork, he at once administered an emetic, which was followed by the vomiting of a large round worm, about four inches long, after which all the symptoms disappeared.

DR. CHARLOTT reported the case of a girl operated on in the German Hospital, after which she vomited a large number of worms.

DR. ARTHUR P. HITCHENS suggested the possibility of the remedy being absorbed before it reached the intestinal tract unless it was given in capsule form, which method he believed would be the most efficient.

DR. WM. EGBERT ROBERTSON recommended the more frequent examination of the stools, which he believed would lead to the detection of the ova of the round worm in many instances. While the flat worm is rare in children, he referred to a case reported by Dr. D. J. Milton Miller, occurring in a child eight months old, who was supposed to be infected by feeding it on expressed beef juice.

DR. L. NAPOLEON BOSTON stated that in cases of trichina there is always a swelling and pain in the frontal region. He believed that the *Oxyuris vermicularis* was quite as common in adults as in children, and while the habits of the patient may have had a great deal to do with its occurrence, he did not feel that the social class had. Examination of the rectal mucus prior to the commencement of treatment was recommended in all cases.

DR. SAMUEL P. GERHARD believed that many cases were diagnosed as *Tænia solium*, which in reality were worms of a different character. He believed that the reason this condition was not so prevalent in this country was due to the fact that people had been taught to cook pork thoroughly, while they eat raw beef, which accounts for the more frequent occurrence of that variety. Ether he believed to be of value, as it tended to stupify the worm, and in that way facilitate its removal, and he also felt that it was important that the worm should be passed into a vessel of warm water, for if the temperature is lower than that of the intestinal tract it is liable to recede.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

The Nitrites and Nitroglycerin.

There are probably no preparations which more certainly produce positive results when administered than do amyl nitrite and nitroglycerin. The physiologic action of these preparations is similar, such as producing fulness in the head, flushing of the face, a general dilatation of the peripheral vessels and acceleration of the pulse and respiration. As a result of this arterial dilatation the blood pressure is lowered.

These preparations are of great value in the treatment of angina pectoris to relieve the arterial spasm either by inhaling the amyl nitrite dispensed in pearls or by the internal administration of nitroglycerin. The latter preparation is of service in relieving the labor of the heart, which has already undergone great changes in chronic interstitial nephritis. Under such circumstances the marked arterial tension so characteristic of this disease is greatly lowered and the labor of the left heart decreased. Nitroglycerin is also of service in some cases of pneumonia where digitalis is indicated, in order to counteract the effects of the latter preparations on the peripheral circulation. In other words, it should be remembered that the nitrites are only indirect heart stimulants owing to the fact that they decrease the labor of the heart by lessening the resistance in the arterial rather than by stimulating the heart muscle, as does digitalis. So that in those conditions accompanied by high aortic resistance they can be employed to advantage.

In asthmatic attacks accompanied by spasm of the bronchioles relief is promptly given by the nitrites.

In cerebral hemorrhage it is supposed to decrease the tendency to greater hemorrhage by so dilating the visceral blood vessels as to decrease the blood pressure in the cerebral circulation. In cirrhotic kidney the following combination was a favorite of Da Costa:

℞.	Nitroglycerini .....gr. 1/100	0006
	Tinct. digitalis	
	Tinct. strophanthi, āā.....m. ii	12
	Tinct. belladonnæ .....m. ss	03

M. Ft. cap. No. i. Sig.: Take one such every six hours.

In asthma the following combination containing glonoin is recommended by Hare:

℞.	Pot. iodidi	
	Sod. brom., āā .....gr. iii	20
	Nitroglycerini .....gr. 1/150	00045
	Tinct. lobeliæ .....m. ii	12

M. Ft. tabella No. i. Sig.: One such four or five times a day.

The following containing sodium nitrite is also of service in asthma:

℞.	Chloralis hydratis 3iii	12
	Sodii nitritis 3ss	2
	Tinct. stramonii 3i	4
	Syr. glycyrrhizæ q. s. ad.....℥ii	60

M. Sig.: One teaspoonful every four hours.

The following combinations containing powdered niter is recommended to relieve asthmatic attacks:

℞.	Stramonii flores.....3ii	8
	Cannabis ind. flor. 3iss	6
	Pulv. niter .....℥iss	45
	Olei eucalyptus .....℥ss	2

M. Ft. pulvis. Sig.: Place one teaspoonful in a saucer and burn in the patient's room; or:

℞.	Stramonii flores. .....℥i	30
	Pulv. niter .....℥ss	15

M. Sig.: Small amount to be placed on a plate and burned.

Amyl nitrite, potassium nitrite and nitroglycerin have been used with some success in relieving the attack of epilepsy.

Chorea.

D. H. Crawford, in *Cleve. Med. and Surg. Rep.*, recommends, in the treatment of chorea, that the child be taken from school and be protected from all exciting influences that would aggravate the functional derangement of the nervous system. Mild exercise is beneficial and plenty of fresh air. In the graver cases the patient should be put to bed and placed on a good nutritious diet. He recommends cod-liver oil, milk, eggs and vegetables. Meat should be prohibited. Massage is of service in chronic cases. The author states he has derived the best results, in a medicinal way, from agaracin.

However, he has used with advantage, arsenic, stramonium, hyoscyamus and belladonna. The latter preparation is indicated where there are conditions of great mental excitement, and in the delirium approaching a maniacal state.

Bjorkman, in *Merck's Archives*, states that where rheumatic symptoms accompany the chorea and acute endocarditis is not present, excellent results may be obtained by the following:

℞.	Sodii salicyl. 3iiss	10
	Syr. rubi idaei.....℥iss	50
	Aq. destil. q. s. ad.....℥viii	240

M. Sig.: One dessertspoonful five times daily the first day; four dessertspoonfuls the second day, and three the next, etc. The foregoing dose is for a child five years of age.

Besides the administration of arsenic in the form of Fowler's solution, which the author ranks first among medicinal agents, he states that the digestive tract demands especial attention. Purgatives should be used freely, either castor oil or salines. As an intestinal antiseptic salol is recommended in 2 to 5 grain (.12-.30) doses.

Iron is of value combined with arsenic as follows:

℞.	Liq. potassii arsenitis 3i	4
	Syr. ferri iodidi .....℥i	30

M. Sig.: Ten to thirty drops in water three times a day, gradually increasing the dose; or:

℞.	Tinct. ferri chloridi 3vi	24
	Liq. potassii arsenitis .....m. lxxx	5 30

M. Sig.: Twelve to twenty drops after meals, well diluted.

Hammond recommends the bromid of zinc as follows:

℞.	Zinci bromidi 3i	4
	Syr. simplicis .....℥i	30

M. Sig.: Ten drops three times a day, increased as rapidly as the stomach can bear it.

Following combination has been employed with good results:

℞.	Zinci valerianatis	
	Ext. hyoscyami	
	Bismuthi subnit., āā.....gr. xv	1

M. Ft. cap. No. xxv. Sig.: Three to six capsules daily.

Or a combination of arsenic and chloral as follows:

℞.	Liq. pot. arsenitis .....m. iii	20
	Chloralis hydratis .....gr. v	30
	Aq. menth. pip. q. s. ad.....3i	4

M. Sig.: At one dose, to be repeated after each meal.

Medicolegal.

Privilege in Suicide Case and When No Doctor Wanted.—The New York case of Meyer vs. Supreme Lodge, Knights of Pythias, was brought to recover on a fraternal mutual benefit certificate. The defense was that the insured had committed suicide, which, by the terms of the certificate, rendered it null and void. To aid in establishing this defense, it was sought to introduce the testimony of three physicians who attended the insured, as to declarations concerning the cause of his death, made by him in their presence. One of the physicians was summoned to attend him in one of the rooms of a hotel; one was the house physician of a hospital who examined and treated him after he had been removed there; and the other was the junior surgeon of the hospital, who had assisted the house physician in the examination and treatment of the case. There was no evidence that the insured employed any one of these physicians, but, the Second Appellate Division of the Supreme Court of New York says, it was none the less true that they attended him in no other than a professional capacity. And thus was raised the question whether Sections 834 and 836 of the New York Code of Civil Procedure relate to cases where physicians professionally attend a patient who does not voluntarily require their services. Section 834 forbids any physician

"to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity." The language, the court says, is broad enough to cover cases of medical attendance, whether such attendance results from the voluntary call of the patient on a physician or from the exigencies of the patient's situation. If the relation is that of a physician attending a patient in a professional capacity, no matter how the relation was brought about, the sections apply. Section 836 provides that Section 834 applies to any examination of the physician, "unless the provisions thereof are expressly waived on the trial or examination . . . by the patient. . . . But a physician . . . may, on a trial or examination, disclose any information as to the mental or physical condition of a patient who is deceased, which he acquired in attending such patients professionally, except confidential communications and such facts as would tend to disgrace the memory of the patient, when the provisions of Section 834 have been expressly waived on such trial or examination by the personal representatives of the deceased patient." The record, the court says, showed that the party suing did not waive the privilege either on the trial or examination of any of the physicians; and even where the personal representatives waive the privilege, the physician is forbidden to disclose any fact which would tend to disgrace the memory of the patient. It could hardly be said that a declaration of the insured that he had attempted suicide would not tend to disgrace his memory. Wherefore, the court holds that there was no error in the exclusion of the testimony in question.

Dying Declarations and Privilege in Abortion Case.—The Supreme Court of Indiana says, in Seifert vs. State, that it was not disputed that dying declarations are competent in prosecutions for causing death by criminal abortions, the element of death being a substantive part of the charge. Such declarations are admitted on the ground of necessity. The necessity, however, does not depend on the stress of the particular case, but on the fact that ordinarily there is no other equally satisfactory proof of the circumstances connected with the fatal injury. Dying declarations being an exception to the rule excluding hearsay testimony, the above consideration marks, in a general way, the extent of the exception. The theory of the state in this case was that the accused furnished the deceased with a catheter, and incited her to use it to produce a criminal abortion. The court can not consent to the view that the dying declarations must be confined to the time when the deceased committed the act that resulted in an abortion, for that would leave the accused out of view entirely. The furnishing of the instrument and the inciting of the deceased to commit an abortion were as central and vital elements in the case as was the act of the deceased. In holding that declarations concerning all of these elements were proper, the court thinks that it is fully within the rule that the circumstances of the death must be the subject of the dying declaration. The statements of the deceased in her dying declarations were open to contradiction; and on the trial of the case the accused sought to contradict the portions of the dying declarations that incriminated him by the testimony of a physician as to statements that the deceased had made to him. Now, it is provided by the Indiana statute that "the following persons shall not be competent witnesses: . . . Fourth. Physicians as to matter communicated to them as such by patients in the course of their professional business or advice given in such cases." But the court thinks that, notwithstanding the broad language of the enactment, a request to a physician to commit a crime is not privileged. In this case, the matter of difficulty was the segregation of competent from incompetent evidence of the physician. If the deceased requested the physician to commit a criminal abortion on her person, as the offer to prove tended to show, that fact could have been developed, the court says, as a proper introductory fact, and that would have furnished the basis for a showing in a negative way that the proper subject on which professional advice had been sought had no relation to an abortion, and was no longer under discussion. This being shown, it would prima facie appear that the balance of the conversation was not privileged. The statute under consideration is highly beneficent in its operation, and it should not be frittered away by permitting the answering of questions which tend to reveal that which should be kept inviolate. All doubtful points must be solved against the competency of the proposed testimony, but if counsel, by a line of questions, can develop the isolated point, concerning which the court can say, this is competent, and at the same time avoid the disclosure of that which should be kept sacred, it is his privilege to pursue that course. Where, after the deceased had, in a measure, recovered from the illness occasioned by the abortion, the same physician who had performed proper professional service in an effort to relieve her from the consequences of such abortion called upon her to collect the amount of his bill, the court thinks that it would be a perversion of the statute to hold that a statement then made to him that the accused had nothing to do with her condition and would not pay a dollar was privileged.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

June 20.

1 *Sudden Death and Unexpected Death in Early Life, with Especial Reference to the So-called Thymus Death. J. P. Crozer-Griffith.
2 *The Toilet of the Peritoneum in Appendicitis. G. R. Fowler.
3 *The Anatomy of the Pancreas. Eugene L. Opie.
4 Management of Malignant Disease of the Uterus. George Erety Shoemaker.
4½ Chlorosis. S. H. Rosenthal.
5 *A New Method of Treatment for Chronic Anterior Urethritis and for the Declining Stage of Acute Urethritis. William W. Townsend.
6 Man's Responsibility in Sterile Marriages. W. H. Prioleau.

1. **Sudden Death in Early Life.**—Griffith reviews the causes of sudden death which may occur in children, with special reference to the effect of the thymus in producing these accidents. It was very early observed that the thymus was often enlarged in such cases of sudden death and the mechanical theory has often been given as an explanation. The author reviews the theories, showing the difficulties of the mechanical theory, the comparatively small circulation of the gland, the fact that sudden death may occur without its enlargement, etc. As regards the possible hyperthymization of the blood or some other form of autointoxication arising from a hyperplastic gland, as suggested by Escherich, he finds no clinical evidence whatever for its support, but one fact does stand out, that there is a certain constitutional anomaly seen in some children, and even in adults, which predisposes to sudden death from trivial causes. Whether enlargement of the thymus or other lymphatic tissues is coexistent is uncertain. The disturbance depends on a state of faulty nutrition, some fault of the metabolism, attended by pathologic disturbance of the nervous centers, causing extreme irritability, involving the nervous supply of the heart and respiration. The final sudden exitus appears, however, not to be due to spasm of the larynx, though it may appear to be so, but to a sudden cardiac paralysis. In the cases he gives the heart ceased to beat at the beginning of the attack. There may be, however, a central involvement of respiration occurring and ending fatally. Other causes of sudden death are convulsions, hyperpyrexia in various diseases, congenital syphilis, rupture of caseous glands or abscesses and various malformations.

2. See abstract in THE JOURNAL, xl, p. 1594.

3. **The Pancreas.**—Opie describes the anatomy of the pancreas and its anomalies. He explains the aberrant pancreatic glands, not by the presence of accessory embryonic structures necessarily, but, as in the case he reports, by entanglement of a lateral branch of the pancreatic duct in mesoblastic layers. It is, by longitudinal growth of the intestine, transported a variable distance from the pancreas, and a new duct forms in much the same way that pancreatic ducts are regenerated after section. He insists on two anatomic peculiarities which do not receive the attention that they deserve. One is that the organ consists of two functionally diverse elements on the

one hand, cells which supply to the intestine important digestive ferments, and on the other hand, cells having no communication with the ducts of the gland, but in intimate relation to the blood vessels. The other is that the close anatomic relation of the pancreatic duct to the common bile duct favors the transmission of morbid processes from the liver and bile passages to the pancreas.

5. **Urethritis.**—The method of treatment described by Townsend consists in the use of a perforated glass rod bent at right angles with a double canal, one running through from the proximal end to the air chamber at its distal termination and another above it backward from the latter to an outlet near the point of flexure. The distal end of the air chamber is open, excepting when it is closed by the urethral walls. A powder insufflated into the tube passes through the lower canal to the air chamber and is distributed on the urethral wall at this point. As the powder is forced into the insufflator the tube is gradually withdrawn and the mucous membrane of the urethra is consequently covered. It is readily sterilized by boiling and drying in an alcohol flame when the water has been entirely shaken out. He uses astringent and antiseptic drugs, aristol prior to applying an astringent, if there is much pus accumulation. In his experience zinc, copper and aristol have accomplished the desired effects. He uses three or four treatments a week. He recommends this method in chronic anterior urethritis and the declining stages of the acute disorder, but never in the early stages of the condition.

Medical Record, New York.

June 20.

7 *Infantile Insanity in Its Relation to Moral Perversion and Crime. Allan McLane Hamilton.
8 *Gastric and Intestinal Crises. C. A. Ewald.
9 *Intravenous Infusion in Puerperal Septicemia. Edward Waltzfelder.
10 *The Correlation of Alcoilsm, Crime and Insanity. C. A. Drew.
11 The Medical Officer of the United States Navy. Gilbert T. McMaster.

7. **Infantile Insanity.**—Hamilton discusses the forms of insanity that occur in children, especially those with criminal tendencies, illustrating them by various examples, such as the Jesse Pomeroy case and others. He thinks an error is made in considering children's weaknesses that are not insanity as responsible crime and suffering them to be sent to penal institutions and idiot asylums when they might be properly guided and educated out of their tendencies. The hope for relief is in correctional institutions where children are not stamped as young felons, such as farms and trade schools, training ships and so on. He thinks the government regulation of newspapers and injurious publications should be brought about, as they are largely influential in producing juvenile criminality.

8. **Gastric and Intestinal Crises.**—Ewald first notices the well-known gastric crises of tabes and also describes some conditions occurring independently of tabetic disease, but closely resembling those due to this cause. There may be nothing typical about the time of these attacks, or they may present a peculiar type of their own, recurring with regularity at rare intervals. There are no specific signs present pointing to a disease of the spinal cord, but neurasthenic or hysterical symptoms are usually prominent. These attacks are generally brought about by the partaking of food, and it frequently happens that the same articles of food may precipitate an attack at one time and not at another. The so-called idiopathic crises, moreover, may be influenced therapeutically, which is hardly ever the case with true tabetic crises. He points out how errors of diagnosis may lead to useless operations for lesions which do not exist. In cases due to disease of the central nervous system not much can be done; there is no way of cutting short the attack. Suggestion may have considerable influence in some cases, but reliable treatment is wanting. In grave cases he makes use of morphin. In the beginning it is possible to check the attack with small doses, but they will have to be increased later. There is danger of making morphinomaniacs. The method of Corning, recently tried by Chatelin, injecting local anesthetics into the epidural space of the spinal cord from the sacrum, seems to have some good effects. Technically the process is simple and easy. Cases of periodic vomiting due to functional neuroses, i. e., idiopathic vomiting, are much more satisfactory than those of gastric and other crises due to organic changes in the central nervous system. General tonic treatment by hygienic and dietetic measures, irrigations of the stomach with soothing or slightly astringent solutions, sedatives, such as the bromides, hyoscyamus, etc., and if vomiting is of reflex origin, painting the nasal mucous membrane with cocain are usually of value.

9. **Puerperal Septicemia.**—Two cases of puerperal septicemia treated by intravenous infusions of decinormal salt solution with good results are reported by Waitzfelder. In one case formalin infusions were first used, but after forty-eight hours another injection was required and decinormal solution was given with perfectly identical results.

10. **Alcohol in Crime and Insanity.**—Drew finds that in 154 cases admitted in two years to the Massachusetts State Asylum for Insane Criminals, 11, or 7 per cent., claimed never to have used alcohol as a beverage. Of these 11, 3 were epileptics and 2 were well-marked cases of imbecility. Ninety-six, or 62 per cent., were hard drinkers. The remaining 31 per cent. considered themselves only moderate drinkers, or were too demented to tell, or for personal reasons refused to give information. Fifty-six, or 36 per cent., acknowledged intemperate fathers, while 21, or less than 14 per cent., acknowledged intemperate mothers. In the 4,437 admissions to the other five state hospitals the cause of insanity in 14.88 per cent. was given as intemperance. These statistics, however, are not altogether reliable, as there is a great tendency to withhold facts. In the Worcester Asylum a careful investigation seemed to show that alcohol was the sufficient cause of insanity in 21 per cent. of the men and 7 per cent. of the women, and a causal factor in about 10 per cent. of the women and 32 per cent. of the men. Poverty, overwork, stress, worry, blighted hopes and consequent ill health following inebriety are not credited to alcohol in these statistics. If these so-called moral and mental causes were traced back the proportion of insanity charged to alcoholism might be much more equal between men and women.

Boston Medical and Surgical Journal.

June 18.

12 *The Need of an Institution for the Education of Nurses Independent of the Hospitals. Francis P. Denny.
13 *Hemostasis by Compression and Heat. John W. Keefe.
14 *Polioencephalomyelitis and Allied Conditions. (Concluded.) E. W. Taylor.
15 A Case of Paget's Disease of the Nipple Treated by the X-Ray. Edith R. Meek.

12. **Trained Nurses.**—Denny pleads for the education of nurses, in part at least, outside of the hospital. The theoretical work and whatever requires study can not be accomplished on account of the pressure of duties. He would have an institution to give the preliminary course of instruction, and a single plant—the same corps of teachers, the same lecture rooms and laboratories—could provide for a number of different hospitals.

13. **Hemostasis.**—Keefe reports cases in addition to those in a former article published in the *Boston Medical and Surgical Journal* of January 8, of the use of Downes' electrothermic angiotribe, which he considers of decided practical value. No secondary hemorrhage is reported to have taken place. The most interesting case was one of resection of 14 inches of the intestine in a man, showing the ease with which the bowel can be resected. The perfect asepsis, he says, is certain to eliminate the mechanical appliances now in use for this purpose. The wide range of usefulness of this instrument renders a surgical outfit incomplete without it. The advantages claimed for the electrothermic angiotribe are: the exclusion of the ligature; hemostasis *en masse* or of isolated blood vessels; aseptic gastrectomy, gastro-enterostomy and resection of intestine; appendectomy; salpingectomy; extrusion of septic material during operation being rendered impossible; sterile occlusion of the Fallopian tube; absence of irritable and painful stumps; less tendency to post-operative adhesions; rapidity of operation; no secondary hemorrhage from slipping of ligatures, or suppurating sinuses due to ligatures; less pain subsequent to operation, and there is no puckering or

dragging on the tissues; value in removal of cancer as there can be no danger of inoculation with cancerous material during the operation, and the heat destroys the cancer cells beyond the point of application of the clamps.

14. **Poliencephalomyelitis.**—In the concluding instalment of his article Taylor offers the following conclusions, which he considers legitimate:

That a large group of affections of the central nervous system exists, provisionally to be regarded as inflammatory, in which may be included encephalitis, poliencephalitis, superior and inferior, poliencephalomyelitis, poliomyelitis, encephalomyelitis and, with reservations, Landry's paralysis, and possibly myasthenia gravis, and certain apparent peripheral nerve infections.

That these affections should be regarded as essentially identical, differing only in symptomatic expression.

That the evidence for this lies in the simultaneous involvement in individual cases of various portions of the nervous system, a notable example of which is given in poliencephalomyelitis.

That we should gain in our understanding of these and various other affections of the nervous system if we adopted a classification based on pathologic alterations and on etiology, wherever possible, rather than on clinical symptoms determined by anatomic subdivisions.

That, admitting a somewhat definite pathologic alteration of the nature of inflammation, as a fairly constant factor, we may assume the existence of a common exciting, probably toxic, cause.

That the nature of this cause is practically unknown, that its manifestations are not always uniform and that our final understanding of the distribution and prognosis of these affections must depend, first, on our knowledge of these exciting causes, and, second, on the nature of individual susceptibility and resistance.

Medical News, New York.

June 20.

16 *The Need of Public Toilets in American Cities. Edward H. Williams.
17 *The Morbid Anatomy and Pathology of Tabes. (Continued.) Joseph Collins.
18 The Proper Recognition of Electrotherapeutics. A. R. Rainear.
19 *A Contribution to the Pathology and Prognosis of the Diseases of the Bladder. Robert Holmes Greene and Harlow Brooks.
20 Impressions of the Non-heredity of Acquired Characters. A Rejoinder. Lawrence Irwell.

16. **Public Toilets.**—Williams pleads for the establishment in American cities of public conveniences such as exist in London, Paris and elsewhere and illustrates his article with pictures of such as are in use abroad.

17. **Tabes.**—The pathology of tabes is discussed at length by Collins, who thinks that evidence tends to show that the essential lesion is in the elective progressive degeneration, segmentary in type (in contradistinction to Wallerian), of the posterior columns of the spinal cord. The distribution of the degeneration corresponds with the intraspinal distribution of the posterior root-fibers. After the degenerative process has existed for an indefinite time in the cord, the endogenous fibers of the posterior columns are involved. This changes the anatomic picture and the confines of the pathologic process. In most cases of tabes of long duration pathologic alterations have been found in other portions of the nervous system. He would therefore adopt the theory of Marie and Guillain and hold that the lesions of tabes are the results of the activity of a poison, generated by syphilis, acting primarily on the intramedullary distribution of the posterior roots.

19. **Diseases of the Bladder.**—The following are the conclusions of Greene and Brooks' article:

1. The most frequent cause of diseases of the bladder is: (*a*) Lesions of the central nervous system, causing dilation, (*b*) septic processes of various varieties, (*c*) hypertrophy of the prostate.

2. In all conditions in which the spinal cord or central nervous system is involved, frequent and early catheterizations should be resorted to, to prevent the bad effects of overdistention or the possibility of cystic rupture.

3. Conditions of the bladder must greatly modify the prognosis in operative procedures for the relief of obstructions of the urinary flow, therefore the importance of cystoscopic and other examinations can not be too strongly insisted on.

4. Hypertrophy of the bladder wall is due to four different processes, separate or combined: (*a*) Inflammatory infiltration, (*b*) increase of the fibrous connected tissue, (*c*) smooth muscle hyperplasia, (*d*) infiltration by new growth. The clinical symptoms in hypertrophy of the bladder depend on which of these factors predominate.

New York Medical Journal and Philadelphia Medical Journal.

June 20.

21 *A Scalp-face. A New Plastic Operation. N. Senn.
22 *Whooping Cough. A New Method of Treatment. Theron W. Kilmer.
23 The Use of the X-Ray in the Exact Localization of a Foreign Body. L. D. Weiss.
24 Treatment of the Common Clinical Forms of Gonorrhea in the Female. R. Oliver Kevin.
25 Pertussis with Unusual Cerebral Symptoms. Edwin E. Graham.

21. **A New Plastic Operation.**—Senn describes the manufacture of a face in a case where a large portion of the normal face had been eaten away by a caustic application. It was made by the transfer of about one-half the scalp down over the face and the results were an improvement. Thirteen different operations were required to complete the work.

22. **Whooping Cough.**—In the treatment of whooping cough, Kilmer recommends the wearing of an elastic belt over the abdomen or thorax, or both, as the case may be, to control the tendency to vomiting, combined with the alternate use of antipyrin with the bromids and quinin, as recommended by Kerley. He holds that whooping cough is a self-limited disease and runs its course in the same way as pneumonia, but that these methods are palliative and curative as far as any methods that have been employed.

Cincinnati Lancet-Clinic.

June 20.

26 President's Address, Ohio State Medical Association. W. C. Chapman.
27 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.
28 Post-Nasal Catarrh. F. W. Davis.
29 Differential Diagnosis of Appendicitis. H. G. Marxmiller.

St. Louis Medical Review.

June 13.

30 Home and Sanatorium Treatment of Tuberculosis. William Porter.
31 Prevention of Tuberculosis. George Homan.
32 Prevention of Tuberculosis. Carl Fisch.

Annals of Gynecology and Pediatry, Boston.

June.

33 Neuroses Dependent on Prolapse of the Kidney. Augustin H. Goelet.
34 *Puerperal Eclampsia. A Plea for Treatment with Veratrum Viride. J. S. Hammond.
35 Contribution to Renal Pathology and Etiology. Henry Jacobson.

34. **Eclampsia.**—Hammond advocates veratrum as a drug *par excellence* in puerperal eclampsia, both on account of its action on the circulation and arterial tension and as a spinal depressant agent and obtunder of the nervous centers generally. The emesis it provokes helps in elimination and excites the excretion of bile. It also eliminates by diaphoresis. It is not contraindicated in any form of kidney disease, and it is much safer than chloral, which is not eliminative. He holds that it has not been given a fair trial by obstetricians. It should be given in doses to reduce the pulse to sixty or below and hold it there.

Medical Herald, St. Joseph, Mo.

June.

36 *Hereditary Syphilis. Richard C. Moore.
37 *Syphilitic Immunity and Second Infection in Syphilis. A. C. Stokes.
38 Syphilis of the Nervous System. F. E. Coulter.
39 Diagnosis and Management of Syphilis. M. E. Silver.
40 Congenital Syphilis in the New-born and Young Infants. Mary Strong.
41 The Syphilitic Affections of the Eye. H. B. Lemere.
42 The Microscope in the Practice of Medicine. W. Francis Mitchell.

36. **Hereditary Syphilis.**—Moore, from the facts as far as known, concludes that the father can infect the embryo through the spermatozoa and the mother at the time of conception through the unimpregnated ovum. Moreover, if she contracts syphilis within the first seven months of pregnancy she is liable to infect the fetus. As regards marriage, syphilis is not transmissible after four to seven years without treatment and with treatment, after three and one-half to four years after the disappearance of secondary symptoms, to which must be added six months without treatment and without symptoms. He would authorize marriage after these periods. In inherited syphilis in a child the condition will depend on the severity of the disease in the parents, being more severe when both are infected than when only one is. The more recent the disease in parent the more severe in the child. Specific treatment of the parents has an effect on the grade of the symptoms in the fetus. A large proportion of children of syphilitic parents are defective, about one-third are stillborn and abortions are frequent.

37. **Syphilitic Immunity.**—From a study of the subject and from correspondence, Stokes concludes that second infection may occur in syphilis about as often as in smallpox or measles,

say once in 2,500 cases. He finds no case on record where it occurred in less than two years after the appearance of the secondary symptoms of the first attack. Usually the immunity lasts for life. Colles' and Profeta's laws are no exception to Ehrlich's hypothesis of immunity. The second infection is more frequent in hereditary than in acquired syphilis.

Medical and Surgical Monitor, Indianapolis.

June 15.

43 On the Surgery of the Hypertrophied Prostate. Bransford Lewis.
44 Some Elements to be Considered in Urinalysis. Microscopy. J. W. Crismond.
45 Gersuny's Operation for Saddle-back Nose. Joseph R. Eastman.
46 The Relation of Blood Pressure to Shock. Charles R. Sowder.

Journal of Nervous and Mental Disease, New York.

June.

47 Presidential Address, American Neurological Association. J. W. Putnam.
48 *Tabes and Muscular Atrophy. Joseph Collins.
49 *Contribution to the Study of the Achilles-jerk and the Front-tap. G. L. Walton and W. E. Paul.
50 Three Cases of Progressive Muscular Dystrophy Occurring in the Male Members of a Single Family, and Commencing at the Same Age in Each. C. H. Bunting.
51 Remarks on Primary Neurotic Atrophy (Charcot-Marie-Hoffman Type), with Report of a Case in Which There Was Excessive Indulgence in Tea and Coffee. Alfred Gordon.

48. **Tabes and Muscular Atrophy.**—Collins reports cases where tabes was complicated with muscular atrophy and studies the pathology. The first case was one of tabes with atrophy of neural origin, the lesions of the peripheral nerves being a degenerative neuritis. The tabes was not typical. The second case had been called syringomyelia by certain persons referring to it, a diagnosis for which the author sees no grounds. He thinks the most legitimate interpretation to be put on it is that the cause of the atrophy was a multiple neuritis probably of alcoholic origin. The third case showed apparently no symptoms of tabes until a careful examination revealed them. The muscular atrophy might either be dependent on a peripheral lesion, such as a neuritis, or due to a thrombosis of the cornual branch of the anterior spinal artery. He notices some cases reported by others.

49. **The Achilles-Jerk and the Front-Tap.**—The conclusions reached by Walton and Paul are that the Achilles-jerk is as constant in health as the knee-jerk, and varies less and is the most easily elicited and uniform of all tendon reflexes. It usually disappears early in tabes and is as diagnostic as the knee-jerk. The enfeeblement of the latter on one side or both may be due to prior toxic influence, as diphtheria. This may also be true of the Achilles-jerk. The front tap, which is made by tapping the tibialis anticus while the foot is flexed dorsally, thus producing plantar tension, is generally present bilaterally and in about 40 per cent. of normal individuals, in some very active. Its presence alone does not establish disease or indicate excessive irritability. In organic disease it is generally increased with the other reflexes in hypertonic, and decreased in hypotonic states. He has found it present in about 71 per cent. of cases of functional neuroses and in 75 per cent. of epileptics. Both of these reflexes deserve to be put on the list of routine tests for purposes of diagnosis, but this is particularly true of the Achilles reflex.

University of Pennsylvania Medical Bulletin, Philadelphia.

June.

52 *An Experimental Study on the Regeneration of Posterior Spinal Roots. William G. Spiller and Charles H. Frazier.
53 *A Note on the Histology of Vernal Conjunctivitis (Fruehjahr's Catarrh). G. E. de Schweinitz and E. A. Shumway.
54 Note on the Agglutination and Pathogenicity of the Bacillus Subtilis. S. S. Kneass and Joseph Sailer.
55 Partial Paralysis of One Upper Limb, Resulting from a Vascular Lesion of the Lateral Column and Anterior Horn on the Corresponding Side of the Spinal Cord. William G. Spiller and Theodore H. Weisenburg.
56 An Adjustable Anatomical Table. Gwilym G. Davis.
57 A Case of Colon Infection Simulating Typhoid Fever. Joseph Evans.
58 Fat Crystals in the Spinal Cord. Daniel J. McCarthy.
59 *A Contribution to the Chemical Pathology of Acromegaly. David L. Edsall and Caspar W. Miller.
60 Karyokinesis in the Macroblast. C. Y. White.

52. **Regeneration of the Posterior Spinal Roots.**—Spiller and Frazier have experimented on dogs, performing laminectomy and exposing and dividing the posterior roots of three spinal segments about 1.5 cm. from their point of entrance into the dura; the divided ends of the lowermost three were brought into apposition by a silk suture. The other two remained in apposition without any artificial means. In the only successful case the dog was killed ten months after operation and the spinal cord removed and studied microscopically. They found the intramedullary portions of the roots operated on entirely degenerated and no young nerve fibers anywhere in the usual distribution of the posterior roots within the cord. The conditions for regeneration were made as favorable as possible, but it did not occur. They think their experiment is rather conclusive, though they regret that more animals did not survive to corroborate the results.

53. **Spring Catarrh.**—A case of this disease is reported by de Schweinitz and Shumway with microscopic examination of the excised tissue of the growths from the superior tarsal conjunctiva. Their findings correspond with the description of the growths by Vetsch, Horner, Uhthoff, Knies, Taylor, Schoebl, Haab and Fuchs. Neither epithelium nor connective tissue elements especially predominated in the specimens, as each constituted a definite portion of the new growth.

59. **Acromegaly.**—Edsall and Miller have experimented on the nutrition and elimination of two cases of acromegaly, giving reports in detail. Their findings seem to show that there is in acromegaly a growth of abnormal bone rather than an abnormal growth of bone, and that there are very marked abnormalities in the soft tissues as well as the bones. The alteration in the bone is the result of metabolic abnormalities rather than a mere tendency to distorted overgrowth.

Maryland Medical Journal, Baltimore.

June.

61 *A Further Investigation of the Milk Supply of Baltimore, with Especial Reference to Its Suitability for Infant Feeding. Edwin H. Schorer and Victor H. Bassett.
62 Some Remarks on a New Modification of the Bottini Operation. W. B. Wolf.
63 Method of Instruction in Surgical Pathology. J. C. Bloodgood.

61. **The Milk Supply of Baltimore.**—Schorer and Bassett have investigated the milk supply of Baltimore, both at the dairies and retailers, and find that it is very generally adulterated by water and that preservatives are so common that a large proportion of the milk sold should be considered unsuitable for infant feeding. Adulteration, they think, occurs largely in the hands of retailers. The bacterial count and acidity test are satisfactory means of determining the suitability of milk for infant feeding and are of greater value than the ordinary physical and chemical tests. The standard proposed by Park, that of 500,000 bacteria per c.c. at the receiving stations and 1,000,000 in milk offered for sale, are practicable standards for Baltimore, and can be met by moderate care in the production of milk, and refrigeration later. With slightly improved conditions a number of the better dairies could supply milk which could be certified and contain less than 100,000 bacteria per c.c.

St. Louis Courier of Medicine.

June.

64 The Differentiation of Complements. Carl Fisch.
65 *Relief of Bladder Symptoms by Treatment of the Uterus, and Vice Versa. H. S. Crossen.
66 The Value of the Static Machine as a Therapeutic Agent. H. N. Chapman.
67 The Relation of Modern Researches on Immunity to Physiology. John Zahorsky.

65. **Bladder Symptoms and the Uterus.**—Crossen reports a case of uterine disorder with various symptoms associated with it, including bladder disturbance, and this seemed to be the principal difficulty. It was treated with poor success for a number of years. He operated, opening the posterior cul-de-sac, and loosened up the uterus from adhesions. He then performed the Alexander operation, with the result of completely curing the bladder difficulty and all the other symptoms. In another case there was incontinence of urine, due to destruction of the urethra by a syphilitic ulcer, unrelieved by operation. In studying the case he concluded that the failure was due to dragging of the displaced uterus on the neck of the bladder and the irritation of the catheter in the wound, so he opened the abdomen, broke up the adhesions, attached the

fundus uteri to the abdominal wall and then repaired the pelvic floor. When the patient had recovered he then operated a second time directly to relieve the uterine incontinence. The result was perfect, which he attributes largely to the uterine operation. In still a third case there were symptoms attributed to injury of the pelvic floor with downward displacement of the uterus, which were cured by washing the bladder out with boric acid solution.

Illinois Medical Journal, Springfield.

June.

68 *President's Address, Illinois State Medical Society. M. L. Harris.
69 *Food. J. A. Wesener.
70 The Renaissance. J. L. Wiggins.
71 *Some Observations on Iodophilia. Adolph Gehrmann.
72 Pelvic Abscess. J. A. Baughman.
73 Operative Dysmenorrhea. G. Kolischer.
74 Notes on the Treatment of Puerperal Infections. Thomas J. Watkins.
75 Brometone. E. Fletcher Ingals.

68. See abstract in THE JOURNAL, xl, p. 1304.

69. **Foods.**—Wesener describes the process of digestion and goes at length into the question of adulteration, showing that a large proportion of the articles of food in daily use are more or less sophisticated. The finer qualities of flour are an exception; it is rare to find them adulterated. Among the food substances that are absolutely pure he includes flour, cereals, meat and fresh vegetables. Of all the food preservatives used formalin is the most harmful as acting directly as an irritant on the gastrointestinal tract, making the proteids of milk and other substances in which it is used indigestible. The arrangement of a well-balanced diet is a complex matter and largely varies with individuals. The tendency to overeat is especially condemned.

71. **Iodophilia.**—Gehrmann reviews the subject of the iodin reaction on the part of the white cells, which is most constantly found in connection with suppuration, diabetes and severe anemia. He is inclined to think that iodin-staining substances are of the nature of glycogen rather than amyloid. The test should be more generally employed.

Albany Medical Annals.

June.

76 *The Prevention of Puerperal Eclampsia. John T. Wheeler.
77 *Report of a Case of Tetanus Treated with Antitetanic Serum. Charles B. Mallery.

76. **Puerperal Eclampsia.**—The importance of frequent examinations of the urine in pregnant women is insisted on by Wheeler, who believes that women themselves should be taught to make examinations, and if any warning symptoms occur for the physician to carry them on. He always teaches his patients to make the test if they reside at a distance or are poor or there is anything that prevents close personal attention.

77. **Tetanus.**—Mallery reports a case of tetanus successfully treated with antitetanic serum, and he has looked up the literature on the matter. He finds 277 cases thus treated with a general mortality of 63 per cent., and as compared with the cases treated without antitetanic serum the value of the method is made evident. The small mortality of the St. Louis outbreak from infected diphtheria antitoxin is attributed by Fisch to the preventive use of the serum. He concludes that his own case would have been fatal without this treatment. The condition was desperate when it was begun, and was at least arrested by 40 c.c. of the antitoxin. The effect of the serum treatment was also noticeable in the speed of recovery. Reports show that favorable cases treated in other ways recover slowly and that muscular rigidity, and especially trismus, continues for weeks and months. Had he been able to give the serum in larger quantities at first and dared to use it as he did later, he believes that he could have cured the patient much quicker. He also doubts whether there is any notable difference as to the method of injecting, whether it is put under the skin by subcutaneous injection or into the spinal canal, the vital point being the early use of the remedy in large quantities. In his case he used 400 c.c., or 20,000,000 units, injecting it indiscriminately under the skin of the legs, arms, chest or abdomen.

Archives of Pediatrics, New York.

June.

78 A Review of the Work of the American Pediatric Society. J. P. Crozer Griffith.
79 The Changes in the Management of Laryngeal Diptheria Treated by Intubation. Edwin Rosenthal.
80 *The Paroxysms of Whooping Cough Treated by Pulling the Lower Jaw Downward and Forward (Naegeli). Jacob Sobel.
81 Congenital Asymmetry or Hemihypertrophy in an Infant. A. Hymanson.
82 A Case of Ludwig's Angina from Infection of the Lingual Frenum. Charles J. Aldrich.

80. **Whooping Cough.**—Sobel finds, as a result of his experience with the Naegeli maneuver for overcoming whooping cough, that: "1. Pulling the lower jaw downward and forward controls the paroxysms of whooping cough in most instances, and most of the time. 2. The method is usually more successful in older children than in younger ones and infants. 3. In cases without a whoop the expiratory spasm, with its asphyxia, is generally overcome, and in those with a whoop the latter is prevented. 4. As a single therapeutic measure for the control of the paroxysms it deserves a place in the treatment of pertussis and is as successful as any single drug, or even more so. 5. Mothers, nurses and other attendants should be instructed in its use in order that the oncoming attacks, especially at night, might be arrested. 6. The manipulation is harmless, painless and easy of application, without any of the ill effects of drugs; it offers a maximum good effect with a minimum derangement. 7. The only contraindication to its application is the presence of food in the mouth or esophagus. 8. Patients treated in this manner are less likely to suffer from complications and sequelæ than those treated only medicinally; they emerge from the disease in far better condition, less exhausted and less emaciated because vomiting has been controlled. 9. It is advisable to try the maneuver in other spasmodic coughs and laryngeal spasms (laryngismus stridulus, pressure of enlarged cervical and bronchial glands, influenza, glottis spasm in catarrhal laryngitis), although my experience has seemed to show that it is far less efficacious in these conditions than in whooping cough. 10. This method being directed mainly to the control of the glottis spasm, does not preclude the advisability of supporting and sustaining the patient, guarding his gastrointestinal tract, establishing equilibrium in the nerve centers and affording him every possible hygienic advantage. 11. It is particularly indicated in instances complicated with diffuse bronchitis, bronchopneumonia, convulsions, epistaxis, subconjunctival or subcutaneous hemorrhage, or sublingual ulceration and in those children who by virtue of age, the presence of rachitis, scrofula or general debility are predisposed to serious complications and sequelæ."

Ophthalmic Record, Chicago.

June.

83 Some Ophthalmic Cases I Have Seen. Alex. W. Stirling.
84 *The Ophthalmoscopic Examination of the Macula. Edward Jackson.
85 *Spring Catarrh. Wilson P. Malone.
86 A Note on the Use of Jequiritol and Jequiritol Serum (Merck). Casey A. Wood.
87 The Action on Mucous Membranes of Silver Salts, with Especial Reference to Some of Their New Organic Forms. Arthur G. Hobbs.
88 Ineffectual Attempt to Remove a Piece of Steel from the Eye with the Haab Magnet. William H. Wilder.
89 Incised Wound of the Cornea Made by a Fragment of Spectacle Lens. S. Mitchell.

84. **Ophthalmoscopic Examination of the Macula.**—Jackson describes the methods of studying the ophthalmoscopic appearances of the macula, and shows how it can be done with the ordinary ophthalmoscope with an undilated pupil, if the instrument is used to the best advantage. "The corneal reflex can be so reduced as to allow the surgeon to see the pupil alongside of it, by making the sight-hole small, 1.5 mm. in diameter, and holding it so that one edge of it is in front of the center of the surgeon's pupil, or by using a half mirror. The visible field can be enlarged by getting close to the patient's pupil and excluding all unnecessary light. The illumination of the retina can be rendered brilliant at a certain point, or diffused equally over the whole visible field, by adjusting the source of light at the proper distance from the mirror, and by placing the right lens in a trial frame before the patient's eye."

85. **Spring Catarrh.**—This condition was first noticed by Arlt, and subsequently by others, including Saemisch, who gave it the name. The condition is here described by Malone. He gives the symptoms and peculiar appearances. There is photophobia, stinging pain, great itching with the addition of a stringy muco-purulent secretion, interfering with vision, all aggravated by warm weather and disappearing during the winter months. On examining the eye we may find only the conjunctiva covering the tarsus involved, that is, in the tarsal variety; or, it may be limited to the conjunctiva of the ball, that is, the bulbar variety, or both may exist together. On everting the upper lid we find it covered with broad, flattened, papilliform excrescences over the tarsus and over the whole a delicate bluish-white film as if a thin layer of milk had been spread over the conjunctiva. The growths may cover the whole lid or may be few and small and less characteristic. If the bulbar conjunctiva is involved it is thickened and unequally raised at the limbus, forming pale, translucent or waxy nodules encroaching on the cornea, but extending most over the conjunctiva. They may be scattered or involve the whole circumference. He thinks it generally begins in the superior limbus, then the inferior, and both sides then become involved. It is very similar in some respects to trachoma, but is not identical in its structure, and he points out the differences, which are leucocytic and diffuse infiltration, no clearly defined nodules, as in trachoma, the different situation and the thick, resisting bands as compared with the thin and delicate ones of trachoma. He has found little good from cauterization for the tarsal type. He curetted the growths off clean and reports a cure in one case, with another greatly improved. He thinks if we can remove from the tarsal cartilage all of the diseased tissue, we may have a cure. With the bulbar variety he has had no special success. He uses salicylate of sodium, 10 gr., with cocain 2 to 5 grains to the ounce, four or five times a day as a soothing lotion.

American Journal of the Medical Sciences, Philadelphia.
June.

90 *Amyotrophic Lateral Sclerosis. Joseph Collins.
91 *Congenital Dislocation of the Shoulder. Charles Greene Cumston.
92 A Case of Myelogenous Leukemia, with Several Unusual Features (Absence of Eosinophilic Leucocytes). Charles E. Simon.
93 *The Dermatoses Occurring in Exophthalmic Goiter. James Nevins Hyde and Ernest L. McEwen.
94 *Notes on the Employment of Epicarin in Tinea Tonsurans and Tinea Circinata. Arthur Van Harlingen and Henry K. Dillard, Jr.
95 *The Blood-pressure Reaction of Acute Cerebral Compression, Illustrated by Cases of Intracranial Hemorrhage. Harvey Cushing.
96 A Review of Some of the Older Writings on Infant Feeding. Samuel McC. Hamill.
97 *A Case of Gangrene of the Lung Cured by Operation. David Riesman, A. C. Wood and G. E. Pfahler.
98 *Zomotherapy in Tuberculosis. Lawrason Brown.
99 Notes from the Throat Department of the Pathological Laboratory of the Manhattan Eye and Ear Hospital. Jonathan Wright.

90. **Amyotrophic Lateral Sclerosis.**—A case is reported by Collins with elaborate microscopic findings. He discusses the nature of the disorder, its starting point and pathology, its symptoms, etc. It is characterized by symptoms of progressive muscular atrophy of the Aran-Duchenne type, complicated with bulbar involvement, plus spastic paralysis, and exaggeration of tendon jerks all over the body. The morbid process consists in a decay of the peripheral motor neurons of the ventral horns, terminations of the pyramidal neurons, and atrophy of the column and the commissural cells of the gray matter. It extends centrifugally in the peripheral motor neurons, centrifugally and centripetally in the central motor neurons. The microscopic features are atrophy of the anterior horns, with disappearance or lessening of its cell constituents without vascular change, degeneration of the fundamental tracts to a greater or less extent, degeneration of the pyramidal tracts to a varying extent. The question as to which is first involved, the peripheral motor neuron or the central motor neuron, is not answered, though he is inclined to believe that one may be primarily involved in one case and the other in another. It is not necessary to have complete involvement of both systems of neurons for clinical purposes. The pyramidal columns may be uninvolved even in the typical form. Other parts of the cord that have been found involved are the posterior columns and the direct cerebellar tracts occasionally. He does not consider it a variety of spinal progressive muscular atrophy. From a study of the literature of 94 typical cases, adding 10 of his own observation, he finds a large number of etiologic factors reported. Trauma, he thinks, has but little etiologic influence. There is much to suggest infection or intoxication processes. A number of cases seem to indicate this, some following parturition, some were syphilitic. But all the factors that have been incriminated, such as injury, exposure, intoxication and the like, Collins thinks are only exciting causes. There is something back of these which is the real cause, and he thinks we should look to the pathologic chemist for the discovery of the real toxic agency in the disease.

91. **Congenital Shoulder Dislocation.**—The etiology and pathology of this disorder is indefinite, according to Cumston, no theory giving thorough satisfaction. It is difficult to explain why it should be more common in girls than in boys, and why such cases are more frequent in girls belonging to the lower classes than those of well-to-do parents. Possibly rickets has something to do with it. Heredity is an important factor to be considered. He is inclined to think that alcoholism, tuberculosis, syphilis, etc., in the ancestors are among the potent factors. The most striking pathologic lesion is arrest in the development of that portion of the skeleton on which the muscles take their insertions. The muscles themselves are atrophied. The capsule of the joint is intact, and its insertions are normal, but it is relaxed, very distended and occasionally considerably elongated. The diagnosis is discussed at length by Cumston. The question as to whether it is a case of obstetric trauma, obstetric paralysis or cerebral or syphilitic, or tubercular, etc., in nature is noticed. There is a complete absence of fever. All the muscles have their voluntary contractility immediately after birth; their atrophy is due to long disuse. In the vast majority of cases the only satisfactory treatment is surgical. He favors Duplay's incision in cases where free operation is required, otherwise the simple anterior incision of Ollier will suffice. A case is reported in detail.

93. **Exophthalmic Goiter.**—Hyde and McEwen report several cases of cutaneous disorders in connection with Graves' disease; one of hidrocystoma, one of telangiectases, one of cutaneous pruritus, one of pruritus and angioneurotic edema. These are discussed at length and especial attention called to the case of hidrocystoma, which shows that it may develop in women nowise exposed to the ordinary causes, such as moist atmosphere, etc. The authors review the literature of the cutaneous syndromes of Graves' disease and suggest that in some non-typical cases a point of interest might arise in view of the existence of the skin lesions.

94. **Epicarin.**—This substance is said to be a condensation product of creotinic or creosotinic acid and B. naphthol, and to combine the properties of creosote and naphthol. It was first brought into notice some years ago by Kaposi. It is a reddish amorphous powder with a slight odor resembling acetic acid, is soluble in alcohol, ether and liquid vaselin. Van Harlingen and Dillard have treated a number of cases of tinea circinata and tinea tonsurans with this drug, using principally a tincture of a 10 to 20 per cent. solution and offer the following conclusions:

1. In epicarin we have an important addition to the means of combating ringworm of the scalp. Used, preferably, in the form of a tincture of 10 to 20 per cent. strength and, after epilation, it appears to act more rapidly than any of the remedies heretofore employed in restoring the hairs to a normal condition. 2. In ringworm of the body the tincture seems to be irritating and slow in action. The ointment acts better, but is not equal to the ammoniated mercury ointment, nor to most of the remedies ordinarily employed. 3. In (a single case of) favus the result of the use of epicarin was such as to encourage trial. 4. In scabies, so far as our experience goes, epicarin in the form of the tincture and simple ointment is apt to prove very irritating and is by no means equal to the sulphur and naphthol nor to the other ointments ordinarily employed.

95. **Blood Pressure in Cerebral Compression.**—In summarizing his article Cushing calls attention to the following points:

Varying degrees of rapid increase in intracranial tension produce disturbances in the intracranial circulation. To these circulatory

disturbances the symptoms of compression are solely due. The condition known as acute cerebral compression may be conveniently subdivided into four stages, dependent on the degree of circulatory alteration which has been reached. Each of the stages has its own more or less characteristic symptom-complex. The major or underlying symptoms originate in the centers situated in the medulla, and are only called out when the degree of intracranial tension begins to approach the arterial tension so that anemia is threatened. A circulatory condition in the medulla which borders on anemia has the effect of stimulating the vasomotor center. Thus, a rise in blood pressure is occasioned which restores the local circulation. The extent of this rise may be taken as an indication of the degree of advancement of the compression. Beyond a certain point, however, this reaction can not take place. The vasomotor center under these circumstances fails, and the respiratory efforts cease entirely. In conjunction with other symptoms, a progressive increase in arterial pressure or a high degree of the same, which has been already reached, or a pressure which exhibits from moment to moment great alterations in level may be taken as a certain indication of the advisability of early operative intervention. In case there are localizable symptoms the site of trepanation is plainly indicated. In case of generalized compression from widespread hemorrhage when there are no localizing indications, the intracranial tension should be relieved by the elevation of a large osteoplastic flap from one hemisphere or the other, with a corresponding opening in the dura.

97. **Gangrene of the Lung.**—In the case reported by Riesman, Wood and Pfahler, the condition was desperate, and recovery apparently impossible by any means except operation. The fifth rib was resected, the gangrenous portion of the lung found immediately below the pleura and some necrotic lung tissue removed. The cavity was as large as a man's clenched fist, as found by digital examination. The parts were cleansed with gauze sponges, which brought away all loose matter. It was then packed with sterile gauze and the wound was redressed daily. While the discharge was very profuse at first, the patient gradually improved, and only a month later was in a fair condition, the cavity decreasing in size. From that time on recovery was rapid and satisfactory. The authors discuss the condition and its treatment, insisting on the importance of definitely locating the trouble, using skiagraphs if necessary, making ample opening in the pleura and rib resection, securing adhesions to the pleura before entering the lung, and if they do not exist, stitching the two layers together around the proposed opening into the lung, which may be made in forty-eight hours or sooner if the patient's condition demands it. The condition seems to follow lobar pneumonia in most cases. They particularly emphasize the absence of fever in the case; the temperature was normal before operation and only rose to about 102 or 103 after the resection for a day or so. Another point mentioned particularly is the gangrenous smelling sputum and the absence of elastic tissue. The value of the *x*-ray in diagnosis is emphasized, and they remark that the acute form is more favorable in its prognosis than the chronic. The mortality without operation is necessarily very high, 70 or 80 per cent. Under operative treatment a death rate of 34 per cent., according to Garré and Sultan, is about normal. In some cases physical examination and examination with the *x*-ray after operation showed a normal lung where there had previously been a gangrenous cavity. The second radiograph in this case also showed a restored lung. Whether there is a true hyperplasia of the air passages or merely an enlargement of the existing ones, can not be said. The importance of adhesions is also emphasized.

98. **Zomotherapy in Tuberculosis.**—From experiments made on dogs in the treatment of tuberculosis, Brown concludes that raw meat has no perceptible effect on the duration of experimental tuberculosis in dogs if the bacilli are virulent and a sufficient number injected intravenously; that it has no effect on the prolongation of the duration of experimental tuberculosis in dogs, even if the bacilli are attenuated, provided a sufficient quantity is injected; that under the same conditions dogs fed on a mixed diet with no raw meat may live a much longer time. As regards the use of meat in pulmonary tuberculosis, he says that it is highly essential in the dietetic treatment and that the judicious mixture of carbohydrates, fats, etc., is essential to the treatment. Raw meat is better than meat well cooked. Meat juice is of great value in suralimentation. It can be taken when the patient can take no other form of meat. The juice from raw meat seems slightly if at all better than the juice from meats slightly browned. The disadvantages of preparing and preserving raw meat juice more than offset its advantages. Patients who object to juice from raw meat will willingly take that from meat browned. It is of value as it can be administered in the form of jellies, ices, etc.

American Practitioner and News, Louisville, Ky.

March 15.

100 Some Reminiscences in the Lives and Characters of the Old-time Physicians of Louisville. T. B. Greenley.
101 The Pulmonary Circulation, More particularly in Relationship to Variations in Cardiac Activity. T. G. Brodie.

Northwestern Lancet, Minneapolis.

June 1.

102 Some Remote Effects of Eye-strain. George H. Thomas.
103 Retropharyngeal Abscess in Adults. J. A. Watson.
104 Post-operative Nasal Synechiæ. Marion A. Mead.
105 A Case of Partial Placenta Previa, with Premature Total Detachment, Complete Uterine Inertia and Dual Fatality. W. A. Chamberlin.
106 Report of a Case of Arsenical Neuritis. H. G. Parker.

June 15.

107 Intestinal Perforation in Typhoid Fever. Edwin T. Ramsey.
108 Drug Treatment for Tuberculosis. Lester W. Day.
109 Acute Inflammatory Glaucoma; Diagnosis and Treatment; Report of Case. E. F. Reamer.

Medical Fortnightly, St. Louis.

June 10.

110 Report of Case of Pistol-shot Wound in Neck; Laminectomy; Results. J. C. Murphy.
111 *Wounds Inflicted by Modern Agricultural Implements. D. W. Basham.
112 Address of Welcome, Tri-state Medical Society. Robert H. Goodlet.

111. This article has appeared elsewhere. See THE JOURNAL, xl, ¶27, p. 1755.

Medical Age, Detroit, Mich.

June 10.

113 A Preliminary Report on the Treatment of Tabes with the X-Ray. John W. Daniel.
114 Hepatic Tumors and Hepatosis, with Its Treatment. Byron Robinson.
115 Some Practical Thoughts on Insanity. Charles W. Hitchcock.

Medical Examiner and Practitioner, New York.

June.

116 A Study on Light. J. Mount Bleyer.
117 Constipation. James P. Tuttle.
118 The Bacteriology of the Puerperal Uterus; Its Relation to the Treatment of the Parturient State. S. Marx.
119 Some Notes on Pollacci's New Method of Detecting Albumen in the Urine. Gordon Lindsay and William J. Gies.

California State Journal of Medicine, San Francisco.

June.

120 Report of Medical Legislation and Education. Henry Gibbons, Jr.
121 Report of Medical Education and the Work of the Board of Medical Examiners. W. S. Thorne.
122 Prostatic Obstructions. (To be continued.) Granville MacGowan.
123 A Few Remarks on Gastric Surgery. Dudley Tait.
124 Bone Transplanting and Report of a Case. A. W. Morton.

Brooklyn Medical Journal.

June.

125 Ventral Suspension and Ventral Fixation for Prolapse of the Bladder with the Uterus. Robert L. Dickinson.
126 The Medical Witness. Arthur C. Brush.
127 Economics of the Practice of Medicine. Heber N. Hoople.
128 The Business Aspect of Medicine. Edward Hodges.
129 Early History of Medicine in Kings County. William Schroeder.
130 Glaucoma. James C. Hancock.

Iowa Medical Journal, Des Moines.

June.

131 Vital Statistics; Their Value to the Physician and Some Suggested Reforms in Registration. F. I. Herriott.
132 Public Health Service. W. J. Findley.
133 Gonorrhea in the Female. W. Bowen.
134 The Etiology of Convergent Squint. Eugene R. Lewis.
135 Atresia of the Vagina, Pregnancy and Cesarean Section. L. W. Littig.

Occidental Medical Times, San Francisco.

June.

136 The Repair of Ventral Hernias and a Word as to Their Prevention. J. Henry Barbat.
137 Biomechanical Laws in Medicine. (Concluded.) Moritz Benedikt.

New Yorker Medicinische Monatschrift.

April.

138 Ein welterer Beitrag zur Anwendung der electrischen Lichtstrahlen bei Tuberculose. W. Freudenthal.

Canadian Practitioner and Review, Toronto.

June.

139 Extirpation of the Prostate, Freyer's Method. F. P. McNulty.
140 Hodgkin's Disease. William Allen.

Medical Bulletin, Philadelphia.

June.

141 The Evolution of the Trained Nurse. Walter T. Merrick.
142 Psoriasis, Secondary Syphilis. John V. Shoemaker.
143 Treatment of Cough. George W. Pfromm.

Post-Graduate, New York.

June.

144 Practical Management of Acne and Rosacea. Thurston G. Lusk.
145 Some Remarks Suggested by Recent Rhinological Progress. Thomas J. Harris.
146 Recent Advances in Orthopedic Surgery. Henry L. Taylor.
147 Intravascular Medication, with Special Reference to Septicemia. Antonio Fanoni.

Cleveland Medical Journal.

June.

148 Remarks on the Lymphatic System. C. A. Hamann.
149 Some Freaks in Surgery of the Gall Bladder and Bile Ducts, with Report of Cases and Exhibition of Specimens. A. F. House.
150 Paralysis of the External Recti Muscles Appearing After a Blow on the Skull. Edward Lauder.
151 Ulcus Ventriculi. Henry C. Luck.

New Orleans Medical and Surgical Journal.

June.

152 The Technic of Prostatectomy. Ramon Guiteras.
153 A Few Differential Characteristics in the Anatomy of Some of the Lower Species Compared with that of Man; with Passing Allusion to Analogy and Homology. W. H. Dalrymple.
154 Yellow Fever in Havana and Cuba, 1902. Carlos J. Finlay.

New York State Journal of Medicine, New York.

June.

155 President's Address, New York State Medical Association. Jeremiah R. Sturtevant.
156 A New Method of Denuding and Introducing Sutures in Perineal Operations. Alfred B. Tucker.
157 Clinical History and Treatment of Diabetes. Charles O. Green.
158 Intestinal Obstruction. J. B. Harvie.
159 *Strangulated Hernia in Children Under One Year. W. B. Reid.
160 *The Advantages of Nitrous Oxid in General Surgery; Exhibition and Description of a Stopcock for Its Administration with Varying Percentages of Oxygen. H. W. Carter.

159. See abstract in THE JOURNAL, xxxix, p. 1204.

160. Ibid., p. 1205.

Memphis Medical Monthly.

June.

161 The Conduct of Labor. Alexander Erskine.
162 Some Observations in European Hospitals with Special Advantages for Genitourinary, Skin and Rectal Study. Eaton K. McNeil.
163 The Relation of the Nurse to the Physician. G. G. Buford.
164 Diseases of the Stomach Secondary to Those of the Intestines and Liver. R. J. McFall.

Dominion Medical Monthly, Toronto.

June.

165 Appendiceal Diseases. A. Groves.
166 A Case of Erysipelas Migrans Universalis in an Infant Ten Weeks of Age, with Recovery. W. H. Pepler.
167 Hemophilia-Synonyms, Hemorrhagic Diathesis or Idiosyncrasy, Hemorrhaphilia Heredity Hemorrhage—Ger. Blüterkrankheit or Blutungssucht. A. J. Harrington.
168 Report of Two Cases of Erysipelas Migrans, Probably Contracted from Patients Suffering from Scariatina. Graham Chambers.

Denver Medical Times.

June.

169 A Case of Neglected Empyema. A. M. Holmes.
170 Uncinaria Americana—An Intestinal Parasite. C. D. Spivak.
171 Sudden Death. Edward C. Hill.
172 Memoir of Dr. Henry King Steele. Henry Sewall.
173 Cerevisine in the Treatment of Gonorrheal Ophthalmia. Emma Jane Keen.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 13.

1 *Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
2 *Observation on the Treatment of Cancer of the Rectum. W. Watson Cheyne.
3 The Surgery of the Simple Diseases of the Stomach. B. G. A. Moynihan.
4 Case of (so-called) Idiopathic Dilatation of the Esophagus. C. B. Lockwood.
5 *Beneficial Results of Gastro-enterostomy in Some Cases of Irremovable Carcinoma of the Stomach, in Which the Pylorus is Not Obstructed. Bilton Pollard.
6 Case of Hypertrophic Pulmonary Osteoarthropathy. Sydney W. Curl.

1. **Muscular Movements.**—This first lecture of Beevor's is given over to a discussion of muscular movements of the fingers and hands, and is too detailed for abstracting.

2. **Cancer of the Rectum.**—Cheyne discusses the treatment of cancer of the rectum, more especially the radical treatment. The majority of surgeons agree as to the value of operation in suitable cases. Two questions arise: First, the value of operation; secondly, the risks it involves. In the majority of cases of rectal cancer the growth is slower than in most other places. Therefore, there is nothing inherent in the morbid processes that opposes radical operation, nor is there anything in the condition which makes it specially difficult in suitable cases. The rectum is comparatively accessible from below, and the whole of it can be reached by the combined abdominal and perineal route. Moreover, the lymphatic glands run in close contact with the intestinal wall, and if operation is done sufficiently early, when the glands are not too much affected, there is a very fair percentage of recoveries as compared with cancer elsewhere after operation in suitable cases. The proportion, however, of suitable cases is somewhat less than in cancer of the breasts or extremities. Cheyne estimates that only about 20 per cent. of the cases that present themselves to the surgeon will be fit for radical operation, with a view to the complete removal of the disease, though this percentage may be somewhat increased by recent improved methods. However, aside from complete recovery, operation may prolong life and save the patient a great amount of suffering. As regards mortality, it is no doubt higher than that after operations through unbroken skin, such as amputations, excision of the breast, etc., though in such cases the mortality is exceedingly slight. The question as to what are suitable cases is answered by him as follows: Operation should be undertaken only when the patient is in a fair state of health and likely to stand operation and prolonged convalescence; in those who are not suffering from organic disease or where there is no evidence of extension to other parts of the body. The chief local contraindication is a fixed bowel, which means that the growth has penetrated the intestinal wall and begun to probe into the surrounding tissue. In case of tumor situated low down and adherent to the posterior vaginal wall, there is a possibility of good results. Another point which has been considered a contraindication is the situation of the cancer. He thinks the dictum has been a little too decided on this point when it is said that a cancer that can not be reached by the finger to its upper limit is inoperable. By opening the abdomen and keeping the intestines well out of the way the bowel can be divided above the cancer, and if it can not be united with the rectal extremity, it can be brought out at a colotomy wound. The question of primary colotomy is discussed. He thinks it should be an exceptional procedure rather than the general rule. As to the methods of gaining access to the disease, the perineal and vaginal routes are the suitable ones where the disease is quite low down. The sacral and abdominal or combined abdominal and perineal where the disease is high up. In the majority of cases the sacral route is preferable. As regards the combined abdominal and perineal operation as done by Quénu, it is on trial. So far its mortality has been considerable. Cheyne prefers personally to remove the affected portion of the intestine above a clamp; then invaginate and stitch up the lower end of the bowel and leave it in position while the other end is brought out in the groin and the ligature—which has been applied around the bowel before the removal of the disease—left *in situ* for two or three days if possible. There is no special advantage in dissecting out the lower end of the rectum. To avoid sepsis he cautions against infecting the hands, and besides disinfecting the perineum, he also stitches up the anus tightly to prevent any escape of matter during the course of the operation. Moreover, when possible, he peels down the glands and ligates the bowel in two places, the ligatures being left long, and brings the rectum as far as possible outside the wound before the bowel is divided. He also generally employs a prophylactic injection of antistreptococcic serum. The author notices Ball's statement in a recent lecture

that we should try to bring down the upper end of the anus more frequently than has been done. He does not favor the radical end-to-end union, but would invaginate the proximal end down into the interior of the distal end, at least one-half to one inch and strip off the mucous membrane of the upper part of the distal end to a corresponding extent. Where this is not possible, he thinks the sacral opening is the preferable procedure, but he does not stitch the open end of the bowel to the skin wound, but rather stitches the skin to the muscular coat of the bowel as far above the divided end as possible, and leaves the ligature on. If he can manage it, he stitches up the wound and completes the operation before cutting off the lower end of the rectum with the tumor. There is some objection to leaving the ligature on for awhile on account of the prevention of the escape of gas, but he has not found it necessary to do anything to relieve the patient before the ligature separates. He thinks in case of sacral anus benefit is derived from Gersuny's suggestion of giving the bowel a half or three-quarters turn before bringing it out. He follows this plan and finds it has great advantage in tending to continence of feces in the artificial opening.

5. **Carcinoma of the Stomach.**—Pollard finds that in some cases where the clinical symptoms point to obstruction of the pylorus from gastric carcinoma, operation is done with the idea of relieving the condition by gastroenterostomy and the growth is found away from the pylorus which is not obstructed. In these cases he believes gastroenterostomy is often still advisable, and reports a case where good results followed. His conclusion is that the clinical signs offer the most important indications for treatment. Where there seems to be obstruction, operation for its relief, even if the anatomic conditions do not indicate it, may be advisable.

The Lancet, London.

June 13.

7 *A Few Jottings in Physiologic Medicine. George Oliver.
8 *Parasyphilis. George Ogilvie.
9 *A Statistical Inquiry into the Prognosis and Curability of Epilepsy; Based on the Results of Treatment. William A. Turner.
10 Malaria as Seen in the Andamans Penal Settlement. Ernest E. Waters.
11 Chronic Suppuration in the Middle Ear; Thrombosis of the Lateral Sinus; General Septic Infection; Operation; Venous Transfusion; Recovery. W. M. Willis.
12 The Aniline Dyes as Therapeutic Agents. Andrew Balfour.
13 A Case of Congenital Deformity of the Skull Associated with Ocular Defects. H. Work Dodd and W. Halliburton McMullen.
14 Chronic Volvulus of the Sigmoid Flexure; Intestinal Obstruction; Operation; Recovery. Herbert W. Allingham and E. Chittenden Bridges.

7. **Blood Pressure.**—Oliver notices the fact of the rhythmic rise of blood pressure after eating, which is a little peculiar when we consider that the splanchnic arterioles dilate and should lower it. The arteriometer, however, shows that the arterial caliber is slightly lessened when the splanchnic diversion takes place, and there is a compensatory reduction of the systemic area of the circulation. He finds a certain amount of venous and capillary contraction which suggests that this increased blood pressure wave is associated with an exudation into the tissues of nourishing fluid during digestion. He also notices the effects of temperature on the blood pressure, and also of exercise, and finds that of all the three leading causes of arterial pressure variations, the influence of digestion is paramount and constant. The long curves of rise and fall produced by meals recur with regularity and persist beyond the temporary variations of blood pressure produced by muscular action and by temperature, which only modify the line of these curves in a mere transitory way. The article concludes with some observations on the influence of altitude on the blood pressure, which shows that it falls up to a certain altitude, say 2,000 or 3,500 feet, and above that is rapidly increased. He thinks these facts have a bearing on practical climatology. He is not aware of a climatic condition that will lower the mean arterial pressure to the same extent as the medium altitudes, and this might be considered in sending patients with plus arterial pressure to mountains in the winter months.

8. **Parasyphilis.**—The address by Ogilvie is an interesting one, criticising the theory of parasyphilitic disorders. He says all that is practically new in the modern teaching of parasyphilis, apart from the name, is the enormous extension given to the deleterious and deteriorating influence of syphilis on the race. The idea is not a new one. There is about one inch of discovery to a whole Pacific ocean of invention.

9. **The Curability of Epilepsy.**—Turner discusses the curability of epilepsy, giving an interesting tabulation of statistics and offers the following summary in conclusion:

"1. A total of 366 cases, chiefly derived from the out-patient records of the National Hospital for the Paralyzed and Epileptic, has been used for the investigation. 2. Only cases of genuine idiopathic epilepsy which had been under constant observation and treatment for a period of at least two years have been taken. All cases of symptomatic epilepsy, or cases otherwise complicated, were, as far as possible, eliminated. 3. The cases have been divided into three series, according as they have responded, successfully or otherwise, to treatment: arrested, improved and confirmed cases. The influence of the various conditions modifying prognosis has been mentioned in detail, the results of the observations being stated in the percentages. 4. A family history of epilepsy will be found more frequently among those who have become confirmed epileptics, but a hereditary history of epilepsy does not necessarily militate against the prospects of arrest or improvement of the disease in any given case. 5. The age at the onset of the disease has an especial bearing on the prognosis. The most unsatisfactory cases are those in which the disease commences under 10 years of age; they show the smallest percentage of recoveries and the largest of confirmed cases. If the disease arises between 15 and 20 years of age, an almost equal percentage of arrested and confirmed cases may be expected. The greatest percentage of confirmed cases is found among those in whom the disease begins between 25 and 35 years of age, from which time onwards there is a steady increase in the expectations of arrest and diminution in the number which become confirmed. 6. The duration of the malady influences the prognosis to the extent that arrest or improvement is much more likely during the first 5 than during the second 5 years. Cases, however, may be arrested even after a duration of from 20 to 30 years. 7. The greatest percentage of confirmed and the lowest percentage of arrested cases occur in those epileptics who are subject to daily or weekly attacks, while conversely, the smallest percentages of confirmed and the highest of arrested cases occur in those whose fits are as infrequent as once or twice a year. 8. The character of the seizures influences the prognosis to the extent that the major attacks are the most tractable; then follow combined major and minor seizures; and lastly, the minor attacks occurring alone. 9. Marriage exerts little if any influence on epileptic fits. Some patients are relieved and others are made worse. In the majority of cases the disease remains unaffected. 10. Pregnancy has little influence on the seizures; at the best there may be only a temporary respite. On the other hand, the puerperium would seem to be especially favorable for the recurrence of fits; while lactation also is not without an exciting influence in their production. 11. The common incidence of epileptic fits is an irregular periodicity. There are types, however, which have been described as "increasing" and "decreasing," according as the fits increase or decrease in number in a definite period of time, or in which there is a shortening or lengthening of the intervals between the fits. A case of increasing type may by treatment be converted into one of the decreasing variety. 12. Long remissions, induced either by successful treatment or from spontaneous cessation of the fits, sometimes lasting for several years, are not unusual in epilepsy; they are of favorable prognostic value, but are not synonymous with a cure of the disease. 13. From the collected statistics a period of remission for at least nine years has been fixed as the basis on which a cure of epilepsy may be established. With this definition of a cure I regard 10.2 per cent. of epileptics as curable. 14. There are some cases of epilepsy which may be regarded as belonging to a curable type of the disease. These present little or no mental impairment, notwithstanding that fits may have existed for a long period. In the cases in which arrest took place, cessa-

tion of the fits occurred within the first year of continuous treatment in over 50 per cent."

The Practitioner, London.

June.

15 A Few Lessons from Fifty Cases of Operation for Carcinoma of the Tongue. (Continued.) W. H. A. Jacobson.
16 Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.
17 Vascular and Toxic Acroparesthesia, or Sensory Disturbances of the Extremities Occurring Independently of Primary Disorder of the Nervous System. H. Batty Shaw.
18 Tuberculosis and the Medical Profession. Alfred Hillier.
19 Atelelosis: A Form of Dwarfism. Hastings Gilford.
20 Some Points of Interest in the Clinical Manifestations of Cerebral Abscess. James Burnet.
21 The Surgical Treatment of Nephritis. J. W. Thomson Walker.
22 The Death Rates of Working-class Communities. Louis Parkes.

Journal of Tropical Medicine, London.

June 1.

23 *Researches on the Etiology of Sleeping Sickness. Aldo Castellani.
24 Tropical Hygiene. (Continued.) W. J. Simpson.
25 The Panama Canal and the Introduction of Yellow Fever in Asia. St. George Gray.
26 A Case of Acute Dysentery in Which Death Occurred from Acute Cardiac Dilatation, Probably Due to Chronic Phenacetin Poisoning. A. T. White.
27 Horder's Clinical Case for Blood Film Work, etc. Designed by Edward Horder. F.R.C.S. Edinburgh.

23. Sleeping Sickness.—Castellani finds in a large percentage of cases of sleeping sickness in the cerebrospinal fluid taken during life by lumbar puncture, a trypanosoma. It may be a new species, but rather closely resembles the *Trypanosoma gambiense* of Dutton. It is also found in the blood. He never finds it in the cerebrospinal fluid of other diseases than sleeping sickness. He has also cultivated from the blood of the heart and the liquid of the lateral ventricles in 80 per cent. of his postmortem cases a streptococcus which frequently shows cultural characters different from the *Streptococcus pyogenes*. He has rarely found this during life, and then as a rule *in extremis*. In the first stage of his investigation he attached much importance to the streptococcus, but at that time he had not found the trypanosoma. The facts, however, as regards the later discovery seem to him very suggestive and point to something more than a mere coincidence. He is inclined to conclude that sleeping sickness is probably due to the trypanosoma. At the same time there is frequently a concomitant streptococcic infection in the later stages which may play an important part.

Australasian Medical Gazette, Sydney.

May 20.

28 A Case of Myelopathic Albumosuria. Joseph C. Verco.
29 Notes on the Diagnosis and Surgical Treatment of Gallstones. C. S. Hawkes.
30 Four Cases of Suppression of Urine. H. Critchley Hinder.
31 The Finsen Light Treatment for Lupus. H. Simpson Newland.
32 Treatment of Nymphomania by Division of Branches of Internal Pudic and Inferior Pudendal Nerves. J. A. G. Hamilton.
33 Sarcoma of Superior Maxilla. C. H. W. Hardy.

Bulletin de l'Academie de Medecine, Paris.

34 (May 19, No. 20.) Du suicide dans la syphilis. A. Fournier.

Presse Medicale, Paris.

35 (No. 33.) Program of Madrid Medical Congress.
36 Report of Third International Congress of Thalassotherapy, Biarritz, April 19-21.
37 (No. 34.) Traitement psychique de l'hystérie. La rééducation. P. E. Lévy.
38 Les complications nerveuses de la grippe. J. Hallé.
39 (No. 35.) Traitement du strabisme. A. Trousseau.
40 *Les réactions cutanés. Réactions caféiques. C. Mantoux.
41 Treatment of Phlebitis. H. Hannequin.—Conduite à tenir dans la phlébite.
42 (No. 36.) L'hémodiagnostic en chirurgie. H. Vaquez and C. Laubry.
43 What the Physician May and Should Do in Odontology. G. Mahé.—Ce que le médecin peut and doit faire d'odontologie.
44 (No. 38.) *Les grands lavages intestinaux dans le traitement de la colite muco-membraneuse. M. de Langenhagen.
45 Tetanus After Gelatin. Published elsewhere. Reviewed page 1542.
46 (No. 39.) La glande thyroide dans la variole. H. Roger and M. Garnier.
47 Etiologie de la dysenterie epidémique. Vaillard and Dopter.
48 (No. 40.) Le suicide dans la syphilis. A. Fournier. See above.
49 Les injections sous-cutanées de sérum gelatineux dans le traitement des hemorragies. M. Labbe and G. Froin. Experimental. Results negative.
50 (No. 41.) Means to Remedy Abuse of Free Hospitals and Dispensaries. M. Lermoyez.—Du meilleur moyen pour éloigner les malades aisés des hôpitaux. See Foreign News.
51 *Dilution sanguine et polyurie. M. Loeper.
52 Electric Baths. F. Allard.—Bains électriques. Technique. Indications.
53 *Artificial Abscess Production in Intoxications. Arnozan and Carles.—Les abcès de fixation dans les intoxications.
54 (No. 42.) Les injections vaginales en obstétrique, gynécologie et hygiène. J. Lucas-Championnière.
55 Methyl Iodid Blister. C. Garnier.—Le vesicatoire (blister) à l'iodure de methyle.

40. Dermatoses as Cutaneous Reactions.—Brocq has been proclaiming for some time that lichen, pruritus, urticaria, eczema, psoriasis and erythemata are merely the way in which the skin of certain subjects reacts to certain influences. A single morbid cause may induce the most diverse eruptions in various subjects, and on the other hand, a single form of eruption may be induced by the most diverse causes. These assertions were confirmed by a recent experience at the Broca Hospital. Very strong coffee was served one day to 23 dermatologic patients, and the following day the 7 patients with dermatoses belonging to the above group all presented exacerbations of their cutaneous affection, while none of those with a dermatosis of another character showed any signs of aggravation of their condition. One of the patients had a severe case of eczema, and while under observation a marked aggravation of the condition was noticed on four occasions, once on account of fright in a storm, once on account of bad news, once the morning after a small epithelioma had been removed from her face, and again after ingestion of the coffee. Brocq has emphasized the relations between certain forms of pruritus, especially circumscribed neurodermitis, with daily ingestion of coffee.

44. Treatment of Muco-Membranous Colitis.—Langenhagen practices at the French watering-place, Plombières, and treats muco-membranous colitis by slow injection of one-half to two liters of water at a temperature of 100 to 118 F. The patient changes his position frequently to enable the fluid to rinse all parts of the intestine holding it, even assuming the knee-chest position. Langenhagen uses a canula of red rubber 30 to 40 cm. long, with two holes at the tip, and repeats the procedure twice a week to every day. It has proved successful in his experience in four-fifths of all cases, and only a very few displayed evidences of intolerance.

51. Dilution of Blood and Polyuria.—Loeper remarks in the course of this study of the balance between the blood and urine that there are certain cases of Bright's disease which require treatment along the lines of heart affections rather than on a purely osmotic basis. Cardiovascular diuretics are indicated, and puncture will relieve the local edema in a serous cavity. When it occurs in a lung, venesection allows the extravasation to return to its place in the circulating current. Cases of polyuria due exclusively to the defective functioning of the kidneys are comparatively rare. In a large number the kidney, obeying the impulse of the blood, plays the same regulating rôle, maintaining the balance and the volume of the blood as in normal conditions. This form of polyuria may have various origins, but the disturbance in the blood is the inevitable intermediary between the first cause and the polyuria, so that the blood stage always precedes the renal stage.

53. Artificial Abscesses in Intoxications.—Fochier's turpentine fixation abscesses are not taken very seriously in France, as a rule, but Arnozan and Carles report some astonishingly favorable results from their application in a number of cases of typhoid fever, pneumonia, meningitis and malaria, apparently otherwise doomed. They have also tried these abscesses in experimental intoxications and announce that in the pus they were able to discover two, three and even four times as much of the toxic substance introduced, copper, lead or arsenic, as in the same weight of tissue elsewhere in the animal. Applying these findings to man they obtained very satisfactory results in several cases of intoxication from carbolic or oxalic acid or carbonic oxid.

Semaine Medicale, Paris.

56 (XXIII, 18.) De la leucytose dans l'appendicite. M. Cazin and E. Gros.—"Extremely valuable sign when positive."
57 Letter from America: Procédé autoplastique pour l'ablation des cancroides des lèvres (on the lips). F. Munch.
58 Adrenalinized Vaselin. M. Mignon.—L'emploi de l'adrénaline sous forme de pommade en rhinologie.

59 Value of Guaiacolated Vaselin for Local Applications in Mumps. M. Ragazzi.—La valeur des applications de gaiacol dans le traitement des orellions.
60 (No. 29.) Le syndrome asthmatique dans la grippe. O. de Oliveira.
61 Letter from America: Treatment of Mammary Cancer in the United States. F. Munch.
62 (No. 20.) Retraction of Ring of Bandl as Obstacle to Delivery in Breech Presentations. R. de Bovis.—La rétraction de l'anneau de Bandl, etc.
63 Letter from America: Sur les causes du shock chirurgical. F. Munch.
64 (No. 21.) *Le développement chirurgical d'une double circulation complémentaire dans le traitement de quelques maladies hépato-spléniques. B. Schiassi (Bologne).
65 Letter from America: La cure radicale de la hernie inguinale aux Etats-Unis. F. Munch.

64. **Operative Treatment of Liver-Spleen Affections.**—The success of the Talma operation for establishing collateral circulation in case of cirrhosis of the liver is now established, on condition that it is undertaken before the lesions in the liver have become irreparable or the heart and kidneys are too much impaired. The best effects are attained in non-alcoholic cirrhosis, and especially in that of splenic origin. When the spleen is involved, Schiassi thinks it is important to associate with the omentopexy, a similar operation on the spleen, and describes three cases thus treated, the patients cured for a year or so to date. He shows that there are in reality two portal veins, the mesenteric vein and the splenic vein, one draining the intestinal region, the other the spleen. By diverting a part of the blood in the spleen through the wall, the excessive blood pressure in the organ is relieved and the toxins elaborated in the spleen are diverted elsewhere instead of being swept directly into the liver. Still another advantage of such an intervention is that as the circulation in the spleen becomes more active, it aids in restoring conditions to normal, and the biochemical processes are more rapid and less harmful. He illustrates with eleven large cuts the various steps of his method of combined omento- and spleno-pexy to produce a double complementary circulation. The two parts of the operation can be done at separate times. The ideal would be to place the spleen between the muscles and the peritoneum, but as the organ is frequently too much enlarged for this, he resorts to intra-abdominal fixation of the spleen, inserting a wick above and below to promote the formation of adhesions and for drainage. He works through an extensive right-angled incision, drawing the omentum out through the horizontal incision in the peritoneum and turning it down over the latter, spreading it out over as large a surface as possible. The fixation of the spleen is done through a vertical incision, a large curved needle carrying stout catgut is passed through the parenchyma of the organ and through the muscles and fascia of each lip of the vertical leg of the primary incision, with eight or nine interrupted stitches. This omento-splenopexy is particularly indicated for cases of primary splenomegalia with cirrhosis of the liver—the Banti syndrome, also for malarial splenomegaly with cirrhosis of the liver. Fixation of the spleen alone might be found useful in cases of splenomegaly in which the liver is apparently not involved to any extent, as in the splenic anemia of adults and in that of children, in the preascitic stage of Banti's disease, and in the Popoff-Gilbert type of splenomegalic cirrhosis.

Archiv f. path. Anat., Phys. u. klin. Med. (Virchow's), Berlin.
Last indexed page 878.

66 (171, 1.) Ueber den retrograden Transport im Venen-System. J. Bouma (Utrecht).
67 *Hemangio-Endothelioma intravasculare uteri. P. N. Hansen (Copenhagen).
68 *Ueber Osteochondo-Sarkome der Thyreoidea. O. Funkenstein (Berne).
69 Zur Histogenese der melanotischen Hautgeschwülste (cutaneous tumors). E. Ravenna (Padua). One case. Tumor in anal region.
70 *Zur path. Anatomie der akuten Lymphämie. L. K. Glinski (Cracow).
71 Experimental Inflammation of Striated Muscles. S. Saltykow (Groningen).—Ueber Entzündung der quergestreiften Muskeln.
72 *Calcification of Middle Coat of Arteries and Its Relation to Arteriosclerosis. J. G. Mönckeberg.—Ueber die reine Mediaverkalkung der Extremitätenarterien und ihr Verhalten zur Arteriosklerosis.
73 Bone Deformities in a Monkey. C. Davidsohn (Berlin).
74 (No. 2.) Blood-Plate Staining. G. Puchberger (Vienna).—Bemerkungen zur vitalen Färbung der Blutplättchen des Menschen mit Brillantkresylblau.
75 *Research on Fat in the Organism. J. Arnold (Heidelberg).—Ueber Fettansatz, Fettwanderung, Fettinfiltration und Fettdegeneration, Phagocytose, Metathese und Synthese.
76 Ueber Central-Körperchen in Gliomen. H. Lewy.
77 Destruction and Hyaline Degeneration of Malpighian Bodies. T. Tschistowitsch (St. Petersburg).—Die Verödung und hyal. Entartung der Malp. Körperchen der Niere.
78 4 Falle von primäre Lungenaktinomykose. S. Kashiwamura (Berlin).
79 Fall von Aktinomykose der Lungen, der Leber und des Herzens beim Menschen. G. Fütterer (Chicago).
80 Fall von Sirenen-Bildung (Sympus apus). S. Abramow (Rostow).
81 Malformations of Tricuspid Valves. P. Geipel (Dresden).—Missbildungen der Tricuspedalis. Three cases.
82 *Intestinal Affections in Malaria. M. Glogner.—Darmerkrankungen bei Malaria.
83 Study of Causes of Multiple Births. W. Weinberg (Stuttgart).—Die Methode und Ergebnisse der Erforschung der Ursachen der Mehrlingsgeburten.
84 (No. 3.) *Formation and Retrogression of Gouty Tophi. E. Rindfleisch (Würzburg).—Ueber Bildung und Rückbildung gichtischer Tophi.
85 Case of Syphilis of Heart. K. E. Wagner (Kiev).—Fall von Syphilis des Herzens mit bedeutender Erweiterung der Arteria pulmonalis.
86 Ueber Fragmentation des Herz- und Skelett-Muskulatur und Kontinuitäts-Trennungen des elastischen Gewebes bei Beriberi, sowie über das Wesen dieser Krankheit. M. Glogner.
87 Fall von Rhabdomyom in einem verlagerten Hoden (in ectopic testicle). U. Benenati (Naples).
88 Epithelial Nodules on Testicles, Etc. R. Meyer.—Die subserösen Epithelknötchen an Tuben, Lig. latum, Hoden und Nebenhoden, Sogen. Keimepithel oder Nebennieren Knötchen.
89 Tuberculosis of Axillary Glands. H. Ebbinghaus (Zurich).—Isolirte regionäre Achseldrüsentuberkulose bei Tumoren der weiblichen Mamma, nebst Bemerkungen über die Genese der Milchdrüsentuberkulose.
90 Bakterien Befunde bei Leber-Abscessen. C. Davidsohn (Berlin).
91 *Ueber das Chlorom und seine Beziehungen zur Leukämie. T. Gümbel (Strasburg).
92 *Zur Pathologie der Diabetes mellitus. T. C. Joneway and H. Oertel (New York).

67. **Uterine Intravascular Hemangio-Endothelioma.**—Hansen claims that the case he describes is the first on record. The patient was a woman of 52, otherwise healthy. The tumor weighed 6,900 gm., and there were no metastases. It had grown rapidly, causing anemia and emaciation. In structure it was partly sarcomatous and not definitely circumscribed.

68. **Osteochondrosarcoma of Thyroid.**—Funkenstein has found records of 3 cases resembling the 2 which he describes in detail. A sarcomatous spindle-celled neoformation containing cartilage and bone substance developed in the strumously degenerated thyroid gland in elderly subjects. The tumors also contained a fibrillary and hyaline intercellular substance. In one of his cases there was benign metastasis in a lung and a pure sarcoma in one suprarenal in the other case.

70. **Acute Lymphemia.**—The first symptoms were lachrymation and sticking together of the lids noticed in the year-old infant. Exophthalmus soon developed with pallor, diarrhea, vomiting and the physical signs of leukemia. The proportion of white to red corpuscles was 1 to 5; hemoglobin 21 per cent. The lymphocytes numbered 94.4 per cent., with 5.3 neutrophiles. Death soon ensued and macroscopic circumvascular infiltrates were found in the epicardium, periosteum of the ribs and in the pia mater. Microscopic infiltration was discovered also at the points usually affected.

72. **Calcification of Middle Coat of Arteries.**—Mönckeberg examined 130 subjects to determine the frequency of this alteration of the arteries of the extremities, and its relation to arteriosclerosis. Instead of its being a rare occurrence, he found pure media calcification in 55, with or without arteriosclerosis of the deep-seated arteries, and in 18 the sclerosis involved the peripheral arteries also. In 57 there was pure arteriosclerosis alone. Thus the media calcification occurs more frequently than arteriosclerosis, and is evidently often mistaken for the latter. Its degree and extent are no criteria for or against accompanying arteriosclerosis of the central vessels, as either may occur alone. The femoral artery is the one most frequently involved and chiefly affected by the calcifying process, and is sometimes the only one. In 12 of his subjects no other vascular affection could be discovered. The age of his total material ranged from 47 to 79, and it included workingmen, clerks, sailors, artisans, etc., both indoor and outdoor workers. There were no special alcoholic or venereal antecedents except in 2 and no chronic bone affection in any. Smallpox, cholera, dysentery and malaria were noted in the history of one case each, cancer in 4 and tuberculosis in the same number.

75. **Fat Transformation, Degeneration, Etc.**—Arnold classifies lipogenesis as exogenous and endogenous. The exogenous includes the physiologic migration of fat particles, fat embolism, fatty infiltration, and pathologic metamorphosis of fat, simple and necrobiotic, that is, the intracellular formation of fat according to the principles of synthesis and of phagocytosis. The endogenous (albuminogenous) includes the intercellular formation of fat from breaking down of albumin, and fatty degeneration.

82. **Intestinal Affections in Malaria.**—Glogner occupies an official medical position in the Dutch East Indies, and seven years' experience has convinced him that the dysentery, diarrhea and other symptoms of the so-called tropical dysentery are in many instances due to the action of the malaria parasite and vanish on exhibition of quinin. This is especially likely to be the case when diarrhea occurs intermittently, the periodicity suggesting that of malaria, without fever. In other cases there may be muco-bloody stools, violent pains, spontaneous and on pressure, with tenesmus and emaciation, and yet quinin soon banishes the syndrome. Negative examination of the blood does not exclude malaria unless in presence of fever. In these atypical, intestinal forms the malarial plasmodia are rarely discovered in the blood and yet the regular intermittency of the manifestations and the prompt response to quinin certainly indicate a malarial affection.

84. **Retrogression of Tophi.**—Rindfleisch examined under the microscope a tophus removed from his own olecranon process. He found that the deposit of uric acid was surrounded by a row of polynuclear giant cells, evidently phagocytes, which under favorable conditions devour the particles of the uric acid, and thus reduce the size of the deposit. He believes that this phagocytic action is scarcely possible, except in very vascular regions.

91. **Relations of Chloroma to Leukemia.**—A young glass-blower was admitted to the hospital with symptoms of transverse myelitis which proved fatal in a few weeks. The patient also presented the symptoms of acute lymphatic leukemia. The myelitis was caused by compression of the spinal cord by a large chloroma and similar tumors were found elsewhere in the periosteum and in close vicinity of the long bones, etc. Usually, the head and spine are exclusively affected, but sometimes the green lymphomata are located in the kidneys, lungs, mamma, testicles, broad ligaments, and as in the case described, in the urethra. The entire lymph apparatus and bone marrow exhibit hyperplasia, while the blood and mucosæ present the picture of acute lymphatic leukemia from which chloromatosis is only distinguished by the presence of the green tumors.

92. **Pathology of Diabetes.**—The case published by our American confrères was distinguished by the integrity of the pancreas while the gastrointestinal mucosa was in a condition of extreme atrophy with diffuse small-celled infiltration similar to what is observed in some cases of pernicious anemia.

Centralblatt f. Bakteriologie, Jena.

Last indexed page 879.

93 (XXXIII, 3.) Untersuchungen über Sarcinen, Streptococcus und Spirillen. D. Ellis (Marburg). (Commenced in No. 1.)
94 *Zur Epidemiologie des Typhus abdominalis. Tavel (Berne).
95 *Immunization of Animals Against Tsetse Fly Disease. Schilling.—Dritter Bericht über die Surrakrankheit der Rinder und Pferde im Schutzgebiete Togo.
96 Abortion Bacillus. Preisz (Budapest).—Der Bacillus des seuchenhaften Verwerfens. Found in one cow.
97 Experimentelle Untersuchungen über Bakterien-Antagonismus. L. A. Lode (Innsbruck).
98 A Study of a Hemolytic Complement Found in the Serum of the Rabbit. J. Edwin Sweet (Philadelphia).
99 Ueber das polyvalente Streptokokkenserum bereitet durch menschliche Streptokokkenstämme ohne Tierpassage. Tavel (Berne). Claim for priority.
100 Swine Plague Serum. L. Deutsch (Budapest).—Beiträge zur Kenntniss des Schweinrothlaufserums.
101 Confirmation of Experimental Efficacy of Fowl Cholera Serum. F. H. Mosler.—Wertbestimmung von Geflügelcholeraserum.
102 Beitrag zur Bekämpfung der Anopheles. D. Rivas (Nicaragua).
103 Staining of Actinomyces in Sections. S. Ciechanowski (Cracow).—Zur Technik der Aktinomycesfärbung in Schnitten.
104 *Zur Gonokokkenfärbung (staining). A. v. Wahl (St. Petersburg).

94. **Epidemiology of Typhoid.**—In the recurrence of an epidemic of typhoid fever at Berne the proof was afforded that under certain conditions, as in standing water, typhoid bacilli may remain alive and retain their propagating and virulent qualities unchanged for several months.

95. **Principles of Immunization Against the Tsetse Fly Disease.**—Schilling thinks that the principles of successful immunization against the surra or tsetse fly disease are now thoroughly established. The property possessed by the parasite of adapting itself to its temporary host, may be utilized to attenuate its virulence for a certain species.

104. **Rapid and Effective Stain for the Gonococcus.**—Wahl thinks that he has solved the problem of producing a stain which keeps perfectly, stains the gonococci dark and the elements of the secretions another and lighter color, while the results are complete in five to fifteen seconds. He mixes 2 c.c. of a concentrated alcoholic solution of auramin with 1.5 c.c of 95 per cent. alcohol; 2 c.c. of a concentrated alcoholic solution of thionin; 3 c.c. of a concentrated aqueous solution of methyl green, and 6 c.c. of water. It is ready for use at once, and has kept unchanged for a year.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

105 (No. 21.) *Ueber Hemisystolie. E. v. Leyden.
106 *Tuberkulose des lymphatischen Apparates. E. Hitschmann and O. Stross (Vienna).
107 Verhalten der grossen mononuklearen Leucocyten und der Uebergangsformen (Ehrlich) bei Carcinoma ventriculi. Korpjuweit (Königsberg).
108 *Die Prognose der Herz-Arrhythmie. E. Rehfisch (Berlin). (Commenced in No. 20.)
109 Ear Speculum with Adjustable Lens. Bergemann (Husum).—Ohrspekulum mit stellbarer Lupe.
110 Oil Treatment of Cholelithiasis. Flaser.—Oelbehandlung der Chol. One case. Cure.

105. **Hemisystolia.**—As long ago as 1868 von Leyden described a case of what he called hemisystolia, non-synchronous contraction of the two ventricles. His assertions were disputed and he confesses that he has never seen but two cases since, and these not so marked as his first, which was reported in detail in *Virchow's Archiv* for that year, xliv, p. 365. The left ventricle contracted first without any perceptible participation of the right, and then the right without the participation of the left. It is a very rare phenomenon, and he is convinced that it never occurs except after large doses of digitalis. Openchowski has demonstrated on animals that the left heart beats nearly one-half slower than the right after injection of helleborin or digitalis, and is inclined to regard the right ventricle as immune to the action of these drugs. In a number of cases of mitral stenosis with dilatation of the right ventricle, von Leyden has noticed that digitalis had very little effect, and assumes that the thicker musculature is the reason why it acts more on the left ventricle than on the right. Broadbent, in his recent work, refers to the "supplementary systole of the right ventricle induced by digitalis." The phenomenon of hemisystolia is, therefore, being given more credence as time passes by physiologists and clinicians.

106. **Tuberculosis of Lymph Apparatus.**—The case reported was similar to that described by Sternberg in the *Ztft. f. Heilkunde*, 1898, xix, as a peculiar tuberculous affection of the lymphatic apparatus with the clinical picture of pseudo-leukemia. The patient was a man, a hair dresser, 28 years old, who had suffered from dysentery during military service in the tropics, also from malaria and recurring phlegmonous throat affections. The first symptoms were pains in the left arm and enlargement of the glands in neck and axilla, followed by night sweats and fever. The glandular affection and pains spread to involve other regions, the spleen and liver became hypertrophied with marked emaciation and general edema. The intensity of the pains required the continuous use of morphin, and the patient died in cachexia about fifteen months from the first symptoms. Pus was sometimes found in the sputa, but no tubercle bacilli. The blood count showed 10,000 leucocytes at first, but a polynuclear leucocytosis to 42,000 suddenly developed. Tubercle bacilli were found in the lymph glands and spleen and typical tubercles in the latter and in the liver. No evidence of what Sternberg styled "transitional processes of mercly inflamed parts into tuberculous tissue" was discovered.

108. **Prognosis of Cardiac Arrhythmia.**—Rehfisch refers to the fact that the functional activity of the heart is the product of its three inherent factors: its automatic excitability, the reaction to this excitability, that is, its power of conducting the stimulus, and lastly, its power of contraction. When any one of these factors is altered, arrhythmia in some form follows, and the prognosis depends on which of the factors is involved. In cases of abnormal excitability, shown in the extrasystole, which is the evidence of a disproportion between the power of the heart and the task required of it at the moment, the prognosis depends on the fundamental affection causing the extra excitability. This is usually arteriosclerosis, organic heart disease or pure nervousness. Knoll, by augmenting the resistance in the arteries, was able to elicit the extrasystole in his experimental research, similarly to what is observed in arteriosclerosis, either diffuse or of the coronary alone. The extra resistance imposes extra work on the heart, and this is followed by extra excitability. Nervous subjects come under this same law, as emotions are accompanied by variations in the blood pressure, which make extra demands on the heart and entail extra excitability and the extra systole. If arteriosclerosis and excessive nervousness can be excluded, then the extra systole is an evidence of organic heart affection, and hence its prognosis is grave, otherwise not. Of great importance in this case is the duration of the compensatory interval of rest, as he describes in detail with various pulse curves. The second factor in the cardiac function, the conductibility of the impulse, may be impaired by defective conductibility in the so-called block fibers, the muscular fibers connecting the atrium and the ventricle, which retain their embryonal type more than the others, and do not pass the impulse on so rapidly as the latter. They also are the ones to suffer first from any injury and if much degenerated, are able to arrest the impulse entirely, thus producing the "block heart." The distinguishing sign of disturbance in the conductibility is that the duration of one interval is always less than that of two pulse periods, and that the period following the interval is always longer than the second one. The irregular pulse of nervous and neurasthenic subjects is characterized by the grouping of the pulse beats. From 72 the pulse may jump to 96, but it never changes to a multiple of itself, a pulse of 48 does not follow one of 96, as in case of severe organic heart disease. In the missing pulse of nervous subjects the duration of the interval is much less than that of two pulse periods and seldom surpasses 60 per cent. of a pulse period. In case of acute infectious diseases the heart rallies all its energies and works with its utmost strength so that pulsus deficiens is not observed during the climax of the disease, but after the acute stage is past, then the heart relaxes its efforts, and we can then determine to what extent it has been impaired by the stress it has undergone, and the action of toxins, and what its loss in effective muscle substance and cell energy. If normal conditions are restored, the pulse will become normal also, but as long as the pulsus deficiens lasts it should be carefully supervised by the physician and the prognosis is not good. The prognosis of arrhythmia due to enfeebled contracting power is grave. Rehfisch states that he knows of only one case of pure pulsus alternans. This was published by Riegel, and he reproduces the curve.

Klinisch-Therapeutische Wochenschrift, Vienna.

Last indexed page 1371.

111 (N. 13-14.) *Autoserotherapy in Pleuritis. N. F. Tschigaeff (St. Petersburg).—Die Behandlung der serös-fibrinösen Pleuritis mittels subkutaner Injektionen pleuritischer Flüssigkeit. (Commenced in No. 12.)

112 Value of Protargol in Gonorrhea. Hirschl (Prague).—Ueber die Behandlung der gon. Vulvavaginitis.

113 Megalophthalmus und Hydrophthalmus in einer Familie. M. Bondi.

114 Blood-Pressure Reducing Action of Peat Baths. A. Loebel (Dorna).—Die Blutdruckreduzierenden Werte der Moorbäder.

115 (Nos. 15-16.) Die diagnostische Bedeutung der Pupillen-Reaktion. O. Marburg (Vienna).

116 Pulverized Metals for Surgery. A. Strauss.—Das Epithol-Gold und Epithol-Silber in der Chirurgie und Dermatologie.

117 Hydrotherapy in After-Treatment of Respiratory Affections in Children. S. Behrmann.—Ueber die Verwendung des kühlen, warmen und heissen Wassers zur Nachbehandlung der Erkrankungen der Respirationsorgane im Kindesalter. Zur Prophylaxie der Tuberkulose und der Meningitis tuberculosa.

119 (Nos. 17-18.) Dislocation of Abdominal Organs from Lacing. N. Zuckor (Franzensbad).—Dislokation der Bauchorgane der Frau als schädliche Folge des Schnürens.

120 (Nos. 19-20.) *The Struggle and the Immunization of the Organism Against Tuberculosis. E. Maragliano (Genoa).—Der Kampf und die Immunisierung des Org. gegen Tub.

121 Ueber die operative Behandlung des Uterus-Carcinoms. J. Hausman (Pawlik's clinic, Prague). (Commenced in No. 17.)

122 Infectious Diseases in Austria and Prussia by Age and Sex. S. Rosenfeld.—Die Infektionskrankheiten in Oesterreich und Preussen nach Alter und Geschlecht. (Commenced in No. 18.)

123 (No. 21.) Ueber epileptische Traumzustände. Epilepsia rotatoria und die Beziehungen zwischen Rinden- und genuiner Epilepsie. A. Pick (Prague).

124 Die Serumtherapie des Abdominal-Typhus bei Kindern. A. Josias. Address at Madrid Congress.

125 (No. 22.) Suicide in Syphilis. A. Fournier.—Ueber Selbstmord bei Syph. See abstract above.

126 Hydrotherapy. W. Rosenfeld.—Zur Heisswasserbehandlung in der Gynäkologie.

111. **Autoserotherapy in Pleurisy.**—Gilbert's method of treating pleuritis by injecting some of the fluid derived by aspiration from the pleura was tried by Tschigaeff in 9 cases. In all the effusion ceased to increase after the injection and immediate absorption commenced. Acute serofibrinous pleuritis treated in this way was cured in about two weeks on an average. The earlier the injection was made, the prompter the recovery. No reaction to the injections occurred in cases of rheumatic origin, while in those due to tuberculosis there was always a brief febrile reaction. He describes a few typical cases in detail. One recovered after one injection, another required two, and a third four. The patients were from 18 to 66 years of age in these published cases. He aspirated about 5 c.c. of the serofibrinous effusion and reinjected subcutaneously 1 or 2 c.c. of it in the scapular region. No other treatment seems to have been instituted and the effusion was rapidly absorbed.

120. **Immunization Against Tuberculosis.**—Maragliano, in this address, delivered at the Madrid Congress, confirmed Behring's assertions in regard to the possibility of inducing passive immunization by means of the milk of immunized cows. He states that he has been experimenting in this line for five years, and has been able to isolate the protecting substance in the milk of the cows, although in small amounts, and has also established that antitoxin taken into the digestive tract is absorbed and displays its protective action on animals and man as when injected. Passive immunization can thus be realized by injection or ingestion of antitoxin. The antitoxic substances are found not only in the milk and blood but also in the meat of immunized animals. He proclaims that when a tuberculous focus anywhere on the body has completely healed, the individual is usually thereafter immune to tuberculosis. In families in which tuberculosis prevails, those members usually escape who have had a tuberculous joint or cutaneous affection or tuberculous focus elsewhere, from which they have completely recovered. When an individual has completely recovered from a local tuberculous affection, as a rule, he is therefore immune. Maragliano denounces the injection of living bacilli, no matter how attenuated, as dangerous, and contends that Behring is wrong when he asserts that active immunization is not possible save with living cultures. He has succeeded in inducing active immunity by injection of the tuberculous toxin alone, and has effectually induced the production of antitoxin and agglutination by this means. As early as 1891 he proclaimed that the action of Koch's old tuberculin was probably due to the elaboration of protecting substances in the body which it induced, and all his experimental and clinical research since has only confirmed this view. He has tried the tuberculin test again and again on some of his patients whom he has cured of tuberculosis with serum from immunized animals, and the results have always shown that the cure was complete during seven years' experience. None of his patients have changed their environment, one is a physician who continues his practice, constantly exposed to new infection. Maragliano is now engaged in the attempt to produce a tuberculous focus which will confer active immunity after healing, without the use of living cultures. He has been eminently successful on animals and has repeatedly induced an inflammatory tuberculous focus at the periphery with a mate-

rial which he does not describe more fully. Applying the results to man, he has been able to induce the production of agglutination and pronounced leucocytosis, the same as observed in animals, although in the clinic the crucial test of inoculation with tuberculosis is out of the question. He makes the artificial focus on the arm and a small inflammatory lesion develops, with sterile pus, and three days of fever, which then subsides and heals.

Muenchener Med. Wochenschrift, Munich.

127 (No. 17.) Determination of Total Indol Elimination. A. Schmidt (Dresden).—Ueber den Nachweis und die Bestimmung des Indols in den Fäzes mittels der Erlich'schen Dimethylamidobenzaldehyd-Reaction.
128 Ibid. R. Baumstark.—Bestimmungen der Fäulnisprodukte im Urin und in den Fäzes mit Benutzung der Ehrlich'schen Aldehyd-Reaktion.
129 *Leukocytose bei Perityphlitis. H. Goetjes (Berlin).
130 Points in Which I Differ from Riedel in Regard to Gallstone Surgery. H. Kehr.—In welchen Punkten ich von Riedels Ansichten über Gallensteinchirurgie abweiche.
131 Recovery After Subcutaneous Contusion of Kidney. G. Schmidt.—2 Fälle von subk. Nierenquetschung mit günstigem Ausgang.
132 *Principles for Treatment of Abdominal Contusions. F. Fraenkel (Nuremberg).—Einige Grundsatze fur die Beurtellung und Behandlung der Kontusionen des Bauches.
133 Bullet Wounds of Brain. Wieting (Constantinople).—Zur Frage der Geschossextraktion aus dem Gehirn bei penetrierenden Schädelschüssen.
134 *Ueber gummöse Syphilis der Mamma. J. Heller.
135 Lamp for Transillumination of the Eye. M. Sachs (Vienna).—Neue Durchleuchtungslampe und ihre Verwendung in der Augenheilkunde.
136 Improved Dropper for Sterilizing Eye Fluids. Mohr (Düsseldorf).—Verbessertes Tropfglas zur Sterilisierung von Augenflüssigkeiten.
137 Zu J. Wallichs' 50-jährigem Doktor-Jubiläum. Henop.
138 (No. 18.) *Early Recurrence of Fibrinous Pneumonia. W. Ebstein (Göttingen).—Frührezidive bei der fibrinösen Lungenentzündung.
139 Immune Bodies. K. Landsteiner.—Ueber die Verbindungen und die Entstehung von Immunkörpern.
140 Arrested Development of Kidneys. E. Meyer.—Ueber einige Entwicklungshemmungen der Niere.
141 Aetiologie des Esophagus-Carcinoms. P. Wolf (Dresden).
142 Bilateral Abducent and Sideward Glance Paralysis. Seggel.—Doppelseitige Abduzens- und seitliche Blicklähmung.
143 *Recurring Oculomotor Paralysis. T. Schilling.—Zur Frage der rezidivierenden Okulomotoriuslähmung.
144 *Prevention of Closing of Nostrils During Inspiration. K. M. Menzel.—Zur Behandlung der Nasenflügelansaugung.
145 Anthrasol, ein gereinigter, farbloser Teer (cleansed, colorless tar) und seine therapeutische Anwendung. A. Sack (Heidelberg).
146 *Hyperemia as a Therapeutic Measure. A. Bier.—Hyperemie als Heilmittel.
147 Improved Technic of Intubation. F. Cuno (Frankfurt a. M.).—Fixierte Tuben und Bolzenkanülen bei erschwertem Dekanülement.
148 (No. 19.) *Diagnostic Experience with Tuberculin. Freymuth (Breslau).—Diag. Erfahrungen mit Tub. an Lungenkranken.
149 Explanation of Favorable Influence of Bed Rest on Fever in Phthisis. Pickert (Beelitz).—Zur Erklärung, etc. Ascribes it to hyperemia induced in lungs.
150 Study of Results of Sanatorium Treatment of Pulmonary Affections. W. Ambrosius (Hanau).—Erfolge der Heilstättenbehandlung bei lungenkranken Mitgliedern zweier Krankenkassen.
151 Ibid. F. Wolff (Reiboldsgrün).—Zur Heilstättenbehandlungen, etc.
152 Ibid. G. Liebe (Waldhof Elgershausen).—Die Bedeutung der Heilstätten.
153 Exaggerations in Medicine. M. Karger.—Uebertreibungen in der Medicin.
154 Digestion Vacuoles. Spirlas (Athens).—Ueber Verdauungsvakuolen und ihre Beziehungen zu den Foa-Plimmerschen Krebs-Parasiten.

129. **Leucocytosis in Appendicitis.**—In examination of 40 patients with inflammation of the cecum Goetjes found that leucocytosis of 20,000 to 30,000 in appendicitis was the invariable index of a circumscribed suppurative process unless due to some complication. In case of diffuse peritonitis the blood count has no regular differentiating value except that high leucocytosis indicates a better prognosis.

132. **Abdominal Contusions.**—In distinguishing between a mere contusion and one accompanied by injury of some internal organ, Fraenkel emphasizes that the amount of shock is not always in proportion to the severity of the injury but that shock prolonged for more than six hours speaks for injury of some viscus. As the temperature is lowered in shock it is no criterion of the harm done at first, but a slight rise is an important indication of the escape of fecal masses or of accumulation of blood, bile or urine in the abdominal cavity, the temperature continuing to rise gradually. If the temperature taken hourly in the rectum is above normal and constantly rising, a severe internal injury can be assumed. The pulse is affected by the shock, but if it continues bad for hours and grows worse, an internal injury may be accepted. If vomiting occurs immediately it has no differentiating value, but if it first appears a few hours after the injury it indicates internal damage. But this tardy vomiting does not always accompany internal injury and to wait for it is to allow time for peritonitis to develop. Vomiting of blood indicates almost always gastric hemorrhage. The aspect of the abdominal walls is not conclusive, except the contraction. The abdomen may be drawn in like a crater. Meteorism is a symptom of commencing peritonitis. The abdomen contracts to rest the intestines, and this phenomenon is seldom absent in case of internal laceration of an internal organ. Pain is another important symptom, spontaneous or on pressure, localized or general throughout the abdomen. When it constantly increases in intensity it speaks for internal injury, but is not its inevitable accompaniment. The pain radiates to the shoulder in case of injury to liver and spleen. Percussion of the abdomen may reveal an exudate at once, but a small one in the lower pelvis is best discovered by palpation through the rectum, which should never be neglected. The disappearance of the liver dulness is also a valuable sign, as it indicates the escape of gases from the intestines or displacement of the liver by increasing meteorism. None of these signs are pathognomonic, and the examination should be repeated from hour to hour by the same person. The patient should be taken to a hospital or clinic on suspicion of severe abdominal injury, and everything prepared for an operation once the diagnosis is assured, although it may not be needed. In the meantime absolute repose and total abstinence. Opiates should not be given during this period of observation, nor stimulants nor saline infusion. They all mask the true diagnosis. Camphor may sometimes be required in severe shock. The exploratory laparotomy should be a short incision in the median line under infiltration anesthesia. It can be enlarged as necessary under "ether drop" narcosis, which Fraenkel prefers in these cases, with an incision from the ensiform process to the symphysis, sometimes supplemented with transverse incisions, to enable all the injured points to be discovered and rapidly treated. Time saved is so much vital energy saved. Unless it is possible to flush the cavity with 20 to 30 liters of saline infusion or sterile water he prefers to refrain and sponge it dry. Recovery depends mainly on the after-treatment in many cases. Saline infusion here asserts its rights. Petry has reported 55 per cent. recoveries in those operated on within twelve hours, and 33 per cent. of those operated on in a few days, his statistics comprising 42 cases. Fraenkel has seen 17 recover out of 31 operated on within three days. In 30 cases of laceration of the spleen, 16 recovered after operation. The total statistics show that 50 per cent. were cured, and a large number were very severe, otherwise doomed cases.

134. **Syphilitic Gummata of the Mamma.**—Heller started to remove a large supposed cancer of the mamma in a woman in the tertiary stage of syphilis, but after opening into the tumor found that it was a gumma, and refrained. He has collected nearly 50 similar cases of gumma in the mamma in the literature, but can not find one in which the tumor was retromammary as in his case. All were cured in a few weeks by exhibition of potassium iodid.

138. **Early Recurrence of Fibrinous Pneumonia.**—Ebstein refers to the relative frequency with which pneumonia recurs later in the same individual, as compared to typhoid. The cases of early recurrence of pneumonia are much rarer, but in his forty-three years' experience he has encountered one which he describes in detail. A young man convalescing from fibrinous pneumonia affecting the lower right lobe had seven days free from fever, after which the temperature rose again to its former height and there was evidently a new infection, a new pneumonia, affecting the same lobe and terminating in convalescence as before after four or five days. He reviews the literature in regard to what he calls "tardy recurrence," and states that 81 patients out of 438 cases of fibrinous pneumonia at Göttingen had pneumonia recur later from two to eleven times. Rush still heads the list, however, with his patient who had pneumonia twenty-eight times. Wagner ob-

served 2 cases of "early recurrence" in 110 cases, and 2 occurred at the Berlin Charité in 440 cases of pneumonia. Grisolle stated that one-twenty-eighth of all his cases had these early recurrences, which he called relapses. One patient had three, and Binz has reported a case with two. A few other cases have been published, including 2 reported by Osler. In Ebstein's experience with typhoid fever he has observed 13 cases of recurrence in 300 cases of ordinary typhoid, and 1 in 600 of the exanthematous form. He cites in conclusion as a curiosity Diemerbroeck's observation of a family of 4 children from 8 to 14 who all had an early recurrence of smallpox directly after convalescing from the primary attack.

143. **Recurring Oculomotor Paralysis.**—Schilling relates a case in which this paralysis appeared first at the eighth year and then recurred now and then during the seven and a half years to date, the intermissions growing shorter as time passed and the attacks less severe. Each was accompanied by pains in the forehead and temple on the same side as the paralysis, vomiting and great depression. There were no symptoms of migraine during the intervals and no history of migraine in the family. There was paresis during the intervals of the paralysis between the attacks. He suggests as an explanation a congenital weakness of the nerve involved, which is overcome by the accumulation of metabolic toxins. This assumption is sustained by the fact that the patient stutters, and also by the discovery of a field of medullated fibers in the fundus of the eye on the side affected.

144. **Treatment of Sucking in of Nostrils During Inspiration.**—Menzel has found paraffin prothesis a complete relief for this condition.

146. **Hyperemia as a Therapeutic Measure.**—This article is merely a detailed review of the large book on the subject recently published by A. Bier of Greifswald, dedicated to Esmarch. It is the work of a skilful surgeon, who brought the light of his experience to bear on physiologic and pathologic processes and was able to discover some entirely new standpoints for therapeutics and to supply the scientific basis for a number of empirically established facts. He regards superheated air as the best measure for inducing active hyperemia, and a moderately tight rubber band as the best for the passive. If the band is too tight the cold congestion that ensues is a very dangerous condition. There should be no pain in this form of therapeutic hyperemia. In tuberculosis he advocates interrupted passive hyperemia with long pauses. He has found the Junod boot effective, made of glass. He is inclined to attribute the efficacy of derivation to the hyperemization of the part which it induces, and believes that the application of ice has a similar effect. His results agree with the modern theory that absorption occurs through the blood capillaries and not, as formerly supposed, through the lymph. He devotes considerable space to a review of the facts in regard to the hypertrophy of the part induced by active hyperemia, and shows that it is not a delusion but a fact, and may prove useful in aiding regeneration of parts. The bones frequently grow both in length and thickness, the epithelium proliferates and the connective tissue increases under the influence of both active and passive hyperemia. The effect of passive congestion is usually magical in gonorrheal joint affections, as in arthropathies of various kinds. Induced hyperemia is also effectual in the treatment of neuralgias and for promoting absorption in elephantiasis, effusions in the joints and extravasations, etc. Bier's various works have been reviewed in THE JOURNAL as published from time to time. His extensive experience has suggested a number of technical points to seek or avoid, which he enumerates, and has shown that the simplest apparatus is as effective as the most complicated.

148. **Tuberculin in Early Diagnosis of Pulmonary Affections.**—Freymuth considers Koch's old tuberculin as the most reliable, but places the limit of non-febrile temperature a little higher than Koch, 37.1 to 37.2 C. He commences with 1 mg. If there is no trace of a reaction he then injects 5 mg., in case of a suggestion of a reaction, only 3 mg. If a third injection is necessary, the amount is 5 mg., or in rare cases 8 mg. The reaction curve shows a very steep ascent after a small single dose, or a slight ascent after the first small dose and a steep ascent after the second. The first curve is the expression of quite recent infection. The second one is more frequent. Still another curve is observed in case of recent but very mild infection. There is no reaction to the small and medium dose, but the third induces a steep rise. He reviews his experience with 170 patients thus tested. He mentions that the sputa, after injection of tuberculin, frequently contain tubercle bacilli not discoverable before. The tuberculin test was particularly useful in a group of 17 cases in which chlorosis masked the tuberculosis. The patients were young women or girls and the lung findings were trivial, with very little expectoration. They all reacted strikingly to tuberculin and yet the few clinical signs of tuberculosis, merely slight roughness in breathing and minimal decrease in the resonance, were so insignificant that the idea of tuberculosis scarcely suggested itself. Chlorosis alone does not react to tuberculin. Those cases are suspicious in which the general health is much impaired with comparatively slight diminution in hemoglobin, and those which iron fails to benefit. In all the cases of tuberculosis which reacted positively to the test the infection was recent or active. In more chronic benign, smouldering or healed infection the test was frequently negative. The same occurs with the imperfectly healed or stationary cases. His experience seems to demonstrate that the reaction is more powerful the shorter the interval since infection, before the organism has had time to elaborate any immunizing substance against it. In diagnosing, a negative result may signify no tuberculosis, but does not inevitably exclude it. Its chief importance is for the diagnosis of incipient tuberculosis when all other means have failed to disclose it.

Therapeutische Monatshefte, Berlin.

Last indexed page 1546.

155 (No. 5.) The Limits of Normal Temperature. E. Franck.—Temperaturmessung und Fiebergrenze.
156 The Rudolph Spring at Marienbad. E. H. Kisch.—Die Rudolfsquelle in M.
157 Zur Behandlung der motorischen Aphasie und Agraphie nach apoplektischem Insult. H. Stadelmann.
158 New Esophagus Syringe. F. Schilling (Leipsic).—Eine neue Esophagusspritze.
159 A "Safety Pessary." A. Rahn.—Ein Sicherheitspessar mit Benutzung des Schatz'schen Ringes.

Zeitschrift f. diet. u. physik. Therapie, Berlin.

Last indexed page 477.

160 (VI, 10.) *Hygiene-Therapie der Syphilis. F. Block (Hanover).
161 The First Five Years of the "Zeitschrift." J. Marcuse.—Ein Rückblick.
162 New Technic for Making Bread for Diabetics. W. Bauermeister.—Ueber die Verwendung des Kaseins zu Backzwecken vermittels einen neuen Technik und über Diabetesbrote im allgemeinen, wie über das nach obiger Methode hergestellte (Salus-) Fabrikat im bes.
163 Hot Air Therapy. E. Rautenberg (Königsberg).—Zur Heissluftbehandlung. (Commenced in No. 9.)
164 Seasickness and Deep Breathing. F. Pavacini.—Seekrankheit und Tiefathmen.
165 Die Bedeutung der Precipitin-Reaction für die Ernährungstherapie (for dietetic treatment). L. Michaelis (Kiel).
166 (No. 11.) *Apparatus for Constant Heat, Especially in Cutaneous and Venereal Affections. K. Ullmann (Vienna).—Hydrothermoregulator.
167 Die klimatischen Kur-Orte. W. Velten (Bonn).
168 Value of Levulose in Children's Dietary. L. Fürst.—Die Bedeutung der Levulose für die Kinderdietetik.
169 Die Serum-Therapie der Streptokokken-Infektion. F. Meyer. Historical sketch; 52 articles on subject reviewed.
170 (No. 12.) Die Arbeit mit dem Hematokriten von H. Köppe. F. Engelmann.
171 *A Predecessor of Brand. J. Sadger.—Ein Vorgänger Brands.
172 *Abortiv-Behandlung der Furunkulose mittels überhitzter trockener Luft (with dry hot air). N. Reich (Budapest).
173 Latest Russian Works on Hypnosis. A. Dworetzky.—Ueber einige russische Arbeiten aus dem Gebiete der Hypnose.
174 (VII, 1-2.) Diet for Kidney Patients. P. K. Pel (Amsterdam).—Die Ernährung unserer Nierenkranken.
175 *Massage in Treatment of Affections of Testicles and Their Adnexa. J. Zabludowsky.—Zur Therapie der Erkr. der Hoden und deren Adnexe.
176 Excretion of Urine After Ingestion of Fluids. J. Glax (Abbazia).—Ueber das Verhältniss der Harnausscheidung zu den aufgenommenen Flüssigkeiten bei Gesunden und Kranken. Ibid. F. Tripoid. The latter reports results of thirty months of auto-observation.
177 *Ueber Aronson's Streptokokkenserum. F. Meyer.
178 *Die spezifische Typhusbehandlung. H. A. Namann.
179 *Das neue Institut für physikalische Therapie in Rom. J. Marcuse (Manheim).
180 Experiments in Feeding Mice with Highly Sterilized Cow's Milk. A. Keller.—Fütterungsversuche, etc.

181 Influence of Mineral Waters on Composition of Blood. H. Dünschmann.—Ueber den Einfluss der Mineralwässer auf die Blutbeschaffenheit.
182 Full Report of First Annual German Preventive Congress, Frankfurt, March 9-10.

160. **Hygiene in Syphilis.**—Block believes that the syphilitic toxin exerts its injurious influence on the vessel walls and nervous system from the very start, the effects resembling those of dissipation, over-exertion or chronic alcoholism. The nervous system is already predisposed by the stress of our strenuous life. In a less complex civilization the nervous system is not predisposed and offers more resistance, and is consequently not affected to the same extent. All the causes which tend to lower the resistance of the nervous system should be guarded against. The patient should be instructed to retire early. The food should be nourishing with milk in abundance. Alcohol predisposes to the severer forms of the disease and both alcohol and tobacco should be used in moderation or abandoned. Syphilitics like to read about the disease, and thus fall an easy prey to charlatans. To meet this craving Block has written a pamphlet, requesting them to refrain from reading other works on the subject. He insists on the patients returning at certain intervals for inspection, and reiteration of the warnings, etc., endeavoring to combat the depression, neurasthenia and mild hypochondria so liable to accompany the disease. A course of mineral waters may be useful, but under other circumstances he advises continuing at business. The patient should be instructed that a body once invaded by syphilis is thereafter less resistant, especially in the nervous and vascular systems, and although he can live a normal life, like other persons, yet he must keep within the bounds of a rational mode of life and abjure excesses of all kinds.

166. **The Hydro-Thermo-Regulator.**—Ullmann's coils of pipe or rubber tubing sewed flat on a sheet of asbestos or duck, with a continuous current of hot or cold water through them, have been described in these columns. This present article is elaborately illustrated.

171. **The Inventor of the Brand Bath.**—Sadger claims for a German physician, Dr. Pingler, the priority for the exclusive treatment of typhoid fever with cold water. He reported, in 1850, 26 cases thus treated, the mortality reduced to 7.6 per cent.

172. **Abortive Treatment of Furuncles with Dry Hot Air.**—Reich was impressed with the efficacy of this application in the abortion of 4 cases of incipient furuncles. None came to suppuration or necrosis. He thinks that if we restrict this "thermo-aerophor treatment," as he calls it, to true furuncles, and do not attempt to apply it in cases of deep-seated cellulitis or too late in the affection, we will never experience a failure.

175. **Physical Therapeutics for Affections of Testicles and Their Adnexa.**—Zabludowsky is in charge of the Berlin University Institute for Physico-Therapy and his report of the benefits derived from these measures has appeared in a number of our foreign exchanges, both French and German. The present article is copiously illustrated, and gives detailed directions for massage of the testicles, seminal cords, perineum and adjacent muscles, for cases of lingering inflammation of these parts of traumatic or gonorrheal origin, atrophy and functional disorders associated with nervous or psychic symptoms.

177. **Aronson's Streptococcus Serum.**—Meyer has used this serum in 18 cases, and states that the results were brilliantly successful in 3 cases of erysipelas, one of bilateral tonsillitis and one of severe puerperal infection. On the other hand, in several others the results were dubious, and in 2 others of erysipelas, 2 of scarlet fever, and 6 of septicemia, the results were entirely negative. The 5 successes encourage further trials and attempts to learn the reason for its failure in the other cases.

178. **Specific Treatment of Typhoid.**—Nammann has been able to collect 141 works on this subject. The general conclusions are favorable.

179. **The Rome Institute for Physical Therapeutics.**—Marcuse writes in longing envy of the beautiful and commodious model institute recently completed at Rome. The first floor is fitted up in classic style in imitation of the hot baths of the ancients, a most successful combination of the old Roman and Pompeiian baths, with modern comfort. The heating apparatus is beneath the floor, as in the ancient baths. The second floor is fitted up with the usual appliances of such an institution, with an amphitheater for teaching purposes, as the institution is affiliated with the university.

Gazzetta degli Ospedali, Milan.

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183 (XXIV, 35.) Contributo alla teoria infettiva del rachitismo. A. Amantini.
184 Contributo alla cura dell'ernia crurale strozzata. R. Penzo.
185 L'estratta antitifico "Jez" in 2 casi gravissimi di "Ileo-tifo." G. Casardi.
186 La cura della gonorrea col massagio prostatico. P. Adolfo.
187 Hernia in Respect to Industrial Accidents. G. Egisto and B. Luigi.—L'ernia in rapporto colla legge sugli infortuni del lavoro.
188 (No. 38.) *Graphic Determination of Renal Functioning. S. Mircoli.—Forma di lavoro renale, sua grafica e significato.
189 Contributo allo studio del cancro della mammella. L. Baldassari.
190 Influence of Innervation on Healing of Fractures. R. Penzo. —Influenza dell' innervazione sulla guarigione delle fratture. Experimental.
191 Four Cases of Alopecia of Dental Origin. Gravagna.—Pelade d'origine dentaria.
192 La digitale ad alte dosi nella cura della polmonite lobare. P. Monetti.
192½ (No. 41.) *Sugli effetti della palpazione renale. G. P. Morano (Galvagni's clinic, Modena).
193 Cura radicale della fistola intestinale e dell'ano preternaturale. G. C. Vinci (Messina).
194 Sulla presenza del Nucleone nella sperma e nel vitreo. E. Cavazzani.
195 2 casi di Tetano curato e guarito col metodo Baccelli. P. A. Corte.
196 Injections of Hydrogen Dioxid in Broncho-pneumonia in Infants. B. Romano.—La broncopolmonite da influenza nei bambini e l'uso delle iniegioni di acqua ossigenata nel periodo di asfissia.

188. **Graphic Tracings of Kidney Functioning.**—Mircoli proclaims that very important information may be obtained from study of the specific gravity of the urine determined at different hours during the day. His research shows that the curve of the volume of water runs parallel to the curve of the specific gravity at different hours in normal subjects, but in case of kidney affections there is no parallelism and the kidney functions show various other aberrations. Among these is the absence of the normal diminuendo in kidney functioning observed during sleep. It seems as if in health the kidney slumbered also, while in case of a pathologic organ it may be functioning most intensely during sleep. The kidney, in comparison with the normal organ, behaves like a heart with tachycardia one-quarter and bradycardia three-quarters of every hour, or like a clock that gains time during the first quarter, but loses enough during the rest of the hour to nearly make it up or lose more. He has found the most convenient formula for this determination of renal functioning to be the specific gravity, computed for 1 c.c. of urine, multiplied by the number of centimeters of urine voided at all the natural urinations, this product divided by the number of hours. The result indicates the work actually done by the kidney and by determining it at various hours in the day a characteristic curve is obtained which will afford insight into the relations between renal functioning and the meals, exercise, sleep, etc., the number of urinations a day, the limits of the range of kidney functioning and the uniformity or irregularity of elimination of water and other substances. In health the curves from day to day always coincide at certain points, usually on rising, and at 10 a. m. After meals the kidneys work less at first and then resume their former activity. He suggests to accept 1 degree of specific gravity as the unit for renal functioning. The curve showing the amount of water parallels that of the specific gravity, except after ingestion of water or readily absorbed substances. After the critical elimination of this extra amount, the parallelism is resumed. It shows that the kidney in health always requires a given amount of water to eliminate a given amount of excrementitious substance, indicating harmony and co-ordination between the glomerular and canalicular apparatus. The lack of this parallelism in pathologic conditions is striking, and the way in which the curves cross and recross, capriciously to all appearance. In one instance he

noted this erratic curve after the kidney affection had been clinically completely cured. He urges others to study the curves of renal functioning and endeavor to determine their precise significance.

192½. Effects of Palpation of Kidney.—Morano concludes from his clinical experience corroborated by experimental research, that massage, or even palpation, has a directly injurious action on the kidney, especially if unusually accessible to the manipulations.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL APPLICATION OF THE ROENTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois; and Eugene W. Caldwell, B.S., Director of the Edward N. Gibbs X-Ray Memorial Laboratory of the University and Bellevue Hospital Medical College, New York. Cloth. Pp. 591. With 180 Illustrations, Nearly all Clinical. Price, $4.50 Net. Philadelphia: W. B. Saunders & Co. 1903.

PROGRESSIVE MEDICINE. Fifth Annual Series. Vol. II, June, 1903. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Cloth. Pp. 427. With 46 Illustrations. Price, Per Volume, $2.50. Per Annum, in Four Cloth-Bound Volumes, $10.00. Philadelphia and New York: Lea Brothers & Co.

REPORT OF STREAMS EXAMINATION, Chemic and Bacteriologic, of the Waters Between Lake Michigan at Chicago and the Mississippi River at St. Louis, for the Purpose of Determining Their Condition and Quality Before and After the Opening of the Drainage Channel. Made Under the Direction of Arthur R. Reynolds, M.D., Commissioner of Health, City of Chicago. Pasteboard. Chicago: Blakely Printing Company. December, 1902.

PHYSIOLOGICAL ASPECTS OF THE LIQUOR PROBLEM. Investigations Made by and Under the Direction of W. O. Atwater, John S. Billings, H. P. Bowditch, R. H. Chittenden and W. H. Welch, Sub-Committee of the Committee of Fifty to Investigate the Liquor Problem. Vols. I and II. Cloth. Pp. 396 and 379 Respectively. Price, $4.50 Net Per Set. Boston and New York: Houghton, Mifflin & Co. 1903.

A TEXT-BOOK OF CHEMISTRY. For Students of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M.S., M.D., Medical Analyst and Microscopist; Professor of Chemistry and Metallurgy in the Colorado College of Dental Surgery. With 78 Illustrations, Including 9 Full-page Halftone Colored Plates. Pp. xii-523. Cloth. Price, $3.00 Net. Philadelphia: F. A. Davis Company.

POSTMORTEM PATHOLOGY. A Manual of Postmortem Examinations and the Interpretations to Be Drawn Therefrom. A Practical Treatise for Students and Practitioners. By Henry W. Cattell, A.M., M.D., Pathologist to the Philadelphia Hospital. With 162 Illustrations. Cloth. Pp. 372. Price, $3.00. Philadelphia and London: J. B. Lippincott Co. 1903.

JAHRESBERICHT über die Fortschritte in der Lehre von den Pathogenen Mikro-organismen unfassend Bacterien, Pilze und Protozoen unter Mitwirkung von Fachgenossen bearbeitet und herausgegeben von Dr. med. P. von Baumgarten, und Dr. med. F. Tangl. Siebzehnter Jahrgang, 1901. Erste Abtheilung. Paper. Pp. 560. Leipzig: Verlag von S. Hirzel. 1903.

ANALYSIS OF THE SEXUAL IMPULSE—LOVE AND PAIN—THE SEXUAL IMPULSE IN WOMEN. Third Volume in Series, "Studies in the Psychology of Sex." By Havelock Ellis, L.S.A. (England); Fellow of the Medicolegal Society of New York and Anthropological Society of Berlin. Cloth. Pp. 266. Price, $2.00 Net. Philadelphia: F. A. Davis Company.

A TEXT-BOOK OF MODERN MATERIA MEDICA AND THERAPEUTICS. By A. A. Stevens, A.M., M.D., Lecturer on Physical Diagnosis in the University of Pennsylvania. Third Edition. Greatly Enlarged, Rewritten and Reset. Cloth. Pp. 663. Price, $3.50 Net. Philadelphia: W. B. Saunders & Co. 1903.

OCULAR THERAPEUTICS, According to the Most Recent Discoveries. By Dr. A. Darier. Translated by Sydney Stephenson, M.B., C.M., Honorary Secretary to the Ophthalmologic Society of the United States. Cloth. Pp. 278. Price, $3.00 Net. Philadelphia: P. Blakiston's Son & Co. 1903.

THE EXPECTANT MOTHER. A Treatise of the Care of the Expectant Mother During Pregnancy and Child-Birth and the Care of the Child from Birth to Puberty. By W. Lewis Howe, M.D. Cloth. Pp. viii-63. Price. $0.50 Net. Philadelphia: F. A. Davis Company.

SURGICAL ASEPSIS. Especially Adapted to Operations in the Home of the Patient. By Henry B. Palmer, M.D., Consulting Surgeon to the Central Maine General Hospital. 90 Illustrations. Cloth. Pp. vi-231. Price, $1.25 Net. Philadelphia: F. A. Davis Company.

THIRTY-NINTH ANNUAL REPORT OF THE TRUSTEES OF THE BOSTON CITY HOSPITAL. Including the Report of the Superintendent. For the Thirty-ninth Year, Feb. 1, 1902, to Jan. 31, 1903, Inclusive. Paper. Pp. 190. Boston: Municipal Printing Office. 1903.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, UNITED STATES ARMY. Authors and Subjects. Second Series. Volume VII. Hernia Inquiry. Cloth. Pp. 1,003. Washington: Government Printing Office. 1902.

DISEASE OF THE PANCREAS. Its Cause and Nature. By Eugene L. Opie, M.D., Associate in Pathology in the Johns Hopkins University. Cloth. Pp. 359. Price, $3.00. Philadelphia and London: J. B. Lippincott Company. 1903.

TWENTY-SECOND ANNUAL REPORT OF THE STATE DEPARTMENT OF HEALTH OF NEW YORK. With Maps. For the Year Ending Dec. 31, 1901. Cloth. Pp. 632. Albany: J. B. Lyon Company. 1902.

THE BUCKEYE DOCTOR. A Tale for Physicians and for Physicians' Patients. By William W. Pennell, M.D. Cloth. Pp. 345. Price, $1.50. New York: The Grafton Press.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the two weeks ending June 13, 1903:

Appel, Daniel M., major surgeon, now at San Francisco, will proceed to Denver and report to the commanding general, Department of the Colorado, for further orders.

Chaffee, Jerome S., first lieut. and asst.-surgeon., is granted leave of absence, to include July 1, 1903, to take effect on his relief from duty at Fort Porter. The resignation of the above has been accepted, to take effect July 1, 1903.

Collins, G. L., first lieut. and asst.-surgeon, is granted leave for ten days from about June 14.

Daywalt, George W., contract surgeon, will, on the arrival at Fort Schuyler of Asst.-Surgeon Charles N. Barney, proceed to the artillery, District of Portland, and report to the district commander at Fort Preble for temporary duty at Fort Levett. When his services are no longer required in connection with the Army and Navy maneuvers he will, when relieved by the district commander, return to his station.

De Witt, Wallace, first lieut. and asst.-surgeon, now under treatment and observation at Fort McPherson, will proceed to Fort Porter for duty, to relieve First Lieut. Jerome S. Chaffee.

Duval, Douglas F., first lieut. and asst.-surgeon, is granted two months' leave of absence on surgeon's certificate.

Gregory, William G., contract surgeon, is relieved from further duty in the Division of the Philippines and, on the expiration of his present sick leave, will proceed to Fort Apache for duty.

Hart, James W., contract surgeon, will proceed from Fort Washington to the artillery, District of Portland, and report to the district commander for assignment to a station where his services may be needed. At the close of the maneuvers he will return to Fort Washington with the Thirty-seventh company.

Juenemann, George F., contract surgeon, now in Washington, D. C., will proceed to Fort Columbus for duty.

Pease, Louis W., contract surgeon, is granted an extension of one month's leave on surgeon's certificate.

Roberts, D. M., contract surgeon, is granted an extension of leave for two months.

Whitcomb, Clement C., first lieut. and asst.-surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines and will proceed to Governor's Island, N. Y., and report to the commanding general, Department of the East, for assignment to duty pertaining to the Army and Navy maneuvers during the ensuing year.

Stedman, Chester J., contract surgeon, now in Washington, D. C., will proceed to Fort Adams for duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the two weeks ended June 20:

Surgeon L. W. Spratling, detached from the Navy Yard, New York, and ordered to the *Columbia*.

Surgeon P. Leach, detached from the *Columbia* and ordered to the *Massachusetts*.

A. A. Surgeon W. H. Block, detached from the Naval Recruiting Station, Chicago, and ordered to Navy Yard, New York.

Surgeon J. M. Steele, detached from the *Massachusetts* and granted leave for six months.

Surgeons Means, Cordeiro, Wieber, Norton, Kite, Wentworth, Decker, Berryhill, Stone, Pickrell, Crandall, Harris, Urie, McCormick, Arnold, Wilson, Stokes, Stitt, Gates, Lowndes, Barber, Rothganger, Smith, Lung, Von Wedekind, Bogert, Spratling, Kennedy, Blackwood, Braisted and Evans, commissioned surgeons, with rank of lieut.-commander, from March 3.

P. A. Surgeons Orvis, Kerr, Grow, Grunwell, Langhorne, Thompson, Benton, Garton, McCullough, Furiong, Angeney, Bell, Curl, Holcomb, Parker, Wright, Plummer, Odell and Taylor, commissioned passed asst.-surgeons, with rank of lieutenant, from March 3.

P. A. Surgeon D. H. Morgan, detached from the *Boston* and ordered to Naval Hospital, Mare Island, for treatment.

Drs. W. H. Rennie, W. W. Werner, O. Kohlhase and P. S. Rossiter, appointed asst.-surgeons from May 25.

Drs. W. B. Smith and W. S. Hoen, appointed asst.-surgeons from June 2.

Medical Director C. U. Gravatt, retired on account of disability incurred in active service.

Medical Director F. Anderson, detached from the *Alabama* and ordered to the *Brooklyn*.

Surgeon J. C. Byrnes, ordered to the *Texas*.

Surgeon C. J. Decker, ordered to the *Alabama*.

Surgeon C. F. Stokes, ordered to the Navy Yard, League Island, Pa.

Surgeon G. Pickrell, detached from the *Texas* and ordered to the *Iowa*.

P. A. Surgeon R. K. Smith, detached from the *Independence* and ordered to duty at the Naval and Marine Recruiting Stations, San Francisco.

P. A. Surgeon C. P. Kindelberger, detached from the *Iowa* and ordered home to await orders.

P. A. Surgeon A. Farenholt, detached from the *Boston* and ordered to the *Concord*.

Asst.-Surgeon M. K. Elmer, detached from the *Ranger* and ordered to the *Independence*.

Pharmacist W. H. Huntington, retired from active service on account of disability incident to service.

Medical Director J. B. Parker, retired from active service from June 20, under provisions of Section 1454, R. S.

Medical Inspector F. Anderson, commissioned medical inspector from January 31.

P. A. Surgeon J. S. Taylor, commissioned past asst.-surgeon from Nov. 8, 1902.

Drs. J. D. Manchester, P. T. Dessez and J. S. Woodward, appointed asst.-surgeons from June 10.

Medical Inspector S. H. Dickson, ordered home to wait orders.

P. A. Surgeon L. Morris, detached from the *Puritan* and ordered to the *Florida*.

A. A. Surgeon W. P. Keene, detached from the *Truxtun* and ordered to duty with the second torpedo flotilla.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the fourteen days ended June 18, 1903:

Surgeon D. A. Carmichael, leave of absence for seventeen days from May 19 granted by Bureau letter of May 9, amended so that it shall be for thirteen days only.

P. A. Surgeon J. M. Eager, granted leave of absence for two months from August 1.

P. A. Surgeon C. H. Gardner, granted leave of absence for seven days.

P. A. Surgeon H. B. Parker, directed to report at Washington, D. C., for temporary duty.

Asst.-Surgeon C. W. Vogel, granted leave of absence for one month from June 8.

Asst.-Surgeon B. J. Lloyd, to report to P. A. Surgeon R. Blue, Plague Laboratory, San Francisco, for temporary duty.

A. A. Surgeon J. E. Bready, granted leave of absence for three days.

A. A. Surgeon A. P. McConnell, granted leave of absence for two days from June 10.

A. A. Surgeon W. C. Mason, granted leave of absence for ten days from June 17.

A. A. Surgeon J. C. Rodman, granted leave of absence for thirty days from June 20.

A. A. Surgeon W. S. Walkiey, granted leave of absence for seven days from June 11.

Pharmacist G. C. Allen, granted extension of leave of absence for twenty-three days from June 5.

Assistant Surgeon-General A. H. Glennan, detailed as assistant surgeon-general in charge of the Domestic Quarantine Division in the Bureau of Public Health and Marine-Hospital Service.

Surgeon J. B. Stoner, granted leave of absence for one month from June 30.

P. A. Surgeon M. J. Rosenau, to proceed to Greenpoint, N. Y., for special temporary duty.

P. A. Surgeon J. A. Nydegger, relieved from duty at Cincinnati and directed to proceed to Sault Ste. Marie, Mich., as inspector of immigrants.

P. A. Surgeon E. K. Sprague, granted leave of absence for seven days from June 4, under Paragraph 191 of the regulations.

P. A. Surgeon S. B. Grubbs, Bureau telegram of May 13, 1903, granting P. A. Surgeon Grubbs leave of absence for one month, amended so that said leave shall be for one month from May 23.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence, on account of sickness, for twenty-two days from June 9.

Asst.-Surgeon C. E. D. Lord, relieved from duty at Galveston, Texas, and directed to report to medical officer in command at San Francisco Quarantine for assignment to special duty.

A. A. Surgeon H. C. Sibree, granted leave of absence for six days from June 16.

Pharmacist C. G. Carlton, granted leave of absence for thirty days from June 1.

BOARDS CONVENED.

Board convened for the examination of Asst.-Surgeon M. K. Gwyn to determine his fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus; Asst.-Surgeon V. G. Heiser, recorder.

Board convened for the examination of Asst.-Surgeon W. C. Hobdy to determine his fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus; P. A. Surgeon L. E. Cofer, recorder.

Board convened at San Francisco, June 8, for the physical reexamination of an officer of the Revenue Cutter Service. Detail for the board: Asst.-Surgeon Carl Ramus, chairman; Asst.-Surgeon C. W. Vogel, recorder.

Board convened at Washington, D. C., June 10, to review testimony and make recommendation in case of Asst.-Surgeon F. J. Thornbury. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Surgeon H. W. Sawtelle; Surgeon D. A. Carmichael, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the two weeks ended June 20, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 30-June 3, 3 cases.

California: Fresno, May 1-31, 13 cases; Los Angeles, May 23-June 6, 5 cases; San Francisco, May 24-June 7, 5 cases.

Colorado: Denver, May 2-23, 70 cases.

Connecticut: Stamford, May 1-31, 1 case.

Florida: Baker County, June 6-13, 1 case; Columbia County, May 23-30, 1 case; Duval County, May 23-June 13, 7 cases; Escambia County, Pensacola, May 23-June 13, 3 cases; Leon County, May 23-30, 5 cases; Levy County, June 6-13, 10 cases.

Georgia: Atlanta, May 28-June 3, 2 cases.

Illinois: Belleville, June 6-13, 3 cases, 1 death; Chicago, May 31-June 6, 12 cases; Danville, May 31-June 6, 1 case.

Indiana: Evansville, June 6-13, 2 cases; Indianapolis, May 31-June 6, 2 cases.

Iowa: Des Moines, May 31-June 6, 1 case.

Louisiana: New Orleans, May 31-June 13, 5 cases.

Maine: Bucksport, June 3, 1 case.

Maryland: Baltimore, May 30-June 6, 1 case.

Massachusetts: Fall River, May 30-June 6, 9 cases; Holyoke, May 31-June 6, 2 cases.

Michigan: Detroit, May 28-June 13, 28 cases, 1 death; Flint, May 23-June 13, 3 cases; Grand Rapids, May 28-June 13, 7 cases; Port Huron, June 1-13, 2 cases.

Minnesota: Winona, May 30-June 13, 2 cases, 1 death.

Nebraska: Omaha, May 29-June 6, 3 cases.

New Hampshire: Nashua, May 29-June 13, 16 cases.

New York: New York, May 29-June 6, 1 case; Rochester, May 24-June 7, 3 deaths.

Ohio: Cincinnati, May 28-June 13, 7 cases, 1 death; Cleveland, May 30-June 6, 5 cases; Dayton, June 6-13, 6 cases; Hamilton, May 30-June 13, 2 cases; Toledo, May 16-30, 8 cases.

Pennsylvania: Altoona, May 29-June 6, 3 cases; Erie, May 29-June 6, 1 case; Johnstown, May 29-June 6, 1 case; McKeesport, May 29-June 13, 4 cases, 1 death; Philadelphia, May 29-June 6, 31 cases, 4 deaths; Pittsburg, May 29-June 6, 9 cases, 6 deaths.

Rhode Island: Warwick, June 8-15, 4 cases.

South Carolina: Charleston, May 28-June 13, 6 cases.

Tennessee: Memphis, May 23-June 6, 6 cases; Nashville, May 23-30, 1 case.

Texas: San Antonio, May 1-31, 2 cases.

Utah: Salt Lake City, May 31-June 6, 23 cases.

Wisconsin: Milwaukee, May 23-June 13, 70 cases.

SMALLPOX—INSULAR.

Hawaii: Honolulu, May 7, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, May 16-23, 4 cases.

Belgium: Antwerp, May 16-23, 6 cases; Brussels, May 16-23, 8 deaths.

Brazil: Rio de Janeiro, May 3-10, 5 deaths.

Canada: Amherst, N. S., June 12, 3 cases; Fredericton, N. B., June 12, 5 cases.

Canary Islands: Las Palmas, May 9-16, 18 cases.

China: Hongkong, April 11-25, 2 deaths; Shanghai, April 24-May 2, 3 deaths.

Colombia: Barranquilla, May 17-31, 1 case, 1 death; Bocas del Toro, May 19-June 2, epidemic.

France: Paris, May 8-30, 3 deaths.

Great Britain: Birmingham, May 23-30, 7 cases; Bradford, March 30-May 23, 100 cases, 5 deaths; Bristol, May 23-30, 1 case; Dublin, May 16-30, 26 cases, 4 deaths; Dundee, May 8-16 and 23-30, 10 cases; Leeds, May 23-30, 21 cases, 3 deaths; Liverpool, May 16-30, 82 cases, 10 deaths; London, May 16-30, 29 cases; Manchester, May 16-23, 14 cases; Newcastle-on-Tyne, May 8-16 and 23-30, 4 cases, 1 death; Nottingham, May 16-23, 2 cases; Sheffield, May 8-16 and 23-30, 5 cases; South Shields, May 8-16 and 23-30, 2 cases; Sunderland, May 23-30, 1 case; West Hartlepool, May 16-23, 2 cases.

India: Bombay, May 5-19, 111 deaths; Calcutta, April 11-18, May 2-16, 6 deaths.

Japan: Kobe, April 25-May 2, 6 cases.

Mexico: City of Mexico, May 17-31, 31 cases, 13 deaths.

Russia: Moscow, May 8-23, 8 cases, 2 deaths; Odessa, May 16-30, 4 cases, 1 death; St. Petersburg, April 25-May 30, 1174 cases, 24 deaths; Warsaw, April 18-May 16, 10 deaths.

Straits Settlement: Singapore, April 18-May 2, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, May 3-10, 8 cases.

Colombia: Panama, May 18-June 1, 10 cases, 6 deaths.

Costa Rica: Limon, May 21-June 4, 7 cases, 3 deaths.

Mexico: Coatzacoalcos, May 23-30, 1 case, 1 death; Progreso, June 3, 1 case; Tampico, May 23-June 8, 34 cases, 14 deaths; Vera Cruz, May 23-June 6, 42 cases, 12 deaths.

CHOLERA—INSULAR.

Philippines: Manila, April 11-May 2, 52 cases, 47 deaths; Provinces, April 11-May 2, 1,342 cases, 729 deaths; not previously reported, 81 cases, 79 deaths.

CHOLERA—FOREIGN.

China: Canton, May 8, 50 deaths; Hongkong, May 1-8, 2 cases.

India: Bombay, May 5-19, 1 death; Calcutta, April 11-18, May 2-16, 254 deaths.

Turkey: Dasmascus, March 29-April 16, to May 15, 94 cases, 117 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, June 5, 1 death.

PLAGUE—FOREIGN.

Africa: East London, April 12-25, 2 cases; King Williams Town, April 12-25, 5 cases; Port Elizabeth, April 12-25, 15 cases.

China: Hongkong, April 11-25 and May 1-8, 225 cases, 202 deaths.

India: Bombay, April 11-18 and May 5-19, 740 deaths; Calcutta, April 11-18 and May 2-16, 758 deaths; Karachi, May 3-17, 332 cases, 292 deaths.

Japan: Yokohama, May 8-16, 2 deaths.

Peru: Callao, May 3-12, 10 cases, 6 deaths.

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Address.

THE STATUS OF THE SECTION ON OPHTHALMOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON OPHTHALMOLOGY, AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT NEW ORLEANS, MAY 5-8, 1903.

JOHN E. WEEKS, M.D.
NEW YORK.

The By-laws of the American Medical Association provide that the chairman of each section shall present "an address on recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important." This defines the character and limits the scope of his address and is, no doubt, a wise provision. Certain departures from the letter of the law are, I infer, permissible and, in pursuance of this belief, I shall digress sufficiently to welcome you all most heartily to this session of the Section, also to offer you my sincere thanks for the splendid manner in which you have supported the officers of the Section in their endeavor to present a program full to overflowing of valuable papers.

Some years ago Dr. Casey A. Wood, acting under Section 3 of the Constitution, which empowers officers of Sections to invite distinguished physicians of foreign countries to become members of the Association for the year and to participate in the affairs of the Section, endeavored to have a distinguished ophthalmologist of Paris attend the session of the Section. An invitation was extended and accepted, but at the last moment word was received that it was impossible for the gentleman to be with us. Last year our then chairman, Dr. Frank Allport, gave us the privilege and pleasure of meeting Professor Haab of Zurich, Switzerland, and of welcoming him to our country and to full participation in the affairs of our Section.

The precedent established by my able predecessors is one that, in my opinion, should be continued, not only because it serves to bring us in contact with men who are leaders in our branch of medicine, but because of the incentive to better work that such contact engenders. I have endeavored to emulate the example set me, with results similar to those of Dr. Wood.

The Section on Ophthalmology of the American Medical Association should be, as I believe it now is, the representative body of ophthalmologists in the United States. Its membership area is wider than that of any other society. As a part of a great Association of representative medical men, it has collateral support, and it is founded on a Constitution and governed by By-laws sufficiently broad and liberal to permit of indefinite expansion. The method of officering the Section provides against the danger of the domination of cliques and of the continuation of officers through courtesy or otherwise that might endanger its activity. The possibilities of the Section are great, and we should all endeavor to cause these possibilities to be realized by lending our influence to the production of work of the highest order and by making the meeting of the Section of the greatest possible interest.

The inducements to become identified with the Section are more than those afforded by any other association of ophthalmologists in this country. Some of them may be enumerated. First, contact with representative colleagues from all parts of the United States. Second, the assurance of large attendance. Third, the publication of accepted papers and the discussions of these papers in a journal having a larger circulation than any other medical journal in the United States, as well as the publication of papers and discussions in a bound volume of transactions at a nominal cost.

In regard to the volume of transactions, the chairman would suggest that an opportunity be afforded to every member of the Section, whether he be present or not, to obtain a copy. This could be satisfactorily arranged by the Executive Committee.

It is scarcely necessary that your chairman should mention to any extent the recent advances in ophthalmology. These will be presented in better form and more *in extenso* by the members of the Section in the session on which we are now entering. Some lines of research which promise much to careful workers may be mentioned: The effect of the *x*-rays and of the Finsen rays on neoplasms, detached retina, deep inflammatory processes and suppurative processes deserves more study. The study of the bacteriology of the eye is not yet exhausted; there are still some acute processes, apparently of bacterial origin, the causative agent of which is not known, among which may be mentioned Parinaud's conjunctivitis, trachoma and some of the suppurative diseases of the cornea. The question of the value of subconjunctival, intra-orbital and intrabulbar injections is yet in a chaotic state. This is a question which possesses potentials for much good to our patients. An exhaustive paper on orbital neoplasms, embracing the results of a careful study of all varieties by modern methods, would be heartily welcomed by all ophthalmologists.

Original Articles.

THE VALUE OF ENTEROSTOMY IN SELECTED CASES OF PERITONITIS.*

F. B. LUND, M.D.
BOSTON.

Among the many serious aspects in which that protean disease, appendicitis, is presented to the surgeon, there is none more alarming than the types in which diffuse peritonitis is attended with intestinal paralysis and distention of the abdomen. Here we have in addition to the already severe septicemia due to absorption from the peritoneum, a toxemia from absorption of the poisonous products of stagnating feces in the intestine, and the great depression produced by gaseous distention of the bowel. The mechanical interference with the descent of the diaphragm renders respiration feeble and shallow, interferes with the aëration of the blood, and adds the grave complication of asphyxia to tax the failing strength of a patient already almost exhausted. It is hard to conceive of a more certainly fatal form of assault on the organism.

We all, as surgeons, are familiar with the insidious and dangerous character of those cases of appendicitis which are so often sent to our hospitals with a diagnosis of "intestinal obstruction"—cases in which with a normal or slightly elevated temperature and local signs perhaps indefinite, the great distention of the abdomen, the bright eyes, blue lips, and dry tongue tell the story of a diffuse peritonitis with intestinal paralysis, and warn us of the gravity of the case with which we have to deal.

It is in cases of this sort that we find the greatest difficulties in the operation, and must look most sharply for complications in the after-care, and it is to the treatment of cases of this type that I would briefly invite your attention. So dangerous seems to me this type of the disease that I can truly say that I would rather meet a case of diffuse peritonitis involving the whole abdominal cavity without paralytic distention of the bowel, than a more localized and dry form of the disease in which this complication is present.

A brief consideration of the nature and causation of this distention which we call paralytic is necessary to our further argument. This distention is a complex phenomenon in which several causes may reasonably play a part. In its production may be concerned: First, obstruction of the bowel by angulation, due to fresh fibrinous adhesions, and the prevention of peristalsis by these same adhesions when they involve an extended area of the bowel. Adhesions of this type are found early in the dry type of diffuse peritonitis.

A second causative factor may be the laming of the smooth muscular fibers by the infiltration of the intestinal wall with inflammatory products. In the early stages of appendicitis it is well recognized that the infiltration of the intestine in the region of the ileocecal valve may temporarily paralyze a local section of the bowel, and result in vomiting and distention which passes off as the disease subsides or is operated on.

A third causative factor may be the paresis of the musculo-nervous peristaltic apparatus by the effect of toxins absorbed by the central nervous system. The paresis resulting from this last cause may, for the purposes of our argument, be disregarded, as it will occur only in the latest stages of septicemia, and after our patient is reduced to the deepest stages of exhaustion by the absorption of toxic products.

In the cases in which distention comes on early in an attack before the patient is profoundly septic or soon after an operation, it is undoubtedly due to one of the first two causes, namely, adhesions from fresh fibrinous exudate, or paralysis of the musculo-nervous apparatus of peristalsis by the presence of exudate in the intestinal wall. Of these two causes, the first is probably the more important.

When we consider the complexity in the shape and position of the intestine, and the importance of free mobility both to the production of peristalsis and the prevention of obstruction, it seems remarkable that paresis and obstruction are not universal accompaniments of peritonitis. It is obvious that a central peritonitis, such as arises when the appendix or other infecting organ is centrally situated, among the freely movable coils of small intestine will be more apt to cause intestinal paresis than a peripheral process situated, for instance, on the outer side of the fixed ascending colon, and between the latter and the abdominal wall.

The greater comparative fixation and the greater caliber of the large intestine render it less liable to kinking from fresh fibrinous adhesions than the small intestine.

Distention due to the first cause, angulation or compression by adhesions is more properly termed obstruction than paresis. Kinking many follow a local process, an adhesion at a single point, and result in distention of the entire intestine above that point. Multiple and extensive adhesions to other viscera and the abdominal wall may result in multiple angulations, and at the same time hamper the intestinal muscles, and these two processes may be associated in a greater or less degree with actual laming of the muscle itself by infiltration about and between the fibers. The exact part played by either process does not interest us, as the result is the same and the treatment indicated is the same, namely, to furnish a safe and easy exit to the contents of the over-distended bowel in order to allow it to collapse and recover its muscular tone.

In the milder cases it may be sufficient to stimulate peristalsis by irritating enemata of turpentine, glycerin and Epsom salts, and remove by the use of the rectal tube the obstruction from the contraction of the sphincter. These methods should be and are, of course, always tried before resorting to enterostomy. Enterostomy is a serious procedure; it subjects the patient certainly to the annoyance and discomfort of a fecal fistula, and generally to the danger of a secondary operation for the closure of the opening. The operation is, however, a simple one; it may be performed under local anesthesia, and the secondary operation is generally also simple and safe. It is proposed only in cases practically moribund from septicemia, asphyxia, from pressure upon the diaphragm, and often continually vomiting feces. The rescue of a few of these patients who, if let alone, are face to face with certain death, is certainly an adequate recompense for the slight inconvenience of the operation and the fecal fistula. In these cases, then, after other means have failed, the operation, it seems to the writer, is distinctly indicated, and in his experience and that of his colleagues it has been the means of saving valuable lives.

Local anesthesia avoids the special danger of a general anesthetic in these cases, namely, depression and inhalation of vomitus.

A word as to the time for the operation. Certain surgeons, among them Dr. Mixter of Boston, advocate in

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

cases of diffuse peritonitis with distention, the establishment of an outlet for gas and feces at the primary operation by the simple procedure of incising the cecum and tying in a glass tube. This tube may be removed in four or five days after distention has been relieved and adhesions formed about the wound, and it is said that the fecal fistula rarely remains for so long a time as to require an operation.

The writer, however, has felt that a fecal fistula should not be established except as a last resort. He has had such good results from the free incision of the intestine and suture of the wound after emptying the bowel, and perhaps injecting a saturated solution of Epsom salts at the time, that he has deemed it wiser to limit the primary interference to the above-mentioned procedure, associated, of course, with drainage of the abdomen and the usual procedures for the treatment of the peritonitis. Enterostomy should, in his opinion, be reserved for those cases in which, after the primary operation, enemata have failed to move the bowels, and the patient's life is endangered by distention. Thus the patient is not subjected to the annoyance of a fecal fistula till other means have been tried, and both patient and operator are satisfied of its necessity.

This reasoning does not apply, however, to cases in which the operation is done on patients living at a distance who can not be under the surgeon's immediate personal care. Under these circumstances the writer believes it wiser to open the bowel at the primary operation rather than run the risk of the patient's dying from paralytic distention before he can reach him for the secondary procedure.

In a case of general peritonitis with distention operated on this winter in the country, the writer did not open the bowel at the primary operation and returned to the city. The attending physician was kept away during the night following the operation by an obstetric case, and could not open the bowel, and the patient died of extreme paralytic distention early in the morning of the day following the operation.

Under such circumstances, immediate ileostomy or cecostomy would be distinctly advisable.

Instead of opening the cecum the writer has opened the small intestine, for the following reasons:

1. The fibrinous adhesions which cause the obstruction are probably located in the region of the ileocecal valve, and affect the small intestine above that valve. It is manifestly important to open the bowel above the point of obstruction, therefore a coil of small intestine which by distention shows that it is above the main point of obstruction is chosen.

2. The difficulty of the operation for resection and closure of a fecal fistula in the small intestine has, in the writer's hands, been considerably less than a similar operation on the cecum, because the small intestine can be brought outside the abdomen and operated on extraperitoneally, which is not always the case with the cecum. Lennander, who advocates opening the cecum at the primary operation or arranging gauze packing so as to have a surface of it exposed in the wound for subsequent incision, regards the opening of the small intestine as hazardous, owing to the uncertainty as to the distance of the point opened from the cecum. He has found in his experience that the coils of small intestine below the fistula become united by adhesions into a complex and undecipherable mass, and that if the patients lived, an ileocolostomy was necessary in order to cure the fecal fistula. The writer has not had this experience, although, as will be seen in the report of Case 3, an intestinal resection was necessary for chronic obstruction following enterostomy and closure of the fistula. This operation, however, was necessitated by adhesions above the ileocecal valve, so that it is difficult to see how opening the cecum would have relieved the obstruction in the first place, or how the fact that the ileum was opened had anything to do with their causation.

The advantages, then, of this method of ileostomy over cecostomy are that the intestine is certainly opened above the obstruction in case it is a kink in the cecal region, and the comparative simplicity of the operation for closure of the fistula. The bowel below the opening in the writer's cases never became so empty as to be adherent in a tangled mass, as shown by the fact that contents constantly passed through them, as shown by the abundant bowel movements. It is certainly a fair question whether the same result would not have happened had the cecum been opened instead of the ileum.

For the cecal operation the advantage is claimed that enemata, cathartic and nutritive, may be administered at once through the tube. The same treatment may be administered through a fistula into the small intestine. The primary point, it seems to the writer, is to get the intestine opened above the kinked or paralyzed portion, and enable the over-stretched muscles to get rid of their stagnating contents and recover their tone.

A word as to the technic: Local anesthesis with cocain solution (0.1 per cent.) should always be employed, owing to the danger of inhalation of fecal vomitus. The patient need not necessarily be removed from bed, but it is better to place an operating table in the room beside the bed, and gently lift the patient onto it. After cocainizing the skin and subcutaneous tissue, an incision one inch long is made in the median line below the umbilicus. The aponeurosis is then quickly infiltrated and the abdomen opened. The nearest distended coil of small intestine is sutured to the aponeurosis around the opening by a continuous suture of Pagenstecher thread, opened, and a large catheter of glass tube inserted a short distance into the afferent coil so as to prevent valve formation at the opening. An escape of a moderate amount of gas and perhaps feces takes place at once, and the patient generally expresses relief even for the slight diminution of distention which is at once evident. The operator need not be disappointed that the immediate amount of feces passed is small. A large gauze dressing is applied over the wound, which is kept separate from the other laparotomy dressing by a partition of rubber tissue stuck down to the abdominal wall with a strip of adhesive plaster.

In the course of a few hours, as the over-stretched intestinal muscles regain their tone, there follows a copious discharge from the opening, and generally the relief of tension allows the bowel below the opening to begin to act, so that enemata are successful in obtaining movements from the rectum. The pulse begins to fall within six to eight hours in successful cases.

The operation for closure of the fecal fistula may be done at any time after the patient has recovered his strength so as to be in good condition for it. The technic is simple, and, as employed by the writer and his colleagues, is as follows: The opening is first closed by coarse silk sutures passed through its border in the abdominal wall. Then the opening is circumscribed by an incision through the skin and muscle close to the border, the abdomen opened, and the adhesions freed around the

loop of the bowel. This is now drawn out of the abdomen and the margin of the opening with adherent skin, etc., excised till healthy bowel is reached. Then the opening in the bowel is sutured in a direction transverse to its axis (so as not to narrow the lumen) with through-and-through sutures of catgut. This line of suture is infolded by a continuous Cushing right-angled suture of Pagenstecher linen thread. The coil after being thoroughly cleansed with salt solution is then dropped back into the abdomen, and the wound in the abdominal wall closed with through-and-through sutures of silkworm gut around a small gauze drain passed down to the suture line.

In case the obstruction instead of being only temporary has remained permanent, owing to persistence of the adhesions, further operative procedures, even perhaps resection of the intestine, may be necessary for its relief, as in Case 3.

A comparison of the value of the writer's method with primary cecostomy is difficult owing to the rarity of reported cases. He awaits the reports of cases in which that procedure has been adopted in order to estimate its immediate efficacy and favorable after-results, which, according to the verbal report of surgeons connected with the Massachusetts General Hospital, have followed that procedure.

Statistical comparison with secondary cecostomy is also impossible on account of the rarity of reports of cases. In certain cases, cecostomy has resulted in saving the life of a desperately sick patient,[1] and in these cases there can be no doubt that the distention was paralytic, or the obstruction, if present, concerned the sigmoid.

Cases 1 and 3 of this paper, however, may be pointed out as cases which would probably not have been helped by this method.

The writer has the privilege, through the courtesy of Dr. John C. Munro and Dr. George H. Monks, in whose service they occurred, of reporting three cases of enterostomy for intestinal paralysis following operations for appendicitis, and is able also to report one case in which the same operation was done for peritonitis following a stab wound in the intestine. Dr. John T. Bottomley has also, April 24, just performed the operation in a case seen in consultation by Dr. Munro and the writer, in a patient dying from distention forty-eight hours after an operation for acute appendicitis. The patient was temporarily relieved, but died on the sixth day after the operation of septicemia. The report of the case is kindly furnished by Dr. Bottomley.

In addition to these cases reported in full, the writer has done the operation in one other case of peritonitis due to the perforation of the vaginal vault by a splinter of wood; in this case the relief of the distention was not sufficient to enable the patient to overcome the advanced septicemia from which she was suffering, and she died.

He has twice opened the presenting intestine adherent in the bottom of a wound of operation for general peritonitis following appendicitis without avail, the patients being already septicemic.

The operation has also been performed twice by colleagues at the writer's suggestion in cases of distention in advanced peritonitis, in both cases proving unavailing.

The writer does not advocate the procedure with any hope that it will prove uniformly successful, because many patients who may seem suitable for it will be found to be suffering from septicemia so severe that they can not recover strength after relief is afforded to the distended bowel. He does not advocate it either in all cases of general peritonitis which are progressing to a fatal termination after an unavailing laparotomy. But he does feel that there is a class of cases in which the obstruction or paralysis kills the patient rather than the septicemia, and that of these cases a certain number can be saved.

1. Madden: Lancet, London, 1902, 1533-34.

REPORTS OF CASES.

Case 1 may be summarized as follows: Operation on the fourth day of a subacute attack of appendicitis. Appendix adherent at tip to rectum in median line. Secondary enterostomy under ether for distention and intestinal paralysis 48 hours after the primary operation. Recovery. Operation for closure of fecal fistula after six weeks. Recovery. Good health two years after operation.

History.—C. P. B., 21 years old, single, a bank clerk, was admitted to the City Hospital as a private patient of Dr. J. C. Munro March 20, 1901. The patient had had a similar attack two weeks ago. Was seized the day before entrance with griping pains in the abdomen, which gradually grew worse. Vomited twice last night. Pain is not continuous, but at times is very severe. Feeling as if of pressing down on rectum. Abdomen distended, everywhere tympanitic. No tenderness or spasm. Temperature 98. Pulse 80.

Operation.—March 23. Ether. Median incision. Appendix three inches long, inside and behind cecum, base adherent to iliac vessels, coiled spirally on itself and with tip bound in adhesions deep in Douglas' pouch Ligated close to base with catgut. Stump cauterized with carbolic acid. Adhesions in pelvis broken up to free adherent loops, and cavity drained with iodoform gauze and glass tube. Appendix showed gangrenous inner coat, nearly perforated one-half inch from tip at site of old stricture.

March 25.—No movement of bowels since operation. Glass tube removed yesterday. Slight discharge. Wicks removed to-day. Cavity well walled off. Abdomen distended and tympanitic. Pulse 140. Ether. Incision in left iliac region. A small quantity of viscid fluid. No adhesions. Marked distention of bowels. A loop of gut brought to wound and roughly sutured to the transversalis fascia, and opened, but only a small amount of gas or fecal fluid escaped on account of the distention. Another loop adjacent was sutured and opened in same way, but evacuations of gas were unsatisfactory. Both loops were apparently small gut, but later it was shown that one was probably sigmoid. The original wound was explored and found clean and walled off. On breaking up adhesions and freeing a loop probably of small gut that was adherent deep in the pelvis and at a sharp angle, there was an immediate gurgle as of pent-up gas. The original wound was drained with iodoform gauze around a glass tube and separate dressings applied to each wound. Patient in very poor condition, almost constant regurgitation, poor rapid pulse, cyanosis, etc.

March 26.—Pulse 120. At 10 p. m. basin full of feces drawn by a catheter through artificial anus.

March 27.—Pulse still lower. Bowels kept flat by passing catheter into artificial anus. Feeding by mouth resumed, as nutrients came out through artificial anus. Progress good. Profuse discharge through artificial anus.

On April 25, four weeks later, the writer closed the artificial anus as follows: Incision was made into the abdomen just clear of the adherent loops which were dissected free from the abdominal wall and separated from each other. The granulating edges of the bowel were excised, the openings in each loop of bowel closed in a direction transverse to the lumen of the gut by three rows of Cushing continuous fine silk sutures, and returned to the abdominal cavity after thorough washing. No shock from operation. Good ether recovery.

The patient made an excellent recovery from this operation, leaving the hospital, May 18, and is now, two and one-half years later, in excellent health.

Case 2.—Summary: Operation for acute appendicitis 24 hours after beginning of attack. Secondary enterostomy for

intestinal paralysis 48 hours later under local anesthesia. Recovery. Closure of enterostomy four weeks later. Recovery. Good health one and one-half years later.

History.—W. B., 23 years old, salesman, was admitted to Dr. Munro's service at the Boston City Hospital on Nov. 21, 1901, 24 hours after the beginning of an attack of acute appendicitis. The abdomen was moderately distended and generally tender, the tenderness and rigidity being most marked in the region of the appendix. Temperature 100.2. Pulse 108.

Operation.—Dr. Munro operated on day of entrance by a muscle-splitting incision in the right iliac region. Abdomen full of serum and sero-purulent fluid, the purulent portion coming from the pelvis. A long, acutely inflamed appendix gangrenous in inner portion and hanging over brim of pelvis, was ligated with catgut and removed. As the general cavity was full of infected serum it was irrigated out with many quarts of salt solution and drained with a glass tube and iodoform gauze.

The following day he passed a little gas, but the pulse remained at 120 and the abdomen began to distend. The drainage wicks were started. The pulse fell to 90. The next day in the morning the bowels moved, but without relief of the distention, which increased during the day, and the patient was given several high enemata of turpentine without result. The pulse rose to 142 and was of poor quality. The patient was nauseated and weak.

The writer, in Dr. Munro's absence, saw him at 9 p. m., and in view of the increasing distention and rising pulse decided to perform enterostomy. Owing to the patient's poor condition and the danger of fecal vomiting under a general anesthetic, local anesthesia with 0.2 per cent. cocain solution was employed. An incision 1¼ inches long was made by the writer in the median line of the abdomen below the umbilicus, and the small intestine beneath was found injected and distended. A loop was sutured to the transversalis fascia by a continuous suture of Pagenstecher thread and opened, allowing escape of considerable gas and resulting in marked decrease of the distention. No shock attended the operation. Separate dressings were applied to the wound.

The following day the pulse fell to 112 and the distention was reduced by the passage of considerable gas through the artificial anus. Feces were soon passed by the rectum, but there was still abundant discharge from the wound until December 18, when Dr. Munro operated for closure of the fistula. The opening being closed by a temporary suture of silk, the incision was carried around the opening on each side through healthy tissue. There were no adhesions of the bowel except around the immediate edge, when it was sutured to the fascia. The loop of gut was brought out and the fistula excised. The opening was then closed by a row of Pagenstecher sutures, re-enforced by a Cushing right-angled continuous suture of pure silk. The wound was closed in layers with catgut and chromic gut.

Convalescence was normal, except for several attacks of vomiting and abdominal pain during the first week. The bowels moved freely and there was no distention. The patient left the hospital in good condition on Jan. 3, 1902. He is now, April 22, 1903, in excellent health .

CASE 3.—Summary. Operation for acute appendicitis with distention on fourth day of attack. Secondary enterostomy 48 hours later for intestinal paralysis and distention. Closure of enterostomy three weeks later. Five weeks later resection of intestine for partial obstruction. Recovery. In good health at time of report six months later.

History.—J. W., 11 years old, was admitted to the service of Dr. Monks at the Boston City Hospital on Oct. 28, 1902; four days before sudden pain in abdomen centering around umbilicus. Not radiating nor localized. Vomited frequently since onset of pain. No chills. Small movement resulting from enemata yesterday. General condition fair. Temperature normal. Pulse 100. Abdomen moderately and evenly distended. Coils visible. No peristalsis observed. Moderate general tenderness not at all localized. Moderate rigidity. Peritoneal facies.

Operation.—Ether. Median incision by the writer below umbilicus. Presenting intestine distended and injected. Free fluid, brownish and turbid. Incision enlarged to four inches, and intestine allowed to escape. Appendix found thickened, adherent, extending over pelvic brim into bottom of pelvis, where tip, covered with fibrin, lay in a small abscess cavity. Perforation ½ inch from end. Removal of appendix. At a point on the ileum near the ileocecal valve a large area of the surface of the bowel was covered with fibrin, evidently the seat of an adhesion. Below this point the bowel was not nearly so markedly distended as above. A coil of intestine above the adhesion was brought out over the side of the abdomen, opened and a large amount of feces allowed to escape. Saturated solution of Epsom salts was injected into the bowel and the opening sutured. Abdomen and pelvis flushed with salt solution. Bowel replaced and pelvis drained with glass tube and iodoform gauze wicks. Pulse 160 at close of operation.

October 29.—Occasional vomiting. Temperature normal. Pulse high and poor. Peritoneal facies, mildly delirious. No movement of the bowels or passage of gas.

October 30.—Abdomen considerably and evenly distended. Calomel, ¼ gr., every hour for eight hours without passage of gas. General condition worse.

Under cocain anesthesia an incision 1¼ inches long was made by the writer above the umbilicus. Presenting loop of small intestine, which was reddened and distended, sutured to transversalis fascia with silk. Small amount of gas and liquid feces escaped. Stimulated with strychnia, mildly delirious during operation. Not much relief from distention, probably due to atony.

October 31.—Good movement from turpentine enema. Now no distention.

November 4.—Profuse discharge from enterostomy wound and steady improvement.

November 7.—Attack of nausea and vomiting, with rise of pulse.

November 19.—One or two attacks of epigastric pain, nausea and vomiting.

November 21.—Ether and closure of enterostomy opening by the writer. Operation difficult on account of very extensive and firm adhesions to anterior abdominal wall. Separations of these adhesions difficult and attended by hemorrhage, which was controlled only by infolding the bleeding areas in silk. Opening in intestine carefully separated from abdominal wall and closed with Lembert sutures of pure silk. Further adhesions, very firm and fibrous, were noted to the lower part of incision, but it was not thought safe to separate them.

November 25.—Tendency to epigastric distention and occasional vomiting. Coils of intestine visible in epigastrium. Facies pinched. Occasional spasms of pain. Evidently partial obstruction. Operation discussed.

December 3.—Vomiting continual since last note. Distention continuing in spite of high turpentine enemata. Patient very restless. Facies pinched. Spasms of pain. Occasional passage of gas.

December 4.—Abdomen distended above umbilicus; coils visible.

Further Operation.—Dr. G. H. Monks. Ether. Incision in line of original incision below umbilicus. Abdomen opened freely. Great number of adhesions between intestines and peritoneum and between coils of intestine separated with difficulty, leaving large denuded areas of bowel which oozed freely and which could not be covered with peritoneum. At a number of places the adhesions had contracted the bowel, but not enough to reduce the lumen so as to endanger the fecal current. On following the jejunum toward the iliac fossa a marked contraction, cicatricial in character, was found, complicated by adherent omentum and bowel. The intestine beyond was collapsed; proximal intestine moderately distended. Adhesions were separated. The constricted portion of bowel was excised by removing a wedge-shaped segment 2 inches long on free border and one-half inch long on mesenteric border. Suture with continuous right-angled Cushing suture of fine silk. Patient's condition had become precarious, so that no effort could be made to stop oozing from denuded peritoneal

surfaces or to correct other partial constrictions which were found. The abdominal cavity was irrigated with salt solution and the wound hastily closed with interrupted silkworm gut. Small iodoform wick to seat of anastomosis. Rallied slowly from ether and operation.

December 5.—Slight delirium. Still distention. Pulse 140.

December 9.—Pulse 100. Vomiting ceased three days ago. General condition much improved. Distention disappeared. Abdomen soft. Good results from enemata.

December 14.—Rapidly improving. Soft solids by mouth.

December 28.—Gradually gaining. Diarrhea for past three or four days.

January 4.—Improving rapidly, though still much emaciated and pale. Diarrhea still. No distention.

January 9.—Still four or five liquid movements a day. Slowly gaining strength. Up and walking by aid of chair. He left the hospital on this date and reported on April 15, 1903, in excellent condition, having fully recovered his health and strength.

Case 4.—Stab wound of small intestine. Suture of wound and return of intestine followed by properitoneal hernia. Operation for hernia followed by peritonitis with distention and adhesion of a coil of intestine to operation wound. Enterostomy on an apparently dying patient followed by rapid recovery. Closure of fecal fistula six weeks later.

History.—D. M., 62 years of age, was admitted to the Quincy Hospital Feb. 2, 1903, to the service of Dr. N. S. Hunting, through whose courtesy the writer is permitted to report this case. While at a dance at 1:30 a. m. the patient was stabbed in the abdomen. He walked to the office of a physician, who probed and sewed it with catgut. Pain followed and he was admitted to the hospital at 3:30 a. m.

Operation.—He presented a crescentic wound ⅝ in. long one-half inch above and to outside of right spine of pubes. Three stitches were removed. Abdominal wall thin and bowel presenting. Drs. Hunting and Ellsworth operated. Wound enlarged and opened parallel to rectus. It was found that the muscles had been cut upward and outward parallel to and just above inguinal canal. Some free bleeding from cut edge. Punctured wound of ileum ⅛ in. long, from which yellow serum-like fluid exuded on pressure. Closed with two rows of silk suture. Inguinal canal closed with kangaroo tendon after washing out with salt solution. The patient did well for three days, then, on February 11, there was abdominal pain and obstruction which high enemata failed to relieve. Temperature normal. Pulse 60.

Second Operation.—Ether. Dr. Hunting operated. Wound enlarged and opened parallel to rectus. Bowel at site of injury in good condition. Wound tight. On further examination it was found that the peritoneum was deflected from level of anterior superior spine and 19 inches of bowel lay outside the peritoneum, i. e., a peritoneal hernia. Opening in peritoneum was constricting the gut. It would admit tip of finger. Peritoneum opened freely and bowel inside was found injected with flakes of fibrin. The bowel was replaced and cavity washed with salt solution. Peritoneum and wound sutured around a drain of iodoform gauze.

During next three days cathartics and enemata failed to induce movement of bowels.

February 17.—Abdomen distended, skin red, pulled apart.

February 18.—Pain and tenderness in right abdomen.

February 19.—Distention. Wound looks sluggish. Slough and purulent expectoration.

February 21.—Condition same. Distention very marked in spite of repeated small movements from $MgSO_4$. Regurgitates dark green fluid.

February 22.—Uncomfortable. Pulse and temperature good.

February 23 the distention became extreme. The patient was continually vomiting fecal matter and the pulse rose to 140 and became very weak. The writer was called in consultation and found the patient in very poor condition. It was decided to perform enterostomy. With local anesthesia an incision one inch long was made in the median line below the umbilicus. On opening the abdomen it was found full of pus. It was thought desirable to supply drainage for this pus before opening the intestine, and the writer therefore decided to reopen the original wound and insert a glass drainage tube through its lower angle into the pelvis before performing the enterostomy. On dissecting into this wound the intestine was accidentally opened and at once there took place a very free passage of gas and feces, and the patient expressed himself as relieved. The intestine was therefore sutured to the abdominal wall at the place where it had been opened and the other wound was abandoned. A third incision was made in the median line just above the pubes into the abdomen, and through this a drainage tube was passed into the pelvis and the pus washed out of the peritoneal cavity with salt solution. All these procedures were performed without difficulty under local anesthesia. After the operation the patient's pulse and temperature steadily fell. For the first few days feces were discharged through the artificial anus. Later he began to have movements of the bowels. The irritation of the skin of the abdominal wall by the escaping intestinal fluids was a source of considerable annoyance. The patient improved, however, and on April 18 the writer performed the operation for closure of the fecal fistula as described in the three preceding cases. At the time of writing, April 22, the patient was having a most satisfactory convalescence.

Case 5.—*History.*—R. R., 25, single, was recently operated on by Dr. John T. Bottomley, at the Boston City Hospital, on the third day of appendicitis. He found the appendix acutely inflamed, adherent to pelvic brim, free pus in the abdomen and fibrin flakes on the neighboring intestines. There were two perforations near the tip of the appendix. After excision of the appendix the wound was packed and drained freely with iodoform gauze. The abdomen was washed with salt solution. Cultures from the pus showed *Staphylococcus albus and Bacillus coli communis.*

The patient made a good recovery from ether, but for two days after the operation no gas or feces passed the bowels. The pulse gradually rose, and on the morning of the third day the patient began to vomit and vomited dark brown material frequently. The abdomen was distended. The pulse was 140 and he was very weak, cyanotic and evidently desperately ill. He was seen by the writer and Dr. Munro in consultation. Dr. Bottomley performed enterostomy under local cocain anesthesia, making a median incision through the abdominal wall below the umbilicus. On opening the abdomen the intestine was injected, but there was no excess of fluid in the cavity. A loop of intestine which presented under the wound was sutured to the aponeurosis of the rectus muscles by continuous silk sutures and opened. There was an immediate discharge of gas and feces. A bent glass tube was tied in to the intestine attached to a rubber tube which went over the side of the bed. Soon after the operation the patient stopped vomiting and was able to take liquids by the mouth. During the next three days his condition gradually improved. There was copious discharge of feces through the enterostomy wound. The bowels moved by the rectum under the influence of enemata. On the fourth day, however, the abdomen began to distend in spite of the movements of the bowels, and the pulse to rise. On the fifth day the patient began to vomit, and died on the morning of the sixth day.

In this case, it is evident that the operation did not save life, but its effect in relieving the patient was marked. He was moribund at the time when the operation was done, and the improvement which took place seemed almost miraculous. Hopes were entertained of his recovery. There is no question that he died of continued peritoneal infection, which in itself is sufficient to kill many patients even without obstruction of the bowels. No one regretted having made the attempt to save him by enterostomy, for it was felt by all concerned that everything had been done to save the man's life. At a partial autopsy it was found that the opening in the intestine was just 8 inches above the ileocecal valve.

SUMMARY.

Enterostomy is indicated for obstruction or paralytic distention of the intestine from whatever cause, after the ordinary means for relief of such distention have

failed. It is especially applicable for distention after operations for acute appendicitis or general peritonitis. Under such circumstances it may restore to life cases in which death seems inevitable. Secondary ileostomy is the operation of choice. Local anesthesia is to be preferred. The subsequent operation for closure of the fecal fistula is usually safe and successful.

DISCUSSION.

DR. M. B. TINKER, Baltimore—Enterostomy has been used in selected cases of this kind at the Johns Hopkins Hospital for the past five or six years. It was introduced there by Dr. Finney, but has been used only in a few cases, for the reasons given by Dr. Lund. It is very repulsive to the patient to have a fecal fistula; the skin is usually excoriated around the fistula, frequently causing severe pain, and it is very difficult to keep the patient clean. In the last three years I have not seen secondary operation necessary for the closure of fecal fistula, however. The intestine should be brought up to the abdominal wall and sutured; a tangential enterostomy which does not bring the gut outside of the abdominal cavity, as in colostomy. Some operators have made a mistake in bringing the gut outside of the abdomen, thus making a secondary operation always necessary. When the fistula persists, as it frequently does, for weeks, excoriation of the skin is a source of great discomfort, and the patients can be greatly relieved by putting them in a tub of warm water. Cases in which enterostomy is of great value are the cases of obstruction following perforation with localized peritonitis. To break up the adhesions and relieve the obstruction would mean the soiling of the entire peritoneal cavity. By the enterostomy we relieve the obstruction at once, and in most cases the obstruction coming from distention gives no further trouble after this is relieved. Leaving an enterostomy opening, instead of closing perforations in the intestines also saves lives in many cases. Dr. Follis did this in a case of typhoid perforation in which the patient was in an extremely low condition, and the very least intervention seemed indicated. This can be done much more quickly than suture of the perforation, and in the case mentioned the patient made an excellent recovery, in spite of his bad condition at the time of operation. In a case of gunshot wound of the abdomen with eleven intestinal perforations, the patient was brought into the hospital in a very low condition with the abdomen full of blood. Extensive intervention meant death, and instead of attempting to suture all the openings, a loop of intestine with four perforations in it was resected, the ends brought out to form enterostomy openings, and was gauze-packed about. Recovery followed in this case also. While not to be advocated in all cases, the use of this procedure in certain critical cases of obstruction from peritonitis has, I believe, saved a number who would have died from a more extensive operation.

DR. MILES F. PORTER, Fort Wayne, Ind.—Some years ago I had the honor of reading a paper before the Mississippi Valley Medical Association, in Detroit, in which this subject was referred to, and a year or two afterward, 1897, I read another paper on the subject of tympany. I tried to show in those papers that there were many cases of peritonitis that died that might and would have recovered had that one symptom been overcome. This statement I had at that time been convinced was correct by at least one case, and since then I have seen it corroborated in a number of cases. I have seen cases of peritonitis with enormous quantities of pus, in which the patient was in such a deplorable condition from the tympany that I felt warranted in relieving the tympany by opening the gut before I drained the abscess, and I have had the satisfaction of seeing at least one of these cases get well.[1]

The point that I wish particularly to emphasize is that many of these patients die because of the tympany, and if that is relieved the patient will get well, or so far recover as to enable one to perform an operation later to remove the original cause of the peritonitis.

Now, in regard to the occurrence of fecal fistula, I wish to emphasize a point made by the last speaker. The fistula will not need to be closed by the surgeon, if it is properly made to start with. If the gut is simply attached to the peritoneum, it will close itself and render a subsequent operation unnecessary.

DR. C. P. THOMAS, Spokane, Wash.—It appears to me that we—particularly the last speaker—are getting the cart before the horse. If we simply attach the bowel to the abdominal wall and make an incision in it, disregarding the pathology, we will get left in a great many cases. I do not believe one case in a hundred of fulminating appendicitis, for instance, where we always have intestinal paralysis, would get well if we simply did an enterostomy.

If we will first remove the cause of the intestinal paralysis, it will not often be necessary to attach the bowel to the abdominal wall and open it. After most intraperitoneal operations there follows some peritonitis, with obstructive symptoms; the time at which we can safely say a given case will recover, or not, without enterostomy, is not to me a definite one, and I believe the cases that recover with enterostomy would have done so without it. The half dozen cases that I have operated on, died, while others apparently as bad recovered without operation. I heard Professor Nicholas Senn once say that his experience had been the same.

We should not expect intestinal drainage to cure peritonitis, but should first remove the cause, leaving enterostomy as a last resort. High rectal injections of alum solution will often hasten normal bowel movement.

DR. JAMES B. BULLITT, Louisville, Ky.—I think we have gotten the cart before the horse, or at least the last speaker has, as I think there was no question raised by the essayists regarding the cure of appendicitis by making an enterostomy. The conception of the author evidently was that the cases of appendicitis should be dealt with in the best possible manner, and when, after the operations have been performed, the condition of the patient demands it, that this operation be done. I believe that all of us, who have not grown very old, perhaps, have been confronted by the most depressing problems. The patient that apparently should be getting well develops a tympany, and the surgeon is always undecided whether or not this tympany will be overcome in the particular case, or whether, if the tympany be unrelieved, the patient will be carried beyond the reach of the surgeon, and death result. Under these circumstances, I say that the younger members of the profession find themselves in the greatest embarrassment, and the older members of the profession, perhaps, are not prone to give them the greatest amount of comfort. Under these circumstances the operation as outlined by the author would seem to me to be the most rational form of procedure. It is one with which good surgeons have been familiar for many years. I am sure that in many cases it is the best and most conservative operation to do, as we can never tell just when these patients have passed the danger line, and if we do not do it, we have to trust to luck that the patient will pass safely by the probabilities of death on the next day.

DR. F. A. DUNSMOOR, Minneapolis—I thought when the essayist was reading his paper that I would have given much at his age to know what he does now, because I am sure we hear of many cases being relieved by this measure. I am sure the essayist doesn't mean to convey to any of the pessimistic men who wish to criticise him, that the operation will cure every person who has intestinal paralysis, obstruction, or who has infection, whether following an operation or a primary condition. It certainly is an important thing to recognize that there is an opportunity of preventing death following postoperative obstruction in this region. When we have made out the fact that our patient has been badly poisoned, either because of the pus previously present, or from operative infection, either obstructive or septic, then we know that something else has taken place within the intestinal tract beside digestion, and we also know that there is a large amount of toxic material there which is going to do harm. It can not get out if there is obstruction or paralysis of the bowel, and we should do as much as possible for relief with as little manipulation as possible, and not hunt all around the abdomen for the perforation. I believe patients have been killed

1. Medical News, July 31, 1897.

by attempts of surgeons to relieve the condition by suturing the perforation, the local poison being distributed to the general peritoneal cavity with overwhelming results. I open the gut, empty and wash it out, if possible, by means of the normal saline solution. I have not had the opportunity of trying the alum solution, but I am sure that I have seen cases cured, not only by the alum method, but by making a temporary window in the gut at the time, and doing a subsequent operation for relief of conditions present.

Dr. Fred B. Lund, Boston—In regard to the fistulas, I would rather close them than wait for Nature, and I think the patients would rather have this done. I do not advocate enterostomy in all cases of peritonitis, nor do I claim it is an unfailing cure. I expressly stated the fact that all other intestinal measures should be employed first, before this operation is undertaken.

PROLONGED INTUBATION TUBES,

WITH A METHOD LEADING TO THEIR EXTRACTION.*

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DETROIT.

The field of modern scientific research can demonstrate few more valuable therapeutic triumphs than the results displayed by antitoxin and intubation in laryngeal diphtheria. The fondest hopes of Roux, Berhing and O'Dwyer have been realized. It remains for us, their pupils, only to defend and apply the principles which they have so perfectly laid before us. It would seem that results as marvelous as our collective investigations absolutely demonstrate ought to be sufficient, but there is much missionary work yet to be done. It is not uncommon to find at the present time many cases of laryngeal diphtheria under observation for some days without the administration of antidiphtheritic serum while operative interference is postponed until the patient is moribund.

During a recent trip abroad it was my privilege to meet those enthusiastic pioneers in intubation, Baginsky of Berlin, Egide of Rome, and Massei of Naples, and to find that their troubles with the retained tubes were the same as ours. In view of the brilliant results with intubation and antitoxin in America and on the continent, the incomprehensible antagonism of the followers of Lennox-Brown in England calls forth a most hearty condemnation. The reserve with which intubation is received in Great Britian is almost beyond pardon. A review of the literature of this operation in the *British Medical Journal* for the last decade reveals just seven references to it, six of which are short abstracts from articles published on the continent only, the other one embracing reports of the papers of O'Dwyer and Northrup which were read before the children's section of the British Medical Society.

The masterly thesis of O'Dwyer on retained tubes, and I believe the last important article which he published, is a contribution to our literature that can not be equaled. My work has been along the line of Dr. O'Dwyer's suggestions, and it is with the hope that a report of the results achieved with astringent applications to the larynx in such cases may lead to a wider field of usefulness for these agents that I present this subject for your consideration.

Prolonged intubation, as you know, is a term applied to conditions necessitating the use of an intubation tube for a longer period than six days, while "retained tubes" is an expression usually meant to include the prolonged period with a more extensive or indefinite course of time. Conditions rendering the continued use of the tube necessary are fortunately rare. Some observers report 2 to 3 per cent. of these cases occurring in each 100 operations. Extensive contributions to the literature have been made by O'Dwyer, Bokay, Chetalain, Rauchfuss, Trumpp and E. Rosenthal.

The observations and deductions which I have to make in this paper are gathered from a personal experience of 300 intubations, in addition to the use of antitoxin; 230 of these were reported before the Michigan State Medical Society two years ago. The first 100 intubations gave a mortality of 31, the second 100 showed 20 deaths and the third 100 18 deaths; being a total of 300 intubations (with the use of antitoxin) and 69 deaths. With two exceptions these operations were performed in private practice and for the most part among the ignorant, superstitious, foreign element of our city, whose children are given but little attention in sickness or in health. Two hundred and thirty-one of these intubated children have recovered. Of this number 8 have required "prolonged intubation," and in addition two cases from other operators have been referred to me for treatment.

The pathology and etiology of "retained tubes" include a consideration of traumatism during intubation and extubation, and traumatism while the tube is in position. The presence of pseudo-membrane, edema, superficial erosion, deep ulceration of the mucous membrane, cicatricial contraction, exuberant granulations, collapse of the cartilages, abductor inadequacy and paralyses are the usual causes. In certain cases one may ascribe the compression of the recurrent nerves to tuberculous ganglia, pleural thickening or some unknown neurotic phenomenon.

The admirable autopsy reports of O'Dwyer, Nicol, Bokay, Meslay and Ganghofner have thrown much light on our difficulties. The latter found four with erosion of mucous membrane among 42 intubated cases. Meslay reports a case of ulceration of the trachea and mediastinal abscess. Bleyer shows 1 per cent. of ulcerations in prolonged cases. Carr gives the details of an ulcer one-third of an inch long caused by the string. He also reports instances of ulceration through the anterior tracheal wall and cartilages. In this case a 3-4 tube had been used in a child 2 years and 8 months old. Bokay found 18 superficial and 3 deep ulcerations in 72 autopsies. The tube in one case had been removed at 24 and 48 hour intervals and the string left in. Avendano, on the contrary, performed 10 autopsies where the tube had remained for many days and found in one only a small loss of mucous membrane. The spasmodic ulcerous condition, or what the French term "the tubard," is characterized by numerous rejections of the tube. Bryant reports a case with three auto-extubations in fifteen minutes. Such cases may require special corrugated tubes or morphin in small doses. The short tube of Bayeux is subject to more frequent rejection than that of O'Dwyer on account of the enlargement at the cricoid ring where ulceration of the cartilages occurs in places. In such events the laryngeal nerve endings become exposed, thus rendering the reflex accident of auto-extubation very painful or annoying. The spasm of the intrinsic and extrinsic muscles of the larynx must be allayed by proper treatment applied to the sources of irritation, viz., ulcerations. This class of cases usually

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

present the phenomena of collapse of the larynx attending muscular inadequacy. A tube of correct size must, therefore, be placed in the introductor in preparation for this emergency before extubation is performed.

The diagnosis of the exact condition in the larynx is usually very difficult or impossible. There are a number of clinical evidences which are of great value, however, in differentiating and locating the trouble. Laryngoscopic examination is recognized as the ideal method, butamongyounger children in private practice it is found to be extremely difficult and unsatisfactory. Dangerous reflex spasm may also result from it. The history of unskilful operating or the use of a tightly-fitting tube is usually sufficient. F. L. Taylor's recommendation to use a tube in number next above the age of the child should receive sharp criticism. His report of 26 recoveries in 36 intubations following this procedure shows 22 tubes remaining in the larynx from five to eighteen days. The frequent obstruction noted in reintubation is due either to edema at the entrance of the larynx or subglottic erosion with attending edema. These conditions can be suspected from the difficulty encountered in introducing the tube. The indications of ulceration may be considered, first, as bloody expectoration following gentle extraction and continued pain over the larynx. Besides eroded black spots may appear on metal tubes, or calcareous deposits with disintegrated tissue from the points of contact with the ulceration. There may be frequent and continuous rejection of the tube, the development of a late hemorrhage or a gradually increasing dyspnea, differing from a spasm of the glottis. The prolonged presence of pseudo-membrane can usually be determined by the exfoliation of small pieces during the second week or by the development of reinfected areas elsewhere.

In the last 100 intubations I have had only one prolonged tube—a case of edema that responded to treatment in ten days and after the third extubation. Every case of intubation requires the most careful prophylactic treatment, and traumatism and pseudo-membrane as causes of prolonged tubes need not exceed 1 per cent. The early administration of sufficient antitoxin is of the greatest importance. Ten to fifteen thousand units without deleterious effects are reported to have been given by some observers, and the tendency to give a larger dosage of from three to five thousand units is very general. A minimum dosage of three thousand units in every laryngeal case, I believe, would prove efficient prophylactic therapy in cases of persistence of the membrane. Three cases of this variety occurred in my early experience. One required the tube nine days, another ten days, the third—a girl of 2 years and 9 months—expectorated laryngeal exudate for twelve days. She wore the tube seventeen days and required twelve intubations. In pre-antitoxin days Huber reports that sixteen days were not infrequent on account of pseudo-membrane. The statements of Quodfleig that not more than three intubations must be done on the same patient are therefore challenged. Experience in this last case showed me the great necessity for a large supply of tubes. My only No. 2 obturator broke at one of these operations, and in attempting to pass a No. 3 tube I nearly lost my patient. I subsequently had a case for instruments so arranged as to hold more than four complete sets of tubes, with all the necessary tracheotomy instruments.

The problem of the prevention of traumatism is more than half solved in the selection of a properly fitting tube. Fifty tubes are a good working number, and two sets of smaller tubes are essential to every operator. The greatest care should be exercised in cleaning the tubes, for if any roughness or other imperfections exist it may cost the life of a patient. Where pathologic conditions are suspected new tubes are found more satisfactory. The metal tube in prolonged cases is dangerous and should be discarded. Three common methods of extraction are presented: the string, expression and the instrumental. As extubation is more difficult than introduction, traumatism is frequently the result of the manipulation. The expression of O'Dwyer tubes is a dangerous practice and should be avoided. In private practice the string should be left in place if possible when there is an extension of membrane below the tube. Numerous modified instruments have been devised to make the operation easy and harmless, such as Dillon Brown's hook method and the electro-magnet of Collette of Antwerp, but the O'Dwyer instruments fill all the requirements when in careful hands. Unskilful use of the extractor and excessive pressure on the epiglottis with the finger may lead to edema of the soft parts or of the subglottic tissue or arytenoids, thus making reintubation necessary. Bleyer reports fifteen permanent lesions of the larynx from this cause.

The great importance of dispensing with the tube as early as possible is certainly recognized, but daily extubation with this object in view is impracticable in private practice. A safe general rule which I have found successful is to extract all tubes on the fourth day. A liberal dose of antitoxin twelve hours or more before intubation renders the success of this routine procedure almost certain.

Perfect quiet after the removal of the tube is of the greatest value. The application of ice cloths over the larynx and the use of the croup tent are not to be resorted to if quiet is to be sacrificed. A child difficult to manage is given a dose of paregoric or codein and phenacetin one hour before operation, which may be repeated if necessary. The child is not allowed to speak or cry, if possible, and with no recurring dypsnea during the subsequent two hours recovery will usually be complete. If reintubation is necessary after the sixth day a definite line of exact procedure and therapy can be outlined according to a diagnosis of the condition attending each case. When on the sixth or seventh day dyspnea suddenly returns and we have evidence of pseudo-membrane or we suspect a reinfection, 1,500 or 2,000 units of additional dosage will check its development, and the prognosis will seem especially good. In conditions of this kind and in paralysis and muscular inadequacy complicating diphtheria, large doses of strychnin are extremely valuable. In many cases efforts to dispense with the tube may be made at two or three day intervals. Rubber tubes may be used, and at reintubation the next smaller size may be inserted in order to change the points of pressure. Having determined as accurately as possible the location of the eroded surfaces, an alum ointment (12 per cent.) may be applied to the surface of the tube and intubation again performed. The string protected by adhesive plaster can be left, to insure the utmost gentleness in extubation.

Although the treatment of these cases is attended continually by annoyances and difficulties that are trying to the surgeon, the results are exceedingly satisfactory. The statement of Goodall of England that frequent expulsion of the tube is an indication for tracheotomy, the observations of Sevestre and Eschevick that tracheotomy should be performed if the tube can not be removed within a week, and the opinions of many German and

French operators that tracheotomy must be performed if the tube can not be dispensed with after three intubations, are mentioned to be condemned as unjustifiable and unnecessary procedures. "Tracheotomy is the worst possible thing that can be done," said Dr. O'Dwyer, "for healing of the ulceration is promoted too rapidly after the operation, and a subglottic stenosis results."

Recent literature from Italy and France confirm our own methods. Dr. Tanturri of Naples reports in detail a most interesting case of prolonged tube. Forty intubations and 136 days were required. Alum and ichthyol gelatin with the O'Dwyer tube proved successful. In conclusion, he says that the perforated tube of O'Dwyer is of priceless service in exuberant granulations situated in the region of the cricoid, and that ichthyol is the best medicament. Roe of New York State reports three interesting cases following simple laryngitis with recovery, the longest of nine weeks' duration. Louis Fischer's plan, unknown to me until recently, carries out most efficiently the same suggestion as O'Dwyer's one case. He used 10 per cent. alum or ichthyol-gelatin. The objection to gelatin is the greater difficulty of its preparation, and, like vaselin, it has a low melting point, but mixing with agar any desirable melting point can be obtained.

The method of direct medication to the larynx in cases of prolonged tubes deserves a more extensive use. Argyrol, menthol or resorcin preparations should give good results, and adrenalin applications are recommended for cases of edema. It is thus possible to treat the larynx in all cases requiring reintubation. Of the ten cases of prolonged tubes which occurred under my observation three were caused by persistent pseudo-membrane; two, of ten days' duration, were caused by edema at the entrance of the larynx, and five were necessary on account of subglottic or other laryngeal erosions or ulcerations.

Although some observers report to the contrary, the prognosis in this country would seem very good. The alum treatment was successful and all recovered but one. The fatal case, 2 years of age, died on the seventeenth day after intubation. Autoextubation without the knowledge of the mother occurred while she slept, and when the mother awoke the child was dead. The tube had been out several hours the previous day, the child's strength was good and the case seemed to be progressing favorably. The fact that hospital treatment is absolutely necessary for these cases is recognized, but the parents of the children of our foreign element stubbornly refuse to be separated from their children. Less than a dozen of my 300 intubations, including one case of prolonged tube, have received hospital care or the services of a trained nurse.

The two most interesting and difficult cases I report in detail as follows:

CASE 1.—M. B., aged 5 years, had been treated 48 hours for spasmodic croup when Dr. McColl took the case, Jan. 30, 1901. The true condition of diphtheria was recognized immediately and a consultant called. Intubation was performed with considerable difficulty, as the tube was too large. After five days this was extracted again with difficulty. Labored breathing began immediately and reinsertion of the tube was necessary. On February 11 a third extraction was made. The dyspnea gradually returned, and on the 23d the case came under my observation, when intubation was required, and a number three tube coated with alum and vaselin (12 per cent.) was used. A tough ring of cicatricial tissue could be felt at the entrance to the larynx and it was evident that a subglottic stenosis existed. After a series of auto-extubations the parents allowed the child to be removed to the hospital. A No. 2 tube was inserted and the string left in. Three applications of alum and vaselin at three or four day intervals, together with tonic medication and steam sprays succeeded, and on March 13 the tube was permanently removed—a period of forty-two days after the first operation, during thirty of which the wearing of the tube was necessary. The two weeks after extubation was marked by considerable dyspnea coming on each evening, but the croup tent and the use of anti-spasmodics were sufficient to palliate the symptoms. At the present writing (two years later) the child is in perfect health.

CASE 2.—Eva B., aged four years, patient of Dr. O. T. Toepel, was intubated June 20, 1899, for stenosis from laryngeal diphtheria. As a No. 4-year tube was too large, the next in size was introduced, and 1,500 units of antitoxin given. Thirty-six hours later the membrane had extended below the tube, and a hurried extubation was necessary. A longer and larger No. 4 tube was then introduced, and the case progressed favorably. Extubation was attempted on the fourth day, but it was necessary to quickly replace it on account of dyspnea promptly returning. Extubations were attempted at two and four day intervals. Three treatments were given the larynx by applying alum ointment along the tube before operation. This method was successful on the twenty-third day, and the child made a perfect recovery.

When these measures fail we have the various modifications of the tube to depend on. The granulation or ulceration tube can be made with a larger (or built up head) and a lower and broader swell. The lines of contour can be changed so as temporarily to remove the pressure from any injured portion of the mucous membrane.

Successful instances of the use of these tubes and retained for some months are reported by O'Dwyer, Northrup and Rosa Engelmann.

In conclusion I would make the following summary:

Cases requiring a tube more than six days should be classified as prolonged.

Rubber tubes only should be used.

Liberal doses of antitoxin are required in cases due to reinfection or persistence of the membrane.

Large doses of strychnin are of value.

Smaller or modified tubes coated with alum ointment or alum gelatin should be introduced at each reintubation.

The string may be left in place with advantage in many cases.

When these measures fail, the "granulation tube" may be used.

Tracheotomy is never indicated.

32 West Adams Avenue.

DISCUSSION.

DR. CHARLES G. KERLEY, New York—I have seen only one case of prolonged retention of intubation tubes in my own practice, and two cases in the practices of others. However, my general experience with intubation leads me to indorse everything that has been said in this valuable paper. I do not think that retained tubes are at all necessary. If the rubber tube is used, if it fits, if it is put in and taken out by one who knows how to do it, there should be practically no cases of prolonged retention of the intubation tube. In introducing the tube force must not be used; when it is required it means that the tube is too small, and that laceration will occur. A properly fitting tube will pass in with practically no force. I do not find extraction at all difficult, although I make use of the ordinary extractor of the O'Dwyer set. The finger must, of course, be used as a guide. It is a temptation, I admit, to leave the string, but in older children there is great danger of the child getting hold of the string and pulling out the tube. The only use of the string is in the event of membrane loosening below the tube, making it possible for the tube to suddenly become plugged, thus requiring its immediate removal by the nurse or other attendant.

I think in the future we shall hear much less of these cases of retained tubes, because we have learned how to use antitoxin. I never give a laryngeal case a smaller dose than 3,000 units. The last case I had was one in which I was called late in the attack, and the child had been treated for five days for ordinary croup. Suddenly laryngeal obstruction developed, and I was hurriedly called. I gave the child 1/50 of a grain of strychnin and 1/100 of a grain of digitalin hypodermically before daring to insert the tube. As soon as the tube had been introduced I gave it 3,000 units of antitoxin, and in the course of the next sixteeen hours, 6,000 additional units.

The intubation tube was removed on the fourth day, and a re-introduction was not required. The fourth day is the time, in my opinion, to remove the intubation. I fully agree that tracheotomy has no place alongside of intubation. In my own case of retained tube I believe the cause was an abductor paralysis, for I was unable to find any lesion on careful examination; there was only obstruction to inspiration.

DR. EVERETT J. BROWN, Decatur, Ill.—The first case of intubation which I did was in a patient six miles from town, a boy of 7 years, who had been given up by two other physicians. I inserted the tube, giving complete relief. The tube was left in until the sixth day, and the child recovered without any return of the dyspnea. I noticed in a Vienna clinic that they took out and inserted the tube daily, but I was uncertain whether this was considered desirable for purposes of cleanliness or for purposes of clinical instruction. Recently I was called to do an intubation on a child of 5 years who was nearly comatose. I failed to introduce the tube after three attempts. On the fourth attempt the tube was coughed up after a few minutes, and with it a thick membranous cast, which extended down even to the finer ramifications of the bronchi. I had a photograph taken of it, which will soon be published. In this case the obstruction was as much in the bronchi as in the trachea. The child was at once relieved after coughing up this cast, but it died of toxemia, and not of dyspnea, about twelve hours later.

DR. B. R. SHURLY, Detroit—I wish to emphasize the method of applying alum and vaselin to the tubes. So far as I have been able to ascertain, this method is comparatively unknown to those who practice intubation. When there is difficulty in extracting the tubes this method is of the greatest value. It has been used in Italy in one or two cases, and Dr. Louis Fischer has also tried it. This suggestion was thrown out in the last paper written by the lamented Dr. Joseph O'Dwyer. I simply advocate leaving the string in those cases in which the membrane is below the tube, or in those cases in private practice when it is impossible to reach the child quickly in an emergency. I think the frequent intubations and extubations referred to as occurring in Vienna hospitals were entirely unnecessary, and they appeared to me to be done largely for purposes of clinical demonstration.

CONTINUED FEVER—NEITHER MALARIAL NOR TYPHOID.*

T. J. HAPPEL, A.M., M.D.
TRENTON, TENN.

It may seem that the subject of continued fever is becoming too common in our meetings to merit any further time or discussion, but, so long as we are met with the *ipse dixit* of some bookmaker, that there are but two types of continued fevers, and that all such fevers must be classed with one or the other, in fact must be either malarial or typhoid, then those of us who do not accept any such dogmatic statements as necessarily true, have a right to give our reasons for our dissent. Our medical brethren in the north, as a rule, contend that every continued fever is either typhoid or malarial, while in the south many of us are sure that we have a third fever, which merits a careful study, the mortality of which is so slight that opportunities for postmortem study have been almost *nil*.

The blood and secretions have been examined microscopically and chemically so far with negative results. A sufficient number of examinations have been made of the blood to show that it does not respond to Widal's test, nor does it show the presence of the *Plasmodium malariæ*. In none of these cases has the estivo-autumnal parasite or the *Bacillus typhosus* been discovered, yet we are told by the bookmakers that the technic was faulty; that the examinations were improperly made. While not prepared and not competent to make any of these examinations, or to apply properly any of the tests in these cases, I have too much confidence in the ability and honesty of the laboratory workers who have made these reports to doubt their correctness. (Just at this point I would offer this suggestion, that no specimen sent to a microscopist or chemist should be accompanied by any clinical history of the case, to avoid the warping of the judgment of the examiner. He should be requested to examine the specimens sent for the evidences of malarial or typhoid fevers, and to report the result of his examination.) We can more often find what we look for than the unknown or unexpected; hence, I say that the clinical history of the case should be withheld.

The teaching of the present day, as pointed out by the learned Dr. Jacobi in an address at Saratoga before one of the Sections of the American Medical Association, in which he spoke with no uncertain sound, does not develop the skilled clinician. The bedside study of diseases has been relegated to the background and the student is impressed with the idea that the microscope will tell him positively all about his case. In many of our diseases the microscope is as yet powerless. One laboratory worker reports and describes a specific germ for a disease, and another soon after reports one entirely different.

In this fever to which I invite your attention the microscope fails to show the *Bacillus typhosus* or the *Plasmodium malariæ*. Reference was made in a former paper to the fact that a number of skilled laboratory workers had investigated the secretions and blood, both microscopically and chemically; by one in more than one hundred cases, and by another in thirty-eight cases, with the same result in each, both asserting positively the absence of anything distinctive of either typhoid or malarial fevers. In numerous other instances the same results have been obtained by others. Yet we are told that Dock of Ann Arbor has proven conclusively that the cases of so-called continued malarial fever in Texas were cases of true typhoid fever, and Dr. Osler asserts that he feels sure that all the continued fevers except those of thermic origin will yet be divided into but two classes, malarial and typhoid, which position is equivalent to asserting that our microscopists who have reported otherwise were not qualified to properly investigate the etiology of these fevers and that our chemists had not skill enough to apply the tests necessary in that part of the laboratory work. His argument is along this line:

> Typhoid fever in Baltimore and Philadelphia, where malaria exists, is not essentially different from the same fever in Montreal where no malaria is found; hence the other continued fevers in the south where malaria exists and where typhoid fever is rarely found must be true malarial fever.

This can not be said to be a first-class argument. A fever that is totally distinct in every respect from the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

malarial or typhoid fevers except one, viz., duration, can not of necessity be one of the two types. Not many years ago we recognized only two types of the eruptive fevers: measles and scarlet fever; yet recently measles has been divided into rubeola and rötheln, and roseola is certainly distinct from either, and within the last two years an effort is being made to divide scarlatina, as it had been known, into two distinct diseases, each having its own *causa causans*.

Our boards of health have not yet accepted the doctrine of a disease resembling variola, pseudo-smallpox, having the same relation to variola that rötheln does to rubeola, and the new differential of scarlet fever does to true scarlatina. This effort on the part of those standing high in the councils of medicine to decry anything new not originating with themselves does not tend to encourage individual research. The impetus to medical and surgical investigation along many lines has often been given by the country practitioner or surgeon, as evidenced in the cases of Marion Sims of Alabama and McDowell of Kentucky.

I lay no claims to the discovery of a new fever, but I do take the position that we have here in the south a continued fever that is neither typhoid nor malarial.

In a former paper, I referred to a number of such cases treated by me in the last ten years, and since that paper was written a number of others have been under my care, and very favorable opportunities have been seized on to study these cases at the bedside. The conclusions have not been verified by any autopsies as all of them have recovered. Since July, 1902, I have treated six cases (a total of about one hundred cases), lasting three weeks in the shortest to five in the longest. In each one of these cases the diagnostic points were strongly in evidence. The first case was ushered in by a cold stage, not the chill of malarial fever, but rather the algid stage of la grippe followed by a slight rise of fever, and on the following day at about the same hour more rigors with intense headache and a temperature of 104. The parents, supposing they had an intermittent fever with which to deal, had given calomel, followed by quinin in full doses until the daughter was cinchonized, as evidenced by deafness, etc. When called on the fourth day, I found a normal pulse, profuse perspiration and, while the parents thought her free from fever, a temperature of above 104, no vomiting, no special complaint except headache. Concluding that I had a malarial attack to deal with, I increased the number and size of the doses of quinin sulphate so as to give between 25 and 30 grains before the time for the next paroxysm on the following day, with directions to continue until my return in 48 hours. My next visit showed no effect from the quinin except to increase the deafness and to disorder the stomach and destroy the appetite. I found pulse 78, temperature 104, no tympany, no engorgement of the liver or spleen, no broad flabby tongue, no jaundice, no special complaint about anything except headache. I abandoned the further use of quinin, and prescribed salicylate of soda and carb. guaiacol as follows:

℞. Sod. salicylat. ..... ʒiii
Guaiacol carb. ..... ʒi
Milk of magnesia ..... ʒii
M. et ft. Mist. S. shake well. Teaspoonful every four hours.

A mixture of aconite and gelsemium was prepared to aid in reducing temperature, and for the same purpose frequent sponging with tepid water was directed. On my next visit there had been two cold stages in each 24 hours, but the temperature had not risen above 103. The treatment as outlined above included free and frequent spongings with tepid or cold water, as preferred by the patient, and when the temperature resisted these measures and persisted in remaining up to 103 degrees, 5 grains of acetanilid to reduce, but not to be used if it could be avoided. Only 9 grains of quinin sulph. each day were given until the case fully recovered, which required four weeks from date of going to bed. In this case there were two well-marked rises of temperature in each 24 hours. There was no anorexia, and not a single point of resemblance in the case to typhoid fever.

In one of my other cases the attack was ushered in, or, rather, preceded by an attack of irritation of the alimentary canal, amounting to almost a case of enteritis, caused by the immoderate and excessive drinking of ice-cold lemonade at a Sunday-school picnic. For several days all symptoms were masked by the frequent small, griping, mucous discharges from the bowels, the excessive thirst, tympanitic distension, and an inability to retain anything taken per os. As these symptoms subsided, leaving the whole abdomen tender, the tongue, which had been red and small and long, returned to its normal state, the thirst became less, and the rises in temperature, in spite of all that could be done, were three in 24 hours. Quinin per rectum, after a failure to prevent these exacerbations per os, had no effect on the fever. In this case I was not content to use one form of quinin alone, the sulphate, but resorted to the bi-sulphate, and later to the salicylate. At the end of ten days, no impression having been made on the course of the disease by the antimalarial remedies used, they were abandoned, and the guaiacol-carbonate and soda salicylate of the first case substituted, and under this course the patient was carried through a sickness lasting five weeks, to be followed in two weeks by a relapse from imprudent eating. This lasted two weeks.

The third case lasted four weeks, receiving thorough antimalarial treatment for one week, which was abandoned as useless, and the medicines referred to in Cases 1 and 2 substituted, supplemented later on by a mixture of tr. iodin and Fowler's solution every four hours. The temperature chart showed four rises of temperature in each 24 hours, and later on three, then two, and then one. In this case, from the effect of quinin used during the first week, the digestive organs were weakened so that only malted milk could be retained for a few days, though a desire for food was ever present, and the patient, a female, aged 10 or 12 years, never failed to report herself feeling better, and when her temperature would rise to 103 or 104, the pulse rate was never higher than 90. There was never a dry, harsh skin, never bilious vomiting, never nausea except that which resulted from the use of the quinin the first week. She was always ready to eat, but never thirsty. All the secretions were normal, the bowels generally acting once every 24 hours. At one time she was allowed by her mother to eat sardines, with no unpleasant sequences. At the end of the fourth week the fever ceased, terminating, as shown by the chart, by lysis. In this case there were no profuse sweats as there were in the first and second cases.

Case 4 was a boy, aged 8 years, just on the opposite side of the street from Case 3. It was very mild, showing only two rises of temperature in 24 hours. This patient was saturated to deafness with quinin, which was then laid aside except 6 grains per day, and the guaiacol-carbonate and soda mixture alternated with the iodin and Fowler's solution used throughout the

case. On the twenty-first day the fever terminated by lysis. This patient was hungry from the time he was put to bed until he was dismissed. At no time was there any derangement of any of his secretions. With his light diet he became constipated and was given cascara two or three times each week. During the second week he was given four doses of calomel, gr. 1/10.

Case 5 was a repetition in every respect of Case 4. These cases are added to a long list of similar cases already treated by me, with only one death, due to congestion resulting from a disobedience of directions. While a few of the cases have lasted six weeks the rule is recovery in from three to four weeks. We do not expect, except in very young children, recovery before the end of the third week, and my invariable answer to questions of the probable duration of the disease and the prognosis is that they will recover, but not before the expiration of 21 days from the date of going to bed.

In my last case treated (November), the temperature, after dropping the quinin, slowly but steadily decreased each day, until on the eleventh day from going to bed it dropped to normal and did not rise above 100. This case appeared to be a duplicate of Case 5. But the slight rises of temperature alone and the little difference between the daily maximum and minimum point is no indication of the duration of the attack, several of such cases having lasted from four to six weeks, and in one case especially referred to in one of my former papers on this fever, after continuing for three weeks with a maximum temperature of 101 to 102, during the fourth and fifth weeks there were daily ranges from normal to 104 and over. These cases are the ones we expect to terminate by crisis with profuse sweats.

The cases of this season have demonstrated the fact most conclusively that quinin will not cure this type of fever. I have used it in varying doses per os and per rectum. In none of these cases was the use of it discontinued until decided deafness was produced, no attention being paid to any of the other symptoms of cinchonism. I have not used any of the quinin salts in from 20 to 40 gr. doses, never do, but have repeated in from 3 to 10 gr. doses until the effect was self-evident, and then have maintained this effect for from three days to a week and in some cases to ten days.

Reference has already been made to the use of microscope and chemical investigations in these cases, hence I will devote no further time to this branch of the subject, not being able to speak *ex cathedra* myself in the matter. I desire, however, to emphasize the point of difference from a clinical standpoint, and permit me to add that where the bedside study of a case teaches plainly one thing and the work of the laboratory another, I, for one, would strongly incline to the teachings of the sick chamber. It has been demonstrated time and again that the laboratory worker has agreed with the clinician in this fever, and yet the question of competency has been raised; while no question is raised in the case of other workers in the laboratory when they have discovered, or thought they have found the micro-organism for which they were looking. These cases have not, then, been ushered in, as a rule, abruptly by a chill, but have had usually for a few days or a week prodromes of malaise, then rigors, sometimes a slight chill, followed by a slight rise in temperature, which does not generally attain its maximum for from three days to a week. While this fever presents marked remissions, for the first week the remissions are not so decided in the second week, but are more so in the last week, amounting to intermissions with profuse sweatings. The chills, or cold stages, are accompanied by aching of sometimes one set of muscles and sometimes in all, resembling in that respect la grippe. After a day or two all pain ceases, and the patient complains of nothing. The remissions in this type of fever vary from one to four in 24 hours, and may be made more marked by sponging with tepid water in all cases by aconite and gelsemium in a few and by the coal-tar derivations in almost all of them. As a rule, sponging produces a condition of euphony and the patient never objects to its use.

There is no nausea and vomiting; never bilious vomiting, no jaundice, no clay-colored stools, no diarrhea, and, if any departure from the normal in this respect, constipation; no tympanites, unless it be due to some imprudence in eating; no tenderness over the abdomen; no rose-colored spots; no marked enlargement of the spleen or liver, unless there has been a history of malaria preceding; no anorexia, but, on the contrary, in many cases a desire for food all through the sickness; no broad, dry, flabby tongue, with its yellow pasty coating, but, as a rule, a tongue nearly normal in every respect, and when coated it is thin, of a light color. We have, in none of these cases, the pointed, narrow, dry, fissured tongue, with its red edges and dry, coated, and frequently cracked center. The tongue never bleeds, in fact the rule is all typhoid and malarial appearances are absent from the buccal cavities and the rest of the alimentary canal. The digestion is rarely impaired for food suitable for the sick, though I have noted abdominal distension when solid foods have been administered or allowed. There is no mental hebetude; in fact, generally the brain is not affected at all and ordinary business matters could be attended to by many of these patients with their usual business acumen. We never have any low muttering delirium as in typhoid fever, nor the active symptoms of malarial fever. The facies of the patient is normal, though he may be thin from loss of flesh attendant on the long drawn out fever. The muscular strength is not impaired as in typhoid fever, but its loss is in proportion to the length of the attack and heighth of temperature. In one patient sick six weeks, with a temperature reaching 105 daily for nearly two weeks, the loss of weight was slight, but the muscular tone was much impaired but was rapidly regained.

That these cases are probably toxenteric, as claimed by Dr. J. A. Witherspoon of Nashville, is evidenced by the fact that when relapses have occurred, in my practice they could be traced to imprudent eating. In no case of the many treated have I ever seen any tendency to epistaxis, though in some persons who were predisposed to tamper with their nasal organs, a few traces of blood have been noted in the secretions blown from the nose. The kidneys have acted, as a rule, normally, the quantity of urine being diminished where the skin has acted too freely. We have no dry harsh skin in this fever as in typhoid fever, nor is sweating any evidence as in malarial fever of a decrease in temperature, the skin in this fever being frequently bathed in perspiration when the temperature is at its maximum.

One of the most marked peculiarities of this fever is the disproportion between the pulse rate and the temperature. The ratio is frequently inverse, the pulse beating at from normal to 90, with a temperature of 103 to 105 or even higher, and the same may be said to be true in regard to the temperature of any exposed portion of the surface of the body. The hand applied to the pulse and then to the forehead would lead anyone not

using a thermometer to say that there was a perfect freedom from fever. This condition of things has been reported to me time and again, and yet when the thermometer was used in the mouth or axilla a high temperature was clearly shown. The hand applied over the bowels or to the back under the clothes and cover frequently shows fever. In these cases, no proper nursing can be done without the use of the thermometer every two hours, and a record is required to be kept in every case, with, however, a verbal direction not to disturb the patient when soundly sleeping. I might refer to the fact that it has been my experience that the nearer a direct proportion between pulse and temperature, the more confidently is a termination by lysis to be expected at the expiration of 21 days, and vice versa. In those cases of indirect ratios the termination is more likely to be by crisis and profuse sweating. In this class of cases, when the fever begins to intermit, strychnin is demanded. I might consume time indefinitely on the subject, but my time is up.

TREATMENT.

As to treatment, a few words. As soon as satisfied that the cases are not malarial, which should be determined in four days, quinin should be abandoned or used as a tonic in 3 gr. doses. I have obtained my best results by alternating the following prescriptions for an adult:

℞. Guaiacol carb. 3ii
Sod. salicyl. 3vi
Bismuth. lact. ..... ℥iv
M. Sig.: Take one teaspoonful every four hours.

℞. Tr. iodin. 3ss
Liq. potas. arsenit. 3i
Aquæ ..... ℥iv
M. Sig.: Shake. Teaspoonful every four hours. Alternate with the first mixture.

All symptoms are met as they arise, but unless some idiosyncrasy is manifested by the patient and the temperature runs high, these two prescriptions are kept up regularly night and day, but where the grade of fever is low they are usually omitted at bed time, say 10 p. m. I have used many intestinal antiseptics in treating this fever, but have had the best results this year from the above course.

The temperature is reduced by the free use of tepid or cold water, allowing the patient to choose.

The diet is liquid or semisolid, buttermilk being preferred to anything else when the patient can use it.

SOUTHERN FEVERS.*

WILLIAM KRAUSS, PH.G., M.D.
MEMPHIS, TENN.

In assigning this subject to me, our secretary said he wanted to show that some missionary work on the subject of fevers in the Mississippi Valley was being done, despite the controversies one sees about slow, continued, typho-malarial, and other fevers. With this idea of the scope of the paper, fevers of sepsis, tuberculosis, rheumatism, syphilis, etc., have not been given a place.

The cases presented are to be looked on as types of a number of cases seen by the author, and are believed to serve the purpose better than an elaborate discussion for which we have no time. None of the histories are complete, but enough is offered to make the point intended.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

1, ACUTE ESTIVAL FEVERS; 2, CASES WITH AUTOPSIES.

CASE 1.—W. B., male, white, aged 54, was brought to St. Joseph's Hospital in July, 1900, in an unconscious condition. From others it was learned that he was a passenger on a train coming to Memphis, and was suddenly taken with what was described as "congestion"—a term very much in vogue to denominate sudden fevers usually terminating in death. His temperature on admission two hours later was 108 F. The notes of the attending physician state that ice baths, subcutaneous injections of antipyrin and quinin had failed to bring about a change, and he died in six hours without ever regaining consciousness.

A blood examination had not been ordered, but the antemortem diagnosis read "pernicious malarial fever." The following from the necropsy report is of interest:

Autopsy five hours after death; rigor mortis; body of a very plethoric man; capillary stasis; ecchymosis; incision over calvarium bleeds freely; excessive hyperemia of encephalon; blood smears taken. Abdominal viscera pale, no marked changes; pleuræ free, lungs hyperemic; heart very firm, right ventricle full of dark fluid blood; smears from this also; no plasmodia in either. Postmortem diagnosis, sunstroke.

CASE 2.—Colored man, aged about 45; arrived at city hospital comatose in August, 1900. Attendant's notes showed rectal temperature of 107 F. on admission; plasmodia in blood. Was packed in ice, quinin and saline infusion subcutaneously; slight reaction; death next morning.

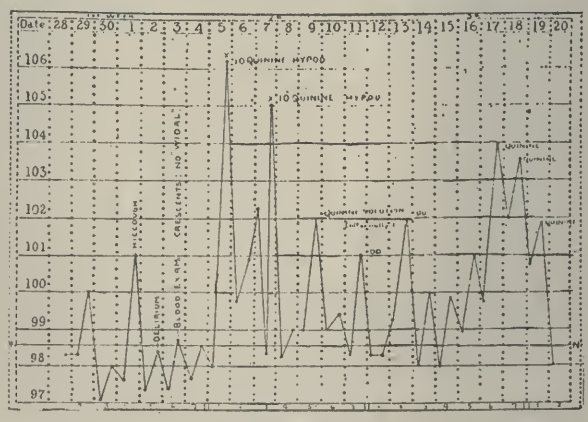

Chart 1, case 3.

Autopsy: Marked hyperemia of all the organs; heart contains thrombi which are nearly white.

The tissues and blood were taken to author for microscopic examination.

Smears from lungs and brain contained estivo-autumnal parasites, no crescents; splenic blood not fit for examination. Microscopic sections showed marked pigmentation in liver, spleen, kidneys and lungs. Pigment is siderin, not melanin. Very marked fibrous endarteritis, especially of the coronaries, doubtless syphilitic. Tissues had been in formalin very long and efforts to stain parasites in the sections proved unsatisfactory.

These two cases are reported as different comatose fevers with very similar symptoms. If the attendant of the first case had made a blood examination he would not have fallen into the error of giving quinin to a patient with sunstroke—it was a serious mistake.

II. CONTINUED ESTIVAL FEVERS WITH DIARRHEA, 2 CASES, WITH ONE AUTOPSY.

CASE 3.—J. M., aged 26. Admitted to St. Joseph's Hospital Sept. 28, 1899. Had been sick at Little Rock, Ark., with dysentery for a week; had had vomiting and daily chills. On admission showed abdominal tenderness, slight tympany, gurgling in right iliac fossa; spleen enlarged and tender; tongue dry, red and hard, with fissures; low delirium at times. The accompanying temperature chart completes the history, but the record for the first five days is not correct,

as it was found afterward that he had nocturnal chills and exhibited much prostration in the mornings. A physician in consultation insisted on its being typhoid. The blood analysis appears on the fever chart; he had the malarial leucocyte count, estivo-autumnal parasites, crescents, no Widal reaction. The treatment was antimalarial, salines for the dysentery. He was discharged cured at the end of four weeks. His paroxysms being nocturnal, they had been overlooked and the accompanying dysentery helped to produce the typhoid symptoms. Heroic quininization changed the picture.

The temperature chart and blood examination saved this case from being classed as typhoid fever, and death would have been the result.

CASE 4.—(Record taken from the Reports of the Marine Hospital at Memphis.) The writer saw the patient several times and assisted at the autopsy:

J. F., colored; native of Louisiana; admitted to the United States Marine Hospital at Memphis Dec. 26, 1896, and died Jan. 3, 1897.

History.—Patient was a well-developed and healthy-looking colored boy. He had been sick for four days with chills and fever. Initial chill came on in the evening and was very severe; had a similar chill every evening up to day of admission. His bowels were very loose from the first. Discharge watery and preceded by pains in the abdomen. Temperature on admission was 40.5 C. Pulse poor; tongue round and flabby, clean and red on edges and moderately furred in center. Neither liver nor spleen noticeably enlarged. Was given tincture digitalis on admission and was ordered quinæ every four hours with bismuth and mixture for diarrhea. His

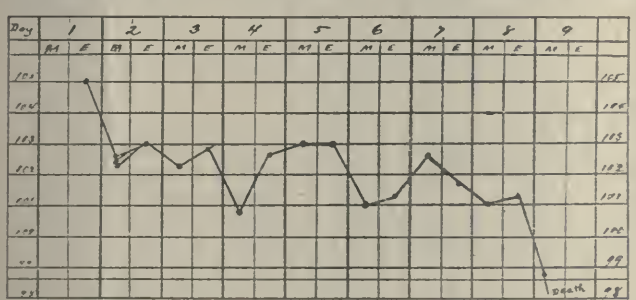

Chart 2, Case 4.—J. F., U. S. M. H., Memphis. Temperature transposed to F. scale. Remittent fever, with diarrhea, perforation and death. Prodromes: Chills daily, 4 days; one on admission; parasites in blood.

temperature on the morning of the 27th was 39 C. and pulse 90; bowels loose but less so than on preceding day. His blood showed a large number of very small extra-corpuscular "rosettes" and some granular bodies. The segmentation in rosettes was not as distinct as usual. On admission the diagnosis of intermittent malarial fever was made to conform to official nomenclature, but the blood examination showed at once that the disease was estivo-autumnal, or, as the nomenclature has it, remittent fever. The possibility of a mixed infection was considered but abandoned. There was an entire absence of tympanites, gurgling and iliac tenderness. The stools were more watery and paler than typhoid stools, but still quite suggestive of typhoid. While the malarial nature of the case was clearly established, still the fever was a hard one to classify as to the kind of malarial fever present. The history from onset to admission pointed to a double tertian or to the variety of estivo-autumnal fever marked by quotidian paroxysms.

The appearance of the rosettes and the temperature curve for the first four days indicated the quartan type of estivo-autumnal fever, while the subsequent temperature curve showed regular tertian remissions. His diarrhea yielded slowly to treatment, declining by the 31st to two passages a day. On the 30th his blood showed both intra- and extra-corpuscular, small hyaline bodies, and a few large and actively motile pigment grains or blocks—two or three to each body. The next day only a few extra-corpuscular pigmented bodies could be found. His mental state from about the third day became rather foggy—a fairly typical typhoid state in fact.

On the 1st of January, the sixth day from admission and the tenth since onset of disease, he had several severe attacks of colic, and these recurred on the 2d. On the night of the 2d his pulse failed rapidly, tympanites developed, and it became evident that he had sustained an intestinal perforation. He died at 10 o'clock on the morning of the 3d, just twelve days from date of first attack.

Necropsy, twenty-four hours after death. Body fairly well nourished. No scars. Calvarium not opened. Lungs normal except for slight congestion. Pericardium contains about 200 c.c. of fluid. Heart rather small, but otherwise normal. Liver, spleen and kidneys normal in appearance and size. Intestines showed general fibrinous adhesions. About 250 c.c. of fluid present in abdomen. The ileum presented a large number of follicular ulcerations. These ulcerations were all opposite to the attachment of the mesentery. Peyer's patches were not at all involved. The mesenteric glands were not enlarged. Two perforations were present—one 4 cm. from the ileocecal valve and the other 12 cm. There were several ulcers, in which the coats were eroded down to the peritoneum. At about 20 cm. above the ileocecal valve there was an area about 2 by 4 cm. where the entire mucous membrane was eroded. Sections taken through the ulcers showed a typical follicular ulcerative process and an entire absence of any of the microscopic appearances of characteristic typhoidal ulcers.

The ulcers were small, funnel-shaped, less than 1 mm. in diameter, with elevated edges; the perforations were about 2 mm. in diameter and closed by fibrinous exudate. Dr. Young and I discussed the Widal test, but this was in its infancy; neither of us had any cultures of typhoid on hand, and Johnston's dried blood method was as yet unknown; typhoid fever is, of course, not scientifically excluded. We both wanted to believe it was typhoid fever; it was between Christmas and New Year, but the blood and postmortem evidences were against such a diagnosis, and it was reported as a case of remittent fever.

III. CONTINUED FEVERS WITH CONSTIPATION, 2 CASES.

During my term of service in the summer of 1899 at St. Joseph's Hospital I had 248 cases of fever, and of this whole number there were only 3 in which there was a question of diagnosis; one of these is reported above. During 1902 I was interested in 2 cases, which follow:

CASE 5.—O. G., aged 19, male, drug clerk; had had intermittent fever a year ago; malaise this time for several days, followed by catarrhal bronchitis. Seen first by Dr. Baldwin (to whom I am indebted for this history) on Oct. 26, 1902. Provisional diagnosis, la grippe; salines and salicylates administered; remission on second day, rise on third; cinchonized for three days. Temperature during first week, morning 100 to 101.5 F., evening 101 to 102, pulse 80 to 85. Dried blood spreads brought to me November 2 showed intracorpuscular estivo-autumnal parasites, about half grown, no crescents; infected cells generally crenated and small. Leucocyte count of 300 cells: small lymphocytes, 9.3 per cent.; large lymphocytes, 30.3 per cent; polymorphonuclear, 58 per cent.; eosinophiles, 1.3 per cent.; basophiles, 1 per cent.; a few microcytes and small nucleated forms, phantom cells and polychromatophiles. No Widal reaction in any dilution. He was thoroughly quininized again without visible change, and after another week malarial infection was still present; no Widal; small lymphocytes, 20; large lymphocytes, 14; polymorphonuclears, 64; eosinophiles and basophiles, each 1 per cent.

Pulse still 85 and good volume, now slightly dicrotic. Temperature runs from 100 to 103 without change in pulse. This time he was given 90 grains quinin hydrobromate in 24 hours; it seemed to have the effect of running up the fever, for he had 102 in the morning and 104 in the afternoon following, and for four hours there was intestinal hemorrhage, at first slightly clotted, then fluid and carmine red; there were no piles. Cold sponging was followed by a fall in fever

and profuse diaphoresis. The fever now gradually declined, reaching normal on the 32d day of the disease.

There was marked tendency to constipation throughout, combated by salines, and when these were suspended some tympanites would develop. Nose bleed once in the first week; a few petechiæ present once, but rather persistent; subsultus once, early; mental hebetude at times. Entire course mild and marked by very slow pulse. Widal reaction constantly absent.

CASE 6.—This patient took to his bed June 14, 1902, and was removed to a private room at St. Joseph's Hospital on the 16th. The previous history was that of malaise for a week, with gradually rising fever. The attending physician found estivo-autumnal organisms and pigmented leucocytes, and gave several intragluteal injections of quinin bimuriate with urea, 0.5 gram each in 10 c.c. of water at six-hour intervals. There was albuminuria with casts and gradually aggravating oliguria during the first week. Renal and frontal pains were constant and troublesome symptoms. There was obstinate constipation and intestinal paresis throughout. The patient could not bear cold to the surface, even icebags produced local neuralgia, and the temperature was reduced with thermol when it got near 104; for this reason the fever chart has no value.

At the end of the first week in bed, no blood evidences of malaria being present and fever still persisting, several trials with the Widal test were made, but without result. The diagnosis of paratyphoid was suggested by one consultant, but no cultures were obtainable. The fever definitely subsided at the end of three weeks without further resort to quinin.

This patient was seen by three very competent practitioners with all the resources of modern medicine at their command, yet one positively asserts that it was a case of malarial fever and proves it by his slides; the second is equally as certain that it was typhoid fever, despite the failure of the Widal test, and the third, who is our honored secretary, modestly suggested that it was paratyphoid. The writer's own opinion is not worth much, since he was the patient. A very complete history was taken, but it throws no light on the case.

During the summer of 1900, 26 cases with history of acute malarial fever were admitted to my service at St. Joseph's Hospital, none of which received any antiperiodic treatment after admission. The blood was examined in 11 without showing infection. They were held to await further recrudescence of the paroxysms, but the fever gradually subsided. They were booked as postmalarial malaise. Here is the history of one:

CASE 7.—L. F., female, aged 24, white, married. Lived in St. Francis bottom; admitted June 10, 1900, with history of tertian chills. Temperature on afternoon of day of admission 102 F., pulse 110 and small. Liver and spleen enlarged. Blood analysis next morning: reds, 3,640,100; hemoglobin, 70 per cent., indicating reduced color index; whites, 6,470, differential count of 200 (eosin and methylene blue). Small mononuclears 10.5 per cent.; large mononuclears and basophiles, 28.5 per cent.; neutrophiles, 54 per cent.; eosinophiles, 8 per cent. No malarial organisms; some leucocytes pigmented.

Blood count five days later showed 3,981,000 reds; hemoglobin, 80 per cent.; whites, 10,180, 70 per cent. of which were neutrophiles; eosinophiles and small lymphocytes gaining. Discharged on June 20 feeling quite well.

The following is a case of typhoid fever with irregular temperature curve:

CASE 8.—W. J. R., aged 21, male, white, clerk. After a two-day malaise he went to bed on July 20, 1901, with a chill, followed by high fever and going off in a sweat. The first temperature reading, taken at this stage, was 104 F. Blood examinations on fever chart; malarial count, leucocytosis, no plasmodia. Next day he had another chill, followed by rise of temperature to 105.2; no plasmodia; no local symptoms to account for chills, pus suspected; bowels constipated and paretic; enema and salines given. Fever then assumed a remittent type and leucocytes diminished; relative increase in small lymphocytes. Widal reaction positive on first and only trial, on sixth day. The case now ran typically typhoid until in the third week there was another chill with leucocytosis; no plasmodia; no quinin given. From now on fever gradually subsided and he made an uneventful recovery. A year later he developed a suppurative appendicitis and was successfully operated on. I am now quite sure that this is what complicated his typhoid fever. I should add that no adhesions were found at the operation. The accompanying temperature chart completes the history.

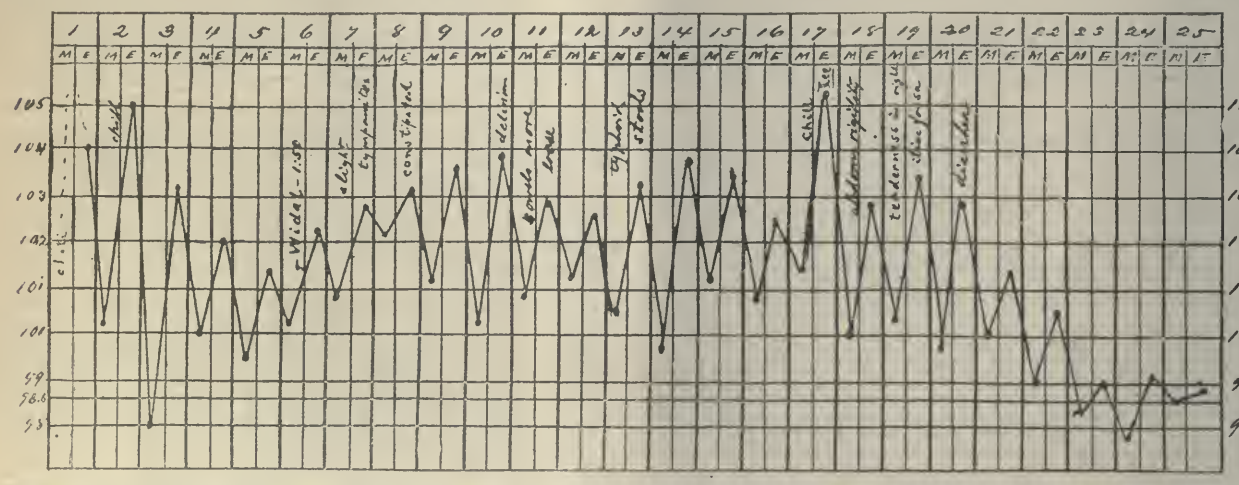

Chart 3, Case 8.—W. J. R. Typhoid fever, with chills. Blood, first day: No plasmodia; no pigmented leukocytes; white cells, 12,020, stained eosin and m. blue; small lymphos., 22, or 11 per cent.; large lymphos. and basophiles, 46, or 23 per cent.; polys., 130, or 65 per cent.; eosinophiles, 2, or 1 per cent. Sixth day: No plasmodia; Widal in 1:50=30 min.; small lymphos., 18 per cent.; large lymphos., 15 per cent.; polys., 67 per cent.; eosinophiles, 0 per cent.; total leukocytes, 9,340. Seventeenth day: No plasmodia; white cells, 16,310; 77 per cent. polys. This case presents a leukocyte proportion resembling that of malaria, except as to polymorphonuclear cells.

Without a blood examination this would have been regarded as a case of malarial fever with intercurrent typhoid.

Now, in conclusion, a few words as to our methods of diagnosis. The Widal reaction is open to fallacies. Even if the culture is just right and the drop contains no fibrin, we have errors estimated at from 3 to 12 per cent. either way. Frequently a single test is all that can be made and the reaction, if transient, may escape us. We also know that it may persist from a former attack and which was perhaps not recognized.

On the other hand, to what do we refer the Widal test as standard? When can we say that it has failed? The blood culture test only appears in about 70 per cent. or less of apparent typhoids. If we have a patient with no symptom but fever, but whose blood gives a Widal reaction, we say he has typhoid fever, yet we have such cases that do not react to typhoid culture and are undoubtedly cases of thermic fever. Yet when we have a case with typhoid symptoms and no Widal we say that the test has failed. In the first instance we reject the negative clinical evidence and in the second we reject the negative laboratory evidence; we do not question the reliability of the Widal test in the one, but we do in the other.

As regards malarial infection, we are by no means a unit as to the diagnostic value of a few infected red corpuscles. We certainly do have latent "malaria," though, perhaps, never without symptoms, and any intercurrent disease may drive the parasites into the peripheral circulation; we attribute the fever to the parasites and cinchonize, sometimes with effect on the fever, sometimes without. The result is conflicting opinion as to the value of quinin in malarial fevers. The so-called malarial leucocyte count is not always characteristic; I have found it repeatedly in fevers giving the Widal reaction when there were no plasmodia. If we make a spread by drawing one slide lengthwise of another and count only within the leucocyte fringe we find relatively less small lymphocytes, because these are left behind with the red cells.

SUMMARY.

We might summarize our paper, then, as follows:

1. A very sudden hyperpyrexia in midsummer is more apt to be sunstroke than "congestion." Do not give quinin without cause.

2. The malarial leucocyte count is only collateral evidence of malarial infection, and the count must include all the cells in the spread.

3. The Widal test may lead us into error in a small percentage of cases; the blood culture test is more difficult and has no negative value.

4. A chill or fulminant onset of a typhoid fever is not sufficient evidence of a complicating malaria.

5. A chill or sudden disturbance of the temperature curve during convalescence in typhoid fever is not necessarily malarial.

6. In a malarial infection the persistence of an irregular subcontinuous fever after thorough cinchonization is not evidence of a typhoid complication or of remaining plasmodia.

7. A positive diagnosis of summer-fall fevers is not always possible.

8. In the hygienic management of summer-fall fevers we should presuppose a double infection, irrespective of symptoms.

9. Some of the summer-fall fevers are typhoid, some are malarial and a few of them are neither one, but the writer is opposed to the belief in an X fever.

The Great Charite Hospital at Berlin.—Besides the 147 physicians connected with this hospital there are 603 other officials or attendants. There are 1493 beds and 68 infant cribs. The number of patients treated last year was 19,121; the average stay in the hospitals 28.8 days; the expense per day and capita 3.36 marks or about $0.84. The house staff numbers 519. The *Allg. Med. Ct. Ztg.* for April 26 gives other details of the establishment which consumed last year nearly half a million eggs, 44,478 liters milk, 30,602 herrings and 36,856 kilograms butter, etc.

A CLINICAL OBSERVATION OF NINETY CASES OF TYPHOID FEVER.

WITH FOUR DEATHS, WITH SPECIAL REFERENCE TO THERAPEUTIC FASTING.*

R. M. HARBIN, M.D.
ROME, GA.

While a statistical study of typhoid fever is not in strict accordance with the caption of this article, there is a valuable amount of information as to the etiology of the disease furnished by the vital statistics of the Twelfth Census Reports and, for a practical observation, a few facts may be referred to without impropriety.

The geographical distribution of typhoid fever shows a greater prevalence in the southern states, including the Carolinas, Georgia, Alabama, Mississippi and Tennessee, the death rate being 76.1 per 1,000 deaths. Next highest mortality is 69.5 for Louisiana, Missouri, Arkansas, Indian Territory and Texas. Of the latter 80.6 is rural and 38.7 is cities. The general rate for rural is 48 and cities 19, which suggests a greater source of infection in the rural districts. Nearly every source of the infection can be excluded except the drinking water, which is contaminated by the soil. My own observation of the cases herein reported warrants that belief, as 79 cases drank well water and 11 cases drank hydrant water, and the greater proportion of the population in the

TABLE 1.

	Population.	Deaths, All Causes.	Typhoid Deaths.	Tuberculosis Deaths.	Typhoid Deaths per 1000 Deaths.	Tuberculosis per 1000 Deaths.	Typhoid Deaths per 100,000 Pop	Tuberculosis per 100,000 Pop.	Death Rate.	
United States..	75,994,575	1,039,094	35,379	109.750	34	106	33	190		.
White.....	66,809,188	892,092	28,848	87,673	32	98	43	131	13	
Colored.....	9,185,387	147,002	6,531	22,077	44	150	71	251	16	
Georgia.....	2,226,331	26,941	1,585	2,651	58	99	71	120	12.4	
White.. ..	1,181,294	13,094	942	931	71	74	79	83	11	
Colored.....	1,035,037	13,847	643	1,671	46	126	62	161	13	
Atlanta.....	89,872	2,387	98	309	40	125	108	342	26	6
White.....	54,090	1,250	53	119	42	95	97	220	23	
Colored.....	35 782	1.137	45	181	39	159	125	505	31	
New York State	7,268,894	130,268	1,776	14,306	13	109	24	196	.	.
New York City.	3,437,202	70.229	594	8,482	8	120	17	246	.	.
Massachusetts.	2.805,346	49.756	625	5,370	12	107	22	120	.	.

locality where this observation was made is dependent on hydrant water for drinking purposes.

It will be observed in Table 1 that the general death rate per 1,000 deaths from typhoid fever is 34. In Georgia the rate is 58, while New York has 13 and Massachusetts has a rate of 12. Atlanta, Ga., has a rate of 40, while New York City has 8.

As will be observed, the death rate in Georgia is less for the colored race, being 46, while that of the white is 71. The disease is evidently less frequent and less fatal in the colored race. This disease, excepting tuberculosis and pneumonia, claims more victims than any other disease in the south and, excluding the infant mortality of pneumonia, it is second in causing more deaths in adult life. According to death rates given by the census report in the rural districts of Georgia, there were 1,325 deaths from typhoid fever, while tuberculosis claimed 1,668.

A greater number of deaths from typhoid fever occur in the months of August, September and October and there is a more frequent occurrence after a season of heavy rainfall. It is pre-eminently a disease of early

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

adult life, and the average age at death of all cases in the United States is 28.8 years. Typhoid fever shows a marked predilection for occupations. As will be observed in Table 2, farmers have the highest death rate, 58 per 1,000 deaths, excepting teachers, which is 98. Nurses have a rate of 56, miners 43, clergymen 37, and physicians and lawyers 23. It will be observed that physicians, although in contact with the disease, do not often become infected and nurses are not more often infected than other classes. There are more people ill with typhoid fever during the year than any other disease, especially farmers. Estimating the mortality of typhoid at 15 per cent., tuberculosis 75 per cent. and pneumonia 20 per cent., there were farmers ill from typhoid fever 37,710, from tuberculosis 14,735, and from pneumonia 55,003. The same observation is noted for other occupations.

The death rate per 100,000 population for various occupations is as follows: Farmers, 32; miners, 38; physicians, 33; clergymen, 46; lawyers, 31, and nurses, 47.

These facts may be summarized as follows:

The death rate from typhoid fever in the south is startling and claims about an equal number of deaths among the whites as tuberculosis, and well water is probably the source of infection.

There are more adults ill from typhoid fever during the year than any other disease in Georgia.

Table 2.

	Deaths, All Causes.	Typhoid Deaths, per 1000 Deaths.	Tuberculosis Deaths, per 1000 Deaths.	Pneumonia Deaths, per 1000 Deaths.	Typhoid Cases, 15 per cent.	Tuberculosis Cases, 75 per ct.	Pneumonia Cases, 20 per cent.	Registration Area. Typhoid Deaths per 100,000.	Registration Area. Tuberculosis Deaths per 100,000.	Registration Area. Pneumonia Deaths per 100,000.
Farmers. .	96,502	58	106	114	37,710	14,735	55,003	32	147	140
Miners. . . .	5,895	43	97	127	1,709	820	30,000	38	120	77
Physicians	2,322	23	93	87	347	306	1,011	33	168	178
Clergymen	2,062	37	98	95	503	291	980	46	123	255
Lawyers .	1,508	23	107	72	233	213	541	31	139	132
Teachers .	1,256	98	208	95	820	381	600	. . .	182	144
Nurses . .	582	56	103	91	220	90	212	47	100	93

Farmers, next to teachers, have the highest death rate.

The average age at death is 28.8 years.

Most writers agree that typhoid fever is a water borne disease. The *New York Medical Record,* in an editorial, says: "While agreeing with a majority of investigators, we believe that water is the chief agent in the causation and dissemination of typhoid fever, and we admit that it may be air borne, being transmited by dust, flies," etc. Dr. Leigh Canney in a recent book regards the question of etiology as a question of pure or impure drinking water. Flies among the poor furnish a means of conveyance of infection, as the writer has often observed cases imported in families in small houses, and the disease spreads to other members of the family.

In this report of cases only clinical diagnoses were made and the suggestion of Professor Osler was adopted, viz., any fever continuing beyond ten days and resisting the influence of quinin may be assumed to be typhoid.

I regret not having a Widal test of these cases to report, but, after all, the clinical diagnoses may be quite as reliable, as only 70 per cent. give a Widal reaction before the end of the first week, according to the New York health department. All the discussions and controversies prove that no routine drug treatment of typhoid fever has any specific value. Of course symptoms should be controlled by appropriate remedies.

Turpentine was the only routine drug used in these cases, and it certainly relieves the intestinal symptoms better than any remedy at our disposal. It has been used longer and more widely than any other remedy, and its popularity still maintains with clinical observers of long experience.

Dr. Baird, at a meeting of the Georgia Medical Association, 1902, gave a résumé of the treatment of typhoid fever by 24 authorities and may be summarized in a few words: rest, diet, cold bath, etc. My own experience convinces me that the above summary represents the facts of the question, and it behooves us to study more closely the details of the rest, diet and bath treatment and our results would give us a greater percentage of recoveries.

As seems to the writer the dietetic treatment is the most important of all and no drug can counterbalance the baneful effect of dietetic sins. Fasting as a therapeutic measure has proved so valuable to me in the treatment of these cases that I account for the low rate of mortality by no other part of the treatment. The pathologic anatomy of typhoid fever shows a condition of gastrointestinal catarrh with hyperplasia, with a great reduction of all the digestive fluids. Saliva is diminished and hydrochloric acid is usually absent in the gastric juice and, in fact, almost every condition unfavorable to digestion exists. Diarrhea is an effort of Nature to throw off what the intestines can not digest. Intestinal ulcers should be assumed to exist in every case, however mild, and the proper treatment of ulcers is rest.

The rational treatment of such a condition is a restricted diet or fasting, then peristalsis can be better controlled by cold application and an opiate may be used if much diarrhea exists.

The eliminative treatment, so called, is irrational and would be unnecessary if there was no surplus of food in the intestines to dispose of.

The active symptoms in the first stage of the disease can be better controlled by fasting for 24 to 48 hours or even longer, than by any other remedy and the effect of any other remedies applied will be greatly enhanced. The effect of the cold bath is much more marked. I have often noticed that the temperature can be reduced 2.5 degrees by a simple sponge bath. Many patients exhibit marked peculiarities as to the effects of cold applications, most cases having an agreeable effect during a high temperature, while in others having an exciting effect. The Brand system being more or less impracticable, recourse is had to the modified cold bath or even a hot bath. Each case should be studied on its own merits and the cold, warm or hot sponging applied accordingly. In fact, some observers have claimed better results from the hot bath. The patient's comfort should not be lost sight of in the bath treatment. It has been my observation that cold is better for some, while warm sponging is better for others, and still in other cases cold and hot sponging alternating has been better. In sthenic cases, with very high temperature causing delirium, ice-cold applications are preferable and in later stages, where the temperature is not excessive but delirium exists, warm sponging has a more soothing effect. In asthenic cases, with hyperpyrexia, the cold and warm alternating seem to act better. Rubbing enhances the effect of these applications and heat is thereby dissipated. It has been stated that 30 per cent. of the entire quantity of blood in circulation remains in the cutaneous system and the intimate relations between the physiologic function of the skin and temperature variations of the body both throw light on the

importance of sponging in typhoid fever. An excess of food in the intestines increases peristalsis and favors the absorption of toxins. The writer has observed an increase of several degrees of temperature in a quiescent case by taking a dose of castor oil.

It is a clinical fact that emaciation is less from typhoid fever than any other acute disease, and the danger from inanition is slight. A recent writer[1] observes "that emaciation seemed to be independent of the amount of food taken into the stomach," and the same observation has often been made by myself, which would show that nutrition is not dependent on the amount of food taken into the stomach. Many cases run an

TABLE 3.

	Cases.	Color.	Age.	Sex.	Grade.	Gastrointestinal Symptoms.	Nervous Symptoms.	Drinking Water.	Month.	Duration.	Remarks.
1	S. E.	W.	30	M.	Severe.	Marked.	Absent	Well.	September	21	
2	G. B. K.	"	60	F.	Mild.	Absent	"	"	"	12	
3	L. A.	"	18	"	Severe.	Marked.	"	"	June.	21	
4	L. A.	"	17	"	"	Absent	"	"	August	24	
5	J. A.	"	8	"	Mild.	"	"	"	"	14	
6	A. C.	"	8	M.	Severe.	Marked.	Marked.	"	September	14	
7	J. C.	"	6	"	Mild.	Absent	Absent	"	"	12	
8	L. C.	"	4	F.	"	"	"	"	"	12	
9	M. D.	"	50	"	"	"	"	"	July.	20	
10	J. G.	"	20	M.	Severe.	Marked.	Marked.	"	October.	21	
11	A. G.	"	15	F.	"	"	Absent	"	"	14.28	Relapsed on eighth day from taking solid food.
12	B. G.	"	10	M.	Mild.	Absent	"	"	August.	12	
13	C. G.	"	8	"	"	"	"	"	"	12	
14	W. H.	"	22	"	Severe.	Marked.	Marked.	"	October.	28	Had one attack two months previous.
15	W. H.	"	23	"	Mild.	Absent	Absent	"	August.	18	
16	J. L.	"	30	"	"	"	"	"	July.	16	
17	A. M.	"	40	"	"	"	"	"	September	14	
18	C. P.	"	12	F.	"	"	"	"	April.	14	
19	J. B.	"	18	M.	Severe.	Marked	Marked.	"	August.	18	
20	C. B.	"	16	"	"	"	"	"	"	16	
21	L. B.	"	12	F.	"	"	Absent	"	September	14	
22	C. L. B.	"	48	"	Mild.	Absent.	"	"	"	14	
23	O. D.	"	20	M.	"	"	"	"	November.	12	
24	C. S.	"	17	"	Severe.	Marked.	Marked.	"	September	45	Double parotid suppurat'n osteitis of hip and humeri.
25	J. D. T.	"	47	F.	Mild.	Absent	Absent	"	July.	28	
26	M. W.	"	17	"	Severe.	Marked.	"	"	"	21	
27	J. V. E.	"	37	M.	"	"	"	"	August.	20	
28	W. E.	"	48	F.	"	"	"	"	"	20	Had small hemorrhage.
29	S. G.	"	18	"	"	"	"	"	September	18	
30	J. B. H.	"	22	M.	Mild.	Absent	"	"	August.	14	
31	A. H.	"	24	"	Severe.	Marked.	"	"	"	12.28	Relapsed eighth day from taking solid food and getting up.
32	F. A. J.	"	25	F.	Mild.	Absent.	"	"	"	12	
33	W. M.	"	35	M.	Severe.	Marked.	Marked.	Hydrant.	November.	20	
34	M. M.	"	18	F.	"	"	"	Well.	September	28	
35	M. M.	"	28	M.	Mild.	Absent	Absent.	"	July.	12	
36	J. S.	"	20	"	"	Marked	"	"	June.	14	
37	D. T.	"	25	"	"	Absent	"	Hydrant.	August.	14	
38	T. W.	"	30	"	Severe.	Marked.	Marked.	Well.	April.	21.70	Pneumonia and dysentery in convalescence.
39	W. E.	"	20	"	Mild.	Absent	Absent	"	July.	14	
40	S. E.	"	12	"	"	"	"	"	"	14	
41	A. B. A.	"	23	F.	"	"	"	Hydrant.	June.	14	
42	B. H.	"	32	M.	Severe.	Marked.	Marked.	Well.	August.	20	
43	A. M.	"	12	F.	"	"	"	"	"	28	Dysentery in convalescence.
44	G. M.	"	8	"	Mild.	Absent	Absent	"	"	14	
45	C. H.	B.	6	"	"	"	"	"	"	12	
46	N. J.	"	25	M.	"	"	"	"	"	14	Relapsed and died from urinary retention and neglect.
47	L. C.	W.	21	F.	"	"	"	"	September	12	
48	S. C.	"	19	"	Severe.	Marked.	"	"	October.	21	
49	N. C.	"	13	"	Mild.	Absent	"	"	September	12	
50	F. L.	"	10	M.	"	"	"	"	"	20	
51	L. M.	"	45	"	"	Marked.	"	Hydrant.	"	14.21	Relapsed on eighth day from taking solid food.
52	C. B.	"	6	"	"	Absent	"	Well.	August.	14	
53	C. B.	"	4	"	"	"	"	"	"	10	
54	W. C.	"	30	F.	"	"	"	"	July.	14	
55	R. G.	"	21	M.	"	"	"	Hydrant.	October.	14	
56	J. G.	"	27	F.	"	"	"	"	October.	21	Five mo. pregnant and two mo. tedious convalescence.
57	J. P.	"	17	"	Severe.	Marked.	Marked.	Well.	"	9	Died ninth day from hemorrhage and getting up in delirium.
58	C. C.	"	7	"	Mild.	Absent	Absent	"	"	10	
59	C. C.	"	4	M.	"	"	"	"	November.	10	
60	G. D.	"	10	"	"	"	"	"	August.	14	
61	P. M.	"	10	F.	Severe.	Marked.	Marked.	"	July.	28	Protracted convalescence.
62	M. A.	"	35	"	"	"	Absent	Hydrant.	"	28	
63	J. W. R.	"	32	"	"	"	"	Well.	"	28	Complicated the puerperium, tedious convalesence.
64	J. M. V.	"	8	M.	"	"	Marked.	"	"	21	
65	A. D.	"	15	F.	Mild.	Absent	Absent	"	August.	14	
66	E. D.	"	13	"	"	"	"	"	"	12	
67	M. B.	"	35	"	"	"	"	"	"	21	
68	W. W.	"	10	M.	"	"	"	"	July.	12	
69	D. W. S.	"	40	F.	"	"	"	Hydrant.	"	14	
70	C. M.	"	17	M.	"	"	"	Spring.	"	21	Solid food on tenth day; relapse, with pneumonia and death in one week.
71	R. B.	"	4	"	"	"	"	Well.	"	10	
72	G. J.	"	17	F.	Severe.	Marked.	"	Spring.	"	28	
73	F. B.	"	35	M.	"	"	"	Well.	August.	18	
74	V. F.	B.	50	"	"	"	Marked.	"	"	12	Adynamic and alcoholic and death on twelfth day
75	E. C.	W.	23	"	Mild.	Absent	Absent	"	September	12	
76	F. S. B.	"	36	"	"	"	"	"	"	22	Second attack, slight hemorrhage in convalescence from milk and lime water.
77	M. L.	"	25	"	Severe.	Marked.	Marked.	"	"	36	Hematuria.
78	S. S.	"	12	F.	Mild.	Absent	Absent	"	October.	14	
79	A. L.	"	14	"	"	"	"	"	"	18	
80	W. P.	"	20	M.	"	"	"	"	November.	23	
81	P. G.	"	18	F.	"	"	"	Hydrant.	"	20	
82	L. C.	"	6	"	"	Marked.	Marked.	"	October.	14	Operated on for appendicitis fourth day.
83	C. C.	"	3	"	"	"	Absent	Well.	August.	12	
84	H. C.	"	2	M.	"	Absent	"	"	September	12	Occurred with three other cases in same family.
85	A. J.	"	8	F.	"	"	"	"	"	21	
86	H. C.	"	5	M.	"	"	"	"	"	21	
87	S. M.	"	28	F.	"	"	"	"	October.	10	Abortive.
88	E. H.	"	5	M.	Severe.	Marked.	Marked.	Hydrant.	"	14	
89	H. R.	"	6	"	Mild.	Absent	Absent	Well.	"	22	
90	M. M.	"	18	"	Severe.	Marked.	Marked.	"	"	14	Relapsed, supposedly from taking buttermilk.

1. Lewis Med. Rec., vol lxii, No. 5.

abortive course after the amphibolic stage under a treatment of fasting and a restricted diet. After fasting 24 to 48 hours a very restricted diet should be given, consisting of broths of beef, chicken, mutton, oysters, etc., coffee, cocoa, egg albumin, peptonoids, etc., in prescribed amounts.

Gelatin is a valuable adjuvant in the dietary of a typhoid patient. It serves three purposes: adds to the relish of the various liquids, lessens the nitrogenous waste from the system and prevents hemorrhage. A teaspoonful three or four times a day is the amount usually ordered and should be dissolved in a little hot water and then added to any liquid nourishment, meat broths, cocoa, coffee, tea, etc. It adds a richness of taste to these slops, which otherwise become tiresome to the patient. The food value of gelatin is recognized and, being in a concentrated form, serves an excellent purpose. When used, emaciation is less rapid. The hemostatic effect of gelatin is universally conceded, but to wait until an intestinal hemorrhage has occurred but little immediate good can be hoped for by its use. It should be used as a routine in all cases to prevent hemorrhage. Very aggravated diarrheic cases do not tolerate it so well, as it may increase tympany. But in these cases it may be used on alternate days in small quantities. Since beginning its use no hemorrhage has occurred. The case should be closely studied, and any excess of food will be indicated by a rise of temperature. To nourish the patient by a minimum amount of food requires a very close study. Milk should be absolutely forbidden, because no one can predict when it will form a curd, which is worse than any solid food. One of my patients had a hemorrhage in convalescence from taking milk and lime water, equal parts. I examined curds the size of a hazelnut in the bloody dejecta. The case was a mild one. It is valuable, however, diluted with two to five parts of coffee, cocoa, broths, hot water, as under these circumstances the danger of curd formation is light.

This plan of dietetic treatment should be continued until active symptoms are controlled and, as improvement advances, nourishment may be more liberally given. Solid food is a danger that offers few advantages to the patient. Nearly all recrudescences are due to dietetic errors. Fasting in late stages and convalescent stages will cause fever, as inanition often causes fever.

Below is a summary of the table of reported cases: Of the cases 87 were white and 3 colored. The youngest was 2, and occurred with 4 others in the same family, and the oldest was 60. Cases under 10 were 20; between 10 and 20, 29 cases; between 20 and 30, 20 cases; over 30, 21 cases. The average age was 19.4. There were 48 males and 42 females. As to the months of occurrence, August claimed 27; September, 21; July, 16; October, 15; November, 5; June, 4, and April, 2. Those classed mild were 58 and those severe 32. Gastro-intestinal symptoms were marked in 36 and absent in 54. Nervous symptoms were marked in 18 and absent in 72. The average duration was 19 days, and the same without relapes was 17 days. Five, or 5 5/10 per cent., of the cases relapsed, and all recovered. The relapses were ascribed to taking too early of solid food. Five cases were complicated. Three, or 3.3 per cent., had hemorrhage, two of which were slight and the third immediately fatal from getting up in delirium.

One case (No. 88) was diagnosed appendicitis and on the fourth day an apparently normal appendix was removed and the case pursued a typical course of the disease to recovery.

Case 72 had hematuria and recovered.

Case 24 had double parotid suppuration and osteitis of the humeri, and after forty-five days recovered.

Case 14 had an attack two months previous.

Of the four deaths (4.4 per cent.) Case 46, a negro, can, with propriety, be ruled out, as he was dismissed and I was called to see him in a relapse, in a dying condition, having had urinary retention twenty-four hours.

Case 57 would probably have recovered, but, being without a nurse, she got up in delirium and a fatal hemorrhage resulted.

Case 70 contracted pneumonia on the tenth day of convalescence and died a week later. It was the opinion of my colleague that there was no reinfection of typhoid fever.

Case 64, a negro, alcoholic, died on the twelfth day from asthenia.

Of 87 whites treated there occurred 2 deaths, or 2.2 per cent.

The conclusions to be adduced are as follows:

1. Fasting and a restricted diet are indicated because of pathologic conditions.

2. A clinical fact maintains that emaciation occurs independently of the amount of food taken.

3. All severe cases should be subjected to fasting for 24 to 48 hours to relieve the active symptoms, which exhaust the patient more rapidly than the lack of food.

4. After a fast should be prescribed a restricted diet of broths, diluted milk, etc., in definite quantities.

5. Gelatin prevents too rapid emaciation in certain cases and renders hemorrhage less liable.

6. The cold bath or the modified cold bath is more effective during a fast.

7. Peristalsis favors the absorption of toxins and cathartics should be used only to remove undigested food.

8. The presence of intestinal ulcers should be assumed to exist in every case and the proper treatment is rest, which is better attained by fasting and a restricted diet, thus preventing hemorrhage and perforation.

9. The presence of diarrhea and vomiting indicates the adoption of the fasting treatment.

10. Fasting and a restricted diet shorten the course of the disease and many cases run an abortive course after the amphibolic period.

11. Many of the vaunted cures from specific drugs are dietetic in fact.

12. Recrudescences are nearly always due to dietetic errors.

13. In the above report, 45 consecutive cases occurred without death. Of 87 whites, 2, or 2.2 per cent., died. Of colored, 2 died, and the low mortality of 4.4 per cent. of all cases was ascribed to the above treatment.

TYPHOID FEVER IN COLORADO.

A REPORT OF FIVE HUNDRED AND TWENTY-NINE CASES.*

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DENVER.

We report to-day our conclusions regarding a series of cases of typhoid fever at an altitude of about 5,000 feet, in order to compare the disease as we see it with typhoid fever in general.

There occurred 225 cases in the private practice of Dr. Hall in Colorado, 54 of these being seen in consultation;

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292 cases, most thoroughly recorded and analyzed by Dr. Claude E. Cooper, Denver, late house physician at the Arapahoe County Hospital, occurred in the wards of that institution between 1896 and 1902. We include only 12 of the cases seen by Dr. Hall in his service at St. Anthony's Hospital, the records of cases at this institution for several years being too incomplete for inclusion. He did not personally see all of the cases reported from the Arapahoe County Hospital, and he here tenders his thanks to his colleagues for permission to use the hospital records.

The males and females were almost equally distributed in the private cases, the numbers being 116 and 109 respectively. In the hospital cases males predominated, 241 to 63.

The total deaths were 77, a percentage of 14.5 per cent. The male rate was 14 per cent., the female, 15.6 per cent. That for private practice, 14.2 per cent., is unduly high, owing to the fact that nearly a fourth of them were seen with other physicians, and were naturally grave cases. Of the 171 cases cared for by Dr. Hall in private practice 16 died, or 9.3 per cent. It is well recognized that the mortality in family practice is generally less than in the hospital, owing to many favoring conditions.

The exact cause of death can not be given in every case, since possibly pneumonia, hemorrhage and heart disease occur in the same patient. As nearly as they can be stated, however, the causes were as follows: Intestinal hemorrhage, 15; general hemorrhage, 3; hemorrhage from face (noma), 1; abortion and uterine hemorrhage, 1; perforation without hemorrhage, 7; perforation with hemorrhage, 7; pneumonia, 14; convulsions, 2; edema of larynx, 1; nephritis, 1; organic heart disease, 2; accidental poisoning by irregular practitioner, 1; heart failure (in three cases after the subsidence of the fever), 7; general toxemia and exhaustion, 15.

Arranged by age, the distribution of the cases is as follows:

8 months of age	1	31 to 40 years	108
2 years of age	1	41 to 50 years	25
3 years of age	5	51 to 60 years	8
4 years of age	2	61 to 70 years	3
5 years of age	9	Age not given	5
6 to 10 years	20		
11 to 20 years	128	Total	529
21 to 30 years	214		

The great preponderance of cases in adolescents and young adults is very noticeable, over 85 per cent. occurring between 11 and 40 years of age. The deaths were distributed as follows:

Under 5 years	0 or 0 per cent.
Between 6 and 10	2 or 10 per cent.
Between 11 and 20	15 or 11.7 per cent.
Between 21 and 30	28 or 13 per cent.
Between 31 and 40	18 or 16.6 per cent.
Between 41 and 50	10 or 40 per cent.
Between 51 and 60	1 or 12.5 per cent.
Between 61 and 70	1 or 33.3 per cent.

In two fatal cases the age is not given. Thirteen of the cases had had a previous attack of the disease, and two have had subsequent attacks, one being reported to us as fatal twenty months after the attack recorded here.

Relapse occurred in twenty-three cases, according to the records. We are practically sure that this percentage, 4.3, is rather too low, for the charts are not all complete. But three of these were fatal, one patient recovering after two relapses, and a total febrile course of four months.

As to symptoms present the records are not complete, and only positive or negative statements are here given.

Rose spots are noted in 270 cases.

Enlarged spleen in 155 cases.

Distended abdomen in 168 cases.

Diarrhea in 119 cases.

Constipation in 77 cases.

Unusually high temperature in 34 cases.

Medium temperature in 196 cases.

Moderate temperature in 103 cases.

Three cases are noted as having temperature over 106, and all died.

Many of these cases were seen before the introduction of the Widal test. It is recorded as positive in fifty instances, but negative findings are not noted. No cases of paratyphoid fever were recognized.

Delirium worthy of record is noted in fifty-eight cases, of which twenty-two died. It does not appear to be an especially dangerous symptom. Distinct chills are noted in fifty-three cases, and chilly feelings in thirty-one. In four of those in whom repeated chills occurred during the course of the disease phlebitis was noted, while two cases with severe paroxysms had none. In one woman the chills were erroneously thought to be septic at first, owing to a recent miscarriage. Phlebitis is noted in twenty cases, but in some of the hospital cases the records are certainly at fault, for Dr. Hall has had as many as five cases on hand at one time in the county hospital. We think this number should certainly be doubled. It is apparently more frequent in the cases that are treated by tubbing. Phlebitis is certainly much more common here than the statistics commonly given would lead one to expect. In January, 1899, Dr. Hall had a patient in St. Luke's Hospital with this complication, and every patient admitted during the previous fall had suffered similarly, probably eight or ten cases in all. But three patients with this complication died. Two cases with double phlebitis recovered. In one case the trouble extended to the veins of the left hip and loin.

Lobar pneumonia occurred in twenty-three cases, fourteen of these dying. No exact record was kept of other pulmonary complications. Hemoptysis occurred in five cases, one of these only being tuberculous. In one case lobar pneumonia was present, in one abscess of lung, while in two the bleeding was unexplained. Two of the cases died, the one with pneumonia and one uncomplicated case.

A distribution of rose spots so general as to resemble the eruption of measles was noted in four cases, while in many others they extended to the limbs, though not to the face.

Pregnancy complicated seven cases, while two developed during the lying-in period. One woman was delivered of a healthy child while the temperature was 104, but recovered without complications. One at the beginning of the seventh month of the pregnancy had a severe attack, with three hemorrhages and relapse, but bore a living child at full term. One in the eighth month died of chronic parenchymatous nephritis, the immediate cause being laryngeal edema. She had two hemorrhages from the bowel, and the Widal test was positive. One died of intestinal hemorrhage in the fifth month. Two cases in the fifth month passed safely through the disease, and one aborted early in the pregnancy and died. Of the two cases developing in childbed one recovered.

In eleven cases such nervous manifestations occurred as frequently give rise to the diagnosis of meningitis, and curiously ten of them recovered. In one case Dr. Hall coincided with Dr. C. G. Hickey in a probable diagnosis of tuberculous meningitis, but the woman developed a severe attack of typhoid fever and recovered. One woman screamed for many days with headache when not under the influence of morphin or other drugs, but after many tub baths made a perfect recovery.

Great interest centers about the heart in this fever. Five cases were complicated with valvular disease. A boy of 13, as he recovered from scarlet fever, came down with typhoid. He died of complicating pneumonia at about the fifteenth day. He presented the systolic thrill and harsh murmur, with cyanosis and dyspnea, of congenital pulmonic stenosis. A girl of 5 years with mitral regurgitation following rheumatism passed safely through the disease, as did a girl of 15 with aortic and mitral leakage of very moderate degree following chorea. A girl of 17, not treated by Dr. Hall, but seen once by him in an emergency and not included in these figures, died in the height of the fever of well-marked aortic regurgitation, being mentioned merely to show the danger of prolonged fever even when compensation has been perfect. A man of 23 with well-marked aortic incompetence recovered. One woman with serious mitral disease recovered from the fever, but died of cardiac failure a few weeks later. One woman of 37 with a very mild attack died of sheer cardiac weakness on the seventeenth day, with absolutely no complications. Neither Dr. Hickey nor Dr. Hall could find any possible cause for such an unusual death, excepting a previous starvation diet. The woman had gone mad over some of the pernicious literature recommending a diet of fruits, and had literally lived on such a diet for months before her death. When doing obstetric work Dr. Hall frequently saw women so weak as to require the forceps from this cause, but did not realize the danger of the writings mentioned as regards typhoid fever.

One man and two women died of cardiac weakness after the fever had long disappeared, and a woman of 67 had serious general edema from cardiac failure during her convalescence, but recovered on being sent to her home in a lower altitude. A feeble girl of 8 years died of hemorrhage from a facial artery due to noma.

Two cases with purulent otitis media recovered. One patient with pleurisy with effusion recovered without tapping, and one died, but we have no record of the exact cause. Gangrene of the right leg from popliteal obstruction necessitated amputation in an epileptic of 36 years. Suppuration of the hip joint occurred in a boy of 15, proving fatal, and a man of 22 with suppuration of the left elbow recovered. The epileptic male just mentioned, another male of 20, and a female of 23 recovered from attacks of confusional insanity following the fever. Since these statistics were gathered a girl of 22 in the insane wards of the county hospital recovered from the mania for which she had been committed months before, as she convalesced from an attack of typhoid.

One male of 28 had acute nephritis of great severity after his relapse, but recovered. The woman already mentioned as being pregnant, and an alcoholic man of 36 died with chronic parenchymatous nephritis during the disease. Many patients presented albumin, but we have no accurate record of its occurrence.

Fourteen fatal cases of perforation have been mentioned. One of these, a boy of 17 who entered the hospital twenty-four hours after the accident, was promptly operated on by Dr. Leonard Freeman, but died, as we had reasons to expect he would do. An autopsy proved that a single ulcer existed but a few inches from the cecum. It would have been an ideal case for operation if only seen earlier. A male of 29 years also died after operation, while a man of 23 recovered after operation by Dr. S. D. Van Meter. He died of fecal obstruction less than a year later, from a band of adhesions about the former wound. A man of 26 whom Dr. Hall saw with Dr. T. E. Taylor, recovered from a typhoid perforation, an ischiorectal abscess opening just to the right of the anus, as a result of the walled-in infection. This had not closed nine months later. After careful consideration we feel sure that this was typhoidal, and not appendiceal, although no Widal test was made.

False symptoms of perforation are noted five times. A boy of 17 had screaming pain in the right flank, rigidity and rise of temperature, but no further symptoms and recovered promptly. A man of 25 had similar pain, partial disappearance of liver dulness, a leucocytosis of 13,000, and then a subsidence of all symptoms. A man of 37 had similar symptoms in his second relapse, and recovered, and at autopsy in a similar case a local peritonitis without perforation was found. In a woman of 30, at postmortem examination, we found some blood in the bowel, though no external hemorrhage had occurred, and bubbles of gas under the peritoneal coat of the small intestine, but no actual perforation. She had presented symptoms pointing toward this accident before death, but had no leucocytosis.

The occurrence of petechial eruption in typhoid is rightly regarded as rare, and as usually of fatal import. In five of these cases this phenomenon was seen, three of them dying. A male of 26 had hemorrhages from the mucous membranes as well, and died. A boy of 16, comatose from the start, had petechiæ limited to the chest, dying in the second week. A mulatto male of 21 with many subcutaneous hemorrhages had widely dilated heart and loud mitral murmur. Dr. Hall suspected malignant endocarditis from the sudden cardiac developments, but autopsy showed only severe and typical typhoid lesions. A male of 26 with many hemorrhages under the skin and edema of the feet, and a male of 39, with a moderate fever and petechiæ, recovered. This rare complication is obviously not to be regarded as necessarily fatal.

Five patients are noted as suffering from chronic pulmonary tuberculosis. A male of 28 died with a pleural effusion, as already mentioned. A female of 42 recovered, as did three males of 19, 28, and 27 years respectively, the latter having a pulmonary hemorrhage during the fever.

Two males aged 20 and 42 years respectively passed segments of beef tapeworm, and both recovered. In a male of 33, who recovered, the plasmodium malariæ was found. He had active chills superadded to his febrile temperature.

Several suppurative conditions are of interest. General furunculosis during recovery is noted but once, but it must have occurred oftener. Abscess of the right parotid gland, opening through the ear and afterward opened externally, occurred in a man who recovered. Noma proved fatal in a feeble girl of 8. An abscess in the left groin from bedsore resulted fatally. Two abscesses of the axilla, one of the breast, one of the neck, and one in the erector spinæ muscles near an old bullet wound, are noted, all the patients recovering. The patient who had acute nephritis had abscesses in the bursæ about the left elbow and right wrist, and one in the buttock, but recovered. The typhoid bacillus was not found, but the cocci of suppuration were abundant.

Peripheral neuritis is recorded in three cases, all recovering; once in the left arm, once in the legs and feet, and once limited to the parts supplied by the ulnar nerves. But three cases of the peculiar neuritis described as "tender toes" are noted, but we recall more than that in the county hospital. They were exclusively in patients who were tubbed, all recovering.

We shall mention briefly some of the rarer complications and curiosities of the series. One woman had a wandering left kidney, with severe Dietl's crises. She became pregnant in convalescence, and no further symptoms from the kidney came to notice. One woman with distinct appendicitis developed typhoid during convalescence. In one woman a large external pile sloughed off. One young man died while vomiting. One woman of 41 died with intestinal obstruction during a well-marked attack of typhoid. Impaction of feces in the rectum required manual removal in one woman. Erysipelas complicated one fatal case. In a boy of 16 who recovered the spleen reached to the median line, but the cause, almost certainly not typhoid, is not specified. In a boy of 10 years jaundice with some enlargement of the liver took place, presumably of the catarrhal variety. He recovered. Pericarditis with fatal result occurred in a woman of 34. Gonorrhea in a male patient pursued its normal course. One patient with serious hiccough recovered. In two instances six cases of the fever occurred in one family. One patient, after a severe attack, had acute lobar pneumonia, affecting in succession three separate lobes, and recovered after months of illness. Marked muscular rigidity was noted in one of the fatal cases with petechiæ. We regard it as an ominous symptom. A female of 18 died in convulsions on the ninth day, and a male of 31 years. In neither was kidney disease recognized.

The treatment in general was symptomatic, the temperature being generally controlled by bathing. It was interesting to compare the death rate among those tubbed with that of those treated by sponging and by electric fan baths.

One hundred and twenty-four were treated by tubbing at a temperature of 70, or as near that as could be used whenever the two-hourly temperature rose to 102.5. Alcohol was given just previous if the heart was weakening perceptibly. This treatment was used in the severer cases generally, and was applied almost exclusively in the county hospital patients. Yet but eighteen of these patients died, a percentage of 14.5, which is exactly the average for all the cases. We regard this as a great triumph for the method, for the average death rate of all county hospital cases was 15.1 per cent., including many of the milder cases not tubbed.

The causes of death of the eighteen patients submitted to tubbing were: In three cases pneumonia alone. In eight cases, intestinal hemorrhage. One of these was convalescent from diphtheria, and had a systolic apical murmur; local peritonitis and pneumonia occurred in one case. Pyelitis complicated another case, and perforation another. Abortion in one case. Convulsions in one case. Perforation in one case. General hemorrhage in two cases. Long-continued pyrexia in one case. Nervous complications and relapse in one case. It is obvious that hemorrhagic complications are less under control by tubbing than other causes of death, and probably perforation as well.

About 350 cases are recorded to have been sponged, but as practically all not tubbed were sponged to a greater or less extent, and as a fan bath was used in a few, we shall not attempt to analyze these cases further.

We may conclude from this analysis of a considerable number of cases covering twenty years in different parts of Colorado that typhoid fever is practically the same disease here as elsewhere. Many cases called mountain fever by some have been included in this series, for we know of no such disease. Typical examples have had hemorrhages, rose spots, Widal reaction and many of the complications of typhoid, and are certainly typhoid. The false name is passing out of use here.

Dr. Hall concluded in 1889, from an analysis of his first 108 cases, that typhoid fever was milder here than in the East. A wider experience convinces him that it does not differ materially in this nor in any other respect from the disease as reported from this and most other countries. He believes that diarrhea is somewhat less frequent with us in Colorado.

We shall certainly continue for the present tubbing in severe cases, the avoidance of medicinal antipyretics, the use of alcoholic stimulants when called for by rapid and feeble pulse, and the recommendation of operation in cases of perforation seen early. We are not yet convinced of the advisability of feeding solid food before the fifth or seventh day after the temperature reaches normal, excepting in cases with exceptionally mild attacks and with clean tongue.

DISCUSSION

ON PAPERS OF DRS. HAPPEL, KRAUSS, HARBIN AND HALL.

DR. T. B. FUTCHER, Baltimore—I am not convinced that the cases referred to were not a mild form of typhoid fever. We all know that typhoid fever may present a great variety of clinical pictures; we all know that typhoid fever does not, in all instances, present enlarged spleen, epistaxis, rose spots, etc. There was one point in particular that impressed me, and that was the absence of a frequent examination of the blood serum for the Widal reaction. I believe that before we exclude the possibility of typhoid fever in these cases it is very important that the blood serum should be examined repeatedly for the Widal test. This is the routine at the Johns Hopkins Hospital, an examination of the blood serum in practically all cases of typhoid fever being enforced, especially when the patients leave the hospital, and a certain proportion of the cases show this reaction on the day of discharge.

There is another point that should be kept in mind that possibly they may have a paratyphoid infection. It is well known that in a large number of the typhoid cases among soldiers of the South African war, a number of them did not give the positive reaction after the Widal test, but were considered to be cases of paratyphoid infection.

The occurrence of chills and sweating in this series of cases is of interest. With reference to the coal-tar products it should be kept in mind that they will produce chills and sweating of a fairly severe grade. Chills and sweating may occur at the onset of the disease, at the onset of complications, or at convalescence; it should also be borne in mind that the coal-tar products will produce the same. Until more convincing bacteriologic and pathologic evidence can be brought forward to exclude the possibility of typhoid fever being the cause of these symptoms I think we must be rather conservative in stating that these cases are not cases of mild typhoid fever.

DR. JAMES TYSON, Philadelphia—While it is far from my wish to make a diagnosis in cases of continued fevers in Mississippi, I feel that in 30 years' experience in the study of fevers the tendency has been to limit the number of continued fevers. Each winter it happens to me to have one or more cases of anomalous fever which elude a diagnosis for a longer or shorter time, and invariably at the end of a certain period the cases will turn out to be typhoid fever, or malarial fever, or some of the more unusual modifications of typhoid fever, such as paratyphoid or colon-typhoid. On the other hand, there can be no doubt that fever may be kept up by irritating causes in the intestines, such as indigestible articles of food, or ptomains.

I was much interested in what Dr. Hall said regarding typhoid fever during pregnancy. In the wards of the University Hospital it has happened to me during the past winter to have had three cases of typhoid fever occurring in pregnant women, and their terminations were quite different from those we are led to expect from text-book descriptions of typhoid

fever in the pregnant woman. One was a woman eight months pregnant, and she was delivered successfully of a living child and recovered. The remaining two were pregnant five months, and both passed through an ordinary mild attack of typhoid fever and recovered.

DR. J. A. WITHERSPOON, Nashville, Tenn.—This question I have been studying for ten or twelve years. To say that this fever might be paratyphoid fever is begging the question. If it is paratyphoid fever it, then, is not typhoid fever. The germ of paratyphoid fever is very different from the germ of typhoid fever. However, there is a fever in the southern states which, clinically, is different from malaria or pure typhoid fever. I will detail a few of these differences. Several years ago I suggested for this type of fever "toxenteric fever." Why? Because I did not know the cause of this peculiar kind of fever. I do know, though, that it was due to some infection, possibly in the bowel, but whether it was due to some heterogeneous germs, or specific germs, I do not know. It starts out, as described in Dr. Happel's paper, but suddenly, not gradually; it does not specially occur in the season of the year that typhoid fever does; it occurs in all seasons; it does not occur at any particular age, but may occur anywhere from the cradle to the grave; one attack does not protect against further attacks, but makes one more liable. I have seen five different attacks occur in one individual. The bowels are rather regular and the prostation is early, sweating marked, with an irregular type of fever. I have seen a temperature at 9 a. m. of 105 F., and possibly by 10 or 11 o'clock, without the use of any coal-tar products, I have seen the temperature drop to 101 F. In two or three hours there might appear a sudden rise of temperature, then it comes down again, resembling a septic type of fever. I have yet to recognize the rose-colored spots on these patients which is present in most cases of typhoid fever.

The abdomen is not tympanitic, but is rather flat or scaphoid. These patients are constipated with possibly very hard masses, but there is no diarrhea such as we expect in typhoid fever. The tongue is not like that of typhoid, and is not tremulous. There is a lack of hebetude or other nervous phenomena, but rather there is present an irritableness; they exact something, and are rather hungry. Epistaxis is rare. There is a development of herpes labialis in connection with this fever which is rare in typhoid fever. I have yet to see an enlarged spleen. The affection may be paratyphoid fever, but certainly it is not pure typhoid fever.

DR. CHARLES F. MASON, Fort Sam Houston, Texas—I should like to add a few words and add to the testimony of Dr. Futcher, who insisted on repeated examinations for the Widal test if we wish to exclude the diagnosis of typhoid fever in cases of doubtful nature. Where I have been stationed I have seen many cases such as described by the first speaker. It is our custom to examine the blood several times each week both for the Widal reaction and for the plasmodium, with the result that, at some time or other, we have always found one or the other. I wish to emphasize the absolute necessity for repeated examinations. We all know how frequently we find the Widal reaction evanescent.

DR. J. L. CROOK, Jackson, Tenn.—This same question has been freely discussed in our state society. In regard to the diagnosis of these cases, I wish to state that, in my experience, when they have been treated as typhoid fever is treated they practically all recovered. These cases seem to be atypical cases of typhoid fever. With regard to the therapeusis, for five years it has been my plan to institute drainage and antisepsis by the use of calomel and carbonate of guaiacol. In a series of 140 cases the mortality has been less than 3 per cent. When acetozone was used in 9 cases there was no mortality.

DR. R. W. LINDSEY, Little Rock, Ark.—I believe we have a fever in the south that is different from typhoid fever, and from malaria. It is a continued fever, lasting from three to five or six weeks. There are none of the symptoms of typhoid fever, except that it is a continued fever. It is not as grave as typhoid fever. The exacerbations are as liable to occur in the morning as in the evening. Tympany does not occur, and the bowels, as a general thing, are constipated. Until this year, or last fall, I have never had an opportunity of testing microscopically the blood of these cases. Three cases were examined for the malarial plasmodium, and the Widal test made for typhoid fever. These cases lasted three, four and seven weeks respectively. The blood of these cases was examined the first day I saw them, before any quinin was given, and neither the typhoid bacillus nor malarial plasmodium was found. The blood was taken at different stages of the three cases and examined, with like results.

WEAKNESS AND DILATATION OF THE HEART IN CHRONIC NUTRITIONAL DISEASE.*

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I wish to invite your attention for a few minutes to some practical questions concerning certain aspects of cardiac pathology and therapeutics. These questions will be discussed with especial reference to my own experience. This experience, or at least that part of it which I have chosen as the basis of this discussion is perhaps sufficiently indicated by the title. It might be well, however, to add that the material among which cases of weakness and dilatation were found comprised about 600 cases of chronic gastritis, with about the same number of other forms of chronic diseases. These cases all occurred in private office and consultation practice. In all cases the heart was subjected to a careful examination with reference to the clinical changes of volume, either transient or permanent in character, which occur with varying states of tonicity of the cardiac muscle.

In perhaps no other department of practical medicine have greater therapeutic advances been made than in that relating to cardiac disease. If Senac could appear before this Association and ask, to-day, instead of the middle of the eighteenth century, his despairing question, "What can medicine do for dilatation of the heart?" he might receive for answer the records of innumerable relative or absolute recoveries. There are few, if any, better landmarks by which to measure the rapid strides of clinical medicine as distinguished from clinical surgery, and demonstrate the lack of consideration and truthfulness of the unfavorable comparisons thus often made.

The great work of Senac was the first important stone in the foundation of modern cardio-pathology and therapeutics, but the structure was very slow in building. Its outlines only began to assume a distinct form half a century later, with the advent of Corvisart, the great physician of the great Napoleon, and later by the labors and discoveries of Laennec, Bouillaud, James Hope and others.

Until a comparitively recent date the recognized pathology of the heart had too exclusive a reference to its orifices, its valves and its membranes. The muscular tissues of the heart to which these appendages are subservient was, in effect, assigned a secondary rôle.

It would be interesting, if time permitted, to epitomize the survey which I have recently made of the manner in which the great writers on the heart during the nineteenth century, which almost exactly corresponds to the evolution of the subject, have dealt with the heart muscle, but time will permit only a few references. Corvisart said that the heart distended the same as does the bladder with urine, but only considered shock, suppression of menses and hemorrhagic flux

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among the causes of dilatation.[1] He observed the frequency of dilatation of the heart in tailors, tanners, washwomen and others continually bending forward, and attributed it to compression of the aorta. He really devotes considerable space to the discussion of the heart substance, but it is, of course, in the light of a century-old pathology.

James Hope[2] more clearly recognized the ordinary changes in the condition of the heart muscle in dilatation, and treated cardiac dilatation as a primary disease.

Walshe[3] gave very little attention to the heart muscle, but made the important observation that "there are cases in which the heart notably loses its consistence, without there being any permanent blood disease or any obvious affection of the organ itself, except a deficiency in performance."

The work of Stokes,[4] published in 1854, was a great advance on any of its predecessors and really presented a very interesting and, at that time, advanced view of the morbid conditions of the cardiac muscle. He notes that the heart muscle is probaly liable to all the vital and organic changes found in muscle structure elsewhere.

The beginning of the last quarter of the nineteenth century witnessed the publication of Hayden's[5] ponderous volume of 1,200 pages, which, with liberal abstracts and epitomes of the work of his contemporaries and predecessors, fully reflected all the then existing knowledge regarding the heart. He was, perhaps, the first to fully recognize the very common clinical connection of dilatation with simple debility and softening of the walls of the heart from anemia and retrograde changes of the tissues without obstruction to the circulation. This volume is in itself an instructive, though somewhat out of date, library on the heart. I can not, however, deal further with this retrospective view of the pathology of the heart muscle.

Balfour[10] has well said, speaking especially of the heart, that the vigor of any muscle depends on the perfection of its metabolism. In practically all cases of chronic nutritional disease the metabolism of the entire body is notoriously at fault, and the heart muscle feels, with all other muscles, the loss of vigor incidental to its perversions. We are familiar with it in the lack of force and endurance of the voluntary muscular apparatus; it is conspicuous in the muscular atony of stomach and intestines, and we have learned to look for it and recognize it as a factor of vital importance in the functional integrity of the heart. In this connection it should be remembered that the nervous system, on which all muscular tissue is dependent for trophic and motor influences, is itself equally dependent on metabolism, with all that this implies, for the proper performance of its functions, and that the heart in such conditions suffers from a perverted innervation as well.

One of the first results of this weakness, so far as the heart itself is concerned, is an inadequate systole. We know that the ventricles of the perfectly normal heart do not completely empty themselves. At the close of every systole there is a very small amount of residual blood remaining in the ventricles. The precise amount must depend on the vigor of the ventricular contraction, and must increase with progressive weakness of the cardiac muscle. In its milder grades this amounts only to exaggerated physiologic distension, and perhaps only occurs when a slight demand is made on the heart for extra work, such as a degree of exercise that would not perceptibly effect a normal heart. As the weakness increases the overdistension results from still slighter causes until, finally, in certain cases it becomes permanent and constitutes what is clinically known as dilatation of the heart.

The occurrence of dilatation is dependent on at least one other important factor, aside from weakness of the cardiac muscle, namely, the arterial resistance. The resulting intracardiac tension is subject to great variations in both health and disease, but, in the absence of organic disease involving the arteries, it is always relatively low in cases of weak heart. But even when relatively low there is considerable pressure, even in the passive state. In health it amounts to perhaps 10 to 12 c.m. of mercury; in debilitated states it may drop to 5 or even much less, but a positive pressure equivalent to several c.m. of mercury is absolutely essential to the functional integrity of the organs supplied and this pressure must be overcome by the contraction of the cardiac muscle. If the heart muscle is unable to force its contents through the arteries against this pressure, an increasing amount of residual blood remains in the ventricles and dilatation results. It is perhaps only rarely that the weakness of the cardiac muscle is sufficient to lead to a continuous dilatation while the patient is in a passive state. The overdistension occurs in paroxysms coincident with a transient rise of pressure, usually the result of exercise. Exercise always raises the arterial tension, both in health and disease, and leads to transient dilatation, which the healthy muscle can overcome but the weak muscle can not, and in weakened conditions of the heart muscle these periods of overdistension are only partially recovered from, and when this occurs repeatedly the various grades of dilatation of the heart, slight or severe, ensue. It is in reality a frequently repeated overstrain of the heart. It is, in effect, precisely what occurs when the healthy heart is overstrained, only the results follow comparatively slight causes. Overstrain of the heart is altogether a relative affair. I think it is Stokes who relates a case in which a patient with an extremely weak heart was slowly improving by absolute rest in bed, not being even permitted to wash his own face. After considerable improvement, but, before being authorized to do so, he sat up in bed and washed his own face and fell over dead. This was simply fatal overstrain of a very weak heart from an apparently very trifling cause. In another case a similar result might follow walking across the room; in a third it would follow a short run to catch a street car or by hurrying up steps; while in a perfectly healthy heart the same result could be produced by sufficiently severe and sufficiently prolonged muscular exertion, as probably occurred in the classical case of the Greek soldier who delivered his message of victory and fell over dead. Hereditary tendencies, or at least an inherent inadequacy of the heart muscle, undoubtedly has much to do with the phenomena in any given case. Some hearts are primarily defective, just as are some livers and some brains, and readily succumb to causes which would not be operative in other cases.

The pathology of the cardiac muscle in the cases under consideration is quite variable. Eichhorst[13] says that weakness of the heart muscle may cause death without any macroscopic or microscopic changes in its structure. However, this is perhaps rarely true. The nutritional disturbances incident to chronic disease lead to various alterations in the texture of muscles in the heart and elsewhere. Barrie says[12] that when dilatation occurs there is always granulo-fatty degeneration

of the heart fibers and pigmentary infiltration. In such cases Gibson[11] and others speak of an indistinctness of the striations of the muscular fibers. Probably in all the severe cases there is some sort of change more or less marked in the cardiac muscle. While it is very desirable to have as full an understanding as possible concerning the pathology of each case, it can only be determined with a certain degree of probability. It has, of course, an important bearing on prognosis, but the existence of marked degenerative processes do not bar recovery. In many cases chronic myocarditis is probably the underlying morbid condition. The existence of certain types of chronic inflammation, as well as degenerative processes in chronic nutritional disease, is quite intelligible in the light of modern pathology. These various morbid processes are the result of subnutrition and toxins. The hemoglobin coefficient is usually low and there is scant material for tissue reconstruction, while, in addition and partly as a result, there is defective elimination on the part of the heart muscle itself of its own waste products, as well as of the body in general. The retention of leucomaines and other products of retrograde changes has a still further depressing influence on the function of the heart muscle and favors the development of the anatomical changes already referred to. But, in addition to this, and especially in the class of cases with which I have personally had to deal, we have a new factor in the introduction into the circulation of bacterial toxins produced in excess in the digestive tract. These toxins probably unite with the side chains of the protoplasmic molecules of the heart muscle, just as certain metalic substances are supposed to do with more or less impairment of functional power and, finally, with the production of genuine structural alterations of the character already indicated.

In the cases in which no microscopic alterations can be found in the heart muscle the tissues are softer and more easily torn, as long ago pointed out by Walshe.[3] It can scarcely be that such a physical change can occur in the heart muscle without antecedent structural alterations undiscoverable by our present means of research.

Although not strictly within the scope of this paper, I am tempted to briefly refer to syphilis, the very extensive prevalence of which, among all classes, makes it a frequent factor in the class of cases under discussion. Syphilitic involvement of the heart is probably much more common than is recognized, and is not a very infrequent cause of weak heart, leading to varying degrees of dilatation. Aside from the gummatous disease of the heart muscle itself, and involvement of the coronary artery, there is recognized by syphilographers a syphilitic myocarditis. And there is good reason to believe that, prior to the evolution of such gross changes as this, there is a period of weakness which, in consequence of proper treatment, may never pass into the stage of structural alteration. The hearts of syphilitic patients are very vulnerable, and this cause of cardiac weakness should receive wider recognition than is at present accorded it.

In chronic gastro-hepatic disease there are some reflex nervous phenomena which should be considered in addition to the factors already mentioned. The experiments of Morel and others have shown that, on stimulation of the terminal filaments of the pneumogastric or sympathetic nerves in the gastric mucosa, or possibly of both, there is a reflex spasmodic contraction of the pulmonary capillaries, with a rapid rise of pressure in the pulmonary artery and a transient dilatation of the right ventricle. If reflex irritation of these nerve filaments is continuously produced by a pathologic lesion, Barrie[12] says it may cause persistent dilatation, which may increase until there is tricuspid insufficiency with extreme ectasia of the right ventricle. He adds, however, that its relative infrequency in gastro-hepatic disease points to an individual predisposition which may, of course, be hereditary or acquired through the operation of some of the causes and conditions that I have already considered.

It is unnecessary to occupy time in dwelling on the individual chronic diseases which occupy an etiologic relationship to the condition of the heart muscles under discussion. Among them may be mentioned leukemia, chlorosis, all the different types of anemia, either secondary or those other types which in our ignorance we call primary, chronic diseases of the digestive organs associated with subnutrition and relative failure of elimination, excessive toxic conditions, etc. These various causes act on the heart in at least four ways: First, a failure to supply sufficient nutrient pabulum to the heart muscles because of a weakening of the complicated mechanism concerned in its accomplishment. Second, through the chemical influence of retention products, which are toxic in excess, and the absorption of foreign substances, for the most part, from the gastro-intestinal tract. Third, through the partial failure or perversion of the important phenomenon of innervation of the heart muscle. And, fourth, the purely mechanical factor which is operative from the moment when the cardiac muscle is unable to make an effective ventricular contraction against the resistance offered in the arteries. Sometimes one or several of these causes will predominate, but I think they will be found to fully explain the clinical phenomena presented.

The symptoms of heart weakness and dilatation vary within wide limits. It is scarcely necessary to dwell on the clinical manifestations of fully developed and well-marked dilatation of the heart, with its well-known train of symptoms. It is more important to emphasize the fact that there can be, and frequently is, a recognizable grade of dilatation, with either an entire absence of symptoms or at least such as can be elicited with great difficulty. The earliest symptoms are simply those of a weakened circulation, and in the various types of chronic nutritional diseases, with their associated debility and slight dyspnea following a given amount of exercise, are simply attributed to the general disease present. It is not until the dilatation has proceeded to a degree which will produce valvular incompetency by enlargement of the orifices or separation of the insertions of the papillary muscles, or both, that the obvious clinical picture of heart disease with dominant heart symptoms is presented. This condition, however, is preceded by a long series of events, with any one of which, perhaps, its onward march could have been arrested if duly recognized and properly treated.

The importance of these slighter and frequently unrecognized grades of dilatation of the heart is not limited to the heart itself, but, in addition, frequently furnishes the key to the entire ensemble of symptoms, which, while having a complicated origin, are possibly based more largely on lowered blood tension than on any other single factor.

I have not attempted to make any statistical statement of the number of cases in which demonstrable grades of dilatation have been presented, as such a statement with reference to so vague and diverse a group of cases would appear to be valueless. I will

say, however, that in a very large proportion of the cases which have been able to come to my office for examination and, perhaps, subsequent treatment, such a condition of the heart has been found. I should think that possibly 20 per cent. of these patients presented demonstrable enlargement of the heart, varying in degree from an enlargement so slight as to be doubtful until verified by a decreased area of dulness under subsequent treatment, to cases so severe as to make dyspnea on very slight exertion one of the principal complaints in the case. The diagnosis is based principally on the area of deep dulness, which has, of course, to be quite accurately determined. This I do not consider difficult in the vast majority of cases. Of course where there is emphysema or excessive obesity, it becomes proportionately more difficult. Broadbent[9] says that it can not always be determined, and further adds that the so-called auscultatory percussion is of no value whatever. With the last statement I must entirely disagree. By the use of the ordinary methods of auscultatory percussion or, better, by the use of the phonendoscope, with either light percussion or friction, the borders of the heart, and especially the left, can be determined with great accuracy. I have verified the results of these examinations, both by autopsies and skiagraphs, and have the utmost confidence in them. By placing the phonendoscope in the intercostal spaces over the area of absolute dulness and making very light strokes or friction sounds gradually extending outward, the border of the heart is easily recognized. The sharpness of the line of demarkation where the transition of sound occurs is really very striking. I only mention this because there is a more or less widely spread opinion such as that already quoted from Broadbent, that slight changes in the volume of the heart can not be clinically determined with accuracy.

In the severer cases regurgitant murmurs will sometimes be found constantly present over either the mitral or tricuspid area or both. In many of the milder cases, however, where such a murmur is not heard, it can readily be produced, while in others it can be produced with difficulty, and the readiness with which it can be elicited furnishes some indication of the tonicity and recuperative power of the heart muscle. The character of the heart sounds soon becomes modified as the case progresses, the first sound losing its characteristic qualities, more and more approximating to the character of the second, and, at the same time, the interval between the second sound and the first becomes gradually shorter, approximating more and more to the interval between the first and the second, until it finally becomes practically the same.

The treatment of these cases should have in view two principal objects: first, to improve the general nutrition and correct the defects and perversions of metabolism, which are the underlying causes, which includes rational and adequate treatment of any organ or set of organs which may be at fault, among which the digestive organs stand pre-eminent; and, second, when necessary, the application of special therapeutic measures directed toward the heart.

It would not fall within the scope of this paper to make any attempt at a discussion of the multiform methods included under the first heading. It need only be said that it includes and requires adequate nutrition, which means an ample food supply properly digested and assimilated to the fullest extent possible under the conditions presented; effective elimination of the products of retrograde changes which may be unusually toxic owing to morbid perversions in the chemical processes occurring in the tissues; tonic and reconstructive medication, such as the exhibition of iron and bitter tonics where these appear to be indicated; and, finally, the best mental and physical hygiene available under the circumstances of the case.

So far as the second object of treatment is concerned, it will frequently happen that no special measures directed toward the heart will be required, especially in the milder cases. Proper rest for the nervous system and the circulation conjoined with the measures already indicated may be sufficient to restore the heart to its normal condition and size. In many cases, however, I have found such special methods of treatment not only advantageous but necessary. Where the heart is quite weak, with frequent pulse and the blood pressure low, the cautious administration of digitalis for a brief period of time has been of the greatest service to me in these cases. Other heart tonics may also be employed. Such outdoor exercise as is indicated in the case should be graduated, with special reference to the heart, and in most cases forms an indispensable part of rational treatment.

I wish now to speak of the saline carbonated baths as a means held in reserve for the severer cases or even some of the milder ones which for some reason prove intractable. I am fully convinced of their very great value after having treated a considerable number of cases in this manner. I have found, in agreement with Broadbent and others, a remarkable decrease in the area of deep cardiac dulness as a result of a single bath properly administered. In fact, I am not aware of any other possible means of influencing so immediately and directly the dimensions and tonicity of the heart. I have found the left border of the heart more than one centimeter further to the right immediately after such a bath than it was before, and have verified the findings with the fluoroscope. At the same time the pulse will drop in frequency anywhere from 15 to 30 beats, with a corresponding improvement in volume and tone. The greater part of this phenomenal change is comparatively transient, but where treatments are given daily the heart does not lose quite all it has gained, and after three or four weeks of such treatment may attain nearly or entirely its normal size and remain permanently so under favorable conditions, which means, of course, a removal of the causal factors and a continued maintenance of the general health. Gibson[11] says that it is just in this class of cases that the very best results are obtained from the Nauheim methods. I believe this is true, and have certainly had most gratifying results in properly selected cases, although it is not used, as a matter of course, as a routine measure.

With the resistance movement I have had less experience, as my patients have, for the most part, been able to resort to active instead of passive movements; and properly graduated gymnastics and outdoor exercise have appeared to me to be all that was necessary.

In conclusion, I wish to emphasize the favorable prognosis of dilatation of the heart in most cases, even the coexistence of valvular disease not necessarily constituting an insurmountable bar; its relative frequency in chronic nutritional disease, and the strong probability that the milder cases, if unrecognized and neglected, finally present all the clinical features of advanced and incurable heart disease.

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PAPILLOMA OF THE SOLE.*

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A wart is usually an insignificant affection, but when it grows in a confined space, as under the hard, thick covering of the sole, it may cause so much discomfort, it may be so persistent and so refractory to treatment and develop such an ugly appearance as even to simulate malignant disease.

It is not a frequent affection, as I have in my private practice seen only seven cases of it in about five thousand cases of diseases of the skin. In a careful search of the literature of diseases of the skin, mention has been found of only sixteen cases. But I have reason to believe that neither of my own private histories nor the literature give a true indication of the real frequency of the affection. People afflicted usually consult chiropodists and, after being treated, or maltreated, the wart disappears, either as a consequence of treatment or spontaneously. The chiropodists have a most striking name for the affection, calling it "a rose corn." This name is very appropriate to that form that looks like a callosity and, the callosity being removed, one finds a strawberry wart at the bottom of a well-like hole.

CASE 1.—The first patient who consulted me for this affection was a large, fat man, 56 years of age, whom I had been treating for eczema. He consulted me June 13, 1897, for what I thought was a corn on the right sole. The corn was very sensitive to pressure. I ordered salicylic acid plaster mull 10 per cent., and had the patient call shortly afterward, when I peeled off the epidermis. To my surprise I found a well, at the bottom of which was a wart-like vegetation. The mouth of the well was perfectly circular and nicely rounded and prominent. I reapplied the salicylic acid, removing layer after layer of the epidermis, till I had the wart well exposed, and then burnt it with nitrate of silver. I did not, however, burn it sufficiently. It is often necessary to press down the nitrate of silver stick into the hole, through the epidermis, although it is very painful to the patient. The wart in this case continued to grow until I feared it was a papillary epithelioma of the sole. After the second, more thorough, burning, however, the affection got well and never returned. In this case there were no other warts seen or complained of in any other region.

CASE 2.—Sept. 5, 1898, a man, whom I had under my charge seven years before for syphilis, eczema and herpes simplex, consulted me for what appeared to be a corn under the anterior part of the sole of the foot. The patient had had it mistreated by a chiropodist and, when he came under my care, was suffering much pain. His case was an almost exact repetition of the former one.

CASE 3.—On March 2, 1899, a man, 28 years of age, consulted me on account of a painful wart on the plantar surface of the ball of the left toe, which had appeared three months before. The patient was also suffering from eczema between the toes and from premature baldness. The papilloma disappeared under the same treatment as that employed in the two former cases.

CASE 4.—On April 27, 1900, a woman, about 30 years of age, consulted me on account of warts on the anterior portion of the sole of the foot. There was one large, flat, round wart, about one inch in diameter and looking like a corn, situated on the ball of the left great toe. This wart was not painful, and on examining it with a lens dark red strings could be seen running up through it. These looked like the capillaries of a soft wart in which the blood had coagulated. It looked entirely different from anything I had ever seen in the way of warts growing under the thick, hard epidermis of the palms or soles. As much of the top was shaved off as was possible without causing too much bleeding. A salicylic acid plaster mull was applied. By May 7, 1900, the large wart had separated out into several individuals, having white plates of epithelium over them, and the red strings above mentioned were now white, probably bleached out by the salicylic acid. This lesion therefore was not one wart, but a bunch of several warts. On this date two other warts were found, one in the very center of the anterior part of the left sole, and two others just in front of the original lesion on the ball of the great toe. June 20, I had the patient use at night salicylic acid, ʒiiss, collodion flex., ʒii, and in the day time plaster mull. By June 27, two months after she first came to me, the epidermis was thinned down enough to permit of cauterization with nitrate of silver. Shortly after this the warts disappeared.

This was one of the most obstinate cases I have ever treated. The epidermis implicated in the wart was soft, spongy and resistant to the knife.

CASE 5.—Sept. 24, 1901, a boy, aged 14, consulted me for hyperidrosis of the right heel; the heel was reddened, and in the hollow of the foot there were a few rusty papules. October 30, I first noticed on the right heel two perfectly round holes, each about 2 mm. in diameter. These holes were filled with a perfectly white detritus, and at the bottom of the holes there were a few red, prominent papillæ. The epidermis was shaved down as close as possible and the papillæ were burned with nitrate of silver and a 5 per cent. salicylic acid plaster mull was prescribed.

Jan. 21, 1902, there was still a little remnant of one of the lesions, which was burned with nitric acid, after which the trouble disappeared.

This patient was an immensely overgrown boy and very stout. He was the only son of a doting mother, who was anxious about his health, because he ate so little at meals, but between meals, his sister told me, he ate constantly, a fact which his mother did not know, or possibly chose to ignore. Everything in the way of fruits, cake, candy and lump sugar disappeared in a miraculous way. These facts are mentioned as the consequent overnutrition very probably had something to do both with the hyperidrosis and the papillomata. He was just such an individual as one would expect to get seborrheic eczema.

CASE 6.—Jan. 21, 1902, a boy, 15 years of age, consulted me in regard to papillomata of the plantar surface of the right heel. The first one appeared one year before, and when he consulted me there were about a dozen visible. As much of the epidermis was shaved off as was possible without causing abundant hemorrhage, and the exposed warts were burned with nitric acid. An ointment composed of salicylic acid 20 gr., lanolin and vaselin each half an ounce was prescribed to be worn constantly. By Feb. 8, 1902, this ointment had peeled off the epidermis down to the quick, and a vast number of papillomata were uncovered. The whole heel presented a worm-eaten appearance, showing irregular, steep-edged holes, filled with epidermal detritus. All exposed papillomata were again burned with nitric acid. By February 26 everything looked well.

CASE 7.—Aug. 2, 1902, a man, about 19 years of age, consulted me in regard to what appeared to be a filamentous wart on the anterior surface of the right sole. The epidermis was peeled down as far as possible, the wart was burned with nitrate of silver and a salicylic acid ointment (30 gr. to the ounce) was prescribed. By August 6 the wart had died down or retracted so as to leave a circular hole about one-quarter of an inch in diameter, filled with a crumbly white mass, and showing the diminished wart at its bottom. A stick of nitrate

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

of silver was pressed firmly into the hole, the same ointment was applied and in a couple of weeks he was entirely well.

Traumatisms, such as direct blows, heavy marching, nails sticking up in the sole of the boot, inequalities in the sock, or in the sole of the boot, have all been given as causes of plantar warts. Lenoble[1] attributed the affection in his case to heavy marching. Gorju[2] reported an instance consequent to walking on cannon balls. In the cases reported in this paper no history of traumatism was present. In three of the cases there was eczema, in one of them herpes, and in one hyperidrosis. All of these may indicate an irritable state of the skin favorable to the development of papillomata, but it is noteworthy that there were no warts found on any other part of the surface in these cases. William Dubreuilh, who has written by far the best paper on this subject, says that neither himself nor Bargues, whom he quotes, has ever found coincidence of warts of the soles and of the palms.

A wart on the sole usually first appears as an abnormally painful, large, lenticular, elevated callosity. After removing the hard epidermal covering, a well-like orifice is exposed with the papilloma in it. This appearance is what has given rise to the name "rose corn." The depth of this well-like hole is one of the surprises of the affection. Pain may be present for quite a long time before the appearance of the callosity. In a case reported by Gorju[2] pain was present for two months before the callosity was noticed.

Warts of the sole may also appear as filamentous threads growing up through a soft, white, elastic epidermal mass, as in Case 4.

A papilloma may also look like a soft tumor, implanted like a cork in the epidermis and emerging from a circular orifice and spreading out on the surface like the cover of a pot.

Dubreuilh says that the pain of the warts, like that of corns, is influenced by changes in meteorologic conditions. I do not remember any of my patients to have complained of this, but, as I never inquired, it may have been present.

Warts of the sole, as elsewhere, may disappear spontaneously; they may, however, last for years and cause a vast amount of pain and inconvenience. Lenoble reported a case where the tumor had begun twenty years before the demonstration of the patient before the dermatologic society. Melchior Robert had two cases, each lasting two years.[3]

Dubreuilh recommends curetting as the most rapid and effective treatment. Although the curette may have very little influence on the hard, resistant walls of the cavity, this does not matter. The essential is to clear out the contents, which can be readily done. The profuse bleeding can be stopped by pressure, and the wound is to be dressed according to ordinary surgical principles.

Bargues recommends frequent cauterizations with pure nitric acid. The objections to cutting out such growths are the difficulty of reaching the base through the thick epidermis, the great pain occasioned by the cutting and the liability of leaving a cicatrix in a situation where a scar is very undesirable. All these disagreeable features may be avoided by first softening the hard epidermal covering, and so exposing the part to any treatment, such as would be applicable to warts occurring on the thin skin of other parts of the cutaneous surface.

1. Ann. de Derm., S. 3, T. vi, p. 1156.
2. Ibid., p. 441. Quoted by Dubreuilh.
3. An. de Derm. et de Syph. Serie III, Tome viii, p. 1248.

THE MANAGEMENT OF FEVER IN GENERAL.

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PHILADELPHIA.

In the present state of knowledge fever must be looked on as a symptom-complex resulting from some derangement of the bodily chemistry, from some disturbance in metabolic equilibrium, which may be brought about in a variety of ways. The causative factors may be generated within the body, or they may be introduced from without, in either event operating through the agency of the nervous system. Thus, fever may result from the retention within the body of the excrementitious products of retrogressive metamorphosis, as in cases of uremia; in consequence of profound changes in the blood, as in cases of anemia; from exposure to intense heat, as in cases of insolation; and it occurs readily in children—in whom the nervous system is notoriously unstable—on slight provocation, such as gastrointestinal derangement and even emotional influences. Most commonly, however, fever is due to changes secondary to infective processes—in other words, to the toxic effects of the products of bacterial and cellular activity.

Of the ultimate mechanism of the febrile process nothing definite is known. It is a well-recognized biologic fact that plants and animals are provided with the means for adapting themselves to variations in the surrounding temperature, so that they produce or conserve a greater amount of heat when exposed to low, and a lesser amount when exposed to high, temperatures. Loss of heat in man is counteracted by contraction and favored by dilatation of the peripheral blood vessels. It is reasonably certain that this regulatory power is lodged in the central nervous system, and it is believed that it is under the control of a hypothetical thermotaxic mechanism, which maintains the relations between heat-production and heat-dissipation under varying conditions.

The most distinctive and the most constant feature of the febrile process is elevation of temperature. Although it is customary to attempt a differentiation between fever and pyrexia, it is a question whether such a distinction can be successfully made. It is true that occasionally certain conditions ordinarily febrile, such as typhoid fever, typhus fever, septicemia and scarlet fever, are unattended with pyrexia, but under such circumstances it may be that the pyrogenic substances usually produced are not generated or are not absorbed, or that their effects are neutralized by antipyrexial substances generated within the body. Nevertheless it is doubtful whether we can recognize a febrile process in the absence of elevation of temperature, or if pyrexia occurs in the absence of fever. Those who endeavor to maintain a distinction between fever and pyrexia take the ground that elevation of temperature of non-febrile origin is due to either increased heat-production or diminished heat-dissipation, or to both, while the elevation of temperature attending the true febrile process is due to an elevation of the heat-regulating mechanism to a higher level without alteration in the relation between heat-production and heat-dissipation. It has been thought that elevation of temperature in the presence of infectious diseases is a conservative process, perhaps having antibacterial or antitoxic value, but as to the accuracy of such a view the evidence is not conclusive.

Other symptoms of the febrile process, such as accelerated action of the heart, increased frequency of respiratory movement, circulatory changes, alterations in secretion, assimilation and metabolism and in function generally, may be due to the same factors as the underlying morbid state or to the pyrexia, or to a combination of the two. The problems, therefore, that confront the clinician in the management of a patient exhibiting fever comprise the removal of the causative and underlying factors in so far as this is possible, and the restoration of the metabolic equilibrium, whose derangement is manifested in the various disorders of function. Often little or nothing can be done to fulfill the first indication, as the underlying morbid process is a specific and self-limited one insusceptible of abortion or abridgement, but unless there be some contra-indication, some form of elimination or evacuation or attenuation may with advantage be instituted, such as emesis, catharsis, diaphoresis, diuresis, enteroclysis, hypodermoclysis, intravenous transfusion. Through emesis irritants will be removed from the stomach and infection by way of this organ averted or absorption of poisonous substances from its cavity prevented. Catharsis will perform the same office for the intestinal tract, and besides exert a derivative effect. A like statement may be made with regard to diaphoresis for the skin, and with regard to diuresis for the kidneys, while by means of intestinal, subcutaneous and intravenous infusion poisons circulating in the blood will be diluted, and their elimination through the emunctories expedited, while a useful stimulating influence will be at the same time exerted.

With the aid of the measures named it may at times be possible to remove the primary cause of disturbance, but even when this can not be done we may be able in this way to mitigate the severity of its effects, and thus in part contribute also to the fulfilment of the second indication, namely, the restoration of the metabolic equilibrium and the correction of disordered function. Reduction of temperature may be indicated when the pyrexia is excessive, or has been unduly long continued. It is best effected by the application of cold, wet or dry, in the form of the tub bath, the sponge bath, the sprinkle, the affusion or compress, the spray, the coil, the ice bag or ironing with ice. Antipyretic drugs are as a rule not necessary, while their use is at times attended with danger. To sustain the respiration and the nervous system, alcohol, aromatic spirit of ammonia, strychnin, digitalis, strophanthus, caffein or atropin may at times be needed. Should delirium and restlessness persist despite such treatment, bromid, chloral or morphin may be administered cautiously. The diet should be simple, bland, nutritious, easily assimilable, including milk, broths, eggs, beef juice and similar articles. Cracked ice and cool water or lemonade or orangeade and the like may be given with reasonable freedom, preferably in small amounts frequently. A daily movement of the bowels should be secured, if necessary by means of enemata or by the cautious administration of calomel followed by a saline.

Statue of Pasteur at Chartres.—The portrait statue recently unveiled at Chartres deserves more than a passing mention, as it is the work of a physician, anatomist and sculptor, a native of the town, Dr. P. Richer, now of Paris. The marble bust of Pasteur rises above a bronze bas-relief depicting scenes in the campaign against anthrax in sheep by the inoculations originated by Pasteur which have saved the chief industry of the province from destruction. The total height of the work is nearly fourteen feet, while the base is twenty-two feet in diameter.

EARLY EYE SYMPTOMS IN A CASE OF MYASTHENIA GRAVIS.

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CHICAGO.

In a thesis[1] for the degree of M.D. at Cambridge on the subject of "Myasthenia Gravis," Chas. S. Myers records the undoubted and completely studied cases of this disease. His list contains 22 cases; in 12 there was partial or complete external ophthalmoplegia, in 9 diplopia, in 14 ptosis. These findings and the fact that in 13 of the 22 cases in Myers' list the paralyses of the eye muscles were of the very early symptoms that showed themselves, suggests the publication of the history of the eye symptoms of the following case.

Fortunately, our case has not been completely studied (Myers includes only cases that have come to autopsy), but it has gone far enough to emphasize the fact, which agrees with the findings of Myers and which has been pointed out before, e. g., in the recent article of Sir William Gowers,[2] that the eye symptoms may be the first complained of. The early diagnosis of the disease is certainly desirable, and may be very important, because of its bearing on treatment. It is reasonable to suppose that the chances for recovery will be favored by an early diagnosis, for suggestions have come regarding treatment as our knowledge of this obscure disease has increased, and cases have been reported in which the patients appear to have recovered. The following is an abstract of our notes:

Nov. 6, 1899. W. E F., male, aged 20, a telegraph operator by occupation. Complains of red and uncomfortable eyelids, of blurred and double vision; when he looks at anything, it at first appears double, and he has to close one eye to see. The eyes have given trouble during the past summer. There is a chronic conjunctivitis. L V.=6/9; R. V.=6/7. Esophoria 22°. L. hyperphoria 8°. Accommodation unaffected. Refraction under homatropin and cocain:

L. V.=6/5 with —1.00 D. Sph. —0.50 D. Cyl. Ax. 25°.
R. V.=6/5 with —0 75 D. Sph. — 0.25 D. Cyl. Ax. 120°.

The above correction, less 0.25 D. Sph., was given for constant use, and the patient was asked to return within ten days or two weeks for observation.

Nov. 17, 1899.—Patient states that he is improved, but still complains of blurred vision. Examination shows esophoria 12° (a decrease of 10°), left hyperphoria 8°. Encouraged by the decrease of esophoria, the patient was told to continue the use of the glasses and to report again in two weeks.

Dec. 8, 1899 (one month after the first examination). The patient states that he can work all day and until midnight, and that there is no blurring of the vision. No esophoria, left hyperphoria 3°.

Jan. 4, 1900.—Has been overtaxing the eyes, and they are red and weak again. Has some double vision at times. Exophoria 1°; right hyperphoria 3°.

The patient did not return again for two and a half years.

July 3, 1902.—Recently has had double vision, and "focusing the eyes is difficult." Exophoria 11°, no hyperphoria. Accommodation normal, and the pupils react normally. Vision with glasses, left eye and right eye, 6/9. Has not noted anything wrong in his general condition. Advised re-examination of the refraction.

Aug. 6, 1902.—The patient returns complaining of the same symptoms that troubled him one month ago. Refraction under homatropin and cocain:

L. V.=6/5 with —1.62 D. Sph. —0.50 Cyl. Ax. 60°.
R. V.=6/5 with —1.50 D. Sph. —0.50 Cyl. Ax. 110°.

The above correction, less 0.37 D. Sph., was given for constant use, and the patient was asked to return shortly.

1. Journal of Pathology and Bacteriology, 1902, September, vol. viii, No. 111, p. 306.
2. Myasthenia and Ophthalmoplegia. British Med. Jour., 1902, May 24.

One month and twenty days later he returned, when there was paralysis of convergence and slight ptosis of the left upper lid. The pupils reacted normally; the accommodation was not affected, and the patient said that he could work at his desk very comfortably when one eye was closed. The fundus was normal. He was referred to Dr. H. N. Moyer, who made the diagnosis of myasthenia gravis, and exhibited the patient before the Chicago Neurological Society.

Although the findings in this case will be more completely published later, it seems appropriate to call attention here to some of the facts pointed out by our notes. The most important one is that already cited, that the eye symptoms in this disease may be the first signs of trouble. Of course, this is assuming that our patient was afflicted with myasthenia gravis when he complained of double vision in November and December, 1899. Even if it is not granted that the disease existed at that time, it seems safe to venture the opinion, in the light of the after-history, that as marked a variation in the muscle balance as this case showed between Nov. 6 and Dec. 8, 1899, must attract unusual attention and be carefully studied, and, if possible, satisfactorily explained.

The absence of involvement of the muscles of accommodation in September, 1902, (when he could work at his desk very comfortably if one eye was closed) is interesting. Based on observations up to that time, this case agrees with the findings of Myers, who notes the absence of involvement of the ciliary muscles in the cases studied by him. The possibility of the escape of the ciliary muscle in this disease, and the fact of the difference histologically between it and the external muscles, could well give rise to some speculation. This, however, is upset by Gowers' report, in whose case there was interference with accommodation, and the same is now true of our patient.

The variation in the refraction may have some significance. According to our examinations, which were made with homatropin (homatropin hydrobromate, gr. x; cocain hydrochlorate, gr. x; water, ℥i, of which mixture a drop was put into each eye every five minutes for thirty minutes, and the examination was made forty-five minutes after the last application), the myopia increased 0.75D, and the investigation of the subject brings a letter from the patient, which says: "In early life I seemed to be able to see fully as far as anyone, and, so far as I know, my vision was not shortened until just previous to my first call on you." It will be recalled that at the time of the first examination there was slight myopia. If there is any relation between the disease and the myopia, it would be curious. How is it to be explained?

The cessation of symptoms in this case for over two years calls attention to one of the three signs, which Myers says may be described as pathognomonic of this disease, viz.: exacerbations and remissions shown in its course, and warns us to be careful about pronouncing a recovery in any given case.

Clinical Report.

PYONEPHROSIS WITH A KIDNEY-COLON FISTULA.

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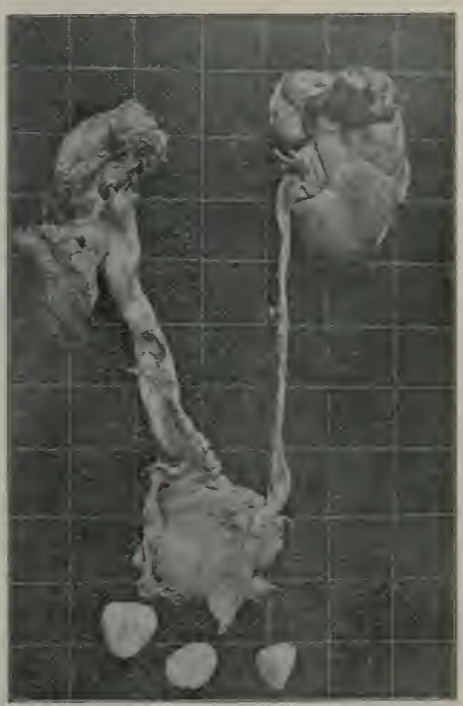
History.—The patient, a man, aged 37; white; occupation railroad conductor; entered the service of Dr. Gordon K. Dickinson at Christ Hospital, Jersey City, for operation, with a diagnosis of vesical calculus.

Family history was negative. The patient had the usual diseases of childhood; twenty-five years ago an attack of typhoid fever; five years later a gonorrhea and a slight stricture of the urethra. He uses tobacco and alcoholics in moderation. Two and one-half years ago he began to complain of a burning sensation, and often severe pain on micturition, with interference to the free passage of urine, and at times a sudden stoppage during the act of passing it.

He states that he has never passed blood in his urine. Lately he noticed that he was losing weight and appetite. He states he has had no chills or fever since the attack of typhoid fever 25 years ago. He gives no history of constipation or diarrhea, and the evacuations of the bowels are regular. His temperature for the three days previous to operation was normal and subsequent to it not above 100 degrees.

Operation.—A suprapubic lithotomy was performed and three calculi weighing collectively 168 grams were removed. There was no suppression of urine subsequent to the operation. The third day the patient died.

Necropsy.—All the organs, with the exception of those later mentioned, were normal, save that the intestines showed some slight adhesions. The bladder wall was much thickened. The interior of the viscus had a ribbed appearance. The veins were somewhat prominent and the mucous membrane was



of a yellowish color, and covered with shreds of mucus and urinary salts. The right ureter measured one inch and a half in diameter, and was of a leathery consistence. The left ureter was about three times the usual size, being somewhat tough to the touch.

The right kidney was normal in size and was adherent at its lower end to the colon. On sectioning it proved to be a typical pyonephrotic kidney, only a thin wall of kidney structure, possibly one quarter of an inch thick, remaining. It was connected, as shown in the illustration, with the colon, by a fistulous tract one inch long. The left kidney was much enlarged, the capsule non-adherent, and projecting from its surface were three cysts, the one shown in the illustration at its upper portion being two inches in diameter. All these cysts contained a urinous fluid. This kidney showed a chronic diffuse nephritis and contained two half-inch calculi in its pelvis.

41 Crescent avenue.

Rules for writers, as given by the *Saturday Evening Post*, are as follows: 1. Have something to say. 2. Say it. 3. Quit writing.

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A METHOD OF RENDERING ULTRAMICROSCOPIC PARTICLES VISIBLE.

During the last few years bacteriologists have come to attribute a rapidly increasing number of diseases to microbes that are too small to be seen with our best microscopes.[1] With these instruments and the ordinary method of illumination Helmholtz and physicists in general tell us that it is not possible to get a clear image of an object that is less than ¼ micron in diameter. Recently, however, two German physicists, Siedentopf and Zsigmondy[2] have perfected an apparatus by means of which they are enabled to see particles having a diameter of 0.005 micron or even less. They make use of the best microscope that can be furnished by Zeiss and illuminate the preparation to be examined with a cone of intense sunlight or light from an electric arc. The light is concentrated by means of a system of condensors, and the vertex of the cone thus formed strikes the axis of the microscope at right angles and illuminates the preparation in such a manner that none of the light enters directly into the objective. Under these conditions ultramicroscopic particles lying in the field of the objective will send enough light through the microscope by refraction and reflection to give a clear image. These images, however, are merely luminous points, the brilliancy of which varies directly with the size of the particles. In order that two particles lying side by side may give two distinct images it is necessary that they be placed at least ¼ micron apart. Particles of considerable size, 0.1 micron or more in diameter, give two images, one reddish and the other greenish yellow. From the appearance of these images it is not possible to judge the size and shape of the particles, although the larger particles are more brilliant than smaller ones.

Further details may make this a little plainer: The observer and his instrument are placed in a dark room, in one of the walls of which is a small opening provided with an iris diaphragm. By means of a heliostat placed outside, a ray of sunlight, or electric light, is reflected horizontally into the dark room through the opening in the iris diaphragm. This ray of light strikes a rather large lens, which throws a real image of the sun on a small slit copied from the microspectroscope of Engelmann. The size of this slit can be accurately adjusted by two micrometer screws. It can be varied from 0.05 mm. to 0.50 mm. in width by 0.1 mm. to 2.0 mm. in length and must vary according to the size of the particle to be examined. Behind the slit is placed a second iris diaphragm, a polarizer, and then a second lens, which forms an image of the slit one-quarter its actual size. Behind this image is placed a microscopic objective (AA of Zeiss), which acts as the last condensor and forms a second image of the slit, 1/9 as large as the first one, or 1/36 as large as the slit. This small image falls on the preparation to be examined and intensely illuminates a field about 1.5 microns deep by 3 microns wide. A few additions must be made to the microscope. For the examination of solids a small additional stage 2 by 4 cm. is fastened to the large stage of the microscope stand. This miniature stage can be moved up and down by means of a fine screw and thus enables the operator to bring his preparation into the path of the illuminating rays. For the examination of liquids the inventors have devised a small container which can be screwed to the objective. This brings the first lens of the objective in contact with the liquid and obviates all focusing. Provision is made for moving the liquid and thus bringing different particles into the field of study. The sides through which the light enters and leaves the container are best made of quartz which has been deprived of its double refracting quality by melting.

The authors of the memoir have already carefully studied the small particles of gold that are found in glass which has been colored ruby red with a small quantity of this metal. With the ordinary illumination and the highest magnification obtainable with a Zeiss microscope this glass appears perfectly homogeneous. By using the intense illumination obtainable with their new apparatus, each individual particle becomes visible as a minute luminous point. The size and weight of these particles can now be approximately determined in the following ingenious manner. The amount of gold in 1 cu. mm. is determined by chemical analysis, = W mg. The number of particles in a known bulk of glass is determined by counting and from this may be calculated the number in 1 cu. mm., = n. It now follows that the weight, w, of each particle is $w = W/n$. The specific gravity of gold is about 20, and hence the volume, V, of each particle is $V = W/20n$ cu. mm.

The authors have also begun a study of colloidal solutions and Mouton[3] has suggested the use of the apparatus in the study of bacteriology. In order that a transparent medium, containing ultramicroscopic particles, may lend itself for examination it must fulfill the following requirements: 1, The particles must not be less than 5 microns in diameter; 2, they must be at least 0.25 micron apart; 3, the index of refraction of the particles must be different from that of the medium in which they are suspended. Nothing has as yet been done in the study of ultramicroscopic organisms, but, as Mouton suggests, much is to be expected from this new field of investigation. So far the best evidence of the existence of pathogenic agents too small to be seen is furnished

1. THE JOURNAL A. M. A., Dec. 14, 1901.
2. Annalen der Physik., 1903, x, 1.
3. Bull. de l'Institut Pasteur, 1903, 1, 97.

by the results of filtration experiments. In a large number of animal diseases of unknown etiology the virus has been found to remain active after passing through solid filters that ordinarily hold back even the smallest known bacteria. So far extreme minuteness of size is the most satisfactory explanation of such phenomena. If the method reviewed in the foregoing proves of service in the study of etiology, we shall have a further and striking example of the fact that progressive medicine is largely dependent on the application of physics and chemistry to the study of disease.

DANGER FOR AFTER-DINNER SPEAKERS.

The importance of the study of blood-pressure in pathologic conditions has become generally recognized, but its physiologic variations are hardly of less interest. There are some conditions, not directly pathologic in themselves, but readily made so, in which variations of this factor may have a supreme importance. In an article in the *Lancet*,[1] and abstracted in THE JOURNAL,[2] Dr. George Oliver describes the periodic variations of blood-pressure, especially its increase, and the factors which produce this increased pressure. He finds that the digestive wave of increased blood-pressure is a predominant one, and that it is only temporarily affected by exercise, temperature, etc. There is a uniform rise after eating of some 12 or 18 c.c. of mercury, as shown by the hemodynamometer; the upward rise is rapid, occurring within an hour or little more, while the decline is gradual, and lasts until nearly the next meal time. Thus the rise after a moderate meal is less than after a full one, but the fall occupies about the same time in either case. It is a little surprising at first thought that a rise of blood-pressure should occur simultaneously with the congestion in the splanchnic region attendant on digestion, but Oliver shows that there is a systemic congestion with the splanchnic dilation, with increased peripheral arterial tonus, and it is probable that this plays a physiologic part in the nutrition in causing, as he points out, concurrent exudation into the tissues of nourishing fluid expressed from the blood into the interstitial spaces. The pathologic or semi-pathologic significance of this fact is that of the danger of aggravating the normal physiologic blood tension into a pathologic condition by other factors which may aggravate the tension, such as mental or physical work.

It has long been known that a man is not at his best for hard mental work directly after a hearty meal, but the real dangers of work under such conditions are perhaps hardly appreciated. The tension is increased not only in the arteries of the body, but also, in all probability, in those of the brain, and this makes it easy for a weakened point to give way. The still unsettled question whether or not vasomotor nerves exist for the cerebral arterioles here suggests itself with the consequent queries as to the regulation of the cerebral circulation. It certainly does not appear that brain hypertension is materially relieved by any splanchnic diversion.

We recently have had a striking instance of death from apoplexy occurring in a prominent physician while making an after-dinner speech, and the notable death of Hon. William Windom a few years ago under similar circumstances will be remembered; and still other cases might be mentioned. The dangers from this cause have not been recognized, but when we remember that these public banquets involve a pretty hearty ingestion of food and a consequent rise of blood-pressure, it need not be wondered at that sudden deaths from "apoplexy" during after-dinner speeches are often recorded.

Apoplexy is a well-known possibility of mental strain; the weak point may be unknown to the subject himself and not revealed by any objective symptoms. The individual may have passed a life insurance examination successfully only a short time before, as is reported to have been the case with the physician above referred to, but the special stress becomes too strong for some point of weakness, and the result is fatal. It is not work, whether mental or physical, that kills. Intellectual workers, as a rule, are among the longer lived, but special stress under certain circumstances, such as post-convivial occasions when the normal tendency to rise of blood-pressure in the peripheral circulation is most marked, may be disastrous. This danger of mental effort directly after eating is one that possibly needs to be emphasized.

We do not wish to attribute too much importance to the idea, but it is one that is based on physiologic facts, and, therefore, theoretically at least, worthy of attention. It might, perhaps, be well from a hygienic point of view—and possibly from other points of view—if after-dinner speaking were dispensed with.

THE CONTROL OF MALARIA.

Based on the facts that the diagnosis of malaria can be made by microscopic examination of the blood, and that the malarial parasites are destroyed by the proper, continued administration of quinin, Koch and his collaborators instituted a systematic campaign toward the complete eradication of malaria in several more or less well circumscribed districts. They assumed that the malarial parasites can live only in mosquitoes and human beings. If the truth of this assumption be accepted—and there is no reason to question it—it follows that it becomes possible to eradicate malaria in either one of at least two ways, namely, either by destroying the malaria-carrying mosquitoes, thus preventing the parasites from multiplying and infecting new patients, or by securing such control of the malarial patients in a given locality that all the parasites in their blood are destroyed by the prolonged use of quinin, thus again preventing further multiplication of the infecting agent.

It is the latter method that Koch has put into practice, and the reports[1] on the work so far indicate that the results are satisfactory. Certain well-defined areas

1. June 13.
2. July 4, p. 63.

1. Zeitschr. f. Hyg. u. Infektionskr., 1903, xliii, Heft 1.

infested with more or less malaria were selected and placed under the supervision of competent men to look after the details. Thus an island, owned by one man, and containing a population of a few hundred people, a certain percentage of which generally suffered from malaria, was placed under the complete control of Professor Frosch. First systematic blood examinations were instituted and every case of malaria thus revealed was subjected to a thorough treatment with quinin, the administration of which was continued for three months after the active symptoms had subsided. Naturally, this procedure was repeated, and with the result that at the end of two years the malaria was destroyed, at least for the time being. Other reports show that in this way it is possible to greatly limit the disease, even in places where the population is more actively fluctuating, and in which the liability of the introduction of new cases of malaria is much greater. In these experiments—for experiments they were, though on a large scale—no special precautions were taken against the mosquitoes.

It would seem that in order to render a region permanently free from extensive malarial outbreaks it would be desirable to institute also measures looking to the destruction of mosquitoes, as recommended by Ross especially. Of course, if there are no malarial parasites in the blood of the inhabitants of a community then there can be no danger of mosquitoes carrying the disease to others. But so long as there are present the proper mosquitoes (anopheles) the immigration of new cases of malaria, which it might be impossible to prevent, may become the starting point of a new crop of malaria. Koch's method appears to be perfectly practicable, however, and the results now published show what great work can be done to limit a disease when its mode of dissemination and nature are so thoroughly understood as is the case with malaria. In order to carry out successfully undertakings of this kind it is necessary to perfect comprehensive organization under expert guidance, and to follow out the principles laid down with the most conscientious attention to details.

ROTATION OF HOSPITAL SERVICES.

In his address as chairman of the Section on Practice of Medicine at the New Orleans meeting of the Association,[1] Dr. Thayer refers to some of the evident shortcomings of the majority of our public and semi-public hospitals. He says that the most serious hindrance to advance in clinical study and teaching is the prevalent custom of rotation of hospital services.

Probably no competent, thoughtful medical man can question the force of this criticism. The first requisite for systematic clinical teaching and study is continuous, permanent service. Nothing but perfunctory, routine work can be expected when the chief of a service changes every three to six months. In business undertakings of all kinds, in schools and other institutions such rotation of service does not obtain. It exists in so many of our hospitals on account of the fact that physicians give their time and service to the hospitals without any direct compensation. The rotating service is a makeshift to lessen the individual burden.

If our hospitals are to grow in usefulness and develop progressively this makeshift must give way to the fully organized services with permanent chiefs and graduated staffs of assistants down to the interne and clinical clerk, as outlined in Dr. Thayer's timely address. The advantages of this plan to all interests concerned—the patients, medical teaching, medical investigation—are so evident and have been so often emphasized in these columns that it need not be dwelt upon in detail at this time. This is the day of organization in all lines of work of general importance. Our Association is passing through this stage in its development with so greatly increased a usefulness that it already may be pointed out as an object lesson to be followed in other directions of vital importance to medicine in our country. The next order may well be the earnest planning for a thorough reorganization of the hospital services. In every large city of the United States are public and semi-public hospitals in which the work suffers from lack of adequate organization to such an extent that conditions in many places really can not stand with credit even hasty investigation.

The first step in this advance must come from the medical profession itself. It is not creditable to a great profession like ours that its members permit themselves to be party to slipshod methods of hospital work merely because politicians and lay managers will not or do not know enough to institute rational principles into the hospitals in their charge. Our students suffer under the present system because of the great lack of opportunity to study disease in its manifestations in the living and the patients in the hospitals suffer because they do not receive the best care and treatment, to say nothing of the more indirect but far-reaching evils that must follow the sending out each year of so many hundred admittedly unqualified young men and women to practice medicine. We hope that continued agitation of this subject soon will awaken the altruistic spirit that ever must guide the medical profession, and that systematic efforts be made to improve the present conditions in our general hospitals.

THE DANGERS OF GELATIN INJECTIONS.

Since gelatin injections were first recommended for the control of severe hemorrhages in various organs, and for the treatment of aortic aneurism, they have been used quite extensively. Much has been said in favor of this method, but several deaths have resulted. The fatal results were due to such complications as septic thrombosis, phlegmons, malignant edema, and particularly to tetanus.

Several communications have recently appeared which again strongly emphasize the dangers connected

1. The Journal A. M. A., July 4, 1903, p. 1.

with the subcutaneous injection of gelatin. Chauffard[1] reported a fatal case of tetanus following a gelatin injection, and states that seventeen similar fatal cases have previously been placed on record. Dieulafoy[2] a few weeks later reports another instance of fatal tetanus developing after a gelatin injection given to control a severe tubercular hemoptysis, and he adds four more cases not included in Chauffard's statistics, bringing the total number of such deaths to twenty-three.

Quite an elaborate study on the dangers and the therapeutic value of gelatin injections has just been published by Doerfler,[3] who has twice lost patients from tetanus following subcutaneous application of gelatin. In one instance the method was resorted to to control a severe postpartum hemorrhage, in the other case to stop a tubercular hemoptysis.

It is now well known that fatal tetanus following gelatin injections is almost universally due to the introduction of tetanus spores with the gelatin in which they were contained. Levy and Bruns obtained tetanus bacilli from eight out of thirteen samples of gelatin examined. It was formerly believed that the spores of the tetanus bacillus are killed by an exposure during eight minutes to streaming steam at 100 C., but the authors quoted have shown that even after thirty minutes' exposure some tetanus spores survive, and only after thirty-three minutes were all samples of infected gelatin so exposed found absolutely free from tetanus germs. According to Forster and Brehmer larger masses of gelatin must be exposed forty minutes to a temperature of 100 C. to 120 C., and this after a preliminary warning, before all tetanus spores are killed. Many of those who have used gelatin injections have not been aware that it is necessary to so extend the period of sterilization.

In quite a number of fatal cases of tetanus following gelatin injections it was subsequently demonstrated that the gelatin used contained tetanus bacilli or spores. In other cases the sterilized gelatin left was found free from living tetanus spores. We understand now that the sterilization was insufficient, and while it may have made one part of the gelatin prepared free from tetanus spores, it left them alive in other portions.

Doerfler states that prolonged and energetic sterilization does not at all interfere with the therapeutic value of gelatin, and that if indeed sterile it is absolutely void of any danger. He concedes that the great hopes placed in gelatin injections in the treatment of aortic aneurism have not been realized, but that it has done excellent service in tubercular hemoptysis, or pulmonary hemorrhage from other causes, in intestinal, renal, vesical and uterine hemorrhages, in hemophilia and in melena neonatorum.

1. La Semaine Medicale, 1903, No. 14, p. 3.
2. La Semaine Medicale, 1903, No. 19, p. 152.
3. Die Therapie der Gegenwart, Berlin, 1903, p. 118.

NATHAN STRAUS' WORK IN CHICAGO.

The philanthropist, Mr. Nathan Straus, who has made famous Straus' milk throughout New York City, has transferred his activities to Chicago, and has donated a milk pasteurization plant to the Children's Hospital Society of that city, giving its installation his own personal attention. A few such persons using their surplus wealth for the public good in this discriminating manner could materially affect the infant mortality in many of our crowded urban centers. It is to be hoped that others will follow his example, if not in this in similar lines.

THE "HERB KING" GONE WRONG.

An irregular practitioner calling himself the "herb king" was recently arrested in a California town for practicing without a license, and inaugurated a not uncommon but peculiar defense. He had a number of his patrons, or those who signed as such, many of them of the sympathetic softer sex, publish a card in the local paper saying that they had received benefit from his treatment when regular physicians had failed to relieve them, and that some of the signers owed their lives to his skill. They recommended his medicines, and alleged that his prosecution was wholly unwarranted. The sequel came a few days later, when he was again arrested and held in heavy bail for a criminal assault on one of his female patients, whether or not one of the signers or only one duped by their recommendation the record does not state. Such are the ways of the quack.

RADIUM AND CANCER.

The suggestion offered in our editorial some months ago[1] that the radium radiations would prove of value in malignant disease appears to have been realized. A cable press report from Vienna at the end of last week announced the radical cure by a series of exposures to the rays of the new metal radium of a patient 61 years of age who had long suffered from cancer of the upper lip which had finally invaded the palate and seemed hopeless of further relief. The report of the case which was under observation in Professor Gussenbauer's clinic for several years was read before a recent meeting of the Imperial Academy of Sciences at Vienna. Only a small portion of radium was employed, something less than a sixth of a grain of the bromid salt, which is the most powerful in its radio-activity of any of the salts of the metal yet prepared. The malignant growth, it is reported, gradually disappeared, and there has been a very favorable healing of the ugly sore which existed. At the same meeting a case of melanosarcoma, the form of malignant disease universally acknowledged to be the most fatal in its effects, was reported as having been cured by the same means. The physician in charge considered the prognosis of the affection so hopeless under the ordinary methods of treatment that he preferred to try the effect of the radium rays before having recourse even to simple surgical removal. The tumor completely disappeared, and there is good reason to think that the patient will escape the serious danger which always accompanies this form of malignant neoplasm, no matter how small it may be when first recognized. While authentic detailed reports of the above cases have not been received, the wonderful qualities of radium already recognized make one

1. THE JOURNAL A. M. A., xxxix, p. 846.

ready to accept the statements as facts. The great objection to the general use of the remedy is its scarcity and costliness, but, as above shown, a very minute quantity only is required. This new substance may yet play a very important part in our remedial armamentarium.

THE SPECIFIC TREATMENT OF HAY FEVER.

The recent work by Dunbar[1] on the cause and specific treatment of hay fever is bound to excite great interest among medical men. Dunbar seems to successfully show that the pollen of a great variety of cereals and grasses—rye, oats, wheat, corn, grasses—contain substances that in susceptible individuals, but only in the susceptible, produce the well-known phenomena of hay fever. And these pollens produce hay fever, no matter how or where or when introduced. The active substance is soluble in tears, saliva, nasal secretion and blood serum. Even the hypodermic injection in susceptible persons of the starch rodlets in the pollens mentioned has caused severe conjunctivitis, coryza, cough and asthmatic seizures. These results would seem to settle the cause of hay fever, although the nature of susceptibility or unsusceptibility remains as yet wholly obscure. Dunbar, then, undertook the production of a curative serum by following the principles of immunization. Animals were injected with pollen toxin and after prolonged injections an antitoxin developed in the serum. This antibody not only rendered pollen harmless when mixed with it in the test tube, but it also neutralized the effects of the pollen when introduced into the eye or nose shortly after the local application of the pollen.

So far this neutralization has been successfully done only in the early stages of the process, but the results certainly warrant the hope that a serum may be produced which shall have more extended therapeutic value. Apparently the pollen toxin in the different grasses is the same because one pollen may be neutralized by the antitoxin obtained from the injections of pollen of a different source. This work of Dunbar's is entitled to the confidence of physicians because of the standing of the author, an American who has risen to scientific eminence and the high position of director of the Hygienic Institute at Hamburg, and also because of the evident scientific and thorough character of the work itself, which has extended over a period of seven years. Further reports will be awaited with interest.

SUNSTROKE AND HEAT EXHAUSTION.

The two conditions of sunstroke and heat exhaustion, though occurring from similar or identical causes, are not the same. In heat exhaustion the temperature is only slightly elevated, and may be subnormal, while in sunstroke it is usually well above 103 degrees. Correspondingly, the skin is comparatively relaxed and cool in heat exhaustion, while it is hot and flushed in sunstroke. Unconsciousness and convulsions are rare in heat exhaustion, but are common in sunstroke. Corresponding to the condition of the temperature, the pulse in heat exhaustion is rapid, feeble and perhaps almost imperceptible, but in sunstroke, although it is rapid, and may be feeble, it may also be full. The pulse, therefore, can not in all cases give much assistance. If further evidence is necessary to establish a diagnosis, there may be the history of the patient having complained, in heat exhaustion, of suffering from intense heat, or if he is conscious—as is usually the case—he may himself describe his previous feelings. On the other hand, in sunstroke, the attack in most cases comes on suddenly, and the patient is apparently stricken down while suffering no inconvenience. When diagnosis is made the treatment, it is easily seen, differs in the following: In heat exhaustion the subnormal temperature must be raised to normal; in sunstroke the hyperpyrexia must be reduced. The patient suffering from heat exhaustion must be protected from drafts, have external heat applied and stimulants given. In sunstroke, the stronger and colder the draft, the better. The patient should be rubbed with ice, be given cold water enemas or ice packs, and other measures should be used to reduce the temperature. In sunstroke stimulants should never be given while the temperature remains high and the period of depression following the reaction has not arrived. In case of either affection the patient must be warned to resume work moderately, and only after sufficient time for convalescence. He must be further warned that he will be more liable to such attacks in the future. The pathology of the resulting condition has often been discussed, but whatever the exact injury may be, there often seems to be an irreparable lesion.

1. Deutsche Med. Wochenschr., 1903, xxix, p. 149.

A BETTER CONDITION OF MEDICAL AFFAIRS IN HOT SPRINGS, ARKANSAS.

By an act of the Arkansas legislature last winter the jurisdiction of Hot Springs Reservation was ceded by the State of Arkansas to the United States government. One result of this is that the regulation of the practice of medicine comes under the jurisdiction of the national government. The Secretary of the Interior has promulgated a new series of rules for conducting the Hot Springs, including provisions requiring all physicians prescribing and using the hot water to be registered, and a board of physicians has been appointed to pass on their qualifications. This is independent of the Arkansas State medical practice act. The practice of public touting for certain doctors which has been so much the custom in the past is to be abolished. The payment of any sum of money or anything of value by any bathhouse keeper, manager, clerk or attendant as a compensation for drumming customers or such practice by drumming doctors is forbidden. On violation of the rule water may be shut off, or the lease canceled, as the authorities may decide. Any solicitation of patronage by registered physicians will be ground for the cancelment or revocation of their licenses. In times past Hot Springs has been a sort of reproach to the medical profession by reason of the practices there in vogue, and it would seem that now under these new auspices this reproach is likely to be removed. Reputable and qualified physicians will find no difficulty in obtaining the United States license, and disreputable ones will have to take their field of activity somewhere else. It is to be hoped that they will find few places where they can establish themselves. It is said that up to quite recently some of the local physicians there have

been acting as if these rules did not affect them. They have hardly yet had time to be thoroughly effective, but we think the individuals alluded to will find that they have been playing with fire. It may be that the new rules will be attacked in the courts, but we have little fear of the outcome. The United States laws and regulations are usually fairly well supported by the United States Courts, and there are no precedents, so far as we know, especially in favor of the kind of quacks that have existed at Hot Springs in the past, or which would imply that they would receive any practical legal favor in the future. The reputable members of the medical profession at Hot Springs are rejoicing at the change.

Medical News.

CALIFORNIA.

Bard Hospital Incorporated.—The Elizabeth Bard Memorial Hospital, Ventura, has been incorporated with a capital stock of $40,000.

The Last of the Epidemic.—The sixteenth death in the epidemic of typhoid fever at Leland Stanford University, Palo Alto, occurred June 17, and the hospital, which had been in use for two months, is now closed.

One More Plague Case.—The ninety-fifth officially recorded case of bubonic plague at San Francisco was reported June 5, and the diagnosis confirmed by autopsy on the following day. There had been no case recorded since March 17.

Personal.—Dr. and Mrs. Fisher R. Clarke, Stockton, celebrated their silver wedding anniversary, June 6.——Dr. Francis M. Bruner has been elected chairman of the Santa Ana Board of Health, and Dr. John G. Berneike, health officer.

Graduation.—The University of Southern California, Los Angeles, graduated a class of 25 from its medical department June 11. The bishop of Los Angeles, Rt. Rev. Joseph H. Johnson, delivered the address of the evening, and the president of the university conferred the degrees.

GEORGIA.

Medical Scholarships Awarded.—The governor has named four men from the state at large and two from each congressional district as beneficiary students of the Medical College of Georgia, Augusta.

Personal.—Dr. W. Sterling Wilkinson, Augusta, is said to have completed a fast of 53 days, June 28, whereby he cured a dyspepsia of many years' standing.——Dr. Herring Winship has been appointed junior surgeon at the Macon Hospital.

Addition to Faculty.—Seven lectureships have recently been established at the Medical College of Georgia, Augusta, which have been assigned as follows: Dr. William H. Goodrich, genito-urinary diseases; Dr. W. Clifton Lyle, forensic medicine and hygiene; Dr. William Z. Holliday, diseases of children; Dr. W. C. Kellogg, diseases of the skin; Dr. W. R. Houston, nervous diseases; Dr. Andrew J. Kilpatrick, minor surgery and bandaging, and Dr. Henry M. Michel, orthopedic surgery.

ILLINOIS.

New Building for State Hospital.—The contract has been let for a new building at the Illinois Western Hospital for the Insane, Watertown, to be constructed at a cost of $101,900. The new building will add 400 to the capacity of the institution, making a total capacity of 1,200.

Physician Gives Estate to College.—By the will of Dr. Hiram K. Jones, whose death occurred June 16, his entire estate, valued at about $75,000, with the exception of a few legacies to be paid therefrom, was bequeathed to Illinois College, Jacksonville, with which he was connected for many years.

Personal.—Dr. Carey Culbertson and wife, Piper City, prior to their departure for Europe, were given a reception, at which a handsome steamer rug was presented to them. Their objective point is Vienna.——Dr. Lewis C. Taylor, Springfield, has been appointed assistant surgeon-general, with the rank of lieutenant colonel, and has been assigned to the newly-organized Fourth Brigade.

Warning.—A correspondent in Lewistown, Fulton County, warns against Dr. A. A. Potter, an advertising itinerant, who has been making much money from the people of that section by advertising to cure all diseases free. He was fined $100 and costs for violation of the medical practice act, but escaped without payment of the fine. The sheriff of Fulton County would be glad to receive information as to the whereabouts of this individual.

Chicago.

Hot Weather Kills.—The week ended July 4 showed the result of the sudden onset of hot weather, as 563 deaths were recorded, an increase of 109 over the preceding week, or about 24 per cent.

Hospitals To Be Given Permits.—The corporation counsel has advised Health Commissioner Reynolds to issue licenses to general hospitals, even though neighboring property owners should object, serve written notice on the mayor and commissioner, and threaten suit for damages.

Pure Milk Plant Opened.—The milk-pasteurizing plant of the Children's Hospital Society, established through the munificence of Mr. and Mrs. Nathan Strauss of New York City, was opened for the summer on July 1. The milk will be supplied at less than cost, from sixteen substations situated in the more congested centers of population of the city.

Commencements.—Jenner Medical College held its graduating exercises June 30. Dr. G. Frank Lydston delivered the doctorate address on "The Young Man's Way to Success."—— Harvey Medical College graduated a class of 20 on June 27. Dr. Frederick D. Marshall presided and Carl Svante Nicanor Hallberg, Ph.G., on whom was conferred the honorary degree of Doctor of Medicine, delivered an address.

Reduced Mortality.—The forecast of the Department of Health of May 23 has been fully verified, as shown by the following figures of successive weekly death rates since that date: May 30, 16.12; June 6, 12.73; 13th, 13.06; 20th, 12.48; 27th, 12.54. For the month of June the total 2,042 recorded deaths represent an annual mortality of 13.16 per 1,000—a decrease of more than one-fifth (21.1 per cent.) from the May, 1903, rate and of 6.8 per cent. from the average June rate of the previons ten years.

Alumni Week at Northwestern.—The exercises of alumni week at Northwestern University Medical School were attended by about 200 former graduates of the institution. Special clinics were held during the week, and for the banquet which had been planned in the Auditorium Hotel, an al fresco lunch with student waiters in the Physiological Laboratory was substituted on account of the strike of the waiters. Dr. Archibald Church was toastmaster, President James of the University welcomed the guests, and Hon. A. N. Waterman, Rev. I. A. White and Frederick Greeley spoke.

IOWA.

Revenue from Itinerants.—It is reported that the state of Iowa will receive in 1903 a revenue of nearly $20,000 from medicine pedlers at $100 a license.

Back from Europe.—Dr. Will L. Hearst, Cedar Falls, has returned after a year's absence in Europe.——Dr. Aram G. Hejinian and family of Anamosa have returned after a stay of eight months in Europe.

Hospital Opened.—The formal dedication and opening of Mercy Hospital, Council Bluffs, took place June 11. The hospital has cost about $75,000, and contains 113 rooms. In its appointments and equipment it is said to be unequaled in the state.

University Changes.—The following changes in the teaching staff of the College of Medicine of the University of Iowa are announced: Dr. Lawrence W. Littig, professor of theory and practice of medicine and clinical medicine, has resigned, and Dr. Walter L. Bierring has been elected to that chair; Dr. Henry Albert has been elected assistant professor of pathology and bacteriology.

Personal.—Dr. James G. McAlpin, Grundy Center, started for Europe July 1. He expects to study in Vienna, Paris and Edinburgh for a year.—— Dr. Charles B. Adams, Sac City, has been elected president of the State Board of Medical Examiners, vice Dr. John A. McKlveen, Chariton.—Dr. John W. Harriman has been elected president of the staff of the University of Iowa Hospital, Iowa City, and Dr. Lee W. Dean, secretary.

Endow Medical Journal.—The only endowed journal in the world devoted to the study of infectious diseases is to be published in Chicago. Commencing in the fall *The Journal of*

Infectious Diseases, edited by Dr. Ludvig Hektoen and Prof. Edward O. Jordan of the University of Chicago, will be issued. The expenses of the publication, which, it is estimated, will amount to $5,000 annually, will be met by Mr. and Mrs. Harold McCormick. This agreement is made for an indefinite term, and amounts practically to a $125,000 endowment.

KENTUCKY.

Damage Suit.—Dr. Cuthbert Thompson, Anchorage, recently received a verdict in his favor in a suit against him for $10,000. The suit was brought by a woman 76 years of age who had sustained a Colles fracture of the left forearm twenty-two months before.

Pioneer Physician Ill.—Dr. James M. Holloway, Louisville, is seriously ill as a result of a fall two weeks ago. It was at first thought that his skull was fractured, but it afterward proved that he had concussion of the brain. His advanced age, of course, makes his condition more serious.

Medical College Incorporated.—The Kentucky University Medical Department was recently incorporated with a capital stock of $45,000, by Drs. Joseph B. Marvin, Thomas C. Evans, James M. Holloway, J. Garland Sherrill, Samuel E. Woody, Henry E. Tuley, Louis Frank, Leon L. Solomon, and W. Ed Grant.

To Make Entrance Examinations More Rigid.—The Kentucky State Board of Health, at its June 10 meeting, passed the following preamble and resolutions:

WHEREAS, In violation of published requirements, many low-grade schools offer private inducements to medical students for admission, reduced time of attendance on lectures, scholarships and reduction of fees, to induce them to enter on the study of medicine to their own disadvantage, and contrary to the interests of humanity; be it

Resolved, That the State Board of Health of Kentucky will not recognize as reputable any medical college which violates its published requirements for admission, tuition and the time of attendance at the annual sessions, which requirements must be definitely expressed. The college shall require of each applicant for matriculation evidence of good moral character and a certain showing that he is a graduate of a recognized normal school, high school, academy or college of literature, science or arts, or a certificate from a county superintendent of public instruction showing that he has passed a satisfactory examination in the following branches: In English, composition, submitting a composition on some subject of general interest embracing not less than two hundred words, which shall be considered with reference to spelling, punctuation, thought and construction; in arithmetic, showing knowledge of decimal fractions, percentage and compound numbers; in algebra, simple equations; in Latin, first year of one ordinary Latin course; in physics, the elements of mechanics, hydrostatics, hydraulics, heat, optics and acoustics; or, in default of such certificate, he shall be examined in the above-named subjects by the superintendent of schools in the city in which the college is located and obtain and present his certificate.

No college shall offer or accept scholarships, or any reduction in fees, except as provided for and required under state laws, or under the laws of endowed universities.

No note accepted by any college in payment or part payment of fees, or any form of rebates will be recognized as complying with the above requirements, and no student shall be given credit for attendance on lectures, or for examination for advanced standing until all fees shall have been paid, nor shall the degree be conferred on anyone under other conditions.

Each student must have been in actual attendance for the full term in each of the four years required in the curriculum.

Each applicant graduating on and after July 15, 1903, shall make affidavit of compliance with the above requirements for each and every year after July 15, 1903.

MARYLAND.

Hot Weather Deaths.—The hot weather in Baltimore sent the deaths last week up to 262, 50 being of children under 5. The annual proportion was 24.68 per 1,000.

Medical Journal Declares Dividend.—The shareholders of the Maryland Medical Journal Company of Baltimore and Washington, at its annual meeting, June 19, declared a dividend and re-elected the old board of directors.

Bequests to Hospitals.—Minka Friedmann left by his will $500 to the Hebrew Hospital, and John Uhrig left $100 to the same institution.——Katharine Gibson by will left $1,000 to the University of Maryland Hospital toward the endowment of a bed in that institution.

Personal.—Dr. James A. Stevens, Oxford, has been elected state medical examiner by the Medical and Chirurgical Faculty of Maryland, vice Dr. Charles F. Davidson, Easton, who declined re-election.——Drs. A. D. McConachie, Frank D. Sanger and John Ruhräh, Baltimore, have sailed for Europe.——Dr. J. C. King, Salt Lake City, Utah, sailed from Baltimore for Bremen July 1, and Dr. W. J. Craigen, Cumberland, for Jamaica, on the same date.——Dr. William T. Howard has gone to the White Sulphur Springs, Va., for August, and will spend September at Narragansett Pier.

MICHIGAN.

Reported Epidemics.—Typhoid fever is reported to be epidemic at Escanaba, and diphtheria at Benton Harbor.

Michigan Falls in Line.—Michigan has adopted the American Medical Association resolutions concerning the examination of the eyes and ears of school children.

Accident to Physician.—Dr. Frank A. Grawn, Munising, while returning home after having made a call, was thrown from his bicycle into a barbed-wire fence, sustaining serious cuts and bruises.

Personal.—Dr. Allen D. McLean, Detroit, has passed the examination for the medical department of the U. S. Navy.——Dr. Jabez Perkins, Owosso, who has been a practitioner for more than half a century, was made an honorary member of the Michigan State Medical Society at its recent meeting.——Dr. Arthur D. Holmes, Detroit, for eleven years lecturer on pediatrics in the Michigan College of Medicine, has resigned.——Dr. Theodore F. Heavenrich, Detroit, has been elected medical director of the Port Huron Hospital and Home Association to succeed Dr. Hiram R. Mills, who has moved to Grand Rapids.——Dr. Elliott K. Herdman has been elected city physician of Ann Arbor.

Would Educate the People.—At the meeting of the State Board of Health, June 10, the following resolution was unanimously adopted:

Resolved, That the state board of health shall each year publish and transmit to boards of supervisors and local boards of health throughout the state the scientific and common names of diseases dangerous to the public health. Such lists shall contain the names of dangerous communicable diseases already existing in the state, or which, in the opinion of the state board of health, are liable to be present during the year following each publication. Diseases communicable from animals to man shall also be included in these lists. Accompanying the lists shall be brief statements of how each of the dangerous diseases is spread, and the proper steps to be taken for its restriction by local health boards and health officers at every outbreak of such disease.

MINNESOTA.

Newly Licensed.—Licenses were issued by the State Board of Medical Examiners, June 19, to 108 applicants who had successfully passed the examination.

Minnesota in Line.—The Minnesota State Medical Society has adopted the resolutions of the American Medical Association anent the examination of the eyes and ears of school children.

Smallpox Waxes.—The smallpox report of the State Board of Health for the week ended June 15 shows 143 new cases in the state, 55 of which were in Renville County. Only one death was reported.

Advisory Board for Consumption Sanatorium.—Governor Van Sant has appointed the following advisory board for the sanatorium for tuberculosis to be located near Walker: Drs. George B. Weiser, New Ulm; Alonzo P. Williamson, Minneapolis; James L. Camp, Brainerd; George S. Wattam, Warren, and H. Longstreet Taylor, St. Paul.

Commencements.—The College of Medicine and Surgery of the University of Minnesota graduated a class of 73 June 2. Dr. John M. Dodson, dean of the medical department of the University of Chicago, delivered the annual address on "The Relation of the University to Professional Schools, Medical and Otherwise."——The medical department of Hamline University held its graduating exercises June 1. A class of 34 received degrees, and Rev. Irving R. Johnson delivered the doctorate address.

MISSOURI.

Medical College Expands.—Barnes Medical College, St. Louis, has established pharmaceutical and dental departments.

Leaves Large Estate.—The will of the late Dr. Andrew L. Chapman, Kansas City, devises an estate valued at $260,000.

Resolutions Regarding Dr. Bryson.—The St. Louis Medical Society of Missouri, at a meeting held soon after the death of Dr. John P. Bryson, adopted resolutions eulogizing the character and attainments of its deceased member, and detailing his work as a physician, teacher and writer.

Hospital Appointments.—The health commissioner of St. Louis has appointed Dr. William J. Doyle assistant to the superintendent of the City Hospital, and Dr. C. P. Glahn senior assistant.——Dr. H. J. Sherk has been appointed chief dispensary physician by Health Commissioner Simon of St. Louis.

Many Graduate.—Barnes Medical College, St. Louis, graduated a class of 100; Marion-Sims-Beaumont Medical College, 96, and the St. Louis College of Physicians and Surgeons, 59;

University Medical College, Kansas City, conferred degrees on a class of 63, and Kansas City Medical College graduated a class of 24.

NEW YORK.

New York City.

Physician Beaten and Robbed.—Dr. Benjamin Hawker, a retired physician, was assaulted and badly beaten by two burglars in his house, 141 East 52d street.

Illegal Practitioner Fined.—Charles Sampsell, practicing as "Dr. E. D. Porter," was recently arrested on the charge of practicing medicine without a license, and was fined $50.

Personal.—Dr. William T. Bull sailed for Europe, June 27. ——Dr. Frank Hinkley, Brooklyn, has been appointed junior physician at the Manhattan State Hospital.——Dr. Luther Halsey Gulick, the director of physical training in the public schools of this city, has been elected president of the American Physical Education Association.

Charity Curtailed.—The well-known work of the floating hospital of St. John's Guild must be curtailed this summer because of lack of funds. The first trip of the floating hospital was made on July 7, but the service to Brooklyn will be entirely discontinued this year, and there will be an alternate service to the east and west sides of New York only.

Steals Doctor's Horse.—A blacksmith went to the stable where Dr. Guilford Allen keeps his horse, and succeeded in getting permission to take the animal out on the plea that he had been sent by the doctor to exercise it. He then took the horse to several stables, trying to effect a sale. He was arrested by a police captain while thus engaged.

Epidemics on Staten Island.—Measles and whooping cough are raging on Staten Island, or Richmond Borough. In one public school at Westerleigh as many as 75 per cent. of the pupils were ill with measles. The epidemic of whooping cough began at Tottenville about two weeks ago, and is spreading with such great rapidity that it is already to be found in almost every family in that place.

Woman an Ambulance Surgeon.—Considerable popular interest has been aroused by the fact that New York's first woman ambulance surgeon has begun active service. For the past six months Dr. Emily Dunning, a New Yorker, has been busy as a junior surgeon in the accident ward of Gouverneur Hospital, and on July 1 her service as ambulance surgeon began. With the exception of a "rainy day" skirt and the regulation ambulance surgeon cap she dresses as do other women, and seems to experience no special difficulty in attending to the arduous duties of her office.

Health Board and Sick Babies.—The health department announces its intention of inaugurating at once a crusade among the 50,000 babies born in the city in the past year. A corps of 43 physicians and 17 nurses will engage in this work, to facilitate which the city has been divided into 160 districts. The mothers are to be taught how to care for and feed their babies, and the nurses will assist in carrying out the directions of the physicians. No doubt the work will be pushed vigorously, but it seems hard to credit the published statement that this fostering is to be given indiscriminately to both rich and poor.

GENERAL.

No Room for Kokuas.—The Honolulu Board of Health at its meeting, June 17, decided that, on account of the crowded condition of the Lunalilo Home, it would be impossible to admit Kokuas from Molokai to that institution.

First American Plague Victim.—Mr. Frank Twombley, an American contractor of Manila, died on April 24 from bubonic plague. The diagnosis was confirmed by Major Edward Champe Carter, surgeon, U. S. Army, Commissioner of Public Health.

No Physicians for Postoffices.—Postmaster General Payne issued on order abolishing the position of physician in postoffices at the close of business June 30. The postoffices employing physicians are New York, Chicago, Brooklyn, Philadelphia, and Boston.

Jaro Hospital Completed.—Advices from Iloilo, P. I., under date of May 20, state that at that time the new hospital at Jaro was almost completed, and that several wards were already occupied. Drs. H. E. Winslow and L F. Raymond are in charge.

Physicians in Porto Rico.—In a letter from Dr. Wm. Fawcett Smith, secretary of the Superior Board of Health of Porto Rico, he says that it will be a kindness to prevent any physician from coming to Porto Rico under the existing conditions, and suggests that the publication of this notice may save serious loss and disappointment to physicians who had intended to settle in the island.

A Warning and a Request.—The Medicolegal Department of the Chicago Medical Society desires us to announce that a man who claims to be Dr. Theo. Jennings robbed the office of Dr. Dickey of Toledo, Ohio, last week. On Saturday evening Dr. Byron Robinson of Chicago cashed a check for him to which he had forged the name of Dr. Dickey. He is probably addicted to cocain. He is about five feet eight inches in height, about forty years old, is disheveled in appearance and very nervous in manner. Any physician knowing anything about him is asked to notify the Chicago detective department, or Dr. W. A. Evans, 103 State Street, Chicago.

Dr. Howard A. Kelly Abroad.—Dr. Kelly seems to be making an impression abroad judging by the notices in our exchanges. We quote from the *British Medical Journal* in regard to his visit to Glasgow: "The arrangements for the visit of Dr. Howard A. Kelly to Glasgow last week were carried through with great success. Dr. Kelly had been elected honorary president of the Glasgow Obstetrical and Gynecological Society, and in the Faculty Hall on the evening of June 17 he delivered his presidential address before a crowded audience of professional men and women. The subject was 'The History of Appendicitis in Great Britain,' and Dr. Kelly traced the development of our knowledge of appendicitis as a separate disease and its surgical treatment from the beginning of the nineteenth century, pointing out the important part Britain had played in that development. The address was interesting and racy, and was evidently meant as a compliment to British physicians and surgeons. Needless to say, it was enthusiastically received. On the afternoon of June 18 there was a combined meeting of the Glasgow and Edinburgh Obstetrical Societies, when a discussion took place on Extirpation of the Uterus and Its Appendages in Serious Pelvic Inflammation, Dr. Kelly introducing the discussion. In the evening of the same day Dr. Kelly was entertained at dinner in the Windsor Hotel. The president of the Glasgow society, Dr. Nigel Stark, occupied the chair and there was a large gathering, which included the leading members of the profession in both Glasgow and Edinburgh. In proposing 'The Health of Dr. Howard Kelly' the chairman paid a high tribute to his distinguished services to surgery, eulogizing the improvements he had inaugurated which had made his name famous all over the world. Dr. Kelly, in reply, thanked the Glasgow society for the great honor it had paid him by electing him its honorary president, and dwelt on the cordiality of the relationship that exists between Britain and the United States."

Referring to the address he delivered in French at Paris, before the Société de Chirurgie, the *Gazette Méd. de Paris* remarks: "Professor Kelly operates in the most splendid hospital in the world, in a marvelous university, and he possesses a private library almost as rich as that of the Institut de Bibliographie at Paris, while he is devoted to bibliography. His coming to Paris to address his French confrères in their own tongue on the Rôle of France in the History of Appendicitis, is a tour de force that very few members of the French society could return in kind, for very few know English, and still fewer are posted in regard to American bibliography."

The editorial concludes: "Certes, c'est là de la coquetterie, but it is piquant to see an American, the type of the active, practical man, disport among the old dusty tomes of the eighteenth century and the forgotten files of the first scientific periodicals, as much at home as a Roosevelt on the tops of the Rocky Mountains! There is no doubt about it, the future belongs to the United States. The Latins are dead, and Panama will give them the finishing stroke."

FOREIGN.

La Syphilis.—A new monthly has been founded at Paris with the above descriptive title. Dr. T. Barthélemy, 22 rue de Notre-Dame-de-Lorette, is to have editorial charge.

Sanatorium for the Madeira Islands.—The *Riforma Medica* states that Prince Carl von Hohenlohe has applied to the Portuguese government for permission to erect two extensive sanatoria on the Madeira islands. He agrees to construct two and have them ready in two years, one for the wealthy and one for the poor.

Sequel of the Larceny Case Against a Paris Physician.—Sentence has been suspended in the case of the young Paris physician who was condemned to six months' imprisonment on account of petty larceny to keep himself from starving. A

small town in the interior needed a physician, and he has removed there on the recommendation of other physicians, who know that he had done good work, as his thesis testified.

A Second Victim of the Laboratory Plague at Berlin.—All the persons who attended Dr. Milan Sachs during his illness were treated with preventive injections of antiplague serum, but one of them developed the disease. Possibly on account of the preventive injections, it had a very mild course and recovery was soon complete. The entire furnishings of the apartment where Dr. Sachs had lodged were taken to the disinfecting headquarters and burnt.

The Correspondent of the Paris "Semaine Medicale" Caught in the Kansas Floods.—In passing through Kansas City, June 3, Dr. Münch was stopped by the floods and was obliged to abandon his baggage containing all his memoranda and escape to the bluffs, as he writes. His letters are, therefore, suspended for the present. They have proved an interesting series of sketches, showing that we really gain in our own estimation when we see ourselves in certain respects as others see us.

Honors to the Late Professor Bottini.—The friends and pupils of the recently deceased Professor E. Bottini had planned a Festschrift in his honor with a gold medal and souvenir copy of his diploma on the occasion of his jubilee anniversary. The anniversary came soon after his death, and the University of Pavia was made the recipient of the honors in his name, the medal, diploma and Festschrift to be duly preserved among the archives of the institution with the list of subscribers.

Autoinoculation with Bovine Tuberculosis by Dr. Garnault of Paris.—Dr. Garnault's experiments on himself to refute Koch's assertions in regard to the non-identity of human and bovine tuberculosis, have resulted negatively, as we have previously reported. No general infection has followed and the local tubercles on the arm soon healed. No tubercle bacilli nor caseous tissue were found in them. Garnault is an athlete and possibly the experiments might have resulted differently on a less perfect physique, but as it is, our German exchanges either ignore his experience altogether or refer to it as resulting in a confirmation of Koch's statements, instead of a refutation.

Ankylostomiasis in the Westphalia Mines.—The *Allg. Med. Ct. Ztg.* states that it is reported from Bochum that a new source of infection has been recently discovered there. The parasites were found in large numbers in the eggs of hens which had access to fields fertilized with miners' dejecta. All the members of the scavenger's family, who were in the habit of eating eggs raw, were found to have the disease. The hens showed no symptoms of it, but investigation of the eggs revealed the larvæ in profusion. Our exchange adds that the case requires scientific confirmation, but states that according to the latest figures there are fully 25,000 cases of the disease in the Westphalia mines.

Death of Professor Gussenbauer.—Dr. Karl Gussenbauer, the eminent surgeon of Vienna, "Hofrath" and president of the University, died June 19, aged 61, after a brief illness due to a heart affection. He was the son of a country physician at Ober Vellach and was assistant to Billroth after graduating from the Vienna medical school. He became docent in 1874, and the year after was called to Liège as professor of surgery, and two years later to Prague, whence he was summoned to Vienna in 1894 as the successor to Billroth. The week before his death he went to Vöslau, accompanied by the dean of the medical faculty, to present the renewed medical diploma after fifty years to Professor Drasche on his silver jubilee.

Leprosy in the Danish West Indies.—Professor Ehlers was commissioned by the Danish government to study the conditions in regard to leprosy in the three Danish West Indies, St. Thomas, St. Croix and St. Jean. He has just handed in his report, which states that he found 102 cases of leprosy on the islands, and that the number is less than formerly. At the same time he proclaims that there are no adequate provisions, and that more stringent regulations are necessary to prevent immigration of lepers. He also pleads for the erection of a suitable leper asylum. He found the disease of a milder character than in more northern countries and states his opinion that this form is curable by proper treatment and care.

Declining Death Rate in Europe.—The German Bulletin of Vital Statistics states that the death rate in the German Empire has fallen from 26.8 per 1,000 during the decade 1841-1850, to 22.2 in the last decade. For comparison it gives the death rate for the same decades in other European countries: In Austria it has fallen from 32.8 to 26.6; France, 23.3 to 21.5; England and Wales, 22.4 to 18.2; Belgium, 24.4 to 19.1; Denmark, 20.4 to 17.4; Sweden, 20.6 to 16.3, and in Norway from 18.2 to 16.2. During the last decade the death rate in Switzerland was 19.4; in Italy, 24.7; in Hungary, 29.7 and in European Russia, 33.5. The *Deutsche Med. Wochft.* comments that the death rate is, therefore, highest in Hungary and Russia, but the birth rate in these countries is exceptionally high.

The Bufalini Prize.—The R. Istituto di Studj superiori at Florence, Italy, notifies us that the Bufalini prize of $1,200 is open to competition again. It is awarded every twentieth year, and all competing articles must be received by the chancellor of the medical department, Via degli Alfani, 33, before the end of October, 1904. They must be sealed and written in Italian. The theme is the value of the experimental method in opposition to the speculative or dogmatic method of scientific research. The first part of the article should deal with the subject at large, and in the second part the author must review the way in which the single sciences have followed this method during the last twenty years, and how they can be induced to a more faithful and complete observation of its principles. The prize may be divided, and the writer may limit his article to one of the parts alone.

Longest Survival in Accidents.—The Tarbé case is attracting much interest at Paris. This wealthy couple were found asphyxiated by carbonic oxid one morning from a defective flue. Brouardel and Ogier testified as medicolegal experts that it was impossible for them to determine positively which of the victims had succumbed first, but that the probabilities were in favor of the assumption that the husband had survived longest, as his cadaver was not so pale nor so cold as that of the wife. The spectators unanimously applied their efforts to resuscitate him, leaving the wife as past all aid. Lacassagne of Lyons, on the other hand, affirms that the medical presumption is in favor of the survival of the wife, citing among other reasons that the carbonic oxid might have been able to maintain the warmth and the coloring in the cadaver most profoundly intoxicated. The decision of the court has not yet been rendered.

The Question of Languages at International Congresses.—Professor Küster of Marburg is indignant because some of his compatriots at the Madrid Congress delivered their addresses in French or some other language, thus belying their national tongue. Professor Holländer of Berlin takes issue with him and thinks that some concession is necessary or the orator will find himself talking to empty benches, to say nothing of the courtesy of conciliating the members of other nationalities. He suggests in a letter to the *Deutsche Med. Wochft.*, as perhaps the best plan, that the communications should be made in the mother tongue of the speaker, followed by a brief summary in the language of the country where the congress is held. If this were adopted as a regular measure, he believes that it would prevent the choice of meeting places where Portuguese or a similar little known language is spoken. He remarks in parenthesis that as China and Japan have drawn their science so extensively from Germany, the German language would be understood at a scientific gathering there, and might thus be considered the home tongue of the national members.

Deaths Abroad.—Dr. R. Juergens, custodian of the Pathologic Institute at Berlin, died June 14, aged 60. For thirty years he was Virchow's trusted assistant and had received the titles of docent and professor, his work being principally in the line of the post-graduate or vacation courses. His contributions to pathologic anatomy are numerous, among them a new reaction for amyloid degeneration.——The death is also reported of Dr. Karl Gegenbauer, formerly professor of anatomy at Heidelberg. His seventieth birthday was celebrated with much ceremony by his friends seven years ago, when his works on comparative anatomy were scheduled in full. ——From Paris is announced the death of Dr. Gerard Marchant, following close upon that of Dreyfus-Brisac and of Boilly, all eminent surgeons in the prime of life. Marchant was born at Toulouse in 1850 of a medical family; during his interne service he suffered from diphtheria, and later from appendicitis, one leaving paralysis for a year and the other requiring months of convalescence. The surgical service at the Boucicault hospital in his charge was a model in every respect, and from it have issued numerous memoirs on surgical subjects from his pen or those of his pupils. His latest works were on "Recto-coccy-pexie" and "Hépato-pexie."

Warning Against Quacks in Germany.—The authorities of Berlin and its province are publishing the following cir-

cular of warning for the public, drawn up by a committee appointed by the Berlin Medical Chamber: "While physicians thoroughly trained and approved by the state disdain to advertise their services, there are numbers of other persons who have no training or special knowledge who yet seek to delude the suffering public by advertising in the papers, or distributing circulars or by worthless books in the hands of agents, assuming false titles, making baseless promises and publishing forged or bought or fraudulent testimonials. The immense sums paid out for this advertising demonstrate the large profits that are made out of this business. During the eight years ending 1897 there were 177 criminal suits against these charlatans on account of severe injury or death from their practices, and the total resulting imprisonment amounted to 63 years, 3 months and one day. The legislature assumes that the public is enlightened enough to protect itself against such swindling speculation on the credulity of the sick. The public should apply the ordinary prudence customary in business transactions to matters affecting health and even life itself! The title of physician alone guarantees that the bearer has been found fully qualified by the state. All other titles should be regarded with mistrust. All published testimonials should likewise be mistrusted unless the person signing the testimonial is personally known and personal inquiry has been made."

Organization of the Rising Generation of Medical Men in Austria.—The medical profession in Austria is not well organized and the attempt to hold a general meeting this spring to discuss economic questions failed principally on account of race jealousies and prejudices. The rising generation, however, appreciates the necessity for organization and the benefits that may accrue from it. The medical students and internes throughout Hungary and Austria had certain grievances and wished for improved facilities and opportunities. After due deliberation they held a large representative and harmonious meeting at Vienna, June 7 to 10, which was marked by moderation and business-like methods. A number of physicians and professors took part in the proceedings, and the president of the Vienna Medical Chamber, Dr. Heim, remarked in greeting the congress, that the fact that the medical students had aimed at comprehensive organization had caused the medical profession at large great satisfaction and aroused sincere rejoicings and profound sympathy, "but at the same time," he continued, "we can not repress a sentiment of sorrow when we see that the years of student life which used to be so free from care and responsibility, are now filled with concern to better the material conditions of the coming years. It is a struggle for existence of the bitterest kind for which the medical student is preparing, and it must find young and old firmly united in order that the aims sought may be realized." This "Mediziner-Congress" has evidently made a great impression, both on the authorities and on the general public. The resolutions adopted asked for numerous reforms, some of them still unrealized in any country, but the majority merely correspond to the measures in vogue in other lands. The minister of public instruction in an unofficial interview stated that he would appoint a committee of experts to consider the resolutions when they were formally presented, and would strive in every way to comply with the demands of the congress.

Campaign Against Charlatans in Germany.—The German imperial government has notified the various state authorities that more energetic measures must be taken against quacks. The official circular states that the number of charlatans has enormously increased during the last decades, and quack practices have assumed such proportions as to become a serious menace to the public welfare, equally detrimental to the interests of the public and to those of the medical profession. The circular reviews the various measures that have been enforced in Prussia, registration of unqualified, so-called healers, the prohibition of extravagant promises to cure and prosecution of charlatans for illegal practices, and remarks that these measures have not proved an effectual check. Consequently, it is proposed, in the interests of the public, to confer further powers on the local authorities to enable them to put an end to such practices in future, at least in the cases in which the charlatans have already done injury to the life or health of the patients who have applied to them, and in those cases in which from the antecedents of the charlatan or his personality, attempts to fleece the public may be feared. In such cases the local authorities are empowered to prohibit the quack from practicing further. The law against fraud in business is to be extended to cover illegal practice of the healing art. The official circular is quoted in full in all our German exchanges as an important advance in the campaign against charlatans which the medical profession has been waging. A cable report states that these professed curers will be given a month to secure other employment, after which time they will be prosecuted if they persist in practice. One newspaper correspondent cables that the government is in possession of statistics which show that more than 100,000 men and women are illegally practicing medicine and the art of healing in Germany, and that this number is rapidly increasing. One medical statistician says he has found 150 cases of cancer in his province. Of these 25 are attended by authorized physicians and 108 by quacks. He maintains it is nearly as bad in other diseases which particularly call for trained medical aid. Most of these quacks allege that they have occult powers, personal magnetism, "magnetic eyes and hands," and that a cure will be the immediate consequence of implicit reliance on this treatment. In some of the large cities of Saxony, Dresden, Leipsic and Chemnitz, it is not unusual for an ignorant quack to receive from $1,500 to $2,000 a year, an income beyond the average earnings of the scientifically equipped medical man throughout Germany. Attention is also directed to the number of women quacks who profess to have magnetic powers. In Saxony alone there are several hundred, and among their patients are some of the proudest names in the land.

LONDON LETTER.

The Investigation of Tropical Diseases.

A parliamentary report containing "papers relating to the investigation of malaria and other tropical diseases and the establishment of schools of tropical medicine" has been issued. It opens with a circular dispatch addressed by Mr. Chamberlain, the colonial secretary, to the governors of all British Colonies on May 28, in which the progress of malaria investigation and of the training of medical officers in the treatment and prevention of tropical diseases, is reviewed. Mr. Chamberlain says that the great mortality among Europeans in climates like those of the West African Colonies and Protectorates had attracted his notice from the first, and toward the end of 1897, largely through the interest taken in the matter by Dr. Manson, medical adviser of the Colonial Office, his attention was more definitely drawn to the importance of scientific inquiry into the causes of malaria, and of making provision for educating the medical officers of crown colonies in tropical medicine. In pursuance of the second of these objects it seemed advisable (1) that a special training school in tropical medicine should be established; (2) that the leading British medical schools should be induced to give greater prominence in their schemes of study to tropical medicine; (3) that the periodical medical report sent in from the tropical colonies and protectorates should be recast on one uniform type, designed to throw light on the prevailing tropical diseases. In February 1898, negotiations were opened by the Colonial Office with the Seamen's Hospital Society, with a view to obtaining accommodation for the proposed tropical school in their branch hospital at the Albert Docks. The school was opened, November, 1899, provision being forthwith made for the training of colonial medical officers, either there or in a similar excellently equipped school at Liverpool, which had been established shortly before. So far the school has just paid its way, and much valuable teaching work has been done. But increased accommodation, both for research and residential purposes, is greatly needed, and Mr. Chamberlain anticipates that a sum of $60,000 will be required to cover the cost of the new buildings. In July, 1898, Mr. Chamberlain invited the co-operation of the Royal Society in equipping a scientific investigation on the spot into tropical diseases, particularly in such deadly forms as the malarial and blackwater fevers prevalent on the West African coast. A joint committee was appointed, and the experts selected for the work—Dr. Daniels of British Guiana, Dr. Stephens, and Dr. Christophers of University College, Liverpool—began their investigations. On the West Coast of Africa they studied the distribution and natural history of several species of anopheles. They made the most important discovery (made independently at the same time by Koch) that while the native adults are immune to malaria the disease is prevalent in native children. They showed that the native is a prime agent in the infection of Europeans, and that the segregation of the white man from the native is important. They proceeded to India, where they found that the native children also harbor, but to a less extent, malarial parasites. They showed that the percentage of native children infected may be taken as the index of the prevalence of malaria in the district and that there is a connection between this index and the presence or nearness of the breeding places

of the offending anopheles. Blackwater fever, their observations have led them to conclude, is essentially of malarial origin. Though with the onset of an attack the organisms disappear from the blood they leave distinctive traces in the corpuscles. The occurrence of blackwater fever coincides with high malarial endemicity.

Fatal Tracheal Compression by Enlarged Thyroid in the New-Born.

At the Edinburgh Obstetrical Society Dr. Angus Macdonald described a case of this rare condition. An infant was born at eight months, ten minutes before the accoucheur arrived. He found the child in advanced asphyxia, but after performing artificial respiration the breathing was partly established. The thyroid was enlarged, its lateral lobes being of the size of a marble and of firm consistence. The breathing became more labored, the lower limbs being drawn in with each inspiration, and four hours after birth tracheotomy was performed, but death occurred during the operation. The thyroid was covered with a network of congested veins, and the lobes seemed to swell as the body was more cyanosed. Sir J. Y. Simpson has recorded the case of an infant who died eight hours after birth from pressure of a goiter as large as a hen's egg, which caused a forehead presentation. In 1855 Kieller recorded a case in which a large irregularly lobulated swelling in the region of the thyroid gland gave trouble by causing a forehead presentation. A. R. Simpson recorded in 1866 a case in which an enlarged thyroid caused dyspnea and dysphagia, but at the age or 4 years it was shrunken, and the child appeared healthy. In Dr. Macdonald's case neither parent suffered from thyroid enlargement.

Chorion Epithelioma.

At the Obstetrical Society Dr. Teacher (Glasgow) read an important paper on chorion epithelioma and the occurrence of chorion epitheliomatous and hydatidiform mole-like structures in teratomata. With the aid of drawings and photographs of microscopic preparations he discussed and illustrated the nature and origin of chorion epithelioma and its relations to the placenta, hydatidiform mole and certain tumors which were not related to pregnancy, but showed the same histologic characters. His conclusions were as follows: (1) The so-called deciduoma malignum arises in connection with pregnancy from the chorionic epithelium (or its forerunner the trophoblast) which is of fetal epiblastic origin. (2) These tumors form a characteristic group clinically, pathologically and developmentally, and should be classed neither as sarcomata or carcinomata, but as a distinct group *sui generis*. The most appropriate name is chorion epithelioma. Malignant hydatidiform mole may be treated as a variety of the disease. (3) Tumors containing precisely similar structures as those that develop from pregnancy may occur in other parts than the uterus and in both sexes. Probably they are teratomata arising from some structure with the morphological value of an included ovum and the chorion-epitheliomatous tissues represent the actual trophoblast of the included ovum.

Correspondence.

A Year's Experience in Organization in Michigan.

DETROIT, MICH., June 20, 1903.

To the Editor:—It is characteristic of the American to demand the test of experience ere accepting the dicta of science. Medical sociology affirms certain propositions relative to medical organization, but their acceptance is delayed for lack of experimental proof. As a contribution to this proof is the experience of Michigan during the past year. This experience began with the annual meeting, June, 1902, at Port Huron. Then, as a result of an exhaustive study of the situation, past, present and future, the Michigan State Medical Society unanimously adopted a new constitution and by-laws, in accord with modern methods. Officers were elected to carry out the details of the change. Some of the results may be catalogued thus:

The meeting of 1902 adjourned with a paid-up membership of about five hundred; eleven months later with seventeen hundred and twelve. June, 1902, it had no branches and scarcely half a dozen live county societies; June, 1903, it had fifty-eight branches, including seventy-eight out of eighty-three counties in the entire state; June, 1902, it had a cash balance of six hundred dollars; June, 1903, it had a balance of above one thousand dollars; June, 1902, forces of repulsion dominated the profession in Michigan; June, 1903, forces of attraction were everywhere in ascendancy; June, 1902, the study of scientific methods of organization awoke the hope that the Michigan profession might assume a place of beneficent influence worthy of the great state of which it was a part; June, 1903, found every member proud of past achievement in a work remarkable for its rapidity and thoroughness. June, 1902, two hundred and fourteen members were present at the meeting; June, 1903, this number had increased to five hundred and sixty-two. June, 1902, much time was consumed, and annoyance experienced, by the necessity of applicants for admission being passed on by a committee; June, 1903, all members on the list of the branches were at once given a membership badge—a minute only being consumed and no irritation. In June, 1902, the society did all its business in general session; June, 1903, the business was divided thus: the council looked after finance, publication, organization, and judicial matters; the house of delegates dealt with all legislative matters, and elected all officers, except president, decided on the next place of meeting, etc., while the immense general body elected the president, listened to addresses, engaged in scientific work and social fellowship. The confusion and turmoil of former years was abandoned in favor of a system which accomplished the objects of the meeting, in a manner perfectly equitable to every branch, after the fashion of a scientific organization. Naught occurred to darken the face, or disturb the heart of any member—*per contra* smiles and good cheer brightened the assemblage all the days. In June, 1902, doubt and anxiety prevailed; June, 1903, evident results filled all with hope for the future. Experience had proved the Michigan organization a success.

Previous observations rendered it improbable that officers could be found who would give of their time, energy, thought, money and sacrifice of private business with liberality adequate for the needs of the situation, but Michigan's experience shows that a president, vice-presidents, twelve councilors, with a secretary and treasurer, were found who failed not when the work was before them. As the society had no funds to pay their expenses, they individually met them, beyond the stipend of twenty-five dollars each to the councilors, nothing to president or vice-presidents, and naught extra to secretary or treasurer.

Not only did each councilor do his own work, but freely responded to the calls of brother councilors. The president always went wherever asked, as did the secretary, both rendering invaluable service. Thus Michigan had a corps of self-sacrificing men in the field from start to finish—so may any other state.

Most essential in this work is personal teaching—one who has learned and believed in organization carried it to those who had not learned or did not believe. The short cut of circular or journal article will fail either to organize or maintain such societies. To not a few was it a revelation to observe so many men, without hope of personal gain, toiling through Michigan, during an entire year, in organizing branches to the state society—but the fact gained hosts of adherents.

In general the officers were directed to do two things: (1) to make the society as valuable as possible, and (2) carry a knowledge of this to every physician in Michigan, with such persuasive power as to induce him to become an active member of his branch of the state society. To the utmost limit were they to make it more profitable and pleasant for each doctor to be in than outside the society. Actual results measure their extraordinary success.

It must not be supposed that no difficulties disturbed the work of organization, but in every case a fair hearing and full comprehension of the proposition won adherents. So universal was this experience of the councilors that they are sanguine of similar success in the future.

Most wholesome was the lesson to individuals, that unless members of a branch they could have no part in the meetings of other branches in the state society or the American Medical Association. To gain these relations not a few joined their branch society. To be thus supported by the larger bodies has been a pillar of strength to the branches.

The leaders in Michigan organization well understand their work has only begun; that physicians must be persuaded to work in their local branches, and those already therein encouraged to work out their own development, that of their branch, and the state society. The officers of the branches have this work primarily in charge. If they fail it is for the councilor, by such means as seem wisest in each case, to awaken interest and stimulate effort. In fact, one great problem before the councilor is to find the best method of securing and keeping the highest activity of the branches.

Should the councilor fail, his vice-president steps in to awaken him to duty. If he too fails, the president exercises his natural prerogative and stirs each to the desired activity. In Michigan it is expected that the president shall personally visit as many of the branches as possible, make a speech, read a paper, or hold a clinic, and in general use his office to increase the activity of the branches. Our late president set the pace for his successors in this direction.

Experience taught the councilor, when striving to organize or vivify a branch, that success followed a diversion from local quarrels and disputes to broader and larger questions affecting state or national interests. Fired with a larger thought, personal interests quietly dropped into their natural relationships. By such a method the writer has often seen a discordant group transformed, within an hour, into a smiling band of co-workers, ready to do and dare for the larger idea, that which its success demanded. In fact, the largest returns from organization spring directly from this law—as the organizers go out of themselves to help others their true selves come into view—selves that make for all that is best in the profession, in manhood and citizenship.

The council's report showed that last September it started a journal, under the management of the secretary-editor, which had succeeded beyond expectations, in awakening and continuing interest among the branches, and its future looks very promising. The same report showed that experience was teaching the council how to secure increasingly large returns from the funds at its disposal, and how to adjust the difficulties between individuals or branches for the common good.

Intelligent work, persistent and helpful to every physician in the state, is the secret of such success as has obtained in Michigan. To this end most of the officers of last year were re-elected, and the outcome demonstrates the wisdom of the act. The fundamental platform of modern organization is the selection of officers for their known fitness and ability, to serve, not as figureheads or little gods.

The power of seventeen hundred united physicians in Michigan, as compared with that of five hundred discordant ones, has indicated itself in many ways:

(1) It has given a self-confidence to the Michigan profession heretofore unfelt in its ability to help its members, the outside profession and the people. (2) It has spoken to the legislature and secured a more respectful answer, because it had votes, and because the chances were greater, that it expressed larger truth. (3) As six hundred members gathered in Detroit at its late meeting, the laity saw a vast concourse of physicians clearly trusting each other. It reasoned that if these learned men so evidently trust each other, we may trust them, so the people as rulers of the land had a lesson that the new profession, with modern organization, is certain to develop a profession in which "he that is greatest is servant of all."

LEARTUS CONNOR, A.B., M.D.,
Chairman Council Michigan State Medical Society.

The Demise of the "Philadelphia Medical Journal."

PHILADELPHIA, June 29, 1903.

To the Editor:—Certain inaccuracies in the statement made by the late editor-in-chief of the *Philadelphia Medical Journal*, in your issue for June 20, seem to need correction in order that the profession may be better able to point the moral which adorns this tale. I refer particularly to the words:

"Two and a half years ago the *Philadelphia Medical Journal* reached a crisis in its affairs which led to a change in editorial management. There were many prominent medical men in Philadelphia and elsewhere who were interested in keeping the journal alive; and in spite of the fact that its short career up to that time had been marked by threatening disaster (due largely to the opposing aims and temperaments of men who commanded its various departments), a determined effort was made to rehabilitate the journal and give it a new lease of life. At the same time, however, the command of its stock was allowed to remain in the hands of a few (and a very few) laymen."

It is true that the difficulty two and a half years ago was that of "opposing aims and temperaments," but these were the old division betwixt commercialism vs. ethics. It was this that culminated in the displacement of the editor by the commercial interests, in order (as was stated at the time), to install some one who might either be hoodwinked by them or who would be pliable to the demands of commercialism. The "impending disaster" was brought into existence solely as a reason to give for deposing an editor who refused to be subservient. These facts were made known to the late incumbent personally before he assumed the position of editor-in-chief, following my dismissal and the abrogation of the office of editor, and were also made known to the profession in general by a "protest" presented at the annual stockholders' meeting of the Philadelphia Medical Publishing Company, and thereafter sent to practically every physician in the United States and Canada. It will be remembered that this protest was directed chiefly against the condition outlined in the last sentence of the quotation from the communication of the late editor-in-chief—the placing of the absolute control of a medical journal in the hands of practically one stockholder, a layman.

Not a word or sign of dissent to the statements contained in that protest has ever been made, and this letter by the recent editor-in-chief is an unexpected confirmation of their absolute truth, and reveals the rapid degeneration of the journal during the two and one-half years following. The disastrous conditions which have made the *Philadelphia Medical Journal* "practically dead in the city of its birth" have developed within the past three years. They could, however, never have prevailed had not the indifferent and apparently consenting attitude of a few physicians confirmed the commercial element in a belief that "professional ethics" existed only in the mind of the deposed editor, and that the profession would believe anything they pleased to say, if it was only said often enough and loud enough. Indifferent authors would help them by contributing their articles, indifferent physicians would send in subscriptions, and a mint of money could be made out of them and out of advertisers with the aid of subservient professional helpers! When my incumbency as editor was terminated, the journal (according to report of its business manager) had close on 12,000 subscribers. That these were gained through confidence in the editorial conduct of that journal was shown by the fact that *American Medicine*, which two and a half years ago took up the spirit and aims laid down by the *Philadelphia Medical Journal*, had 12,000 subscribers in less than nine months from its inception. Having faith in the existence of professional sentiment and recognizing that, if it could build a journal like the *Philadelphia Medical Journal* was two and a half years ago, it could also maintain it, and desiring to avert the blight of commercialism from so fair a property, I made a proposition to the board of directors prior to the final act of my dismissal, offering to lease the journal from them for any period of years they should name, assuming entire editorial and business charge and guaranteeing them as rental an annual payment of 5 per cent. on the then capital stock of $60,000. Under the conditions that then existed, with one journal in Philadelphia and with a different business management, this could have been done.

The communication of the late editor-in-chief is but a continuation of the story told in my "protest," and emphasizes the warning of the dangers of commercialism in medicine as much by what it leaves unsaid as by the degrading conditions it reveals. Those in the profession and those dependent on the profession may read their lessons, the one of the evils resulting

from the unfaith of commercialism, the other that ethical sentiment is growing, and that though commercial cunning may apparently prevail for a time, its portion will eventually be meted out to it. GEORGE M. GOULD.

Indian Method of Treating Measles.

OGDEN, UTAH, June 28, 1903.

To the Editor:—Speaking of the Indian and his improvised Turkish bath, and the observations of McClanahan and Judd, I beg to say that when I was connected with the Winnebago and Omaha agencies some years ago the Indians there improvised a Turkish bath exactly as described by Dr. Judd in THE JOURNAL of June 27. Dr. Judd queries whether the Indian would go into cold water after this hot bath if the water were available. That is exactly what they all did at the Omaha reservation. I remember an epidemic of measles in which I had little to do other than look on, for they had a Medicine Man of their own and were impatient of any interference from me or any one. The disease was confined principally to the papooses under 10 or 12 years old. They did very little till the trouble was well established, then the patient was carried into an already prepared tepee of hides, usually buffalo skins, where it was rolled in a heavy blanket and laid in a rudely-constructed cradle made of the limbs of trees. Rocks had already been heated and now water was poured over them. Prior to this, however, the Medicine Man was in evidence and I had been relegated. He first scraped the vertex of the caput with a horn or piece of glass, and when the spot was thin enough the shell of a small horn, usually that of a young buffalo, was placed thereon after the air had been exhausted, I do not remember how, something after the manner of a cupping glass. Then the Medicine Man, assisted by the gifted of the tribe, sought to exercise the evil spirit that had entered into the little victim. This was done by the beating of tom-toms and other added instruments, including the human voice, that made the succeeding days and nights ones of horror. The flaps of the tepees were pinned down tightly to the ground, and after a little the odor inside, coming from a combination of steam, hides, heat and Indian, would stop a clock. The "hospital" tepee was always pitched on the bank of a stream of water, and as these epidemics of measles always occurred in winter (I do not remember of one at any other season) the stream was therefore frozen over. While the heating was going on some were cutting a hole through the ice. At the proper time the now half-dead young Indian was brought out, his blanket removed, and he was plunged into the icy water, perspiration and all. In a few minutes he would be returned to the tepee and the process repeated. The above will seem to many almost incredible, but it is true. Another incredible thing is that the little papooses thus treated sometimes recovered. A. S. CONDON, M.D.

Protracted Anesthesia.

AMESBURY, MASS., June 28, 1903.

To the Editor:—The subject embraced in the above title is one that I have not seen discussed in medical journals. I have no desire to act the part of the carping critic in considering modern methods of surgery; I am quite ready to acknowledge the wonderful progress made by the masters of the knife in the last forty years. To an old-time military surgeon the present results in treatment of wounds seem little less than a miracle. I have spent many hours removing maggots from suppurating stumps after operations, so that the dry antiseptic dressing seems like a page from a fairy tale.

The old-time surgeon had certain qualifications for which he should be given credit. He was a rapid operator. Prior to ether and chloroform the length of time required for an operation weighed heavily in the scale of results. Shock was rated in proportion to the length of suffering.

In the opinion of the writer the modern surgeon is losing sight of possible shock by too deliberate methods. In a large hospital a few days ago I saw a patient wheeled into the operating room fully anesthetized. The surgeons were preparing their hands and donning their robes with no attempt at haste. The theory was that the patient was not suffering and consequently they could take their time.

Now ether is either an advantage medically considered or a disadvantage. If it is of real decided benefit to the patient then protracted anesthesia is all right. If it is not, then this laggardly waste of time is wrong, and we are not giving our patients the best possible chance.

The writer has been under the surgeon's knife five different times with an experience varying from a few minutes to five hours' anesthesia, and from a personal standpoint is confident that the strain on the nervous system, even under ether, is no insignificant matter. Personally, I would not like to have a patient of mine lose three minutes' time under ether waiting for a surgeon. H. G. LESLIE, M.D.

Reciprocity—A Suggestion.

SELMA, ALA., June 30, 1903.

To the Editor:—For some time I have noticed that you have been trying to perfect some system of reciprocity between the licensing boards of different states. The scheme which I propose, if it could be carried out, might help those who have stood an examination in one state in getting a license in another. Should a physician practicing in one state wish to move to another he might be given the choice of standing the examination of the state into which he moves or be allowed to show his examination papers of the state in which he had already practiced; if these papers conform to the standard of the state into which he moves at the time of the examination he to be given a license in this state.

A recent graduate might make a very fine showing before one board, but should he try an examination in another state some five or six years later, though he knew considerably more than a man fresh from college, he would not be able to make as good a percentage. This manner of getting a license in another state without standing the examination is defective in that it applies to only those who have stood a written examination before an examining board. H. D. FURNISS.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PRESCRIBING WHISKEY.

SHREVE, OHIO, June 26, 1903.

To the Editor:—Is it lawful for a physician to prescribe whiskey for a patient, then dispense the whiskey, charging the patient the retail price of the whiskey, but making no other charges, i. e., for professional services? N. E.

ANS.—A physician who would do this would be simply a dram seller and should take out a government and local license.

Book Notice.

THE PRACTICAL APPLICATION OF THE ROENTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois; and Eugene W. Caldwell, B.S., Director of the Edward N. Gibbs X-Ray Memorial Laboratory of the University and Bellevue Hospital Medical College, New York. Cloth. Pp. 591. With 180 Illustrations, Nearly all Clinical. Price, $4.50 net. Philadelphia: W. B. Saunders & Co. 1903.

This volume is practically two books, one being devoted to x-rays as a diagnostic and the other as a therapeutic agent. Part one is written by Director Caldwell of the Gibbs X-ray Laboratory of New York, a man thoroughly competent, through practical experience, to write on the subject assigned him. In an introductory chapter is given a brief review of the experimental work which led up to the discovery of x-rays, then follow a description of the apparatus used, one chaptar being devoted to the Essentials of an X-ray Outfit, another to X-ray Tubes, one to Induction Coils, Interrupters and Their Management, one each to Static Machines and Their Management, to Fluoroscopy, to Photographic Materials and Their Manipulation, and sources from which the electric current may be obtained.

The chapter on Radiography is a most important and valuable one. In it are given in detail practical suggestions for

radiography, including specific directions for making radiographs of every part of the body. In the chapter on *x*-ray tubes is a description of the different tubes in use, the advantages and disadvantages of the several patterns and makes. In it are mentioned and described the tubes requisite for special work, such as for the rectum, vagina, throat, etc. Besides the ordinary drawings, this chapter is illustrated with several full-page illustrations, showing in colors the appearance of tubes under various conditions. In the chapter on Photographic Materials are considered developers and developing fixing plates, printing, etc. In the last chapter of part one will be found sensible and helpful suggestions regarding the choice of an *x*-ray outfit. In brief, part one is a concisely written description of the various appliances needed in an outfit for *x*-ray work, how to use and how to take care of them. The subject is presented in a manner sufficiently elementary to satisfy even those who have but little knowledge of electricity.

In the second part, which occupies about two-thirds of the book, is given a résumé of the literature already accumulated on *x*-rays as a therapeutic agent. In discussing the effects of *X*-rays on Tissues, the Histologic Changes Produced in Tissues by the *X*-rays, the Effects of *X*-rays on Bacteria, and the Causes of the Phenomena Observed in Tissues After Exposure to *X*-rays—the headings of the first four chapters—Pusey has reviewed and analyzed the experimental work, observations and conclusions of American and foreign workers bearing on these subjects, including, of course, his own work. In the chapter on the Technic of *X*-ray Exposures for Therapeutic Purposes, besides his own, he gives the methods of such Europeans as Kienböck, Scholtz, Oudin, and Schiff and Freund, and of such Americans as Williams and Beck. He gives in detail the technic of the application of the *x*-rays to the treatment of diseased conditions, covering all points not given in part one by Caldwell. The rest of the book is devoted to the treatment of diseased conditions under the following chapter headings: Treatment of *X*-ray Burns, Indications for the Therapeutic Use of *X*-rays, Affections of the Appendages of the Skin, Inflammatory Diseases of the Skin, Tuberculosis and Similar Diseases, Cutaneous Carcinoma, Carcinoma of the Breast and in the Thorax, Deep-seated Carcinoma, Sarcoma and Other Granulomata, the Prophylactic Use of *X*-rays After Operations for Malignant Diseases and Pseudo-leukemia and Various Other Affections. In these chapters are given in brief the results obtained by the use of the *x*-ray by others and their views as to the efficacy or otherwise of the agent in all conditions in which it has been used or for which it has been recommended. The author gives his own experience and results in detail, accompanied by reports of cases. In quoting others, the author does not hesitate to oppose the position held by them, but in doing so he gives the reasons for his opposition, and not with dogmatic statements.

The position taken by the author regarding the value of the *x*-rays as a therapeutic agent is a conservative one; while its wonderful effectiveness is recognized, its limitations are also appreciated. In considering the possibilities of *x*-ray treatment in tuberculosis of the lungs, he says: "It certainly does not hold out sufficient hopes of relief to warrant its use at the expense of residence in a bad climate, or abandonment of better tried measures." As to syphilis: "There is certainly no reason to substitute *x*-rays for the efficient method of treating these lesions that we already have." These are samples of the conservative statements that occur quite often. The book as a whole can be recommended as being one of the best and most practical thus far published on the *x*-ray as a diagnostic and therapeutic agent in that it contains a sufficiently detailed description of the apparatus used, the technic, a concise and critical review of the experience and opinions of those who have used it, and a conservative statement of its possibilities and limitations as a therapeutic agent in all conditions in which it has been used or suggested. It is a practical timely book that will be appreciated and welcomed by all who are engaged in *x*-ray work, as well as by those who are interested only indirectly.

Marriages.

GEORGE F. TOALSON, M.D., to Miss Lulu Wheeler, both of Mexico, Mo., June 16.

WILLIAM A. MCMILLAN, M.D., to Miss Ellinor Graham Owen, at Baltimore, June 24.

JOSEPH BRADY, M.D., to Miss Eugenie Brown, both of San Francisco, Cal., June 25.

JOHN L. CHESTER, M.D., to Miss Kathryn E. Butler, both of Emmett, Mich., June 16.

JOSEPH IRWIN FRANCE, M.D., to Mrs. Evalyn S. Tome, at Port Deposit, Md., June 24.

ARTHUR C. JOHNSON, M.D., Newark, Ill., to Miss May Dean of Monmouth, Ill., June 15.

THOMAS BOYD MORRIS, M.D., Atlantic, Iowa, to Miss Esther McLean of Joliet, Ill., May 1.

CHARLES ROBERSON, M.D., Greensboro, N. C., to Miss Mabel Hill, at Danville, Va., June 17.

FLOYD J. ROBERTS, M.D., Cando, N. D., to Miss Ruby Rutledge of Grand Forks, N. D., June 25.

HENRY S. DOWNING, M.D., Los Angeles, Cal., to Miss Elsie Clarke of Springfield, Ill., June 23.

HENRY P. BEIRNE, M.D., Quincy, Ill., to Miss Hildred Marie Jones of Milwaukee, Wis., June 23.

STACY HEMENWAY, M.D., Klamath, Ore., to Miss Irene Chitwood of Klamath Falls, Ore., June 4.

JAMES COALE SAPPINGTON, M.D., to Miss Claire Sappington, at Liberty, Frederick County, Md., June 24.

GRANVILLE N. RYAN, M.D., Des Moines, Iowa, to Miss Miriam Pickens of Louisville, Ky., June 10.

PHILIP VEILE JANSE, M.D., Luverne, Iowa, to Miss Margaret Belle Mason of Fort Madison, Iowa, June 23.

TORANA GROTHAUS, M.D., to JOHN DULIN, M.D., both of Sigourney, Iowa, at Iowa City, Iowa, June 17.

B. F. WALKER, M.D., Laton, Cal., to Miss Edith Alberta Crews of Riverdale, Cal., at Fresno, Cal., June 24.

WILLIAM HOLMES YEAKLEY, M.D., Davis, W. Va., to Miss Eleanor Straith Ranson, at Staunton, Va., June 17.

WILLIAM JEFFRIES CHEWNING, M.D., Fredericksburg, Va., to Miss Anne Page Meetze of Washington, D. C., June 17.

PAULETT CLARK, M.D., Lynchburg, Va., to Miss Fannie Yuille of Campbell County, Va., at Washington, D. C., June 16.

Deaths.

Ewing L. Thompson, M.D. New Orleans (La.) School of Medicine, 1861, of Dallas, Texas, surgeon in the Confederate service during the Civil War, died suddenly at Mineral Wells, Texas, June 17, from apoplexy, aged 62. The Dallas Medical and Surgical Association held a special meeting, June 18, to make arrangements for Dr. Thompson's funeral and to prepare resolutions of respect.

Stephen E. Robinson, M.D. Rush Medical College, Chicago, 1867, a member of the American Medical Association, ex-president of the Iowa State Medical Society; member of the International Association of Railway Surgeons, Iowa State Association of Railway Surgeons, Fayette County Medical Society, etc., died at his home in West Union, Iowa, June 7, aged 65.

Frederick A. Davis, M.D. Medical College of Alabama, Mobile, 1861, of Newport, Ky., who served throughout the Civil War as Surgeon, U. S. V., was for 16 years district physician, and for four years coroner of Campbell County, Ky., died at Shepard, Ohio, where he was under treatment for kidney disease, June 24, aged 66.

Nathaniel P. Washburn, M.D. New York University, 1891, of Stamford, Conn., who had been traveling for nearly ten years in search of health, visiting Saranac Lake, N. Y., Albuquerque, N. M., and Boulder, Colo., in his quest, died from tuberculosis, June 22, at San Antonio, Texas.

John H. Vincent, M.D. Michigan College of Medicine and Surgery, Detroit, 1902, of Red Ridge, Mich., on June 18, while responding to an urgent professional call, was thrown from his horse, sustaining a fracture of the base of the skull, from which he died two days later.

Walter F. Blunt, M.D. Galveston (Texas) Medical College, 1874, for twenty-five years state health officer, who bore a

spotless record in quarantine service of Texas, died, June 24, at Lockhart, Texas, from Bright's disease, after a long illness.

Carl Schwalbe, M.D. University of Bonn, Germany, 1862, a member of the American Medical Association, a surgeon in the German service during the Franco-Prussian War, died, June 14, at his home in Los Angeles, Cal., from tuberculosis, aged 65.

Stephen J. Dunn, M.D. Baltimore Medical College, 1896, of Springfield, Mass., a member of the Hampden District and Massachusetts medical societies, died at St. Francis' Hospital, Hartford, Conn., June 27, after an illness of two months.

Edwin A. Sailor, M.D. University of Iowa, Iowa City, 1901, Clarence, Iowa, formerly assistant physician at the Clarinda State Hospital for the Insane, died from typhoid fever at a hospital in Iowa City, June 22, aged 30.

Hans H. Littlefield, M.D., 1887, for many years a member of the American Medical Association, died at his home in Beardstown, Ill., June 26, aged 79. He served two years as a surgeon of volunteers during the Civil War.

William S. Wolfe, M.D. Jefferson Medical College, Philadelphia, 1897, of Fleetwood, Pa., died from tuberculosis, June 12, while on his way home from New Mexico, where he had gone eight months before for his health.

Sumner Pixley, M.D. Philadelphia Medical School, surgeon of the 110th Ohio Volunteer Infantry in the Civil War, died at his home in Peninsula, Ohio, June 12, aged 87. He retired from active practice in 1890.

William L. Towndrow, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1856, of Snohomish, Wash., a surgeon in the Civil War, died at the City Hospital, Everett, Wash., June 11, from diabetes, aged 80.

James Calderwood, M.D. University of Cincinnati, 1870, of Steele, Ind., died at the home of his father in Blue Creek township, May 31, from stomach trouble, after an illness of a week, aged 64.

Charles Legg, M.D., formerly of Stringtown, German township, Richland County, Ill., died at the Illinois Southern Hospital for the Insane, Anna, June 14, after a long illness, aged 78.

J. D. Vinton, M.D. Philadelphia University of Medicine and Surgery, 1854, of Kimberton, Pa., died at the Phoenix Hospital, West Chester, Pa. June 14, after a long illness, aged 74.

Thomas W. Hewitt, M.D. Louisville Medical College, 1861, surgeon U. S. Army, retired, died at his home in San Antonio, Texas, June 21, from congestion of the brain, aged 64.

H. Cloud Rainwater, M.D. Tulane University, New Orleans, 1891, died at his home in Morrillton, Ark., June 7, from consumption, after an illness of two years.

Charles W. Shaw, M.D. Ohio Medical University, Columbus, 1898, of Madison Mills, Ohio, died at his former home, near Logan, June 2, from Bright's disease.

Alonzo Shaffer, M.D. University of Pennsylvania, Philadelphia, 1895, died at his home in Essex, Conn., June 26, after an illness of two months, aged 32.

Louis Goeschel, M.D. Chicago Homeopathic College, 1878, died at his home in Mandan, N. D., June 17, from cancer of the tongue, aged 47.

Hubbard A. Foster, M.D. Harvard University Medical School, Boston, 1871, died suddenly at his home in Buffalo, N. Y., June 16, aged 53.

J. D. Mundy, M.D. Kentucky School of Medicine, Louisville, 1878, died at his home in Denver, N. C., June 25, after a lingering illness.

Benjamin F. Graves, M.D., died at his home in Hamline, W. Va., from typhoid fever, May 24, after a short illness, aged 25.

S. A. Taylor, M.D., of East Point, Ga., committed suicide while despondent, June 20, by shooting himself through the head.

Gilbert R. Woolsey, M.D. Hahnemann Medical College, Chicago, 1868, of Normal, Ill., died at Cambridge, Ill., June 7.

Henry K. Middleton, M.D. University of Louisville, 1871, died at his home in Kirksville, Ky., June 25, aged 59.

Louis R. Ford, M.D. Medical College of Georgia, Augusta, 1870, died at his home in Waynesboro, Ga., June 26.

Juan Jose Ramirez de Arellano, M.D., died at his home in the City of Mexico, from typhus fever, May 23.

D. H. Herrell, M.D., 1878, died at his home in Hanna City, Ill., June 22, aged about 60.

State Boards of Registration.

Minnesota.—The Minnesota State Board of Medical Examiners held their regular examination at St. Paul, June 2, 3 and 4, 1903. The results are reported by Dr. C. J. Ringnell, the secretary, as follows: Number of subjects examined, 12; total number of questions, 95; percentage required to pass, 75; total number examined, 129; passed, 111; failed, 18; the list of successful and unsuccessful applicants with their colleges and schools of practice is as follows:

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
2178	R.	University of Minnesota	1903	80.6
2179	R.	University of Minnesota	1903	86
2180	R.	University of Minnesota	1903	86.9
2186	R.	University of Minnesota	1903	81.4
2187	R.	University of Minnesota	1903	85.6
2190	R.	University of Minnesota	1903	82
2191	R.	University of Minnesota	1903	82.1
2193	H.	University of Minnesota	1903	84.5
2194	H.	University of Minnesota	1903	82.7
2200	R.	University of Minnesota	1903	83.9
2201	R.	University of Minnesota	1903	84.9
2202	R.	University of Minnesota	1903	78
2208	R.	University of Minnesota	1903	83.1
2209	R.	University of Minnesota	1903	85.1
2210	R.	University of Minnesota	1903	79.9
2214	R.	University of Minnesota	1903	79.5
2215	R.	University of Minnesota	1903	86.2
2216	R.	University of Minnesota	1903	83
2217	R.	University of Minnesota	1903	84.5
2219	R.	University of Minnesota	1903	81
2220	R.	University of Minnesota	1903	77.9
2225	R.	University of Minnesota	1903	83.3
2226	R.	University of Minnesota	1903	80.9
2227	R.	University of Minnesota	1903	85.1
2245	R.	University of Minnesota	1903	76.8
2246	R.	University of Minnesota	1903	88.6
2247	R.	University of Minnesota	1903	84.2
2249	R.	University of Minnesota	1903	82.3
2250	R.	University of Minnesota	1903	86
2251	R.	University of Minnesota	1903	81
2253	R.	University of Minnesota	1903	78.9
2255	R.	University of Minnesota	1903	80.8
2256	R.	University of Minnesota	1903	77.2
2257	R.	University of Minnesota	1903	81.5
2258	R.	University of Minnesota	1903	90.8
2259	R.	University of Minnesota	1903	80.1
2268	R.	University of Minnesota	1903	83.1
2269	R.	University of Minnesota	1903	81.9
2270	R.	University of Minnesota	1903	86.9
2272	R.	University of Minnesota	1903	78.4
2274	R.	University of Minnesota	1903	82.4
2276	R.	University of Minnesota	1903	75
2278	R.	University of Minnesota	1903	78.2
2279	R.	University of Minnesota	1903	82.2
2280	R.	University of Minnesota	1903	80
2282	R.	University of Minnesota	1903	79
2283	R.	University of Minnesota	1903	75.2
2285	R.	University of Minnesota	1903	80.2
2286	R.	University of Minnesota	1903	82.4
2288	R.	University of Minnesota	1903	80.6
2289	R.	University of Minnesota	1903	80.5
2290	R.	University of Minnesota	1903	75
2292	R.	University of Minnesota	1903	80.5
2293	R.	University of Minnesota	1903	84.5
2294	R.	University of Minnesota	1903	82
2295	R.	University of Minnesota	1903	80.4
2296	H.	University of Minnesota	1903	82.1
2297	R.	University of Minnesota	1903	*81
2298	R.	University of Minnesota	1903	81.2
2299	R.	University of Minnesota	1903	80.9
2300	H.	University of Minnesota	1903	80.4
2301	R.	University of Minnesota	1903	81.8
2302	R.	University of Minnesota	1903	86.4
2303	H.	University of Minnesota	1903	77
2304	R.	University of Minnesota	1903	82.3
2305	R.	University of Minnesota	1903	87.8
2205	R.	University of Minnesota	1903	82.8
2262	R.	University of Minnesota	1903	85.5
2265	R.	University of Minnesota	1903	81.3
2248	R.	University of Maryland	1902	85.2
2252	R.	University of Iowa	1903	85.2
2267	R.	University of Illinois	1903	83.2
2181	R.	Hamline University	1903	79.4
2182	R.	Hamline University	1903	78.5
2184	R.	Hamline University	1903	76
2185	R.	Hamline University	1903	75.1
2188	R.	Hamline University	1903	87.1
2189	R.	Hamline University	1903	87
2198	R.	Hamline University	1903	85.2
2199	R.	Hamline University	1903	87.5
2203	R.	Hamline University	1903	80.5
2228	R.	Hamline University	1902	87.6
2229	R.	Hamline University	1903	79.1
2230	R.	Hamline University	1903	84
2231	R.	Hamline University	1903	79.4
2232	R.	Hamline University	1903	80
2233	R.	Hamline University	1903	83.4
2234	R.	Hamline University	1903	82.5
2235	R.	Hamline University	1903	86.2
2237	R.	Hamline University	1903	81.7
2238	R.	Hamline University	1903	78.1
2242	R.	Hamline University	1903	78.6
2243	R.	Hamline University	1903	84.8
2244	R.	Hamline University	1903	75.2

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
2261	R.	Hamline University	1903	78
2287	R.	Hamline University	1903	88.6
2192	R.	Rush Medical College	1903	77.8
2204	R.	Rush Medical College	1895	89.4
2196	R.	Barnes Medical College	1903	81
2206	R.	Trinity Medical College	1903	89.1
2224	R.	Trinity Medical College	1903	82.3
2207	R.	College of Phys. and Surgs., Keokuk.	1903	79.8
2211	H.	Hahnemann Medical College, Chicago	1903	83.7
2213	H.	Hahnemann Medical College, Chicago	1903	86.6
2263	H.	Hahnemann Med. Coll., Philadelphia	1903	79.5
2212	R.	Detroit College of Medicine	1902	80.8
2218	R.	College of Phys. and Surgs., Illinois.	1903	80
2239	R.	Northwestern University, Chicago	1903	86.3
2281	R.	Northwestern University, Chicago	1903	77.9
2306	R.	Northwestern University, Chicago	1903	82.2
2266	R.	Cooper Med. College, San Francisco.	1894	75

FAILED.

2221	R.	University of Minnesota	1903	†
2241	H.	University of Minnesota	1903	69.1
2273	R.	University of Minnesota	1903	73.6
2277	R.	University of Minnesota	1903	74.1
2291	R.	University of Minnesota	1903	74.2
2271	R.	University of Illinois	1903	70.9
2236	R.	Hamline University	1903	67.7
2183	R.	Hamline University	1903	71
2254	R.	Hamline University	1903	73.1
2260	R.	Hamline University	1903	71.1
2275	R.	Hamline University	1903	70.9
2284	R.	Hamline University	1902	73.5
2195	R.	Barnes Medical College	1903	74.8
2197	R.	Barnes Medical College	1903	70.4
2223	R.	Rush Medical College	1903	70.6
2240	R.	Rush Medical College	1903	70.6
2222	R.	Iowa State University	1891	64.8
2264	H.	Hahnemann Med. College, Chicago	1897	‡60.6

* Second examination.

† Second examination. No average; did not take all of examination.

‡ Third examination.

North Carolina Report.—The Board of Medical Examiners of North Carolina held examination at Hot Springs, May 27, 1903. Dr. George W. Pressly, Charlotte, secretary, reports that the number of subjects examined in was 7; total questions, 70; percentage required to pass, 80; total number examined, 107; passed, 77; failed, 30. The examination was written.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
20	R.	University of Maryland	1903	90
23	R.	University of Maryland	1903	80
41	R.	University of Maryland	1903	85 5-7
44	R.	University of Maryland	1903	81 2-7
57	R.	University of Maryland	1903	87 6-7
58	R.	University of Maryland	1903	87 3-7
68	R.	University of Maryland	1903	81 6-7
74	R.	University of Maryland	1903	88 6-7
75	R.	University of Maryland	1903	83 2-7
76	R.	University of Maryland	1903	89 2-7
92	R.	University of Maryland	1903	80
88	R.	Univ. of Penn., Med. Dept., Phila	1902	89 5-7
100	R.	Univ. of Penn., Med. Dept., Phila	1900	*96 1-7
106	R.	Univ. of Penn., Med. Dept., Phila	1899	81 2-7
3	R.	University Coll. of Med., Richmond.	1901	81 2-7
10	R.	University Coll. of Med., Richmond.	1900	84 2-7
21	R.	University Coll. of Med., Richmond.	1903	83 3-7
27	R.	University Coll. of Med., Richmond.	1903	‡95 2-7
29	R.	University Coll. of Med., Richmond.	1903	88 3-7
30	R.	University Coll. of Med., Richmond.	1903	†96
93	R.	University Coll. of Med., Richmond.	1903	85 5-7
94	R.	University Coll. of Med., Richmond.	1903	89 4-7
9	R.	Univ. of N. C., M. Dept., Chapel Hill	1903	86 4-7
7	R.	Univ. of N. C., M. Dept., Chapel Hill	1903	92 1-7
71	R.	Univ. of N. C., M. Dept., Chapel Hill	1903	92
72	R.	Univ. of N. C., M. Dept., Chapel Hill	1903	86 6-7
25	R.	University of Kentucky, Louisville	1901	80 1-7
84	R.	University of Kentucky, Louisville	1902	82 5-7
46	R.	University of Louisville, Kentucky	1903	86 3-7
54	R.	University of Louisville, Kentucky	1903	80 4-7
47	R.	University of Tennessee, Nashville	1903	80 5-7
51	R.	University of Tennessee, Nashville	1903	80 2-7
5	R.	University of Georgia, Augusta	1900	87 6-7
28	R.	University of Denver	1902	88 3-7
69	R.	Univ. of Virginia, Charlottesville	1900	80
103	R.	University of Michigan, Ann Arbor	1878	80
107	R.	University of Texas, Galveston	1899	89 1-7
2	R.	N. C. Med. College, Davidson, N. C.	1902	81 1-7
12	R.	N. C. Med. College, Davidson, N. C.	1903	91 6-7
16	R.	N. C. Med. College, Davidson, N. C.	1903	86 2-7
37	R.	N. C. Med. College, Davidson, N. C.	1903	80 6-7
38	R.	N. C. Med. College, Davidson, N. C.	1903	93 6-7
48	R.	N. C. Med. College, Davidson, N. C.	1903	85
49	R.	N. C. Med. College, Davidson, N. C.	1903	90 6-7
60	R.	N. C. Med. College, Davidson, N. C.	1898	84 1-7
61	R.	N. C. Med. College, Davidson, N. C.	1903	80
13	R.	Med. College of Virginia, Richmond.	1903	84 4-7
15	R.	Med. College of Virginia, Richmond.	1903	81 4-7
17	R.	Med. College of Virginia, Richmond.	1903	84 4-7
18	R.	Med. College of Virginia, Richmond.	1903	89 4-7
95	R.	Med. Coll. State of S. C., Charleston	1888	80
14	R.	Baltimore Medical College	1903	83 2-7
22	R.	Baltimore Medical College	1903	85 3-7

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
24	R.	Baltimore Medical College	1903	87 4-7
101	R.	Baltimore Medical College	1903	85
8	R.	Coll. of Phys. and Surgs., New York	1903	92 1-7
77	R.	Coll. of Phys. and Surgs., New York	1900	90 2-7
78	R.	Coll. of Phys. and Surgs., New York	1884	80
85	R.	Coll. of Phys. and Surgs., St. Louis.	1903	80 3-7
90	R.	Coll. Phys. and Surgs., Baltimore	1903	82 6-7
26	R.	Tennessee Med. College, Knoxville	1900	81 2-7
31	R.	Tennessee Med. College, Knoxville	1902	80
34	R.	Leonard Med. Coll., Raleigh, N. C	1903	81 3-7
40	R.	Leonard Med. Coll., Raleigh, N. C	1903	85 2-7
63	R.	Memphis Hospital Medical College	1903	86 3-7
99	R.	Memphis Hospital Medical College	1902	80
80	R.	Louisville Medical College	1903	80
82	R.	Louisville Medical College	1903	82 3-7
1	R.	Atlanta College of Phys. and Surgs.	1903	92 1-7
36	R.	Howard University, Washington	1900	80
50	R.	U. S. Grant Univ., Chattanooga, Tenn.	1903	80 5-7
64	R.	Vanderbilt Univ., Nashville, Tenn	1896	80 1-7
81	R.	National University, Washington	1895	88 5-7
87	R.	Jefferson Med. Coll., Philadelphia	1903	92 3-7
104	R.	Denver and Gross Coll. of Medicine.	1903	82 6-7
105	R.	St. Louis Medical College	1875	80
73	R.	Baltimore Univ. School of Medicine.	1901	80

FAILED.

11	R.	Tennessee Med. College, Knoxville	1901	76 3-7
32	R.	Tennessee Med. College, Knoxville	1900	75 2-7
35	R.	Tennessee Med. College, Knoxville	1902	69 1-7
65	R.	Tennessee Med. College, Knoxville	1901	67 2-7
102	R.	Tennessee Med. College, Knoxville	1901	53 4-7
42	R.	University of Maryland, Baltimore	1903	76
55	R.	University of Maryland, Baltimore	1903	76 6-7
56	R.	University of Maryland, Baltimore	1903	76 3-7
43	R.	University Coll. of Med., Richmond.	1903	78
79	R.	Univ. of Georgia, M. Dept., Augusta	1902	71 6-7
6	R.	University of Nashville, Tennessee	1900	56 2-7
52	R.	University of Tennessee, Nashville	1903	77 3-7
96	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	**
97	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	65 6-7
98	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1901	66
33	R.	Leonard Med. College, Raleigh, N. C.	1902	66 6-7
39	R.	Leonard Med. College, Raleigh, N. C.	1902	69 6-7
66	R.	U. S. Grant Univ., Chattanooga, Tenn.	1900	66 2-7
67	R.	U. S. Grant Univ., Chattanooga, Tenn.	1903	68 1-7
62	R.	N. C. Med. Coll., Davidson, N. C	1903	72 3-7
83	R.	Atlanta Coll. of Phys. and Surgs	1903	73 3-7
91	R.	Atlanta Coll. of Phys. and Surgs	1895	††
4	R.	New York Med. Coll. and Hospital	1867	††
19	E.	Ga. Coll. Ec. Med. and Surg., Atlanta	1901	65 3-7
45	H.	Boston Univ. School of Med., Homeo.	1899	64 3-7
53	R.	Memphis Hospital Medical College	1901	76 2-7
59	R.	Hospital Coll. of Med., Louisville, Ky.	1902	72 2-7
70	R.	Louisville Med. College, Kentucky	1898	62 1-7
86	R.	Med. Coll. State of S. C., Charleston.	1900	70 6-7
89	O.	Boston Institute of Osteopathy	1901	61 6-7

* First honor.

† Second honor.

‡ Third honor.

** Not graded. Caught cheating.

†† Withdrew.

Association News.

New Members.

New members for the month of June, 1903.

ALABAMA.

Gay, W. S., Whistler.

ARKANSAS.

Dickson, A. G., Paragould.
Norton, M. M., Sunny Side.
McGeehee, E. P., Lake Village.
Sims, W. A., Paragould.

CALIFORNIA.

Jones, H. Isaac, San Francisco.
Rooney, R. F., Auburn.
McGaveren, H. S., Sacramento.
Wright, H. E., Sacramento.
Brown, Adelaide, San Francisco.
Grossman, E. L., San Francisco.
Waterman, H. J., Berkeley.
Watkins, J. T., San Francisco.
Sperry, Mary A., San Francisco.
McGettigen, C. D., San Francisco.
Clark, J. R., San Francisco.
Baker, C. C., San Francisco.
Collischonn, P., San Francisco.
Berndt, R. M. H., San Francisco.

CONNECTICUT.

Axtelle, J. F., Hartford.
Bronson, W. T., Danbury.

DISTRICT OF COLUMBIA.

Lee, Thomas S., Washington.
Castelli, Enrico, Washington.

FLORIDA.

Byrd, Hiram, Arcadia.
Caraballo, Martin, Tampa.
Helms, J. P., Tampa.

GEORGIA.

Smith, Jr., Archibald, Atlanta.
DeLamar, W. C., Mountain Hill.

ILLINOIS.

Kahn, Harry, Chicago.
Baccus, V. J., Chicago.
Vanderhoof, H. W., Wheaton.
Black, Joseph N., Clayton.
Bassoe, Peter, Chicago.
Clausius, Max F., Palatine.
Gay, W. W., Rockport.
Richter, H. M., Chicago.
Worthington, Major H., Chicago.
Chvatal, J. F., Chicago.
Guilford, Paul, Chicago.
McMichael, Orville W., Chicago.
Thompson, W. M., Chicago.
Williams, J. C., Chicago.
Metcalf, Henry S., Mt. Carroll.
Houston, James P., Chicago.
Lagorio, Antonio, Chicago.
Beyerlein, Louis J., Chicago.
Fosberg, George E., Chicago.
Rickett, Howard Taylor, Chicago.
Illingworth, G. M., Chicago.
Findley, Palmer, Chicago.
Thompson, Wm. A., Olney.
Spaulding, D. N., Chicago.
Seifert, Mathias J., Chicago.

INDIAN TERRITORY.

Haley, W. A., Durant.

INDIANA.
Luckett, Charles D., English.
Fulton, George E., Bluffton.
Garr, J. C., Kokomo.
Whitson, E. M., Jonesboro.
Gould, S. W., Argo.

IOWA.
Sprague, M. H., Ottumwa.

KENTUCKY.
McKenney, Elbert B., Caneyville.
Zimmerman, Carolyn E., Newport.
Browne, M. S., Winchester.
Kiser, Jefferson D., Lexington.
Kincaid, James W., Catlettsburg.
Moore, A. H., Ashland.

LOUISIANA.
Sewell, Bennett N., Bryce.
O'Donnell, Robt. W., New Orleans.

MARYLAND.
Claybrook, E. B., Cumberland.
Mayer, A. H. A., Baltimore.

MASSACHUSETTS.
Haynes, Mabel Stevens, Boston.
Gardner, Charles W., Boston.

MICHIGAN.
Bratton, Edw. E., Detroit.
Haines, Thos. J., Three Rivers.
Barth, Louis, Grand Rapids.
DeWitt, Lydia M., Ann Arbor.
Johnston, Stuart, So. Lake Linden.
Stapleton, Jr., Wm. J., Detroit.
von Colditz, G. Thomsen, Mount Clemens.
Henkel, Julius F., Detroit.
Meddaugh, Martin V., Detroit.
Taylor, Geo. Gordon, Allegan.
Burdon, Reginald M., Houghton.
Lickler, Edw. H., New Baltimore.
Adam, James R., Detroit.
Morden, E. T., Adrian.
Schenck, Benj. R., Detroit.
Youngquist, O. G., Marquette.
Yates, John C., Norwood.
Flynn, E. H., Marquette.
Galbraith, Stuart E., Pontiac.

MINNESOTA.
Schmitt, Aaron F., Wells.
Crowe, John H., Virginia.

MISSISSIPPI.
Brooks, J. S., Robinsonville.
Alexander, Morris J., Tunica.
Crisler, J. A., Yazoo City.
Shivers, M. O., Greenville.

MISSOURI.
Hardy, John W., Sumner.
Behrens, Louis H., St. Louis.
Stuckle, W. P., Clyde.
Kessler, E. H., St. Louis.
Allen, A. B., Maryville.
Sayler, H. L., Elmo.
Crowson, E. L., Pickering.

NEBRASKA.
Edgington, A. E., Omaha.
Pinto, A. S., Omaha.
Brown, H. A., Long Pine.
Stewart, M., Tecumseh.
Keettle, Wm. C., Lyons.

NEW YORK
Palmer, Albert H., Marlborough.
Heston, E. H., Clintondale.
Sauer, J. George, New York.
Dick, Andrew J., Watertown.

NORTH CAROLINA.
Mason, R. E., Charlotte.

OHIO.
Moxley, N. K., Ironton.
Williams, John G., Cincinnati.
Trimmer, E. Luther, East Liverpool.
George, John F., Ft. Jennings.

PENNSYLVANIA.
Walker, S. E., Philadelphia.
Roderick, Edw. R., Wilkesbarre.
Mengel, S. P., Parson.
Hartman, Jr., Lawton M., York.
Easby, Alice R., Media.
Pyfer, Howard F., Norristown.

SOUTH CAROLINA.
Baker, S. Chandler, Scranton.
Rees, Charles M., Charleston.
Neil, George P., Greenwood.

SOUTH DAKOTA.
Hetlesater, Reinert, Canton.

TENNESSEE.
McCown, Oswald Stuart, Memphis.

TEXAS.
Morgan, George L., Turtle Bayou.
Conson, Augustus H., Gainesville.
Terry, J. S., Eunis.
Swain, Geo. W. B., Dallas.
Moore, Jr., Jos. Franklin, Tyler.
Chapman, John B., Paris.
Rosser, Charles M., Dallas.
Parker, G. D., Houston.
Stuart, Joseph R., Houston.
Jones, W. C., Sherman.

VERMONT.
O'Brien, Jas. F., Bellows Falls.

VIRGINIA.
Shepherd, Lemuel C., Norfolk.

WASHINGTON.
Smith, Clarence G., Seattle.
Cunningham, Arthur R., Spokane.
Chenoweth, W. S., Sprague.
Genoway, Charles, Spokane.

WEST VIRGINIA.
Abel, Wm. Clay, Mt. Union.
St. Clair, Wade Hampton, Bluefield.
Hatfield, H. D., Eckman.
Mahood, C. F., Rend.

WISCONSIN.
Reynolds, N. W., Lone Rock.
Cuolahan, Archibald, Merrill.
Pope, F. J., Racine.
Collins, C. D., Milwaukee.
Dohearty, F. P., Butternut.
Boden, J. E., Milwaukee.
Rosenberry, Abraham Bertolet, Arbor Vitae.
Steenberg, H. S., Milwaukee.

Medical Organization.

Reorganization in Minnesota.

Minnesota was the last of four great states to set aside its action of partial reorganization of last year and adopt the constitution and by-laws recommended by the American Medical Association in full. The annual meeting was held at St. Paul, June 17 to 19.

While much had been accomplished during the year, and the membership had greatly increased, the new plan of organization was defective and unsatisfactory. No provision was made for a house of delegates or council, and membership in county societies was left optional. As a partial offset to these defects, and especially to the lack of a council, Dr. W. S. Fullerton, an efficient and enthusiastic worker, was appointed state organizer. Although his work was single-handed, and largely gratuitous, he had visited and organized fifty-eight counties during the year, and had laid the foundation for a complete organization.

After his return from the New Orleans meeting, Dr. J. W. Andrews, president of the State Association, began an active campaign for the adoption of the uniform plan of organization. His annual address was mainly devoted to this, and was an able presentation of the subject. At its close, a committee was appointed to consider the question, with instructions to report during the meeting. On the following day the committee reported, recommending that the action of last year be rescinded and that the uniform plan of the Association be substituted therefor. This was done by a unanimous vote. The committee also recommended that the state be divided into eight councilor districts, arranged according to the lines of travel, and that, in partial recognition for the value of his services in the past, Dr. Fullerton be made chairman of the first council.

The meeting was fairly well attended and was interesting throughout, in spite of a bad section arrangement which has found its way into many state associations. Under the old plan of organization the society was divided into three sections, the first day being devoted to surgery, the second to internal medicine, and the third to state medicine. This would probably be an unfortunate arrangement, even for a large meeting, for obvious reasons, but is especially so where the attendance is not large. Such meetings are for the entertainment and benefit of all, but particularly for the general practitioners from town and country districts, and the work in the different branches should be so interlarded in the program as to engage the attention of all classes, at least during a large part of every day.

The officials elected for the ensuing year are as follows: President, Charles Lyman Greene, St. Paul; vice-presidents, Charles Hill, Pine Island; Jeannette M. McLaren, St. Paul, and Walter H. Darling, St. Peter; secretary, Thomas McDavitt, St. Paul; treasurer, Richard J. Hill, Minneapolis.

Council.

Wm. S. Fullerton, St. Paul; Frederick A. Knights, Minneapolis; Alfred E. Spaulding, Luverne; Adolph O. Bjelland, Mankato; Eugene H. Hensel, Alexandria; Harper M. Workman, Tracy; Walter Courtney, Brainerd, and Franklin A. Dodge, Le Sueur.

It may be interesting to note that twenty-eight states have now adopted the uniform plan of organization. This includes all of the great states in the Ohio and Mississippi valleys, all the Lake and Gulf states, two of the three Pacific states, besides North Carolina, New Jersey, New Hampshire, Colorado and Idaho, in other sections. If systematic work can be kept up within all of these states for a few years, with the intelligent enthusiasm now promised, we shall have an organized profession.

J. N. McCORMACK.

Societies.

Humboldt County (Cal.) Medical Society.—This society, at its regular meeting, June 9, adopted the amended constitution and by-laws, so that it now is in conformity with the state society.

Buncombe County (N. C.) Medical Society.—At its meeting in Asheville, June 15, the society adopted the changes in its constitution and by-laws necessary to make them conform to those proposed by the American Medical Association.

Cheboygan County (Mich.) Medical Society.—At the annual meeting held in Cheboygan, June 16, Dr. Wilbur F. Reed was elected president, Dr. Ira C. Williams, vice-president, and Dr. Charles B. Tweedale, secretary-treasurer, all of Cheboygan.

Lane County (Ore.) Medical Association.—At the annual meeting held in Eugene, June 17, Dr. Waldo L. Cheshire, Eugene, was elected president; Dr. George Wall, Cottage Grove, vice-president, and Dr. John W. Harris, Eugene, secretary and treasurer.

Cedar County (Neb.) Medical Society.—This society, a component part of the state medical society, met at Hartington, June 24. Every physician in the county is a member of the society. The next meeting is to be held in Randolph on September 24.

Columbus (Ohio) Academy of Medicine.—The consolidation of the Franklin County Medical Society with the Columbus Academy of Medicine, was perfected at a meeting of the latter society, June 1, when the joint committee on membership reported favorably on 21 applications.

Johnson County (Kan.) Auxiliary Medical Society.—Physicians of Johnson County met at Olathe, June 11, and organized

this society, with Dr. H. E. Williamson, president; Dr. Jessie Thomas, vice-president; Dr. Frank F. Greene, secretary, and Dr. B. Frank Stout, treasurer, all of Olathe.

Elkhart County (Ind.) Medical Society.—At its meeting, June 25, the society decided to change its conditions of membership to accord with those of the state and national societies. Dr. John C. Fleming, Elkhart, was elected president; Dr. I. Wright Short, Elkhart, vice-president, and Dr. Yoder, Goshen, secretary-treasurer.

Iberville Parish (La.) Medical Society.—The physicians of Iberville Parish met at Plaquemine, June 17, and organized a parish medical society, with the following officers: Dr. Arthur A. Allain, Bayou Goula, president; Dr. Francis J. Keamey, Plaquemine, vice-president, and Dr. Eugene Halloway, Plaquemine, secretary and treasurer.

Iowa Health Officers' and City Physicians' Association.—The health officers and city physicians of Iowa met at Des Moines, June 16, effected a temporary organization, with Dr. Joseph A. Valenta, Iowa City, chairman, and Dr. Cassius T. Lesan, Mount Ayr, secretary, and appointed committees on constitution and by-laws, permanent organization and finance.

Branch County (Mich.) Medical Society.—This society, recently organized under the constitution and by-laws proposed by the American Medical Association, at its meeting in Coldwater, June 16, elected Dr. Stephen H. Clizbe, Coldwater, president; Dr. Henry W. Whitmore, Quincy, vice-president, and Dr. Samuel Schultz, Coldwater, secretary and treasurer.

Lewis County (Ky.) Medical Society.—About half the physicians of Lewis County met at Vanceburg, June 15, and organized a county medical society, to be in affiliation with the Kentucky State Medical Society and the American Medical Association. Dr. James W. Kincaid, Catlettsburg, councilor for the district, was present and explained the plan of organization. Dr. Lewis A. Grimes, Concord, was elected president; Dr. John F. Irvine, Tolesboro, vice-president; Dr. Aaron F. Hill, Vanceburg, secretary, and John C. Graham, Trinity, treasurer.

International Association of Railway Surgeons.—The annual meeting was held in Indianapolis, June 18. The next meeting will be held in Chicago in May, 1904. The following officers were elected: President, Dr. James H. Ford, Indianapolis; vice-presidents, Drs. James M. Weaver, Dayton, Ohio; Edwin F. Yancey, Sedalia, Mo.; M. V. B. Newcomer, Tipton, Ind.; Charles R. Dickson, Toronto, Ont.; William R. Hamilton, Pittsburg, Pa.; David F. Stuart, Houston, Texas, and Hugh M. Taylor, Richmond, Va.; secretary, Dr. Louis J. Mitchell, Chicago, and treasurer, Dr. James A. Duncan, Toledo, Ohio.

Frisco Medical Association.—The second annual meeting of the surgeons of the Frisco system was held in Springfield, Mo., June 23 and 24. The following officers were elected: President, Dr. George W. Cale, Springfield; vice-presidents—for Alabama, Dr. Edward P. Lacey, Bessemer; for Arkansas, Dr. H. Clay Dunavant, Osceola; for Indian Territory, Dr. Fred S. Clinton, Tulsa; for Kansas, Dr. George C. Purdue, Wichita; for Mississippi, Dr. Samuel A. Gassaway, New Albany; for Missouri, Dr. George O. Coffin, Kansas City; for Oklahoma, Dr. A. H. Bourgardt, Cordell; for Tennessee, Dr. W. Britt Burns, Memphis, and for Texas, Dr. Willliam A. Duringer, Fort Worth; secretary, Dr. Roche W. Hogeboom, Springfield, Mo., and treasurer, Dr. Walter A. Camp, Springfield, Mo.

Connecticut Medical Society.—The one-hundred and eleventh annual meeting was held in Hartford, May 27 and 28, under the presidency of Dr. Gould A. Shelton, Shelton. The committee on tuberculosis reported that, of the 696 members of the society, only 115 had returned replies to the circular sent out by the commitee, which did not feel justified in assuming that the conclusions drawn from the collective investigations represented the concensus of opinion of the society. The president, in his address, commented favorably on the organization scheme as proposed by the American Medical Association, and on the elevation of the standard of medical education approved by the American Association of Medical Colleges and by the American Medical Association. The committee on revision of constitution and by-laws on the plan recommended by the American Medical Association, reported that it would not be able to make a complete report until the next meeting. The following officers were elected: President, Dr. Samuel B. St. John, Hartford; vice-president, Dr. William H. Carmalt, New Haven; secretary (for four years), Dr. Nathaniel E. Wordin, Bridgeport; assistant secretary, Dr. Henry S. Miles, Bridgeport; treasurer, Dr. William W. Knight, Hartford, and delegate to the American Medical Association, Dr. L. Duncan Bulkley, Norfolk. At the annual banquet, Dr. Oliver C. Smith, Hartford, presided as toastmaster. Charles T. Wells, a son of Dr. Horace Wells the Hartford discoverer of anesthesia, presented the society with a portrait of his father taken in 1825.

Ontario Medical Association.—The annual meeting was held in Toronto on June 16, 17 and 18. Dr. J. C. Mitchell of Toronto presided, and Dr. Harold C. Parsons, Toronto, acted as secretary. Dr. J. H. Musser, Philadelphia, President-elect of the American Medical Association, was present and delivered a very able and practical address on the treatment of pneumonia. In moving a vote of thanks to Dr. Musser, Dr. N. A. Powell jocularly referred to the powerful influence the Ontario Medical Association wielded in electing the Presidents of the American Medical Association. Some years ago Dr. Henry O. Marcy, Boston, was a guest of the association, and the American Medical Association promptly made him its President. Then followed Dr. John A. Wyeth, with a similar result, and now the good record had been kept up in Dr. Musser. Dr. Thomas S. Cullen, Baltimore, presented a valuable paper on "Uterine Myomata and Their Treatment." Mr. I. H. Cameron, in moving a vote of thanks to Dr. Cullen, stated he believed it was the best contribution on the subject ever written. A very interesting address on the medical witness under cross-examination was delivered by Hon. W. R. Riddell, K. C., Toronto, who divided all liars into three classes, liars, d——d liars and medical experts. A very interesting and profitable discussion took place on the morning of the third day on the subject of arteriosclerosis. The etiology and pathology was dealt with by Dr. H. B. Anderson of Toronto; the cardiac aspect by Dr. T. W. G. McKay, Oshawa, Ont.; the renal aspect by Dr. John Caven, Toronto; the cerebral aspect by Dr. Hugh McCallum, London, Ont.; the ophthalmic lesions by J. Cameron Connell, Kingston, Ont.; and therapeutics by Dr. John L. Davison, Toronto. The following officers were elected: President, Dr. James F. W. Ross, Toronto; secretary, Dr. Charles P. Lusk, Toronto; treasurer, Dr. Andrew R. Gordon, Toronto. Toronto was selected as the next place of meeting.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, June 2, 1903.

The President, Dr. Wendell Reber, in the Chair.

Symposium on Epilepsy.

"The Treatment of Epilepsy" was the title of a paper read by Dr. Luther C. Peter, in which he directed attention to the fact that the treatment of the disease must be largely prophylactic, first, by preventing the causes which give rise to the convulsion, and second, by preventing the subsequent convulsions, with the consequent mental and physical changes. He believed that much more could be done for the patients by careful attention to the diet, daily bath, sleep and environment, especially in children, than by medical measures, and these measures are particularly important if the child has a neurotic predisposition. He believed tea and coffee acted in many cases as inducing factors, and in some cases were the only causes of epilepsy in children; the great amount of mental work done by children with the present school system, he believed, also was accountable for a considerable number of these cases. After the epileptic habit is formed the general management of the case is important, and while he believed that drugs played an important rôle in the cure of these cases, he felt that the general management was the most important factor of every complete recovery. The author recommended the closest scrutiny of all parts of the body in order to detect any cause for epilepsy, and stated that he had seen cures follow the correction of refractive errors, removal of adherent foreskin, removal of constipation, etc., the success depending entirely upon the early recognition of the condition and removal of the cause. The toxic form, including the alcoholic type, he believed to be especially amenable to general treatment. It is pretty generally conceded that the convulsion has its origin in the cortical cells, and, therefore, the class of drugs which do the most good are nerve sedatives, the drug most extensively used being the bromid salts. He stated that he believed in many instances the mental dullness was due more to the excess of the bromids than to the epilepsy, and referred to the fact that few patients could take this remedy in larger amounts than 30 to 40 grains per day for any length

of time without producing bromidism; the addition of several drams of infusion of digitalis often intensifies the sedative action, without aggravating the bromidism; a minim or two of Fowler's solution will prevent the acne. Chloral will act beneficially for a time in controlling the convulsions, and if the patient has mental warning of the approach of an attack and it is given in sufficiently large doses it will often prevent the convulsion. He stated that he had used the fluid extract of solanum in a considerable number of cases, and in adults had found that as good results could be secured with from 2 to 4 drams of this drug as from 10 to 15 grains of potassium bromid, and its use can be continued indefinitely without the depressing mental effects. Its use has been followed by equally gratifying results in children, who usually stand the bromids so poorly. In those patients who have a considerable period of premonition, inhalation of nitrite of amyl is of much value in warding off the attack.

Diagnosis of Atypical Epilepsy.

DR. A. C. BUCKLEY read a paper on the above subject, in which he called attention to the necessity for early diagnosis and correction before the nervous mechanism had formed the epileptic habit. After giving in detail the symptoms of a typical attack of epilepsy, he stated that there were many cases which were not recognized for months, or perhaps years, owing to the fact that the attacks may be of such a nature as not to be noticed by the patient or his family, or may occur only during the sleeping hours, when, except for the fact that he feels fatigued and has marked muscular soreness upon awakening, the patient when he seeks medical advice is not aware of his true condition. He believed that the minor attacks were less responsive to treatment than the major attacks. They usually consist of momentary unconsciousness which very often is not recognizable, and it is in these that the greatest deviation from the set symptoms occur. Nocturnal epilepsy, when the symptoms are not sufficient to be recognized by the patient, can only be diagnosed by the after-signs, such as soreness of the tongue, usually on one side, frequently blood stains on the pillow, if the tongue has been bitten, minute conjunctival extravasations, voiding of urine in bed, and even these are frequently absent. He believed that a confusing factor in diagnosis was the differentiation between the minor epileptic attacks and the syncopal attacks; the epileptic attacks occur independent of the surroundings and in the absence of any predisposing causes, such as emotion, physical exertion, overheated rooms, hot, humid weather, etc., which frequently produce syncopal attacks. In the latter condition there is usually an irregular pulse and clammy skin, which is not present in epilepsy. In epilepsy the loss of consciousness is sudden and complete, and returns quickly, while in syncope it is usually preceded by a subjective feeling of faintness. Epilepsy may be preceded by an aura which may be described as a feeling of faintness, but there is usually associated with it a sensation of fear or strangeness which is not present in syncope. Distinct vertigo is in favor of epilepsy, although care must be taken to distinguish the vertigo from dizziness, which is sometimes present in syncope. He considered the automatic type of epilepsy of great importance. He believed that hysteroid could usually be distinguished from epileptic seizures by the fact that the former are usually coordinated.

DR. CHARLES W. BURR referred to the fact that the etiology of epilepsy was still very much in the dark, and believed that the greatest hope lay in the prevention, rather than the cure, of epilepsy, and in children predisposed to this condition, it is especially important that they should live out of town, have nourishing food and avoid mental overwork. He believed that alcohol played a considerable rôle in the production of epileptic seizures, and reported the case of a shoemaker, who would have attacks only after a drunken debauch. He felt that many of the cases of dementia were much accentuated by the long-continued use of bromids, and while he had not attained very good success with horse-nettle, thought this fact could probably be accounted for in that he had not given it in sufficiently large doses. In regard to diet, he did not believe that the patient should be required to forego red meat altogether, although he felt that its use should be restricted. He referred to several cases of post-epileptic automatisms, one man would go through the motions of pulling a rope for three or four minutes every time he would have an attack, and he expressed the opinion that in some instances this condition was responsible for the perpetration of innocent crime.

DR. SAMUEL WOLF felt that a careful study of the aura in connection with the sensory nerves might reveal something in regard to the etiology of the condition, and expressed the opinion that the attack originates in the peripheral sensory nerves rather than in the cortical cells. He referred to the fact that a large number of curious conditions have been recognized as epileptic equivalents directing particular attention to the fact that an Italian writer had recently advanced the theory that a good many of the cases of tachycardia are really cases of epilepsy, and reported a case of tachycardia which had recently come under his observation which he rather inclined to think was of this class. In the treatment of epilepsy he believed the bromids to be the foremost remedies, and if bromidism occurs, the addition of one or two drops of Fowler's solution with each dose is of value. Atropin is also frequently of advantage in conjunction with the bromids.

DR. WENDELL REBER stated that he had made a careful study of the ocular condition of about fifty epileptics for about a year, and found pupillary inco-ordination in about one to three, optical imbalance in about 35 per cent., and in a good many hypermetropic astigmatism was present. He did not attach much importance to these eye conditions, however, as all of them frequently exist in other conditions. He referred to the fact that a majority of epileptics were great overfeeders and not very active.

DR. LEWIS H. GOOD reported a case of a man who became intoxicated, and after he went home fell over in a fit; after this was over he was very violent for about an hour, breaking up furniture, etc., after which he fell into a deep sleep or comatose condition. He also reported another case, apparently hysterical, in which the symptom is incessant talking for about half an hour, the acts being both nocturnal and diurnal. The patient was run over by a wagon when a child and at puberty had amenorrhea and dysmenorrhea, since which time she has had these attacks.

DR. SOLOMON NEWMAYER referred to the rarity of the occurrence of epilepsy among the Hebrew race. He reported the case of a man who was suddenly taken ill on a very hot day; he became unconscious, had a temperature of 104 degrees; spermic fever was suspected and the usual treatment applied. After about an hour he revived, the case proving to be one of epilepsy.

DR. J. FRANK WALLIS reported three cases of convulsions, one of which he attributed to the patient eating cabbage, the other to eating sausage and pretzels, and the third to the fact that the patient had eaten a very hearty dinner. All of these cases were relieved by rectal injection, and the suggestion was made as to whether they were cases of true epilepsy or not.

DR. NATHAN G. WARD referred to cures that had been reported by the removal of obstructions of the naso-pharynx or by the removal of obstructions from the ear, the condition in most of these cases being obstruction or deflection of the septum, adenoids, enlarged tonsils and a few cases of pharyngeal abscess and suppurated ears. He believed that the greatest good could be secured by the use of prophylactic measures tending to prevent the attacks.

DR. CHARLES C. BIEDERT reported the cases of two brothers, both of a neurotic temperament, in which the attacks were frequently superinduced by disputes with their wives, in which the cold-water treatment was administered with gratifying results. He also referred to a case caused by alcoholism which was benefited by this same method.

DR. HOWARD S. KINNE felt that a very important factor in the prophylactic treatment of epilepsy was the placing of all infants on a properly nourishing diet, as nearly similar as possible to the mother's milk. He believed that one reason why epilepsy was less frequent among the Hebrew race was owing to the fact that the mothers usually nurse their chil-

dren. Alcohol he did not believe played a very important part in the production of epilepsy in the subject himself, but was more manifest in his descendants.

DR. WILLIAM EGBERT ROBERTSON called attention to the fact that convulsive attacks produced by bradycardia are very similar to the epileptic seizures. He believed that too often convulsions in children were attributed to teething and very little attention paid to them, which he felt accounted for at least some of the cases of epilepsy. He felt that tea and coffee played but a small rôle in the production of epilepsy in those not predisposed to the disease.

DR. LUTHER C. PETER, in closing, stated that he did not believe solanum to be any better drug than bromid, but its greatest merit consisted in the fact that it could be given in sufficiently large doses to benefit the patient for a long time, without producing any mental effects. In regard to alcohol as a causative factor, he stated he had three cases under his observation at the present time, who were subject to the seizures only after a debauch, but did not feel prepared to say that this was the cause of the epilepsy.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Twelfth Annual Meeting, held in Boston, May 19, 20 and 21, 1903.

The President, Brigadier General Robert A. Blood, Surgeon General of Massachusetts, in the Chair.

Welcome.

The opening session was held in Faneuil Hall, where the association was welcomed to Boston by Governor J. L. Bates and Dr. George E. Francis, president of the state medical society.

President's Address.

GEN. ROBERT A. BLOOD discussed the value of the association in bringing into harmony the work of the medical officers of the regular establishment, the national guard and the volunteers, considering this in the light of his own experience during the Civil and Spanish-American wars, and held that, with the facilities afforded by the association for uniform conduct, nothing but the failure of the government to make prompt, proper and ample appropriations could interfere with the highest efficiency of the medical service.

Public Service Medical School.

LIEUT.-COL. JOHN VAN R. HOFF, U. S. A., reported for this committee on the work of the Army and Navy medical schools for the year, and detailed the recommendations of the Surgeon-General of the Army relative to the establishment of an army medical school, in which a candidate should pass one year as a medical cadet and four years as a medical officer. Colonel Hoff, however, proposes to go still further and educate government medical officers *a binitio*, at an institution similar to the military academy at West Point, at which preparation would be made for all branches of the medico-military service.

COL. R. R. DE WREDEN, of Russia, described the Imperial Medical School at St. Petersburg, which gives its students their entire medical and military education, and whose graduates are assigned to hospitals or regiments in accordance with their class standing; the seven highest in each class being sent abroad to elaborate their studies and return as adjunct professors; the next highest being assigned to the hospitals, and the remainder to regiments.

Education of the Medical Officer of the Army.

MAJOR WILLIAM C. BORDEN, U. S. A., gave a succinct survey of the post-graduate instruction of the United States Army, dwelling especially on the work of the Army Medical School and incidentally referring to similar schools of other countries. He urged the extension of the facilities of the school to the medical officers of the militia.

This article was discussed at length by representatives of the United States Navy, various volunteer officers and the representatives from Canada and England. In closing the discussion Major Borden admitted the necessity of thorough professional training in the military medical officer as a prime factor, but recognized that in military service, administrative work was also of great importance.

The Acting Assistant Surgeon.

MAJOR AZEL AMES, U. S. V., commented on the anomalous position of the contract surgeon of the United States Army, observing that he had all the responsibilities and shared all the dangers of his commissioned colleague without either the honors or rewards to which the latter may look forward. He can anticipate no promotion, has no increase in pay for length of service, has no retirement nor pension when he becomes worn out in the service. The author forcibly urged the improvement of the status of this valuable and yet officially unappreciated member of the military service.

The Presidio General Hospital.

COL. ALFRED C. GIRARD, U. S. A., presented an exhaustive report of the U. S. A. General Hospital at the Presidio of San Francisco, Cal., for the years 1901-02. The report dealt with the general administration, the medical, surgical, bacteriological, eye, ear, nose and throat and the *x*-ray work. The total number of patients was 4,551, with a mortality of 92. The surgical cases numbered 728, of which 106 were for hernia, 58 for gunshot wounds, 35 for varicocele, 27 each for appendicitis and tumors, 10 each for bolo wounds and hepatic abscess. The report was accompanied by valuable appendices on liver abscesses, and the mosquitoes of the Philippines.

Surgeons General of the Army.

MAJOR JAMES EVELYN PILCHER, U. S. V., presented a series of biographical sketches of the surgeons general of the army, from the Revolution to the close of hostilities in the Philippines, illustrated by a complete series of portraits.

Instruction of Hospital Corps.

CAPT. FREDERICK P. REYNOLDS, U. S A., detailed the following principles on which the work of the U. S. A. Hospital Corps Company of Instruction should be based: 1. To at once impart a thorough knowledge of discipline in the same way and by much the same methods as is imparted in the line of the Army, with which the hospital corps is always serving; 2, to teach men the principles of order and neatness, both as regards themselves and their personal equipment, and also to familiarize them with the departments of a hospital and the articles with which they work; 3, after this, to impart to each man a knowledge, as far as his mental capacity will permit, of practical nursing, of preparation of diets for the sick, of first-aid and transportation of the wounded, and of ambulance driving and care of animals; 4, to teach them to care for themselves and the equipment entrusted to them in field service, and to be familiar with the usual duties of hospital corps men on the march, in camp, and during an engagement; 5, to instruct in clerical work, materia medica and pharmacy those who have aptitude for such work.

Retirement and Pensions.

MEDICAL DIRECTOR JOHN C. WISE, U. S. N., premised that the medical officers of the United States Navy are more directly responsible than anyone else for the ultimate incidence of our vast pension appropriation, and urged the highest care in diagnosis and record with especial attention to the question of incurrence if disability in the line of duty.

Prevention of the Spread of Infectious Diseases on Board Ship.

SURGEON HENRY G. BEYER, U. S. N., confined himself to the consideration of measles, an affection of singular importance in military and naval service, and recognized that the chief danger of infection in this and allied diseases lay first with the patient, and only secondarily with the persons and things with which he had been brought in contact. The author's practice was, the disease having been diagnosed, to sterilize by steam the patient's clothes, using bichlorid for disinfecting the shoes. The patient then had a thorough scrubbing with soap and warm water, and a complete sponging with bicholorid 1 to 2,000, and was put to bed wrapped in a sheet moistened with the same solution. The bichlorid bath was

repeated thrice daily during the height of the eruption and twice a day thereafter. The mouth and nose were frequently cleansed with normal salt solution containing a minute quantity of carbolic acid or bichlorid. All excretions were immediately disinfected and complications promptly treated. By the use of these precautions the author believed it possible readily to control the spread of the disease.

Antimalaria Work.

LIEUT. F. F. RUSSELL, U. S. A., summarized the result of two seasons of work against malaria made at Ft. Washington, Md., 13 miles below Washington. The use of petroleum on the stagnant breeding pools in the neighborhood was immediately beneficial, resulting in the first year in the diminution of the percentage of malarial cases from 19.53 to 8.63; and this percentage was reduced the following year to 4.18. The use of the oil was a measure of temporary resort only, and the author considered that a portion, at least, of the good results, was due to the establishment of a general drainage system.

Tuberculosis at Fort Stanton.

SURGEON PAUL M. CARRINGTON, U. S. P. H. and M.-H. Service, described the treatment of tuberculosis at Fort Stanton. He is a sturdy advocate of tent-dwelling for the consumptive. The spread of infection is controlled by the use of spit cups and periodical disinfection of apartments. While an advocate of exercise under favorable conditions the author believes that the advice to "go West and rough it on a ranch" is responsible for many unnecessary deaths.

Medical Treatment of Appendicitis.

LIEUT. E. CASTELLI of the Italian Army believes that the appendix must be considered as a tubular ganglion, receiving germs either from the blood or the lymphatics, by which appendicitis may become a complication in scarlet fever, pneumonia, erysipelas, parotitis, etc. The author is opposed to treatment by opium or local ice applications, but resorts to preliminary treatment by salicylate of sodium as a cholagogue and antithermic. Three hours later he administers calomel as an antiseptic, cholagogue, laxative diuretic and pancreatic stimulant. He controls the pain by warm baths and hot saline solution enemata. The bacterial cause of the trouble, residing in the blood, is treated by subcutaneous injection of a dilute carbolic acid solution.

Latent Malarial Infection.

LIEUT. CHARLES F. CRAIG, U. S. A., described the pathology of malarial infection, which had not been manifested by symptoms, and in which blood examination did not necessarily show the presence of malarial parasites. His observations were based on autopsy findings. He found that the changes were confined almost entirely to the spleen, and consisted chiefly in an engorgement of the splenic sinuses with red cells and leucocytes, the presence of infected red cells and of phagocytes and melaniferous leucocytes, increase in the cells and the splenic pulp with more or less degeneration and karyokinesis and pigmentation of the organ confined to the edges of the Malpighian corpuscles and the splenic sinuses and trabeculæ. These facts bear out the time-honored theory that the spleen is the seat of malarial infection.

Early Differential Diagnosis of Typhoid Fever.

MAJOR FREDERICK SMITH, D.S.C., R.A.M.C., was awarded the Enno Sander Prize for his essay on this subject. He considered his subject under the following heads: Introductory; subjective early symptoms; objective symptoms; temperature as an aid in the diagnosis; typhus and relapsing fevers; tuberculosis, respiratory diseases and influenza, meningitis, septicemia, puerperal fever, pyemia, endocarditis, pericarditis, glanders; gastroenteritis, pericecal inflammation, dysentery; febricula; Malta fever; malarial fever; plague and other diseases mistaken for typhoid, and chemical reactions and microscopic methods in relation to the earliest stages of typhoid. He concludes that, in the field, the medical officer must rely mainly on his clinical acumen and summarizes his studies in that direction as follows: 1, There is scarcely any disease accompanied by fever which has not been at times mistaken for typhoid fever; 2, a good many cases are wrongly diagnosed owing to carelessness or to want of knowledge; 3, the disorders most liable to be confounded with typhoid fever are: Typhus fever, tuberculosis, pneumonia, influenza, febricula, or unnamed continued fever, Malta fever, malarial fever and paratyphoid; 4, it is frequently impossible by non-bacteriologic methods to differentiate between typhoid and the diseases named above in four days or even a week and more; 5, our safety, from a public health point of view, lies in regarding all doubtful cases as typhoid until they have been proven to be something else, and 6, the anomalous cases are more numerous and the difficulties in the way of diagnosis greater, in military than in civil life.

History, Cause and Mode of Transmission of Yellow Fever.

LIEUT. JAMES CARROLL, U. S. A., presented an encyclopedic paper tracing yellow fever from its earliest historical appearance in Barbadoes in 1647 to the decline of the disease in Cuba in 1902. The author concludes that yellow fever is contracted only through the bite of infected mosquitoes twelve or more days after feeding on the patient in the earlier period of the disease. Experimentally, the disease can be produced by subcutaneous injection of blood or even of infiltrated blood serum of a patient, provided the material can be obtained sufficiently early in the attack.

The Treatment of Yellow Fever in Havana.

COL. WILLIAM C. GORGAS, U. S. A., emphasized the desirability of receiving the patient during the first three days of the attack and of keeping him in the recumbent position absolutely without exertion. Food was prohibited during the active stage and milk was given when the temperature subsided unless contraindicated. Water and cracked ice were given ad libitum. Cathartics were employed as needed. Phenacetin was exhibited for headache and muscular pain. Saline enemata and local applications to the back were given for urinary suppression or diminution. The convulsions were due to toxemia rather than to uremia as had been previously supposed. Gastric hemorrhage was treated by cracked ice and rest, without astringents. This treatment, as compared to the use of drugs as employed by the Spanish physicians, was far more successful, as the mortality of the American Hospital was 12 per cent. less than that under the Spanish treatment.

Spinal Anesthesia in Military Surgery.

LIEUT.-COLONEL AUGUSTIN AGUIRRE of the Mexican Army presented an interesting report of the subarachnoid injection of hydrochlorid of cocain, according to the method of Tuffier, for which he claimed the following advantages: Ease of application; the surgeon is his own anesthetist; speedy action; absolute safety and a small, easily carried and readily sterilized armamentarium. The author reported 210 cases in which the drug had been employed.

Tropical Abscess of the Liver.

LIEUT. E. W. PINKHAM, late U. S. A., reported sixteen cases of hepatic abscess with seven recoveries, the high mortality being due to failure to recognize the condition sufficiently early. He observed that the so-called abscesses of the liver are not really abscesses nor are their contents pus; they are rather areas of necroses, liquefaction of liver tissues and are made up of liver cells in all stages of degeneration and disintegration, free fat globules, more or less of blood corpuscles, and serum. He commented on the freedom with which the liver may be examined without dangerous hemorrhage, and objected strongly to evacuation and drainage by the trocar or cannula, urging free incision.

Anterior Dislocation of the Shoulder.

ASST.-SURGEON GENERAL G. TULLY VAUGHAN, U. S. P. H. and M.-H. S., recommends the following methods, in the order given, of the treatment of anterior dislocation of the shoulder: Direct reposition; extension and counter-extension; Kocher's method; and arthrotomy. He related a case in which all were successively employed, free opening finally showing that reduction had been provided by a detached greater tuberosity; reduction was then easily affected by pressure in the axilla with adduction of the arm.

The Interoceanic Canal.

The following resolutions, presented by Lieutenant-Colonel J. K. Weaver, N. G., Pa., were unanimously adopted:

WHEREAS, It is well known that the previous excavations for an Isthmian canal have been attended with a large amount of illness and a heavy mortality, due mainly to malaria and yellow fever; and

WHEREAS, Recent discoveries as to the cause of these diseases have enabled medical officers to control their ravages to a marked degree; and

WHEREAS, The success which has crowned medical efforts in Cuba, in abolishing yellow fever in the island, almost banishing malaria from Havana and entirely eradicating malaria as a factor of the death rate of the Army in Cuba, is conclusive evidence that if proper hygienic precautions are taken at Panama and other situations, along the route of the projected interoceanic canal, the death rate of the past can be diminished and practically made to disappear; therefore, be it

Resolved, That, in the judgment of the Association of Military Surgeons of the United States, in annual meeting assembled, the amplest power should be given to the medical officers in charge of the sanitation of the canal, and that, to attain this end, the medical officer in charge should be a member of the commission which the President of the United States is authorized to appoint to conduct the affairs of the canal; and be it further

Resolved, That the Secretary of the Association is instructed to forward this preamble and resolutions, properly attested, to the President of the United States.

Reorganization.

The Committee on Incorporation,, through its chairman, Major William C. Borden, U. S. A., announced that the association was incorporated by Act of Congress, approved Jan. 30, 1903. The association proceeded to reorganize under the law.

Election of Officers.

The following officers were elected for the ensuing year: President, Medical Director John C. Wise, U. S. Navy; vice-presidents, Surgeon-General Walter Wyman, U. S. P. H. and M.-H. S.; Major Albert H. Briggs, surgeon, N. G., N. Y.; Brigadier-General Robert M. O'Reilly, surgeon-general, U. S. Army; secretary and editor, Major James Evelyn Pilcher, U. S. Army, and treasurer, Major Herbert A. Arnold, surgeon, N. G., Pa. St. Louis was selected as the place of meeting for 1904.

Resolutions.

After the induction of the new officers, appreciative resolutions were unanimously adopted in acknowledgment of the courtesies of the citizens of Boston, including the Medical Library Association, Surgeon-General Blood, Captain Myles Standish, Lieutenant F. L. Gibson, Dr. Henry O. Marcy and the host of hospitable and generous people who had contributed so freely to the entertainment of the association.

NEW YORK STATE MEDICAL ASSOCIATION.

Nineteenth Annual Meeting of the Fifth District Branch, held in New York City, May 19, 1903.

The President, Parker Syms, M.D., in the Chair.

Symposium on Malaria.

DR. W. N. BERKELEY opened this symposium with a paper in which he described the three species of anopheles mosquito, and insisted that drainage was the only permanently effective remedy against these pests.

Laboratory Diagnosis and Life Cycle of the Parasite of Malaria.

DR. W. T. KLEIN described the various stages observed in the malarial plasmodium during the endogenous cycle in the human being, and said that the plasmodium was very rarely found free in the blood plasma. The breaking up of the segmenting body and the liberation of the spores were coincident with the rigor. The cycle was completed approximately in forty-eight hours in the tertian variety. The quartan ring was slightly smaller than the tertian, and its pigment granules were smaller and more numerous. Its cycle was completed in 72 hours. The estivo-autumnal form was also smaller and more delicate than the tertian, and it presented two types, one having a cycle of 24, and another a cycle of 48 hours. The parasite of malaria was transferred to man by the bite of the mosquito, and, if the inoculation were successful, which was by no means always the case, malaria usually developed in eight or ten days. Either a dry or a fresh specimen of blood could be made use of for diagnostic purposes, but, whenever possible, it should be taken about eight hours after the chill, because just prior to the occurrence of the chill the malarial plasmodia showed a tendency to retire from the peripheral circulation to the internal organs. A one-twelfth inch oil immersion lens was required for the examination, and a large experience in this field of work had taught him that preference should be given to Goldhorn's staining method, not only because the fixing and staining process could be done in about one minute, but because the chromatin granules were so brilliantly stained as to materially aid in the diagnosis. A marked diminution in the number of red blood corpuscles and in the hemoglobin was a constant occurrence in malaria, and an absence of leucocytosis was likewise a characteristic feature. This was an important point in the differential diagnosis of malaria.

The Concurrence of Anopheles Mosquitoes and Malaria.

MR. HENRY CLAY WEEKS, engineer in economics, discussed this topic. He deplored the prevalent tendency of the people of a malarial region to conceal the true facts, and their dread of taking an active interest in the work of exterminating the disease lest by so doing the locality might get a bad name. It was far better for all concerned to face the truth, and take steps toward the banishment of such a public disgrace. He called attention to a fact often overlooked even by medical men, i. e., that the larvæ of the anopheles are found much later in the season than those of the ordinary mosquito.

Clinical Diagnosis and Treatment of Malaria.

DR. ALEXANDER LAMBERT discussed this phase of the subject. He pointed out that while there were occasional mild cases of malaria in which the attacks only lasted four to six hours, true malaria was generally distinguished from other diseases characterized by chills by the fact that ten or twelve hours were required for the complete cycle. Another distinguishing point was that in malaria, as seen in this part of the world, the pulse did not rise in proportion to the temperature, a temperature of 104 F. often being associated with a pulse rate of less than 100. He quoted Captain Delaney of Calcutta, who had had a very large experience with malaria in that region, as saying that a justifiable diagnosis of malaria was possible in over 90 per cent. of the cases by means of a differential count of the leucocytes. If the large mononuclear leucocytes, i. e., those mononuclear cells which were as large as the polynuclear ones, constituted over 12 per cent., one was warranted in making the diagnosis of malaria. In differentiating malaria from tuberculosis, it should be remembered that in the early stages of the latter disease the temperature usually ranged between 97 and 100 F. In sepsis the febrile and sweating stages were of comparatively short duration and recurred at irregular intervals. In cholelithiasis there was a remittent form. In yellow fever there was a falling pulse, with a stationary or rising temperature. It was often very difficult to distinguish between estivo-autumnal malaria and typhoid fever, but the temperature curve, the history and the other symptoms would usually suffice for such differentiation. The enlargement of the spleen did not occur as early in typhoid as in malaria. The diazo-reaction in the urine in the early days of typhoid was often of assistance. In this latitude many mistakes in diagnosis would be avoided if it were made the rule to exclude malaria, unless the plasmodium were found in the blood. The speaker said that, in his experience, Manson's method of treatment had proved uniformly successful. It is carried out as follows: Five grains of quinin are given every four hours until the temperature returned to the normal, and then three grains should be given three times daily. At the same time the patient should take daily a drink made by cutting up the rind, pulp and seeds of a lemon, placing them in one quart of cold water and boiling this down to one pint. This drink should be taken daily for four months. It should be strained before taking, and could be sweetened as desired. After three weeks the patient should take a calomel purge, and then three grains of quinin three times daily for one week. This week of medication should be repeated at the end of the month, and at intervals of a month thereafter for four or five months. The hydrochlorate of quinin contained more of the alkaloid and was more soluble than the ordinary sulphate of quinin.

DR. FRANCIS P. KINNICUTT did not think that clinical experience had proved this treatment of Manson to be so effective

as that of Ross, which was as follows: Ten grains of quinin are given every two hours for the first fortnight, 15 grains daily for the next fortnight, ten grains for the second month, 5 grains for the third month. The dose should be increased from five to ten grains at first twice a week, and later at weekly intervals. The treatment should be invariably continued for four months, even though no relapse occurred. Where a person was unavoidably exposed to infection, an excellent prophylactic treatment consisted in taking five grains of quinin daily, increasing the dose to ten grains twice a week.

DR. DAVID P. AUSTIN called attention to the strong tendency to relapses at intervals of a week for the first month, as well as to the value of combining quinin with calomel and capsicum.

DR. W. I. COCKE of Port Washington, L. I., described his favorable experience with nuclein in the treatment of malaria.

Officers Elected.

The following officers were elected: President, Dr. J. C. Bierwirth, Brooklyn; vice-president, Dr. Milton C. Conner, Middletown; secretary, Dr. E. V. Hubbard, New York City; treasurer, Dr. Henry Dodin, New York City.

GERMAN CONGRESS OF SURGERY.

The thirty-second annual congress of German surgeons was held at Berlin, June 3 to 6, and a number of interesting communications were presented. Prof. G. Gaertner, Vienna, inventor of the "tonometer," exhibited a somewhat similar instrument for watching the pulse during narcosis. It is worn on the wrist like a bracelet, and an index registers the pulse on a large dial. Narath, Utrecht, presented a "gastrophor," a device to aid in operations on the stomach and to dispense with an assistant. An exposition of surgical appliances contained the new instruments, nearly all of which seem to have been described in THE JOURNAL during the last year. Kraske, Freiburg, expatiated on the

Dangers of Raising the Pelvis

in operating, and cited several instances from his own experience in which the Trendelenburg position had entailed fatal consequences. Paralysis of the anterior tibial nerve and emphysema of the abdominal walls are not serious and can be avoided. He refers more particularly to the disturbances in the circulation in obese subjects. In two patients of this group, with signs of myocarditis, an operation on the bladder under ether was followed by heart failure the next or the fifth day. He thinks that this fatal result was due to the increased blood pressure and consequent dilatation of the heart. In three cases occlusion of the intestines followed a laparotomy with the pelvis raised. One patient spontaneously recovered after five days of ileus. In another, a still more tempestuous case, the entire omentum was found rolled up under the liver, the colon adherent to it, and completely occluded. The conditions were relieved by a laparotomy, but the patient soon succumbed. Schauta has reported two cases of torsion of the small intestine in consequence of the Trendelenburg position, and insists that the viscera should all be carefully restored to their normal places before closing the abdomen. In a third case the raising of the pelvis caused severe post-operative hematemesis. Trendelenburg, Leipsic, in the discussion that followed, called attention to still another danger, suffocation from aspiration of vomited matters when the stomach is not empty as the operation is commenced. He has lost a patient from this cause. König, Berlin, warned against the slanting position in operating on intraperitoneal abscesses for fear that some of the contents may escape into the upper parts of the abdominal cavity.

Küttner, Tübingen, proclaimed that he had saved laboratory animals, otherwise doomed, by intravenous injection of a saturated

Oxygenated Saline Solution,

and exhibited an apparatus he had devised for the purpose. He found inhalation of oxygen under pressure an effective measure, especially when combined with the intravenous injections.

Massage in Recent Fractures.

Jordan, Heidelberg, has found in 100 cases that early massage and application of a splint after each massaging resulted in more rapid and better functional and anatomic cures than he had ever attained by other measures. Even when immobilization is necessary, it should always be preceded by massage, and be restricted to the minimum.

Cancer in Digestive Tract.

Petersen, Heidelberg, affirmed that cancer in the rectum has a tendency to bore into the depths, while gastric cancer spreads by predilection on the mucosa, and is shallower. He also claims that some of the cancer cells are destroyed in the lymph glands. He makes a practice of extensive resection of the stomach but does not think it necessary to remove all the glands in the region. In 30 cases of resection of the stomach at Heidelberg, on account of cancer, 7 of the 18 who survived the intervention are still alive.

Paraffin Prothesis for Hernias.

Eckstein, Berlin, advocated treating inguinal and umbilical hernia by this means, but Gersuny, the inventor of the measure, emphatically denounced this application of it. The hernia is not cured, but merely concealed behind the paraffin. Others, however, have been successful with it, injecting paraffin with a melting point of 40 C. into the hernia sac after reduction of its contents.

Operative Treatment of Epilepsy.

Kümmell, Hamburg, stated that he had treated 30 cases of epilepsy by Kocher's method of draining the ventricle. The epilepsy vanished as long as the drainage continued, but returned as soon as it was suspended.

Esthetic Ablation of Lymphomata in Neck.

Dollinger, Budapest, has been very successful in removing these tumors without a scar or recurrence. He works through an incision in the edge of the hair, and has even succeeded in removing supraclavicular ganglia by this route. Out of 128 operations of this kind there was slight post-operative suppuration in only 21, and it was not tuberculous, and healed as soon as a small drain was introduced at a counter-opening. There has been recurrence in only 2 of the entire number.

Suture of the Heart.

Four surgeons reported direct suture of the heart, one having done it in 3 cases. All of the 6 patients recovered except 2, and Rehn mentioned that his patient operated on six years ago is in good health to-day.

Treatment of Cavernous Angioma with Magnesium Darts.

Payr, Gratz, reported that a cavernous angioma on the cheek was very much reduced in size by his method of introducing magnesium darts. He inserted 42 in six sittings. The little darts are soon absorbed, but they induce the formation of compact connective tissue with thrombosis and obliteration of the spaces. The vascular tumor is thus reduced to an insignificant size, or its extirpation is rendered easy without fear of hemorrhage. He has thus treated 8 or 9 cases with complete success.

Recovery After Impalement.

Franke, Brunswick, described a remarkable case of complete transverse perforation of the thorax. A woman fell from a height on a broom handle, which entered at the right axilla and emerged in the other. He saw the patient soon after the accident, and found considerable emphysema of the subcutaneous tissue, progressive dyspnea, a wound in the right axilla and a very tender point in the left axilla, the region which seemed to be the starting point for the emphysema. He had the patient taken to his ward at once and made an incision in the left axilla through which he could palpate with his fingers a perforation of the thorax wall in the third interspace. The lung had evidently retracted from the thorax wall, and in order to avoid pneumothorax he tamponed the wound at once. He then inspected the right axilla, and found here likewise a perforation of the third interspace, and he tamponed this also. The patient had quite recovered in fifteen days. He adds that the blood stains on the broom handle corresponded exactly with the transverse diameter of the thorax. It must have pushed back the heart and lungs without injuring them.

The *Semaine Médicale* of June 10 and 17 contains an elaborate report of the congress. Most of our German exchanges are publishing the "collective report" in installments.

MONTANA MEDICAL ASSOCIATION.

Twenty-fourth Annual Meeting, held at Helena, June 17 and 18, 1903.

Dr. T. J. McKenzie, Anaconda, President, in the Chair.

An address of welcome was delivered by Mayor Frank J. Edwards of Helena, which was fittingly responded to by the president of the association. After roll-call and the admission of sixteen new members, a good scientific program was taken up and discussed.

The following officers were elected for the ensuing year: President, Dr. Louis Bernheim, Butte; vice-presidents, Drs. Donald Campbell Butte; George H. Barbour, Helena, and E. F. Conyngham, Phillipsburg; secretary, Dr. Ben C. Brooke, Helena; treasurer, Dr. Isadore D. Freund, Butte; councilors, Drs. Thomas J. Murray, Butte; G. T. McCullough, Missoula; T. J. McKenzie, Anaconda; Ernest Crutcher, Great Falls; Charles F. Hopkins, Chinook; W. B. Kingsbury, Dillon; William C. Riddell, Helena; Alexander D. McDonald, Kalispell; Robert D. Dalton, Livingston, and James Chapple, Billings. The next meeting of the association will be held at Butte on the second Wednesday and Thursday of May, 1904.

Dr. John A. Donovan, Butte, introduced the following resolution, which was adopted:

Resolved, That the Medical Association of Montana approves the plan of examination of eyes and ears of all school children as recommended and practiced by the Illinois State Board of Health and approved by the American Medical Association and many other organizations. That we recommend said plan to our state board of health and board of education for their approval and action. That hereafter every child will be carefully examined by the teacher at least once a year and records made according to the prescribed simple forms printed for this purpose. That the parents of any child who is found defective in sight or hearing be notified, that said parents may act as they see fit.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the disease seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Sulpho-Carbolate of Zinc in Cholera Infantum.

Dr. W. F. Waugh, in the July number of *Alkaloidal Clinic,* recommends sulphocarbolate of zinc in infantile summer diarrhea and in cholera infantum. His routine treatment is to clear out the bowels with castor oil, calomel, mercury and chalk, aromatic rhubarb, lavage or colonic flushing as seems best in each case. This is followed by the zinc salts every hour in 1/6 to 2 gr. doses. It is given in solution or powder form, and, in cases of decided irritability, combined with pepsin and bismuth. When there is extreme acidity marked by rectal excoriation, sulphocarbolate of sodium is substituted.

Diarrhea.

The *Journ. of Tropical Med.* quotes the following combinations in the treatment of diarrhea:

℞.	Tinct. camphoræ	3i	4
	Tinct. capsici	3ss	2
	Tinct. lavendulæ co.	3ii	8
	Spts. vini gallici q. s. ad	℥ii	60

M. Sig.: One teaspoonful every two or three hours.

In the treatment of chronic summer diarrhea the following combinations are recommended:

℞.	Bismuthi subgal.	gr. xxiv	1 60
	Pulv. opii	gr. ss	03
	Pepsini pulv.	gr. vi	40

M. Ft. chart. No. xii. Sig.: One every four hours, alternating with the following:

℞.	Hydrarg. chloridi mitis	gr. ss	03
	Cerii oxalatis	gr. ii	12
	Sacch. albi q. s.		

M. Ft. chart. No. xii. Sig.: One every four hours.

Pustular Acne of the Face.

According to Leredde, in an abstract in *Amer. Med.,* an acne developing on a sensitive skin, as in women, should not be confounded with an acne developing on a thick skin, which is but slightly sensitive, when the treatment is being considered. He regards sulphur as the best remedy, but its action depends not so much on any special property of the sulphur as on the excipient combined with it. He, therefore, makes two classifications of excipients: First, those that tend to congest the skin, obliterate the glands, and prevent cutaneous perspiration. (In this class he includes the fats.) Second, the agents which decongest the skin and facilitate cutaneous perspiration, such as powders and pastes. The latter are employed when the skin is sensitive.

The following combinations may be of service:

℞.	Sulphuris precip.	3v	20
	Saponis nigri	3iiss	10
	Acidi pyrogallici	3i	4
	Zinci oxidi	℥i	30
	Liq. petrolati	℥iii	90

M. Sig.: Apply locally at night.

The parts should be washed thoroughly with salicylated soap before applying the ointment. If the skin is hard, the paste may be left on over night and removed the next morning. In women the paste should be removed at the end of two hours. According to the author, larger amounts of the sulphur can be used, and are borne better when prescribed as a paste than when prescribed with simple fat.

When the skin is not sensitive the following ointment may be employed:

℞.	Sulphuris precip.	3i	4
	Hydrarg. chloridi mitis	3ss	2
	Lanolini	3v	20
	Liq. petrolati	℥iiss	75

M. Ft. unguentum. Sig.: To be applied locally.

The general condition of the patient must be carefully inquired into and properly corrected if possible. Especially must gastric disturbance be avoided.

Neurasthenia.

The following combinations are of value in the treatment of neurasthenia:

℞.	Ferri glycerophosphatis		
	Sodii glycerophosphatis, āā	3i	4
	Berberinæ phos.	gr. xii	75

M. Ft. capsulæ No. xxiv. Sig.: One capsule before each meal.

When pronounced anemia is present the following combination containing arsenic and iron should be prescribed:

℞.	Acidi arsenosi	gr. 2/3	04
	Ferri sulphatis	3i	4
	Ext. nucis vomicæ	gr. vi	40
	Potassii carbonatis	3i	4

M. Ft. capsulæ No. xxiv.

The lecithin preparations, made from the yolk of the egg, are regarded by some as exerting specific action in this disorder. It may be prescribed in one of the following forms:

℞.	Glycerol lecithin	℥ii	60

Sig.: One-half teaspoonful after each meal, gradually increased to one teaspoonful three times a day: or;

℞.	Pil. ovo-lecithin ana	gr. iii	20

No. xxiv. Sig.: One pill three times a day after each meal.

Phosphorus combined with zinc makes a good combination to be used in some cases:

℞.	Phosphori	gr. ss	03
	Zinci valerianatis	3i	4

M. Ft. pil. No. xxx. Sig.: One pill after each meal. If the patient suffers from insomnia the following should be given at bedtime:

℞.	Sodii bromidi	3v	20
	Tinct. hyoscyami	3iv	15
	Elix. simplicis q. s. ad	℥ii	60

M. Sig.: One teaspoonful at bedtime, for sleep, and repeat in one hour if necessary.

It must not be forgotten that autointoxication is present as a causative or aiding factor in many of these neurasthenic cases. Consequently the alimentary tract must receive proper

attention by keeping the bowels freely open, either with saline purgatives or small and repeated doses of calomel. Intestinal antiseptics are valuable, such as salol, thymol or creosote in small doses. Hydrotherapy, prescribed to suit the individual case, is indicated. It may be administered in the form of baths, douches or sprays.

Medicolegal.

Liability of Company for Malpractice After Fraud.—The Court of Civil Appeals of Texas holds, in Jones vs. Railway Company, an action brought to recover for personal injuries received by the wife of the party suing, that oral evidence would be admissible to show that, as an inducement for the party suing to execute a release to the company, the latter undertook to have his wife further treated by its physicians and to pay her board bill. If the company furnished medical treatment to the wife in consideration of the execution of the release, it would be liable for unskilful treatment, although the release should be set aside on account of fraud in its procurement.

Five Thousand Dollars for Injury to Spine.—The case of Sweeney vs. The New York Central & Hudson River Railroad Company was brought by a young woman who was at the time of the trial 22 years of age to recover for alleged permanent injuries to her spine. The extent of her injuries was a sharply contested point. Several witnesses beside the woman herself, and including two physicians, were sworn to sustain the contention that such injuries were very severe. On the other hand, evidence was given in behalf of the company to the effect that her claims in reference thereto were greatly exaggerated. Under these circumstances the Fourth Appellate Division of the Supreme Court of New York does not feel that the evidence warranted it in disturbing a verdict in her favor or feel willing to say that one for five thousand dollars was excessive.

Cases of Privilege.—The Second Appellate Division of the Supreme Court of New York says, in the case of Duggan vs. Phelps, that it is held that what is seen by a physician in looking at the patient is within the privilege (Grattan vs. Metropolitan Life Ins. Co., 92 N. Y., 274); that it is not necessary that the physician should be employed by the patient, or that there should be a contract relation between them (Renihan vs. Dennin, 103 N. Y., 573); that the party suing, by calling his physician to testify as to his disease and its treatment, does not waive his objection to the evidence of other physicians who had treated him at other periods (Hope vs. Troy & Lansingburgh Railroad Company, 40 Hun., 438, affirmed in 110 N. Y., 643); and that although a patient gives evidence as to his condition both before his entrance to a hospital and after he leaves it, he does not waive the privilege as to a physician who treated him in that interim (Barker vs. Cunard Steamship Company, 91 Hun., 495, affirmed in 157 N. Y., 693). In the present case, the party suing for damages for personal injuries testified that after the accident he was taken in an ambulance to a hospital; that he left there the next day, and was thereafter treated at home by his own physician, who testified in detail as to the injuries and the treatment. The other party called the ambulance surgeon, who had charge of the party suing and treated him in the hospital. The court holds that the calling of his own physician as a witness was not a waiver of privilege as to the ambulance surgeon. It distinguishes the case from Green vs. Metropolitan Street Railway Company (171 N. Y., 201, page 45 of THE JOURNAL of July 5, 1902), and Griffiths vs. same company (171 N. Y., 106, page 103 of THE JOURNAL of July 12, 1902), by the fact that the ambulance surgeon testified that he had charge of the party suing, and recalled what he did for him, and that he treated him after he came to the hospital, after which he was asked to state his condition at the time that he "first saw him, that he treated him." It says he was therefore asked to speak in the relation of physician to patient.

What Deemed a Bodily Infirmity—Pension as Evidence.—The United States Circuit Court of Appeals, Third Circuit, holds, in the case of Black vs. the Travelers' Insurance Company, that an infirmity of the body, as the term implies, is something that materially impairs the bodily powers. In a case where this is clearly made out, it is no doubt the duty of the court to take the question from the jury and dispose of it; but ordinarily it is for them to pass on. For example, in this case an applicant for insurance warranted that he had never had "any bodily or mental infirmity." It was proved, however, that while a soldier in the Civil War he received a gunshot wound in the back of the head, by which the external table of the skull was fractured, a piece about half an inch square taken out, and a slight depression of the inner table produced. On the strength of this, in December, 1868, he was granted a pension by the United States government of $8 a month, which was increased to $12 in July, 1886, and in December, 1889, to $14 on account of alleged resulting vertigo and impaired vision. But, aside from the pension record, there was nothing to show that the wound, which healed over quite speedily, materially affected the general health of the insured, which, according to the testimony of several witnesses, was uniformly good; and the court holds that the question of whether the condition produced by the wound was a bodily infirmity within the warranty, and constituted a breach of it, should have been left to the jury. In other words, it holds that an injury or infirmity, the existence of which constitutes a breach of such a warranty, must be such as amounts to an actual inroad on the physical health or condition of the insured, and that this, as a rule, is a question for the jury. The mere reception of a pension, it holds, did not establish that he was affected with a bodily infirmity, but only that it had been so represented by him to the pension department. However far in that direction this may have gone it was not conclusive on the question of the existence of a disability regardless of the other proofs. Even on the most disadvantageous showing it amounted to no more than a declaration or statement by the insured, which, like any other, it was for the jury to consider and pass on along with the other evidence.

Prescriptions Under Local Option Law.—By the Texas constitution the legislature is required to pass a "local option law," which is restricted to a prohibition of the sale of intoxicants. Article 405 of the penal code, in substance, prescribes the punishment against all parties who undertake to give prescriptions in local option territory, except regular, practicing physicians, and against them if they should give prescriptions without a personal examination of the applicant, which personal examination must disclose the fact that the applicant is sick. But the Court of Criminal Appeals of Texas holds, in Stephen vs. State, that the legislature has no authority to punish a party for giving a prescription to himself. No more could he be punished for giving a prescription to a third party. The legislature has not been authorized by the constitution to prohibit the giving of prescriptions. This is not a sale, nor can it be tortured into a sale. It may be admitted that it contemplates the purchase of the intoxicant, but it is not a purchase or a sale. The information in this case did not charge a sale. It simply charged the giving of a prescription for the purpose of obtaining intoxicants. That a physician may be guilty of violating the local option law by means of giving a prescription may be conceded, though it would not be for giving a prescription, but for bringing about the illegal sale. Cases can be well imagined and readily conceived where a physician, for the purpose of assisting the seller in making the sale, would become particeps criminis in the sale. Or if the physician, without connivance or complicity of the seller, should, by means of a prescription, or any other means, use the seller as an innocent instrument in violating the local option law in the sale, then he (the giver of the prescription) would be guilty under the statute. In such instances he would, were the case a felony, bear the relation of an accomplice to the crime, but, being a misdemeanor, he would be a principal. But there must be a sale alleged and proved in order to make a violation of the local option law. The court adds that it is not discussing what it would take to constitute a sale, but only holds that a party can not be convicted of violating the local

option law until he has been instrumental criminally in bringing about a sale of the intoxicants within the prohibited territory. This must be alleged. And it holds that the information in this case did not charge an offense.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

June 27.

1 *On Septic Thrombosis of the Roots of the Portal Vein in Appendicitis and on Pylephlebitis, Together with Some Remarks on "Peritoneal Sepsis." Arpad G. Gerster.
2 The Late Dr. T. Gaillard Thomas. Henry D. Nicoll.
3 *A New Blood Stain. George L. Laporte.
4 *Feeding of Older Infants and Children. W. M. Hartshorn.

1.—See abstract in THE JOURNAL, xl, p. 1595.

3. **A New Blood Stain.**—Laporte describes his method of staining as follows:

First, make a .5 per cent. solution of Jenner's powder (Gruebler's) in methylic alcohol (Merck's highest purity). Do not filter this solution. Second, make a solution of one part Unna's polychrome methylene-blue solution (Gruebler's) to 150 parts of distilled water (about 2 drops to 15 c.c.). Then proceed as follows: Take the cover-class specimen in a Cornet forceps, drop on it 5 drops of Jenner stain, allow this to act one minute, then without removing the Jenner stain, pour on 10 drops of the dilute polychrome methylene-blue solution. Agitate the forceps so as to produce a thorough mixing of both solutions on the cover-glass. Allow the combined stain to act five minutes longer. Then wash off with distilled water and allow some of this to rest on the cover-glass about one minute longer with occasional agitation of the forceps. At the end of this time dip the specimen rapidly into a very dilute acetic acid solution (about 1 drop of 50 per cent. acetic acid to 10 ounces of water) until it is of a reddish or pinkish color. Rinse again with water and dry in the air. Do not employ heat or filter-paper to dry specimen.

This stains red blood corpuscles a distinct pale rose color. The nuclei of the white as well as of the red cells are of a bright carmine purple and the eosinophile granules are of a bright coppery red, the mastzellen granules of a very deep metachromatic blue. The protoplasm of the large and small lymphocytes is a pale light blue dotted here and there with bright purplish chromatin granules. The network of the blood plates takes the carmine purple chromatin color, the bodies of the blood plates staining a light blue. The body of the malarial parasite is stained blue, its chromatin the same as the nuclei of the white cells, only brighter. Granular degeneration of the red cells appears as fine blue specks in the affected cells. A few minor details must be observed. The specimens should not be fixed in any way and should not be too old. The time given for the Jenner (one minute) and the combined stain (5 minutes) should ordinarily be strictly adhered to. There should always be double the number of drops of dilute polychrome methylene-blue solution to the three or four drops of the Jenner solution. The former should not be added drop by drop, and it is always necessary that the distilled water should be left on the cover glass a minute longer after rinsing off the stain.

4. **Infant Feeding.**—All infants over seven months old, artificially fed in the Nursery and Child's Hospital, New York, during the past four months were given stronger food, especially stale bread, soaked in boiling water until thoroughly softened, when the water was poured off and a cup of milk added, and this boiled for three or four minutes. After being sweetened and cooled sufficiently, it is fed to the baby. At first a teaspoonful once a day is given, but as the infant becomes accustomed to it, the amount is increased so that at the end of ten days it is receiving one to two or three ounces daily. It is given between the regular bottle hours, and never more than half an ounce at a time. If curds appear in the stools or if it disagrees, it is discontinued and castor oil or calomel given. Older children ranging from eighteen months to four years, are all fed on plain bread and milk, with no extra preparation, at least once a day. In the morning they receive farina with milk. At noon boiled rice, with meat broth poured over it, is given to them. For supper they receive plain bread and milk, the older children often receiving some plain jelly spread over their bread. During the fruit season they are allowed an orange or some easily digested fruit at noon. Since they have been giving this extra food for the younger children and infants Hartshorn says they have noticed a marked change in the general appearance of the weight charts for the better.

American Medicine, Philadelphia.

June 27.

5 *The Relation of Neuralgic Headaches to Storms. S. Weir Mitchell.
6 A Case of Endothelioma of the Mammary Gland. J. Chalmers DaCosta.
7 *Erythropleum: A Clinical Study. Reynold W. Wilcox.
8 *Chronic Cyanotic Polycythemia, with Notes on Two Cases. J. N. Hall.
9 *A Further Study of the Influence of the Contents of the Large Intestine on Strychnin. William Salant.
10 *A Rapid and Easy Method for the Sterilization of Catgut Ligature and Suture Material. John Milton Garratt.

5. **Neuralgia and the Weather.**—Mitchell calls attention to his earlier work, and that of others on the influence of the weather on pain. He remarks that eyestrain is rarely the primary trouble; it may lead up to or exaggerate the force of the attacks, but atmospheric conditions have a potent share in the production of migraine. He has been able at different times to convince himself that certain migraines were due to storms, but not, as a rule, to the summer electric storms, which may, nevertheless, in some hysterical women occasion a general headache, distinct in character from hemicranial attacks. He briefly reports a case and gives the curve showing the monthly average of headaches for seven years in connection with the storm curve, which are strikingly parallel.

7. **Erythropleum.**—This substance, which is the bark of a tree, the Erythroploeum guineense, one of the Leguminosæ and known in Africa as the gidu, mancona, doom, ordeal, casca, saucy and sassy bark. Its mode of action is that of a muscle-poison, acting on the heart earlier because it receives a larger quantity of poisoned blood. On the vagus its action resembles digitalis. It is a vasoconstrictor by acting on the vessels themselves, the vasomotor nerves or on some vasomotor center not contained in the medulla. The respiration is influenced through the pulmonary branches of the vagus. It is an irritant to the nasal mucous membrane, causes vomiting by reason of its solutions possessing the same property, and is diuretic like digitalis. He gives the result of its use clinically where its field of use seems limited to the heart and blood vessels when cardiac disease is not accompanied by dropsy. Its power to slow the heart is rather greater than that of digitalis, but it is more decidedly a gastric irritant. Its vasoconstrictor properties are practically those of digitalis and ergot combined. Its cumulative power is rather less than that of digitalis. The indications for the use of the remedy are those which Withering laid down in the eighteenth century for digitalis, namely, a rapid, low tension pulse with venous congestion. Digitalis, however, is rather more reliable and constant. The use of this remedy should be confined to those cases of fairly competent heart of low vascular tension in which it will show its effects more rapidly and markedly, and to those cases in which digitalis has lost its usefulness or has utterly failed.

8. **Chronic Cyanotic Polycythemia.**—This title is offered as a tentative designation for certain cases recently reported of chronic cyanosis with immense increase in the number of red cells and without cardiac disease. Two cases observed by Hall are reported, in one of which there was a well-defined chronic nephritis with cardiac manifestations. A striking characteristic is the intense cyanosis, giving the lips and tongue the color of ripe Concord grapes. This is somewhat less marked on the hands and still less on the trunk and lower extremities. The dyspnea and palpitation that existed were more striking than in the other cases quoted. He accounts for them by insufficient oxygenation in spite of the increased number of red cells. He thinks it is possible that the increase in the reds is a compensatory process—an attempt to make up the deficiency in oxygen-carrying capacity in individual cells by an increase in their number.

9. **Strychnia.**—Salant has investigated the action of the contents of the large intestine on strychnia, and finds that the simpler methods for the detection of strychnia are more certain in its detection. He accounts for this by the manipulations that are required by the more complex tests and reagents, some of them carrying off portions of the strychnin.

10. **Catgut Sterilization.**—The technic of the method employed by Garratt is given by him as follows:

Have ready one two-quart and one one-quart clean fruit jar for each size of the material used. It is well to have an extra one-quart jar for use in preparing a fresh batch when one on hand is nearly used. The jars must be thoroughly cleaned beforehand and sterilized by boiling or dry heat. The various sizes of catgut can be purchased from any reliable firm dealing in surgical supplies. The sizes found most convenient are 00, 0, 1, 2 and 3. The first three sizes are cut into lengths of about ten inches and used for ligatures and sutures; the last two, 20 inches—used for pedicles, etc. For convenience, a piece of wood 10x3x¼ inches is obtained, and both ends cut to a point and notched at intervals of one-quarter of an inch for catching the ends of the strands. After winding lengthwise, cut the smaller sizes at both ends of the board; the larger at one end only. Three strands of a similar size of the short lengths are placed in an envelope of unglazed paper, a convenient size being 3x1¾ inches. Two strands of a similar size of long lengths are likewise placed in envelope. Seal and mark with an indelible pencil the size number on the outside of the envelope. The number should be made large enough to be plainly seen. It does away with the necessity of putting germ-catchers on the outside of the jar. Envelope and contents of similar size are kept in a two-quart jar until wanted. Sterilization is accomplished by placing 40 or 50 envelopes and contents in a one-quart jar and completely filling it with the following germicidal solution:

Mercuric chlorid	gr. xv	1
Tartaric acid	gr. lxxv	5
Columbian spirits		
Ether, āā	1 pint	473

Put on the cover and screw it down tightly. Allow size 00 to remain in the solution for four hours; size 0, six hours; size 1, eight hours; size 3, twelve hours. After the material has been immersed for the desired time, pour off the solution and drain, then cover envelopes and contents with columbian spirits, screw on the cover, and put away in a clean place until wanted. It is essential that columbian spirits be used. Ethyl alcohol can not take its place, even when the absolute alcohol is used. Columbian spirits is a pure methyl (wood) alcohol practically free from water. It is inexpensive, costing less than the ordinary alcohol. It can be obtained usually at paint stores. It serves to toughen the catgut, acting much the same way as does formalin. In removing the envelopes from the jar use a pair of vulsella forceps kept expressly for this purpose. Thread the needles, then place in recently distilled water. Catgut prepared by this method possesses all the requisites of a good ligature and suture material—strength, pliability, and most important, asepsis. The technic of sterilization is easy to carry out, and it is inexpensive. The very minute quantity of mercuric chlorid remaining in the material overcomes the theoretic objections to its use.

He also remarks on the possibility of infection of cocain solutions, and at the suggestion of Dr. Lee H. Smith makes the solutions up from the dry ingredients, placing them in glass-stoppered one-dram bottles. Just before operation the bottle is filled with a boiling decinormal salt solution. When a bloodless field of operation is desired a 1 to 10,000 solution of adrenalin chlorid is used in its place, the nitroglycerin being omitted. The small bottles are kept in a specimen jar tightly covered until wanted. Since using this solution and the catgut ligature and suture material prepared as above, some 200 operations have been performed without a single suppuration.

Medical News, New York.

June 27.

11 *Poisoning by Corrosives. Eli H. Long.
12 *Appendicostomy (Weir) for the Treatment of Chronic Ulcerous Colitis. Willy Meyer.
13 *Note on a Case of Mycosis Vaginæ. Alien J. Smith and O. H. Radkey.
14 Cast from a Case of Membranous Croup. Everett J. Brown.
15 Report of a Case of Rupture of the Uterus; Laparotomy; Recovery. Nutting Fraser.
16 Neuritis Following Ludwig's Angina; Report of Case. Charles J. Aldrich.
17 Report of a Case of Stammering, and Method of Treatment. James M. Brown.

11. **Corrosive Poisoning.**—Long discusses the corrosive poisons, and insists particularly on the chemical basis of their action and the selection of antidotes on the same basis. He would also first insist on the importance of immediate dilution of the poison with a large quantity of water, independent of the nature of the corrosive. This is always practicable.

12. **Appendicostomy (Weir).**—A case of this new operation is reported by Meyer, where a soft rubber tube was passed through the appendix and the bowel regularly flushed with nitrate of silver solutions to treat the ulcerations that existed throughout the entire course of the transverse and ascending colon. Under the treatment the health of the patient has materially improved, though there is still some ulceration in the rectum. She has gained over 15 pounds. The cut end of the appendix is flush with the skin, and there is no granulating surface requiring dressing and no leakage whatever on removal of the tube. There is a little appendicular fistula which acts exactly like the artificial openings made by Kader's and Witzel's methods, contracting rapidly when the tube is removed. Once when flushing was done every other day the tube accidently slipped out, and at the next dressing the appendix was so contracted that it took long and tedious work to reintroduce the tube, thus showing that all that is needed to close the opening is to leave out the tube. If this does not promptly follow, cauterization with Paquelin's cautery will surely accomplish the desired result. Dr. Meyer has little fear of inflammation being set up in the misplaced appendix. It is, as it were, hung up with natural drainage into the cecum. Should it really become inflamed it would be of little consequence as it passes through the abdominal wall in all its length, where it can do no harm, the peritoneal cavity having been long shut off by adhesions. He suggests that this method of using the appendix might be of value in some cases of cancerous stricture. The appendix might be pulled forward to relieve the distended intestinal tract, and stitched into the wound and made use of as indicated. It is probable, of course, that we may rarely meet old patients with an appendix of a caliber sufficiently large to carry out this plan. Still he intends to try it in his next case of obstructive ileus in an old and weakened patient. He thinks the operation is a valuable addition to our operative methods.

13. **Mycosis Vaginae.**—In the patient here described there was intense leucorrhea with vulvar burning and pruritus. Direct examination showed the presence of follicular vulvitis and at a later attack the walls of the vagina were found covered with great numbers of grayish brown, slightly elevated masses, easily detachable, with raw surfaces under them. Examination revealed the presence of fungi, Oidium albicans or thrush fungus. The authors review the papers on the subject, and think that in view of the absence of the subject in American text-books (definite recognition of the condition has been found only in Reed's work) that a report of the case is justified.

New York Medical Journal and Philadelphia Medical Journal (Consolidated).

June 27.

18 *Gonorrhea Insontium, Especially in Relation to Marriage. (To be concluded.) Prince A. Morrow.
19 *State Care of the Feeble-minded. Martin W. Barr.
20 Interstitial or Tubouterine Gestation Complicating Uterine Pregnancy, Abortion of Both Fetuses Three Weeks Apart. J. B. Morrison.
21 *The Ignition of Ether Vapor in Presence of a Closed Electric Light. Dwight H. Murray.
22 Pertussis with Unusual Cerebral Symptoms. Edwin E. Graham.
23 *The Application of Hospital Methods for the Prevention and Treatment of Puerperal Sepsis to Private Practice. William S. Stone.
24 *Prophylactic Injections of Tetanus Antitoxin in Cases of Wounds from Toy Pistols. Fielding L. Taylor.
25 *Surgery of the Prostate from the Standpoint of Personal Experience. Being the Oration in Surgery. (Concluded.) Granville MacGowan.

18.—See abstract in THE JOURNAL, xl, p. 1602.

19. **The Feeble-Minded.**—Barr considers that the defective or feeble-minded have been comparatively neglected while the state has been caring for the criminal and the insane. The

rapid increase of this class makes them a problem which must be attended to. Of the three classes, the untrainable idiot, the untrainable imbecile and the cunning and treacherous moral imbecile, the idiot is the most harmless and most easily disposed of. An asylum where he can be cared for under medical supervision is all that is required. Such an institution can be run very comfortably on a comparatively moderate income. The idiots can be taught, at least the better class of them, to be useful, to do household services and help in the care of others. The adult idiot or imbecile here can also have a peaceful home. A training school for backward children or the feeble-minded is a very different affair. High-grade imbeciles can be trained for certain employments, such as musicians, cabinet-makers, painters, seamstresses, carpenters, etc. Barr, however, points out the consequences of discharging such cases from the public care when they appear to have recovered. The immediate result is marriage and increase, for imbeciles they are still, though this may be imperceptible to the friends and the public, and it is transmissible. The moral imbecile is another difficult problem, and in the highest grades they are dangerous persons, capable of doing immense harm. For training imbeciles he believes in the colony system. They should never be turned out on the world, and on their own responsibilities.

21. **Ether-Vapor Ignition.**—Murray reports a case where ether vapor seemed to become ignited in the presence of a closed electric light, which he thinks was due to the electric spark. There was no other possible apparent cause. He has tried to experimentally reproduce the condition, but without success, in obtaining ignition. The fact that it has once occurred is of importance, and the surgeon or anesthetist should be on his guard.

23. **Puerperal Sepsis.**—Stone details the hospital methods that he thinks advisable in private practice. Some of these are difficult to put into practice, such, for instance, as shaving the vulvar hairs, etc. The principal thing, however, is the care of the hands, and he has used gloves in his private practice for two years with the greatest satisfaction. He thinks by their general use the morbidity of puerperal infection can be reduced at least one-half. He concludes with some remarks on the treatment of puerperal infection and insists on the importance of accuracy of diagnosis, recognition of the initial chill and careful examination of the pelvic organs at the initial period of the disease. As soon as the fever appears, excluding the breasts and constipation as causes, the patient should be transferred to a table and placed in the lithotomy position, with or without anesthesia, according to the circumstances, and after sterilization of the attendant's hands and external genitals, a systematic examination beginning with the perineum should be made. Until he adopted this method he was altogether unaware of the frequency in which infected wounds below the placental site were the cause of the trouble. It is a very common error to give an intrauterine douche before thorough examination, and in many cases transference of the infection to the placental site is caused by our initial efforts at treatment. The parts are examined upwards from the perineum to the fundus of the uterus with the greatest care, and wherever wounds are found they are aseptically treated with irrigations of sterile salt solution, which is sufficient in most cases to produce healing and disappearance of general symptoms. Retained discharges may be found to be the cause. If there are putrid remains of gestation products, these may be removed by the fingers supplemented by the use of some dull instrument. A common error is to mistake the roughened placental site for retained gestation products. Washing out the cavity with hot saline solution is usually sufficient; he protests against the use of antiseptic douches. The more radical procedures, such as hysterectomy, are indicated in very few instances. If cellulitis or peritonitis is present, an ice bag to the abdomen, followed later by prolonged and hot vaginal douches, aids in the absorption of exudate. If an abscess is present it is opened in the most accessible region.

24. **Tetanus Prophylaxis.**—Taylor advises the use of prophylactic injections of tetanus antitoxin in cases of toy pistol wounds. It has been the custom for the last two years at the Hudson Street Hospital in New York to inject 10 c.c. in each patient, and they are now practically rid of tetanus from this class of wounds.

25. **Surgery of the Prostate.**—MacGowan, in this concluding section of his article, notices the inconveniences of suprapubic operation and the possible dangers of urinary infiltration with hemorrhage, irregular cicatrices, deformity of the bladder neck, etc. Leakage of the suprapubic wound is annoying and may last for weeks. The difficulties of the perineal operation are not usually great. Its perils consist: 1. In the making of an irregular tear in the bulbous urethra by the assistant who holds the staff thrusting it awkwardly and violently through the bulb. This causes delayed healing of the urethral wound, and sometimes the formation of a fistula difficult to repair. 2. When the prostatic capsule is entered and an attempt made to enucleate its contents, no line of cleavage can sometimes be found, and persistence may lead to the tearing away of the organ from the pelvic tissues, causing urinary infiltration and infection. 3. If such fibroid growths are removed piecemeal with scissors and rongeur, it leaves a very irregular channel, which subsequently tends to contract, sometimes obstructing urination so that the patient is no better off. 4. There is also danger of tearing into the rectum, which once happened to MacGowan in a cancerous prostate, and which is liable to happen to anyone operating in a very dense or fibroid prostate. 5. When the bladder tissues have been greatly bruised by sharp stones before the operation and where the urine is hopelessly alkaline with all that that implies, all wounded surfaces within the bladder, and sometimes within the prostate, become covered with phosphatic incrustations. These are subsequently cast off or may have to be loosened by curetting somewhere between the third week and the third month. In one case he had to reopen the suprapubic wound on this account. In still another case, such sloughs came away through the perineal wound, which reopened apparently from this cause and subsequently closed itself. 6. Dangerous hemorrhage is not common by the perineal route unless the case is complicated by a tight stricture in the perineal urethra, requiring the severing of the bulb in the course of the operation, or unless the bulb is carelessly cut in making the opening in the urethra, but secondary hemorrhage is liable to occur. He has seen it now in two cases during the past year, following an attack of tenesmus which seemed to arise from an organized clot formed on one side of the bladder neck. When the packing was removed and the perineal wound practically closed, this clot was swept into the urethra and became fixed, causing tenesmus. The forcible contraction of the bladder neck on the clot loosened it from its vessel and a hemorrhage then took place into the bladder, filling it to distention in less than two hours. In one case he was able to stop the hemorrhage by breaking the clots up by a lithrotrite. In the second case he had to do a suprapubic cystotomy under most unfavorable conditions. 7. There is another danger where one or more small nodules are imbedded directly in the tissues around the internal urethral mouth or from nodules buried beneath the mucous membrane just inside the urethral neck. Their removal is necessary, but it may be followed by the tearing out of the whole posterior urethra. This is a disagreeable accident, but it does not necessarily interfere with later function. 8. In making the perineal incision in very large stout men with deep perineums, great care should be exercised to keep well away from the rectum with the skin cut. He has had trouble in having the anterior fold of the anus drawn into the wound, with leakage, though there was no cut in the rectum itself. The benefits of the operation are enumerated. The sexual power usually remains after operation, in spite of the teachings of the Necker school. In the great majority of his 49 prostatectomies and 29 Bottini operations, the results have been ultimately good. None have been positive failures. A few have dribbled for a time, but none permanentlly. He has never yet seen one of these cases where it was not necessary to urinate four or five times in the twenty-four hours, and does not look for it. He says, regarding prostatotomy by the

Bottini method, that it possesses a real surgical value and for certain prostatic obstructions it is to be advised.

Cincinnati Lancet-Clinic.

June 27.

26 *Scientific Work in Ohio State Hospitals. A. P. Ohlmacher.
27 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

26. **Scientific Work in State Hospitals.**—Ohlmacher notices the work that is being done in the various states at the central laboratories, to which the state hospitals contribute material, and gives the project of a plan he has made for a State Pathologic Institute for Ohio, which should, he thinks, be organized similarly to those of New York and Michigan. It should be open to properly qualified workers from the medical profession of the whole state. The plan includes the formation of a pathologic museum, and strictly scientific memoirs should be issued from time to time after the model of the *Archives of Neurology* of Great Britain. The laboratory should also send out popular bulletins for public distribution giving in plain language the results of scientific work whenever any distinctly valuable contributions in the direction of elucidating the nature of disease or indicating methods of prevention have been made. The government should be under the charge of a board of trustees representing the state medical association, the state hospitals and the state university, with the balance of power in the medical profession. Its immediate management would call for a director or chief with a corps of properly trained assistants of his own selection. He thinks the time is auspicious for such an institution and that the influence of the medical profession can be well exerted to this end.

St. Louis Medical Review.

June 20.

28 Treatment of Puerperal Eclampsia. B. M. Hypes.

Virginia Medical Semi-Monthly, Richmond, Va.

June 12.

29 *Mastoid Pain Not Due to Empyema or Osteitis of the Mastoid Cells, nor to Sclerosis of the Mastoid Process. John Dunn.
30 *Laceration of the Bowel without External Evidence of Injury. Report of a Case, with Remarks on Diagnosis. E. B. Claybrook.
31 Treatment of Anal and Rectal Diseases without General Anesthesia. William L. Dickinson.
32 Cases of (1) Puerperal Insanity: (2) Polyuria Following Brain Injury, and (3) Paralysis and Convulsions Years After Traumatism. W. J. Breeding.
33 Retention of Placenta and Collapse from Excessive Hemorrhage After Delivery. G. Clinton Mouton.
34 Rubber in Windowing Plaster Casts in Compound Fractures. Hugh Crouse.
35 Artificial Feeding of Infants, or Care of Bottle-fed Babies. Hugh T. Nelson.
36 The Treatment of Enlarged Prostates. W. P. Carr.

29. **Mastoid Pain.**—Dunn reports cases where pain referred to the mastoid was due to gumma, relieved by specific medication, and to influenza. He also refers to rheumatism of the atlanto-axidian capsular ligaments as producing symptoms attributable to the mastoid. There is also a mastoid pain which is not due to mastoiditis, though associated with otitis, with which all aurists are familiar.

30. **Intestinal Laceration.**—Claybrook reports cases and reviews others in the literature where laceration of the bowel occurred from contusions without any external injury. He says that if we have a patient with a history of abdominal contusion, suffering pain, with marked tenderness and rigidity, thoracic respiration, absence of peristalsis, as shown by the phonendoscope and transmission of heart and respiratory sounds to the abdomen, with or without rapid pulse, shock or abdominal facies, vomiting or distention, etc., we ought to lose no time in confirming the diagnosis by exploratory laparotomy and deal with the conditions as found. Opening the bowel in these cases does not increase the danger, and we never know what is inside until we get at it.

Pediatrics, New York.

June.

37 *Dislocation of One-half of the Frontal Bone During Parturition. Stewart L. McCurdy.
38 *Adenoids and Their Treatment. J. F. Dickson.
39 The Changes in the Management of Laryngeal Diphtheria Treated by Intubation. Edwin Rosenthal.

37. **Dislocated Frontal Bone.**—McCurdy reports a case of dislocation of the frontal bone, which occurred during parturition, the bone being displaced outward. At the time when first seen, it was too late to replace it, and the brain has evidently adapted itself to the changed conditions. A spring band was applied with pressure pad, but little was accomplished.

38. **Adenoids.**—Dickson describes the condition and advocates operation, or at least medical treatment when symptoms indicative of these growths appear. If they are not large and are soft and friable, treatment directed to the nose and nasopharynx followed by local applications of tannic acid and glycerin or iodin and glycerin and internal medication such as syrup of iodid of iron or hydriodic acid and tonics may be all that is required. If they are large, hyperplastic operative measures are necessary. He prefers cutting operations to the cautery, and thinks it is better to use an anesthetic unless the patient is old enough to control himself. He discourages the use of a steel nail on the finger, considering it dangerous. For anesthesia, he prefers ether, next chloroform. Nitrous oxid, he says, is of too short duration for good work. The patient should be laid on his side, with his head hanging over the edge of the table. Good results of operation are noticeable within a week or ten days. After-treatment in the shape of sprays, etc., should be kept up for a few weeks after operation, as it helps to prevent recurrences.

Medicine, Detroit, Mich.

June.

40 *Treatment of Prolapse of the Rectum. A. E. Halstead.
41 A Case of Cyanosis (Asphyxia) of the Extremities. Augustus A. Eshner.
42 *The Negro as a Distinct Ethnic Factor in Civilization. William L. Howard.
43 *The Dangers of an Exclusive Milk Diet in Nephritis. Alfred C. Croftan.
44 *Cockroaches as Conveyers of Typhoid Infection. Rosa Engelmann.
45 *Blood Cultures in Lobar Pneumonia and Agglutination of the Pneumococcus. Edward C. Rosenow.

40. **Prolapse of the Rectum.**—The different methods of treatment for this condition are described by Halstead, who reports six cases. He concludes that all cases of mucous prolapse of the rectum will be best treated by resection of the protruding mucous membrane and suture of the cut end to the skin of the anus, as in Whitehead's operation for hemorrhoids. In mild cases clamping and cauterizing the linear folds of the prolapse may suffice to effect a cure. In recent reducible prolapse of all coats of the rectum, removal of the cause, if possible, with massage, gymnastics, and proper medication to improve the general health should be first tried. If they fail, amputation or intra-abdominal suspension is advised. In young children operative treatment of prolapse is seldom required. The removal of the cause, which usually can be accomplished, and rest in a horizontal position with tonics and massage will effect a cure in most cases. Among the commoner pathologic conditions having direct causal relation to prolapse in children are intestinal catarrh, rickets, phimosis and calculus. In old irreducible or in recent strangulated cases, the only treatment is amputation by Mikulicz's method. In old irreducible prolapse or in recent cases, where after a fair trial of palliative remedies they have failed, we have the choice of two methods, amputation or intra-abdominal fixation. At present no authoritative statement as to the value of colopexy can be given. It has the advantages of not being dangerous and of being easily performed. When it fails it does not leave the patient worse than before. Inguinal colostomy should never be performed except under special indications, as, for example, when prolapse is associated with obstinate colitis which does not yield to treatment or when stricture or malignant disease exists. Simple catarrhal inflammation or prolapsed rectum does not justify opening the colon. Rectopexy, if employed, should be used only in the lesser degrees of prolapse. In invagination of the rectum and colon it is of no value. In any case its disadvantages and dangers outweigh its advantages.

42. **The Negro.**—Howard remarks that the negro is structurally and psychically an animal, entirely apart from the white race, not capable of improvement. He is returning under present conditions to the atavistic state and is a social danger. The only good point he admits is that he is not vindictive.

43. **Nephritis.**—Croftan argues against an exclusive milk diet in nephritis, claiming that it does not meet the needs of the general nutrition. It contains too little iron, an excess of proteids and floods the system with fluids. Its effects on the renal epithelium are bad. It is apt to retard the healing process in subacute forms and is superfluous in chronic cases. Large quantities of water, of urea and of the phosphates, all of which are carried to the kidneys by this diet in excess, are irritants and harmful. Its effects on the other organs are also injurious mechanically, through the large amount of fluids and the effects on the circulation. The diet for nephritis should contain a minimum of proteids and of water in the acute cases, and the withdrawal of all food or its reduction to a small quantity is preferable to feeding with milk. In chronic cases a similar dietary is also required, though we are not at present able to formulate fixed rules. We do not know enough of the etiology of the condition to decide. He thinks the consensus of clinical experience speaks for more liberal feeding of kidney cases than is usually adopted, and decidedly against one-sided alimentation.

44. **Cockroaches and Typhoid.**—Engelmann gives the conditions in a typhoid epidemic in a certain limited district in Chicago, and describes the conditions, attributing the transmission of the disease to cockroaches.

45. **Pneumonia.**—The conclusions of Rosenow's article are as follows:

1. With improved technic, using for inoculation large quantities of blood, the pneumococcus can be recovered in all cases of pneumonia, and in obscure cases of pneumococcus infection blood cultures may be a diagnostic method of positive value. 2. Pneumococcemia in pneumonia does not mean a specially unfavorable prognosis. 3. On account of the difficulties involved, agglutination of the pneumococcus is, at present, of scientific rather than of practical value. 4. Normal and pneumonic blood and serum appear to have no bactericidal influence on the pneumococcus. 5. The interesting question whether lobar pneumonia is the primary result of a direct local infection of the lung or of a secondary localization in the lung of pneumococci in the blood is as yet hardly ripe for final discussion.

Bulletin of the Johns Hopkins Hospital, Baltimore.

June.

46 The History of St. Bartholomew's Hospital, London. Thomas McCrae.
47 *Cryoscopy as an Index of Renal Insufficiency in Surgical Diseases of the Kidney. Martin B. Tinker.
48 A Simple Electric Female Cystoscope. Thomas S. Cullen.

47. **Cryoscopy in Renal Insufficiency.**—Tinker has studied the effects of renal insufficiency on the freezing point of the blood and urine; that of the blood is normally about —0.56 C. below that of distilled water, with physiologic variation of about .02 degrees. The increase of the freezing point to over —0.58 C. indicates renal insufficiency. The urine, on the other hand, has a much wider range. Under normal conditions the freezing point of the urine varies between —0.9 and —2 C. A freezing point of above —0.9 is understood as an indication of renal insufficiency. A large number of cryoscopic examinations have been made, sufficient, it is thought, to prove the value of the test. Its advantage, Tinker says, over the usual quantitative chemical tests is that it gives an index of the total waste products excreted by the urine instead of that of a single constituent. He thinks that it might even alone be sufficient to determine the condition of the kidney, provided we can get the separate secretions of the two kidneys. The value of cryoscopic examination of mixed specimens alone is much inferior, however, to that of cryoscopic examination of the blood. In all doubtful cases both tests may be used in combination with the usual chemical tests with added certainty as to the state of the kidneys. The chief value of the test is in determining the prognosis in doubtful cases. If examination indicates a high degree of renal insufficiency, operation may be contraindicated. In other cases it may be of use in determining whether nephrectomy or a less extensive operation, such as nephrotomy or nephrolithotomy, should be given preference. The usefulness is a limited one in surgical cases, but when it is indicated it is very much needed, and the information it gives is correspondingly valuable. The method is simple and can be readily made by those little experienced in its use. It requires no special training and it does not take more time than many other methods.

American Gynecology, New York.

May.

49 Presidential Address—The Surgical Treatment of Early Diagnosed Cancer of the Uterus, More Especially by Hysterectomy. J. E. Janvrin.
50 *Ectopic Gestation. Etiology; Symptoms; Diagnosis; Treatment. J. H. Stealy.
51 Vesicofixation of the Uterus. N. J. Hawley.
52 *The Conservative Surgery of Lesions of the Appendages. Hector Treub.

50. **Ectopic Gestation.**—This condition, according to Stealy, is by no means infrequent; it is among the most serious conditions that we meet. It generally occurs in those near the middle of life with a previous history of sterility. The symptoms specially to be borne in mind are: 1. That the woman will have missed a period; 2, colicky pains; 3, bloody discharge from the vagina and irregular continuation of menstruation, often leading the woman to believe herself not pregnant. With few exceptions, and these dependent only on the woman's condition, the indications for operation are absolute. He says no case of "colic" in a woman capable of childbearing, especially one married, should be allowed to pass by without a suspicion of ectopic gestation. Any such symptoms in a pregnant woman should not be lightly regarded.

52. **Conservative Surgery of the Appendages.**—Treub finds in striking the balance for conservative operation that such procedures for salpingo-ovaritis offer a danger of death that ought to be estimated at 2 per cent. at the most; some chances of not giving complete relief, of being insufficient and necessitating a second operation either conservative or radical, and the certainty of not procuring for the patient a new malady, under the form of the anticipated menopause. Comparing this balance with that of radical operations, he concludes that medical treatment suffices in at least one-half of the cases of salpingo-ovaritis, but if it is insufficient or contraindicated, one should never at the outset perform a radical operation of any sort. The first operative stage should always be posterior colpotomy. When by means of posterior colpotomy it is discovered to be a matter of tuberculous affection, hysterectomy should be performed as soon as possible. In case of hydrosalpinx not yielding to repeated colpotomy and requiring other intervention, and where one wishes to try and remedy sterility in women, the conservative abdominal operations (resection, salpingotomy salpingo-ovaro-syndesis) are indicated. Salpingorrhaphy should be reserved as an accessory operation to a laparotomy performed for no matter what other indication.

Journal of Cutaneous Diseases, New York.

June.

53 Methods of Teaching Dermatology. John T. Bowen.
54 *Cases of Bullous Dermatitis Following Vaccination. James S. Howe.
55 Syphilis and the Medical Secret. Prince A. Morrow.

54. **Bullous Dermatitis.**—Howe reports ten cases of bullous dermatitis apparently following vaccination. He is inclined to think that infectious material introduced at the time of vaccination was perhaps the cause, though there is no scientific proof of such an assertion. The article is presented as a preliminary report. A fuller discussion of the cases is promised in the future.

The Alienist and Neurologist, St. Louis.

May.

56 *History of the Evolution of the Brain. Charles H. Hughes.
57 *Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-ethics. (To be continued.) James G. Kiernan.
58 Outlines of Psychiatry in Clinical Lectures. C. Wernicke.
59 Clinical and Pathologic Changes in Dementia Paralytica During Recent Decades. G. Näcke.
60 *The Penitentes. A Psychological Study. Marc Ray Hughes.

56. **The Evolution of the Brain.**—This article is a chapter of a work by Hughes which is now nearly ready for publication.

57. **Mixoscopic Survivals.**—Kiernan's article is incomplete in this issue. It is largely devoted to the sexual element as appearing in the various forms of folklore and in adolescent conditions,

60. **The Penitentes.**—Hughes studies the so-called penitentes of Old and New Mexico, whose religious exercises, in part, consist of self-flagellation. He considers it due to a mental defect and thinks that these individuals are degenerates, due to faulty development under a low grade of civilization and imperfect system of education.

Medical Sentinel, Portland, Ore.

June.

61 *The Plague Situation in San Francisco and the Problem of Chinatown. Woods Hutchinson.
62 *The Meaning of Uric Acid and the Urates. (Concluded.) Woods Hutchinson.
63 Hernia. E. N. Crockett.
64 The Sympathetic Nervous System in Health and Disease. D. M. Brower.

61. **The San Francisco Plague Situation.**—Hutchinson gives the history of plague in San Francisco with caustic criticisms of the late state authorities.

62. **Uric Acid.**—This second paper, also by Hutchinson, concludes the series. He ends it with the following propositions which seem to outline the most rational tenable view of gout and lithemia: There is no connection whatever between the production of urea and uric acid, hence interdiction and marked limitation of animal or of nitrogenous foods, as such, in gout is irrational. Uric acid in health comes from two sources, the larger part from the nuclein and purin bases of foods, the smaller part from destructive metabolism of the nucleins of the body tissues. It is the latter alone which is increased in gout and lithemia. These are only symptom names for a miscellaneous group of chronic toxemic processes of widely varied origin characterized by the production of uric acid and the urates. By gouty diathesis we mean the possession of a sufficient degree of resisting power on the part of the protective cells of the body to oppose the entrance of any poison, whatever its character or source, with consequent destructive metabolism and the production of uric acid, but not adequate to neutralize or successfully prevent its absorption. The uric acid of gout, like the phosphoric acid which accompanies it, is merely the result and measure of the destructive metabolism of the nucleins of the body cells, chiefly, it is probable, of the leucocytes in response to the invasion of poisons or toxins, organic or inorganic. Hence the use of lithia or other solvents is irrational and any apparent benefits are to be explained on other grounds. As most of the toxins setting up this destructive metabolism and consequent uric acid production are of intestinal origin or entry, the diet should be regulated wholly with regard to the diminution of intestinal fermentation and putrefaction. As animal foods are more appetizing and attractive, and are more apt to be indulged in to excess, their limitation may be found more frequently indicated than that of the vegetable foods, but sugars and starches are very often at fault. As uric acid and the alloxur group are not toxic, or only feebly so, and are not the cause of gout, the prohibition of foods even rich in nucleins and the purin bases, has no clinical basis, and is of doubtful utility, except as diminishing the attractiveness of the dietary. The rôle of the liver in gout is negative, from its incapacity to act as a poison filter, and to absorb or transform into harmless excretory substances the excess of toxins brought to it by the portal vein. The drugs found of value in gout owe their efficacy chiefly to their power of checking intestinal putrefaction or of preventing the absorption of its products or promoting their elimination.

Interstate Medical Journal, St. Louis.

June.

65 *Simplicity in Dealing with Abscess of the Appendix. Paul Y. Tupper.
66 *Etiology and Pathology of Puerperal Eclampsia. Max W. Myer.
67 Symptoms and Differential Diagnosis of Puerperal Eclampsia. C. A. Ritter.
68 Treatment of Puerperal Eclampsia. B. M. Hypes.

65. **Appendicitis.**—Tupper pleads for simpler methods of operation in appendicitis. He thinks it is best to leave the appendix alone in appendiceal abscess. We may weaken the abscess walls and cause rupture, and we can do no harm by its retention. He objects also to mopping or washing out the cavity. His own practice is simply to enter the abscess in the most direct way, making a free opening and then insert a gauze drain.

66. **Puerperal Eclampsia.**—Myer is inclined to favor Fehling's theory of the fetal etiology of puerperal eclampsia as well as an autointoxication from the maternal organism.

The Physician and Surgeon, Detroit and Ann Arbor, Mich.

March.

69 *The Ureteral Dilatations, Spindles, Reservoirs and Ampullæ Byron Robinson.
70 *A Few Facts Regarding Paretic Dementia. Irwin H. Neff.
71 *Medical Malpractice. William P. Lane.
72 *The Surgical Treatment of Smallpox. Laurel B. Sandall.

69. **Ureteral Dilatations.**—Robinson's article is a full detailed account of various swellings and contractions of the ureters and their relation to age and other conditions.

70. **Paretic Dementia.**—Neff holds that heredity has a large influence in the causation of paretic dementia, while the percentage of syphilitics is also too considerable to be disregarded. Other influences, however, may act in producing the same symptoms.

71. **Medical Malpractice.**—The relation of the physician to the law is discussed by Lane, who finds from the decisions of the courts that the physician or surgeon will not be held liable if he uses reasonable and ordinary skill and learning and exercises reasonable diligence and care. Mere errors of judgment are not grounds for conviction for malpractice. Gross carelessness or failure to exercise proper diligence and caution, regardless of his learning and skill, make him liable, and he will be more liable if he employs methods prohibited by law, and when he omits altogether the established mode of treatment and follows one that has proven injurious. He does not impliedly contract to cure, but if a contract be entered into the law of contracts will apply. When the defense to an action for malpractice is that plaintiff's own negligence contributed to the result, the burden of proving it is on the defendant.

72. **Smallpox.**—Sandall, from his experience in the Philippines, believes in the practice of opening the pustules freely. He would use antiseptic baths from the very beginning and keep the skin as nearly aseptic as possible. As soon as the spots become vesicular, open the top and remove all contents, applying antiseptic solution to the whole open surface. The pustules, after they have formed, should be treated in the same way and the skin kept free from pus. The vesicles once thoroughly opened and destroyed do not proceed to pus formation and absorption of the poison is avoided.

Buffalo Medical Journal.

June.

73 *Provisional Hemostasis in Operations on the Head and Neck. George R. Fowler.
74 Stimulation. Eli H. Long.
75 Blood Examination in General Practice. Irving P. Lyon.
76 Gout and Its Treatment. M. A. Auerbach.
77 Report of Two Interesting Medicolegal Cases. William C. Krauss.
78 Subcutaneous Injection of Paraffin in the Correction of Nasal Deformity. Edgar A. Forsyth.

73. **Provisional Hemostasis.**—Fowler gives the history of provisional hemostasis in surgery, and reports cases in which he has used Crile's method of compression of the common carotids with advantage. He considers the possibility of accidents in these cases avoidable by proper care as a rule, and that there need be little said as regards the possibility of permanent injury to the vessel. In his experience there were no bad effects excepting in one case in which aphasia was produced, but this was undoubtedly due to some lesion in the handling of the brain. The case was one of intracranial neurectomy after Abbe's method. The brain was elevated during the operation and a sensory aphasia developed afterward. The only explanation to be given was that it was due to some lesion of Broca's convolution owing to the general atheromatous condition of the arteries of the brain.

American Journal of Obstetrics, New York.

June.

79 *Pregnancy Complicated by Fibroid Tumor. Henry C. Coe.
80 Pregnancy and Labor Complicated by Myomata. George Tucker Harrison.
81 *Combined Bisection of Tumor and Uterus, with Partial Enucleation of Bisected Tumor in Abdominal Hysterectomy for Large Fibroid Tumors in Body of Uterus. George H. Noble.
82 *The Relation and Corelation of Gynecologic and Nervous Affections. Chauncey D. Palmer.
83 *Repetition of Cesarean Section on the Same Patient: The Experience of the Boston Lying-in Hospital. Charles M. Green.
84 *Carcinoma of the Cervix Uteri. Thaddeus A. Reamy.

85 *Primary Carcinoma of the Vulva. Reuben Peterson.
86 Should the Uterus be Removed when Operating for Double Pyosalpinx, Either from Above or Below? Philander A. Harris.
87 Should the Uterus be Removed when the Ovaries and Tubes are Removed in Cases of Double Pyosalpinx, when Operating Either Through the Abdomen or the Vagina? I. S. Stone.
88 *Note on the Occurrence of Gallstones in Insane Women. W. P. Manton.

79.—See abstract in THE JOURNAL, XL, p. 1447.

81.—Ibid., p. 1529.

82.—Ibid.

83.—Ibid., p. 1595.

84.—Ibid., p. 1596.

85.—Ibid.

88.—Ibid., p. 1597.

American Practitioner and News, Louisville, Ky.

April 1 and 15.

89 Amebic Dysentery. G. B. Young.
90 The Treatment of Pneumonia. J. E. Smith.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

May 30.

91 Modification of Milk for Infant Feeding. Edwin E. Graham.
92 Management of Malignant Disease of the Uterus. George E. Shoemaker.
93 Orbital Cellulitis as a Sequel of Scarlatina: The Report of Two Cases. Burton Chance.

Washington Medical Annals, Washington, D. C.

May.

94 *The Abuses and Uses of Venesection in the Practice of Medicine. Robert Reyburn.
95 Case of Dentigerous Cyst. R. M. Slaughter.
96 Case of Tumor of Cerebellum. Samuel S. Adams.
97 Atrophic Rhinitis. Charles W. Richardson.
98 Multiple Fistulæ of the Perineum, with Report of a Case. Wallace Neff.
99 A Consideration of the Liver as a Factor in the Cause, Prevention and Treatment of Disease. Robert S. Lamb.
100 Downes' Electric Angiotribe in Cases of Removal of Uterus, Appendages, Appendix, etc. J. W. Bovée.
101 Case of Syphilitic Ulceration and Stricture of Rectum; Gonorrheal Tubo-ovarian Cysts. D. S. Lamb.
102 Case of Tubo-ovarian Abscess and Salpingitis. Operation. J. Wesley Bovée.
103 The Treatment of Certain Inflammations of the Prostate, Bladder and Kidney. Edward L. Keyes.
104 Complete Nephro-ureterectomy. J. Wesley Bovée.
105 Case of Appendicitis. S. S. Adams.
106 Case of Uterine Fibroids Removed by Operation. J. Taber Johnson.
107 Case of Decidual Haematomata. A. Behrend.

94.—This article was published in THE JOURNAL, XL, p. 1564.

Oklahoma Medical News-Journal, Oklahoma City.

June.

108 The Present Status of the Therapeutic Uses of the X-Rays. J. Edward Stubbert.
109 Temporary Expedients in the Primary Treatment of Fractures. Thomas H. Manley.
110 Tetany and Eclampsia in Childlife. (Concluded.) Rudolph Hecker.
111 Suprapubic Lithotomy. A. K. West.

Alabama Medical Journal, Birmingham.

June.

112 Jerome Cochran Lecture. G. H. Price.
113 Some Observations on a Crusade Made Against the Mosquito in Talladega, Ala., During Summer of 1902. B. B. Sims.
114 Ophthalmia Neonatorum, Its Prophylaxis and Treatment. Paul S. Mertins.
115 Education. R. M. Cunningham.
116 Artificial Infant Feeding. J. F. Jenkins.
117 Biogenesis and Heredity. Raymond Wallace.
118 Gonorrhea. Its Dangers and Its Rational Treatment. W. C. Williams.

Medical Review of Reviews, New York.

May 25.

119 The Antiseptico-Anesthetic Method of Treating Pulmonary Tuberculosis. Ambrose T. Holly.

Richmond Journal of Practice.

May.

120 Mastoid Pain Not Due to Empyema or Osteitis of the Mastoid Cells, Nor to Sclerosis of the Mastoid Process. John Dunn.

Medical Times, New York.

June.

121 What Kills the Surgical Patient—Anesthesia, Shock, Hemorrhage, Nephritis, Peritonitis, Embolus, Pneumonia? Byron Robinson.
122 Interesting Complications in Typhoid Fever. T. F. Hale.
123 Treatment of Multiple Neuritis and Neuralgias. William Wormley.
124 The Physiology of Pain. Hermann Gasser.
125 The Relation the Uterus Bears to the Mind. J. C. Carlton.

New England Medical Monthly, Danbury, Conn.

June.

126 Removal of Tonsils. C. E. Boynton.
127 Colorado Springs, the "City of Sunshine," as a Health Resort for Pulmonary Diseases. Harlan Trask.
128 The Relation of the Physician to Politics. Donly C. Hawley.
129 A Common Cause of Tuberculosis. T. J. Townsend.
130 The Treatment of Septic Processes by Intravenous Collargolum Injections. Dr. Jaenicke.
131 Sublamine in the Treatment of Syphilis. N. Friedländer.
132 Remarks on the Prevention of Appendicitis. Sinclair Tousey.

Medical Standard, Chicago.

June.

133 Diagnosis and Treatment of Chronic Catarrh of the Stomach. Charles D. Aaron.
134 A Surgical Clinic. (Ectropion, etc.) N. Senn.
135 The Medical Society of the State of New York and the American Medical Association. A. L. Benedict.
136 The Operation for Pyosalpinx, with Report of Twenty-two Cases and Five Secondary Hysterectomies, with One Death. (Concluded.) Raymond C. Turck.
137 Pain and Its Indications. E. C. Hill.

International Journal of Surgery, New York.

June.

138 Gangrene or Mortification Dependent on Lack of Skill or Neglect in the Treatment of Fracture. Thomas H. Manley.
139 Shock in Emergency Surgery. F. H. McNaught.
140 Posterior Pudendal Hernia, with a Report of Two Cases Complicating Pregnancy. C. W. Milliken.
141 The Technics of Amputations. R. H. Cowan.
142 A Method of Dealing with Fractures. J. B. Taulbee.
143 The Surgical Assistant. (Operations on Stomach and Intestines.) (Continued.) Walter M. Brickner.
144 Necrosis of Six Inches of Ileum, Simulating Appendicitis. William H. Woglom.

Kansas City Medical Index-Lancet.

June.

145 Clinical Report. Two Cases of Ectopic Gestation. Jacob Block.
146 Tonsilitis. Tinsley Brown.
147 Tubo-ovariotomy. C. E. Fulton.
148 Report of Cases. (Epithelioma, etc.) Harry W. Wright.
149 A Layman on Antitoxins. E. W. Caldwell.
150 An Unusual Case of Poisoning. Frank C. Neff.

Medical Summary, Philadelphia.

June.

151 Appendicitis. G. O. Smith.
152 Dilation of the Rectum. J. A. Burnett.
153 Headache. S. A. Buchanan.
154 Specific Macrotys and Its Use. Andrew J. Mann.
155 Medical Competition. C. E. Boynton.
156 Rational Aphrodisiac Treatment by the Use of the Alkaloids. W. C. Buckley.
157 Some Points on Spiritualism, Consumption and Epilepsy. Horatio S. Brewer.
158 Unwritten Medicine—Coal Oil. Benjamin H. Brodnax.
159 Newness Is Always of Interest and Many Times Beneficial in all the Vocations and Professions of Life. William H. Vail.
160 A Case (Rupture of the Womb). D. M. B. Thom.
161 Constipation. George J. Monroe.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

British Medical Journal, London.

June 20.

1 *Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
2 The Rapid Estimation of the Quantity of Chloroform Vapor Present in Mixtures of Chloroform Vapor and Air. Augustus D. Walker and Victor Geets.
3 The Influence of Ether Administration on Nitrogenous Metabolism. Horace J. Pecheli.
4 The Process of Chemical Synthesis in Living Things. Arthur C. Hill.
5 Case of Tuberculous Meningitis in an Adult, with Unusual Symptoms. T. H. Morse and A. J. Cleveland.
6 Some Observations on the Morphology of the Trypanosoma Found in Sleeping Sickness. Aldo Castellani.
7 *The Physiologic Action of Ethyl Bromid and of Somnoform. Sydney W. Cole.

1. Muscular Mechanism.—This second Croonian lecture by Beevor is a continuation of the one in the last issue devoted to the mechanism and the action of the muscles of the upper extremities and the trunk. Like the former it is incapable of being abstracted.

7. Somnoform.—This mixture, which has been used as an anesthetic, largely in France in minor operations, is made up of ethyl chlorid 65 per cent., methyl chlorid 30 per cent., and ethyl bromid 5 per cent. It has been investigated by Cole, who

offers his conclusions as a preliminary communication, as follows:

The chief indications that my experiments afford as to the use of somnoform as an anesthetic are: 1. The chief danger being a paralysis of respiration, a careful watch must be kept over the respiratory movements. 2. Owing to the depression or paralysis of the peripheral endings of the cardio-inhibitory fibers and the comparative slight action on the heart itself there is no danger of heart failure, provided respiration has not ceased. 3. After cessation of the respiratory movements it is easy to restore the animal by artificial respiration. I am of the opinion that the paralysis of the cardio-inhibitory fibers by ethyl bromid renders that drug a very valuable anesthetic. Embley has recently shown that the sudden death that not infrequently occurs in chloroform anesthesia is due to inhibition of the heart through stimulation of the cardio-inhibitory center. This is usually only seen in the early stages of chloroform administration, the danger passing off when the medullary centers are exhausted. I venture to suggest that a valuable anesthetic for prolonged operations could possibly be obtained by combining ethyl bromid with chloroform. During anesthesia produced by ethyl bromid the vagi are paralyzed; chloroform would then be deprived of one of its great dangers. It might be possible to get well past the stage of excitation into that of depression of the medulla before ceasing to give ethyl bromid, and maintaining anesthesia by chloroform alone, ethyl bromid being discontinued owing to its paralytic effect on respiration. I hope shortly to give an account of experiments I am performing to test this possibility.

The Lancet, London.

June 20.

8 Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
9 *Intubation in Cases of Diphtheritic Laryngitis. H. A. T. Fairbank.
10 Two Fatal Cases of Partial Thyroidectomy. Frank C. Madden.
11 *On the Danger of Railway Trips to High Altitudes, Especially for Elderly People. Theodore Zangger.
12 *On the Discovery of a Species of Trypanosoma in the Cerebrospinal Fluid of Cases of Sleeping Sickness. Aldo Castellani.
13 Case of Chorea Gravidarum Treated by Inducing Abortion. John Benjamin Hellier.
14 *A Simple Expedient in the Estimation of Sugar by the Copper-reduction Method. S. Archibald Vasey.
15 Preliminary Note on the Use of Chloroform in the Preparation of Vaccine. Alan B. Green.

9. **Intubation.**—Fairbank's article is based on an experience of 33 cases. He remarks on the scarcity of literature on the subject in Great Britain since the introduction of antitoxin. Taking his own cases with those of Kellock and Basan, he has 78 cases of intubation associated with antitoxin treatment, with 76.9 per cent. of recoveries. Roux mentions 128 cases, with a percentage of recoveries of 62.8. According to his own experience the greater the skill of the operator the better the results. The operation is an easy one, provided the operator has had practice, and in experienced hands is practically free from danger, though death may occur from syncope, as in a case reported. He thinks the sizes recommended by O'Dwyer for the different ages are rather small, and that the size of the child should be considered rather than its actual age. The male larynx is a little larger than that of the female of the same age. Fairbank believes in retention of the string as long as the tube remains, and in all his cases the thread was left attached to the tube. He fixes it to the cheek with a piece of strapping, and thinks the children soon get used to it. In only one of his cases was there any trouble from the child biting through the string. Abrasions and ulcerations of the epiglottis can be avoided by careful attachment of the string on the cheek, and any little disadvantage on this score is compensated for by its advantages otherwise. After the tube is in place the child should be laid on his side to facilitate the escape of mucus from the side of the mouth. The coughing soon gives way to peace and quiet, and the child is at last able to sleep. Feeding by the mouth is possible in a large number of cases and is worth trying. It is an important point to decide when to take out the tube. In the early stages it should be removed every twenty-four hours for cleaning and to allow expulsion of mucus. He suggests the following rule in the average case. The tube should be removed and replaced at the end of twenty-four hours; removed at the end of another twelve hours and the result awaited. If the tube has to be replaced it should again be removed after twenty-four hours. After it is again replaced it can be left in for forty-eight hours, and will then usually enable the child to dispense with it. Attempts at discontinuing the use of the tube before thirty-six hours are almost invariably unsuccessful. The longest recorded case is one reported by Brothers, in which the tube was held for fifty-eight days with interruptions to the end of the twenty-first day. In one of Fairbank's cases the tube was only required thirty-two hours; the longest case required it until the thirty-fifth day. Its extraction by means of the string is, of course, easy, but an extractor is a dangerous weapon and requires the greatest skill and gentleness in its use. Vomiting after or during intubation is rare and occurred in but one of his cases. Coughing up of the tube is also rare if a suitable size is chosen. If immediate relief is not afforded by intubation, or if the child's distress increases, the tube should be removed, and may bring out with it the membrane or have it coughed out soon after. Tracheotomy should not be performed until the result of removal of the tube has been seen. The membrane may block the tube at any time during the first few days. It is advisable to explain to the nurse the conditions that indicate the need of immediate extraction. Profuse watery expectoration is sometimes observed with great restlessness. By laying the child well over on its side and frequently clearing the throat with a swab, relief will often be afforded. Severe ulceration of the laryngeal membrane is uncommon. In his series 3 secondary tracheotomies were performed, but he is now convinced that they were unnecessary. He analyzes the 5 fatal cases, 1 of which died during the operation of intubation. In another case the child died a day after intubation. There were signs of tuberculosis and general tuberculosis was found. In the third case pneumonia developed and caused death after removal of the tube. In the last case the patient died three days after admission from anuria and bronchopneumonia. He thinks in most of these cases at least the fatal result could not have been avoided if primary tracheotomy had been performed. He notices one or two instances of ugly ulceration from the use of the tube in non-diphtheritic cases. Abrasions or ulcerations may occur very rapidly in debilitated subjects.

11. **High Altitudes.**—Zangger's warning in regard to the dangers for elderly people of rapid railway journeys up to a considerable elevation has already been noticed in these columns, page 1547 of the last volume. A difference of altitude of a little over 8,000 feet, during the mild weather and free from wind, may cause a decrease of blood pressure and of the vital capacity with obvious cyanosis and an increase of the pulse rate. He says people with heart disease hardly need to be warned against making mountain ascensions. In case of elderly people with vascular apparatus impaired to a degree, yet apparently in good health, he would warn them to try an ascension of 3,000 or 4,000 feet before attempting greater elevations. In any case they must acclimatize themselves or become accustomed to the reduction of pressure by stoppage at intermediate stations. He advises them not to try to go above 9,000 feet unless under careful medical supervision. The decrease of atmospheric pressure is of importance and the chemical features of respiration also undergo a change. The amount of oxygen which is absorbed sinks while the respiratory quotient rises. This means that the bodily tissues, inclusive of the heart, receive less than the usual amount of oxygen, and it is also to be mentioned that the muscular substance of the heart is especially liable to suffer from the deficient blood supply. A very important factor which is usually overlooked is the reduction of temperature of the atmosphere, which may be as much from 30 to 60 degrees F., causing the peripheral blood vessels to contract and remain contracted. This must affect the blood vessels and the distribution of blood in the whole system, and on return to low ground considerable oscillations of the blood pressure and a rise of some duration may take place which may explain the occurrence of apoplexy. It must be remembered that the vessels of the brain have not yet been proved to possess vasomotor nerves so that the regulation of the cerebral pressure may be very inconsiderable. He remarks also on the acute dilatation of the heart liable to be produced, and this may occur in spite of its apparent improbability in persons who have been carefully conveyed up to high altitudes without any muscular effort whatever, and may not be perceptible until twenty-four or thirty-six hours after the excursion has been made. It is advisable to immediately send the patient to a lower ground, and better by carriage than rail-

way. Absolute rest in bed for several days is sometimes necessary. When insomnia occurs, wet packs to the lower extremities or abdomen, bromids and even morphin may be given. The heart can be stimulated with caffein or camphor, but not with digitalis. The bowels should be in good functional order and free diaphoresis encouraged. Externally counter-irritants may be applied to the region of the heart and in severe cases venesection may be performed. The heart must be kept comparatively quiet for several weeks or even for months, after the severer symptoms with dilatation, etc., such as dyspnea, congestion, precordial pain or possibly angina pectoris. He reports a case in detail where a patient 68 years of age, apparently in good health, had marked dilatation from a railroad trip carrying him to an elevation of 8,505 feet. He was quite well during the trip and for the next thirty-six hours, but at its termination he was still at an elevation of 5,315 feet. The symptoms showed themselves while taking a walk.

12. **Sleeping Sickness.**—Twenty out of 34 cases revealed the presence of the trypanosome in the cerebrospinal fluid in sleeping sickness. Castellani gives its apparent relations to the disease, which are practically the same as those already noticed in THE JOURNAL of July 4, p. 64. In a note by Sir Michael Foster it is stated that Col. Bruce, R.A.M.C., who has been continuing the investigation begun by Dr. Castellani, finds the tryaposoma in every case in the fluid obtained by lumbar puncture (38 cases), and has found it in the blood of 12 out of 13 cases.

14. **The Sugar Test.**—The drawback to the original method of Fehling is the formation and suspension of red cuprous oxid in a blue solution. It occurred to Vasey that instead of adding a reagent to form a soluble compound to the cuprous oxid as it is produced in Pavy's and Gerrard's processes, an inert powder, preferably of a clear white color, may be employed, so as to entangle the precipitated oxid and carry it rapidly to the bottom of the solution, leaving above a clear liquid in which the faintest trace of blue can be seen. He found that precipitated chalk or barium sulphate fulfilled the requirements admirably. To the measured quantity of Fehling's solution (generally 10 c.c.), suitably diluted, he adds about two teaspoonfuls of a finely precipitated calcium carbonate or barium sulphate. The mixture is then raised to the boiling point, being gently stirred with a glass rod during the whole time. The solution in which the sugar has been dissolved is then run in after the usual manner. It will be found that the red cuprous oxid will be deposited on and evenly distributed through the chalk slime or barium sulphate, which rapidly subsides so that the true color of the clarified supernatant liquid is quite easily seen. In this way the exact point of transition from a trace of blue color to a colorless solution can be sharply noted. The process is rapid and extremely accurate according to a number of estimations made by him with standard solutions of sugar, diabetic urines, etc., and he thinks it will be found convenient in clinical practice.

Journal of Tropical Medicine, London.

June 15.

16 On Pre-pupal Changes in the Larvæ of the Culicidæ. G. M. Giles.
17 Typhoid Fever Among the Natives of Southern China. J. Preston Maxwell.
18 Tropical Hygiene. (Continued.) W. J. Simpson.

Hospitalstidende, Copenhagen.

Last indexed XL, page 682.

19 (XLVI, 4.) *Bactericidal Properties of Milk. Betzy Meyer.—Bidrag til Kendskab om Melkens bact. Evne.
20 Sanatoria and Hospitals. M. Hindhede.—Om Sanatorier og Sygehuse.
21 (Nos. 5-6.) *To Preserve Color of Anatomic Specimens. M. Claudius.—Metode til Opbevaring af anatomiske Praeparater.
22 *Joint Participation in Osteosarcomata of Long Bones. V. Schalemose.—Om Ledtilfaelde ved Osteosarkomer i de lange Rorknogler.
23 (Nos. 7-8.) *Tilfaelde af infrapapillaer Duodenal-Stenose og Tetani behandlet med Gastroenterostomi. A. Madsen.
24 *One Danger in Use of Bag Dilator. Niels Muus.—En Fare ved Indlaeggelsen af Champetier de Ribes Ballon.
25 Reform Needed in Building Laws. S. Hansen.—Bygningslovgivningens sanitaere Hovenopgave.
26 (Nos. 9-10.) *Transmission of Human Tuberculosis to Cattle. J. Fibiger.—Om Overforelse af Menneskетuberkulose til Kvaeget.
27 *Om Hyperaciditens-Etiologi. A. Borgbjerg.
28 (No. 12.) Hemoglobinometer. F. Tobiesen.
29 (Nos. 13-14.) Hysteria, Suicide and Simulation. Firedenreich.—Hysteri, Mordforsog og Forsog paa Selvmord. Simulation.
30 *Clinical Picture of Febrile Epidemic Cerebrospinal Meningitis. Sorensen. (Commenced in No. 10.)
31 (No. 15.) 2 Tilfaelde af Ulcus ventriculi perforans. T. Rovsing.
32 (No. 16.) *Bromid and Salt Starvation Treatment of Epilepsy. C. Madsen.—Om Epilepsibehandlung med Bromnatrium i Forbindelse med Klornatrinmfattig Kost.
33 (Nos. 17-18.) Automatisme ambulatoire. F. Hallarger. One case. Railroad conductor.
34 *Case of Lupus Cured with Ethyl-Chlorid Refrigeration. P. Nordentoft.—Tilfaelde af Lupus vulgaris faciei behandlet med Frysning.
35 Are Chilblains a Tuberculide? G. E. Permin.—Er Erythema pernio (Frosten) et tuberkulost Exantem?

19. **Bactericidal Power of Fresh Milk.**—Nineteen series of experiments are described which illustrate that "living" milk, that is, freshly milked or at least within five or six hours, has bactericidal power for the bacteria usually encountered in milk and also for the diphtheria bacillus. The growth of the bacteria is not affected by immediate transferrence of the milk to a low temperature. The number of germs constantly diminished in the milk as it stood for the first few hours, after which they constantly increased.

21. **To Retain Color of Anatomic Specimens.**—Claudius points out that in the ordinary methods of preserving specimens the hemoglobin is soon dissolved or discolored, and with it is lost the natural appearance of the tissues. He has succeeded in preserving the color of the hemoglobin by transforming it into a carbonic oxid combination which is much more resistant and stable. This is done by saturating the specimen with illuminating gas, which always contains a certain percentage of carbonic oxid. The specimen is placed in a saturated solution of ammonium sulphate, filling about one-third of the tight vessel, and then the gas is introduced. Specimens thus prepared are as bright to-day as when dissected out fourteen weeks ago.

22. **Joint Involvement in Sarcoma of the Long Bones.**—This communication from the hospital in charge of Oscar Bloch mentions that in 30 cases of osteosarcoma of the long bones, in 15 the affection at first presented the clinical picture of an inflammatory arthritis, and in 6 of the latter the knee was involved and supposed to be the sole lesion at first. In differentiating, the patient's constitution, age, sex, family antecedents or preceding trauma afford no characteristic data, but tuberculosis, malignant tumors, syphilis and tabes must be excluded. Fever may or may not be present in case of osteosarcoma. The pain is occasionally characteristic, but its radiation to a sound knee may be deceptive. The pain in case of a sarcoma usually starts always at the same point and spreads thence like a neuralgic pain along certain nerve tracts, and occurs spontaneously, both at rest and during exercise, sometimes most severe at night. When such pains are accompanied by an apparent joint affection, resembling a white swelling or hydrarthrosis, the possibility that the affection may be of a sarcomatous nature should suggest itself. Usually, however, the pains are those of any inflammatory joint affection. The irregular shape of the tumor and its irregular consistency are important signs of sarcomatous involvement, also the infiltration of the lig. cruciata, causing the filling out of the popliteal space. This does not occur to the same extent in case of synovitis or tuberculosis. The movability of the joint is frequently retained and is important for the differentiation. The sarcomatous lesion is not benefited by immobilization, elevation and repose like an ordinary arthritis, and suffers when a compressing bandage is applied, edema usually forming around the edges of the bandage. These differentiating signs may be all absent, but they are encountered in a certain proportion of cases.

23. **Duodenal Stenosis Below the Papilla.**—When the stenosis is above the papilla the clinical picture resembles that of pyloric stenosis, but when it is farther along in the intestine the characteristic symptoms are admixture of bile with the stomach contents, alternating positive and negative findings of free hydrochloric acid, and more or less pronounced acholia of the feces. These symptoms were all combined in the case described by Madsen. The patient was a field hand, 41 years

old, the disturbances dating from a little more than a year before. They commenced with severe pains in the cardia evening and night, obstinate obstipation and progressive weakness and emaciation. One day, after severe vomiting, an attack of tetany developed. He was treated by gastroenterostomy, and after a period of improvement died in cachexia.

24. **Danger from Introduction of Bag Dilator.**—Muus warns that it is wise to determine whether the head is movable before attempting to introduce the dilatable bag. In a recent experience the head was immovable and the forceps slipped, perforating the uterus wall.

26. **Transmission of Human Tuberculosis to Cattle.**—Fibiger reviews the various reports that have appeared in the last year or two on the communicability of human tuberculosis to cattle. He finds that various authors have reported 61 attempts at inoculation of cattle with human tuberculosis, with positive results in 41, that is, tuberculosis was induced in 51 out of 81 animals in these 41 experiments. In 74 experiments on 108 cattle, swine and goats the results were positive in 52, that is, on 73 of the animals. Consequently, two-thirds of all the experiments were successful and two-thirds of all the animals were infected. Koch's assertions on this subject are therefore untenable. The tuberculosis is generally restricted to the part or organ inoculated, but occasionally the infection spreads and the disease becomes universal. As a rule, human tuberculosis is not so virulent for cattle, but there are numerous exceptions in which the disease develops as rapidly and with as much intensity as from virulent bovine tuberculosis. Fibiger states that besides the animals mentioned above, dogs, cats, sheep, horses, asses and monkeys have been inoculated with human tuberculosis and always with a certain proportion of positive results. The material with which the animals were inoculated included tuberculous sputa, scraps of tuberculous organs, cultures of tubercle bacilli and tissue from lesions in tuberculous meningitis, arthritis, synovitis and lymphadenitis, as well as pulmonary and renal tuberculosis. On an average 45 to 57 per cent. of the inoculations under all these varied circumstances resulted positively. Fibiger refers to his own extensive experiments, reported last year in the *Hospitalstidende* No. 37 and the *Berliner Klin. Wochft.* No. 38, which confirm the results obtained by others, and are included in the above figures. He remarks in conclusion that he can not accept without some reservations Behring's statement that cattle can be rendered immune to human tuberculosis by inoculation with bovine tubercle bacilli and *vice versa*. He also believes that the bacilli of bovine tuberculosis are more dangerous for man than human tubercle bacilli.

27. **Etiology of Hyperacidity.**—Borgbjerg did not find neurasthenia, hysteria nor hypochondria in any one of the 93 cases of hyperacidity which form the basis for this article. On the other hand, constipation was almost constant. In 99 cases of severe constipation in women he found hyperacidity in 33, that is, in 33.3 per cent., while in 68 cases of constipation in men there was hyperacidity in 60, that is, in 88.2 per cent. In 25 per cent. of the male cases there was abuse of tobacco or alcohol, of tobacco alone in 10 and of both combined in 2. In 20 cases of hyperacidity without constipation there was abuse of tobacco or alcohol in 50 per cent., and all were improved by suspension or reduction of the tobacco or alcohol. In one case the hyperacidity could be explained by hasty eating and insufficient mastication (during a trip to America, he qualifies, in parenthesis). In another there was dilatation of the stomach, which subsided under careful dieting. He found "nervous" symptoms in only 6 cases, and not pronounced in any. He concludes with the description of a case in which the hyperacidity and headache were evidently of reflex origin from a small reducible inguinal hernia; both vanished as soon as a truss was worn.

30. **Clinical Picture of Cerebrospinal Meningitis.**—In 1898 an epidemic of 161 cases of cerebrospinal meningitis was observed at Copenhagen between April and July. Sorensen reviews the clinical picture in 60 of these cases, comparing it with the autopsy findings in 19. Lumbar puncture was done in 51, but no fluid could be obtained in 17. In 31 of the others examined under the microscope the meningococcus was found in 27. In the cases in which the onset was severe and the disease fatal in a month or less, meningitis was always found, while in the cases with a slower course there was only hydrocephalus. No less than 4 of the 19 cases that came to autopsy showed tuberculous lesions. Hence the finding of tubercle bacilli in the cerebrospinal fluid does not necessarily exclude epidemic meningitis. He describes the particulars of a large number of cases, with 23 temperature curves.

32. **Deprivation of Salt in Treatment of Epilepsy.**—Madsen thinks that the results observed to date indicate that the bromids actually take the place of sodium chlorid in the organism when the latter is deprived of its ordinary supply of salt. He has followed Balint's directions for bread with sodium bromid instead of salt, in a number of cases of epilepsy, and tabulates 7 in detail. Out of the total number only one had any more seizures during the five to seven months following, although previously they had had from 1 to 28 a month. The one patient in whom the seizures recurred had only 2 in the course of five months afterward, to 34 in the preceding nine months.

34. **Lupus Cured with Ethyl Chlorid Refrigeration.**—Nordentoft extols the convenience and inexpensiveness of this method of treating facial lupus with which he had been eminently successful in a case. Dethlefsen first announced the efficacy of this treatment and reported a case in 1900 and one more in 1901, but has not published the remote results. The patient in the case here illustrated was a woman of 64, who had suffered for years from lupus of the nose. The cuts show that she had entirely recovered after 48 seances, at first daily and then once a week.

Archiv f. Allg. Pathologie, Etc. (Virchow's), Berlin.

Last indexed page 65.

36 (CLXXII, 1.) Hermaphroditismus verus. W. Simon (Königsberg). One case.
37 Study of Fat Formation and Disappearance. F. Hagemeister.—Zur Kenntnis des Fattschwundes und der Fettbildung in ihrer Abhängigkeit von Circulationsstörungen.
38 *Zur Kenntniss der Banti'schen Krankheit und Splenomegalie. A. Borissowa.
39 Ueber Meningo-Encephalitis beim Kaninchen (in the rabbit). P. Misch.
40 Ueber die Rachitis der Affen (in monkeys). D. v. Hansemann.

38. **Banti's Disease and Splenomegalia.**—In the case of Banti's disease reported, the endothelium of the venous capillaries of the spleen was much swollen and contained numerous red corpuscles and fragments giving the iron reaction. This has never been observed before, Borissowa states. The bone marrow was apparently normal only that the elements were more crowded than usual, actually suggesting exaggerated activity on the part of the marrow.

Centralblatt f. d. ges. Therapie, Vienna.

41 (XXI, 1-2.) Zur Pathogenese und Therapie der nervösen Dyspepsie. W. Zweig (Vienna).—"Only specific treatment is rest for body and mind."
42 Susceptibility of Organs and Tissues. R. Kraus.—Ueber Empfindlichkeit der Organe und Gewebe für Bakterien und Toxine.
43 Therapeutische Kleinigkeiten (trifles). M. Horovitz.
44 (Nos. 3-4.) Aims of Balneo-Therapy. E. H. Kisch (Marienbad).—Ziele der Balneotherapie.
45 Treatment of Rectal Fistulæ. J. Sternberg (Vienna).—Ueber die Behandlung der Mastdarmfisteln.
46 To Harden Children. B. Baxbaum.—Zur Frage der Abhärtung.

Muenchener Med. Wochenschrift, Munich.

47 (No. 20.) Commendation of Witzel's Ether-Drop-Narcosis. F. Berndt (Stralsund).—Zur Empfehlung der W. Aethertropfnarkose.
48 Appendicitis und Eingeweidewürmer (helminths). W. Oppe (Dresden).
49 Mouth Murmur. G. Fischer.—Das Mundhöhlengeräusch. (Commenced in No. 19.)
50 Estimate of Value of Sanatorium Treatment for Lung Disease. F. Kohler (Holsterhausen).—Die Bewertung der modernen Lungenheilstattenbehandlung im Lichte der Statistik, ihrer Praxis und ihrer Aufgaben. (Commenced in No. 19.)
51 Physiology in Medical Training. J. Rosenthal.—Die Stellung der Phys. in med. Unterricht.
52 (No. 21.) Immediate Delivery the Best Treatment for Eclampsia. E. Bumm (Halle).—Die sofortige Entbindung ist die beste Eklampsiebehandlung.
53 Hysterotomia vaginalis anterior. M. Simon (Nuremberg). Three cases of conservative vaginal Cesarean section.

54 Zur Therapie der Extra-uterin-gravidität. W. Thorn.
55 *Lysol-Vergiftung (intoxication). F. Hammer.
56 *Vegetarian Diet in Gynecology. A. Theilhaber (Munich).—Die Anwendung der sogen. veg. Diat in der Praxis des Frauenarztes.
57 Injuries of Uterus. Osterloh (Dresden).—Verletzungen der Gebärmutter.
58 *Protracted Lactation. Nussbaum.—Ueber lange anhaltende Funktion der Milchdrüsen.
59 *Aseptischer Dilator für die Cervix Uteri mit auswechselbarem Laminariastift in auskochbarer Hülle. B. Müller (Hamburg).
60 Ein einfacher, praktischer Uterus-Dilatator. Krull (Dresden).
61 *Blood Agar for Differentiation of Streptococci. H. Schottmuller.—Die Artunterscheidung der für den Menschen path. Str. durch Blutagar.
62 (No. 22.) *Ueber Nekrose der Gallenblase (of gall bladder). Czerny (Heidelberg).
63 Die chirurgischen Behandlung des akuten und chronischen Choledochus-Verschlusses durch Stein und Tumor. H. Kehr. Address delivered at Washington, D. C., May 13.
64 *Ein mit Talmascher Operation behandelter Fall von Synechia pericardii. P. Clemens (Freiburg).
65 Commendation of Bier's Passive Hyperemia. Habs.—Ueber die Biersche Stauung.
66 Weight-Bearing Stumps Below the Knee. Amberger (Rehn's clinic, Frankfurt).—Zur Kasuistik der tragfähigen Unterschenkelstümpfe.
67 Otiatric Casuistik. Bezold.—4 Operationsfällen auf otiatrischem Gebiet, 2 Neubildungen, einen Gipsabguss im Gehörgan und einem Cholesteatom mit Eitersenkung bis zur Skapula und Klavicula.
68 Acute Necrosis of Mastoid Process and Temporal Bone After Scarlet Fever. G. Heermann (Kiel).—Ueber akute Nekrose des Warzenfortsatzes und Felsenbeins nach Scharlach.
69 Modified O'Dwyer Gag. A. Rahn.—Die modifizierte O'D. Mundsperre.
70 Report of the Hamburg "Milk Exposition," May 2-12.
71 (No. 23.) *Operation for Detachment of Retina. L. Müller (Vienna).—Ein neues Operationsverfahren zur Heilung der Netzhautabhebung.
72 New Staining Reaction, P. Erdmann and H. Winternitz (Halle).—Ueber das Proteinochrom, eine klinisch und bakteriologisch bisher nicht verwertete Farbenreaktion.
73 *New Views of Hay Fever. A. Thost (Hamburg).—Neuere Erfahrungen über das Wesen und die Behandlung des Heufiebers.
74 Thymus Death. Leubuscher (Meiningen).—Fragliche Todesursache im Säuglingsalter. Two cases.
75 Ueber Diabetes insipidus. A. Wolff. Two cases.
76 Ueber cirkumscripte tuberkulöse Meningitis. A. Saenger.
77 Ueber die Ankylostoma-Gefahr in Kohlengruben. J. Iberer.
78 Prostata und Albuminurie. C. Kruger.
79 Die Chloroform-Nasen-Maske. C. Reissig (Hamburg).
80 Geschlechtskrankheiten (venereal diseases) und Prostitution. Jordan (Heidelberg).

55. **Lysol Intoxication.**—After observing a fatal case of lysol intoxication, Hammer experimented with it on laboratory animals and looked up the subject in the literature. He is convinced that in his case some of the 1-per cent. solution of lysol injected into the uterus on account of a febrile condition following delivery with placenta previa, was aspirated into a vein. The lysol was thus carried to the brain and caused symptoms of collapse. These subsided, but a part of the solution must have remained in the vein and caused erosion of the endothelium with local thrombosis later. This thrombosis gradually extended centralward with fatal results. The solution of lysol for intrauterine irrigation in obstetric cases should always be weak and never be used under strong pressure. Especially in case of placenta previa great caution is necessary on account of the aspirating tendency of the gaping veins.

56. **Vegetarian Diet in Gynecology.**—Theilhaber attributes many of the ills that female flesh is heir to, especially in the well-to-do classes, to over-eating. He recommends a varied vegetarian diet, that is, excluding all parts of the dead animal, but allowing milk, eggs, etc., as products of the living animal. His experience includes 300 cases, but only 200 carried out his instructions for six months, at least, as directed. He has found this diet very valuable in various nervous affections, in the troubles of the menopause, in nervous insomnia, pruritus vulvæ and general pruritus, hemorrhoids, etc., and in one case of protracted galactorrhea, and thinks it would be advantageous in pregnancy nephritis or neuroses, but has had little opportunity to test the latter. In case of constipation or flatulence, the gas-producing substances must be excluded, but a careful selection will render the vegetarian diet very useful under these circumstances. Obese patients lost flesh, but others did not, as a rule, and none exhibited any loss of strength. He refers to the endurance of the Japanese, who eat little meat, as also the Trappist monks. He thinks that time will yet show that many obstinate nervous affections may be cured by abstention from meat.

58. **Protracted Lactation.**—In Nussbaum's two patients the galactorrhea continued for a year or two after the child had been weaned, reducing the patient to emaciation. The morbid tendency was cured by a compressing bandage, mild laxatives and small repeated doses of antipyrin. Zeitlin has published in a Russian journal a case in which the mammary glands continued their secretion for five years, although the patient had suffered from a metritis dissecans and amenorrhea in the interim.

59. **Aseptic Dilator for the Cervix.**—Müller uses a laminaria tent enclosed in a rubber cover. The latter is sterilized by boiling. The tent is held in place with a Hodge ring pessary, and a rubber bulb and tube supplies the moisture to the laminaria inside its rubber cover.

61. **Differentiation of Streptococci with Blood Agar.**—The use of blood agar has rendered possible the separation of streptococci into two groups, of which the one found in erysipelas is more malignant. The fact that the growth of the other is checked to such an extent by the blood agar justifies the hope that affections due to this germ, which Schottmuller calls Strept. mitior viridans, may prove to be amenable to serum treatment. He has also succeeded with the blood agar in differentiating a hitherto undescribed variety, the Streptococcus mucosus, which he isolated in 7 cases, all but 2 fatal.

62. **Necrosis of Gall Bladder.**—Czerny reports 2 cases, one terminating fatally. Both belong in the class of masked gallstone affections without characteristic colics. He operated on both, one requiring a second intervention. He found at the autopsy of the one and at the second operation in the other case that he had overlooked a gallstone. He usually operates conservatively on the gall bladder, restricting his intervention to mere cholecystostomy with water-tight drainage and suspension of the gall bladder. The fistula heals in about three weeks, and 85.7 per cent. of all his gallstone patients have been permanently freed from their disturbances by this easy and comparatively harmless intervention. He describes his technic in detail.

64. **Adhesion of Pericardium Treated with the Talma Operation.**—As a last resort, the Talma operation was performed, but without results, except a temporary improvement.

71. **Operative Treatment of Detachment of Retina.**—Müller's experience has shown that the cause of this condition is either an inflammatory exudate in case of choroiditis or a hemorrhage or a transudation due to venous congestion in the choroid, the precursor of acute, circumscribed atrophy of the choroid, and implicated in the tension. There is also a possibility of laceration of a coat of some vessel. The transudation may be due to compression of the vessels in the choroid by a tumor, or it may be the result of some affection of the blood, as in case of Bright's disease. The operation he suggests and has successfully performed on 7 patients, aims to put an end to the tension of the choroid noted in high myopia, and also to the distention and stretching of the normally located retina. It consists in excision of a strip of the sclerotic coat, 8-10 mm. wide by 20 in length, from the outer portion of the posterior segment, leaving the choroid intact and only allowing so much of the subretinal fluid to escape as is required by the reduction in size of the capsule of the eyeball. The rest is readily absorbed. The details of the operation are described at length, with the clinical cases in which it has been performed to date. The results, he thinks, justify him in announcing this method of treating detachment of the retina as causal and effective. Neither the duration of the detachment nor the degree are any obstacles to the complete and permanent reposition of the retina by this method. The restoration of vision depends on the progress of the accompanying anatomic lesions. Detachment of many years' standing offers little prospect of restoration of much vision, and when the detachment occurs at the macula, restoration of function can scarcely be anticipated for the latter. The operation includes temporary resection of the wall of the orbit.

73. **Effective Serum Treatment of Hay Fever.**—Dunbar's announcement that he had succeeded in isolating the substance

which caused hay fever and in producing an antitoxin for it, was duly chronicled in THE JOURNAL of April 4, page 943, ¶47. This communication gives further details, stating that time has only confirmed the correctness of his assumptions as established by a very large number of tests on hay fever subjects who have thronged to him in the hope of relief. Dunbar suffers himself from hay fever, and has been studying it for years. The toxin which causes it in the predisposed, and in them alone, is a soluble starch grain in the heart of the pollen of grains and grasses. He was able to induce a typical attack of hay fever with asthma by subcutaneous injection of this toxin in winter. The serum of animals inoculated with it protects susceptible subjects against infection with the pollen toxin, and there is every reason to suppose that it will protect against actual hay fever. The serum is perfectly harmless, but he does not give it to any one but physicians, and they must apply directly to him at the Institute of Hygiene, Hamburg, Germany. He notes the fact that hay fever occurs almost exclusively among the educated classes, affecting men and women who are under some mental and physical strain and compelled to be out of doors more or less. Among merchants and manufacturers, it usually affects those who are obliged to take long business trips. Physicians are peculiarly its victims; in his statistics fully 10 per cent. were medical men. The women victims are those who travel much or practice vocal or instrumental music or keep up a large household or have passed through numerous pregnancies. His statistics also seem to show that the prevalence of influenza has something to do with the increasing number of hay fever victims. The summer of 1902 was so cold and rainy that the grasses did not ripen until two weeks later than usual, and all the hay fever subjects mentioned the fact that the onset of their annual scourge was delayed two weeks beyond the usual date. Thost advises persons subject to hay fever to treat any concomitant gout or catarrh before hand, so as to enter the hay fever season in their best physical condition. Alcohol and tobacco should be avoided as the date approaches, with all other irritants and the body should be hardened by cold and cool sponges, air baths, etc. A certain protection is afforded by keeping indoors, in cool rooms with the windows tightly closed and the car windows closed when traveling. The eyes may be treated by local measures, cool applications, instillation of cocain, holocain or adrenalin. One ophthalmologist found that he derived relief from instillation of a .2 per cent. solution of silver nitrate, and in a slightly stronger solution this may be applied to the nose with benefit. Rinsing the nose with tepid saline solution, greasing it or plugging the nostrils with cotton, possibly mentholized or formanized cotton are also useful preventive measures. Glaring sunlight should be warded off with blue glasses compressing the nose. Sprays, etc., are more effectual when they are applied to the upper part of the nose at the terminals of the olfactory nerve. Holding the handkerchief to the nose or wearing a gauze veil is a protection when traveling, and small nose filters have also proved useful. Quinin is a good tonic in these cases and the usual measures against asthma will afford relief. In sending hay fever patients away from home, the blossoming time of the gramineæ must be borne in mind and avoided if possible.

Therapie der Gegenwart, Berlin.

Last indexed XL, page 1546.

81 (No. 5.) *Prevention and Treatment of Hydronephrosis. H. Strauss.—Zur Behandlung und Therapie der Nierenwassersucht.

82 *Saliva as a Curative Factor. J. Bergmann (Hanau).—Der Speichel als Heilfaktor.

83 Ueber die therapeutischen Indikationen des Skopolaminum hydrobromicum (zugleich ein Beitrag zur Schneiderlin-Korff'schem Narkose. M. Kochmann.

84 Symptomatic Treatment of Cerebral Affections Reducing Space. H. di Gaspero (Graz).—Ueber die sympt. Behandlung raumbeengender Gehirnerkrankungen.

85 Zur Behandlung der veralteten traumatischen Luxation der Hüfte (of the hip). W. Klink (Berlin).

86 Ueber die totale Exstirpation des septischen puerperalen Uterus. O. Feis (Frankfurt).

87 *Das Yohimbin (Spiegel) als lokales Anestheticum, bes. in der Behandlung der Ohren- und Nasenerkrankungen. Halke (Passow's clinic, Berlin).

88 Latest Efforts in Kidney Surgery. M. Schede (Bonn).—Die neuesten Bestrebungen auf dem Gebiet der Nierenchirurgie. Critical Review.

89 Treatment of Fractures of the Forearm. G. Müller.—Zur Behandlung der Vorderarmbrüche.

81. **Prevention and Treatment of Hydronephrosis.**—This communication from Senator's clinic calls attention anew to the fact that a diseased kidney eliminates not only less water, but also less salt. This was confirmed by a long series of experiments with salted food on nephritic subjects. The diseased organ eliminated less chlorids, both quantitatively and proportionately than the other kidney. This was especially marked in case of hydronephrosis. The proportion of salt in the urine from the diseased kidney did not vary from the usual amount, but, on the other hand, the proportion of phosphoric and sulphuric acid in the urine was about the same for each kidney, in notable contrast to the proportion of salt. These and similar facts observed have convinced Strauss that dropsy is not only accompanied by a retention of salt, but has also some direct causal relation to it, and that the salt retention is due to the kidney itself. The practical application of these conclusions is that in all cases of nephritis, or at least those with a tendency to edema, the intake of salt should be restricted and its elimination promoted. The dietary should be as free from salt as possible; milk is particularly valuable on this account. If saline infusion is necessary a hypo- rather than an isotonic saline solution should be used, or, better still, substituted by Schücking's sodium saccharate or fructosate solution. (Formula was given in THE JOURNAL, XXXIX, p. 454, ¶83.) The proportion of salt in the edema remains unaltered, and consequently retention of 6 gm. of salt means the retention of a quart of water to hold it in solution. Treatment should aim to promote the elimination of salt by diuretics known to increase it. Among these are the heart tonics which by inducing better conditions in the circulation augment the elimination of salt. Nature strives to accomplish this spontaneously, and the transformation of a chronic parenchymatous nephritis into a secondary contracted kidney depends in large measure on the ability of the heart to become hypertrophied. Caffein takes the lead among the diuretics proper. In the experiences reported the amount of water eliminated was frequently normal, notwithstanding the retention of salt. The edema vanished when by medicinal or other measures polychloruria had been induced in addition to the polyhydruria. The hydruria was often capriciously variable on different days, but the proportion of salt was a constant figure. He concludes by urging the necessity of determining the proportion of salt in the urine as a routine measure, remarking that retention of salt without edema is the incipient stage of hydronephrosis or general dropsy later. He recommends for the purpose Achard and Thomas' bedside approximative test as simple, easy and sufficiently accurate. [This test was described in the *Bull. Soc. Hop. de Paris*, 1902, No. 22. It is a reversal of the ordinary silver solution test. Instead of adding the silver solution to the urine, the latter is added to a given amount of the titrated silver solution (29.075 per 1000, of which 1 c.c. precipitates 1 eg. of chlorids). A graduated Esbach tube is used, in which 5 c.c. of the silver solution are poured and three or four drops of a 1 per 5 solution of potassium chromate or bichromate added. A silver chromate is formed, but as soon as the urine is poured into the tube and shaken up a silver chlorid forms and the chromate is decomposed, the reddish brown tint of the fluid changing to a clear yellow. The tube is graduated with a scale calculated as follows: 3.3 c.c. represents 15 gm. of chlorid per 1000; 5 c.c. represents 10 gm.; 7.1 c.c. represents 7 gm.; 10 c.c. represents 5 gm.; 12.5 c.c. represents 4 gm.; 14 c.c. represents 3.5 gm.; 16.6 c.c. represents 3 gm., and 20 c.c. represents 2.5 gm. The silver solution may be diluted or the urine, rectifying the scale readings to correspond. The urine must be acid, and a little vinegar may be added if necessary. The urine should be poured in up to each mark in turn, stopping and shaking at each one to note if the reaction occurs. It is wise to test with urine taken from the total amount for twenty-four hours, bringing the amount up to one or a round number of liters by adding water, multiplying the readings to correspond as the scale is computed for one liter.—ED.] Strauss concludes with the statement that treat-

ment of patients on these lines has afforded results which unmistakably demonstrate that we are on the right road in basing prophylactic and curative measures in hydronephrosis on the retention of the chlorids. It is possible, he adds, that further study of the chemistry of the urine may build up a firmer foundation for the new physical-chemical tests of kidney functioning. [Widal and Lemierre reported at the meeting of the Paris "Soc. Méd. des Hop.," June 12, that they had been able to induce the formation of edema at will in 2 cases of nephritis, predominantly epithelial, by addition, for six to ten days, of 10 gm. of sodium chlorid to the day's rations. The weight increased as the edema formed, and subsided when the patients were put on a milk diet without salt and the edema vanished. In 4 cases of arteriosclerosis with interstitial nephritis the ingestion of sodium chlorid had no influence on the edema. Analysis of the cases shows that salt induces edema when there is already marked retention of the chlorid, but not when it is being eliminated normally or above. Dufour mentioned that in 2 tabetics under specific treatment with addition of salt the knee-jerk returned in one and this and the Achilles-jerk in another. About 2 or 3 gm. of salt were taken daily for months. The knee-jerk on one side vanished afterward in one case subsequent to a gastric crisis. Other facts in regard to alimentary chloruria in nephritis have been published by various French authors recently, some pointing out the large proportions of salt eliminated in chronic sclerous nephritis, others the gravity of the prognosis in nephritis accompanied by retention of chlorid. Others still suggest that the chloruria may not be exclusively dependent on the kidneys, and that the kidney lesions are not directly responsible for the hypochloruria.—ED.]

82. **Saliva as a Factor in the Cure of Disease.**—Bergmann styles the gargle "therapeutic trifling," inefficient for any real purpose. He thinks, on the other hand, that the saliva reaches every part of the throat and can be made the vehicle for therapeutic applications. To promote the flow of saliva he orders "chewing tablets," and advocates their use in throat affections, in dyspepsia, obesity and edema. He has a special medicated or non-medicated tablet for each. The alkaline saliva is particularly beneficial in acid dyspepsia. In case of obesity or edema the accumulating saliva is expelled and the large amount of fluid that is thus eliminated has a surprisingly favorable action in reducing the obesity or edema.

87. **Yohimbin as a Local Anesthetic.**—Haike proclaims that, combined with suprarenal extract, yohimbin is proving an ideal anesthetic for ear and nose work. The combination has all the advantages of cocain with none of its drawbacks.

Wiener Klin. Rundschau, Vienna.

Last indexed XL, page 1333.

90 (XVII, 11.) *Mistakes in Diagnosing in 4 Cases of Stomach Affections. B. Oppler.—Diagnostische Irrthümer bei 4 Fällen von Magenerkrankungen. (Commenced in No. 10.)
91 (No. 12.) Diagnostic Value of Leucocyte Count. L. Kirchmayr.—Ueber den diagn. Wert der Leukocytenzählung bei Entzündungsprozesses der inneren weiblichen Genitalien. (Commenced in No. 11.)
92 (No. 13.) *Mal Perforans After Injury to Sciatic. M. Sattler.—2 Fälle von Mal perforant du pied nach Durchtrennung des Nervus ischiadicus als Spätfolge dieser Verletzung.
93 *Pathognomonik des Gesichtes (of the face). A. Wiesner. (Commenced in No. 8.)
94 (No. 14.) Atonia uteri post partum. W. Brüll. Three cases. No hemorrhage. Cured by massage, etc.
95 (No. 15.) *Tendon Grafting in the Thigh. O. Vulpius.—Die Sehnenüberpflanzung am Oberschenkel.
96 *Ueber Diagnose und Therapie der Migräne. J. P. Karplus. (Commenced in No. 12).
97 Treatment of Consumptives at Health Resorts. B. Rischawy.—Zur Behandlung Schwindsüchtiger in offenen Kurorten.
98 (No. 16.) Normal Birth After Abdominal-Vaginal Suture of Ruptured Uterus Three Months Before Commencement of Pregnancy. K. Kamann.—Fall von rechtzeitiger Geburt nach abdominal-vaginaler konservativer Vernähung einer violenten kompletten Uterus-Ruptur.
99 Congenital Goiter and Swollen Thyroid Observed in Children Born in Face Presentation. Ibid.—Der angeborene Kropf, etc.
100 (No. 17.) *Blue Light Treatment. G. Kaiser (Vienna).—Methodik und Erfolge der Blaulichtbehandlung. (Commenced in No. 16.)
101 (No. 18.) Early Operation in Appendicitis on Ground of Pathologic-Anatomic Findings. O. Hartmann.—Ueber die Frühoperation, etc. (Commenced in No. 17.)
102 *Phorxal and Its Importance in Functional Neuroses. A. Stichl.—Phorxal und seiner Bedeutung für die Therapie der funkt. Neurosen.
103 (No. 19.) Microscopic Findings in Fatigued Muscles. W. Scheffer (Berlin).—Weiteres über mikroskopisches Erscheinungen am ermüdeten Muskel.
104 Treatment of Congenital Club Foot. Reichard (Magdeburg).—Zur Behandlung des angeb. Klumpfusses.
105 *Zur Kenntniss der Purpura hemorrhagica. A. Pick (Vienna). (Commenced in No. 18.)
106 (Nos. 20-22.) Cicatricial Stenosis of Larynx. O. Kahler.—Klinische Beiträge zur Behandlung der Narbenstenosen des Larynx.
108 Hemorrhage from Larynx. F. Rode.—Zur Kasuistik der traumatischen Larynxblutungen.
109 Zur klinischen Bedeutung der Halsrippen (cervical ribs). A. Weissenstein.
110 Lighting Strokes and Hemorrhage from Eyes. A. Topolanski.—Blitzschläge und Augenblutungen.

90. **Mistakes in Diagnosing Stomach Affections.**—In one of the 4 cases described the clinical picture of pyloric stenosis was presented, but the obstruction was found to be at the cardia instead. The tumor could not be palpated, as it was fastened down under the liver. The stomach tube could be introduced for 70 cm., and the same amount of fluid poured in could be siphoned out again. The vomiting recurred in the afternoon, and there were no disturbances in swallowing, but esophagoscopy would have disclosed the lesion if anything had called attention to this location of the tumor. In another case the apparent stenosis of the pylorus was caused by the fixation of this part of the stomach in the gall-bladder region owing to unsuspected gallstone inflammation. Another case was diagnosed as a benign stenosis of the pylorus, which had caused symptoms for three and one-half years, but the operation finally disclosed a round-celled sarcoma. There had been no signs of malignant growth; the general health had not suffered to any extent and the patient consented to an operation merely because she was tired of the occasionally necessary lavage of the stomach. Since the tumor was removed she has gained more than forty pounds.

92. **Mal Perforans as Late Result of Traumatic Injury of Sciatic.**—Sattler's two cases were men 56 and 28 years of age. The sciatic nerve had been completely severed, entailing paralysis of the limb. The latter gradually subsided with nearly complete restoration of motor function in the second case within two months and in six years in the first. Most of the sensory disturbances also gradually retrogressed.

93. **Pathognomonics of the Face.**—Wiesner reviews the various signs afforded by the appearance of the face in relation to various affections, allowing the latter to be differentiated by the specific changes in the facial expression, eyes, skeleton, etc. In regard to the risus sardonicus he states that it is liable to be induced by helminths and catarrhal conditions in the intestines, and also by irritation of the phrenic nerve from any affection of the organs it innervates. Some severe febrile affections, such as icterus gravis, yellow fever and pulmonary consumption, are distinguished by a blissful, smiling expression during great prostration. He describes the muscular mechanism for the changes noted in the face in tetanus and other affections.

95. **Tendon Grafting in the Thigh.**—Vulpius does not advocate tendon grafting except in case of flexion preventing the use of the limb. He disapproves of artificial tendons unless there are absolutely no natural tendon fibers to work with. If the silk is expelled later as a foreign body the result of the operation is lost. There are about 30 cases on record of grafting of the thigh tendons, to which Vulpius adds his experience of 20 cases, about 8 per cent. of his total of tendon-grafting operations. He illustrates several severe cases. In some all of the flexors and in others only part of them were transplanted in a single intervention which restored walking capacity. The more extensive the paresis the more complex the operations required, as in a case he illustrates in which the child had never used his flexed lower limbs at all. He had to lengthen the Achilles tendon by a plastic operation and graft a tendon in the leg. The left knee fixed in marked permanent flexion was treated by arthrodesis, the biceps transplanted forward, to prevent recurrence. The contracture in the hip joint was treated by myotomy, the bony fixed abduction remedied by subtrochanterian osteotomy. The right knee in flexed contracture was left movable. This was accomplished by transplanting the biceps, semitendinosus, semimembranosus

and sartorius forward and suturing them to the median and lateral margin of the patella. These interventions required three months, and now, fifteen months later, the boy can stand erect and walk with a cane out of doors and in the house without. He can flex his knee to 45 degrees, extension is perfect and with nearly normal strength. The plaster cast after tendon grafting is left for five weeks, during which the patient remains in bed. The after-treatment with massage, gymnastics, electrotherapy, etc., is not merely for the purpose of strengthening the muscles, but also to educate the corresponding nerve centers to their hitherto missing functions. He makes three lengthwise incisions, the first exposes the patella, its ligament and the quadriceps tendon. The second incision, back of the median condyle, opens up widely the sartorius, and its tendon is isolated and detached. The third incision is made to expose the tendon and belly of the biceps. The terminal tendon is detached and the belly of the muscle mobilized. From the lower end of the first incision a passage is made with a blunt instrument, beneath the fasciæ, through which the tendons are brought forward. As soon as the flexion is corrected the tendons are sutured side by side to the upper edge of the patella and from there downward near the median line as far as the patellary ligament, under moderate tension. The tendons must be fastened so as to act as nearly in a straight line as possible. The incisions are then completely closed; he never tampons.

96. Migraine.—Karplus thinks it important to distinguish between the genuine, inherited migraine and the merely symptomatic. For the former speak the appearance at an early age, the constancy of the recurrences and their similarity, and the family history. Genuine migraine is more frequent in women than in men, while paralysis and tabes are more frequent in the latter. In the treatment of genuine migraine removal of any pronounced source of peripheral irritation may have a favorable effect, as also all measures that tend to improve the general health, with avoidance of occasional causes and prophylactic doses of some sedative. It is possible that some drug to act on the vessels might be useful, but it would be dangerous to experiment during an attack. A prophylactic course of small doses of nitroglycerin or theobromin is theoretically justifiable during the intervals. Frequent and severe attacks of migraine probably contribute to deterioration of the walls of the cerebral blood vessels in time. A migraine subject is a chronically diseased patient and needs a certain amount of psychic treatment and tactful sympathy, too often neglected by the physician and rich in its rewards to charlatans.

100. Blue Light Treatment.—Kaiser gives illustrations of the apparatus for the production of blue light and of some of the patients whom he has treated by this means. He thinks that his experience with ordinary and erythematous lupus has established that the metabolism is powerfully stimulated by reflex action from the blue rays. The influence of these visible chemical rays is directly proportional to the distance and intensity of the light source. They penetrate blood-filled tissues readily and favor absorption, relieve pain and, when concentrated, induce actual anesthesia.

102. Phorxal, a New Blood Food.—Stichl has charge of the Mariagrün sanatorium near Gratz, and has been much pleased with the results attained with this new preparation of blood. He has administered it in 50 cases and found that it has a marked action on the blood, rapidly increasing the proportion of hemoglobin and improving the appetite and assimilation. The patients gained from 2 to 6 pounds a week in many instances after this tasteless powder was added to their food. There were no by-effects from its use, and he concludes by recommending it as a very inexpensive and efficient means of improving the composition of the blood in severe anemia and raising the vital energies of the nervous system in nervous dyspepsia, neurasthenia, hysteria, etc. He shows that in composition and mode of absorption it differs from other preparations of its kind.

105. Purpura Hemorrhagica.—In 3 of the 5 cases described the purpura developed independently, and in 2 others in connection with malaria; in one the hemorrhages seemed to appear vicariously in place of the intermittent febrile attacks. All were treated with lemons, six to ten a day, in the 2 last cases associated with Fowler's solution or aspirin. The lemon juice seemed to be promptly effective, although 2 of the idiopathic cases were extremely severe. One developed with a febrile bronchial catarrh and was followed by suppuration of a gland in each axilla. All are described in detail. No injurious by-effects were noted from the lemon treatment, although in large doses it had an evident laxative action. He mentions in conclusion that a popular remedy against malaria on the Roman Campagna is to stew lemons, sliced with the skin, and take the filtrate by the tablespoonful. He has repeatedly found this decoction beneficial in malarial dyspepsia.

Zeitschrift f. Heilkunde (Chiari's), Prague.

Last indexed XL, page 134.

111 (XXIII, Nos. 10-12.) Zur Kenntniss tertiärer Läsionen bei Tumor cerebri. A. Fuchs (Vienna).
112 Ueber Hydranenkephalie (Cruveilhier). H. Kluge (Innsbruck). Eight cuts.
113 *Die Pathologie der Bewegungsstörungen (motor disturbances) bei der Pseudobulbarparalyse. F. Hartmann (Gratz). Seven cuts.
114 *Ueber Ochronose. H. Albrecht.
115 Ibid. E. Zdarek.
116 *Affections Due to Pneumonia Bacillus. Milan Sachs.—Zur Kenntniss der durch dem Pneumoniebacillus (Friedländer) verursachten Erkrankungen.
117 Relations Between Toxin and Antitoxin. R. Kretz (Vienna). Beziehungen zwischen Toxin und Antitoxin.
118 Zur Kenntniss des Lungencarcinoms. P. Dömeny (Vienna).—Ten cases; five cuts.
119 *Die Klinik der sogen. Tumoren des Nervus acusticus. F. Hartmann.
120 Wesen der europäischen Chylurie. K. Franz and K. Stejskal.

113. Pseudo-Bulbar Paralysis.—This elaborate article by Hartmann is accompanied by 17 photogravures and a bibliography of 104 references. It is based on the study of 8 cases personally observed and analyzes the motor disturbances of this condition from every point of view with a long array of summarized conclusions.

114. Ochronosis.—Albrecht states that he knows of only 6 cases on record of this abnormal dark staining of the tissues, especially of the cartilages, first described by Virchow. He has recently observed a case in a man of 41, a consumptive, with melanuria and pigmentation of the ear. At the autopsy blackish gray or black spots were found throughout the vascular system, accompanying evidences of atheroma. The darkest spots were on the cartilages near the bones and in the joints, but the latter all appeared otherwise sound. Chemical tests showed that the pigmentation was not due to melanin nor to hematin or its derivatives.

116. Virulent Affections due to Pneumonia Bacillus.—The author of this article is Dr. Milan Sachs, whose tragic death from laboratory plague was recently reported. He described here a case of rapidly fatal infection with Friedländer's bacillus by way of the urethra, the prostate first invaded. An abscess formed which perforated into a vein, with resulting general infection, endocarditis, meningitis and multiple abscesses in the kidneys. The bacilli were found in the blood in enormous numbers.

119. Tumors of the Auditory Nerve.—Hartmann reviews 26 cases on record and 3 personally observed. The most pronounced type of the lesion is in cases with complete nerve deafness accompanied by all kinds of mild functional disturbances on the part of the organs occupying the posterior cranial fossa. The lesion first manifests itself by slowly encroaching nerve deafness, associated with slight dizziness, attacks of headache or paresthesia and pains in the trigeminus domain and possibly slight hemiataxia. Slowly progressive nervous deafness with one or more of these symptoms should suggest a tumor in the acustico-cerebellar space. Later choked disc becomes apparent, with motor and sensory disturbances in the extremities and finally disturbances in the functions of the other cranial nerves, predominating on the same side. A course of two to eight years may be anticipated, but early operation is justified by the precision with which the lesion can be located and the exceptional readiness with which the tumor shells out.

Zeitschrift f. klin. Medicin, Berlin.
Last indexed XL, page 1765.

121 (XLIX, 1-4, Runeberg Festschrift.) *Effect of Morphin on Secretion of Gastric Juice. H. Holsti.—Wirkung des Morphiums auf die Absonderung des Magensaftes.
122 Changes in Spinal Cord in Chronic Alcoholism. E. A. Homen. —Die Veränderungen im Rückenmark bei chron. Alkoholismus.
123 *Displacement of Kidney from Clin.-gynec. Standpoint. O. Engstrom.—Ueber Dystopie der Niere, etc.
124 Dilatation of Esophagus. R. Sievers.—Zur idiopathischen Oesophagus-Erweiterung. One case.
125 *Ueber das sogen. einfache Entero-Cystom und seine Bedeutung als Ursache von Darmverschluss. A. Kroglus.
126 *Ueber die Häufigkeit und klin. Bedeutung der Pupillen-Differenz, nebst einigen Bemerkungen über den sogen. "Springende Mydriasis." A. O. Schauman.
127 *Transmission of Scarlet Fever by Milk. K. Ekholm.—Zur Scharlachübertragung, etc.
128 Importance of Deformities in Spine and Thorax for Diagnosis of Syringomyelia. J. Hagelstam.—Ueber die Bedeutung der Difformitäten, etc.
129 *Cerebral Affections After Carbonic Oxid Poisoning.—C. Sibelius.—Zur Kenntniss der Gehirnerkrankungen nach Kohlenoxydvergiftung.
130 *Late Disturbances After Tracheotomy. W. Pipping.—Spätstörung nach der Tracheotomie.
131 Scirrhus mammæ und Adenocarcinoma nasi bei derselben Kranken. W. Zilliacus.
132 *Round Ulcer in Finland. W. Backman.—Ueber die Verbreitung der runden Magengeschwurs in Finland sowie Einiges über seine Aetiologie.
133 Fall von Diabetes insipidus. T. W. Tallqvist.
134 *Albumin Metabolism in Anemia. E. Rosenqvist.—Ueber den Eiweissstoffwechsel bei der perniciösen Anämie, mit specieller Berücksichtigkeit der Botriocephalus-Anämie.
135 *Zur Frage der Pathogeneität des Balantidium coli. E. Ehrnrooth.
136 Paralysie douloureuse (Chassaignac). E. Lövegren.
137 *Rigid Spine. V. O. Siven.—Zur Kenntniss der sogen. chron. ankylosirenden Entzündung der Wirbelsäule.
138 *Casein Enemata and Phosphorus Metabolism. R. Ehrstrom. —Nährwerth des Caseinklystiere nebst Bemerkungen über den Phosphorstoffwechsel.
139 Ueber den Werth der Hämotokrit-Untersuchungen. E. Aspelin.
140 Rupture of Aorta in Apparently Healthy Boy of 13 After Long Skating. E. Wasastjerna.—Aortaruptur nach Schlittschuhlaufen, etc.

121. **Effect of Morphin on Gastric Secretion.**—The twenty articles in this souvenir number of the *Zeitschrift* are all by present or former pupils of Prof. J. W. Runeberg of Helsingfors, Finland. Holsti has studied the effect of morphin on the gastric secretion in 10 subjects. His general conclusion seems to be that the injurious influence of the drug is due more to its disturbing action on the motor function than to any influence on the secretion of gastric juice.

123. **Ectopic Kidney from Gynecologic Standpoint.**—In one of the 3 cases described one kidney was low in the small pelvis. In the second the left kidney was at the umbilicus and in the third a horse-shoe kidney was located very low, but the patient had borne four children. A number of cases of a congenital pelvic kidney obstructing delivery are on record. Even if the birth proceeds normally, the results may be disastrous from compression of the organ by the gravid uterus. Nephrectomy solely on account of interference with childbirth is not justifiable, and there are few instances on record where even restoration to normal position was attempted.

125. **Enterocystoma as Cause of Ileus.**—Krogius has observed a case of this kind and found records of 4 more in the literature. The age was 11 days to 62 years; all the patients were operated on, but all succumbed except one, 15 years old. His own patient was a two-months' infant.

126. **Pupil Aberrations.**—Schauman has noted a difference in the pupils in 723 subjects. The number includes 401 subjects, or 55.5 per cent., with no organic lesions but some neurosis, including 11 with exophthalmic goiter, 4 epileptics and 3 with chorea. In the remaining 322, or 44.5 per cent., there were organic lesions, including tuberculosis in 6.8 per cent. and some vascular affection in 5.5 per cent. When it is not due to an organic lesion it is therefore the expression of an asthenic diathesis or a sign of hereditary degeneracy. Jumping mydriasis is not so rare as generally supposed, he finds. He observed it in 11 cases, all with neuropathic manifestations from childhood. Hysteria was manifest in 3 or 4 and the others were not above suspicion. He does not regard it as a precursor of serious trouble.

127. **Transmission of Scarlet Fever in Milk.**—The milkmaid, a girl of 16, had been treated for a phlegmonous angina, and shortly afterward cases of scarlet fever developed in six families who were supplied with milk from this farm, and only two families with children on this milk route were spared. Two of the adults also suffered from a febrile tonsillitis at the same time. The facts observed suggest a genetic connection with the milk supply.

129. **Carbonic Oxid Poisoning.**—A young man was found unconscious five minutes after he had descended into a cistern in which a coke fire was burning. He recovered consciousness next day, but was totally blind and died in a month. The microscope showed lesions resembling those of a toxic, especially an alcoholic encephalitis. Sibelius remarks that the phenomena observed indicate that the toxic action of carbonic oxid is not essentially the driving out of the oxygen, but rather a primary toxic influence on the central nervous system.

130. **Ultimate Outcome of Tracheotomy.**—Pipping states that only 2 have become tuberculous out of his 67 patients on whom tracheotomy was done. His experience includes 82 cases since 1868. Seven of the patients have died. In 54 followed to date, 31 are free from disturbances of any kind, 20 have some trivial disturbances and one still has a fistula, one a chronic thickening in the right lung and a third is tuberculous, her father a consumptive.

132. **Round Ulcer in Finland.**—Round gastric ulcer is common all over the country, so that every physician averages about one to three cases a year. A collective inquiry among 79 physicians resulted in securing data in regard to 762 cases, including 5 children under 10, 369 women and 361 men. It seems to affect all classes indiscriminately. Traces of ulcer were noted in 2.29 per cent. of 3,577 cadavers, and ulcer was treated in 1.74 per cent. of 11,850 patients at the clinic.

134. **Albumin Metabolism in Pernicious Anemia.**—Rosenqvist's article fills 128 pages and contains detailed bibliographic notes. It is based on a study of the metabolism in 20 cases of anemia due to the bothriocephalus and to a number of cryptogenetic cases of pernicious anemia. In both cases there is a destruction of albumin, manifestly of a toxic nature, and in both there are evidences of phenomena of immunization in time. The destruction of albumin is more constant in the anemia due to the bothriocephalus, and it persists for a time after expulsion of the latter. In both forms of anemia there is also at times an exaggerated elimination of the endogenic purin bodies, a probable indication of exaggerated destruction of nucleated tissues.

135. **Pathogenic Action of Balantidium Coli.**—Ehrnrooth has not found evidences of degenerative or inflammatory processes elsewhere than in the gastrointestinal tract and there they were unmistakably of mechanical origin. Neither the blood nor the organs suggest intoxication from the presence of the balantidium coli. He describes a case in detail, a woman of 52, who for twenty years had suffered from vomiting and abdominal pains.

137. **Rigid Spine.**—From the autopsy of a case and reports of five others Siven has become convinced that this disease is an inflammation of the joints entailing finally complete ossification of the smaller spinal articulations, a chronic ankylopoietic arthritis. The process differs from that of general arthritis deformans.

138. **Casein Enemata.**—Proton is a patented preparation of milk casein. Mixed with milk it forms an excellent material for nutrient enemata, readily absorbed and containing a large proportion of albumin and phosphorus.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

TWENTY-SECOND ANNUAL MEETING OF THE HAMOT HOSPITAL ASSOCIATION, with Reports of Managers and Officers, 1902. Paper. Pp. 71. Erie, Pa.: Herald Printing and Publishing Company. 1903.

A MANUAL OF SURGICAL TREATMENT. By W. Watson Cheyne, C.B., M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, and F. F. Burghard, M.D., M.S. (London), F.R.C.S., Teacher of Practical Surgery in King's College, London. In Seven Volumes. Volume VII. The Treatment of the Surgical Affections of the Rectum, the Liver, Pancreas and Spleen, the Genito-urinary Organs, the Breast and the Thorax. Cloth. Pp. 559. Price, $5.75 net. Philadelphia and New York: Lea Brothers & Co. 1903.

SURGICAL DISEASES OF THE ABDOMEN, with Special Reference to Diagnosis. By Richard Douglas, M.D., Formerly Professor of Gynecology and Abdominal Surgery, Medical Department, Vanderbilt University. Illustrated by 20 Full-page Plates. Cloth. Pp. 883. Philadelphia: P. Blakiston's Son & Co. 1903.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY. Part 3. (Authors C to Czygan.) By Ch. Wardell Stiles, Ph.D., Consulting Zoologist of Bureau of Animal Industry, and Albert Hassall, M.R.C.V.S., Acting Assistant Zoologist of Bureau of Animal Industry. Paper. Pp. 324. Washington: Government Printing Office. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the week ending June 20, 1903:

Bosley, John R., contract surgeon, will proceed from Washington, D. C., to Governor's Island, N. Y., and report to the commanding general, Department of the East, for assignment to duty.

Field, Peter C., first lieut. and asst.-surgeon, is granted an extension of fifteen days' leave.

Shortlidge, Edmund D., first lieut. and asst.-surgeon, having completed the duty for which he was ordered to Washington, D. C., June 3, will rejoin his proper station at the U. S. General Hospital, Presidio.

Straub, Paul F., captain and asst.-surgeon, on the expiration of his present leave is directed to proceed to Camp Monterey, Cal., for duty.

Wilson, Roy A., contract surgeon, is granted leave of absence for two months.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending June 27:

Medical Inspector H. E. Ames, commissioned medical inspector from Jan. 20, 1903.

Surgeon C. F. Stokes, detached from the Navy Yard, League Island, and ordered to the Bureau of Medicine and Surgery, Navy Department.

Surgeons C. D. Brownell, S. G. Evans, C. E. Riggs, M. K. Johnson, W. B. Grove, E. O. Huntington, commissioned surgeons from March 3, 1903.

P. A. Surgeon H. E. Odell, commissioned P. A. Surgeon from Nov. 8, 1902.

Asst.-Surgeon J. J. Snyder, detached from the Naval Hospital, Philadelphia, and granted sick leave.

Asst.-Surgeon W. W. Verner, ordered to the Naval Hospital, Philadelphia.

Surgeons W. M. Wheeler, L. Morris, F. T. Pleadwell, C. P. Kindleberger and F. C. Cook, commissioned surgeons from March 3, 1903.

Surgeon G. Pickrell, detached from the *Iowa* and ordered to wait orders.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended June 25, 1903:

Surgeon J. M. Gassaway, granted leave of absence for two days from June 7.

Surgeon Eugene Wasdin, granted leave of absence for three days from June 20.

Surgeon S. D. Brooks, granted leave of absence for one day, June 22.

Surgeon J. H. White, granted leave of absence for one month from July 2.

Surgeon P. M. Carrington, granted six days' leave of absence under Paragraph 189 of the regulations from June 20, 1903; granted extension of leave of absence for seven days.

P. A. Surgeon G. B. Young, granted leave of absence for two months from July 7.

P. A. Surgeon E. K. Sprague, leave of absence for seven days from June 4, 1903, granted under Paragraph 191 of the regulations, amended so as to be for four days only. Relieved from duty at Fort Stanton, N. M., and directed to proceed to Calcutta, India, for duty in the office of the U. S. Consul-General.

P. A. Surgeon S. B. Grubbs, granted extension of leave of absence for seven days from June 23.

Asst.-Surgeon M. K. Gwyn, to report to Asst.-Surgeon V. G. Heiser, recorder of board of examiners, Manila, P. I., on August 8, 1903, for examination to determine his fitness for promotion to the grade of passed asst.-surgeon.

Asst.-Surgeon W. C. Hobdy, to report to P. A. Surgeon L. E. Cofer, recorder of board of examiners, Honolulu, H. I., on August 15, 1903, for examination to determine his fitness for promotion to the grade of passed asst.-surgeon.

Asst.-Surgeon B. H. Earle, granted leave of absence for seven days from June 25.

A. A. Surgeon Bready, leave of absence for three days granted by Bureau letter of June 6 revoked.

A. A. Surgeon B. Y. Harris, granted leave of absence for thirty days from July 22.

A. A. Surgeon C. B. Sweetin, granted leave of absence, on account of sickness, for thirty days from June 10.

Pharmacist G. W. Iltis, to report to P. A. Surgeon W. G. Stimpson, chairman of board of examiners, San Francisco, on June 29, 1903, for the examination to determine his fitness for promotion to the grade of pharmacist of the second class.

BOARDS CONVENED.

Board convened at Washington, D. C., June 25, 1903, for the preparation of sketch plans and memoranda relative to a hospital building at Ellis Island, N. Y. Detail for the board: Assistant Surgeon General L. L. Williams, chairman; Assistant Surgeon General W. J. Pettus; Surgeon G. W. Stoner; P. A. Surgeon J. C. Perry, recorder.

Board convened at San Francisco, June 29, 1903, for the examination of Pharmacist G. W. Iltis, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon C. W. Vogel, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended June 27, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, June 13-20, 3 cases.
California: San Francisco, June 7-14, 1 case.
Colorado: Denver, May 23-June 6, 24 cases.
Georgia: Atlanta, June 3-17, 3 cases.
Illinois: Belleville, June 13-20, 3 cases; Chicago, June 6-20, 6 cases, 1 death; Danville, June 6-13, 1 case.
Indiana: Indianapolis, June 6-20, 3 cases; Kokomo, June 13-20, 1 case.
Iowa: Des Moines, June 13-20, 1 case.
Louisiana: New Orleans, June 13-20, 2 cases.
Maine: Fort Kent and vicinity, June 18, 9 cases.
Maryland: Cumberland, May 1-31, 24 cases, 4 deaths.
Massachusetts: Fall River, June 6-20, 7 cases.
Michigan: Detroit, June 15-22, 7 cases; Flint, June 13-20, 1 case; Grand Rapids, June 13-20, 2 cases; Port Huron, June 13-20, 10 cases.
Minnesota: Winona, June 13-20, 1 case.
Missouri: St. Louis, June 7-21, 18 cases.
New Hampshire: Manchester, June 13-20, 2 cases; Nashua, June 13-20, 1 case.
New York: Elmira, June 13-20, 3 cases.
Ohio: Cincinnati, June 12-19, 7 cases; Cleveland, June 6-13, 1 case; Dayton, June 13-20, 2 cases; Hamilton, June 13-20, 3 cases; Toledo, May 30-June 13, 8 cases, 1 death; Warren, June 13-20, 1 case.
Pennsylvania: Carbondale, June 7-21, 4 cases; McKeesport, June 6-20, 1 case; Pittsburg, June 6-20, 40 cases, 4 deaths, 1 case imported; Philadelphia, June 13-20, 35 cases, 4 deaths.
Tennessee: Memphis, June 13-20, 2 cases; Nashville, June 13-20, 1 case.
Utah: Salt Lake City, June 6-20, 18 cases.
Washington: Tacoma, June 15-22, 1 case; Whatcom, Jan. 1-June 1, 14 cases, 2 deaths.
Wisconsin: Milwaukee, June 13-20, 10 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, March 1-31, 8 deaths.
Austria: Prague, May 30-June 6, 4 cases.
Belgium: Antwerp, May 30-June 6, 3 cases, 1 death; Ghent, May 16-June 6, 4 deaths; Liege, May 23-30, 1 case, 1 death.
Brazil: Bahia, May 23-30, 2 cases; Rio de Janeiro, May 10-27, 7 deaths.
British Guiana: Domerara, Feb. 10-May 16, 344 cases, 2 deaths.
Canada: Hamilton, June 6-13, 1 case; Ontario, April 1-30, 122 cases, 2 deaths; Vancouver, May 1-30, 1 case.
Canary Islands: Las Palmas, May 18-June 6, 37 cases.
Colombia: Bocas del Toro, June 2-9, 4 deaths.
Germany: Strassburg, April 1-30, 13 cases.
Great Britain: Birmingham, May 30-June 13, 9 cases; Bristol, May 30-June 6, 1 case; Dublin, May 30-June 6, 15 cases, 3 deaths; Dundee, May 30-June 6, 1 case; Leeds, May 30-June 6, 40 cases; Liverpool, May 30-June 13, 81 cases, 5 deaths; London, May 30-June 6, 24 cases; Manchester, May 23-June 6, 20 cases, 4 deaths; Nottingham, May 23-30, 2 cases; Newcastle-on-Tyne, May 30-June 6, 2 cases; Sunderland, May 30-June 6, 2 cases.
India: Bombay, May 19-26, 45 cases.
Japan: Kobe, May 9-16, 2 cases; Yokohama, May 16-23, 1 case.
Mexico: City of Mexico, May 31-June 7, 24 cases, 14 deaths.
Russia: Moscow, May 23-30, 8 cases, 1 death; Warsaw, May 16-23, 1 death.
Spain: Cadiz, May 1-31, 1 case.
Straits Settlements: Singapore, April 11-18, 4 cases.
Turkey: Smyrna, April 19-26, 1 death.
Uruguay: Montevideo, March 1-April 5, 22 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, May 10-24, 12 deaths.
Colombia: Panama, June 8-15, 3 cases, 1 death.
Costa Rico: Limon, June 4-11, 4 deaths.
Mexico: Coatzacoalcos, May 30-June 6, 1 case; Tampico, June 6-13, 11 cases, 8 deaths; Vera Cruz, June 6-20, 57 cases, 17 deaths.

CHOLERA.

India: Bombay, May 19-26, 1 death; Calcutta, May 16-23, 71 deaths.
Straits Settlements: Singapore, April 11-18, May 8-16, 30 deaths.

PLAGUE.

Australia: Brisbane, April 11-May 9, 5 cases.
Brazil: Rio de Janeiro, May 10-24, 2 deaths.
India: Bombay, May 19-26, 255 deaths: Calcutta, May 16-23, 47 deaths; Karachi, May 17-24, 136 cases, 127 deaths; Mauritius, May 14-21, 2 cases.

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Addresses.

NEUROLOGIC PROGRESS AND PROSPECTS.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON NERVOUS AND MENTAL DISEASES OF THE AMERICAN MEDICAL ASSOCIATION, AT THE FIFTY-FOURTH ANNUAL SESSION, HELD AT NEW ORLEANS, MAY 5-8, 1903.

F. W. LANGDON, M.D.
CINCINNATI.

INTRODUCTORY.

Mankind in general and practitioners of the healing art in particular may be likened to the different groups of dwellers in a series of narrow and deep valleys surrounded by lofty mountains. Each ordinarily obtains a restricted view of his own valley and sees little or nothing of the others. When by chance or intent they meet on an eminence, which is far above all their natural habitats, their view is not only broader and more accurate as concerns their own individual valleys, but extends in varying degrees over the domains of others.

So it is with the members of our guild, when they rise to a higher intellectual plane at meetings such as this; their respective views broaden and tend to harmonize with those of their fellows, while at the same time the aggregate of their fields of mental vision is vastly augmented.

The general practitioner surveys the domain of the specialist, getting here and there an idea, while the specialist broadens his horizon by contact with the generalist and by a more comprehensive view of the work of his confrères.

GENERAL CONSIDERATIONS.

The classic observations of Broca[1] (1861), establishing a definite cerebral location for the function of articulate speech, were followed up so assiduously, during the next three decades, by numerous investigators, that the period named may be termed the era of gross localization of nervous functions. In marked contrast with that period the past decade may be fitly characterized as an era of progress in knowledge of structural organization of the nervous system.

The biologic law that function precedes and determines structure is here paralleled in the sense that knowledge of function has preceded and led up to knowledge of intimate structure.

Beginning with the demonstration by Cajal[2] (1893-94) of the anatomic individuality of the neuron, the labors of a host of enthusiastic investigators throughout the civilized world have rendered the decade now closing a most memorable one in neurologic progress.

The histologic, physiologic and pathologic fields have been lighted up as never before. A new terminology has been necessitated by the newer knowledge of neuronic architecture of the nervous system; and we find, in consequence, the older terms: areas, masses, nuclei, fiber tracts and reticulum, replaced largely, or at least added to and elucidated, by "neuron," axon, dendrite, collateral process, gemmule, etc.

As one result of all this labor and progress our present-day conceptions of the real nature of many diseases of the nervous system are in marked contrast with those of a former era. To none is this more apparent than to the practitioner, who compares his modern text-books and the literature produced at such gatherings as this with the same sources of information of a decade or more ago.

That this knowledge of intimate structure as related to function, both physiologic and pathologic, is still progressing at a rapid rate is a matter for profound congratulation, since its obvious tendency is to furnish an increasingly definite foundation for the more successful application of therapeutic measures. A second result may be observed in the rather more optimistic views as to the possibilities of prophylaxis and therapy in diseases of the nervous system which pervade the modern neurologic mind.

NEUROLOGIC PROGRESS.

During the past year the progress of neurologic medicine has been satisfactory, though not marked by brilliancy of achievement.

No supreme discovery or demonstration approaching in importance that of "the neuron" has been announced. Yet a steady advance has been kept up along the "firing line," and the skirmishers, represented by the workers in research laboratories, have penetrated farther than ever into the territory of the heretofore unknown with noticeable advantage to the position and strength of the "main army."

While "the neuron" maintains its position as a "star of the first magnitude" in the neurologic firmament, its lustre has been perhaps a trifle dimmed by the observations of Bethe and of Ballance and Stewart on "The Healing of Nerves."[3] Briefly, these appear to affect the neuron doctrine as follows:

1. They indicate that destroyed axis cylinders of peripheral nerves are reproduced, not by down growths from the proximal ends of the cut or degenerated axons, but by proliferation of neurilemma cells of the separated portions of the axis cylinder.

2. These observations also indicate that a peripheral axon (axis cylinder) is not originally a mere outgrowth from a single spinal neuron body (nerve cell), but is a result of the fusion of a chain of cells, the prototypes or

equivalents of other chains represented in the neurilemma.

3. When the axon is destroyed the remaining neurilemma cells take up the task of producing a new one by proliferation and end-to-end fusion of new cells.

Two facts stand out prominently in this connection. First, that these observers admit that development is more or less incomplete unless the newly reproduced distal segment is eventually joined to the proximal end; another illustration of the law that structure is dependent on function.

It will also be noted that these observations apply to peripheral neurons only, and do not in any way affect the status of the central neurons, since their axis cylinders are devoid of neurilemma, and hence must apparently depend on their neuron bodies for trophic influence. Moreover, reproduction of these central axons when once destroyed is almost unknown, only a few observations on the subject existing in the literature (Worcester).[4]

The painstaking and admirable observations of Apáthy,[5] extending over a period of fourteen years and published some six years ago, were claimed by him to show that the entire nervous system is permeated by a network of ultimate fibrillæ passing unbroken through the neurons. They have been in part accepted by Bethe and Nissl, who also consider that the resulting "fibrillary hypothesis" invalidates the neuron doctrine. As these fibrillæ themselves, according to Apáthy's showing, are a product of certain neuron bodies (cells), the conclusion that they are of secondary importance only seems justified at present.

Far from disproving or supplanting the neuron doctrine the "fibrillary hypothesis" of Apáthy seems to the writer to have merely attained the dignity of an appendage to it; an appendage, doubtless of considerable import, it is true, but just how important remains to be determined by its verification in a larger series of organisms than earthworms and leeches.

NEURODYNAMICS.

The nature of nerve force and the conditions of its transmission yet remain an unopened book, of which Professor Loeb[6] has essayed to exhibit to us the title page in his ingenious application of the electro-chemical theory of ions to the dynamic processes of the neuron and muscle cell.

The main landmarks of his hypothesis may be briefly stated as follows:

1. An ion is the electrolytic representative of an atom, but is, theoretically, much smaller in size.

2. Ions, like the electrolytes of which they are the ultimate electrical units, are positive or negative, hence anions and kations.

3. Their function, by their presence in definite proportion in each tissue, is to preserve the "labile equilibrium" of the colloid materials of protoplasm on which its activities depend.

4. Variations in these proportions or attempts to restore the same to normal (through electro-chemical action) give rise to function in the particular tissue that is the seat of such variation at any given time.

5. Hence, the dynamic process of neurons, as of muscle cells, may depend on the proportions of ions of, say calcium, sodium, potassium, etc., that are present at any particular instant.

6. This, if verified, would apparently indicate that the dynamics of function reside in the ions, while the quality and direction of function only are conditioned by the histologic structure and connections of the neuron.

Dercum[7] and others have proposed, some years ago, a theory of "amœboid protrusion and retraction" of neuron processes (gemmules) in order to account for the "make" and "break" of function in physiologic as well as pathologic (functional) states; accounting in this way for sleep and other suspensions of consciousness, as well as for various paralyses of functional character.

While this idea has probably served a good purpose in directing attention to changes in the neuron, as the basis of function, yet the type and nature of the movement referred to is obviously too gross in character to satisfy the demands of the problem.

The bearing of the theory of ions, however, is quite another matter. It is much easier to conceive of an alteration in electro-chemic status as the basis of changes in nervous function than to attribute them to so coarse a process as physical retraction and elongation.

In fact, in commenting on this topic it has been the custom of the writer to say to his classes that, while the theory of physical retraction and expansion is not tenable in this connection, yet it is quite conceivable that a break in chemical relations, a chemical retraction and reapproachment, so to speak, might account more satisfactorily for the facts. The same may be said of an alteration in electro-chemical status, due to variations in ions.

PSYCHODYNAMICS.

The impression that "psychic" activity may exist independently of physical agents still appears to obtain a hold even on some medical minds, and is not confined to the devotees of the various so-called "cults" patronized by the laity and exploited by charlatans.

It seems hardly necessary to say that such independent existence of "psychic" activity has not been demonstrated in fact, and in the nature of things is not likely to be.

CLINICOPATHOLOGIC.

Pellagra has been demonstrated by Ceni[8] in a remarkably complete series of experiments, to be due to infection by micro-organisms belonging to the mould fungi, namely, the *Aspergillus fumigatus* and the *Aspergillus flavescens*. Either species may act in any given case, but seldom both.

These organisms reach the human subject through the medium of infected maize, but are also observed in mouldy bread, etc.

The parasites pass from the intestine in the form of spores, become localized in various tissues and organs (lungs, pleura, pericardium and pia-mater), and there elaborate and emanate very virulent toxines, which give rise to phenomena of general poisoning, as well as to local inflammatory process of a diffuse character.

The nervous symptoms which have led to the classification of pellagra as a nervous disease consist of widespread alterations in sensation, motion and intellect.

Thermalgesia along the spine, numbness and formication of the legs.

Tremor, motor inco-ordination and paraplegic weakness are common.

Apathy, incoherence and melancholic symptoms are noted.

The mortality is high, but recoveries do occur. The importance of the discovery is evident when we realize that: 1. Sixty thousand persons suffer from the disease in Italy alone at the present time. 2. By reason

of the fact that the author has devised a plan for the successful treatment of the disease by the serum of immunized goats and horses.

Although limited, so far as known, to Italy and southern France, in which countries it is traceable to the use of unripe and badly kept maize as a food, the disease interests us for three reasons:

1. It affords an example of a distinct neuron degeneration due to a definite organism.

2. The symptoms, strongly suggestive in some cases of ataxic paraplegia (combined sclerosis), in others of paresis, and in others of ankylostomiasis (Harris[9]), may call for differentiation from those affections in this country.

3. Owing to the well-known occasional presence of the aspergillus in the auditory canal, where it has heretofore been considered an object of local rather than of general pathologic import.

MYELITIS.

Acute myelitis, so-called, is one of the diseases of which our knowledge of the pathologic nature is being gradually developed.

The older idea that the inflammation was the primary factor, the vascular disease and softening secondary, has been practically reversed in a large proportion of the cases, thus bringing the subject in line with similar processes in the brain, where the vascular disease (endarteritis and thrombosis) has long been recognized as the primary element in acute softening.

Singer,[10] in a valuable résumé of the subject, reports two autopsies, both showing obliterative arteritis of syphilitic origin, and refers to nineteen others, fifteen of which presented a syphilitic history. His conclusions are:

1. So-called acute myelitis is found on microscopic examination, in the majority of recorded cases, to be not inflammatory, but due to thrombosis of spinal vessels.

2. That by far the most common cause of this thrombosis is syphilitic arteritis, and that senile arterial degeneration forms a considerable proportion of the remaining cases.

3. This view as to the pathology is confirmed clinically by the analogy between this disease and cerebral thrombosis.

Williamson,[11] in 1894, advocated the same views, which are now accepted to a greater or less extent by Gowers, Oppenheim, Marie, Dana, Church and Peterson, though Singer, as above quoted, takes a rather more advanced stand as to the comparative frequency of thrombosis as a cause. A somewhat extensive clinical experience leads the writer to heartily indorse these views of Singer, the bearing of which on our therapy is obviously of great practical importance.

BRACHIAL NEURITIS.

Somewhat analogous to the problems presented by acute myelitis are those relating to the pathology of brachial neuritis, especially of those of uni-radicular type.

E. Farquhar Buzzard,[12] in an important article in *Brain*, reports six carefully worked-out cases, and suggests that vascular lesions, embolic or thrombotic, better explain these cases than the older idea of a neuritis of toxic or "exposure to cold" origin. His conclusions are as follows:

1. "There exists a clinical group of cases in which the symptoms (localized muscular atrophy in shoulder, arm or hand muscles, sensory dissociation and hypesthesia) strongly suggest a more or less complete destruction of functional continuity in one of the spinal nerves forming the brachial plexus.

2. "The objective disturbances of sensibility resulting from this lesion closely conform with those observed by Sherrington after cutting a posterior root in a monkey. They differ in some respects from the anesthesia produced by the division of a peripheral nerve. The objective hypesthesia is not associated with any subjective sensation of numbness, and is consequently overlooked by the patient.

5. "The atrophy of the affected muscles is in excess of what might be expected in view of the fact that many of the muscles receive fibers from two or more spinal nerves.

6. "The condition generally occurs in persons who have at some time been the subjects of a disease affecting the cardio-vascular system. The morbid process is probably vascular in character and may be sudden or gradual in its onset."

PACHYMENINGITIS HEMORRHAGICA INTERNA.

Barratt[13] records an exhaustive series of investigations on man and lower animals, the results of which indicate that intravascular thrombosis is the probable essential lesion leading to the formation of the so-called false membrane in this disease He concludes: "Finally, the view may be advanced that pachymeningitis interna hemorrhagica is a morbid process in which the essential lesion is a separation of fibrin, usually within the blood vessels, on which the other changes in this condition are largely if not chiefly dependent." The article is well illustrated.

LOCAL PANATROPHY.

Sir William Gowers[14] contributes a brief but interesting article under this title.

"In certain areas of the trunk, limbs or face, which vary in diameter from that of a nut to that of an orange, or larger, there seems to be wasting of all the subcutaneous tissues down to the bones, with slight change in the skin, which is then distinctly thinner and slightly discolored. The aspect of the areas may be described as that of a subcutaneous excavation." Even the bones may be affected. The distribution is without definite relation to the muscles or nerve distribution. No hypothesis is advanced as to its cause.

BLOOD CHANGES IN EPILEPSY.

Pugh[15] contributes an important article "On Certain Blood Changes in Idiopathic Epilepsy," based on an investigation of forty cases. His conclusions are:

1. The alkalinity of the blood (in epileptics) in the interparoxysmal period is lower than the average of the control cases.

2. The diminution is gradual and progressive, and is more marked in those cases suffering from gastric catarrh and constipation.

3. There is a marked sudden and pronounced fall immediately prior to the onset of the fit.

4. There is a further fall in the alkalinity after the fit is over; this diminution is seen from three to ten minutes after the attack.

5. This after-diminution depends on the duration and severity of the muscular twitching and on the degree of the alkalinity in the inter-paroxysmal period.

6. There is a gradual return of the blood to its normal alkalinity, which takes place in five to six hours, the rise being more marked in the first hours.

7. If the alkalinity keeps at a low value it may determine the onset of another fit.

8. The diminution after the fit is due to the chemical end products of muscular metabolism, i. e., sarcolactic and carbonic acids and not to substances in direct relation to the epilepsy.

9. The diminution after a nocturnal fit takes a longer time to return to the normal than the diminution after a day fit.

10. It is impossible to elevate and maintain the alkalinity within physiological limits for any appreciable length of time by the administration of drugs.

11. There is a leucocytosis after a fit. The increase is due to the small hyaline cells, also to a less extent to the large hyaline cells. The polymorphonuclear cells are diminished. There is an increase in the eosinophile cells some hours after the attack.

12. The leucocytosis is not so pronounced in *status epilepticus;* it diminishes with each seizure.

Respecting treatment the author remarks: "The effect of drugs on the alkalinity is transient, and it is impossible to elevate and maintain the alkalinity within physiological limits for any appreciable length of time. The bromides elevate the alkalinity even to the normal of the control cases for a certain time, but on continued administration, and even when the dose is increased, the alkalinity fails. The best results were obtained from strontii bromid, sodi bicarb, aa: gr. 15 *ter in die;* for some time the alkalinity was maintained at a high value, but only to fall again. Suprarenal extract has apparently little effect on the alkalinity. The effect on the mental state was good, and all the patients subjected to the treatment recovered from their mental confusion much sooner."

One case escaped the headache usually following the fits.

"In all the cases the number and frequency of the fits were much increased, and on this account the suprarenal treatment was stopped. These results are very different from those obtained by Dr. Hill,"[16] who reports improvement from the use of suprarenal therapy, both as regards the mental state and the frequency of the attacks.

SYMPTOMATOLOGY—CEREBRAL LOCALIZATION.

Phelps,[17] from a study of brain injury and disease, reinforces the view of Bianchi,[18] that the frontal lobes are the seat of the "psychic" functions proper, and particularly advocates that the left prefrontal region is especially concerned in mental processes.

X-RAY LOCALIZATION.

Charles K. Mills[19] reports a case of brain tumor localized by the *x*-ray, which confirmed the clinical diagnosis, being the second instance of this nature, the first being by Church.[20]

Gould[21] contributes a critical study of DeQuincey, Carlyle, Darwin, Huxley and Browning, as regards the cause of their chronic ill health. His conclusions, supported by arguments that are well worth consideration by the neurologist, are, that the opium habit of De Quincey, the ill-temper and dyspepsia of Carlyle, the neurasthenia of Darwin and the headaches of Huxley and Browning were all due to eyestrain, and could have been avoided by resort to modern methods for the detection and correction of errors of refraction.

LUMBAR PUNCTURE.

The usefulness of this procedure as a diagnostic aid has been extended to surgical diagnosis by Tuffier (vide Hughes[22]), who suggests that a blood-stained cerebrospinal fluid means vertebral fracture.

Monod[22] has found leucocytosis of the cerebrospinal fluid in locomotor ataxia and in general paresis, but "nothing significant" in alcoholism hysteria, hemiplegia or neuritis.

REFLEXES, ETC.

Babinski has enriched our list of clinically available signs by the addition of five within about as many years. Some of these are so little known in America, generally speaking, that brief reference to them here may not be amiss.

1. The "Babinski sign"[23] proper, or the "toe sign," is a reflex extension of the great toe in response to mild plantar irritation. This sign continues to hold its own as a most reliable indicator of organic disease of the "pyramidal" tract. The normal plantar reflex is a flexor movement of all the toes.

2. The achilles tendon reflex is a plantar flexion of the foot at the ankle joint, following a tap on the tendo-achilles. The patient, during this procedure, kneels on a chair or lounge with the feet hanging over its edge. The response (plantar flexion of ankle) is weakened or absent in true sciatic neuritis and in tabes. It may be absent early in tabes where the knee-jerks are not yet lost. (Bramwell, *Brain,* 1901, 554.)

3. The sign of "combined flexion of the thigh and trunk."[24] To investigate this reflex the patient is placed on his back on a horizontal surface with arms folded across his chest. He is then asked to assume the sitting posture without using his hands. In a hemiplegia of organic origin this effort is accompanied by a raising of the paralyzed limb, which is flexed at the thigh but extended at the knee. In a functional (or so-called hysterical) hemiplegia the paralyzed limb remains flaccid and parallel with the sound one.

4. The "platysma sign"[24] of Babinski is obtained by asking the patient to forcibly open the mouth against the resistance of the investigator's hand placed beneath the chin, or by asking him to flex the head on the neck while the operator applies resistance to the forehead. In either case the platysma contraction is absent or lessened on the paralyzed side in organic paralysis, while there is no difference in the two platysma contractions in a functional hemiplegia.

5. The sign of "exaggerated flexion of the forearm."[24] This is due to hypotonicity of the muscles by reason of which a greater degree of flexion is permitted on the paralyzed side in recent organic paralysis. In functional paralysis the hypotonicity is absent and the degree of flexion similar on both sides. Babinski remarks of this sign: "Since the phenomenon may occur to a slight extent in health, it is of value when it is very decided."

THE SUPRA-ORBITAL REFLEX.

This reflex, as described by McCarthy,[25] is obtained by tapping, with the finger or a light hammer, over the trunk of the supra-orbital nerve on the forehead. The normal response is a contraction of the lower eyelid. The presence of this response is evidence of integrity of the fifth and seventh cranial nerves. The reflex is present in central lesions involving motion or sensation of the face; absent in peripheral lesions of the fifth and facial nerves. It is important that the observer stand behind the patient in testing for this reflex, so as to avoid the involuntary winking due to visual-motor reaction.

THE LIP REFLEX OR "MOUTH PHENOMENON" OF NEWBORN CHILDREN.

While referred to briefly by Loos, 1896, and Escherich, 1898, Thomson[26] has given us a fuller and well illus-

trated account of this reflex, which has received little attention heretofore. It would appear to be one of the most fundamental organic reflexes which is essential to the very existence of the species, consisting as it does of a protrusion of the lips, and in some instances of sucking movements, brought out by tapping the upper or lower lip near the angle of the mouth. It occurs in all healthy newborn infants when they are asleep, according to Thomson. It seems to be exaggerated in infants who are taking chloral or who are having or about to have convulsions.

OPPENHEIM'S REFLEX.

If the inner side of the leg be stroked firmly from above downwards with the handle of a percussion hammer (or other blunt firm instrument) along the posterior border of the tibia or a little posterior to it, commencing about a hand's breadth below the knee and going downwards nearly to the ankle, the result in healthy individuals and in cases of functional nervous disease is either negative or it produces a plantar flexion of the toes.

In lesions of the pyramidal tract there is an extension of the toes and abduction or adduction of the ankle.

Oppenhein[27] is of the opinion that this reflex is not identical with Babinski's "toe sign," inasmuch as it is often present in cases of spastic paresis where Babinski's reflex is doubtful; moreover, it does not occur in the small proportion of healthy persons who exhibit the Babinski reflex; finally, the involvement of the tibialis anticus and occasionally of the peroneus is another point of difference from the phenomenon of Babinski.

ANKLE CLONUS.

Wier Mitchell[28] calls attention to the fact that the motor element of ankle clonus is manifested through the soleus muscle alone, the gastrocnemius taking no part on account of its relaxed state due to its femoral attachment.

THERAPY—HYSTERIA AND NEURASTHENIA—REST TREATMENT.

Dejerine[29] reports two hundred severe cases of this class treated by the Wier Mitchell plan of isolation, milk diet and rest, but without massage. He had only two failures. The treatment is also emphatically indorsed by the reviewer (Alexander Bruce).

We have heard so much of the "rest" treatment of neurasthenia since its introduction to the profession by Dr. S. Wier Mitchell, some years ago, that it is a trifle refreshing, to say the least, to find the pendulum swinging to its antithesis, the "work" cure.

A group of contributors on the subject are noted: Pearce (massage), *Internat. Med. Jour.*, 1902-03; Sinkler, Hydrotherapy, *Milwaukee Med Jour.*, 1901; Pearce, F. S., *Alienist and Neur.*, 1902, p. 259; Schwab, S. I., *Interstate Med. Jour.*, 1902, 248.

A pertinent query in this connection would appear to be: Have we not been a little too liberal in the application of the term "neurasthenia" as we were with "hysteria" until within a few years?

It is not possible that we apply the term neurasthenia —which should be literally translated, simple dynamic weakness due to lowered vitality—to a large group of affections characterized by "irregularity in function," or "lack of balance" in dynamogenesis.

In such cases a transfer of function is the logical method, and here the "work cure" finds its place. True exhaustion, it appears to the writer, must still call for rest.

RAYNAUD'S DISEASE.

Cushing[30] advocates "treatment by the tourniquet" to counteract the vaso-motor spasm of Raynaud's disease. The case reported (in a woman of 35) was a severe one, with decided arterial spasm and great pain, accompanied by a local asphyxia of all the digits, with almost daily exacerbations. Superficial gangrene of one or more of the toes or fingers occurred on several occasions.

"On Nov. 10, 1900, during an exacerbation of pain and asphyxia chiefly affecting the left upper extremity, the flat rubber bandage was first employed as a tourniquet about the upper arm. Its application caused considerable local discomfort and pain referred to the side of the thorax (inter costohumeral?)

"On its removal, after one or two minutes' application, a bright flush of the extremity followed, with increase of surface temperature and a much more readily palpable radial artery. The vaso-motor relaxation lasted only a short time, but the patient expressed a sensation of considerable relief. From this time seems to date the beginning of her improvement.

"The tourniquet was applied daily to one or another member according as the symptoms indicated.

"The application was finally extended to periods of five minutes or longer.

"The relief to the burning pain was so pronounced that after the first few trials the patient was not only very willing to submit to the temporary discomfort of constriction, but would call for it."

Serum therapy continues to hold out hopes to the neurologist. Its use in pellagra by Ceni[7] has been already alluded to.

Bruce,[31] after a trial of serum treatment in paresis, concludes as follows:

1. "General paralysis is a disease directly due to poisoning by the toxins of bacteria, the point of attack of which is through the gastric and intestinal mucous membrane.

2. "The poisoning is probably a mixed poisoning, but the bacillus coli is apparently one of the noxious organisms.

3. "The result of treatment with serum, taken from a case of general paralysis in a condition of remission and injected subcutaneously into an early progressive case, points strongly to the fact that some form of serum therapy is the proper treatment for this as yet incurable disease." He now proposes to use serum from a horse immunized to the bacillus coli.

Dormiol, a hypnotic and sedative, has received attention from A. McGugan,[32] who considers it "equally effective" as chloral and pleasanter though more expensive. Other writers speak favorably of the remedy (see Amer. Year Book M. & S., 1903, 526). The dose is stated at thirty to sixty minims of a 50 per cent. solution.

THE NEUROLOGIC PROSPECT.

The two great problems in intimate relation to biologic progress, "the struggle for existence" and "the survival of the fittest," give us little trouble in a practical sense, since they are solved for us in the vast laboratory of Nature. From the enormous mass of material there worked over, however, there must result, as in most laboratories, a considerable proportion of "by-products," to borrow a chemical term—biologically speaking—of organisms below the standard; again others that are perhaps above it.

In other words, the more or less "unfit" are produced along with the "fittest." This gives rise to a third

problem, which we may term "the utilization of the unfit."

To the various attempts of civilization to solve this problem we owe the existence of medicine, religion, law, ethics and art in general. There arises from its attempted solution such important and perplexing subproblems as:

1. The management of the mentally afflicted and of the physically helpless from various causes.
2. Of the criminal and dangerous classes generally.
3. Of the inebriate and moral invalid.
4. The question of the legal responsibility of various defectives.

Most questions of therapy in general.

In short, the extensive series of problems presented by the necessity for intelligent care of the defective, the delinquent and the depraved. It would be a narrow view from the standpoint of civilization, which would seek only the extermination of these classes, for it is a self-evident truth to the thoughtful, that they are necessary by-products of the laboratory in which Nature works out her most important ends. It remains for us, therefore, to utilize and improve or render them harmless.

The first of these subproblems, the management and treatment of the mentally afflicted and otherwise helpless, so as to obtain the best practical results, is yet in process of solution. Much has been done, but more remains.

A growing tendency to combine the heretofore widely separated subjects of neuropathy and psychiatry is evident from a glance at the world's literature. It is being recognized that their separation has been too radical. By the reception of the acute insane into the general hospitals the best interests of these patients, from a therapeutic and economic standpoint, is often conserved, and at the same time the teaching of psychiatric medicine to the general practitioner is made more effective. It is probable that we have gone too far in the separation of these closely-related subjects and that the complete general hospital of the future must provide for both classes of patients.

In the words of Maudsley: "Mental disorders are neither more nor less than nervous diseases in which the mental symptoms predominate, and their entire separation from other nervous diseases has been a sad hindrance to progress."

Sibbald,[33] in an able article on this subject, says: Wards for mental diseases do not require to be distinguished from other medical wards, and residence in sick wards does not entail the industrial and social injury that as a matter of fact follows residence in an asylum. Such wards have also the advantage over an asylum that a patient who goes there is saved from the mental shock which is often felt on entering an institution largely devoted to the care of the incurably insane. The writer can emphatically indorse this view of the subject from his experience in the wards of the Cincinnati Hospital, where a limited number of acute insane are treated.

The establishment of special or "psychopathic hospitals" for the separate treatment of the acutely insane, is along the same general line of progress and has been vigorously advocated of late years. I need only refer to the able address of my predecessor (vide Dewey[35]) for the details.

Peterson[36] and Brower[37] also contribute important articles on this subject. In the establishment of separate institutions for the epileptic the states of New York, Ohio, Pennsylvania, New Jersey and Massachusetts have already taken an advanced stand, and their example is likely to be followed elsewhere

THE HOSPITAL FOR CHRONIC DISEASE.

In our anxiety to provide proper hospital accommodations for the acutely ill there is some danger, according to Dr. E. W Taylor,[31] that we may overlook the claims of the chronic invalid. At present no provision is made for such except as paupers, in institutions variously characterized as infirmary, poor-house, alms-house, etc.

Dr. Taylor's contention that the interests of these patients and of the public in general would be better subserved by removal of the stigma of pauperism so far as possible is well taken.

A movement toward the solution of the second subproblem on our list has been inaugurated by the establishment of separate hospitals for the criminal insane in New York state, and the subject is now being agitated in Ohio[38] and elsewhere.

As regards the third problem, the care and treatment of the inebriate, it has been solved only so far as the well-to-do are concerned by private institutions, many of great merit and doing excellent work. The work should be extended so as to be available to those of the most limited resources.

In attempting the solution of the problem of the utilization of the unfit the physician has to deal with many who have been launched on the sea of life to make their "struggle for existence" with insufficient vital capital; with others who receive a fair start in this respect, but whose working capital has been impaired by the various stresses of circumstances, which we call "disease" and "accident"; and finally, with the very large number whose dynamic potentiality is sufficient for ordinary needs, if properly directed and conserved, but which fails to meet extraordinary demands or improper use. It is evident that "the strenuous life" is not for either of these classes.

The prophylactic and therapeutic efforts of the physician, therefore, must be largely addressed to the maintenance of nutrition, the regulation of function and the conservation of energy.

TEACHING OF PSYCHOLOGY AND PSYCHIATRY.

As an important adjunct to the better management of the above problems we need chairs of psychology and psycho-pathology in our medical colleges generally. (vide Persching[39]). Many have not even full chairs of neurologic medicine proper. It is largely due to this omission, and the consequent indifference of practitioners to psychiatry as well as psychotherapy, that the various isms, pathies and "cults" flourish as they do.

To successfully solve this problem we must do better than they, i. e., we must add to a sound therapy based on solid anatomic, physiologic and pathologic foundations, the same subtle, but none the less effective, psychotherapy which is the sole weapon of the pretender.

TO SUMMARIZE THE OUTLOOK:

We may look for important aids to neurologic progress, to serum and other antitoxic therapy; to cytodiagnosis and hematologic procedures generally; to organic and electro-chemistry; to prophylactic hygiene and dietetics; to a wise adjustment of function to structure; to special institutional measures and to better facilities for teaching neurology in general, including psychology, psychiatry and psycho-therapy.

The future of neurologic medicine as worked out along these lines will be of vast importance to the welfare of humanity.

"All things come to him who waits," *he who would utilize them must act.*

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THE DENTAL NURSE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS, MAY 5-8, 1903.

M. L. RHEIN, M.D., D.D.S.

NEW YORK CITY.

In officially opening the meeting of the Section on Stomatology, I desire to tender to the members my high appreciation of the honor conferred in asking me to preside over your deliberations. It has been the aim of our Section to encourage the membership of men who are deeply interested in the scientific advancement of this specialty of medicine. On this account our numerical strength has not been great, and I trust that the members will be prompt in attendance at the opening of all the meetings, so that the magnificent program prepared for us by our worthy secretary will receive the attention and discussion which it merits.

Our propaganda in regard to a better education of the dentist in the principles of general medicine, as well as a better knowledge of dental principles in medical education, is making slow but sure headway. The cause has the hallmark of truth emblazoned on its banners, and is bound to prevail, however prolonged the struggle may be.

It is unnecessary for me to take up your time with a summary of the scientific work of the year. It speaks for itself in our professional literature, with which you are familiar. Our daily occupation as stomatologists includes the treatment of diseases of the oral cavity, primarily with a view to the preservation in a state of health of the teeth, on account of the great value they bear to the health of the general body. The art and handicraft of dentistry has taught us how to cope with dental caries successfully, so that no person in the civilized world at the present day need lose a single tooth from this cause alone.

Many people, however willing they may be to employ our services, are constantly losing teeth in consequence of various pathologic disturbances of the peridental tissues. The symposiums held in past years by this Section on interstitial gingivitis, pyorrhea alveolaris, etc., indicate how well we recognize the increasing number of teeth lost by this means. When this lack of inherent vitality of the tooth's periosteum has reached a certain stage, where not only seven-eighths of the root surfaces are covered by nodular secretions, but retrograde metamorphosis, in its peculiar way, is working towards sepsis and the destruction of cell tissue, we realize that such affected teeth are beyond human intervention. We also know that these very teeth, doomed to be lost as they are when too little vital connection is left, could have been preserved indefinitely if proper hygienic care and treatment had been instituted at the right time and kept up in a systematic way at regular intervals.

Preventive medicine, with its accompanying benefits, has been well understood since the time that Jenner proclaimed the virtues of vaccination. Since then prophylaxis has invaded the domain of nearly every disease and its science and practice is daily increasing and its field of usefulness becoming better known.

Its value in the province of stomatology is well known to the poorest dentist in the land. The cleansing and polishing of every portion of exposed tooth surface, at regular intervals, in such a way as to preserve the tone and health of the contiguous capillary circulation, will indefinitely preserve the life and stability of the human teeth. With a full knowledge of the inestimable value resulting from such systematic treatment, it is painful to admit that, as a rule, the general public get absolutely no benefit from the knowledge of the profession on this subject.

Like many other virtues, prophylactic treatment of the teeth is well understood by all dentists and practiced by only a few stomatologists. It is scarcely necessary for me to attempt to draw a pen picture of what the dentist does under the pretense of cleaning teeth, when requested to perform this service, or to speak of the wilful neglect thereof by the majority, when no especial demand is made by the patient. You have all examined the mouths of such patients, who inform you that for years their mouths have had the constant care of Dr. X., and he has cleaned their teeth every year. You have found secretions of years deposited on the roots. The more posterior and inaccessible the teeth the greater the extent of deposits. You are not surprised at finding such teeth becoming loose, with a surrounding pericementum more or less inflamed, and corresponding loss of soft tissue from superficial necrosis.

They come to us in all stages of tissue loss, from those easily cured to those irretrievably lost. You can not fail to recognize the picture, and neither can you fail to place the responsibility for this wholesale destruction of human teeth on the dentist who has failed to apply the principles of preventive medicine.

Are we to assume, from a study of this sad picture, that our calling is made up of men lacking in character and principle? Most emphatically no; in no specialty will be found men with higher attributes of character, in every sense of the word, than in this of ours.

THE DENTIST'S ASSISTANT.

There are very good reasons why this most important duty to our patients is seriously neglected. The necessity for performing the operations immediately necessary for the repair of existing lesions in tooth structure and adjacent tissue is of paramount importance. They are more than sufficient to take up all the time of the man with an average practice. The difficulty of receiving commensurate pay for the hours of time required in faithfully carrying out the treatment by prophylaxis, brings up the question of expediency. It is true that Dr. Smith of Philadelphia claims to personally give his patients this treatment at regular intervals. If an effort were made to follow out this method in an average practice, there would be time left for nothing else. It certainly is the consensus of professional opinion that the busy practitioner can not give up his valuable time for this tedious, monotonous and irksome labor, however important it may be for the salvation of the human teeth. A small number of us have tried to solve this important problem by employing an assistant practitioner to attend to this department. In the judgment of your chairman, who has tried this method for twelve years, it has failed to satisfactorily solve the problem.

The employment, in a private office, of a graduate to make a specialty of this work is very likely the best remedy we have had at our disposal up to the present time. The greatest objection to the plan is the inability to retain a graduate possessing ordinary ambition and talent a very great length of time in this position. It is impossible to obtain satisfactory results in this treatment if it is necessary every year or two to place a new assistant in this department. The patients object to these changes, and can not fail to contrast the work of the new assistant, who has to be freshly taught the character of the work desired, with the final work of the last assistant, which has become well-nigh faultless from a couple of years of constant practice. In discussing this subject with prominent men, it has been generally conceded that far better results could be obtained if suitable female assistants, not graduates, were specially trained and employed for this work.

In some of the states the examining boards have threatened prosecution for infraction of the dental law if such a course be pursued; consequently, it has not been adopted, much to the loss of the general public.

This brings up the question whether the cleansing and polishing of the teeth, massaging the gums and the application of remedial agents by non-graduate assistants, under specific prescriptions and directions of the attending stomatologists, are infractions of the law.

It might as well be said that the administration of drugs hypodermatically, the introduction of sounds and catheters, lavage and enemata, the dressing of wounds and numerous other services performed under medical direction by trained nurses are all infractions of the medical law. Take away the trained nurses from the physician and surgeon and it would be apparent at a glance how it would interfere with the number of his cases, to say nothing of the inferiority of the resulting attention which is such an important adjunct whenever the nurse is in attendance.

THE DENTAL NURSE.

If this correctly describes existing conditions, it follows, as a natural conclusion, that the problem of how to systematically carry out the prescriptions of dental prophylaxis would be easily solved by the introduction of the trained dental nurse.

In the State of New York, during the present session of the legislature, a law is being passed, placing the trained nurse under the jurisdiction of the State Board of Regents, which necessitates that they should possess the proper qualifications in education and practice. In view of the high esteem held for the work of the trained nurse, it appears remarkable that the sphere of her usefulness has not long since been extended to our own specialty.

It would be an easy matter to add to the training schools for nurses a department of dental nurses. Applicants for admission to such a course should be required to pass a satisfactory preliminary examination. Outside of the general didactic instruction which they would receive, they should obtain additional instruction in regard to the oral cavity, etc., from a stomatologic member of the school's faculty. They would also receive their manual training under the same supervision, and in the hospital material they would find ample opportunity for perfecting their working technic.

It is difficult to estimate in advance how much benefit would accrue to a large percentage of hospital cases if their mouths could be properly cleansed and rendered sterile.

Would it be claiming too much to say that there are serious conditions where such treatment properly administered might prove the turning point toward recovery or, in organic diseases, toward a material improvement in the general condition? Perhaps their greatest sphere of usefulness would be to place the mouths of patients in a sterile condition preliminary to undergoing surgical operations. When we consider all the devices used in the modern operating room, all devoted to obtaining ideal aseptic conditions; when we consider the patient anesthetized in an atmosphere barren of pus germs, with the single exception that too frequently the patient's mouth is redolent with putrescent filth, washed with secretions of pus; when we consider such conditions, with a celebrated surgeon about to enter into the digestive tract, can we longer question the value of the preliminary treatment by the dental nurse in such a case? Then there is the infirmary practice connected with all the large hospitals. Here is a field for the doing of the greatest good to this vast class of unfortunates. The cleansing of the mouths of properly selected patients in the dispensaries, combined with the proper education for preserving oral hygienic conditions, would be of greater value in the uplifting of the masses than any other means at present employed.

Having graduated from the training school, it would be in keeping with our other laws to compel the nurses to pass a state board examination. The passing successfully of such an examination would then entitle them to be registered as trained dental nurses. Being so registered, they would be able to practice their profession in private life. By that is not meant the fact that they would be licensed to go around indiscriminately, cleansing the mouths of the people.

Their license to practice dental nursing should mean that they are permitted to cleanse, polish and medicate the dental territory only under the prescription of the patient's attending stomatologist.

As chairman of your Section, I ask your approval for this means of placing within reach of the human race, the boon of prophylaxis in stomatology. There are three good reasons why it should receive your endorsement: First, it will tend materially toward the public good. Second, it will open to womankind a new vocation second to none in desirability. Third, it will materially aid the stomatologist in the quality of his results.

38 East 61st Street.

DISCUSSION.

Dr. M. H. Fletcher, Cincinnati—I fully agree with the ideas advanced, and it seems to me there should be channels through which we could bring the matter prominently before the public, but we all know how long it takes the public to receive a new fact. Darwin's theories have only begun to be accepted. I believe if it were possible in some way to advertise the simplicity of this plan the matter would advance in general favor very rapidly. All dentists know that such treatment is most desirable. To begin at home, those who teach should impress it more fully on their students. We should teach all our patients that the simple fact of cleanliness prevents disease as much or more than anything else. To impress this fact on those with whom we are in daily contact, I think, should be our conscientious duty. It would seem becoming in us as a company of progressive men to give our endeavors to the accomplishment of some plan whereby the suggestions in the address can be carried out.

Dr. Geo. J. Friedrichs, New Orleans—I do not take much stock in the continual teaching and preaching of cleanliness as a prophylactic; the mere knowledge that cleanliness is a prophylactic does not always result in benefiting those who most faithfully carry out the teaching. This rule applies to mankind in general. A physician is certainly well posted in regard to the effects and consequences of the abuse of morphin, alcohol, etc., yet in spite of his knowledge becomes their slave.

Dr. M. L. Rhein, New York—In setting forth this proposition it has been my object not to enter into any question of etiology or methods of treatment, or anything of that kind, but to consider simply the advisability of adding to the dental laws in the various states a clause, not necessarily permitting the employment of dental nurses, but defining their limitations, making it apparent that they are legally entitled to be of use. I am certain that as a physician if I desired to employ a nurse for this purpose I have the same right to that use as I have in any other capacity as a physician, and I am sure I could carry my point legally; but it is my desire to have their sphere well defined so that there would be no objection to their use by the general dentist. I do not care to enter into the question of how difficult it is to bring a new plan before the public, but in my own mind I am certain that if my plan meets with general approval the next step will be easily accomplished, that is, the addition of a training school for dental nurses to the regular training school for nurses. I trust that the gentlemen, in order to facilitate the other business, will give the Section the benefit of their thought on simply this particular point.

Dr. George F. Eames, Boston—I have in my practice carried out many of the principles which Dr. Rhein has enunciated here, and have trained assistants to supplement me, rather than to take entire charge of what we may call prophylaxis. When I begin a prophylactic treatment of the mouth my assistant usually sees what I do. I take opportunity then to explain what is to be finished or I direct such an assistant to do such and such things. When a graduate receives his diploma from a dental college or from any institution, it grants him certain privileges, but it is understood that with these privileges within the law there are also certain restrictions. It is so with the appointment of graduate nurses or dental nurses. They do have the privilege of doing certain things within the mouth under the direction of the stomatologist, but there are restrictions to this as well as to other privileges. It seems to me we can not but endorse the plan that has been suggested by our chairman.

Dr. Thomas L. Gilmer, Chicago—I thoroughly agree that it is necessary to have a better way of accomplishing the work spoken of than by the methods now prevailing. How we can bring this about I do not know. It would be better, it seems to me, to have regularly educated specialists for the work. The treatment of diseases of the mouth offers a good field for specialized workers. It does not seem to me that we could safely trust the treatment, for instance, of the so-called pyorrhea alveolaris, except the merest first cleaning of the teeth or some subsequent medication, to any one not thoroughly skilled in the work. I consider the treatment of this disease one of the most difficult things we have to perform, that is, the thorough removal of the serum deposits and the surgical treatment of the alveolus. As to the training of nurses in the hospital for the care of the mouths of their patients, I am in accord; and in my connection with hospital work and the teaching of nurses I give positive and detailed instruction to the nurses in the care of the mouth, and especially in the preparation of the mouth previous to surgical operations. We should continue the education of the people by personal advice in the care of the mouth and teeth. I believe I save more teeth and do far more good in the prevention of disease of the mouth by constant insistence and admonition on the care of the mouth by the patient himself than by all other means.

Dr. George J. Friedrichs, New Orleans—My remarks were not to find fault, but to commend, for "cleanliness is next to Godliness." Since cleanliness is helpful, but is not an absolute prophylactic of tooth structure, we must also look on the other side.

Mr. T. E. Constant, Scarborough, England—None of us have any doubt at all that the public would be greatly benefited by such a scheme. Our laws in England are such that the education of such a body of semitrained people might act injuriously. Whether this would be so in this country I am not in a position to say, but that is the aspect of the question that we would have to consider. On the broad question as to whether the suggestion is a good one for the public generally I think there could be but one answer, that which has been given by the other speakers.

Dr. W. E. Walker, New Orleans— I do not see any harm that could come from the plan and I can see infinite good to come from it. When in general practice a very large portion of my time was spent in doing the very work that the paper suggests, having great assistance in the work by lady helpers. While I would certainly agree with Dr. Gilmer that the treatment of Riggs' disease from the surgical standpoint would be rather unwisely placed in the hands of such semitrained assistants, at the same time they could be of great assistance if used somewhat as Dr. Eames says, to supplement the work of the dentist; and the paper does not carry with it anything more than a proposition to supplement with the addition of legalizing their practice. As the Doctor said, he has a right to employ trained nurses to help in this work, whether they come from a training school or have been trained individually. But, the idea seems to be to make it beyond the possibility of criticism should they be employed by a dentist who is not a physician, that he may freely employ these trained assistants in his office and not run any risk of criticism or legal complication. It would certainly seem to me much better than, as the Doctor says, employing undergraduates that you can not hope to keep with you more than a year. I certainly can not see any objection to it, and I hope the Section will endorse the ideas.

Dr. H. E. Belden, New Orleans—I think we should have dental assistants to carry out our wishes in cleaning the teeth. The cleansing is an irksome task and demands a great deal of time and attention. The lines for a livelihood are

closely drawn and we have to devote ourselves to the more scientific and lucrative tasks in our profession, and if we can put off those duties which can be performed by trained assistants I think it becomes us to do so. We help our patients by giving them more treatment (by our trained assistants carried out under our supervision) at the same expense to them and greater profit to ourselves, as we can give more attention to those things requiring greater skill.

DR. C. V. VIGNES, New Orleans—I think the idea of having such trained assistants is a very good one. From a legal standpoint, I don't know what condition exists in England, but I know that here anybody can practice almost what he wants. It is suggested that these special trained nurses be women because the young man or graduate at the end of a few months would go into general practice. I believe that the trained nurse would do about the same thing. She would go into general housekeeping. I don't know how it obtains in other parts of the country, but down here trained nurses are pretty liable to get married. The vocation appears to be a stepping stone to matrimony. I believe the field is a large one for young men, and that it would assist a great many to earn an honest living and keep them in the straight path; that is, they would practice in an ethical manner if they had the right start. I think it is an opening, not so much for the trained nurse as for the benefit of the young dentist who has a very hard road to travel.

DR. EUGENE S. TALBOT, Chicago—I have no fear as to the future education of the dentist. The experimental stage is passed. Dental education commenced to shape itself when universities established dental departments. Although for fifteen or twenty years after that time there seemed to be a chaotic condition, yet the past five years has worked a wonderful change in the department of dentistry. The adoption of a four years' course is the culmination of the educational problem from a dental standpoint. The university will place this department of medical science on an equal footing with other specialties of medicine. The Section on Stomatology of this Association has played a prominent part in shaping dental education in America, and I for one am perfectly willing to let the universities work out the problem.

Credit should be given the late Dr. A. C. Hart, San Francisco, for suggesting the cleansing and polishing of the surfaces of the crowns of the teeth. Scientifically he did more in the study of this method than any individual. His death was a result of his enthusiasm along this line of investigation.

I agree with Dr. Rhein in relation to specially prepared women for the care and cleansing of the teeth, as first suggested by Dr. Wright, Cincinnati. That such women should be connected with hospitals to care for the mouths of the sick is certainly very important. How physicians can expect to treat their patients sucessfully with uncleanly mouths is a problem. It would seem to me that this paper should not only be published in THE JOURNAL of the American Medical Association, but later in all medical journals in this country and in Europe, and that reprints should be sent to all the hospitals. Every physician should read it. The dentist should insist on his patients coming to his office every three months and have the teeth cleansed. When the patients understand that by so doing they are saving dollars in fillings, etc., they will readily acquire this habit. If all dentists would do this the public would be educated soon to this method.

DR. M. L. RHEIN, New York—In my practice the plan of the return of the patient, as mentioned by Dr. Talbott, is pretty well in effect. Every one of my patients is sent for at regular intervals. The value of this method as a preventive of caries was not touched on. The removal of the racemose leptothrix, which is so baneful in its effects in early life, is of the utmost importance as pertaining to this subject.

In regard to Dr. Gilmer's remarks, it is far from my purpose to permit a trained dental nurse (if I may use the term) to perform what he and I, and I believe all dentists, consider one of the most serious and difficult surgical operations. That they should not be permitted to surgically clean alveolar sockets in peridental diseases, or do any of the ordinary forms of dental work is the main object I had in introducing this matter and in asking for your approval of the suggestion to legalize the position of a dental nurse so as to legally establish the limits of her sphere of usefulness. Personally I would prefer that these assistants be women, the reason for which I will not take the time to explain. In my opinion they might be permitted to remove deposits in normal mouths, but in distinctively pyorrheal and interstitial gingivitis their duty would come only after the surgical work had been completed by the surgeon. They would follow his direction in thoroughly polishing the tooth structures and in medicating the tissues. In conjunction with this comes up the point raised by Mr. Constant. His objection to its usefulness is based on a condition of legislation which does not exist in the United States. I understand that in England the passage of such a law might give improperly trained persons an insight in dental practice and thus enable them to take an improper opportunity to work their way before the public as dentists without being interfered with by the law. In the United States, in most of our states, at the present day, the laws are rigidly enforced. This is especially true in the eastern part of the United States, and here it would be impossible for infractions of the dental law to go unchallenged. I would also say, in reply to Dr. Gilmer, that it is a great pleasure to me to know that there is one hospital in the United States where the mouth is properly prepared preliminary to any surgical operation. I know of no such condition in the city of New York. In that respect we are rather behind the west. Outside of that one hospital I think the general surgeons in Chicago or of the northern cities do exactly what the general surgeons do in the east: when they open the peritoneum, when they have an operation for appendicitis, or a laparotomy, the condition of the patient's mouth is not considered. That has been my experience in the east, and I have seen some such conditions in the west. I do not for an instant suppose that any of us who do surgical work would permit any patient of ours to go on the operating table in such condition. I refer to those medical men who are absolutely devoid of the ordinary rudiments of knowledge as to the oral conditions and the septic influences that may proceed from the oral cavity.

Original Articles.

SUNSHINE AND FRESH AIR VS. THE FINSEN ULTRA-VIOLET RAYS AND THE ROENTGEN RAYS IN TUBERCULOSIS OF THE JOINTS AND BONES.*

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The increasing use of the Finsen light and of the *x*-rays in the treatment of cancerous lesions of the skin and deeper tissues, and especially their use in lupus and other tubercular skin affections, naturally arouses the question of the utility of these rays in the cure of tuberculosis of the joints and bones. The results thus far obtained are certainly sufficient as regards tubercular lupus to warrant the continuance of our efforts in this direction, but the opportunities for noting the effect on deeper tissues in tubercular joints have not yet been sufficient to warrant definite conclusions. A large number of cases will be required to decide the question of benefit, since from the nature of the disease speedy conclusions will be unjustifiable. The course pursued by the tubercular process in joints is always slow, and there are such great dif-

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ferences in the rapidity of progress that the surgeon is very likely to draw wrong conclusions from the results of any method of treatment instituted.

The inhibitory action of the actinic light ray and of the *x*-ray on the growth of tubercular bacilli in the laboratory is undoubtedly positive, and such experimentation is an essential part of our progress in accurate knowledge. Combined with these experiments, however, must be careful clinical observation and an accurate recording of facts as they present themselves. I am free to confess at present writing that no definite conclusions can be formulated; only that progress, though slow, is hopeful. At the present time we are erecting at the University Hospital a complete plant for the thorough testing of the therapeutic effect of these light rays, and also of the *x*-rays, and I trust that at the end of five years certain positive data will be secured.

Any method or form of treatment that will tend to retard or inhibit the growth of these bacilli is helpful in the long fight with tuberculosis, and the part of the surgeon must be twofold: First (and I purposely put this proposition first), the fortification of the individual for the conflict; second, the destruction of the enemy.

The secret of success in the battle with tuberculosis of the bones and joints rests overwhelmingly on the resistive power of the individual. While, therefore, the Finsen light and the *x*-ray may have their effect in retarding or inhibiting the growth of the bacilli in a local area, it should be remembered that even the total destruction of this small company means but the temporary crippling of the invading army, and that real safety lies entirely in the permanent upbuilding and strengthening of the resistive powers.

The tubercle bacilli are vegetable parasites subject to the fundamental laws of organic life. Their growth is favored by a lack of resistance of tissues and by a fertile soil. This lack of resistance may be due to traumatism of moderate, rather than of severe, degree, or to temporary constitutional causes, or it may be the result of an inherent and hereditary cell weakness. When special soil and special environment are provided, these bacilli will run a speedy and definite course. That their course can be retarded or totally inhibited is definitely proven both in laboratory and clinical experience. Their growth is facilitated by darkness, dampness, moderate hyperemia and all depressing physical and mental influences. They are resisted by light and air and food, and thorough oxygenation of the tissues, by environment, soil and phagocytic defense. The absence of any of these favorable conditions means growth; their presence, destruction of the foe.

The most powerful agents in our possession for the inhibition and destruction of these micro-organisms are sunlight and fresh air and abundant nourishment. The sun's rays are undoubtedly more helpful than any artificial rays, just as natural waters compounded by the chemistry of the Ruler of the universe differ very decidedly from the waters artificially compounded by the chemistry of man.

While experimentally the strongest sunlight in summer takes more than an hour to kill bacteria, yet the ultimate influence is undoubtedly more beneficial than artificial contrivances. The large proportion of hours of sunshine in Colorado undoubtedly has much to do with the reputation of that region for the cure of tuberculosis. The beneficial effect of the sun bath was well known to the ancient Greeks and Romans, and we have been too tardy in again bringing into service measures which they learned from practical experience, and which we in our blindness have overlooked. As surgeons, we can with benefit learn a lesson to-day from the washerwoman and the farmer.

In my own hospital wards I have always considered the sun porch as the most important of all the means of cure. Every tubercular joint case confined to bed, either with horizontal extension or with fixation or traction of joint, spends the entire day at all seasons lying directly in the sunshine, his eyes and head being protected by a green shade attached to the head of the bed. The effect on health, appetite and cell resistance is simply marvelous. When able to walk about, patients are encouraged to play in the sunshine, not in the shade. I have not infrequently sent out into the sunlight and fresh air apparently hopeless cases of joint disease with lardaceous organs, and have had them return with sinuses healed, waxy changes arrested and health restored. Of course, it is necessary that surrounding conditions, even in the country, shall be healthful, since many farm houses are unsanitary in the extreme.

In the treatment of tuberculosis of the joints not only are mechanical and operative measures necessary, but all the accessory conditions of health are essential: a superabundance of easily digested and nutritious food, and clothing adapted to the surrounding conditions, in addition to the sunshine and air. There are few individuals who have not observed the influence of darkness and poverty and vice on the general health, and yet few physicians realize the importance of securing the brighter and better conditions. The time is near at hand when sanatoria for the treatment of tuberculosis of the hard parts, as well as those of the soft tissues, will be established. Outdoor life in tents, either in the pine forests or in the hospital grounds, promises a simple practical application of the principles enumerated. Cheeks will grow more rosy, flesh will increase, energy will improve, and resistive power will speedily be such as to control and overcome the tubercle bacilli.

McKenzie and Galloway[1] have also adopted this most excellent principle of treating cases of tuberculosis of joints in the open air by having them live in tents, thus giving patients all the advantages of sunshine and fresh air that are now in vogue in the lung tuberculosis sanatoria. The appetite is greatly improved under such conditions; more food is taken, and it is better digested.

Dr. Flick's regulations at the White Haven sanatorium for consumptives are just as applicable to joint tuberculosis as to phthisis cases: patients to live in tents and to spend their life absolutely out of doors, air to circulate freely through the sleeping apartments, ample bed covering to be supplied. Each patient to take at least three quarts of milk and six eggs a day; more if possible. In addition, a good dinner in the middle of the day, and a light breakfast and supper. Dinner of roast beef, vegetables and dessert. The gain or loss in weight are the best indications for adaptation of treatment and food.

Poncet, of Lyons, and Perdu and Blanc[2] have also applied the method practically by exposing joints covered with iodoform gauze to the direct action of the sun for hours in the day. As the case recorded by them, however, had had a previous excision of the knee, the report only shows that the sun's rays acted helpfully in the cure.

Eve[3] applied the light and heat of ordinary electric light bulbs (96 candle power) to a number of cases of arthritis with benefit. Mobility increased and pain was almost entirely relieved. The limb was placed under a canopy made of blankets thrown over a cradle, and the

heat raised to 250 F. The beneficial effects of the heat seem to have been increased by the bright light.

Kime[4] uses direct sunlight, concentrating it through an adjustable photographic ray filter, a plano-convex lens of 18 inches focal length and 6 inches in diameter. Behind it, ¾ of an inch distant, is placed a plain plate glass. Between the lens and the plate glass is a space for the blue copper alcoholic solution, which cools the sun's rays and absorbs all but the blue or actinic rays, which are rich in their chemical and germicidal powers. Although such a light focussed to a small point is hot, yet it can be regulated so as only to produce hyperemia, new vigor, new cell action and repair.

Heliotherapy or actino-therapy would probably be the best designation for this method of application of the concentrated sun's rays to the cure of disease; electro-phototherapy for the condensation and application of electrical rays to the same purpose.

Within my recollection, Butler in the 60's, successfully employed sunlight for the treatment of epithelioma of the skin, using for the purpose an ordinary biconvex lens.

Finsen at Copenhagen, Rikli, Koch, Strauss, Arloing and others, deserve great credit for their experimental and practical application of the bactericidal action of the sun's rays.

Finsen has shown by his experiments that the blue, actinic or chemical rays, which include the violet and ultra-violet rays, are the only ones that have an especial influence upon animal life and are bactericidal. The red, green and yellow heat rays have no effect upon the micro-organisms. It is the actinic rays which produce sunburn, not by burning the skin, but by slight irritation which produces the pigment deposit. Finsen also experimented with the effect of rays of the sun in smallpox cases, and found that if the patient was kept under red glass and red curtains, etc., that there was no scarring. The concentrated sun's rays have been proven by experiment to be capable of destroying bacilli in a few seconds, instead of hours, and it is also claimed that a concentrated electric light in which the ultra-violet rays are in abundance has a greater bactericidal power than even the sun's rays. These ultra-violet rays in the electric light are in shorter wave lengths, while in sunlight they are of longer wave lengths; the shorter ones have already been absorbed in the atmosphere.

The actinic rays penetrate much deeper into the tissues when the latter are rendered bloodless by pressure or by ice. The passing of the ultra-violet rays through ice renders them more destructive to the tubercle bacilli from the fact that the chilling of the skin by the ice renders it more anemic, and thus gives the rays a better opportunity to act upon the bacilli. Ice is transparent to the violet and ultra-violet, but is opaque to the red and ultra-red rays. Pigmented skins and cicatricial tissue interfere with the penetration of light rays, as does also great vascularity. The skin and intermediate parts should be protected when the *x*-rays are used, but do not need protection, save from the heat, from the Finsen light. In order to retain all the ultra-violet rays (which are the most efficacious) blue sulphate of copper was first used, as blue excludes the red rays, but now only ordinary cold running water is employed between the lenses to arrest the red rays and cool them. Finsen also used a lens of rock crystal in place of glass, in order to allow the ultra-violet rays to pass through more easily. The lamps used were from 25 to 75 amperes, since above that strength it was found difficult to cool the rays sufficiently by the use of water. Finsen's large lamps have 35,000 candle power.

In the lamps made in London by Marshall and Woods and Leslie Miller, an interrupted current is used of about 12 volts, and the sitting is prolonged from five to twenty minutes. With some of the new lamps an area of the size of a dollar can be treated at one exposure. In the sunlight baths, Finsen has his patients walk about naked. Finsen's electric bath consists of gigantic arc lights, 100 amperes, suspended six feet from the floor. Patients lie naked on couches. He uses the voltaic, instead of the incandescent, as the former contains more chemical rays. His theory is that the chemical light bath differs materially from the incandescent light baths.

If the *x*-ray can modify local tuberculosis (Muhsam, Fiorantine and others) the Finsen rays are much more likely to produce a beneficial effect.

The lamp now used in the Broca Hospital, Paris, is smaller than Finsen's and more easily handled. The carbon is made with a core of cast-iron, thereby emitting, it is claimed, three times greater amount of ultra-violet rays. The exposures only last twenty minutes, instead of seventy-five, and 30 amperes are used instead of 75 or 80. Anemia of the tissues by pressure is also not considered essential, and the application is made once in two days.

Kjeldsen's lamp is less expensive than Finsen's, and does not require specially trained nurses for its application. Lamps of 5 amperes are employed, and instead of carbon, iron electrodes are used, which are very rich in chemical, and very poor in heat, rays. It is claimed that a lamp of 5 amperes gives the same result in three minutes that is given in an hour by the use of 80 amperes with the old apparatus, the cost being about one-tenth, and the assistants required being few. It is also claimed that tubercular bacilli, gonococci and streptococci, and bacteria coli communis were inhibited by the light in five seconds, and that anthrax was killed in thirty seconds.[5]

Widmark, of Stockholm, used but a 1,200 candle power electric light, passing the rays through water to absorb the heat rays, then by carrying the rays through a plate of glass, he excluded the ultra-violet rays and reported that under the influence of all the rays except the ultra-violet, the skin was unaffected; under the influence of all except the heat rays, the characteristic inflammatory symptoms developed. It seems probable, therefore, that the ultra-violet rays produce the known effects of light upon the skin.[6]

Erythema solare may be avoided by care and by the not too rapid use of the rays.

If the current is too strong the skin swells and redness and blisters may appear, but sloughing does not occur. Pyrogallic ointment has been used in lupus to make the skin more penetrable to the rays, and may be also useful in joint disease.

The disadvantages of the Finsen method, which will undoubtedly be lessened when the practical mind of the American applies itself thoroughly to this subject are: first, the limited area of the body which can be exposed to the ray of a single lens; second, the length of time required, and third, the large staff of special nurses that must be engaged. An area of only one and a half centimeters can be treated in an hour.

The cost of the running of the Finsen light is a serious one. A recent estimate makes the expense of a four-light lamp for a year to be $3,000.

As regards the risks, the reaction caused by the ultra-violet rays is much less severe than that following the use of the *x*-rays; the heat rays being interrupted by a stream of cold water, there is, of course, less danger of

burning of the tissues, and the tanning or sun-burning of the skin renders increasing strength possible.

King has advanced the theory that the parasite of malaria scarcely ever develops except in darkness, and that it may be the red color of the blood that favors its life, while the violet rays interfere with its evolution. His theory of the action of quinin in the cure of malaria is based upon the fluorescent properties of the drug, which act as a destroyer of the malarial parasite, and that esculin and fracsin give the blue rays. Iodin, which is not fluorescent, unites with the starchy substances in the system, forming an intense violet blue. Methyl blue, which has been introduced for chronic malaria, may also act in the blood by producing rays which are injurious to the growth of the malarial parasite. The painting of the skin with methyl blue is said to enhance the efficacy of the rays.

General Pleasanton's[7] "blue glass theory," which was lauded thirty years ago, undoubtedly had some merit. He built his sun rooms with every eighth pane of blue.

The theory advanced by Bean[8] seems reasonable that a restorative change may be effected in a pathologic cell by which instead of being destroyed, its character may be so altered that it becomes again a normal cell. Such a change may be occasioned by exposure to light, by alteration of temperature, or by some vito-chemical alteration or molecular vibration at present unknown to us. Each individual difference in rapidity of vibration of the light waves evidently has its special effect on cells. If such be the case it is not necessary that the rays should have positive bactericidal influence, but only that they possess an alterative effect.

The photo-chemical properties of sunlight and of the electric Finsen light require much further investigation, both as to their physical and their therapeutic properties.

The observation was made long ago that the course of tuberculosis differs in brunette and blonde children. Recent observations made upon calves used in the manufacture of animal vaccine, show that the pustules do not develop as well in animals with a dark hide, but that the light-skinned ones are preferable.

Light rays cause contraction in living protoplasm,[9] but Hammer does not believe in the direct action of light on the blood corpuscles. He supposes that certain nervous elements of the skin, in connection with the pigment cells, are put in motion by the ultra-violet rays, and that this motion leads secondarily to hyperemia, inflammation and pigmentation. His experiments on tadpoles, salamander eggs, earthworms, etc., endeavoring to explain the phenomena and to study the relationship between motility of cells and monochromatic light are interesting in showing that light provokes movements in the fetus, and that this faculty must be attributed to the violet rays. White light causes sensibly less action. It is the chemical ray undoubtedly which is the special agent in influencing cell action. Electric light baths and incandescent lamps contain very few chemical rays, not, in fact, as many as ordinary daylight. They can not, therefore, possess the influence of sunlight. These electric light baths probably affect the cells through their heat rays, while a chemical light bath acts differently.

The Roentgen or *x*-rays have been used by myself, by Murphy and a number of other surgeons in the hope of influencing the tubercular process in joints and bones. As remarked in the earlier portion of this paper, it is too soon to determine results, for the reasons there set forth.

The *x*-rays have been proven to have an inhibitory influence not only on the tubercle bacilli, but also on the cholera spirillum, the prodigiosus and the colon bacillus. In the laboratory, after twenty to thirty minutes' continued exposure to the rays, many of the bacteria are killed, and multiplication ceases in nearly all. Some of the micro-organisms, however, survive. Experiments on animals do not seem to warrant the conclusions that the same action can be expected when these pathologic cells are surrounded by living tissues. Animals inoculated and exposed to the *x*-ray have died sooner than similarly inoculated animals not thus exposed.[10]

Various theories have been advanced as to the method by which the *x*-ray energy is exerted on the cells; each theory has been succeeded by another as equally plausible, but all lack positive demonstration.[11]

The bactericidal power is apparently not due either to the heat, the fluorescent light, electricity or ozone.

In our present state of experimentation various therapeutic methods will be employed. One of these has been the alternation of the Finsen with the *x*-ray; Finsen one hour; *x*-ray, five to eight minutes. The Finsen light has less penetrating power than the *x*-ray, but the combination of the *x*-ray to destroy the germs and the Finsen to act as a curative agent seems to be most advisable. The hard *x*-ray tubes have apparently greater penetrating power than the soft. Tanning of the skin is best done by the slow process. The skin and intermediate parts should be protected when the *x*-rays are used, but do not need protection from the Finsen light, save by cooling.

The amount of irritation produced by the *x*-ray on a part depends on various conditions; the distance from the tube, the time of exposure, the hardness or softness of the tube, the cutaneous idiosyncrasy of the patient, the length of exposure and the personal equation of the experience of the operator. Undoubtedly, however, the nearer the tube and the longer the exposure, the greater will be the danger of burning.

The experiments with *x*-ray on cancerous growths, especially of the skin, and even of the deeper tissues, leads to hope that the life process of tubercular cells may be altered, and that destructive changes may be retarded, if not altogether inhibited.

The superficial effect of either the Finsen or the *x*-ray on lupus can not be taken as a guide to their effect on deeper tissues in the joints and bones, yet we may reasonably hope that if the former can be influenced, human ingenuity will in time discover a method for the alteration of deeper tissues. In this connection it is interesting to note the recent achievements of Goodspeed that the wave or ray emanations from the human body are sufficient to impress a photographic plate. Very remarkable also are the continuous forces emitted from that new metal, radium. With the advancement of science and of medical knowledge, tuberculosis must and will be conquered.

The application both of the *x*-ray and of the Finsen light is rapidly becoming wider in its scope, but they should be used not as a substitute for mechanical and operative measures, but to supplement them, and to improve or cure the inoperable cases.

CONCLUSIONS.

1. Sunlight, fresh air and good food, together with fixation and protection of the affected joint, are the most important agents in the contest with tubercular infection.

2. Direct exposure to the rays of the sun is essential, and all hospitals should be provided with solaria or sun porches and roof gardens.

3. Patients lying in bed should have the diseased joints exposed to the direct rays of the sun, their heads and eyes being protected by green glasses or shades. The joints may be covered with blue, so as to secure easiest passage of the ultra-violet actinic rays, and local medications rich in iodin may be also employed as desired.

4. Tent life on the hospital grounds, or better, in the open pine forest, can be successfully employed through both summer and winter.

5. Sanatoria should be established for tuberculosis of the hard tissues, as well as of the soft.

6. The concentration of the sun's rays by lenses, as suggested by Butler, Finsen and others, is of positive benefit in bactericidal influence. As final curative agents, however, the direct sun's rays are most effective. Electrical rays can be used when sunlight is lacking.

7. The Roentgen rays in the laboratory have an inhibitory power on the tubercle bacilli, and may prove useful in restraining the growth of these micro-organisms in living tissues.

8. The actinic rays and the *x*-rays are both apparently helpful in the fight with tuberculosis, but several years will be required to determine accurately their effect. They should be employed not to supercede, but to antedate and to supplement operative procedures, to assist the mechanical protection of the joint, and to increase the general therapeutic measures employed.

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A STUDY OF THE HISTOLOGIC CHANGES IN EPITHELIOMA UNDER THE *X*-RAY.

A PRELIMINARY REPORT.*

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The striking and unforeseen curative effects of the Roentgen ray on epitheliomata make it probable that a careful study of the histologic changes occurring in these tumors while under treatment must prove both interesting and instructive.

Medical literature is rather barren in studies of this sort, most opinions put forth being founded on insufficience or absence of observed facts. Note the opinion solemnly set forth in a journal devoted to the exploitation of *x*-ray work: "The beneficial influence which the agent (*x*-ray) undeniably exercises on superficial cancer is due to *x*-ray vibrations acting on the cell elements of the growth, which elements are too weak and lacking in vitality to reach maturity and become the specialized tissue for which they were destined of themselves, in such a way as to give them new vitality, and hence ability to reach maturity and their normal ultimate structure."

That is, the *x*-ray is a sort of reformatory treatment by which the erring cancer cells are spanked and brought to a realizing sense of their vagrant ways, become reformed and proceed to grow into normal adult tissue; a very beautiful effort of the imagination, but needing a substratum of facts.

Many equally remarkable explanations of the *x*-ray effect could be quoted, but this one will suffice.

Dr. A. G. Ellis has made an important contribution to this subject from a strictly scientific standpoint in the *American Journal of Medical Sciences*, January, 1903. He studied four cases, two of which were epithelioma, which had been subjected to varying amounts of exposure to *x*-rays, and has determined some interesting facts. As he gives the literature at length, it will not be necessary to quote authorities.

His conclusions are that the study of these cases shows: 1. Necrosis of cells and trabeculæ of varying

Fig. 1.—Photograph of Case 1 before treatment.

degree. In Case 1 (a cancer of the breast) there is marked fatty degeneration. 2. Increase of elastic tissue. 3. Fewer areas of lymphocytic infiltration in one case after exposure, about equal numbers in others. 4. A tendency to occlusion of vessels by deposits on their inner surfaces. 5. Practically entire absence of infiltration by polymorphonuclear leucocytes. He says: "The unsatisfactory clinical results, as well as the slight microscopic changes in Case 3 (epithelioma) can probably be safely attributed to the presence of the exceedingly numerous keratinized areas or 'pearls.'"

The results of the present study are quite at variance with the above in many respects, as will be seen later. The larger part of the material studied was obtained from one case, which came under observation Dec. 10, 1902, and the research work was begun December 18, some time before the publication of Dr. Ellis' paper.

CASE 1.—A. B., Norwegian, aged 52, single, gave the following history: Eighteen months ago he cut the back of his right hand with a beer bottle, and the cut became infected and healed slowly with a dense raised scar. Soon after an elevated wart-like growth appeared in the scar, which was repeatedly cauterized with pure carbolic acid without much effect. His general health has been good. There is no cancer in his ancestry

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

or environment. An examination shows a fungus ulcer about three inches in diameter on the back of the right wrist. It is raised above the skin more than one-half an inch, the elevation being greatest at radial edge. The extensor tendons of the fingers move freely, but just at their radial side the growth

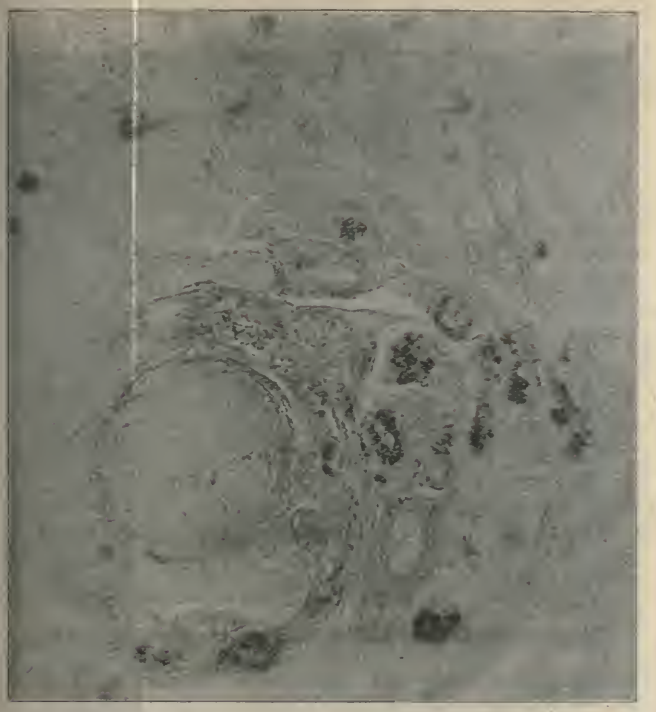

Fig. 2.—Fatty degeneration in epithelial pearl. Hermann fixative 500 diameter.

has deep attachments. There is no enlargement of the axillary lymph nodes. In view of the impossibility of excision it was decided to subject the growth to *x*-ray treatment, as it seemed the only chance of saving the hand.

On December 10, 11 and 12 he was given twelve minutes' exposure to a one-inch tube at five inches. On

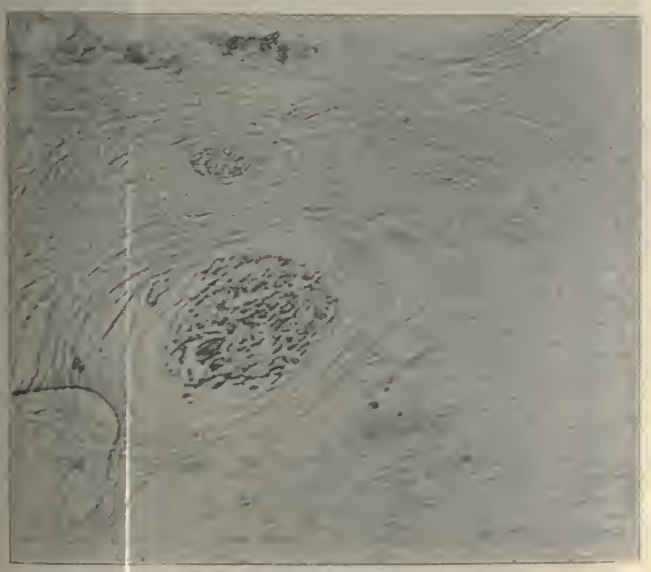

Fig. 3.—New blood vessel containing red blood cells in center of epithelial pearl.

December 16 and 17 he was given fifteen minutes at five inches. On December 18 the first block was excised, being cut from the non-sensitive surface of the ulcer, half an inch from the skin edge. December 22 and 23 he was given twenty-five minutes' exposure to a low tube at five inches. December 23 block excised. December 29 block excised. From December 29 to January 2 he was given daily twenty minutes' exposure to a low tube at five inches, and blocks were removed every other day until the whole fungus part of tumor had been softened and came away. In all, seven blocks were secured, covering the time from the fifth exposure up to the eighteenth, in all, thirty-six days.

HISTOLOGIC CHANGES NOTED.

Each block was cut in three portions and fixed in different fixatives. Hermann, Mann, Zenker and 25 per cent. formalin being used. The blocks were carried up, embedded in paraffin and cut in sections of from three to ten microns in thickness. The sections were examined unstained from the Hermann fixative for fat, and others were stained in various ways. The Hermann sections were washed in ether to differentiate fat from other substances taking osmic acid. Hematoxylin and eosin, hematoxylin and Van Gieson, Weigert's resorcin stain for elastic fibers, and Pianese IIIb for degenerations, Plimmer's stain for parasites were used. By these methods quite a number of changes could be made out, which can be briefly tabulated as follows:

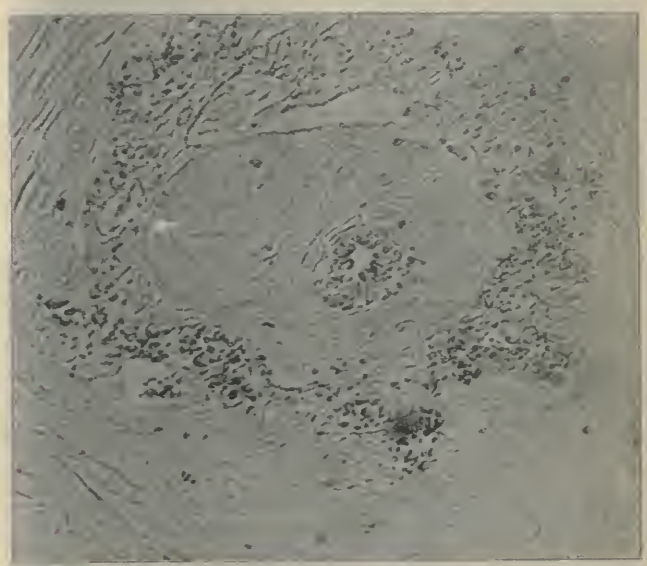

Fig. 4.—Circle of new vessels in epithelial pearl.

1. *Fatty Degeneration.*—This is marked in all sections from all blocks. In the early sections it is most marked in the epithelial cells at the periphery of the pearls, the fat occurring as granules grouped about the nucleus, and in many cases in the nucleus itself. Fat exists, however, in a large percentage of the epithelial cells, and this infiltration seems to increase with the number of exposures to the *x*-ray, until the cells disintegrate, when in the final stage of detritus it is seen mainly in the leucocytes, either as a degeneration, or possibly as a phagocytic inclusion.

In view of Unna's statement that fatty degeneration does not occur in epitheliomata, this is certainly a noteworthy effect of the treatment.

2. *Vascular Changes.*—In the earliest slides there are marked evidences of the formation of new blood vessels. They are seen between the epithelial cells and noticeably in the centers of many pearls. They are at first filled with red blood cells with an occasional white cell, but later the red cells disappear and the vessels are packed tightly with the polymorphonuclear leucocytes. These leucocytes are also seen between the epithelial cells, and

finally separate them into bands and detached cells surrounded by a reticulum filled by white cells.

3. *Elastic Tissue.*—Weigert's resorcin stain shows considerable elastic tissue in fibers and granules, usually in the immediate neighborhood of a new vessel, but not in its walls.

4. *Hyaline Degeneration.*—As this degeneration is a regular part of the life history of an epithelioma, it is not surprising that it should form a large part of the picture in many of the sections. It is especially noticeable in both pearls and single cells about the middle of the series, being replaced by coagulation necrosis in the latest slides. In many of the later slides the hyaline bodies of Unna are plentiful, as well as many cell inclusions, which, stained by the Pianese IIIb, or by Plimmer's method, are indistinguishable from the so-called Plimmer and Russell bodies as figured by Gaylord. As these do not appear in the early sections, but only when karyokinesis has ceased and degeneration of various kinds are very marked, it is difficult to understand how these fuchsin bodies can have any etiologic relation to cancer. They are indistinguishable as to staining reactions from the other hyaline bodies noted above.

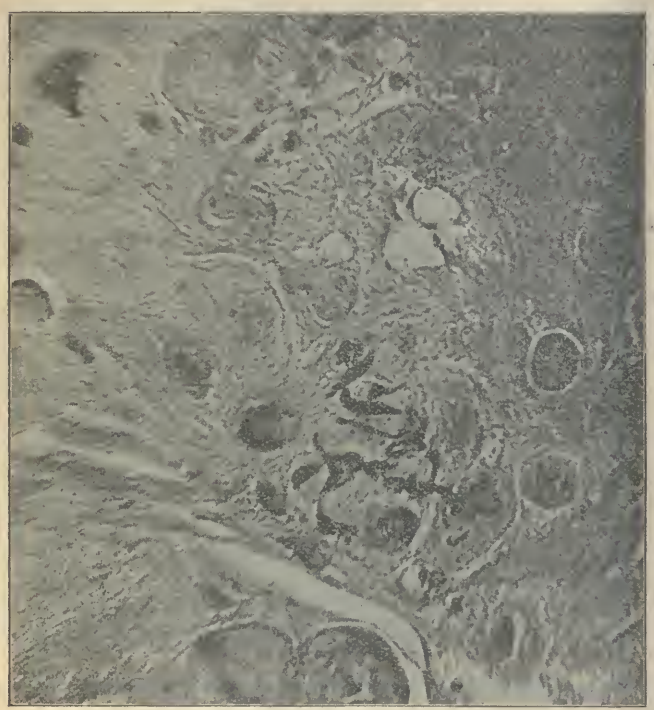

Fig. 5.—Elastic tissue. Weigert resorcin-safranin.

5. *Necrotic Changes in Cells.*—In some of the early slides karyokinesis is well marked, but later it entirely disappears, except an occasional cell in blocks taken from near the skin border of the ulcer. Chromatolysis begins quite early and increases until in the last sections there is hardly an intact nucleus. At the same time there is fusion of the cell bodies and loss of all cell outlines. Hyaline degeneration of single cells is very common, as before stated, as are the fuchsin bodies.

6. *Final Result.*—The latest sections obtained before destruction and liquefaction show an interesting and remarkable picture. Nothing is left of the epithelial structure but some dimly staining masses of cells in coagulation necrosis, with the rest of the section composed of a fine reticulum taking the acid stain, having its spaces filled with polymorphonuclear leucocytes, fragmented nuclei and other detritus, while interspersed through the mass are small clumps of epithelium and single cells, which have no nucleus and have lost their outline, and are just ready to pass into coagulation necrosis. In areas where the final fluid detritus was confined the microscopic appearance was like a so-called laudable pus, and the microscope showed only polymorphonuclear leucocytes, broken-down epithelia and free fat.

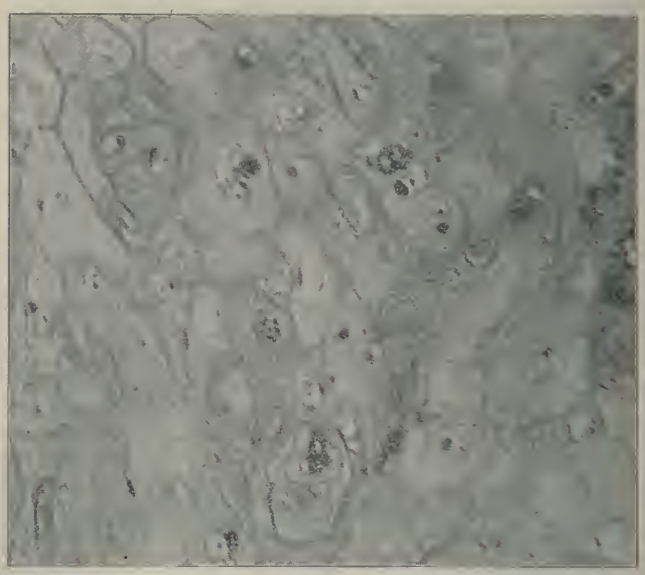

Fig. 6.—Shows hyaline cell inclusion similar to Plimmer bodies.

The study of sections from other epitheliomata, after varying exposure, gave results corresponding to the above, although in small growths it was impossible to get more than one or two blocks. One case especially, an epithelioma of the ear, after four ten-minute exposures, gave a picture like the final one from Case 1, except that the leucocytic infiltration was almost entirely composed of plasma cells, instead of the polymorphonuclear form.

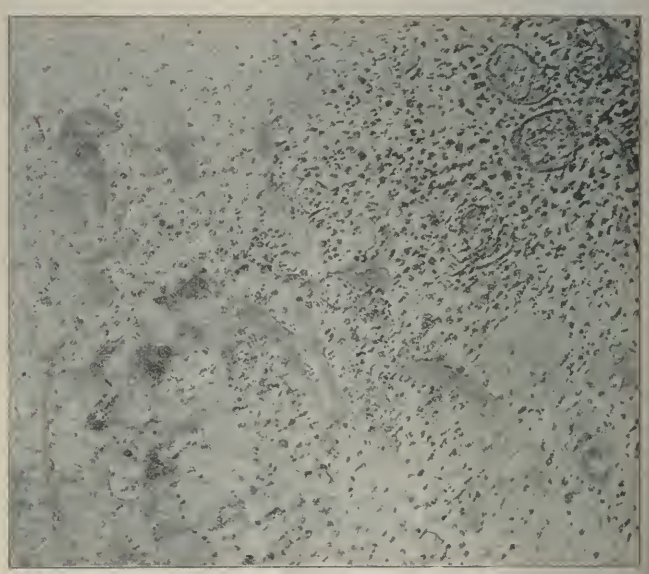

Fig. 7.—Shows general breaking down with infiltration of leucocytes into and between the epithelial cells, hyaline degeneration of the cells and at outer edge coagulation necrosis of whole mass.

It will be noticed that there are several very striking differences between the results of the study noted above, and those obtained by Ellis in the two cases of epithelio-

ma studied by him. These are the vascularization and the leucocytic infiltration which are probably only phases of the same process, and the difference was probably due to the destructive effect of the treatment in my cases, as compared with the negative clinical effects noted by him.

Certainly his explanation of the resistant character of the pearls, preventing curative effects, seems doubtful, at least, in view of the very early and decided changes in them noted above.

The explanations offered by some writers that the degenerations observed and final necrosis are due to decreased blood supply, which is caused by the thickening of the inner coats of the blood vessels, find no support in this study, as the abundant formation of new vessels and their distension makes improbable any obliteration of the different vessels. Unfortunately, none of the sections cut were from locations which could give any information as to whether the endarteritis observed by so many was present.

It seems probable that different epitheliomata may offer different degrees of resistance to the disintegrating effects of the *x*-ray, just as their bearers may show different degrees of susceptibility to the burning effects of the ray, but when necrosis is finally attained there will be characteristic changes in the cells.

It is to be regretted that sections were not taken from Case 1 before treatment, and more frequently during the active treatment, but the idea of making a study of the case occurred only when rapid results began to be noted after four treatments, and the subsequent progress was so rapid that all available tissue was destroyed when the seven blocks were obtained.

It may be of interest to hear the subsequent history of this case which began so auspiciously. Early in January, after some six weeks of treatment, all the elevated portion of the growth was destroyed and there was left a deep portion which extended into the bones of the carpus, and under the small tendons of the thumb toward the wrist. After wasting a great deal of time in a vain attempt to cause necrosis of the deeper parts, a small, apparently new growth was noticed at the radial edge of the ulcer. This determined an erasion under an anesthetic, which showed that the growth had progressed under the skin at the radial edge of the ulcer, in spite of vigorous *x*-ray treatment. All the epithelioma was carefully scraped away, and all overlying skin was excised, as well as the small extensor tendons of the thumb, which were hopelessly involved, and there is now a clean defect, with no signs of epithelioma, which is healing rapidly under mild *x*-ray treatment.

The tissues excised, which included nerves, tendons, vessels and new-formed scar, all exposed to many *x*-ray treatments, will furnish material for a later communication.

CONCLUSIONS.

1. It is probable that when epitheliomata react favorably to *x*-ray treatment that characteristic histologic changes will be found.

2. The important early changes are fatty degeneration and vascularization of the epithelial pearls.

3. Leucocytic infiltration and various degeneration processes complete the destruction.

4. Bodies indistinguishable from "Plimmer's bodies" multiply as epithelia degenerate.

NOTE.—I wish to acknowledge with thanks the aid in this study of Prof. Margaret S. Nickerson, Drs. Louis B. Wilson and Arthur T. Mann, without whose assistance the work would have been impossible.

DISCUSSION

ON PAPERS OF DRS. WILLARD AND STEWART.

DR. HENRY A. CHRISTIAN, Boston—I wish to add one case to the report of Dr. Stewart, a case of epithelioma of the back of the hand of the distinct cauliflower type. Before any treatment was undertaken a portion of the tumor was excised and sent to the pathologic laboratory of the Boston City Hospital for examination. It was a typical specimen of epithelioma, with the usual cell nests and with no particularly marked amount of inflammatory reaction. After treatment for a considerable length of time a second portion was excised. Pathologic examination of this showed that the epithelial cells in the cell nests were dead. They no longer stained and, what is particularly interesting, they were in many places surrounded by foreign body giant cells. In other words, the dead epithelial cells had changed from a living acting part of the growth and now simply acted as a foreign body and were being destroyed by the giant cells. There were no polymorphonuclear leucocytes present. There was no change in the connective tissue cells, while the epithelial cells were entirely dead.

Another point of interest was that a portion of the hand protected by the lead shield and supposed to be non-carcinomatous, i. e., to lie beyond the border of the growth, was in reality carcinomatous. This portion protected from the *x*-rays by the lead shield showed no such change. In other words, the epithelioma survived where the lead shield protected the growth; and there was death of the cells where the lead shield did not protect it.

Just what the process in these cases is I am not prepared to say. I do not think that too much importance should be placed on the fatty degeneration described by Dr. Stewart. Fatty degeneration has, so to speak, lost in recent years some of its pathologic standing. We no longer look on it as such an important degenerative process. Then, fat is frequently present in cells of the body under normal circumstances. Furthermore, the reagents used by Dr. Stewart for obtaining the reaction demonstrating fat are open to some objection. The main reagent used was osmic acid. We know that osmic acid stains other things than fat, for instance, certain keratin granules in the epithelial cells of the skin, also, the fatty substance of the sebaceous glands. Now, as the epithelioma originates from the skin these substances normally present must be borne in mind. If a substance stains black with osmic acid, this is not positive proof that it is fat, nor is the presence of fat always evidence of a degeneration.

Another interesting point is the presence of fat in the polymorphonuclear leucocytes. This occurs very frequently; in fact, it is generally present where there is an inflammatory process. It is also to be found in the polymorphonuclear leucocytes circulating in the blood. This is true particularly where there is a marked leucocytosis. I have had an opportunity to study these cells, particularly in association with pneumonia, and have found fat very constantly present in them.

Another point on which emphasis was laid is the great number of polymorphonuclear leucocytes present in this case. Is that due to the effect of the *x*-ray or to something else? In this case I understood that the surface skin was ulcerated. In such a condition you would expect to find polymorphonuclear leucocytes present at the outset. Again, when we have polymorphonuclear leucocytes and an inflammatory process we generally have the formation of granulation tissue; in other words, the formation of new blood vessels, so that the statement that the formation of new blood vessels is caused by the *x*-ray is possibly also open to criticism. I think the fact that the epithelial cells are dead, as shown by the case reported by Dr. Stewart and the case I have reported, are rather important factors. It is possible that simple inflammation may have had something to do with the formation of the polymorphonuclear leucocytes and the new formed blood vessels. The question remains open as to how far fatty degeneration, inflammation and cell death are due directly to *x*-ray action. Very general conclusions are not, of course, to be drawn from single cases.

DR. EDWARD H. NICHOLS, Boston—I agree with the beginning of Dr. Stewart's paper, but there are one or two things later on which I am compelled to differ with him. In regard to those lesions which were selected for this *x*-ray treatment as epidermoid cancer or epithelioma, which, after a greater or lesser number of treatments, have disappeared, the ulcers healed over, the capillary growth melted down and entirely disappeared and new skin formed, such cases are constantly being reported as cured. I think we should consider all those statements of cures with the greatest suspicion. It is true that for some reason or other the surface condition has apparently improved. The fact that the new skin has formed over the area of the wound is far from proving a cure of that case of cancer. I have had considerable opportunity during the last three years of observing the histologic changes following *x*-ray work. The cases referred to by Dr. Christian I have had the opportunity of seeing. The changes as we have seen them following the use of the *x*-ray have shown no peculiar characteristics. The changes in cases of epidermoid cancer treated by the *x*-ray show, as a rule, an increase, and in many cases stimulation of the cells. And I would defy anybody to recognize this change as a characteristic one. You see exactly the same changes as you would see in cases of degenerative carcinoma, and this has been deemed by some men to be due to the action of the *x*-ray on certain portions of the epidermoid growth, but they are really indications of the growth of the cancer. The *x*-ray acts as an irritant, and acts on those portions of the cancerous growth which are less resistant than the sound tissue. I think it can be perfectly explained by saying that the *x*-ray acts as a mild irritant, not producing burns, yet sufficient to cause increase in the epithelial cells at first and later disintegration. One other thing that needs to be borne in mind is that the *x*-ray can also produce epidermoid cancer. At a meeting of the American Dermatological Association a year ago last August, a case was reported of extensive epidermoid cancer of the hands of a man who had been using the *x*-ray, followed rapidly by metastasis. There is at the present time an operator in Boston who has lost three fingers on one hand and two on the other due to extensive epidermoid following rapidly after very extensive *x*-ray irritation, he having had a distinct *x*-ray burn. In regard to the bodies that Dr. Stewart mentioned, I have seen their work in their own laboratories, so perhaps I can express an opinion, and I have seen the definite Plimmer bodies of Greenough, and I do not think these objects seen by Dr. Stewart were the Plimmer bodies. I think every surgeon should bear in mind very carefully the fact that the *x*-ray is liable to produce cancer. In certain cases it may do good, and for that reason I think it is better to first remove the epidermoid cancer and then use the *x*-ray, and in certain cases it may be of advantage, but I think in all cases operative treatment should be the first procedure.

DR. JOHN RIDLON, Chicago—In regard to the treatment of tuberculosis of the joints by sunlight, I do not think that we should assume too large a hope in this direction. Sunlight or any other light alone does not cure tubercular joints; they must be treated by mechanical means, immobilized, or else no good can result from the exposure to the sunlight or any other light. As to the effect of sunlight on tuberculosis of the joints, I am somewhat in doubt as to whether it is likely of itself to produce beneficial results. All of us who practice in large cities and large towns can see great gain if a child is exposed to the sunlight. On the other hand, in the case of tubercular joints in the children of farmers and people who live in the country, who are more exposed in the sunlight and fresh air, there is usually not so much improvement from further exposure to sunlight and open air. It would seem then that from clinical observation it is the change of environment that has the effect rather than the sunlight and air without the local environment.

I have had no personal experience with the *x*-ray treatment of tuberculosis. My office associates, Dr. A. D. Harmer and Dr. John L. Porter, have done considerable experimental work with the *x*-ray on tuberculosis of the joints, and such cases as we three together had that seemed to be favorable for experimental work we have subjected to that treatment. The cases were those in which the progress had been unfavorable under ordinary mechanical fixation. It was thought only fair that such cases should be selected and not those which were doing well under ordinary treatment. A considerable number have been subjected, during the last year and a half, to the *x*-ray treatment. Many have improved more rapidly than could have been expected without this treatment. The number, however, has not been sufficiently great for us to form any trustworthy conclusions. It has reminded me very much of the iodoform injection treatment, which was very much in vogue about ten years ago. Almost all of us used these injections of iodoform in the cases of tuberculosis, and we all thought that we were getting better results.. We all know now that the injection of iodoform into tuberculosis of the joints is practically useless. So I fear that this *x*-ray work will turn out in the same way, and that, although a certain number of those cases do appear to be cured, it will not amount to very much. What we have learned is that when the superficial joints are benefited by the *x*-ray there must be very marked irritation of the skin. Tuberculosis of the hip joint and of the spine have not been benefited. Dr. Harmer has deliberately burned the skin in many cases, and he has found that he does not get as good results when the skin is not subjected to strong irritation.

DR. FRED. B. LUND, Boston—I have seen, during the past five years, cases of cancer treated by the *x*-ray. Surgeons recognize that epithelioma of the face, particularly of the rodent ulcer type, is a non-malignant form, that recurrence is slow, and that in the cases that have recurred there has usually been no glandular involvement. I have seen a great many cases of cancer of the face, many of the rodent ulcer type, that were really benefited by the *x*-ray treatment, and leave a most excellent scar, and some of our surgeons in Boston have stated (very prematurely, it seems to me) that the day of the knife in the treatment of epithelioma was past, and that we had no business to use the knife in those cases, but that they should be turned over to the *x*-ray treatment. On the other hand, I have seen some very sad results following that advice. A patient came in suffering with an epithelioma of the lip in a very early stage. Glandular involvement appeared soon after it was exposed to the *x*-ray, and he was treated by the *x*-ray without the slightest results. I have seen a number of cases of recurrent carcinoma in the breast glands treated without the slightest result. There are a certain number of cases of epithelioma of the face, of the more malignant type, in which it is of no value. I operated three years ago on an old lady 68 years of age. The cancer was excised and the wound covered with skin grafts; excellent results followed for a time. Then recurrence took place, and I excised the growth under local anesthesia. After operating on her 12 or 15 times, I tried the *x*-ray treatment for six months. At the end of this time the growth recurred with extraordinary rapidity, and the soft parts of the nose had to be excised down to the nasal bones. In other words, it seems to me that the *x*-ray is in the nature of a mild irritant or caustic, that it has an excellent influence on non-malignant growths, but that the malignant growths had better be excised. The ideal way perhaps is to first excise the growth and then in case of recurrence use the *x*-ray, but temporizing with the *x*-ray in the first instance is not only useless, but dangerous.

DR. JOHN W. BRANDAU, Clarksville, Tenn.—Is there any effect produced on the kidneys by the use of the *x*-ray in cancer of the cervix? In the past few months I have treated two cases of carcinoma of the cervix. One was of the cauliflower type, the other hard cancer. I had excellent results in both so far as the cancer was concerned. The cauliflower cancer underwent rapid degeneration, and after ten treatments of fifteen minutes each every second day the cervix was practically normal in size. In the other case the effect was very different. There was sloughing of the cervix after seventeen treatments covering a period of three months. In

both cases the pain was extreme previous to treatments; opium in some form being administered. After the second exposure there was no more need for opium. One of the women went to her home apparently cured of the cancer to await the results of the sloughing, with instructions to return in the course of three or four weeks for examination. In about four weeks there was suddenly almost complete suppression of urine, which was highly laden with albumin. In a few days she died from uremia poisoning. The other case died about eight weeks after treatment was discontinued from exactly the same cause, and what little urine I could get by catheterization was almost solidified by albumin on boiling. I would like to know whether any of the other gentlemen present have observed any bad effects on the kidneys from this treatment.

DR. J. E. THOMPSON, Galveston, Tex.—A few months ago a young man 29 years of age, with a large tumor over the stomach, was operated on, and it was found that the entire anterior part of the stomach and the lesser curvature was involved with a growth that afterward proved to be an epithelioma. There was almost complete obstruction of the pylorus for several weeks before the operation. I did a posterior gastroenterostomy and got immediate relief of the symptoms of obstruction. The growth appeared to be an extensive one, and about three days after the operation it occurred to us that it might be well to try the effect of the *x*-ray on this tumor. About forty-eight hours after the operation, I believe, we reopened the wound and packed the opening between the peritoneal parieties and the tumor, leaving this mass, which was about the size of a large orange, in the wound. We got profuse exudate. After 24 hours it ceased. We took out our own packing and found that the mass had been transformed into an external one. We then commenced the use of the *x*-ray, and after having used it for about a week, we noticed signs of increase in size, and a few days later the mass broke down and discharged profusely a cheesy matter mixed with pus. It then became apparent to us that we were going to have a fistula, because sloughing was extensive, and a few hours later, the nurse came to me and informed me that there was something in Mr. A.'s bed that looked like his breakfast. We found this to be true. A large opening was found in the stomach. We succeeded in packing this off, so that the patient could retain food sufficiently long to pass through our very large anastomosis into the bowel. He went to bed, was comfortable, took his nourishment well and enjoyed it. He seemed to have an especial liking for such indigestible foods as ham and bacon. He improved slightly in weight for two or three weeks, when he began to go down, and after about a month died from extreme emaciation. This, to my mind, seems to teach us some very interesting points. One is that we can not break down hard epithelioma with the *x*-ray. The second is that it is rather dangerous to try to break down a cancerous growth in the abdominal cavity. Third, the *x*-ray did not appear to have any prominent effect in checking the general growth of the epithelioma, which had become metastatic at the time of the operation.

DR. DE FOREST WILLARD, Philadelphia.—In answer to the question as to whether a blue medium is of value either with the *x*-ray or with the Finsen light, or with sunlight, it seems to me to depend entirely on the power of the medium to increase the force of the ultra-violet rays. Since the ultra-violet rays are therapeutically the potent ones, of course, the larger the proportion the better will be the result. The rays have proven themselves of value already in superficial tuberculosis and cancer, but we have by no means achieved the limit of possibility in the use of the sun's rays. I stated in my paper that we should use these agents as supplementary to our general treatment and not depend on them entirely. In regard to the use of the *x*-ray in tuberculosis, the benefit has certainly been sufficient to encourage me to use it further. Its influence in cancer and epithelioma has in my hand been helpful, but not curative. The Finsen light and the *x*-ray are still only in the experimental stage, and I have no anticipation that they will do more than act as accessories to general treatment. I expect to test them for five years. I do not expect to obtain any results that will be of value in a shorter time.

In reply to Dr. Ridlon, I would say that in my conclusions, I stated that sunlight and fresh air should be employed, "together with fixation of the joints." In another conclusion I said that this method should be employed, "not to supersede, but to supplement the mechanical and operative appliances." I took it for granted that no element would be neglected, and particularly the mechanical fixation, which is so important, in fact the most important element in inhibiting a destructive tubercular process.

In regard to the criticism that many farmer's children who live in the open air have tuberculosis of the joints, I would say that I have not infrequently found farmers houses in far more unsanitary conditions than prevail in the city.

Our patients are benefited in the city hospitals largely because we bring them out of the darkness, and give them good food, in addition to mechanical appliances.

The point that I wished to emphasize was that, in addition to all our other methods, we should employ sunlight, the *x*-ray and the Finsen ray, in fact everything that will help us in the desperate fight with joint tuberculosis.

DR. J. CLARK STEWART, Minneapolis—In answer to Dr. Christian I would like the permission of the chair to ask him a question, and that is, whether the washing of sections stained by osmic acid in ether and thus discharging the black color does not prove the blackened substance to be fat. The technical work was done for me by Prof. Margaret Nickerson of the University of Minnesota, and I am confident that Dr. Christian may accept all statements of fact as correct. In regard to the fatty degeneration, as I stated in my paper, the slides were washed with ether, demonstrating the presence of large amounts of fatty degeneration, and as Unna states that fatty degeneration never occurs in epithelioma, this pronounced fatty degeneration was considered worthy of mention. In regard to the vascularization being simply that of granulation tissue, I would say that the presence of the vessels long antedated the presence of anything which could be termed granulation tissue, and even of the leucocytes themselves. Later, where at first red blood cells had appeared in the new vessels, these were crowded with leucocytes, and still later, the leucocytes infiltrated the extravascular tissue. All the changes described in my paper were distinctly progressive during the treatment of the case. I don't attach much importance to the polymorphonuclear form of leucocytes in these sections as in two other cases where the resulting changes were about the same, the leucocytes were entirely of the plasma cell type. I was glad to hear Dr. Nicholls' remarks about the nonoccurrence of Plimmer's bodies in epithelioma. The bodies figured by me closely resemble those pictured by Gaylord in his article in the *American Journal of Medical Sciences*. The study of these cases shows certain positive results which must be of more or less value in explaining the results attained by successful treatment.

In regard to Dr. Willard's paper I can add just one observation of interest. I have treated one case of caries sicca of the shoulder joint with rather striking results. These cases, as you know, usually go on to ankylosis after about two years' disability, while the case under consideration attained about the same result after two months' treatment with the *x*-ray. Apparently the cicatrization and contraction of the tubercular tissue about this joint was very greatly hastened by the effect of the *x*-ray.

English the Universal Language.—A Spanish physician taking a post-graduate course at Vienna writes to the Madrid *Siglo Medico* that he had been informed that some of the lectures were delivered there in French and other languages, but found that this was a mistake. He says: "The lectures are exclusively in German or in English, and the latter is the truly universal language, and he who says the contrary, lies. (". . . *y en ingles, que es hoy el idioma verdaderamente universal: y el que dijera lo contrario miente.*") He adds that the North American colony there is "tremendous," and "Yanquis" are to be met everywhere, very frequently as the assistants at operations.

VARIX OF THE INFERIOR MESENTERIC VEIN COMPLICATED BY CHRONIC ULCERATIVE COLITIS—OPERATIONS.*

J. E. SUMMERS, JR., M.D.
OMAHA.

I am led to report the following case because the condition found is unusual, or has at least received scant attention at the hands of pathologists. For this reason I will give the history somewhat in detail.

History.—Mr. B., 34 years of age, was referred by Dr. I. Lukens of Tekamah, Neb. The following was elicited: When two years of age he began to suffer from prolapsus of the rectum and never received permanent relief of this condition until 27 years old. He was a rather puny boy and was not a robust man, although able to attend school and perfect his studies so as to become a competent school teacher. During all these years there had been a constant tendency toward rectal prolapse.

When 27 years old Mr. B. underwent an operation, some tumors were removed (probably hemorrhoids), three ligatures being employed. Following the operation the patient enjoyed fairly good health until the spring of 1901, when his general health became poor. In August, 1902, as the result of doing some unusual manual labor, the lifting of heavy joists, he was attacked with frequent desire to go to stool and the passing of considerable quantities of mucus and blood. During several days the mucous bloody discharges alternated with the passing of hardened feces; this condition was succeeded by an attack of diarrhea. Because of poor control of the bowels a pad had been worn continuously to prevent soiling by the discharges. The alternating attacks of constipation and mucous discharges continued from August, 1901, to March, 1902 when the man came under my care in the Clarkson Hospital.

At this time Mr. B. had the appearance of ill health, and poor nutrition; on examination the anal sphincter was found weak and incompetent, the rectum to the touch and by inspection was the seat of five ulcerations of different sizes, one being as large as a silver dollar and the others smaller. On introducing the sigmoidoscope numerous ulcerated patches were observed in the sigmoid. The edges of all ulcerations were elevated, and where palpable were, together with their bases, rather indurated; the surfaces were pale.

The treatment ordered was irrigation of the bowel, with bland or stimulating solutions of salt and silver nitrate; the recumbent position was insisted on and a restricted but nutritious diet prescribed. Little improvement followed this practice, although with some minor alterations it was kept up from March 13 until June 2. At this time I decided to do a left inguinal colostomy for the purpose of giving rest to the ulcerated sigmoid and rectum, as well as to admit of more positive local treatment.

Operation.—On opening the abdomen a surprising condition was revealed, the inferior mesenteric vein was very much enlarged and its walls thickened. All of its branches as far as they could be inspected were uniformly in the same strikingly swollen shape. Although I then realized that a colostomy would do little good the gut was fastened to the abdominal walls. After thinking the case over for a couple of days, I loosened the unopened gut and returned it into the abdomen.

Two months' further trial with local, dietetic and medicinal measures, there being no improvement, I opened the abdomen to determine whether or no there could be discovered in the pancreas or elsewhere along the route of the inferior mesenteric vein, an enlargement or interference by pressure on the vein near its entrance into the splenic vein. Nothing strikingly unusual was discovered about the pancreas except that it was thicker than normal and not quite so fixed. However, a considerably dilated stomach was found, and thinking this might, by dragging, possibly produce some interference or kinking in the circulation of the veins, a gastroplication was carried out after the manner of Moynihan. A Morrison operation was also done with the hope of relieving the portal system, and in this way lessening the congestion in the inferior mesenteric vein. My patient was much improved by these procedures; he gained in weight and his symptoms were better, but he was still an invalid. Two months later I established an artificial valvular fistula in the cecum for the purpose of complete, direct irrigation of the entire large bowel. Great improvement resulted from this last practice, the patient gaining 20 pounds during the next two months. There still was at that time some slight mucous discharge. I sent the man home, his many months' care at my hands having ended in a remarkably improved state. He was instructed to keep up the daily local treatment. A recent letter tells that he has allowed the fistula to close and that he is beginning to relapse. I have never seen such a uniform chronic enlargement of veins.

When we recall the fact that the inferior mesenteric vein passes under the pancreas on its way to empty into the splenic vein, and the many pathologic, as well as congenital, alterations that may be found in the pancreas, possibly the observations made at the time of operation would be sufficient to account for the varix. From this point of view, reasoning from everyday experience in varicose ulcers of the lower extremities, the ulcerated bowel must be looked on as secondary to the varix of the inferior mesenteric vein. From the point of view, however, of the fact that veins carrying blood from chronically inflamed areas sometimes participate in the changes incident to the inflammatory process, we might reasonably conclude that the varix was in part the result of the long-continued prolapsus of the rectum, and the accompanying ulcerations of both the rectum and sigmoid, and probably of the descending colon also. All other veins in the abdomen were apparently normal. The only organs whose size and position were found abnormal were the stomach and pancreas.

During the past year I have had a case of chronic ulcerative colitis, which I have cured by means of an artificial valvular fistula in the cecum. In both cases I established an opening for a 30 F. catheter, in order that I might employ a reasonably good-sized flushing stream. The use of the open appendix as a channel for irrigation seems to me like using a toy pistol when an efficient firearm is essential. It is an unusually large appendix that can carry an 8 F. or 10 F. catheter, both too small for other than dribbling irrigation. I must acknowledge that some distinguished authorities have found this, the appendix channel, useful. In my cases I believe I did better by my patients in removing the appendix from each.

DISCUSSION.

DR. F. D. SMYTHE, Memphis, Tenn.—The custom has been recently adopted at the hospital where I am attending surgeon to refer the cases of chronic colitis entering the service promptly to the surgeon for operation and treatment for the reason that medical treatment heretofore has proven unsatisfactory. It was formerly our custom to resort to dilatation of the sphincter and irrigation of the colon followed by application of silver nitrate. Improvement usually followed such a course, but the patient soon relapsed, necessitating a repetition of the treatment, the patient almost always finally dying or drifting to another physician to undergo a similar treatment, with no better result.

Dr. Goltman, Memphis, at a meeting some months ago, detailed a course of treatment that he used for acute dysentery, the main feature of which was the dilatation of the sphincter under anesthesia, which treatment he asserts is sufficient in his hands. I have never employed this method.

The plan adopted by Dr. Summers in the treatment of his case is the same that I have employed for some time and with

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

very gratifying results. I always make a good opening in order to introduce with ease a large tube for irrigation, paying no attention whatever to the appendix unless it is to effect its removal if time is not too much of a consideration. Such cases should be treated on surgical principles, thoroughly cleansed, rest of the part and attention to the diet. By such a course we have accomplished far more than was possible by medical treatment alone.

DR. SAMUEL E. MILLIKEN, Dallas, Texas.—Ulcerative colitis is one of our prevalent maladies. When Dr. Weir, New York, suggested last year at the session of the American Medical Association the use of the superfluous appendix as a means through which to reach the lower bowel, I was in hopes that I would have an opportunity of applying this method of treatment to some of our cases of ulcerative colitis, but up to the present time I have had no such opportunity. I have resorted to the various medicaments through the rectum and with varied and unsatisfactory results. I am glad to hear that there are better methods than those suggested by Dr. Weir. The methods suggested by Dr. Summers and the last speaker, i. e., the establishment of a fistula in the anterior wall of the cecum will possibly give more direct connection than the simple appendiceal method. I regret that an opportunity has not been afforded me to follow the suggestion, but it seems to me that this is a logical means of remedying what is with us a rather prevalent condition. Like the last speaker, I know nothing of the pathology which has led up to this condition.

DR. JOHN E. SUMMERS, JR., Omaha—I hoped that some one would say something about the anomalies of the pancreas or its changes in position. As the inferior mesenteric vein runs under the pancreas to empty into the splenic vein, which lies in a groove in the under surface of the pancreas, an obstruction in the return flow in the inferior mesenteric vein can be well imagined, provided there be an abnormality in the pancreas. I do not know what it was, but it seemed to me that, in this particular case, there was something unusual developed in the posterior area of the pancreas, and that this caused continuous interference with the current in the inferior mesenteric vein with the resultant varicosity. I merely mentioned the vermiform appendix as a route for the irrigation of the colon, as I had been impressed that Dr. Weir had advocated it as a kind of surgical joke. In the discussions of the surgical section of the New York Academy of Medicine, it will be noted that one or two surgeons have advocated this appendix route and have reported satisfactory results. One of these gentlemen stated that by dilatation one could succeed in getting the appendix to carry a No. 10 F. catheter. Everyone knows that such a caliber is too small for flushing purposes. When you want to flush out a cavity you must have a current and, therefore, I think a 30 F. catheter or 40 F. catheter none too large. You can remove the catheter, introducing it only when the bowel is to be irrigated. If the operation has been well done there will be no leakage.

CONGENITAL DISLOCATIONS OF THE RADIUS.*

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DENVER.

History.—In November, 1902, X. Z., a boy of 13 years, was brought to my office. Three days after his birth disability and deformity were noticed at the left elbow and in the left hand. In early life the general use of the limb was practically the same as at present. As years have gone by the limb has become neither more nor less useful.

Examination.—The left upper extremity is materially shorter than its fellow. The left forearm is in extreme pronation; it can be supinated but very little, the lower end of the radius moving but slightly on the ulna. As the limb hangs by the side the back of the hand looks forward and inward. If the boy is asked to flex the elbow he does it by abducting the arm to 45 degrees and throwing it forcibly forward. With the hand on the abdomen and chest he can then flex the elbow to 90 degrees, but not further. Flexion of the fingers is fairly good; extension is weak and imperfect. The thumb is flexed and adducted in the palm of the extended hand, being rotated somewhat out. Flexion of the fingers is made over this palmar-flexed thumb. When offered a coin the boy lifts the arm, rotates it in and throws the palm of the hand inward, then outward and forward to receive it. He makes no ordinary gestures in attempting to receive proffered articles. He uses the affected hand but little.

The elongated left radius is dislocated upward, forward and outward, lying on the outer and anterior aspect of the humerus. The condition is shown in the accompanying *x*-ray picture and in the photographs. Measurements are as follows:

Circumference of the right arm at its middle, 7½ in.; of the left arm at its middle, 6½ in. Circumference of the right forearm 2½ inches below the elbow is 7½ in.; at the same point on the opposite side it is 6 in. The right upper extremity from the tip of the acromion to the tip of the middle finger is 25 in. long; on the left or affected side it is 20½ in. long. With the elbow flexed the right arm measures 11½ in. from the tip of the acromion to the olecranon, on the opposite side it measures 10½ in. The right ulna is 8¼ in. long, the left ulna has a length of 6¾ in. The cup-shaped upper surface of the radial head is plainly felt, some 1⅛ in. above its normal. It can be satisfactorily palpated. It seems to be of normal size. It rests anteriorly on the external humeral ridge. The bones below seem to be normal in shape. Innervation of the extremity is good.

The boy is otherwise normal; his mental condition is excellent. His general appearance is that of boys of his age.

The boy was brought with a view to determining whether he would be apt to be helped by an operation. At first thought I felt that resection of the upper end of the radius would permit freer motion. However, on considering that the condition was due to defective construction, that the entire limb was imperfect and that the hand was deformed as well as the elbow, it seemed probable that any operative procedure would be tentative. The parents declined operation unless given a fairly positive assurance.

So few cases of this affection have been observed and reported that one is destitute of data on which to form an opinion as to the value of operation. Thus, while various observers have noted the pathologic condition postmortem or have described the symptoms in living cases, I am unable to find but three instances in which recourse was had to operation. (*Vide infra* for question as to the authenticity of the second of these.)

Langenbeck in 1865 made a simple resection of the entire left elbow of a 6-year-old patient of Mitscherlich.[10] No result was observed, as the child died some weeks after operation.

Bessel-Hagen[20] made a simple resection of the head of the radius with the best result.

He found the form of the radial head altered, almost spherical and smooth. The cartilaginous covering had disappeared in many places. The dislocated and badly deformed annular ligament covered the most external end of the bone like a distorted cap, partly bound to it by fibrous strings. Bessel-Hagen did not anticipate a successful result, and resorted to operation only after much persuasion. But happily after the operation the formerly half-flexed arm could be stretched out perfectly. Through methodical, energetic movements full supination was soon possible. Over a year after the operation the girl could perfectly stretch and bend and supinate and pronate the arm. The bones slid easily and

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smoothly on each other, the sensitiveness had disappeared and strength for work was increased.

Bonnenberg[25] reports a case referred to him by Hoffa. I cite this at length as it is fully described by the author. The result is seen to be one of but moderate improvement. Further, the type of the affection approaches that observed by me.

The patient was a girl of 20 years. The right radius was dislocated forward. The right arm appeared shorter and weaker than the left, especially in the forearm. The forearm was in position of supination, the hand being dorsally flexed. While the radius approached the normal, the ulna was twisted in its lower part and in the upper and middle thirds was more convex than normal. The elbow joint could only be extended to an angle of 155 degrees. In the extended position was clearly felt the epicond. internus humeri, the point of the olecranon and the epicond. externus humeri. If the arm was flexed

Figure 1.

the head of the radius glided up on the anterior surface of the humerus. Pronation of the hand was not possible. The patient had worn apparatus which held the head of the radius firm, but its weight and pressure were annoying, and since an improvement through its use could be looked for only after a very long time the patient preferred operation, which was performed by Bonnenberg and Hoffa.

An incision about 6 cm. long was made on the outside of the elbow joint over the external condyle of the humerus, parallel with the long axis of the arm. The joint capsule was opened. The entire outer half of the lower end of the humerus was slightly concave, so that no clear limit existed between the eminentia capitata and the part of the epiphysis not covered with cartilage. The cartilaginous covering of the eminentia capitata reached about 2 cm. higher than normal. The outer edge of the lower end of the humerus appeared much thinned. In the curved lower part of the humerus the head of the radius lay over the eminentia capitata. It was completely covered with a fibrous capsule which was attached about the neck and was connected with the outer part of the joint. The capsule was split over the head, and after the periosteum was loosened a piece of the radius about 3 cm. in length was taken off, the cut surface smoothed and the radius passed under the eminentia capitata of the humerus. The capsule which covered the head of the radius was taken away. Flexion and extension of the elbow joint were now entirely unhindered. Not so, however, with pronation and supination. Therefore an incision about 4 cm. long was made over the styloid process of the ulna and after loosening up the periosteum a piece about 3.5 cm. long was taken from the lower end of this bone. Then pronation and supination were possible. Healing by granulation took place in about a month, when movements were begun. The arm was massaged daily. Electrical treatment. A little later, since there was still present the spiral twisting of the radius, osteotomy was performed between the middle

Figure 2.

and lower thirds. Again healing by granulation. When this was complete systematic attention to movement was given. At the end of a few months the condition was as follows:

The radius ends over the external condyle of the elbow; there is decided weakness of the right arm as compared with the left. Measurements: Right middle upper arm, 22 cm.; left middle upper arm, 26.5 cm.; thickest part of forearm, right, 20 cm.; left, 23 cm.

Voluntary pronation and supination are not possible on the affected side. The case may be said to be moderately improved. The piece that was taken from the upper end of the radius was 3 cm. long; the diameter at the head, 15 mm.; at the neck, 13 mm. Demarcation between the two was scarcely present. The head was defectively developed; it was infantile; it was lacking in cartilaginous covering except at a place on its posterior circumference about 1 cm. in diameter. Here the head of the radius glided over the anterior surface of the

humerus. A characteristic glenoid cavity was not present. Good pictures show the condition before and after operation.

Bonnenberg[25] collected 30 cases in 1893; of these 12 were double, 18 were single. Since that time the only observers of whom I can find record are Ambard,[23] Abbott[21] and Bergtold.[19] Ambard reported a double luxation in a man of 28 years who applied for treatment for excoriations of the external aspect of each elbow. Two very prominent protuberances on the outer part of each elbow were noted, which were brought into action by the different movements of the forearm. On looking at the posterior surface all of the middle and internal part appeared normal. But at the external view there was a prominence rounded over its lateral surface, flattened at its superior extremity. From in front the region of the elbow appeared normal. On palpation this bony

Figure 3.

prominence could only be considered as the upper extremity of the radius itself. In supination and pronation the radial cup could be rolled between the fingers; in flexion or extension it was lowered or raised. In spite of the abnormal situation the superior extremity of the radius was strongly connected with the other bones of the joint. All of the ordinary movements of the elbow, as well as the muscular force, were perfectly preserved. The length of each radius was 1 cm. more than that of the ulna, whereas normally the radius is 0.75 cm. shorter than the ulna. The ulna and humerus were normal. The two dislocations were absolutely symmetrical. The rest of the skeleton was normal, save that the two clavicles were prominent at the middle part. The nose was sunken in on account of caries of its bones and atrophy of the inferior turbinate; there were various ocular lesions pointing to hereditary syphilis.

The dislocations of the radii were noticed soon after birth. There was no family history of the trouble. The writer is inclined to think this patient a hereditary syphilitic, and thinks it possible (?) that the deformity was due to this trouble. Excellent radiographs are given.

Bergtold[19] gives an admirable account of a similar case, except that while flexion and extension were perfectly preserved the forearms were in extreme and fixed pronation. Abbott[22] reports on 9 cases, 7 of which occurred in one family, the cases having been scattered over four generations; 5 of the cases belonging to three generations had been examined personally by him, and all presented dislocation of the radius forward in one or both arms. Flexion and extension in all were free, but there was no movement of pronation or supination. In all the cases the deformity had caused the patient much inconvenience; no member of the family was the subject of any other deformity. Dissections of the elbows of the youngest of these cases were shown by Abbott at a meeting of the London Pathological Society, the chief abnormality in one being a large protuberance from the outer side of the coronoid process, fixed to the neck of the radius and possessing an extra center of ossification. The dissected elbows of a child of two months were shown. On the right side there was a dislocation of both bones directly backward, the articular end of the

Fig. 4.—Showing the position of the limb when the patient attempts to receive a proffered object.

humerus being deeply cleft and much altered in shape. On the left side the radius was dislocated backward, upward and inward, still keeping its normal relation to the ulna which articulated with a mass of cartilage attached to the lower part of the shaft of the humerus, representing the trochlea and internal condyle, the lower end of the humerus consisting only of external condyle and capitellum. In this case the prime trouble was evidently in the humerus. A living example of congenital dislocation of the left radius backward and outward in a girl of 21 years was also shown. The president of the society, Sir George Humphrey, thought that in all cases the displacement was slight, and that all seemed to be due to want of proper condition of the orbicular ligament. (There is a similar case in the Cambridge Museum in which both humerus and radius are deformed, the neck of the latter being longer than it should be, thus causing difficulty in flexing the forearm.)

In a further discussion of these cases Abbott says that in all the deformity was first noticed when the child began to use its hands, and in no member of the family was any other deformity present. This tendency has twice been transmitted by males, twice by females, while in only one instance has the person transmitting it been herself the subject of the lesion. In one case it has occurred in the third generation, both father and grandfather transmitting the tendency without being affected, and the affection of the grandfather's brother pointing to the deformity having existed one generation earlier still. Abbott states that among cases of congenital dislocation of the radius that have been previously described he has been able to find but one in which the deformity was hereditary. This was the case of Pye-Smith.[16]

It is plain that only those cases can be accepted which (*a*) have been observed by a physician directly after birth, or (*b*) which are hereditary, or (*c*) which coexist with other deformities. If this test be applied it throws out such cases as that of Bessel-Hagen.

Herskovits[18] deduces as hypotheses to explain these luxations: 1. External injuries to the belly of the mother (Cruveilhier) or muscular activity of the fetus (Chaussier). 2. Disease of the capsule or the ligaments (Sedillot), hydrops or fungus (Parise, V. Ammon). 3. Disease in the central nervous system, with consecutive contractures (Guerin) or muscular paralysis (Verneuil). 4. Peculiar fixation of the limbs *in utero* (Dupuytren). 5. Defective construction of the joint (Paletta, Breschet, V. Ammon).

Appraillé[24] has written an exhaustive monograph on congenital malformations of the upper extremity of the radius. His cases are of congenital absence or defective development of the bone rather than of dislocation. From the functional point of view, however, they also are characterized especially by absence of the movements of pronation and supination of the forearm. He believes them to be the result of quite extensive amniotic compression occurring before the formation of the skeleton.

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DISCUSSION.

Dr. John T. Bottomley, Boston—My personal experience with congenital deformities of the radius has been absolutely *nil*. I have here two reports of cases from Dr. F. J. Cotton of the out-patient department of the Boston City Hospital, which I will read. The luxations were similar, though not congenital:

Case 1.—*Syphilis of the elbow, congenital.*—M. R., aged 15, doubtful specific history. Three years ago trouble in the left elbow. She was first seen two years ago, at which time there was backward luxation of the radius, bony cartilaginous masses at the lower end of humerus, the radial head and the ulna. There was much loss of motion, especially of supination, of which there was none. There was not much pain and no spasm. Operation refused. She was treated with potassium iodid for two or three months and then lost sight of. About a month ago she was looked up, and I found the motion slightly improved, but the masses are unchanged.

Case 2.—B. H., aged 17. For two years she has had trouble with the elbow, which has not been painful, but has caused much limitation of motion. Congenital specific history. At the present time is under treatment for iritis. Her condition was almost exactly like Case 1, but with dislocation of the radii at both elbows. She was operated on in December last, at which time there was excision of the heads of both radii with transplantation of the distorted orbicular ligament to original site. Early mobilization followed, and she was treated with potassium iodid. Ether was administered once in order to free adhesions. Excellent results followed, and all motions are now practically normal on one side; much improved and still improving on the other side, but supination is not free. Both cases were what is described as false tumor albus. The radial luxation results from the thrust of the raw cartilaginous formation. There is no synovial disease.

Dr. Fred. B. Lund, Boston—I have seen the cases reported by Dr. Cotton, and the result he has obtained in one arm is certainly remarkable. The motion is not perfect, but it is a material improvement, and it is certainly a revelation to see what that operation has done.

Dr. De Forest Willard, Philadelphia—I have seen two or three cases of congenital dislocation of the head of the radius and a number of cases where there have been various congenital defects of this region. When the humerus or the radius are affected the hand is usually carried in the position of extreme pronation. I do not think that any law can be laid down in regard to operation in these cases; every case must be studied according to the conditions presented, and from the standpoint of the type of distortion. In a case presenting the symptoms described by Dr. Powers, the chances are decidedly in favor of a gain by excision of the radius, together with section of the muscles to relieve the extreme pronation. In congenital and birth palsies from injury of the brachial plexus we nearly always have this same pronation. It may be relieved by cutting off the flexor and pronator muscles from their attachment to the humerus and ulna. The arm can subsequently be used 5, 10 or 15 per cent. better, while the improvement in the appearance is 30 to 40 per cent.

Dr. Charles A. Powers, Denver—One's first thought in such a case as this would be to take out the head of the radius. The parents refused to have this done unless given positive assurance that definite benefit would result. In view of the associated conditions and after a careful study of the literature on the subject I did not feel that I could give them this assurance. I believe that Willard's suggestion of dividing the internal rotators of the humerus to be a very useful one. I should be obliged to carefully study the histories of the cases cited by Dr. Bottomley before being certain that they were analogous to the one which I present.

Reasons for Joining the Medical Association.—To be identified with the county, state and national organizations, just as every patriotic citizen exercises his rights of suffrage in local, state and national affairs. To assist in raising the political and social standing of the profession to a higher plane. To show interest in all matters medical which should demand the attention of any legislative body. To assist in demonstrating that the medical profession is not less noble to-day than hitherto; that its members have not grown so "commercial" as to consider their skill as simply a "stock-in-trade" for sale to the highest bidder, but that love and sympathy for the human race are the prime instigators of their every action. To assist in unifying the opinions of the best professional conduct, and in supporting such a code of ethics that the members may not be constantly harassed by temptations and uncertainties as how to proceed.—*N. Y. State Jour. of Med.*

NECESSITY FOR MORE CARE IN THE TREATMENT OF SKULL FRACTURES.*

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The substance of this paper is based on the following propositions:

1. Fractures of the skull are not always recognized as such until too late to receive proper treatment.

2. Fractures of the skull when not properly treated at or about the time of fracture, occasionally result in death, and if not in death in serious remote consequences.

3. Fractures of the skull, when properly treated, usually terminate satisfactorily.

Every practitioner is aware that a large number of skull depressions, with their usual concomitants, are constantly forcing themselves on our attention. It is, we believe, right to assume that surgeons are familiar with the mischief that such depressions create, and would not knowingly allow them to remain were they recognized at the time of injury. As no special reasons exist for these omissions, we are forced to the conclusion that carelessness at the time of the first examination is responsible for the errors in diagnosis and their consequent evil effects.

The conclusions of Hippocrates—sometimes credited to Sir Astley Cooper—that "No injury to the head is too slight to be despised, nor too severe to be despaired of"—were never clearer than to-day, and still many of us fail in appreciating their significance, or if appreciating, fail to profit by them.

An apparently insignificant scalp wound may be associated with a serious fracture beneath, and even a contusion of the scalp may cover a fracture, with depression and accompanying laceration of brain tissue and coverings. The scalp wounds may be ever so carefully dressed and the subsequent healing be ever so perfect, but unless our range of inquiry is sufficiently comprehensive to take in all possibilities, deeper injuries may remain, to be followed by headache, epilepsy, or even insanity. Usually these cases do not present themselves for examination until the evil effects of injury are fully established and little can be done for their relief.

Roberts tells us in his "Fractures of the Cranium" that their importance and interest center not in the damage done to the bone, but in the associated injuries sustained by the brain and its membranes. He also tells us that the inner table is nearly always more extensively broken than the outer. Keen says that "fractures of the inner table alone can only be suspected." Starr (Brain Surgery, p. 27) reports two cases operated on by McBurney, of which he says: "The pressure of splinters of bone cracked off from the inner table of the skull and imbedded in the brain in the motor area, for the arm with cysts at the same place was demonstrated." Da Costa warns us by writing: "The prognosis of fractures of the vault depends on the extent of brain injury, rather than on the extent of bone injury."

In this connection we must not forget that any injury sufficiently violent to produce a fracture of the skull, is also sufficiently violent to produce injuries to the soft parts beneath. In support of this statement we may be pardoned for submitting the following, taken from the clinical records of the writer: From an analysis of 86 cases where injury to the skull wall existed, 68 were accompanied with probable, and 57 with positive, evidence of cerebral disturbances. These conclusions were verified in 52 cases through operation. Clinical reports of competent observers, coupled with everyday experiences, have clearly demonstrated that blows or falls on the head may cause serious trouble, both present and prospective, without producing fracture to the skull wall. If this be true, how much more likelihood is there of such conditions being present when fracture exists, especially if that fracture be depressed. It is on the effects of these injuries, rather than on the injuries themselves, that we would lay emphasis, and to invite attention to the necessity of a full and correct diagnosis at or about the time of injury, in order that either condition may be properly treated. Every case of recent head injury, however trivial it may appear, should, we believe, be treated with the greatest consideration, lest damage to hidden and important structures escape our attention, thus leaving a foundation for future trouble which too often is irreparable.

What shall we do to improve existing conditions? Make a thorough examination at or about the time of injury if possible, and then rationally treat the conditions found. Open wide the scalp wound, carefully examine the bone beneath, and if this be found injured, then examine the brain. An examination of the tissues suspected of injury when cleanly and carefully made, does not expose the patient to any special dangers, while it may be of the most significant value, by determining conditions and leading to treatment that will result in the prevention of very undesirable consequences. This is a rational surgical procedure based on science and common sense. On this point Otto Schar, in the *Archives of Clinical History,* says: "Epilepsy following injury to the skull can, in the majority of cases, be avoided with almost absolute certainty if only active and proper treatment be instituted at the time of injury." Again we quote from Da Costa when he says: "Trephining cases where no symptoms exist, although there is marked depression, often prevents disastrous consequences arising in the future."

We believe that all fractures of the skull with depression should be trephined, the depressed bones elevated, and underlying soft parts carefully examined, and if found injured, repair attempted.

We believe that all fractures of the skull with or without depression when symptoms of cerebral disturbance exist, should be trephined. We believe that all skull fractures, regardless of the presence or absence of cerebral symptoms, should be carefully examined before the soft parts are closed over them.

In operation in no other part of the body does the surgeon close the wound until he has satisfied himself as well as may be, as to the conditions beneath.

Under ordinary conditions the necessary and proper treatment may be carried out. Thorough cleansing of the parts to be operated on may be secured in almost any room; the operator and assistants must be clean, as must the instruments, sponges and dressings. The scalp is raised, the underlying bone examined, and if fragments are found, they must be removed. A button of bone is then removed with the trephine and the parts beneath examined. If found necessary, the opening is to be enlarged with the chisel. If only the dura be torn, it may be united with catgut; if the brain tissue be injured, any ragged edges must be removed—the freshened edges approximated and so retained with fine sutures—all depressed bone must be elevated, when the scalp may be closed in the usual way with or

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

without gauze drainage as circumstances may seem to warrant.

Every patient to-day, of whatever condition, is entitled to intelligent treatment when injured; every surgeon should be prepared to give this treatment when called on to do so. These statements are especially true when associated with injuries to the head. We should, therefore, aim to be thorough in our work, guided by the clinical experience of the past, to the end that full justice may be done both patient and doctor.

Carelessness in the treatment of the class of cases referred to, appears to be responsible for at least much subsequent suffering, and ought to be discouraged.

Drawing on the clinical experience of the able observers quoted in this paper, as well as from the daily experiences of practitioners generally, we are forced to the conviction that not all that is possible is being accomplished in head surgery. Even were the remote consequences less deplorable than we find them, there would still be sufficient reason for reformation along these lines.

We labor night and day with commendable energy, and write volumes on conditions of the appendix; the midnight lamp finds us devising contrivances for the repair of the intestines; the gall bladder and its ducts command our closest attention—then why make the skull, the storehouse of the most important organ in the body, a matter of secondary consideration?

We all know that any impairment of the brain seriously affects the entire economy. We should also know how when possible to prevent this impairment, for here, as nowhere else, do we recognize the force of the adage, "Prevention is better than cure."

There are a greater number of heads than appendices. By virtue of their exposed anatomic positions they are more frequently in need of repair than are the intestines. When seriously injured, they expose the patient to greater dangers than do gallstones.

Why not give them that consideration their importance entitles them to?

DISCUSSION.

DR. J. GARLAND SHERRILL, Louisville—This subject is one of great importance to all men who are doing surgery, especially cranial surgery, and I believe that many cases of this class are not treated properly as mentioned by the speaker. This occurs for many reasons, and a very important one is, that the diagnosis is not made, and we can only say that diagnosis of fracture with trouble within the cranium is not always easily made. I believe that the old classification of symptoms is largely responsible for this condition. It is possible to have grave lesions of the brain with but slight symptoms, and sometimes with extensive damage to the brain the patient will be able to be up and about, the symptoms coming later. If we have the symptoms of compression of the brain, then we have a demand for an operation, but there is no less a demand for operative procedure where the symptoms indicate what has been formally known as concussion of the brain. I believe when you make a diagnosis of concussion of the brain you should always make a thorough examination of the shaven scalp. Localized pain on pressure is of the greatest importance in making your diagnosis. In connection with this symptom the use of the percussion hammer or your finger will often elicit a crack in the skull, which you would not otherwise be able to discover. In connection with these symptoms you should watch the pulse, respiration and pupillary reaction; these are quite important. In these cases the temperature rises as the blood flows at the base of the brain and the pupil becomes dilated and fixed.

In concussion of the brain you often meet another symptom, a rapid irritable pulse, while the pupil is not fixed and dilated as in compression of the brain. Taking these things into consideration a diagnosis of trouble within the skull can be made, and when this fact has been established I believe that most of the fractures of the skull should be investigated, except those very serious fractures of the base of the skull where there is very little hope for relief, but I believe that the field for operative procedure will be widened, even in these cases. All depressed fractures of the skull and all compound fractures should be trephined, and even linear fractures, especially when brain symptoms are present.

DR. CARL WAGNER, Chicago—In connection with Dr. Earles' very suggestive paper I would like to report two cases which tend to illustrate the imperative necessity of operating on all cases of depressed fracture of the skull. Of these two, the first one represents the one extreme, where the injury appears to be so slight that it hardly seems worthy of attention, or even escapes notice, while the second typifies the other extreme in which the case is seemingly utterly hopeless and beyond human aid.

In the first case the mother called me on account of an eruption of the skin, which she took for scarlet fever. The skin eruption did not resemble that of scarlet fever or measles, neither were any throat symptoms present. Temperature 102. The child had had several attacks of convulsions, and on being put on the floor described semi-circles to the right and then fell, insteading of walking in a straight line. This attracted my attention to the brain, and examination of the head I found a sensitive little spot and a small crust covering a slight abrasion of the scalp.

The mother then seemed to remember that the child had fallen against the sharp edge of the leg of the bed about two weeks previously. The child had not complained at all at that time. On operating, a stellate fracture with depression of the bone and pus between bone and scalp, as well as oozing through between the bone splinters from underneath, was disclosed. Another abscess was found directly under the dura mater, containing about a half-teaspoonful of pus. Immediately after the operation the temperature became normal and the child recovered quickly. This case was presented to the North Chicago Medical Society three years after the operation, where I could show that the whole defect of the bone had been closed up by new osseus tissue.

The second case, a boy of 7, fell from the third story on a stone pavement, head first. Dr. Williams and Dr. H. Wagner, who had been attending the boy during the two hours since the accident, informed me that the child had been lying absolutely motionless, with knees and arms flexed, with stertorous Cheyne-Stokes respiration, during the entire time, almost pulseless, the pupils dilated and fixed and did not respond to the effect of light. There was a profuse hemorrhage from the right ear, both nostrils and mouth. On top of the right side of the head near the frontal region of the skull a deep depression large enough to admit three fingers could be seen.

I made an extensive Lannelongue incision, without anesthetic. The injured field was exposed. The anterior and posterior branches of middle meningeal arteries were tied, the ruptured longitudinal sinus tamponed, the lateral sinus on the right side blocked with gauze. The bony defect was very nearly as large as the palm of the hand. A bi-parietal fracture, which had torn the longitudinal sinus, extended through the temporal bone, which was afterwards verified by the examination of the ear, where Dr. Gradle found a scar in the drum and bone. The boy left the hospital fourteen days after in good health and has been for the last seven years a good, bright scholar in school.

DR. T. J. SULLIVAN, Chicago—Cases of fracture of the skull may be divided into two classes: simple and compound. The simple cases are cases to be placed under observation, and when the conditions warrant interference by surgical intervention. The compound fractures, of course, should always receive all the relief that is afforded by modern surgery, and the wound should be dressed with a primary antiseptic dressing at the time of the traumatism, so that when the patient is received by the surgeon the case from the time of the injury to the time of the operation is controlled by primary antiseptic dressing. The best antiseptic is bichlorid of mercury, in a strength

of 1 to 1000. All the compound fractures certainly require surgical intervention. In these cases the operation should be proceeded with with all surgical precaution in the way of elevating the fracture and restoring the condition of the patient. In cases where the meningeal vessels are torn, and where it is very difficult to do the operation without hemorrhages, we can safely place a quantity of the normal salt solution within the dura. In some of those cases we have very severe hemorrhage from the meningeal arteries, and good may be derived from the little device referred to. The Mosaic may be secured to the dura by careful adjustment with a very fine through-and-through catgut suture. In this way we can control the hemorrhage, and after about forty-eight hours we can reduce the Mosaic and insert packing, which may be done at once in those cases, where hemorrhage is not an important factor. In that way we provide against the danger of adhesions of the dura and the scalp. Later in those cases in which that procedure has not been carried out and we have adhesions between the dura and the scalp, we have a very beautiful little procedure that we can resort to. By making a large flap and dissecting it off carefully and then by running the chisel in between the parts, we can keep the dura separated from the scalp and provide against adhesions. Of course, five minutes is too short a time to systematically dissect these parts. It seems to me that all classes of injury to the skull can be divided into two classes, simple and compound, and all cases of simple fracture should be kept under observation and surgical interference undertaken as soon as the motor symptoms are noticed. The compound fractures demand immediate operation under the most thorough aseptic methods. When sepsis does occur, a median incision should be made in the skull and drainage provided. At least in one instance of compound fracture of the skull, which had gone over for eighteen months after the time of the injury, it was possible to save the patient by those great multiple incisions. In this case the temperature had run up very high, the patient had had convulsions, but was relieved by this operation.

DR. B. B. DAVIS, Omaha, Neb.—When I see a case of head injury I always try to keep this point in mind. It does not matter how much the fracture or how small the fracture is, or how much injury there is to the membrane or to the bone, the point that we are concerned with more than anything else is the extent of the injury to the brain. I have been very much surprised in some instances to see quite an extensive fracture of the bone, with practically no injury to the dura or to the brain, and, on the other hand, I have seen cases where the fracture was insignificant, and have found a great deal of injury to the dura and perhaps to the gray matter of the brain. To decide when to do an operation immediately and when not to do an operation is not always so easy, and I think we should always consider, first, is there any danger if we do not do the operation, and second, are we going to leave this patient in a bad condition if we do not do it? I think we have trephined in two or three instances unnecessarily. In some cases I have not found enough pathology to warrant the operation. The question is whether there is not enough cicatricial tissue to form dural adhesions, so that in the future that patient may have paralysis due, not to the original injury, but to the trephining. I think we should not do this operation unless it is absolutely necessary.

DR. G. S. BROWN, Birmingham, Ala.—I merely wish to report a case of injury to the middle meningeal artery with resulting paralysis. I merely report it because it is a case of very unusual occurrence, and I never heard of one being reported before. It occurred in my practice about three weeks ago. I operated on it and found a very small clot about the size of a white bean. The convulsions and paralysis and all the other symptoms disappeared two hours after the operation, and in ten days the child was up and well.

DR. CHARLES H. LEMON, Milwaukee, Wis.—In injuries to the skull, especially those caused by a fall from a height, we sometimes find serious intracranial disturbance without demonstrable hemorrhage within the cranial cavity, and I think it is the experience of those who have seen many of these cases that some cases are allowed to die under a diagnosis of concussion of the brain, which might possibly have been saved if subjected to operative procedure. There is a pathologic condition of the brain following trauma that is oftentimes overlooked. We may have, and we frequently do have, contusion of the brain itself and its membranes, and as the result of that contusion we have edema of the brain causing intracranial pressure of a fatal character which might be avoided by trephining and drainage. We are expecting in the brain a power of resorption that we do not expect in other tissues of the body. We seem to have lost sight of the fact that in the arrest of the fall, when the delicate structure of the brain is contused by its sudden sharp contact with its bony envelope, it must undergo the same pathologic process, with all its attendant inflammatory changes, that other soft tissues similarly injured undergo more favorably situated for the purpose of expansion.

There recently came under my observation the case of a man who fell forty feet, receiving a compound fracture of the right wrist with numerous contusions of the body without apparent injury to the head. Ten days after the injury he developed a partial paralysis of the right arm and right leg and became markedly comatose, the hemiplegia becoming complete on the eleventh day. On the eleventh day his temperature was 102, pulse 145 and respirations 10 per minute. Coma complete. I trephined the skull low down on the left side, opening the middle fossa. There was no extradural hemorrhage and no pulsation of the brain could be seen. The dura was incised. A contused area of the brain bulged into the wound. The center of this area was markedly ecchymotic and the surrounding cortex of the brain appeared infiltrated. A grooved director was inserted which permitted the escape of a large amount of cerebrospinal fluid, relieving the intracranial pressure, and at the end of ten minutes the brain began to pulsate vigorously. The wound was drained by strands of catgut and heavy moist dressings used to favor the relief of tension by drainage. In three days all paralysis had disappeared, the man was able to talk and the temperature dropped to 100 degrees.

I cite this case because it illustrates that in all cases of severe injury to the skull there is likely to be contusion of the brain without hemorrhage followed by inflammatory reaction which may produce fatal intracranial pressure. This may occur without demonstrable signs of injury to the head, so that in order to give these patients every possible chance for recovery the skull should be opened for the purpose of relieving tension and by providing free drainage afford the brain the greatest possible room for expansion.

DR. T. C. WITHERSPOON, St. Louis—I take it for granted that the subject under discussion is injury to the brain following fracture of the skull. There are four sources of danger: First, hemorrhage; second, laceration or more extensive pulpification; third, presence of bone or foreign body in the brain or making pressure on it; fourth, sepsis. The most dangerous form of fracture as far as infection is concerned is of the base of the skull. It is certainly bad practice to irrigate the nasal cavity, as some recommend, to aid in disinfection. The water is too often the conveyor of infection. Above all things, the air of the room should be kept moist to prevent crust formation as far as possible.

As to exploration in case of hemorrhage or laceration, I feel the dura is too often opened. Adhesions are necessarily formed at the cut in the dura, and epilepsy is a possible sequence. These cases suffer from sudden movements or jars. Two cases have come under my observation in which I was sorely tempted to open the dura initially, and time has demonstrated the wisdom of not doing so. About 14 years ago a gentleman was thrown from his horse and suffered a fracture at the base of the skull. A profound coma lasted for a while, which left, on clearing, a distinct hemianopsia. At this time I favored exploration, but he fell to the care of another surgeon and I lost sight of him. Six months ago he returned to me, asking that I explore his brain to find out why he still had the hemianopsia. I advised against this, stating it was too late to accomplish anything regardless of the primary cause. In a short time he

returned with a statement made out by his attorney to the effect that I would be in no way responsible for the outcome in case I operated. With him he brought some friends to urge this on me. On opening the skull we found absolutely nothing in the area of the cuneus. Evidently the original injury was a laceration deep in the basilar area.

The second case was that of a man with fractured skull due to a rock falling on his head from a height. The cutaneous wound was small, but the fracture involved the major portion of the left side of the skull. There was no paralysis, but complete aphasia; neither could he write. His understanding of written language was questionable, likewise that which he heard. The bone just above the commencement of the Sylvian fissure was most depressed. This was removed. The remaining area on the side of the head was left intact after adjusting the fragments of attached bone as best I could. A primary healing followed, and at present he can speak well enough to get about and ask for necessities. The distinct localization made it tempting to explore further in each case, but I am sure it would have been more harmful than beneficial.

Dr. W. H. Earles, Milwaukee, Wis., closing—This paper has been read in the hope that it may stimulate a more thorough application of the knowledge we have on this subject. The point that I especially wish to emphasize is that we do not exercise that amount of care and judgment that we should in these cases. Nowhere else in our operative work are we so tempted to hurry up the operation without satisfying ourselves as to the exact conditions present.

A few years ago I was called to treat a man who was suffering from epilepsy. He gave a history of good health until one year prior to the time that I saw him, when he fractured his skull in jumping from a fourth-story window. He told me that he had a silver plate in his skull. I did not credit the silver plate part of the history, and did an operation on the injured side of the head, when I found this plate (showing plate). His epilepsy, however, continued. I was satisfied that there was some condition present closely associated with his fits, and, after waiting two weeks, I had his head again shaved. On making the second examination I found on the opposite side of the head from that operated on, a very small scar and beneath it a depressed fracture. The scar was so small as to have escaped my attention at the time of the first operation, and the original wound had apparently been so insignificant as to have escaped the notice of the operator at the time of the primary operation. He had seen the injury on one side and performed an operation for its repair, but the injury on the other side being insignificant in appearance, did not receive apparently the attention it deserved. After the second operation the epileptic seizures discontinued, and did not reappear as long as the man was under my observation—about six months. I do not know what the final results were.

I cite this case to show the necessity of great care in examining the class of injuries referred to. I think if we will exercise what knowledge we have, and be more careful in our primary examination of the patients, we will have fewer cases of traumatic epilepsy.

Intoxication with Croton Oil.—The *Bulletin of the Societe de Pharmacie* of Bordeaux gives the details of a criminal case in which a wife killed her husband by adding two or three drops of croton oil twice daily to his food, for five months, with rare exceptions. The symptoms induced were a smarting and burning in the throat and stomach, violent vomiting after meals, daily repeated copious alvine discharges, with intense colicky pains for hours, and death at last in extreme emaciation. The medical experts were unable to detect the croton oil by any know test in the cadaver, even after the wife had confessed, but Barthe was able to identify it in spots on a cloth with which the bottle had been wiped. He also emphasizes the siccative properties of croton oil. The stomach and small intestine showed a number of superficial erosions and hemorrhagic dots, the organs much congested. No characteristic lesions were noted in the large intestine or other organs; the kidney and liver were apparently normal, as also the brain, etc.

CLINICAL DIAGNOSIS OF INTESTINAL PARASITES.*

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In diagnosing intestinal parasites, we may use various methods, but the best method is undoubtedly that of a microscopic examination of the feces.

DIAGNOSIS BY SYMPTOMS.

The practitioner who relies on symptoms alone for his diagnosis will undoubtedly often successfully recognize the true nature of the trouble, especially in severe infections. For instance, when we are in the infected area of hookworm disease and meet a typical clay-eater we note a complex of symptoms which is quite characteristic, and in most cases of this kind a microscopic examination seems unnecessary. In numerous medium cases and in practically all light cases of this disease, however, a diagnosis on symptoms alone is uncertain unless we find severe cases, such as clay-eaters, in the same family. Outside of the infected area, probably few physicians would care to risk a definite diagnosis of this disease on symptoms alone even in the severe cases, while in medium and light cases it would be almost folly to do so.

BLOOD COUNTS.

Blood examination has become almost a matter of routine in the better hospitals and also in the private practice of many physicians, and in all such examinations we should bear in mind the important fact that an increased eosinophilia is an indication of possible infection with animal parasites. Hence, when an increased eosinophilia is noticed, we should immediately make a microscopic examination of the feces for eggs or embryos of parasites, and if these are not found we should consider the possibility of trichinosis, especially in obscure typhoid-like cases.

GROSS EXAMINATION OF THE FECES.

Physicians in general appreciate the importance of a gross examination of the feces of infants, but less attention is given to an examination of the stools of adults.

In some cases a gross examination of the stool will reveal segments of a tapeworm, or in some cases of nematode infection the adult worms may be found. This, it seems, is more likely to occur after a patient has taken calomel or a small dose of some anthelmintic or after food has been withheld for twenty-four to forty-eight hours. In the first stage of trichinosis, especially where the diarrhea is severe, as in children, the adult trichinæ may sometimes be found. In hunting for these trichinæ the stools should be diluted with warm water and examined in a flat glass dish held over a black background.

The color of the stools is occasionally suggestive in case of infection with blood-sucking parasites, such as hookworms. The hookworm stool (such as usually seen in very severe cases) is reddish brown in color.

BLOTTING PAPER TEST.

In hookworm infections a very simple test may be made with blotting paper or even with an ordinary newspaper. Several ounces of the stool should be wrapped up in paper and allowed to stand for a few hours. In severe cases and in many median cases it will be noticed

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

that a distinct reddish-brown stain is formed on the paper. In this test, however, there is an error of 30 per cent. or more.

Odor and Litmus Test.—While the odor of feces from parasitic infections is sometimes offensive, I have not been able to discover anything sufficiently characteristic about it to attract special attention. The litmus paper test is of no value, so far as my observations go.

MICROSCOPIC EXAMINATION OF FECES.

I believe that a routine microscopic examination of feces should be made in all hospital cases and also in all private cases so far as practical. The results which the Zoological Division of the Hygienic Laboratory has recently obtained in examining the patients at the Government Hospital for the Insane amply demonstrated the value of such work, for we found that 3 per cent. of the first 500 cases examined showed hookworm infection.

There seems to be an impression that fecal examination involves very disagreeable work. While it must be admitted that some stools are offensive, I would personally much prefer to make a feces examination than a sputum examination, for in working with feces one is much less likely to experience that nauseating sensation so commonly resulting from an examination of sputa.

TECHNIC.

The technic involved is exceedingly simple, since it is not necessary to stain the preparation. A portion of the feces, say 1 to 5 grams, is taken from the stool, wrapped up in a piece of paper and taken to the laboratory. Or, if it is desired to test for protozoa as well as for worms, it is better to place the specimen in a bottle so that the material will not dry. To avoid errors in interpretation it is well to make the examination as promptly as possible, although an experienced operator may examine the specimen even if it is a week or so old. In examining old specimens, however, it must be recalled that the older the specimen the more likely one is to fail to recognize protozoan infections.

An elaborate series of instruments may be used in preparing the slides if desired, or, if instruments are not at hand, a match will suffice.

For slides I prefer the large 2 by 3-inch, such as are used for large sections or for trichina inspection, rather than the 1 by 3-inch slide generally used in bacteriologic work. These larger slides are much more easily handled than are the smaller sizes. Having thoroughly cleaned the slide in order to remove any eggs which may have clung to it from some former examination, a drop of water is placed on it; next take a minute portion of feces on the end of a match or a glass rod and thoroughly mix it with the water so that the resulting mixture is not too thick; add more water if necessary. Next cover the mixture with a cover glass (square cover glass preferred) and the preparation is ready for examination. As many as two to four cover glasses may be conveniently placed on one slide and at least ten cover-glass preparations should be examined before a negative opinion is given.

In the work several very simple precautions are to be observed, namely, the specimen and the preparations are to be kept protected from flies, the hands are to be immediately cleaned if accidentally soiled with the feces, especially if nothing is known regarding the condition of the patient, and all glassware is to be thoroughly cleaned (hot water or hot water and soap). In case of the presence of *Tænia solium* in man, double precautions are to be observed, as the egg is infectious for man. In case of examining feces from dogs, the possibility of the presence of *Tænia echinococcus* and its transmissibility to man should be held in mind.

The biologic principle on which fecal examination rests is that the eggs of different animals are more or less characteristic. Accordingly, to properly carry out the examination one must become familiar with the eggs and embryos of different species, also with the form of certain plant cells and fibers which might be mistaken by the uninitiated for eggs or embryos of parasitic worms.

Not every egg found in the feces indicates an infection of the intestinal tract. In the case of infection with liverflukes, for instance, the eggs are discharged in the stools, and some of these forms resemble more or less closely the eggs of certain intestinal parasites. In lungfluke infection the eggs of *Paragonimus* may be found both in the sputum and in the feces. In bloodfluke infection the eggs of *Schistosoma* may be found both in the feces and in the urine. In certain cases, therefore, it is necessary to examine either the sputum or the urine in addition to the examination of the feces.

For illustrations of the eggs most commonly found, I refer you to any work on clinical diagnosis or to Bulletin 10, Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service.

A CONTRIBUTION TO THE STUDY OF THE SUMMER DIARRHEAS OF INFANCY.*

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It is with great hesitancy that any attempt is made in this paper to enter a field that has been so thoroughly investigated during recent years as that embraced in the title of "The Summer Diarrheas of Infancy." The zeal with which these intestinal disorders of children have been studied lately is in direct ratio with their neglect by early medical writers. Although, as Dr. Booker[1] has shown, there are occasional references among the ancients to diarrheal troubles in infants in the summer months, there is no clear history of these diseases prior to their appearance among the colonists in this country. As he suggests, the importance of human life in this newly-settled land may have called sharp attention to a malady which was each summer carrying away the children of the settlers in large numbers. The malady, called the "dread of parents and the opprobrium of physicians," was thought at first peculiar to America. The yearly outbreaks in the larger towns scattered along the Atlantic coast were recognized and described under various names by local physicians, but the first adequate description of these maladies seems to have been made in 1773 by Dr. Benjamin Rush.

Knowledge of these disorders spread gradually in this country and in Europe, and it was not until the early part of the last century that their great importance was recognized. As is the case with other diseases, the clinical descriptions of many of these early observers leave but little to be added by their successors. They ascribed the causes of the disorders to various conditions, some of which will pass muster to-day, to the character of the atmosphere, cold, moist or hot, to direful miasms, to overcrowding, to improper food, to teething, to faulty

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

action of the liver, and so on. They recognized the epidemic character of the disease and the lines of treatment adopted were in the main those now followed. Food was restricted, prompt purgation resorted to, opium was used in moderation, and the advantage of removing the little patients from crowded districts to the country was recognized. With the advent of the science of bacteriology, new zest has been added to the study of these complaints. Then, for the first time, there seemed possible a rational explanation of the infectious nature of the affection. The intestinal tract of the healthy infant was found to swarm with bacteria of many varieties.

It would be needless to even mention the host of workers in this field, or the names of the numerous bacterial forms isolated. Perhaps the most authoritative work on the subject has been done by Escherich of Vienna, formerly of Gratz, who noted the predominance of *B. lactis aerogenes* in the upper bowel of the infant, and of *B. coli communis* in the large intestine, during health. In diseased conditions the differences between the flora in the upper and lower bowels are less marked. In addition to other varieties found in the intestinal tract, including the interesting *B. acidofilus* of Moro and Finkelstein, several forms known to be pathogenic for man have been isolated from the stools of infants suffering from diarrhea. Thus, among others, the pathogenic cocci, *B. proteus vulgaris, B. pyocyaneus* and virulent forms of the colon bacillus have been described. No single pathogenic organism, however, has been found constantly in these diarrheal conditions, and the conclusions of Dr. Booker[2] perhaps voice the present position of the profession, that "No single organism is found to be the specific exciter of the summer diarrheas of infants."

Notwithstanding these comparatively negative findings, it is believed that there is clinical evidence in favor of the specific nature of these affections. The epidemic character of the disease in our crowded cities during the summer months, its occasional propagation in hospitals and asylums from patient to patient, and the nature of the illness itself, all suggest that the exciting cause of the disorder is an infectious agent not normally present in the body. The factors predisposing to this infection have long been recognized, and experience only tends to emphasize their importance. Thus the disease is much more prevalent among infants of weakened constitutions living amid unhygienic surroundings and nourished by insufficient or improper food. The high temperature during our summer months provides most favorable conditions for the rapid proliferation of bacteria in food products, especially in milk, and the large residue of undigested milk which remains in the infant's intestinal tract as a result of immoderate feeding, or of a weakened absorptive power, forms an ideal pabulum for the growth of bacteria and the formation of deleterious products. So frequently are these conditions incident to an attack of summer diarrhea that many, including Czerny of Breslau, consider improper feeding the more important factor in its production, and the infective element to be of comparatively less moment. Certain it is that the mortality in intestinal diseases of infants is directly influenced by the resistance of the patient, which is in turn dependent upon the condition of the digestive apparatus.

The effort to isolate a single organism which could be shown to be the cause of a large group of these cases of summer diarrhea, has been unsuccessful, because of the difficulty in the separation of such an organism, if present, from the great numbers of bacteria in the intestinal contents. Last summer in the laboratory of the Thomas Wilson Sanitarium,[3] assisted by a grant from the Rockefeller Institute, two investigators, C. W. Duval and V. H. Bassett, succeeded in isolating *B. dysenteriæ* (Shiga) from the stools of forty-two infants suffering with diarrhea. The importance of this finding is evident, as it brings a series of diarrheal cases in young children into relationship with an organism that is the proven exciting cause of certain varieties of severe intestinal disease in adults. It is unnecessary to do more than refer to the history of the organism. It will be remembered that it was first isolated by Shiga[4] in Japan, in 1897, from the stools of patients suffering from epidemic dysentery. In 1900 Flexner[5] discovered the same organism to be the cause of many cases of epidemic dysentery among our soldiers in the Philippines. Soon after Kruse,[6] in Germany, found the same bacillus in the dejecta of patients suffering from so-called "asylum dysentery." It has since been successfully isolated by Vetter and Duval[7] in epidemics of dysentery in this country, and has also been found in diarrheal cases in China, in Constantinople, and in several other sections of Europe.[8]

At the Thomas Wilson Sanitarium the stools of about fifty-three patients, most of them under 1 year of age, were examined bacteriologically, and from forty-two the dysentery bacillus was isolated. Early in the summer those cases were selected in which the stools contained considerable mucus and blood. These were regarded as especially "favorable," that is, that from them the organism could be obtained in largest numbers. Later the stools of twenty-five consecutive infants were carefully plated, and in nineteen instances *B. dysenteriæ* was found. All these babies exhibited some form of intestinal disorder, but the stools of many of the series were largely fecal, and in these cases the organism was present in comparatively small numbers, and was more difficult to isolate. The importance of determining the presence or absence of the bacillus in normal stools was recognized, and the discharges of twenty-five babies, ranging in age from 7 weeks to 2 years, suffering from no intestinal derangement, were subjected to painstaking examination. In none of these cases was the Shiga bacillus found.

A detailed account of the methods employed in isolating the organism will shortly appear,[9] and will be only briefly referred to here. The technic was essentially that used by Dr. Flexner in the Philippines, though several important modifications employed first by Vetter and Duval[7] in their work on adult dysentery, were of great assistance. The stool of the infant to be investigated was collected on sterile gauze and taken immediately after passage to the laboratory. Numerous plate cultures in acid agar-agar were made, choosing for plating, when possible, bloody or muco-purulent portions. After incubation for twenty-four hours, the superficial colonies were marked off and the plates again placed in the thermostat for twenty-four hours, when the new superficial colonies were carefully examined. Duval and Vetter found in their studies that the dysentery bacilli grow out on plates less rapidly than do colon organisms, and that by thus marking the plates one is enabled to select for study the colonies developing more slowly, and thus the ubiquitous colon bacillus could be avoided. The colonies which seemed morphologically favorable after this second incubation were transplanted to glucose agar and all gas-forming organisms discarded. The non-gas-forming bacilli were studied culturally on the various media, and their agglutination reaction tested with serum from the same patient, the sera from numerous other patients,

and with antidysenteric serum furnished through the kindness of Dr. Gay. This agglutinating action of the blood serum for the specific organism was a great assistance in the successful isolation, as it proved to be to Shiga and Flexner, and to all subsequent investigators. The technic of making this test with the dysentery bacillus requires more than usual skill, and thus far wider variations in the amount of agglutinin in the sera from various patients seem to pertain than is the case in typhoid fever. Our experience would indicate that in nearly all cases the serum has some definite agglutinating power for the specific organism if the two are brought together under the most favorable conditions. The serum from immunized horses in dilutions from 1-100 to 1-1,000, agglutinated the organisms isolated from all our forty-two cases, as well as various strains of the dysentery bacillus sent from abroad, while it was quite inert in low dilutions against the typhoid bacillus. Moreover, the blood of our patients agglutinated the organisms isolated at the sanitarium, as well as those obtained from cases of epidemic dysentery in Japan, the Philippines, Germany and in this country, in dilutions varying from 1-16, the least active, to 1-1,000, when cultures of typhoid or colon bacilli tested synchronously were negative. The agglutination reactions were made in drop slides and observed under the microscope. Lenz,[10] in the last few months, has advocated the macroscopic test-tube reaction as being more reliable, and since last summer this method has been used in testing many of our isolations. With some minor differences, the two methods seem to fairly correspond. It is difficult at present to explain many apparent irregularities in the agglutination reaction with the dysentery bacillus, and much further study is necessary before hard and fast lines can be drawn as to the time in which a reaction must take place to be considered positive, and also as to the minimum dilution of the serum to be allowed. These steps toward a recognized technic were gradually taken in the study of the Widal reaction with the typhoid bacillus. However, the Shiga bacillus seems to present more differences in the importance and rapidity with which the various isolations clump than does the typhoid bacillus. In no instance during the summer did normal blood agglutinate any of the dysentery bacilli.

It is too early yet to speak positively of the clinical value of the agglutination reaction. Of thirteen cases tested during the first week of illness, ten gave positive, and three negative, reactions. One case reacted on the second day. Usually, however, reaction was more marked later in the disease. In the chronic cases the blood may remain positive for weeks or months. It is in cases of this nature that the blood tests may prove useful. By this means in a number of our series presenting the symptoms of chronic intestinal disorder, a diagnosis was made on the basis of a positive blood reaction, and a dysentery bacillus afterward isolated from the stools. In several tested cases where the bacteriologic examination of the stools was not possible or convenient, a diagnosis was ventured because of an undoubted agglutinating reaction. It is hoped that when its limitations are understood this blood reaction will prove of assistance to the clinician.

The studies conducted by Duval and Bassett have resulted in establishing the fact that there was present in the intestinal tract of a large number of infants suffering from diarrheal disorders, a bacillus identical with the *B. dysenteriæ* (Shiga), hitherto associated only with the dysentery of adults. They have found also that this organism was pathogenic for animals; that it was present in largest numbers in the deeper layers of the intestine, as shown by scraping the mucosa at autopsy; and that the number of bacilli in the stools was in proportion to the acuteness and severity of the symptoms. The organisms isolated were agglutinated by antidysenteric serum and by the blood of infected patients, never by the blood of those ill with other diseases. They were unable to find the Shiga bacillus in the discharges of healthy infants. In short, the evidence presented by Shiga, Flexner and others, to establish the etiology of dysentery in adults is at hand to show that the dysentery bacillus is also the causal factor in certain diarrheal diseases among children.

It now remains to consider the clinical aspect of this series of cases in order to determine, if possible, whether they belong to an isolated group, or whether they represent in symptomatology and pathology the maladies called by the descriptive epithet, "The Summer Diarrheas of Infants."

TIME OF ADMISSION.

The 42 cases of our series were admitted to the sanitarium between June 13 and August 21 of last summer, 12 being received in June, 25 in July and 5 in August.

AGE.

The age of the little patients varied between 7 weeks and 4 years. The majority of them were under 1 year of age. They may be arranged according to age in the following periods of six months each:

Under 6 months	13
Between 6 months and 12 months	17
Between 12 months and 18 months	8
Between 18 months and 24 months	3
Over 2 years	1

The interest of this classification is that our patients, in regard to their ages, correspond closely to a period in infancy long known to be most susceptible to summer diarrhea.

SEX AND RACE.

The cases were about equally divided between the sexes. But two colored infants are included in our series, as the accommodations for these patients are limited.

HISTORY OF ILLNESS.

Unfortunately, because of the distance of the sanitarium from the city, the patients usually came under our observation after their initial symptoms. The mothers, as a rule, however, gave us a fairly definite history of onset, the record often being that the baby, after a day or two of languor, was suddenly seized with diarrhea, usually preceded or followed by vomiting. At the same time a rise in temperature was noted. Subsequently there was increased constitutional disturbance indicated by a loss of appetite, malaise and restlessness. The stools at onset, although increased in number and often fluid in consistency, were fecal in character. Soon, however, except in the very mild attacks, the fecal odor and appearance were lost, and the discharges were composed largely of greenish mucus, and not infrequently tinged with blood. During the height of the illness the temperature usually continued elevated, and nausea and vomiting, even after a reduced diet, were common. It was at this period that the Shiga bacilli were obtained in large numbers in the stools. These acute attacks varied greatly in severity. In some cases the constitutional disturbance was slight and the stools were little affected; on the other hand, several of our patients presented early symptoms of profound intoxication, evinced by convulsive spasms, excessive nausea and vomiting, and increased languor, ending in coma. A large number of the

cases, however, exhibited quite a different picture After an acute onset, instead of toxemia ending fatally or in a prompt convalescence, the baby showed symptoms indicating a more localized affection of the intestine. In these instances, which included more than half of our series, after variable periods the stools became mucopurulent, and contained often an increased amount of blood, some of it bright red in color. The temperature showed a daily, usually an evening, rise. The appetite remained poor, and vomiting was not infrequent. There was evidence of considerable pain in the lower abdomen; tenesmus was marked. These cases often became chronic and lasted for weeks. They were more numerous during the latter part of the summer, and were less amenable to treatment. Often, despite many carefully prepared diets, there was progressive loss of weight, increase in anemia, and a fatal termination from exhaustion. In several instances in our series the specific infection was superimposed on infants which for months had been suffering from malnutrition and chronic intestinal indigestion. Of several of the clinical features a few words may be added.

TEMPERATURE.

The temperature in the series of cases varied from 95 F. to 105 F. As has been mentioned, daily rises in temperature were often noted. The degree of bodily heat was of clinical assistance only when considered with other signs and symptoms, as a drop to normal or subnormal temperature not infrequently was an indication of collapse, and the illness of several of our patients manifesting constitutional disturbances, ran an almost afebrile course.

GASTROINTESTINAL PAIN.

Gastrocolic was rarely noticed while at the sanitarium, but was present, according to the description of the mother, in a few cases at onset. A large number of the cases of long duration exhibited rectal tenesmus.

NUMBER AND CHARACTER OF THE STOOLS.

The stools varied in number from one to thirty in twenty-four hours. They usually became most frequent in the first three days after onset. The discharges presented also wide differences in character. Some were distinctly fecal, but semi-fluid or fluid in consistency. In the cases showing symptoms of indigestion, the stools were often pasty in character and gray in color. Hard masses would alternate with softer material. The element that was almost constantly present was mucus, either as a firm, translucent, gelatinous substance, or as more fluid, viscid, or stringy material, usually greenish in color. Marked inflammatory lesions of the lower bowel were indicated by the muco-purulent or purulent character of the stool. The amount of blood passed varied from a slight tinge or fleck to dark brown or bright red masses in fairly large quantities. Under the microscope many epithelial cells, varying in number of white and red corpuscles, bacteria, mucous strands and undigested food residue, fat globules and casein, composed the more constant elements.

COMPLICATIONS.

Complications early in the course of the illness were comparatively infrequent. Death in several instances was preceded by the appearance of livid erythematous blotches over various parts of the body. Terminal bronchopneumonia was not uncommon. In two instances there was concurrent lobar pneumonia, and in two other cases acute parenchymatous nephritis developed. Occasional edema of the extremities was noticed not associated with alterations of the kidneys, and in several instances stiffness of the neck and extremities would have suggested meningitis had it not passed away after a few hours.

ILLUSTRATIVE CASES.

A résumé of each of the histories of our series would hardly be profitable, as in the main they present very similar and familiar features. From a large number, however, several may be selected as representing the more important clinical groups. The following is an instance of a mild form of diarrhea:

CASE 1.—A child 18 months old, fed at the table, became cross and irritable. A few days afterward its stools increased to from seven to ten a day and were described by the mother as "green and slimy." On admission to the sanitarium they were found to consist largely of green mucus, with numerous soft, white lumps. They never contained any blood. There was occasional vomiting. Physical examination, negative. There was no marked prostration. On a regulated diet the discharges became homogeneous in form, the mucus disappeared, and the child soon completely recovered.

A much severer type of an acute case with complication is illustrated by the following instance:

CASE 2.—An infant 8 months old, fed on condensed milk and previously well, was suddenly seized with moderate diarrhea. For several days the stools were not more than six in twenty-four hours, but on the day before admission they increased to twenty, and were fluid, with considerable mucus, but no blood. The general condition of the baby became markedly worse. He was feverish, restless and had several fainting spells. On admission the child was in collapse. The rectal temperature was 105 F., pulse 180, face pale, and extremities cold. The eyes were sunken and the abdomen scaphoid. Physical examination of the chest, negative. There was some response to stimulation, and for two days his condition improved. On the third day, however, albumin in large quantities appeared in the urine, with many granular casts and pus cells. The tissues about the neck and chest became edematous; the child gradually became more listless; coma ensued, ending in death three days after the renal involvement. At autopsy the intestines were little altered. There was no distension. The mucosa was pale. Peyer's patches were moderately enlarged and somewhat injected, as were also the solitary follicles. The mesenteric glands, particularly those draining the sigmoid flexure and rectum, were somewhat enlarged. There was no lesion of the intestinal mucosa. The kidneys were the large and white kidneys, indicating acute parenchymatous nephritis.

In the next case, although not unlike clinically, there was evidence of a destructive lesion of the lower bowel.

CASE 3.—An infant of 5 months, fed for four months on condensed milk, began two weeks before admission to be fretful and to vomit occasionally. Soon after the stools increased in frequency and were described as "yellowish and slimy." No blood was noticed. The child was found, on examination, to be rickety and anemic, and did not improve after admission. There was a moderate fever. The stools were six to seven a day, and consisted of thick, viscid mucus and contained considerable blood and pus. There was some rectal tenesmus. The baby gradually lost weight and strength, the blood in the stools increased, and death ensued about five weeks after the onset of acute symptoms. At autopsy numerous small hemorrhages were found scattered through the ileum; the mucosa of the entire colon was thickened and covered with bloody mucus; the solitary follicles were much enlarged and the seat of numerous small ulcerations. The mesenteric glands were everywhere swollen and red.

One other history will be cited as illustrative of a case of long-standing malnutrition.

CASE 4.—An infant was 7½ months of age, a twin and delicate from birth, breast-fed for two months, but during the remaining five months the diet has been variously modified. For most of this time the stools varied from two to eight in

twenty-four hours and frequently contained mucus. There was little or no gain in weight. Frequent colic; occasional vomiting. The abdomen was usually distended. Two weeks before admission these symptoms became somewhat aggravated. The child was found on examination to be markedly rickety, with general glandular enlargement. After admission its general condition remained about the same. For days at a time the stools would become more homogeneous and firm, only to show a return of mucus and pus after a short period, despite careful feeding and rectal irrigations. There was never any blood. The temperature was but slightly elevated. The infant remained with us until the end of the season, and was discharged unimproved.

What has been said of the clinical history of our forty-two patients and the illustrative cases cited, are sufficient, certainly, to warrant the assertion that, so far as can be told at the bedside and in the autopsy room, we were dealing last summer with no unusual form of intestinal disease, but with the common varieties of summer diarrhea. Our cases fall naturally into two or three large groups which have long been recognized, namely: into those of an acute dyspeptic or fomental diarrhea (gastrointestinal catarrh) of varying degrees of severity, in which the toxic symptoms were prominent—twelve cases; into those of colitis, marked by the definite inflammatory lesions of the intestinal mucosa—twenty-six cases; and again into at least four instances which were primarily malnutrition, marasmus, or chronic indigestion, but in addition to which the element of infection has been added. It is well understood that these divisions of intestinal diseases do not represent definite clinical entities, but that one form of illness may readily pass into another; that the cases of ileocolitis usually begin with symptoms of dyspeptic diarrhea, and that ill-nourished infants are particularly prone to either form of disorder. Of the most fulminating variety of the toxic intestinal diseases, namely, cholera infantum, we had no example in our series. It is suggestive, however, that in the stool of an especially acute case, one thought at first to be cholera infantum by the attending physician, the Shiga bacilli were found in greatest numbers. It will be reiteration to go over the histories of the infants treated in previous years at the sanitarium. In the summer of 1901 nearly five hundred intestinal cases were admitted. These, too, can be roughly divided into the groups just indicated. During that season we were able to obtain more than twenty autopsies. The findings at the postmortem table substantiated those of the cases of our present series which came to autopsy. The intestines of infants observed two years ago suffering from acute toxic affection likewise presented little pathologic alteration. The mucosa was pale and thin, the lymphatic elements in the intestinal wall moderately enlarged, and the mesenteric glands swollen. On the other hand, in a second group of cases the lower bowel was extensively involved, the mucosa being thickened, and often the seat of more or less extensive ulceration, the ulcers beginning usually at the summit of the swollen solitary follicles. The mesenteric glands were hypertrophied. It is an interesting fact that neither in our autopsy findings of last summer nor in the postmortem examinations of the larger series of 1901, was any false membrane found lining the intestines, as is so frequently described in the acute epidemic dysentery of adults.

LEUCOCYTE COUNT.

During that summer the leucocytes in a large number of intestinal cases were examined by Dr. Warfield and the writer.[11] A leucocytosis was found, but the number of white cells varied within such wide limits, even in the mild forms, that a high or low count could not be regarded as of diagnostic value. The differential count, however, showed that while there was no change in the relative ratio of the white cells in the normal infant, in the simple diarrheas, or in malnutrition, that as the case became more severe in type there was a progressive increase in the polymorphonuclear neutrophilic cells and a decrease in the small mononuclear variety, and that this polymorphonuclear leucocytosis took place both in the case of acute intestinal poisoning and in the more severe forms of ileocolitis. The counts made last summer in the series of cases under consideration confirm these results and add some support to the contention that similar varieties of intestinal derangement were under observation.

TREATMENT.

The treatment pursued at the sanitarium followed the usual lines, and will be but briefly referred to. In the acute cases, milk was withheld and sterile water with thin broths, or plain water with a little egg albumin substituted. Whey or whey-cream mixture was found a useful intermediary step to the gradual return to a milk diet. With the chronic cases, milk, beginning with high dilutions, occasionally predigested, often with a cereal water as a diluent, formed the chief reliance. Colon irrigations were frequently given and gastric lavage as the symptoms indicated. Drugs were sparingly used. An initial purge of calomel or castor oil was administered when the baby came early under observation. Various astringent preparations, tonics and opiates were occasionally employed. Injections of salt solutions under the skin were less frequently resorted to than in former years, as it is felt that this procedure has been somewhat over extolled. As stimulants, strychnin, digitalin, alcohol, and atropin were found serviceable in the order named. In the giving of stimulants we were greatly helped by the introduction by Dr. H. W. Cook,[12] clinical assistant, of a modification of the Riva-Rocci sphygmomanometer, by which the blood pressure of the little patients was rapidly recorded. With the additional aid of this instrument at the bedside, Dr. Cook shows that the actual vitality of the infant can be more accurately determined than by the skilled finger on the pulse, and the kind and amount of stimulant suited to the particular need of the hour. Late in the summer we were supplied by Dr. Flexner with an anti-dysenteric serum found protective to laboratory animals. Unfortunately, at this time there were no acute cases at the sanitarium. Several infants ill with ileocolitis, from whose stools the Shiga bacillus had been isolated, were injected hypodermically with 5-10 c.c. of this serum twice a day. No change could be noted in the patient's condition. No untoward effects followed the serum treatment, and it is hoped that more powerful serum in perhaps larger doses will prove to be of therapeutic value, particularly in the early cases.[13]

Enough has been said to make probable the assertion that the infant population of Baltimore during the summer of 1902 suffered from no unusual scourge, but rather was subjected to the accustomed epidemic of diarrheal diseases regularly recurrent during the warm weather, and that typical instances of these disorders were under treatment at the Thomas Wilson Sanitarium. That these infants were not the victims of an infection local to the sanitarium is shown by the fact that they were admitted from all sections of the city already ill. Two cases were from more distant parts of the state. Moreover, since the results of the investigation by Duval and

Bassett have been known, other workers have found the dysentery bacilli in the stools of babies suffering from diarrhea in other localities; thus, Zahorsky,[14] in St. Louis, and Park and Dunham, in a small epidemic at Seal Harbor, Maine, have reported such cases. The extent of epidemics in Japan and in the Philippines indicates that the organism is capable of very wide distribution. Only future research can determine the geographical or climatic limitations of the infection, but it would appear that a large group of the summer diarrheas of infancy are associated with bacilli identical with, or closely related to, *B. dysenteriæ* (Shiga). Recent work by Lentz,[10] His and Russell,[15] Park,[15] and others indicate that minor differences may exist in the cultural properties and startling variations are pointed out in the agglutination reaction of the bacilli isolated from different sources. Thus Park finds that in indol and acid productions, as well as in agglutination reactions, the Japan and New Haven cultures are separated from the Manila, Baltimore, New York and Seal Harbor cultures. Whether, in the search for the cause both of dysentery in adults and of summer diarrhea in infancy, one has to deal with a group of very closely related organisms, or, as is more probable, with slightly different strains of the same bacillus comparable to the differences that can be shown in the various typhoid and colon cultures, is a most interesting and important problem for the bacteriologist to determine.

CLINICAL SIGNIFICANCE OF THE FINDING.

This bacteriologic finding in connection with the summer diarrheas of infancy is of no less interest to the clinician, as it spurs him on to attack with renewed vigor the old problems of prophylactic treatment. Professor Koch,[16] in his notable address two years ago in London, showed the blunder of attempting to treat pestilences according to a general scheme. He said: "Every disease must be treated according to its own individuality, and the measures to be taken against it must be accurately adapted to its specific nature, to its etiology." If the investigations of last summer are substantiated, effort may be directed for the first time against a recognized foe. Questions, then, of the utmost importance can be propounded with some confidence that they will be accurately answered.

METHOD OF PROPAGATION.

One of the first of these problems is to determine the means by which the infectious agent reaches the infant. Although the number of cases in our series is too small to warrant positive assertions, there is some rather suggestive data on this point in the histories of our patients. It can hardly be doubted that the disorders being considered primarily affect the gastrointestinal tract, and therefore that the mouth is the portal of entry, and that the source of infection takes place in the great majority of cases through food or drink, that is, in young infants, through contaminated milk or water. Condition of the milk supplied to the poor from the small stores in our large cities is notoriously bad. During the summer of 1901 Bassett and the writer[17] examined a large number of samples of milk supplied the babies in Baltimore suffering from summer complaint before their admission to the sanitarium. This milk was found to have an average germ content of over four million to 1 c.c., and several samples contained ten to twenty million bacteria in each cubic centimeter. Last summer Schorer repeated and verified this work. He was able to show a progressive increase in bacteria and in diluents in the milk during each stage of its handling from the farmer through various dealers to the baby. Because the milk is so good a culture medium in the warm weather without proper refrigeration, a small initial contamination is sufficient to render it in a few hours unfit for infant feeding.

For the explanation of the sudden outbreaks of this illness at the same time in different sections of the community, one is tempted to turn to a general source of infection. The dysentery organism is related biologically to the colon and typhoid bacillus which are usually conveyed to man through water.

With this thought in mind, an effort was made to find out the character of the water supplied to our patients. The mothers were asked specifically whether the water used in preparing the nourishments, and what is just as important, that supplied to the infants between feedings, was boiled. Concerning but twenty-eight out of the forty-two babies was fairly reliable information obtained as to both the milk and the water used. In twenty-six of these cases unboiled city water was given the babies, either with their nourishment or separately, and in but two instances was all the water supplied boiled. Of particular interest are four infants ill with this specific diarrhea, who were exclusively breast-fed, but to whom unboiled water was given between nursings. Four other babies whose only food was condensed milk, were likewise given unboiled water between feedings. These cases are too few to admit of generalization, but they do suggest that the dysentery, like the typhoid bacillus, may be harbored in the public waters. Indeed, it is possible that infection of the milk with the organism is brought about through dilution with impure water. It is possible to conceive that the disease may be propagated in other ways. Outbreaks of this form of summer diarrhea in asylums and hospitals, where sterilized milk and boiled water are used, are probably brought about by the spread of the disease from patient to patient, through carelessness on the part of attendants. Another source of danger is insects, particularly the common house fly. In the only case in our series contracted at the sanitarium infection was probably conveyed through flies. The child concerned was fed exclusively on pasteurized milk, and given only sterilized water, but there was no means at hand to adequately protect him from the swarms of flies, which may easily have carried the infective agent from a napkin to his hands or feeding bottle. It is difficult to account for the comparative freedom of infants from this form of illness during cold weather and its regular return as a widespread epidemic in summer. Shiga has pointed out that the dysentery bacillus is kept alive in Japan by the occasional sporadic cases which occur during the winter in that country. Evidence suggesting a similar condition among infants in America is accumulating. Thus, in four children brought to the Johns Hopkins Hospital because of diarrhea during January, February and March of this year, the Shiga bacillus was isolated by Bassett, and Ford has lately found the same organism in the stools of a man suffering from a mild gastro-enteritis. By means of such sporadic cases, and because this bacillus may be harbored for months in small numbers in the intestines of chronic cases, it is not destroyed during the winter, but is at hand each summer to rapidly proliferate under favorable conditions. It has been repeatedly emphasized that infants suffering from marasmus, less severe forms of malnutrition, and from other chronic ailments, are its readiest victims.

The name, "dysenteria infantum," or "infantile dysentery," is suggested for the infection under consideration. This designation would distinguish these cases from other forms of intestinal disorder, and also from the specific dysentery of adults, which, although having the same etiology, seems to present clinical and pathologic differences.

From the foregoing discussion, it may be fairly concluded that:

1. The diarrheal disorders of a large series of children treated in the Thomas Wilson Sanitarium during the summer of 1902 were produced by a bacillus thought to be identical with the *B. dysenteriæ* (Shiga).

2. The cases in this series presented the clinical and pathologic features of the several forms of the summer diarrheas of infancy.

3. There is good reason for the confidence that a proportion, and probably a large one, of the so-called summer diarrheas of infancy is caused by the *B. dysenteriæ* (Shiga).

4. A confirmation of the work of Duval and Bassett by establishing the etiology of this yearly epidemic among infants, will make possible the use of more intelligent measures to control and suppress it.

5. More success can be expected from prophylactic measures and from medicinal and serum therapy than ever before.

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13. Moser, in Jahrbuch für Kinderheilkunde, vol. lvii, 1903, p. 8, reports gratifying results in scarlet fever cases from the injection of 180 c.c. of an immune serum.
14. St. Louis Courier of Medicine, Dec. 1, 1902.
15. New York Medical Record, vol. xiii, Feb. 28, 1903, p. 357.
16. American Medicine, vol. ii, Jan. 27, 1901, p. 145.
17. Maryland Medical Journal, June, 1902.

OTITIS MEDIA IN INFANCY.

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Many papers have appeared on this subject within the last few years. Nevertheless, my experience leads me to believe that the profession, as a whole, does not realize as it should the frequency of this condition in infancy and its importance in differential diagnosis. I have learned to look for it in all cases of doubtful diagnosis and to consider it as a possible cause for any symptoms not otherwise easily explainable in the course of other diseases. No physical examination in infancy in which other definite signs sufficient to account for the symptoms are not found should be considered complete without an examination of the ears. Many awkward mistakes would also be avoided if they are examined even when the signs of other conditions are present.

Many physicians seem to think that inflammation of the middle ear is always associated with earache, and hence if there are no evidences of earache they do not consider the ears at all. This view is certainly not justified. Many infants with acute inflammation of the middle ear show no signs of pain at any time, and many others who evidently have pain somewhere show nothing by their actions which will direct the attention of the physician to the ear. It is a common impression that putting the hand to the ear means earache. It sometimes does, but more often does not. All sick babies are very likely to wave their arms about, grab at their ears and pull their hair. Apparent tenderness on pressure over the mastoid is another most unreliable guide. Tenderness over the mastoid is unusual anyway, in simple acute inflammation of the middle ear, and, on the other hand, most sick babies will cry if firm pressure is made on any part of their body. The only way to determine satisfactorily whether or not there is inflammation of the middle ear is to examine the ear with a speculum; all other methods of examination are incomplete and necessarily misleading. The examination of an infant's ears is not a simple matter and requires considerable experience. The results, however, are well worth the time required to master the technic. A smaller speculum than comes with most sets is necessary.

Acute inflammation of the middle ear is usually, but not always, associated with fever, which may be high. It causes many reflex symptoms, which are sometimes quite severe, convulsions not being very uncommon. These reflex symptoms very often attract the attention from the real seat of the trouble to some other part of the body. Meningitis, pneumonia, gastritis, worms, dentition and, in fact, almost every acute disease but the right one is suspected.

An acute primary inflammation of the middle ear is, however, probably more often mistaken for pneumonia than for any other condition. The following case is an example. It also shows very well the results of treatment.

CASE 1.—John R., 6 months old, was taken suddenly sick February 18 with fever, cough and difficulty in breathing. He lost his appetite, but showed no other symptoms of gastro-enteric disturbance. He was taken to a physician February 21, who found the temperature 104.2 F., the pulse 160 and the respiration 52. He sent the baby to the Infants' Hospital with the diagnosis of pneumonia. The physical examination was not made until the next day.

He was a large, fat baby. The color was good. The alæ nasi did not move. The fontanelle was level. There was a slight rosary. The heart and lungs were normal. The abdomen was full and somewhat tense. There was an umbilical hernia. The liver was normal, the spleen not palpable. The extremities were normal, the knee-jerks equal and lively. Kernig's sign was absent. The temperature was 100 F., the pulse 115, and the respiration 38.

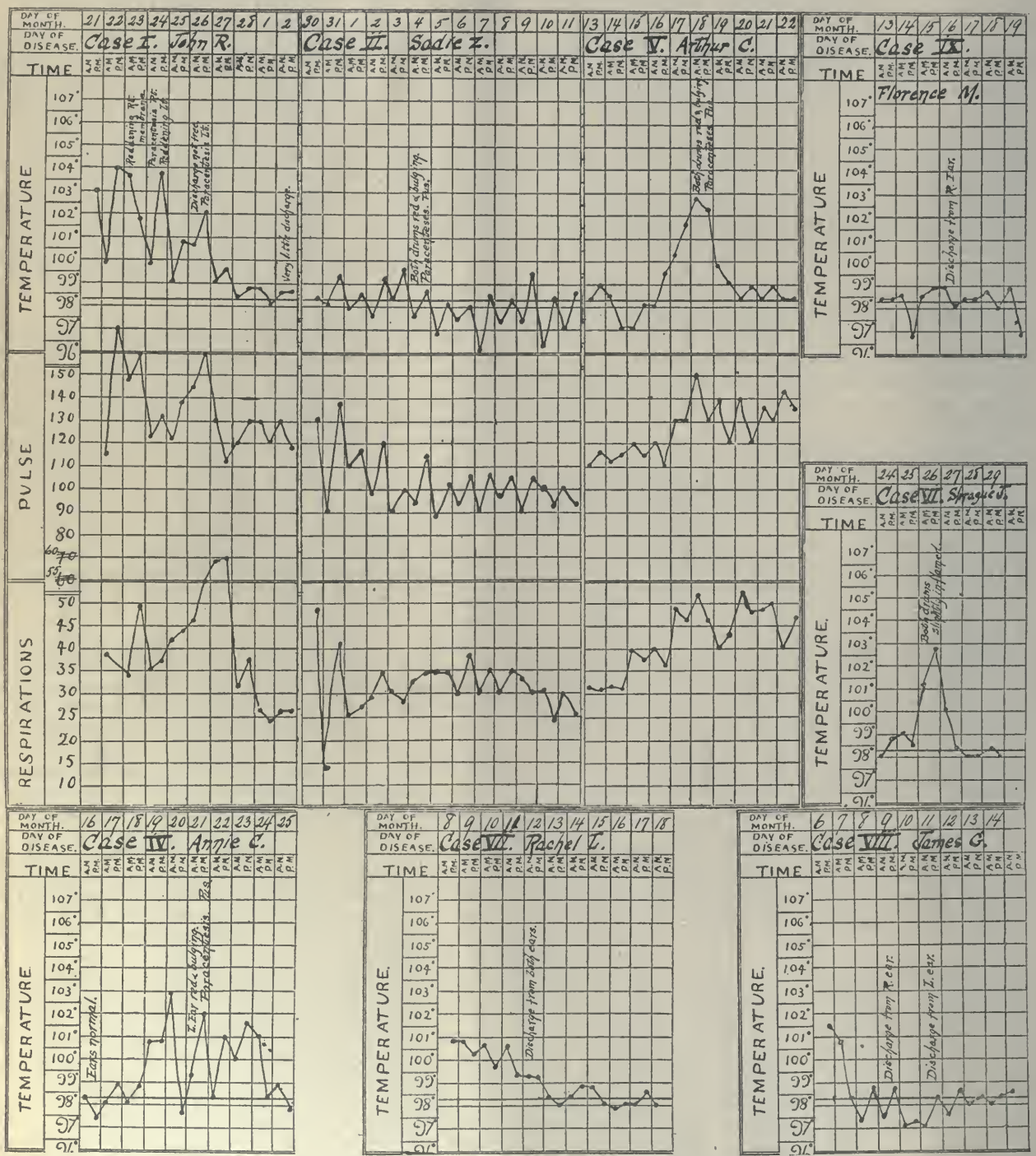
While the picture was not that of a pneumonia and the lungs were negative, the disproportion between the rate of the pulse and that of the respiration pointed to a certain extent to some pulmonary trouble. The rapid rise in the temperature and pulse rate that night, while the rate of the respiration remained the same, pointed strongly against it, however.

The next day, the 23d, the ears were examined and considerable reddening of the right membrana tympani was found. On the 24th it was bulging. Paracentesis was performed and a small amount of pus let out. The left drum was also reddened but did not bulge.

The temperature immediately dropped and showed a tendency to run lower. On the 26th, however, it rose again, as did the pulse and respiration. The respiration again rose out of proportion to the pulse. Nothing could be found in the lungs, however. Examination of the ears showed that the right was not discharging freely and that the left drum was bulging. Paracentesis was done on the left ear and the discharge re-established in the right. The temperature and pulse

dropped immediately and were followed in twenty-four hours by the respiration, all remaining normal afterward.

In the following case the symptoms were most unusual and misleading, all pointing to some obscure cerebral condition, either acute or chronic. The true condition was not suspected, although the patient was seen by a number of men, all of whom were well aware of the importance of ear disease in infancy as well as of the variety of its symptomatology.



CASE 2.—Sadie Z., aged 15 months, had a good family history. There was no history of nervous or mental disease or anything to suggest syphilis. She was delivered by instruments, the head presenting, and was normal at birth. She had always been well except for chicken-pox at thirteen months. Her parents said that she was unusually bright mentally. She had walked alone for a month or more.

On December 13 she tripped on the floor and fell, striking her head on a chair. She did not appear to be much hurt. About this time she began to have a slight cough. December 22 she began to have "convulsions," which continued up to the time of entrance to the Infants' Hospital, December 30. The cough continued and she vomited several times daily. The bowels moved daily and the movements were normal.

She was well developed and nourished. There was moderate pallor of the skin and mucous membranes. The head was of normal shape. The anterior fontanelle was about 1.5 cm. in diameter and slightly depressed. She did not open the left eye quite as widely as the right, but closed both vigorously. The motions of the eyes were normal and the pupils reacted quickly to light. She both saw and heard. She had five teeth. Her tongue was clean. There was no rosary. The heart, lungs, liver and spleen were normal. The abdomen was nega-

tive. There was no rigidity of the head or spine. There was no spasm or paralysis of the extremities. The knee-jerks were equal and somewhat exaggerated. Kernig's sign was absent. The inguinal glands were slightly enlarged, the cervical and axillary were not. The urine was pale, acid, of a specific gravity of 1008 and contained no albumin.

She slept well and was perfectly quiet when asleep. When awake there was almost always a tremor of the head and arms, although she was sometimes quiet for a short time. This tremor was rhythmical and very rapid. It was most marked in the head and arms, although it was also present in the body and legs. She was very easily excited and frightened. She then became rigid and threw herself about, crying loudly. The cry was interrupted at short intervals, but the rhythm was much less rapid than that of the tremor. In these attacks the tremor was much more marked and more rapid. In some of the attacks there was also nystagmus, usually lateral, but sometimes vertical.

The temperature was normal at entrance and never went above 99.6 F. The pulse and respiration were somewhat rapid for the first two days, but after this showed nothing worthy of note.

Her stomach was washed out and her bowels emptied with castor oil. The vomiting ceased at once and did not recur. The movements were normal. Moderate doses of bromid and chloral had no effect. Her condition continued unchanged and there was no change in the physical signs. The fundi of the eyes showed nothing abnormal.

She was seen by three specialists in nervous diseases, all of whom agreed that the fall was a coincidence and that there was no acute cerebral process. They said that the history of normal mental development must be wrong and only a congenital cerebral defect could account for the symptoms. The medical men who saw her did not agree with this diagnosis, but also ruled out meningitis and injury as the cause of the symptoms. They were, however, unable to make any diagnosis.

Her ears were examined January 4 as part of a routine examination of all the babies in the hospital. Both drum membranes were generally reddened and bulged in their upper posterior portions. Paracentesis showed pus on both sides.

Improvement was almost immediate and after the first few days was very rapid. The ears were normal on January 14 and she was discharged well a few days later. There has been no return of the symptoms.

In certain other cases of a more subacute type the symptoms are those of confined pus. The hectic temperature, often associated with chills, and the apparent absence of a local cause often lead to the diagnosis of tuberculosis or malaria.

CASE 3.—Joseph B., 22 months old, was seen July 22. He lived in a malarial district. He had always been delicate and pale. He had had a cough since an attack of bronchitis in the early spring. He had also had a slightly elevated temperature since that time. During the last two weeks he had seemed worse and the temperature had ranged higher. The night before he had had a chill, followed by a temperature of 105 F. and sweating. Nothing abnormal had been found on physical examination except pallor and a slight enlargement of the spleen. The urine showed nothing abnormal.

An almost positive diagnosis of malaria had been made on the basis of the chills, fever and sweating, the enlargement of the spleen, the pallor and the apparent absence of any other cause for the symptoms. Examination of the blood, however, showed no plasmodia and 30,000 white cells, a finding entirely inconsistent with malaria.

An examination of the ears, which had hitherto been overlooked, disclosed the seat of the trouble. Pus was found on both sides and evacuated. Improvement was continuous and rapid from that time.

Acute secondary inflammations of the middle ears are far more common than the primary forms. They occur most frequently, of course, as complications of diseases of the respiratory tract, especially when the upper air passages are involved. They are especially likely to be overlooked and their symptoms misinterpreted when the disease is mainly pulmonary, all the symptoms being attributed to the local process in the lungs. The following cases show the importance of being on the lookout for ear complications in these diseases.

CASE 4.—Annie C., aged seven months, was admitted to the Infants' Hospital March 4. She had the signs of a diffuse broncho-pneumonia on the right side, and those of a general bronchitis on the left. She was also poorly nourished and slightly rachitic. The temperature fell to normal on the 6th and there remained. The general condition improved and the lungs cleared up, except for a few râles in both backs. A routine examination on March 16 showed that the ears were normal.

There was a sudden rise in the temperature, pulse and respiration on the 19th. A recrudescence of the broncho-pneumonic process was of course suspected. Nothing new was found in the lungs, however, either then or later. Finally on the 21st the ears were examined, and the left drum found red and bulging. Paracentesis let out a small amount of pus. The temperature continued irregularly elevated for several days and then dropped to normal, where it remained.

CASE 5.—Arthur C., aged seven months, was admitted to the Infants' Hospital February 28, with broncho-pneumonia. On March 14 there was dulness in the left back with bronchial respiration below the spine of the scapula. Many coarse, moist râles were heard throughout both lungs; they were most numerous at the left base. The temperature was normal and the rate of the pulse and respiration but little increased. A diagnosis of convalescence from broncho-pneumonia was made.

He did perfectly well until March 16, when the temperature, pulse and respiration began to rise, reaching their maximum on the 18th. The rate of the respiration rose out of proportion to that of the pulse. Everything pointed to a lighting up of the process in the lungs. The examination of the lungs, however, showed only slight dulness in the left back below the angle of the scapula with slightly changed respiration and a few coarse, moist râles in both lower backs, a much better condition than four days previously. An examination of the ears showed that both drums were reddened and bulging. Paracentesis disclosed pus on both sides. The temperature fell rapidly to normal and there remained. Nothing developed in the lungs.

Inflammation of the middle ear may develop in any of the diseases of infancy as well as in those of the respiratory tract. They are especially common in conditions of malnutrition, whether or not due to diseases of the gastroenteric tract. The amount of reaction seems to depend a good deal on the general condition of the infant, being less marked in the feebler babies. It is not at all uncommon at the Infants' Hospital to have one-third or one-half of the babies with serious disturbances of nutrition develop middle ear inflammation. The following cases are examples:

CASE 6.—Sprague J., 3½ months old, had always been improperly fed and had always had colic, vomiting and diarrhea. He had recently lost weight pretty rapidly. He was admitted to the Infants' Hospital March 12.

He was fairly developed and nourished, but rather pale. The physical examination was negative except for a slight rosary. A routine examination of the ears a few days after entrance showed nothing abnormal.

He responded very quickly to proper food, stopped vomiting, and after a few days had normal movements. He did not gain in weight, however.

On March 26 the temperature suddenly rose to 102.8 F. The pulse and respiration did not rise, however, and no other symptoms developed. Nothing abnormal was found on physical examination until the ears were examined, when both drums were found slightly inflamed. No treatment was in-

stituted. The inflammation in the ears rapidly subsided in the next 24 hours and with it the temperature fell to normal, where it remained.

CASE 7.—Rachel L., five weeks old, was admitted to the Infants' Hospital June 8. She had always been improperly fed, had always vomited and had green, watery movements. She had lost weight rapidly during the week before entrance.

She was small and thin. The skin was mottled and the extremities cold and slightly blue. The anterior fontanelle was depressed and the cranial bones overlapped. The abdomen was distended. The examination showed nothing else abnormal.

She took her food well and vomited a little, but had three or four green, watery movements with curds and mucus daily. The elevated temperature, which varied between 100 F. and 101 F., was attributed to enteric disturbance.

Both ears began to discharge on the 12th. The temperature immediately fell to normal, where it remained. As there was no improvement in the condition of the digestive tract the fever must have been due to the process in the ears.

While middle ear disease in infancy usually causes some symptoms, even if nothing more than a slight rise in the temperature, it may develop and go on to perforation of the drum membrane without producing any symptoms whatever. This happened in the two following cases. They suggest strongly the advisability of routine examination of the ears in all sick infants, no matter what the disease or whether or not there are symptoms pointing to aural trouble.

CASE 8.—James G., aged 2½ years, entered the Infants' Hospital just on the crisis of a lobar pneumonia. The temperature did not rise again and the lungs cleared up rapidly. He presented no symptoms whatever suggesting trouble in the ears or elsewhere, yet three days after entrance the right ear began to discharge, and two days later the left ear.

CASE 9.—Florence M., aged three months, entered the Infants' Hospital March 7. No history came with her. She was emaciated and the skin was mottled. The anterior fontanelle was small and depressed. There was a slight rosary. The physical examination was in other respects negative.

She took her food well, seldom vomited, had nearly normal movements and gained in weight. She had no fever at any time and showed no symptoms pointing to aural trouble. Nevertheless a discharge from the right ear appeared March 16.

In conclusion, I wish to thank Dr. T. M. Rotch for permission to make use of such of the cases as were on his service. The examinations of the ears, as well as the operations, were done by Dr. E. A. Crockett, aurist to the Infants' Hospital.

LOCOMOTOR ATAXIA

COMPLICATED BY THROMBOSIS OF THE PONTILE ARTERIES, WITH REPORT OF CASE.

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W. R. M., male, admitted to St. Anthony's Hospital June 5, 1899, aged 45, traveling salesman, born in New York, in Colorado fifteen years. Family history negative.

Previous History.—Had the usual diseases of childhood, after which he enjoyed good health until he was fifteen years of age, when he met an accident, fracturing his right leg. At 20 years of age he contracted gonorrhea. When 40 years old he suffered from severe pains in the legs, which were sharp, shooting and momentary in character and were influenced by changes in the weather. About the same time he noticed that his gait was gradually becoming unsteady and at the present time he is unable to walk in the dark without falling. Three years ago he complained of a girdle sensation, also difficulty in starting his urine to flow, although while asleep the urine dribbles from him. During this year, while alighting from a street car, he fell, striking his buttocks without any serious consequences. For the past two years vision has failed, but he never sees double.

Bowels regular. Denies alcoholism. Had syphilis when 25 years of age. Several months before his present trouble manifested itself he suffered from headaches and dizziness, but did not have any transitory weakness on either side of the body.

Present Illness.—Began thirty hours previous to being admitted to the hospital. After eating a very hearty breakfast he suddenly became so dizzy that he was unable to remain in the erect posture, also suffered from numb and tingling sensations in hands and feet, more marked on right side of the body. At the same time complained of a sharp shooting pain over the left eye, which was momentary and recurred at intervals. The dizziness, numb and tingling sensations continued for ten or fifteen minutes, when he noticed that he was unable to swallow, although he was able to talk, but his voice was weak. At the same time he complained of weakness of the right arm and leg, although he was able to walk. At no time during the attack did he lose consciousness.

Examination.—There is marked ataxia in legs and arms and slight in the trunk muscles. On assuming the upright posture the dizziness is so great that he falls to the floor. Knee jerks: right, absent; left, same. Ankle clonus, absent. Tendo achillis: right, slight; left, slight. Deep reflexes of forearm: right, present; left, same. Masseter, absent. Plantar reflexes, increased. Cremasteric: right, increased; left, absent, probably due to the presence of a large scrotal hernia. Abdominal, absent. Muscular power in right arm and leg very much diminished compared to the opposite side. Tactile, joint, pressure and muscular senses present.

Pain sense: He is unable to distinguish the difference between a dull or a sharp point on the right side of the body, nor is pain complained of when pricked with a sharp point. Throughout the left side pain sense is present. Temperature sense is lost on the right side, but is present throughout the left side. Muscular power in the lower portion of the face decidedly impaired and the mouth is drawn to the right. Voluntary movements are more affected than emotional. Tongue deviates to the left. Left side of palate hangs much lower than right and on tickling the left side no reflex is produced, although it is readily elicited on the opposite side. Respiratory movements decidedly increased. Voice very husky, but every word pronounced distinctly. Dynamometer: right, 50; left, 66.

Pupils: right is larger than left and both respond to accommodation, but not to light. External ocular movements good. Fundi and fields of vision normal. Hearing: right (watch) heard on contact; left, 12/24. Taste: present on right side; absent on left. Smell: present on right, and absent on left.

July, 16, 1899. Patient is able to swallow liquids, but insufficient to sustain life.

July 23, 1899. Is able to take soft food and liquids. Feeding by tube resorted to occasionally.

July 30, 1899. Use of the tube unnecessary. Dizziness still present. Examination of heart shows an aortic systolic murmur. Urine, sp. gr. 1021, no albumin or sugar.

This case is of interest from two points of view, as the symptoms indicate that the brain and spinal cord are involved. The symptoms from which the patient suffered previous to his present trouble are characteristic of degeneration of the spinal cord, although the motor form of multiple neuritis must be considered in making a differential diagnosis. The presence of the Argyll-Robertson pupil, girdle sensation around the trunk and involvement of the sphincters would be sufficient evidence that the lesion is in the cord. The absence of paralysis of the extensor muscles, tenderness of same and the disease not being distinctly peripheral, symmetrical and bilateral and without reaction of degenera-

tion, would exclude inflammatory affections of the peripheral nerves. In ataxic paraplegia the ataxia is preceded by a spasm of the muscles, increase of the knee jerks, and the absence of sensory symptoms would be sufficient to eliminate this disease in arriving at a conclusion. The length of time the symptoms have existed would exclude all acute lesions of the cord. The patient suddenly became affected with dizziness, which was so intense that he was unable to assume the upright posture, with paralysis of the lower left side of the face and paralysis of the right arm and leg, associated with disturbance in sensation of the same side of the body. At the same time he had loss of power in deglutition, loss of sensation on the left side of face and mouth, with loss of taste and smell on the same side.

All these symptoms indicate that the secondary lesion is in the brain, and to determine its probable nature it is best to consider some of the acute, chronic and sudden diseases of this organ. The time consumed in the development of the symptoms in this case, without any elevation in temperature, would enable one to pass all inflammatory diseases of the encephalon.

The chronic lesions are morbid growths, abscess and aneurism. The history of this case and the non-involvement of the optic nerves by inflammation, with the resulting atrophy, would exclude aneurism and morbid growths.

The onset of the symptoms which complicated the locomotor ataxia was sudden, reaching its height in a few minutes; excluding traumatism, all such cases are vascular in nature.

The vascular lesions to be considered are hemorrhage, embolism and thrombosis. Absence of a full, strong pulse, throbbing carotids, loss of consciousness and slight disturbance in bodily temperature would not be in favor of cerebral hemorrhage. Small or gradual hemorrhages may occur without marked disturbances in consciousness, with slight paralysis and without great disturbance in the bodily temperature.

On admission to the hospital the symptoms in this case were extensive without any involvement of consciousness, and the exclusion of a hemorrhagic lesion is justifiable.

In cerebral embolism the symptoms come on suddenly, with marked disturbance in consciousness, associated with some form of cardiac disturbance, and without the latter one is not justified in arriving at such a conclusion. The patient under discussion has an aortic systolic murmur, but cardiac compensation is well maintained and an embolus affecting the portion of the brain where this lesion is located would produce sudden profound unconsciousness, with bilateral involvement of the extremities, without any premonitory signs, and the symptoms produced would depend on which portion of the basilar artery was affected.

The upper portion of the basilar artery is most frequently occluded by an embolus, and the symptoms manifested may simulate those of locomotor ataxia to a certain extent, particularly the ocular symptoms, but differ from those produced by a vascular lesion by being transient and associated with paralysis of the opposite side of the body.

The diagnosis of thrombosis was, therefore, made on the following symptoms: premonitory symptoms, headache, dizziness, with numb and tingling sensations in the parts subsequently paralyzed. The paralysis came on suddenly without loss of consciousness and with the characteristic disassociated symptoms in the affected parts.

A lesion of the cerebral cortex, centrum ovale and internal capsule can be excluded by the character of the paralysis and the presence of the disassociated symptoms, along with disturbance of deglutition and involvement of other cranial nerves. Disturbances in the brain at any of these locations would produce a monoplegia or hemiplegia on the opposite side of the body and if it is a hemiplegia the paralysis would not be crossed.

Affections of the crura are always accompanied by paralysis of the third nerve on the side of the lesion, with motor paralysis on the opposite side of the body.

The symptoms produced by lesions in the medulla are usually bilateral and from the number of cranial nerve centers affected, the patient would present symptoms similar to those found in bulbar paralysis, excepting that sensory symptoms are more frequently associated with the motor manifestations in vascular disease of this organ. Lesions in the pons produce all the symptoms which are present in the case under discussion, and it is of interest to know which portion of the pons is affected. Diseases in the extreme upper portion of the pons can be excluded, as we have no involvement of the third nerve nor crossed paralysis. The symptoms in the case are complex and show that the lesions are multiple.

If the disease was below the middle of the pons it would cause crossed paralysis, but the upper and lower portion of the face would be affected. Lesions just above the middle of the pons would produce paralysis of the lower portion of the face on the same side as the lesion with disturbance in motion and sensation on the opposite side of the body in the form of disassociated symptoms (loss of pain and temperature sensations, while tactile sense is preserved).

Loss of taste, smell, rapid respiratory movements and the inability to swallow may be accounted for by the involvement of the extreme lower portion of the pons and upper part of the medulla oblongata.

Vascular lesions in this position, after the irritative symptoms have ceased, can be more accurately located than other diseases, particularly tumors, as in the latter the irritative symptoms remain throughout their course.

The symptoms demonstrate that a number of vessels are affected and that they are those which supply the pons just above the middle, the extreme lower portion and the upper part of the medulla oblongata.

The character and extent of the symptoms indicate that the small arteries are affected inasmuch as those produced by involvement of the large vessels would be more extensive, with marked disturbance in consciousness, and bilateral in nature.

Causes of cerebral thrombosis are many, and the most prominent are atheroma, syphilis and blood states. No evidence of atheroma could be discovered in any of the superficial vessels in the body, and with a distinct history of specific infection one is justified in attributing the occlusion of the vessel to a syphilitic arteritis.

The large vessels at the base of the brain show the greatest changes in their walls, but the narrowing of the caliber of the artery is more pronounced in the small branches.

The changes that take place in the walls of the diseased vessels consist of inflammation, swelling and a gummatous deposit and, as a result, a lessening of the caliber.

Occlusion of an artery in thrombosis goes on gradually, but the final and complete plugging comes on suddenly by the formation of a blood clot.

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A NEW METHOD OF BACTERIAL VACCINATION.

As is well known, bactericidal sera, in contrast to antitoxic sera, have been extremely disappointing from the view-point of therapeutics. None, even the antistreptococcus serum, has an unassailable position in the treatment of disease in man. Experimental animals may in some cases be given a temporary immunity to certain bacteria of several days' to two weeks' duration. But the serum is rapidly excreted, and takes with it all its protective powers, i. e., its specific amboceptors. Even in this case it is a prophylactic injection, and not a curative. In view of the transient duration of the immunity conferred by an injection of bactericidal immune serum, its indiscriminate injection during an epidemic would probably be unjustified. On the other hand, bacterial vaccination, such as that of Haffkine against plague, while it appears to have been of value, has the objections that it often produces grave symptoms, is followed by a short period of decreased immunity, and if it should happen to coincide with an attack of the disease would probably seriously injure the patient's chances of recovery.

With the view of overcoming the disadvantages of the Haffkine injections, Besredka[1] injected a culture of an organism which had been treated with the specific amboceptors for that organism. It will be recalled that amboceptors are the intermediary bodies that bind the complement to the bacilli. The amboceptors resist heat, low degrees of which (56 C.) destroy complement. For example, a culture of the typhoid bacillus was suspended in salt solution and enough heated antityphoid serum added to cause complete agglutination. The mixture was allowed to stand for six hours, during which time the bacteriolytic amboceptors, as well as the agglutinating bodies, are fixed to the bacteria. The bacteria were then washed free of serum by repeated centrifugating in salt solution. The sediment, consisting of typhoid bacilli plus the immune bodies, was then injected into animals. It was found that immediate immunity was conferred, which endured for at least five or six months. No general or local symptoms followed the injection; and this was true of an injection Besredka made in himself. The same experiments were made with cholera and plague; in working with the latter killed organisms were used.

1. Besredka: "De l'immunization active contre le peste, le choléra et l'infection typhique." Ann. de l'Inst. Past., xvi, 1902, p. 918.

Of equal interest are the results of Marie,[2] who used the technic of Besredka in experimenting with rabies. For injections he used the brain of an animal which had died of rabies. The brain was subjected to the action of antirabic serum as the bacteria were to the action of the antibacterial serum. Also here a single injection conferred immunity which lasted for a number of months, the maximum duration not being determined.

The value of this method of prophylaxis over the Haffkine injections is apparent. As to rabies, it would apparently have advantages over the classical Pasteur method of treatment. However, it would require great courage to inject a fresh rabic brain into a human being, no matter how many antirabic amboceptors it may contain. In addition it is quite possible that a mixture which is harmless to a rabbit may not be a neutral one for man. It may be possible that in bites on or near the face, where the incubation period of rabies may be shortened, this method would be superior to the usual Pasteur treatment. If Besredka's results find sufficient confirmation, it would not be altogether impracticable, though difficult, to immunize whole communities against typhoid, cholera or plague.

2. Marie: "Immunization par des mélanges de virus rabique et de sérum antirabique." C. r. Soc. de Biologie, Dec. 5, 1902.

AMERICAN RESEARCH AND GERMAN REVIEWERS.

There is no contributor to American biologic literature in the branches of medicine and the allied sciences, who has not had occasion to note the marked disregard of German writers for contributions that do not bear the mark "made in Germany," this being particularly noticeable when it concerns work published in this country. Time was when we felt hurt that our struggles to do good honest research were not appreciated, perhaps not believed, by those to whom we owed most of our foundations in science. Now the situation has changed. With our new wealth of production, its best undoubtedly of the very highest quality, we are inclined to merely wonder when the Teutonic awakening is to come. How long before the German will appreciate that if other peoples are diligently reading all that he is producing as well as that of their own countries, while he limits his view to German scholarship, he will soon be at a hopeless disadvantage? As we see the German surgeons discussing points in the pathology and treatment of appendicitis that were long ago hackneyed to us; or read frightful tables of mortality from operative methods in tuberculous hip joint disease that American surgeons have happily forsaken for better measures, we appreciate that the teacher can never afford to neglect to watch the products of the pupil. And when a German reviewer[1] attempts to make a "zusammenfassendes Referat" of the work done on the subject of intestinal digestion without the slightest knowledge of the important contributions of Hill and of Kastle and Lovenhart, merely because they were printed in the English tongue, there is good ground for

1. Biochemisches Centralblatt, 1903, I, 169.

feeling that we are by no means the chief losers because of the lack of German recognition.

An American writer recently took the trouble to write to a German scholar to inquire why he had omitted certain fundamental articles published in America, in reviewing the literature of a certain subject. More amusement than chagrin was elicited by the reply; for, in addition to stating with great complacency that he had not seen the articles in question because the journal containing them was not to be found in the small university town in which he resided, this German in a most benignant manner made the suggestion that if American scientists wished their papers read they should print them in German. It was with no little pleasure that the American in reply could quote figures as to the relative numbers of English-speaking and German-speaking people of the world, with a few additional remarks as to the importance of considering rate of growth in determining the status of any particular subject. The figures really made it seem that there were quite a few people who could read a paper published in English. We have recently heard much of Chauvinism in medicine as synonymous with what has also been termed the arrogance of provincialism. Is not Chauvinism likely to become a danger to that glorious German scholarship that has had no greater admirers or more eager followers than the American scientists?

It is pleasing to observe the occasional reverse of the above conditions, and to see that in some subjects, at least, we are appreciated. Rudolf Höber[2] quotes twenty-nine references in a review of the topic of the rôle of the neutral salts in protoplasmic activity, and of these twenty-one are by American and English writers, published partly in German and partly in English. This Anglo-Saxon predominance is, of course, attributable to the work of Loeb and his scholars, who have easily accomplished the greatest advances in this new field of biologic research. The custom followed by Loeb of publishing part of his work in Germany and part in America, would, if generally adopted, soon compel Germans to search in American publications, but we must insist that there is no particular obligation or need to show them what we are doing. Theirs must be the loss that is bound to fall on those who fail to appreciate that science is cosmopolitan and polyglot. We must also note that American publications are not alone overlooked; English work also seems to escape German eyes. French reviewers, on the other hand, as a rule, cover our publications much more thoroughly, and the admirable abstract department of certain French journals gives ample consideration of all the leading American journals. With our many magazines of medical science overwhelmed with articles reporting actual research we may hope the terse German summary of "Nichts neues" that has so often appeared under an American title, will soon disappear. To the justice of the use of this summary in so many instances hitherto we must attribute, in all honesty, much of the present German oversight, but at the same time we insist that the need for its use is passing. We are doing much work that is "Etwas neues," not to mention "einwandsfrei."

2. Biochemisches Centralblatt, 1903, I, 497.

THE FROUDE-CARLYLE CONTROVERSY.

As the Froude-Carlyle controversy has taken a medical turn, it will not be out of place to refer to the matter in these columns. It will be remembered that about twenty years ago Froude, in editing Carlyle's reminiscences and letters, made Carlyle appear as a cruel and inconsiderate husband and his wife as a martyr, at least it so appeared to one side in this controversy. The whole question once so earnestly discussed has again been brought before the public by the appearance of a series of letters of Mrs. Carlyle.[1] Not the least interesting part of these two volumes is the long introduction by a well-known London medical man, Sir James Crichton-Browne. With wonderfully vigorous English he defends Carlyle against the charges of cruelty and neglect, and denounces Froude as an incompetent editor who was not only careless, but who maliciously misrepresents in order to prove his point, viz., that Mrs. Carlyle was abused. These new letters strongly supported Sir Crichton-Browne's contention.

But the matter did not rest here. Goaded by the stinging words of Crichton-Browne and the editor, Alexander Carlyle, son of Thomas, Froude's relatives have now published a pamphlet written by Froude and found among his papers.[2] In this Froude directly charges the antagonism to his editorship to the fact that the Carlyle relatives felt that they, and not he, should reap the financial reward arising from the publishing of the Carlyle papers. But more than this, he declares that the true cause of the unhappy home life of the Carlyles was its lack of children, and that for this Carlyle was to blame. In a word, Carlyle was impotent. To this charge Sir James Crichton-Browne replies, and very appropriately in the pages of a medical journal,[3] by declaring that the cause of the childlessness lay probably in Mrs. Carlyle. She was, he believes, sterile. He shows by well-chosen argument, some of it amounting to proof, that Carlyle was not unfit physically to be a husband. To any one who will read the letters of the first few years of their married life it will seem incredible that their relations were merely those of "companions." We omit the details of the pamphlet and of Crichton-Browne's rejoinder. It is truly shocking to think of this dissection of one's home life and of a public discussion of the most intimate marital relations. It is disgusting. As the *London Times* has said, what the Froude relatives have done "is a serious offense against reverence for the dead, if not against decency and decorum."

1. New Letters and Memorials of Jane Welsh Carlyle, London and New York, 1903.

2. Froude: My Relations with Carlyle, London and New York, 1903.

3. British Medical Journal, June 27, 1903.

We prefer to look upon the Carlyle household as not angelic but as human. Two strong-minded individuals, their marriage unfortunately unblessed by children, living under the same roof for twenty-four hours of the day —for the home was also Carlyle's place of business, his literary workshop—both sufferers from physical ailments, both of strong likes and dislikes, is it any wonder that there were occasional storms? Carlyle growled and his wife snapped back. The course of true love evidently did not run smooth in the Carlyle family. And the ill health of this couple may explain much of the apparent unhappiness.

Carlyle was a dyspeptic, or perhaps had eye-strain, as Dr. Gould contends. At any rate he had headaches and felt out of sorts at times. Mrs. Carlyle was a neurotic, as her mother had been before her. In fact she and her mother got along very poorly when they were together. Mrs. Carlyle had severe sick headaches, "such headaches I never witnessed in my life," writes her husband. She was a neurasthenic. She dosed with all kinds of drugs and took freely of opiates for the relief of pain. Carlyle says: "When any new miraculous kind of doctor was recommended as such my poor, struggling martyr, conscious, too, of grasping at mere straws, could not but wish to see him; and he came, did his mischief and went away."[4] Even "magnetizers" were tried.

Physicians are familiar with this type of woman and oftentimes our sympathy is fully as much with the enduring husband as with the suffering wife. For ten years, according to Sir James Crichton-Browne, Mrs. Carlyle suffered from a climacteric melancholia. Unnecessarily suspicious, morbidly sensitive, racked with physical pain, often under the influence of opiates, her mind, as shown by her letters and by her journal, was lacking in that cool judgment that is found in one well balanced. This was not, as Froude would have us think, all the result of ill treatment by her husband.

The whole controversy has been, to say the least, unfortunate. Especially is this true of the discussion concerning the barrenness of the marriage. The indecency of it all sets the tongues of the prurient wagging and fills the columns of the yellow journals. Altogether, it leaves a bad taste in the mouth.

"KOCH CONSUMPTION CURE" AND NEWSPAPER ADVERTISING.

Some time ago[1] we commented on an exposé by a magazine of the so-called Koch consumption cure concern. Recently the matter has been taken up by the health department and by the physicians of New York City, and the District Attorney, it is understood, has in his possession sufficient information to warrant him in proceeding against the concern, so it looks as if it would soon be in the toils of the law. The health department has issued a statement warning the public against it, and states that the head of the institution is not registered, and has no authority to practice in New York State. The representative of this concern is variously known as Dr. Philip Koch, Dr. Edward Koch, etc., and to avoid the embarrassments arising from violation of the state laws regulating medical practice he is kept moving from one part of the country to another. He is generally in the background after his arrival in a place, and can not be inveigled by strangers to examine them or to receive fees. He is reported to have graduated from the Missouri Medical College in 1881. We are informed that the company is incorporated with a capital of $125,000, that its president is Dr. Wallace Cleveland Clark of 150 Nassau street, New York, and that the manager of the New York branch is Dr. Frank Bigelow, who receives a salary of $80 per week, while his assistant, Dr. Jordan, receives $40 per week. The published correspondence from the concern makes instructive but melancholy reading. Some idea of the immense profits may be formed from Dr. Bigelow's statement that in the month of June, while a poor one, they took in at the New York branch alone $3,500. A part of the testimony taken before Judge Lacombe of New York is stated to show that the magic fluid called "Koch's Inhalation Fluid, or Tuberculine," which costs $10 per month to have it "strengthened," is simply a petroleum oil, colored reddish. Sometimes it is scented with oil of thyme, with oil of eucalyptus or with oil of cinnamon.

While this institution is before the public eye at the present time, it must not be forgotten that it is only one of many such concerns that are using the sick and afflicted as their dupes. There can hardly be imagined anything more base than that of a man deliberately making a business of swindling by fraudulent promises to cure those who are suffering from incurable diseases. Nevertheless there are scores of such individuals and concerns getting rich by like nefarious and execrable practice. One of the most discouraging things is that nearly all of our reputable newspapers are openly endorsing this inhuman business, their columns are defiled by the indecent and vicious advertisements of harmful medical nostrums, and of pure swindles gotten up solely for the purpose of getting the money of the unfortunates whose condition makes them ready to grasp at every straw that offers relief. It is a pity that respectable and influential newspapers should lend themselves to help such frauds just for the few dollars that come from carrying such advertisements. The evil is one that has long existed, but that is no reason why it should continue.

THE DANGER FROM BACTERIOLOGISTS.

A correspondent of our contemporary, the *Cincinnati Lancet-Clinic,* says that it is strongly suspected throughout continental Europe that some bacteriologic laboratory is manufacturing poisons to sell to designing persons at high prices. Such things are possible. It would be easy for one thoroughly accomplished in bacteriologic work, and likewise imbued with the "devilishness" of

4. Reminiscences, N. Y., 1881, p. 481.

1. THE JOURNAL A. M. A., May 9, p. 1295, Vol. xl.

commercialism, to start this kind of a manufactory regardless of consequences. The threat of the Macedonian insurgents to introduce plague into Turkish cities is probably a mere *brutum fulmen,* and their giving away of the plans has disarmed them to a great extent, but it is not difficult to conceive of the mischief that might arise should such plotters act before telling. The danger is one that may yet have to be met, although we need not lie awake nights worrying about it. As long as bacteriologic laboratories are in the hands of high class medical men, the danger is *nil,* but, of course, there is no assurance that others impelled by sinister motives could not take up the work, and no reason why they could not be successful in doing an incalculable amount of harm. But there is no need to fret about it until there is more cause than is apparent now, at least in this country.

DANGER FROM ETHER IGNITION.

The danger of ignition of ether vapor is well known to the profession and due precautions are usually taken against it. In one of our contemporaries, noticed in our last issue,[1] appears an account of a new source of this danger which could not have been ordinarily anticipated. Dr. Dwight H. Murray reports to the *New York Medical Journal* the ignition of ether vapor during an operation by the sudden turning on of an electric bulb light by the anesthetist. How this happened it is hard to say, though his theory is that it must have been due to some action of the electric spark, leakage, we might say, that was sufficient to inflame the combustible gas. That such instances are rare is, of course, self-evident. The fact that the surgeon in question experimented a number of times to reproduce the condition without success leaves a little doubt in our minds as to the actual occurrence of the facts as they appeared to him. It also, however, leaves an uncomfortable little doubt as to the safety of using even electric lights in the presence of ether vapor. Anesthetists will doubtless take heed to this unique experience and govern themselves accordingly.

SYPHILIS AND SUICIDE.

In a recent article Fournier discusses the connection of suicide with syphilis. He has had in the course of his observation some eighteen cases of suicide in syphilitics, in all of which the disease seemed to have a direct connection with the act. He has known of eight cases of suicide on account of the disfigurement, either from syphilitic lesions or some trifling lesion which the subject regarded as a sign of worse to follow or mistook for syphilis. The mental condition of those suddenly learning of the infection may lead to what might almost be called a reflex suicide. Fournier says that he has more than a hundred times seen strong men turn pale, sink down, and sometimes even lose consciousness from shock when told that they had the disease, and this in subjects otherwise unimpressionable and intrepid in danger. It is his experience that women display much more equanimity in regard to the disease than do men; it has a less mental effect on them when acquired. He strongly condemns brutal declarations of their condition to the patients; the announcement should be guarded and gradually led up to; doubt should be expressed at the first or second examination, and if the patient is informed of his condition it should be followed by the statement that it is not severe, and that it is controllable, if not curable. In case of intending marriage, however, the physician's duty is imperative.

1. THE JOURNAL A. M. A., July 11, p. 131.

IMMUNIZATION AGAINST TUBERCULOSIS.

The rather remarkable address of Maragliano on "The Struggle and Immunization of the Organism Against Tuberculosis" at the Madrid Congress has been noted in abstract in this journal.[1] It has also been republished[2] in this country, and has excited more or less public attention. The lay press has taken the subject up and discussed it with its usual mixture of lucidity and misunderstanding. Naturally, the statement that an investigator has obtained a vaccine which will produce immunity in the human subject against tuberculosis is a stirring one, and especially since at the present time the public generally, and we might also say many physicians, have a rather exaggerated idea of the importance and fatality of this disease. Those who have prophesied the eradication of tuberculosis will take up these statements and see in them a forecast of results they have predicted. It seems to us, however, that we may overestimate the importance of these announcements, and that it is worth while to at least accept them with some reservation until further experimentation and clinical experience have more fully verified them. The disputed questions in regard to tuberculosis are not a few, and this one of human immunization to the disease may yet take its place among the more important ones like Koch's announcement of the non-intertransmission of bovine and human tuberculosis. If Maragliano is right in his assertion that the ingestion of milk and flesh of tuberculous animals produces immunity, a large proportion of the civilized population of the world must have acquired it by this time. Moreover, if a single attack of surgical tuberculosis produces immunity against the disease in all its forms, the number of immune must also, for this reason, be very large. It has been an accepted belief, based on what are supposed to be clinical facts, that old tubercular foci might be revived, and that they are consequently a source of danger in those who possess them. Certain able pathologists declare that with careful examination nearly every autopsy will reveal some traces of former tuberculosis. This would indicate that while no one was originally immune, everybody had a chance and ought to become so, by action of tuberculous attacks, if Maragliano's theory is correct. On the whole, it seems to us worth while to continue to believe that while a certain degree of immunity is probable, and while there may be a certain basis of fact for Professor Maragliano's theories, yet it will not do to accept them too freely or attempt to make them universally applicable.

PRELIMINARY EDUCATION FOR NURSES ENTERING TRAINING SCHOOLS.

Of the utility of the trained nurse there is no longer any ground for discussion. From having originally been

1. THE JOURNAL A. M. A., July 4, p. 67.
2. Medical News, July 4.

a luxury, to be availed of only by the wealthy few, she has become an every-day necessity, whose services are in constant demand among all classes of the community. In the process of evolution, the requirements of a good nurse have been gradually increased, and for the fulfillment of these the courses of study have necessarily been lengthened, and the character of instruction has been correspondingly modified. Training in the mere practice of nursing can no longer be considered sufficient, but a thorough grounding in the principles of the work has come to be looked on as an important prerequisite. Like the medical student, so the pupil-nurse should come equipped for her pursuit with special as well as general educational qualifications. A plea upon these lines has recently been made by Dr. Francis P. Denny,[1] and to meet the present need he lays down the following urgent requirements: 1. Leisure for study. 2. Instruction in the principles of nursing before beginning practical work. 3. Instruction by those especially fitted to teach. 4. Improved methods of instruction. That this need has been appreciated, in part at least, by others, and that steps have already been taken to provide the remedy is shown by the announcement of the Drexel Institute of Philadelphia for 1903-04 that at the solicitation of Dr. S. Weir Mitchell and the superintendents of the leading nurses' training schools of Philadelphia, the Drexel Institute has undertaken to organize a preparatory course of instruction for such training schools, including the subjects of anatomy and physiology, medical chemistry, materia medica, hygiene, bacteriology, domestic science and economics, as well as English language, vocal expression and physical training. The course occupies about thirty-six weeks, and is divided into two terms. Certificates will be issued to those who complete the full course and pass the required examination. It is possible that work of a like character has been undertaken elsewhere, but it seems worth while to make a record of the beginning of a movement whose influence is likely to be most useful and far-reaching. Further, the experience gained from this work may serve as a guide to others engaged in other places in similar work. It is fitting that grateful acknowledgment be made of the part taken in the movement by Dr. S. Weir Mitchell, who has always exhibited the greatest interest in nursing and nurses, and who has in many ways done so much for the uplifting of his profession.

Medical News.

ILLINOIS.

Personal.—Dr. and Mrs. Jacob Schenck, Mount Carmel, started July 4 for a four months' trip abroad.——Dr. Edward H. Thomas, Augusta, has resigned as trustee for the Illinois Hospital for the Incurable Insane.

Bartonville Cottage Contracts Let.—The board of trustees of the Illinois Hospital for the Incurable Insane, Bartonville, has awarded the contract for the erection of eight cottages to a Peoria contractor whose bid was $23,000 higher than the lowest bid made.

Hospital Additions Delayed.—The buildings which the Cook County Board of Commissioners propose erecting this summer at the County Hospital and the Dunning institutions have been delayed because the commissioners can find no purchaser for bonds at 3½ per cent.

Cornerstone Laid.—The cornerstone of Logan Hall, a building to be used for school rooms, gymnasium and dormitories for children under 10 years of age, was laid at the Beverly Farm Home and School for Nervous and Backward Children, Godfrey, to-day. The building will cost about $5,000, and will increase the capacity of the institution to 50.

Chicago.

A Polylingual Medical Dictionary Under Way.—Dr. Karl von Klein of Chicago is compiling a medical dictionary which aims to include all medical terms in every language.

Personal.—Dr. E. C. Dudley has been re-appointed a member of the board of education.——Dr. Albert C. Eyclesheimer, assistant to the chair of anatomy at the University of Chicago, has resigned to accept the professorship of anatomy in the University of St. Louis.

Illinois Medical College Changes.—Drs. J. F. Presnell, late surgeon U. S. V., and Frank Byrnes, have been elected junior professors of surgery. Dr. William F. Waugh has severed his connection with the college. The college has completed its new buildings, one of which is devoted to anatomical laboratories and the other is to be used as a training school for nurses.

Same Mortality.—The total of 563 deaths recorded by the bureau of vital statistics for the week ended July 11 was precisely the same as that of the previous week. Among these were 26 from sunstroke, and, as other direct results of high temperature, an increase of 38 deaths from the acute intestinal diseases, "convulsions" and the nervous diseases. Only 7 deaths were reported from typhoid fever, as compared with 11 during the week before.

MARYLAND.

Bequests.—By her will the late Mrs. Harriet Lane Johnston, Baltimore, bequeathed $90,000 for three free scholarships for the Johns Hopkins University, $1,500 to the National Homeopathic Hospital, $2,000 to the Church Home and Infirmary, and a reversionary amount for the Home for Invalid Children.

Personal.—Dr. John T. King sailed for Antwerp, July 11.——Dr. Joseph T. Hering of Westminster has been commissioned assistant surgeon of the First Maryland Regiment, now in camp at Belair.——Drs. Clinton Cushing of Washington, J. C. Jones of St. Louis, E. P. Quain of Bismarck, N. D., sailed from Baltimore for Bremen, July 8.

Contracts Let.—The contract for the erection of the new building for epileptic patients at the State Hospital for the Insane, No. 2, Sykesville, Md., has been awarded at $25,590. It will be of two stories, and of brick and terra cotta, 200 feet long, 50 feet wide in the center, and 25 feet wide in each wing. There will be accommodations for 100 persons, and 12 private rooms. The digging of the foundation has already been nearly completed, largely the work of the patients. The hospital is so crowded that the workshop has to be used for some patients.

Chair of History of Medicine.—A professorship of the history of medicine has been instituted at the University of Maryland School of Medicine. This is the first instance in which there has been a full professorship to this branch in any American school or university, although lectures have been delivered on it at a few institutions. The Johns Hopkins Medical School has a society specially devoted to it, and a small number of lectures are delivered there annually by Dr. John S. Billings. Some lectures are also delivered in Albany, St. Louis and Buffalo.

NEW YORK.

Bequest to Hospital.—The Buffalo General Hospital will become the recipient of $100,000 by the will of Mrs. Agnes Ethel Tracy.

State Examinations.—The June state examination for medical license, at Syracuse, was taken by about one hundred candidates.

Buffalo Personals.—Dr. Roswell Park, who has been ill with erysipelas, is much improved.——Dr. Marcel Hartwig is ill and confined to his home.——Dr. F. Park Lewis has been appointed chairman of the commission to investigate the condition of the adult blind in the state of New York.

Over Seas.—Dr. Lawrence Hendee, Ithaca, sailed, July 7, for Europe, where he will spend a year in study.——Dr. Montgomery A. Crockett, Buffalo, is spending three months in Hamburg, studying general surgery.——Dr. Frank A. Carr, Buffalo, has returned from abroad.——Dr. James W. Charters, Buffalo, recently sailed for a tour in Europe.

1. Boston Medical and Surgical Reporter, June 18, 1903, p. 657; see THE JOURNAL for July 4, 1903, ¶12, p. 56.

New York City.

A Large Estate.—Dr. Christopher M. Bell, who died in Baden Baden last year, left an estate of $2,667,000, all in personal property, according to the official appraisal just completed.

Convalescent Hospital.—On July 1 the Commissioner of Charities opened a hospital for convalescents on the north end of Blackwell's Island. There are at present accommodations for 40 men and 30 women, which will eventually be increased to 70 and 60 respectively. Ordinarily the patients will not be kept longer than three weeks.

Vital Statistics.—For the first six months of 1903 there were reported 34,855 deaths, as against 35,491 for the same period last year, giving a death rate this year of 18.67 per 1,000 as compared with a rate of 19.54 for the first six months of 1902. There is an increase of 6,000 in the number of reported births for this period, which is probably to be explained by the more strict enforcement of the law requiring the reporting of births by midwives and physicians.

OHIO.

Many Pass Examiners.—At the examination recently held, 85 applicants passed.

Smallpox in Jail.—Smallpox is reported to have developed among thirteen prisoners in the Mercer County jail.

College Consolidation.—The Miami and Laura-Memorial Woman's Medical colleges of Cincinnati have consolidated.

To Raise Curriculum.—The State Board of Medical Registration and Examination on July 8 assigned the work of deciding on a curriculum for medical schools in Ohio to a committee, consisting of Drs. Edward J. Wilson, Columbus; August Ravogli, Cincinnati; Harris H. Baxter, Cleveland, and Leo F. Towers, Toledo.

Physicians Injured.—Drs. Schuyler S. Tuttle and Richard J. Morgan, Van Wert, while journeying to Indianapolis in an automobile, ran into an open bridge and fell fifteen feet. Dr. Morgan sustained a fracture of the left thigh and patella, and of the right leg at the ankle. Dr. Tuttle fell on his head, producing a concussion of the brain from which he will recover.

Board of Appeals.—The board of appeals from decisions of the State Board of Medical Examination and Registration has sustained the decision of the board in revoking the license of Dr. Norman M. Geer, Cleveland, for gross immorality, and has reversed the decision in the matter of the revocation of the certificate of Dr. Charles F. Cookes, Columbus, charged with having performed a criminal operation, but never brought to trial.

PENNSYLVANIA.

Hospital Opens.—The Shope Hospital, Harrisburg, was formally opened July 2.

Many Candidates.—In the last week in June, 391 candidates took examinations for licenses to practice medicine, 246 in Philadelphia and 145 in Pittsburg.

Frankford Hospital Opened.—Frankford Hospital was formally opened July 4. Two physicians will be in constant residence, and, for the time being, three nurses.

Personal.—General orders announce the appointment of Dr. Sarden McClure of Philadelphia as assistant surgeon of the First Regiment, N. G., P.——The governor has appointed as a member of the State Board of Health, Dr. Charles E. Harvey, Philadelphia; as a member of the State Quarantine Board, Dr. J. L. Forwood, Chester.

Sanatorium Settlement.—Dr. J. T. Rothrock, state forestry commissioner, has contracted for the erection, on the state reservation near Waynesboro, of an assembly hall and six cottages at the White Pine Sanatorium which the state has established for tuberculosis. It is the purpose to establish a complete sanatorium settlement.

To Test Eyes.—Henry Phipps, Jr., has sent $350 to the First Ward Manual Training School, Allegheny, with a suggestion that the money be used in the examination of the eyes of the school children. He will add to his contribution a sufficient amount to secure treatment and the procuring of glasses for those who are found to need them.

Tour of Inspection.—On July 11 Governor Pennypacker, in company with state and city officials, including representatives of the state quarantine and state and city health boards, made, on a tug boat, an inspection of the Delaware River water front and of the Marcus Hook Quarantine Station. Of the party were Dr. R. A. Cleeman, president of the State Quarantine Board; Dr. Benjamin Lee, secretary of the State Board of Health; Dr. J. L. Forwood, member of the board, and City Health Officer Charles H. Heustis. The visitors were entertained at luncheon by Quarantine Physician Henry D. Heller.

Philadelphia.

Preparatory Course for Nurses.—The Drexel Institute of Art, Science and Industry, Philadelphia, has instituted a department for the preparatory instruction of nurses.

Personal.—Dr. Richard M. Pearce has been made adjunct professor of pathology and bacteriology in Albany Medical College and director of the Bender Hygiene Laboratory, vice Dr. George Blumer.——Drs. Charles B. Penrose and George A. Piersol have been appointed members of the Board of Health, vice two laymen, resigned.——Dr. Andrew J. Downes has returned from Europe.

Fourth of July Tetanus.—For the week following the Fourth of July, at least five died of tetanus, and others were reported in a critical condition from the disease. Three of the deaths were directly traceable to injury by toy pistols. The dealers who sold the pistols have been summoned to answer in court; an act of the assembly makes it a misdemeanor to sell pistols to children under fourteen.

Appointed to Professorship.—Allen J. Smith, professor of pathology and dean of the medical department of the University of Texas, has been elected to the chair of pathology in the University of Pennsylvania. The latter was made vacant by the resignation of Dr. Simon Flexner, who takes charge of the Rockefeller Institute in New York City. Dr. Smith was graduated from the University of Pennsylvania in 1886. He was for several years demonstrator of pathology in his alma mater.

Pure Food Crusade.—The crusade against impure foodstuffs made by Food Commissioner Warren, is bearing fruit. At the invitation of the Philadelphia Pork Packers' Association the food commissioner and Secretary of the Board of Agriculture Critchfield recently met representatives of the association to consider the question of impure lard. Several dealers have lately been fined for dealing in spurious lard. The packers promised the aid of their association to the commission and board of agriculture.

A Cold June.—The month of June was the coldest in Philadelphia ever recorded by the weather bureau. The average temperature was one and a half degrees lower than the coldest previous June, 1881. The minimum temperature was 51 degrees, the maximum 84 degrees. In marked contrast have been the conditions for the week of July ending the 11th. Throughout much of the days the thermometer has ranged in the 90's and the humidity has been great. As a result, there have been many cases of heat prostration, not a few proving fatal.

Improvement Hoped For.—Dr. Martin, the new director of the Department of Health and Charities, by his activity since assuming the duties of the office, has inspired a belief that the hygienic and sanitary affairs of the city are to have a much-needed improvement. Among essential innovations Dr. Martin advocates a modern system for the disposal of sewage, probably its evaporation and conversion into fertilizer; also the systematic medical inspection and examination of public school children and of public school buildings. This may be done by the regular medical inspectors of the bureau of health, or by a special corps to be appointed.

Bequests.—Among bequests awarded in adjudicating the estate of the late Owen Lamb, are the following: St. Joseph's Hospital, $500; St. Mary's Hospital, $15,734.——The following are some of the many charitable bequests made by the late Mary M. Johnson: Pennsylvania Hospital; Insane Department of Pennsylvania Hospital, for free beds; Asylum for the Relief of Persons Deprived of the Use of Their Reason; University Hospital; and Woman's Hospital, all of Philadelphia, $10,000 each; Pennsylvania Training School for Feeble-Minded Children, and Orthopedic Hospital, $5,000 each; Philadelphia Home for Incurables, $2,000, and Children's Seashore House, Atlantic City, $5,000.

Hospital Plans Stopped.—Progress in the plans for an institution in the Forty-second ward for a city almshouse and hospital for the insane, has been stopped by the department of health. An ordinance passed in the recent administration provided for the removal of this institution to said site, near the House of Correction, the land there owned by the city being about 100 available acres. The present officials regard the site as being entirely too small; they favor the separation of the almshouse from the immediate vicinity of the hospital for the

insane, and the provision of large tracts of land for each institution whereby both may be largely self-sustaining, and where the insane may be treated in accord with modern methods. Plans are for the present held in abeyance.

Smallpox Persists.—Not only does smallpox persist in the city, but despite the warm weather and the efforts of the health authorities, seems even on the increase. For the week ended July 11, 39 new cases and 10 deaths were reported, the largest number for many weeks. The condition is so serious as to lead the department of health to renewed efforts to stamp out the disease. Vaccination, supplemented by fumigation and quarantine, is considered the one weapon of attack. Letters have been sent by the department to hospital officials asking them to refuse to admit patients who have not been successfully vaccinated within five years. Letters have also been sent to employers, asking a similar requirement of their employes, the department offering to send physicians to do free vaccination. The public has thus far failed to be aroused to a sense of the gravity of the situation, or of the necessity for general vaccination. A sentiment is gaining for compulsory vaccination. A corps of physicians have been doing house-to-house vaccination in the infected district. House inspection is being done, nuisances are to be abated, streets and alleys flushed, and garbage removed.

TENNESSEE.

Addition to Hospital.—The Presbyterian Home Hospital, Memphis, will erect an addition to the present building, to cost $12,000.

State Medical Directory.—Dr. T. J. Happel, Trenton, secretary of the State Board of Medical Examiners, is preparing a directory of all legally qualified physicians in Tennessee.

Personal.—Dr. William B. Malone, Memphis, has been appointed major and surgeon, and Dr. I. Lucius McGhee, Memphis, captain and assistant surgeon in the National Guard and assigned to the Second Infantry.——Dr. Samuel S. Briggs has been elected professor of anatomy, and Dr. George C. Savage, secretary of the faculty of the medical department of Vanderbilt University, Nashville.

State Anatomical Board Appointed.—The governor has appointed a board consisting of Drs. Samuel S. Briggs, Paul F. Eve, John S. Cain, Richard A. Barr, William G. Ewing of Nashville; Dr. William B. Rogers, Memphis; Dr. Walter S. Nash, Knoxville, and Dr. Edward A. Cobleigh, Chattanooga, to receive and dispose of the unclaimed bodies of persons who die in charitable and penal institutions in cities of over 40,000 population. The appointments are made on recommendation of the various colleges.

CANADA.

Brandon General Hospital.—The Brandon (Manitoba) General Hospital is to be increased by an addition which will cost $18,000 and accommodate 32 beds.

St. John, N. B., Vital Statistics.—For the first six months of 1903 there were 569 births, 457 deaths and 207 marriages in the city and county of St. John, N. B.

Royal Jubilee Hospital, Victoria, B.C.—The total number of in-patients treated during the past year in the above institution was 784; the total number of out-patients 163, as against last year, in-patients, 782; out-patients, 122. The cost of maintenance during the year was $31,831.17, while the daily cost per patient was $1.80.

New Hospital for Vancouver.—The sum of $30,000 has been subscribed for a new general hospital by the citizens of Vancouver, B. C. The city has contributed $20,000, and as a result the provincial government now announces that it will contribute $20,000 additional. A building will be erected capable of accommodating 100 patients, and so arranged that it can be enlarged at any time to provide for at least 300 patients.

Prince Edward Island Hospital.—The annual report of the Prince Edward Island Hospital shows that there were admitted during the past year to that institution 243 patients, 7 more than for the previous year. The paying patients numbered 165. The medical cases were 70, surgical 173, and 131 underwent operation. There were 183 patients discharged cured, while the deaths numbered 8, as compared with 2 during the previous year. There remained in the hospital on May 23, 16 patients. The out-patients numbered 38.

Judgment in an Eddyite Case.—The practice of Eddyism in Ontario has received a severe set-back at the hands of the Ontario Court of Appeals in the judgment delivered by that court in the case of the King against a citizen of Toronto who permitted his boy, aged 16, to die of diphtheria without providing him with necessary medical treatment. At the first trial the jury had found the prisoner guilty of manslaughter and the defendant's counsel had taken the case to the Court of Appeals. The decision of the Court of Appeals states clearly that they think that the learned judge at the first trial did properly charge the jury that the term "necessaries of life," as appears in the criminal code, includes medicine and medical treatment.

Anti-Vaccination Bill Killed.—One of the members of the Ontario legislature had before that body during the past session an anti-vaccination bill, the object of which was to remove the compulsory clause of the Public Health Act. In aid of this the legislator presented a petition signed by 1271 residents of Galt, Ont., which town had just passed through a smallpox epidemic, in favor of the bill. Dr. Reaume, a member of the legislature from Western Ontario, strongly opposed this measure and said that he had been vaccinating for 20 years, and had yet to see the first evil result. As only one or two members at the outside were in favor of the legislation the bill never saw more than its second reading.

Montreal Anti-Tuberculosis League.—A meeting of the investigation committee was held last week, presided over by Dr. Roddick, M.P. Dr. Harding, Montreal, was appointed to act as permanent secretary to the committee. A number of physicians representing the different departments of the various city hospitals and dispensaries were present and discussed with the committee the co-operation of these institutions with the league. Each and all reported that the several hospitals and dispensaries of Montreal were willing and glad to co-operate with the league in reporting cases of consumption that came under their notice. Arrangements were made by which each hospital will fully report the tuberculous cases which come under its care. This will greatly aid the league in its efforts to obtain information and give it greater opportunities in trying to stamp out tuberculosis in that city.

FOREIGN.

Damages for Venereal Infection.—The Munich courts have condemned to five months' imprisonment a postoffice employe who had established intimate intercourse with a chambermaid of good character ("ein unbescholtenes Zimmermädchen"), although he knew that he was suffering from an uncured venereal disease.

Sanatoria for the Madeira Islands.—Our German exchanges announce that the Portuguese government has granted permission to the Prince von Hohenlohe to erect the sanatoria on the Madeira islands which he has been projecting. Work will be begun at once and the government will grant certain concessions and privileges in order that the buildings may have the most favorable location and surroundings.

Organization of the Profession in Switzerland.—There is rejoicing in Switzerland over the realization of the long cherished hope of united organization of the medical profession. The general meeting held at Lausanne, June 12-14, was attended by 350 members and delegates from all parts of the country, instead of, as heretofore, each part of the country holding its separate meeting. Besides the usual excursions and clinics by prominent visitors, a number of scientific articles were read, among them one by Kocher on "Treatment of Goiter"; by His on "Articular Rheumatism," and by Bard on the "Importance of Laboratory Research for Practical Medicine."

Recent Decisions of the German Medical Court of Honor.—Among the recent decisions is one that designates as unworthy of a physician the announcement of a new remedy according to the mode of advertising addressed to the lay public, even of a remedy supposed to be of great benefit for the welfare of mankind. The court has also recently affirmed that every physician has a right to establish himself in any place he pleases. The fact that the medical practice at the place is only sufficient to support one physician does not affect this right from the standpoint of the official court of honor. In still another decision the court denounced depreciatory criticism of the testimony of another physician in a medicolegal affair. Going beyond the limits of criticism of the matter under discussion and rebuttal of the testimony of the experts on the other side, is likewise contrary to medical professional honor.

Suits Against Charlatans in Germany.—The drop curtain of the "Central Theater" in a large German City has served as the advertising medium for the charlatan Westphal, who announced on the curtain that he guaranteed a cure for the so-called incurable diseases. In the lay press he has also been publishing that a local magistrate had endorsed from the bench the value of his curative methods. The latter had merely

stated in a previous suit that the defendant might possibly have accomplished a cure in certain isolated cases, but that his claim to cure all diseases was preposterous. Westphal sought to evade the law also by arguing that the use of the term "so-called" incurable did not include the actually incurable. He was condemned to a fine of $50 for the use of the magistrate's name. Another charlatan has been recently condemned to six weeks in prison for personal injury from his practices in a certain case.

LONDON LETTER.

Acute Recurrent Hydronephrosis.

At the Clinical Society of Manchester Dr. Arnold W. W. Lea read a paper based on four cases treated by operation. The condition is marked by recurrent attacks of acute abdominal pain with severe constitutional disturbance, and is associated with rapid swelling of the kidney and temporary hydronephrosis. It may be found with mobile kidney, but extreme mobility may exist without any hydronephrosis. Mr. Bruce Clarke in 1893 described this condition as "acute renal dislocation," the kidney slipping down below the costal margin. In the cases described by Dr. Lea reduction of the kidney, even under an anesthetic, was impossible owing to the greatly increased size of the organ. The cause of the condition was temporary ureteral obstruction. Slight degrees of ureteral obstruction are common in mobile kidney, producing some hydronephrosis, but in the acute cases an additional element is introduced, namely, sudden kinking or torsion of the ureter. Valvular folds are frequently in the upper part of the ureter near the renal pelvis. Sometimes also strictures occur from various causes. Reference was made to an interesting paper by Bary of Paris, who had examined the ureter and renal pelvis of a large number of newly-born infants. Among 68 cases only 15 were found in which the ureter was absolutely normal; valvular folds, narrowings, and kinking or torsion to some extent were present in 31 cases. These arose in the wall of the ureter itself. The pelvis of the kidney also showed great variation in size and shape and the angle of insertion of the ureter might be vertical or horizontal. The form most liable to lead to hydronephrosis is a voluminous renal pelvis, with the ureter entering at an acute angle. Sudden strain or effort may then produce obstruction of the ureter and hydronephrosis. Other factors, such as congenital stenosis, valves, and twists, also conduce to the production of recurrent hydronephrosis, so that this condition is largely dependent on the disposition of the ureter and renal pelvis. In these cases slight descent of the kidney, not recognizable clinically, may lead to acute ureteral obstruction. The symptoms might be very severe. In one case the attack came on at frequent intervals without obvious cause, and was accompanied by intestinal obstruction due to displacement of or traction on the colon. A distinct tendency exists for the attack to occur just before the menstrual period. This occurred in two cases and may suggest a pelvic cause for the symptoms. The attack may last 3 to 5 days, and then within a few hours the kidney may return to the normal size and all the symptoms disappear. In the intervals the patients may be well, but they are usually neurasthenic and have constant aching in the loin. The diagnosis is easy if a definite tumor can be felt, but in the earlier stages of ureteral obstruction with dilation of the pelvis the symptoms may be very severe, even in the absence of any definite tumor. The treatment must be mainly surgical; palliative measures rarely effect a cure. The kidney must be exposed. In the great majority of cases nephrorrhaphy effects a permanent cure. In slight cases it is unnecessary to drain the renal pelvis; if, however, the kidney is hydronephrotic, the pelvis must be incised and a careful examination made of the upper end of the ureter. If no obstruction is found, the pelvis may be sutured and the kidney fixed. Nephrorrhaphy is carried out by Dr. Lea in all the cases; in three the pelvis of the kidney was opened, and in one it was thought advisable to drain for a few days. In each case a permanent cure was obtained. It is important not to delay operation too long, as otherwise the kidney may be irrefrievably damaged. There is also a great tendency to development of pyonephrosis from ascending from the bladder, or possibly from adhesions forming between the colon and the perirenal tissues.

Trypanosomiasis in Africa.

Drs. J. E. Dutton and J. L. Todd of the trypanosoma expedition of the Liverpool School of Tropical Medicine have just returned to England from Senegal. They especially devoted their time to research work, with a view to determine the frequency, incidence and distribution of "trypanosomiasis" in the territory of the Gambia and the adjoining French colonies. They found that the disease occurs frequently in both Europeans and natives, and that it is distributed from the sea to the Upper Gambia. The disease is caused by a parasite, trypanosoma, very similar to that which engenders the "tse-tse fly disease." Besides the human disease in the Gambia there is, in addition, a species of "tse-tse fly disease" which attacks horses, and is the chief cause of the great mortality of horses in that country. The expedition reports a very important fact with regard to the health of the Gambia, namely, that the principal medical officer of that colony had officially announced that since Sir George Denton and his medical staff have organized mosquito destruction and similar sanitary measures in Bathurst there has been a most marked reduction in diseases of the malaria type, both in Europeans and natives.

The Care of Children's Teeth.

At the annual meetings of the British Dental Association, the president, Mr. Walter Harrison, in his opening address. said that he deplored the apathy shown in the dental condition of the young. There was anxiety on the part of parents of the upper and middle classes regarding the state of their children's teeth and the principals of schools also showed that they were not indifferent in this respect; but public bodies did not realize how absolutely necessary to the health was a perfect set of teeth. The association was in a position forcibly to demonstrate the necessity of a royal commission to inquire into the condition of the teeth of poor children.

Death of Mr. William Cadge.

One of the most famous of the provincial surgeons of England has passed away at the advanced age of 81, "Cadge of Norwich" as he was called throughout the medical world. His active work had long been finished and he was simply a connecting link with the past. In 1845 he passed his examination for membership of the College of Surgeons, and became Liston's assistant, with whom he worked until his death in 1847. He next became demonstrator of anatomy in University College and contributed the article "The Surgical Anatomy of the Head and Neck and Upper Limbs" to "Morton's Surgical Anatomy." In 1848 he obtained the Fellowship of the College of Surgeons, and in 1850 was appointed assistant surgeon to University College Hospital. In 1852 he returned to Norwich, where he had received his earliest medical education, and was appointed assistant surgeon to the Norfolk and Norwich Hospital. The great prevalence of urinary calculus in the district gave him an almost unique experience of the condition which he put to such excellent use as to establish a reputation throughout the world. He was not only a most expert lithotomist but a scientific investigator of the first rank. He attributed the striking absence of stone in the children of the well-to-do to the fact that they drank milk. On the other hand, he blamed the strong, sweet, new beer which the Norfolk peasants drink liberally. He was disposed to believe that the hard water of Norfolk favored the production of stone. He had great success with lateral lithotomy, and consequently valued the operation highly. In his Hunterian lectures delivered at the Royal College of Surgeons in 1886 he stated that he had performed lithotomy 169 times with 29 deaths. In the 29 fatal cases the average age was 60 and average weight of the stone 2 oz. For large stones he preferred the suprapubic method, especially for the hard uric acid stones of his native country. Though an experienced and expert lithotritist he would not admit the claim of many surgeons that lithotomy should be abandoned. In 1880 he was elected member of the council of the College of Surgeons, a post which he held for 16 years. He presented two munificent donations to his hospital, $50,000 in 1889, and the same sum again in 1899. He was married to a sister of the late Sir Richard Quain, who predeceased him and left no children.

Correspondence.

The Demise of the Philadelphia Medical Journal.

PHILADELPHIA, July 11, 1903.

To the Editor:—In your issue for July 11 there appears a letter from Dr. George M. Gould in which, as is usual with him, he undertakes to point morals. As a pointer of morals Dr. Gould has acquired that facility which comes from a contemplation of the sins of others rather than from a serious inspection of his own faults; and it is, therefore, wholesome and right that one of his friends should hold the mirror up to his gaze. As a

friend of the editor of *American Medicine*, and as the one who took the editorial chair after his enforced retirement from the *Philadelphia Medical Journal*, I greatly regret that Dr. Gould should have missed seeing the true significance in the passing of the latter journal while the former is still permitted to exist.

Those who are perfectly familiar with the inside history of the *Philadelphia Medical Journal* can trace its misfortunes to two main causes which existed at its very organization: 1. The selection of Dr. Gould for editor. 2. The permitting the stock to fall into the control of a newspaper publisher who failed to agree with Dr. Gould and forced his retirement. Between this upper and nether millstone the journal came near being torn to pieces, and it was only by the efforts of some physicians and laymen of the highest character that the journal was temporarily saved. It is a mistake on Dr. Gould's part, however, to suppose that the differences between himself and everyone else were entirely ethical, and that he was in the right and everyone else was in the wrong. The differences were not entirely ethical, but were largely temperamental and were such as grew out of the fact that some otherwise very worthy men were not able to get along with Dr. Gould. That "commercialism"—about which the editor of *American Medicine* talks with the ease of one perfectly familiar with it—was not the only or chief cause of difference between Dr. Gould and the majority stockholder, is amply proved by the fact that no sooner did he establish *American Medicine* than he adopted a commercial policy more flagrantly offensive to the ethical sense of the medical profession than was ever followed by the *Philadelphia Medical Journal*. In this respect, indeed, he proceeded to out-herod Herod.

The truth of this assertion is proved by a glance at the advertising pages of *American Medicine*. Proprietary nostrums are admitted to an extent that shows the dependence of the journal on its advertisers, and, worse than all, a special advertising department has been maintained in which Dr. Gould publishes puff articles of proprietary medicines printed in such a way as to look exactly like original articles. I know of no reputable journal in America that does such a thing as that. Neither does he disguise that he is responsible for the business as well as the editorial conduct of his journal. These things being so, if Dr. Gould has the slightest sense of humor, he must be getting more fun out of the situation than are some of his stockholders. According to an old monkish legend St. Denis, after he was beheaded, went about carrying his head in his hands. Dr. Gould emulates the example of this holy man. Ever since he was decapitated he has gone about exhibiting his disjointed head as though it were the casket of all the virtues. So far as learned at this writing, however, he has not yet paid 5 per cent. on his stock.

When I assumed editorial charge of the *Philadelphia Medical Journal* I found that all the virtues had not departed with the enforced retirement of Dr. Gould. On the board of trustees were such men as Dr. James Tyson, Dr. J. C. Wilson, Dr. William Thomson, Dr. E. Sajous, Dr. J. B. Roberts, Dr. J. H. Musser, Dr. H. Leffmann, Dr. W. Pepper, Jr., Dr. J. Neff, and Dr. Coplin; while among the friends of and contributors to the journal during the time I edited it, were such men as Professor Keen, Professor Osler, Professor Welch, Professor J. Wm. White, Dr. Louis Starr, Dr. Mills, Dr. Dercum, Dr. Sinkler, Dr. J. B. Deaver, Dr. Joseph Price, Dr. de Schweinitz, Dr. Randall, Dr. E. P. Davis, Dr. F. P. Henry, Dr. Frazier (dean of the University of Pennsylvania), Dr. Edward Martin, Drs. Dana, Starr, Sachs and Spitzka of New York, Dr. Putnam of Boston, and Dr. Jelliffe, editor of the *Medical News*. Surely among these names are to be found the names of some men who can be credited with an adherence to high ethical, literary and scientific standards!

The *Philadelphia Medical Journal* went out of existence "in the city of its birth" because the members of the editorial staff found that they could not control its policy against a small coterie of majority stockholders, and because they preferred to see it die rather than pursue a commercial policy, such as now characterizes Dr. Gould's journal. It is because Dr. Gould has failed to see the true moral of this tale, or the true handwriting on the wall, that I have thought it worth while to call his and the world's attention to it.

JAMES HENDRIE LLOYD.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PORTA'S EXPERIMENTAL RESEARCH ON LIGATURE OF THE ARTERIES.

OGDEN, UTAH, July 7, 1903.

To the Editor:—Will you kindly inform me through THE JOURNAL, the nature and results of Porta's experiments on ligation of the aorta? I find references to them in several works, but none of them give any details. H. B. F.

ANS.—One of the gems in medical reference libraries is a handsome folio published in Italian at Milan in 1845 by L. Porta,* professor of surgery at Pavia. It contains 439 pages with a number of plates. In it he reports 600 experiments on 270 animals, including rabbits, dogs, sheep, goats, horses, asses and beeves, but principally on dogs, as he considered their physical organization as resembling most closely that of man. He reports the details of 113 experiments, undertaken to determine what becomes of a ligature left on an artery, and what changes are induced in the artery and in the circulation by ligature, single, double or over a cylinder, or torsion of an artery. He also reviews 600 operations undertaken on man at that date in which an artery had been ligated or twisted, studying closer the 49 cases in which gangrene occurred and the 30 deaths out of the 75 cases with hemorrhage. In his experiments he ligated the carotid, subclavian, brachial, femoral and abdominal aorta. Out of 60 animals on whom the latter artery was ligated, 7 survived, and Pirogoff had 2 survive out of 17. He speaks a good word for torsion of the artery in place of ligation for the treatment of wounds of medium sized arteries. He applied it in 18 clinical cases, generally after amputations, etc., on the basis of the results of 60 experiments on large animals in which hemorrhage occurred in only 11. He found it simple, easy and certain for the majority of his cases of wounds of the carotid, subclavian and femoral arteries, twisting them six or seven times on their axis.

GRATUITOUS SERVICES TO A PHYSICIAN.

NEW YORK, N. Y., July 9, 1903.

To the Editor:—Will you kindly advise me in this matter? Dr. A. is suddenly taken very ill, so that he can not choose his medical aid. His family under great nervous strain call in the first physician found at home, Dr. B., who does not know Dr. A. personally. He treats Dr. A., and makes two calls altogether. A few days later Dr. B. sends a bill "for services rendered to son" to Dr. A.'s father. How is Dr. A. to behave in the case? L. H.

ANS.—Article II, Chapter 2, of the Principles of Medical Ethics of the American Medical Association says:

"All practicing physicians and their immediate family dependents are entitled to the gratuitous services of any one or more of the physicians residing near them."

Were we in Dr. A.'s place we should first pay the bill rendered by Dr. B. and then send him a copy of the Principles of Medical Ethics of the American Medical Association with the above paragraph marked in blue pencil.

SOLUTION OF NITRATE OF SILVER.

TOLEDO, OHIO, July 3, 1903.

To the Editor:—I noticed in THE JOURNAL an editorial on Fourth of July injuries in which bichlorid, 1 to 1000, is advised as a cleansing solution. Pepper's Practice says silver nitrate, 1 to 1000, destroys germs in five minutes. Can you tell me whether this silver solution is generally looked on as efficient? J. L. T.

ANS.—A solution of nitrate of silver, 1 to 1000, is an efficient germicide, but not applicable as a general irrigating fluid.

Miscellany.

Removal of Birth-Marks.—Dr. L. L. McArthur described, at a meeting of the Chicago Surgical Society, a method which he believes to be new for the eradication of vascular blemishes of the integument. As the red color of these marks is due to capillary dilatation, it is necessary to obliterate the capillaries. To do this he conceived the idea that if, on a plane horizontal to the surface on which this pigmented area rested, a section was made of the integument in such a way that the entire thickness of the integument would not be destroyed, but that the knife should pass through each capillary loop as it came

* Delle Alterazione Patologiche delle Arterie per la Legatura e la Torsione.

to the surface, he would then have integument still enough intact to prevent actual perforation of the same, with projection of the connective tissue beneath. After waiting for coagulation of the blood in these cut capillaries, a thin Thiersch graft was applied; all of these cut capillaries would then be obliterated, being plugged with blood-clot, which, becoming organized, would simply destroy the pigmented appearance of such a mark. Eighteen months ago a young woman presented herself with a very pronounced mark that extended over the forehead from the scalp to the eyebrow, including the eyebrow, the upper eyelid, and a portion of the malar prominence of the cheek. He adopted such a method as he described on a surface which had already received electrolysis and various other methods for the destruction of the vessels and color without avail, and succeeded in obtaining an excellent result. The patient was exhibited.

Education Preliminary to Medical Study.—The *Mississippi Medical Record* says this is a matter "of primary and paramount importance, and it is to be regretted that Dr. Billings did not emphasize the evils of the course pursued by many of our so-called reputable colleges even more forcibly. The reason the 'mortality rate' at examinations by our state boards is so high is easily accounted for when we find that fully one-half of the applicants are almost totally ignorant of the rudiments of English grammar and do not know the meaning of many of the simplest words of our ordinary language. We do not expect that the medical schools will ever require a college diploma as a requisite for entrance. It is not necessary, as many of our ablest practitioners are living witnesses. But it is pitiful in the extreme to see how far some of our schools descend in their eagerness to get patronage. Why can not we help? Most students, especially in our country districts, have preceptors and these gentlemen, despite the insinuation of a recent 'Fable' of Mr. Ade, do aid their students very materially in their choice of and preparation for their medical colleges. Can not these preceptors impress on their students the advisability of devoting their spare time to the acquirement of that general knowledge that will be of real benefit to them, not alone during the college course but throughout their entire lives, rather than to set them digging aimlessly into the primary branches and laboriously acquiring a few unimportant facts that they would take up 'by absorption' during their first course if their minds were better fitted to contain them?"

Medical Centenarians.—Picard writes an interesting historical sketch of this subject in the *Gazette Med. de Paris* for April 4 and 11, reviewing also the life insurance and other statistics in regard to "when and how physicians die," quoting extensively from THE JOURNAL. Hippocrates, he states, is said to have lived 104 years, and 140 is ascribed to Galen by one enthusiastic historian, but not by others. Three Arab physicians are cited as centenarians, and Picard has found records in France of four before Patenôtre, who died in 1709, aged 103. Poncy, who died at Paris in 1724, was born in 1623 and practiced to 100. Politiman is another French physician who lived into his second century—his biographer states to 140—and was in the habit of getting tipsy every evening, as also Dr. Espagno, who died at 112. A portrait of a Dr. P. Defournelle, inscribed 1690 to 1810, is preserved at Paris, but the first official record of a medical centenarian in France is Dr. A. Chaule, born in 1741, who lived to be 103, followed by Dr. Fau, also 103. Dr. Zalewski's death notice recorded at Bordeaux credits him with 111 years, and states that he was born in 1780, but no official record of his birth has been found. Dr. Bossy, who died at Havre in 1897 at the age of 104, was in such good health to the last that he made a trip to London three years before. His grandfather was 99 at the time of his death, and his father 108. The latter died at London in 1848 and had always enjoyed good health. Dr. Jean David of Montpellier celebrated his 102d birthday, February 10, 1903. He retired from active practice at 98. Picard has found four medical centenarians among the English members of the profession of the last century and five in this country. The latter are Dr. C. Smith, Cairo, Ill., and New York, who is said to have married at 123; Dr. D. Burke, Washington; Dr. H. Courtnay of Hancock; Dr. W. B. Sprague, and Dr. O. S. Taylor of Auburn, N. Y., concluding with Dr. C. Graham, whose centennial was celebrated by a banquet mentioned in THE JOURNAL in 1884, p. 549. Dr. Mavrogenis was a Greek physician, who attained the age of 100 in 1898, and a Swedish physician, Dr. Ivervex, is said to have invented an elixir which enabled him to live to 104. Only two Italian medical centenarians are mentioned and both died in the eighteenth century. A. Dr. O. Kownasky in Russia is said to have served in the Napoleon wars and died in 1887, aged 109. He was paralyzed for sixteen years before his death, but continued his practice to the last. It is said that he dictated a prescription a quarter of an hour before he died. In Spain Dr. F. Verdugo lived to be 105, practicing at Salamanca for eighty years, until his death in 1867. Another Spanish colleague was mentioned in 1875 as 105 years old, living in good health with a wife of 103. Dr. David, above mentioned, seems to be at present the dean of the profession the world around. Picard hopes to hear from others in regard to medical centenarians, as he would be glad to render his compilation as complete and accurate as possible. Communications addressed to him, M. L. Picard, care *Gazette Med. de Paris*, 93 boulevard St. Germain, VI, Paris, will be thankfully received. He cites his authorities in detail, with extracts.

Book Notices.

A TEXT-BOOK OF LEGAL MEDICINE AND TOXICOLOGY. Edited by Frederick Peterson, M.D., Chief of Clinic, Nervous Department of the College of Physicians and Surgeons, New York; and Walter S. Haines, M.D., Professor of Chemistry, Pharmacy and Toxicology, Rush Medical College, in Affiliation with the University of Chicago. Cloth. Pp. 750. Price, $5.00. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

This is the first volume of a system of legal medicine, rivaling, if not exceeding, in size the earlier one edited by Hamilton. Like the latter it is a composite production, and in this first volume we find the names of a number of well-known authors as contributors, such as Drs. Smith Ely Jelliffe, Ludvig Hektoen, Graeme M. Hamilton, Chalmers Da Costa and the late Dr. J. T. Eskridge, as well as the editors, whose well-known work in their departments has made them authorities. The articles are well written, as might be expected. The editors have made but little change in the work of their contributors, desiring them to retain the responsibility for their statements, a matter of some importance in medicolegal proceedings. They have followed the usual English standards of weights and measures throughout the work and the nomenclature and spelling of the U. S. Pharmacopeia. The volume covers the subject of expert evidence, postmortem examination, identity, signs of death, death from other causes, wounds, burns, railway injuries, medical jurisprudence of life and accident insurance, vision and audition in their medicolegal aspects, disorders of speech, inebriety, stigmata of degeneration, insanity, idiocy and mental perversion of sexual instinct. The contents of the succeeding volumes are given, which is a matter of convenience to the possessor of this volume. The work is illustrated wherever it seems necessary. The publishers have done their part, as usual, in an admirable manner. The book will fill a place in medicolegal literature, and, if we are not mistaken, will soon be recognized as a standard.

CANCER AND OTHER TUMORS OF THE STOMACH. By Samuel Fenwick, M.D., F.R.C.P., Consulting Physician to the London Hospital, and W. Soltau Fenwick, M.D. Lond., M.R.C.P., Senior Physician to the London Temperance Hospital. Cloth. Pp. 362. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1903.

The major portion of this volume, as was to be expected, deals with cancer of the stomach. The work is almost entirely a statistical one. A large number of cases collected from various sources have been carefully analyzed and much interesting and useful data presented. The authors recognize three varieties of carcinoma of the stomach, namely, the spheroidal cell, including the hard or scirrhus and the soft or medullary; the cylindrical cell, or adenocarcinoma, and the colloid. The modern theories concerning the etiology of cancer are not mentioned, but this phase of the subject is handled, as are the others, in a statistical manner under the headings of Fre-

quency, Age, Sex, Geographical Distribution, Topography, Race, Heredity, Traumatism, etc. Some interesting facts are here recorded, but nothing that throws the least light on the cause of this great scourge. The authors do not favor exploration of the stomach through an abdominal incision as an aid to early diagnosis in suspected cases, but their reasoning in this regard is not sound, and until some better method of early diagnosis can be found, all hope of permanent relief must rest on more frequent and early exploration in suitable cases. The surgical treatment of cancer of the stomach occupies less than four pages, and merely touches on some of the indications for operation. The illustrations showing the gross anatomy of the disease as it affects the various portions of the stomach are very good.

THE PATHOLOGY AND DIFFERENTIAL DIAGNOSIS OF INFECTIOUS DISEASES OF ANIMALS. By Veranus Alva Moore, B.S., M.D., Professor of Comparative Pathology, Bacteriology and Meat Inspection, New York State Veterinary College, Cornell University, Ithaca, N. Y. With an Introduction by Daniel Elmer Salmon, D.V.M., Chief of the Bureau of Animal Industry, United States Department of Agriculture. Illustrated. Cloth. Pp. 380. Ithaca, N. Y.: Taylor & Carpenter. 1902.

While the average physician does not consider himself called on to study veterinary medicine, yet most country practitioners, and not a few city ones, will find some knowledge of the diseases of domestic animals of value to them in their practice. The present volume describes the leading disorders of most of the useful domestic animals, not only their symptoms, but their pathology, bacteriology, etc., and the volume forms a really valuable elementary treatise on the subject. When we consider the amount of money that is invested in animals and their usefulness, the part they play in the economy of our country, and especially the rural communities, the utility of such a book as this—lacking fuller treatises—to the physician can not but be manifest. As to its merits, the author, Dr. Moore, has long been known as one of the leading veterinarians of this country, and the fact that Professor Salmon, chief of the Bureau of Animal Industry of the United States Government, is ready to endorse it solely on his acquaintance with the author is a significant fact. The book is well gotten up and fully illustrated, the illustrations being well selected, and such as materially aid the text. The style is simple and clear, and the subject matter is treated interestingly. It is a work that should be welcomed, and have a wide circulation in the profession.

SURGICAL ANATOMY AND OPERATIVE SURGERY. For Students and Practitioners. By John J. McGrath, M.D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School. Illustrated with 227 Illustrations, Including Colors and Half-tones. Cloth. Pp. xiv-559. Price, $4.00 net. Philadelphia: F. A. Davis Company. 1902.

In this volume the author has attempted to "combine in a practical manner the subjects of surgical anatomy and operative surgery." In attempting to cover both subjects much of importance has been omitted from each. The anatomy is often elementary and the description of operations stereotyped. One fails to find mention of much that is modern in operative work; for instance, the De Vilbiss rongeur or Gigli saw in head operations; Brophy's operation for cleft palate; Connell's principle of intestinal suture; perineal prostatectomy, etc. Indications for operation and points in favor of one method of operating over another in particular cases are not touched on. Some of the illustrations give erroneous ideas; for instance, Kraske's operation from the illustrations appears very simple and superficial, while on the contrary it is not only a difficult operation, but one in which the parts involved lie at considerable depth. As a guide to students taking the author's operative courses the work would be of value, but it would not fill a long-felt want with the practicing surgeon.

DISEASES OF THE PANCREAS AND THEIR SURGICAL TREATMENT. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon, Leeds General Infirmary; and B. G. A. Moynihan, M.S. (Lond.), F.R.C.S., Assistant Surgeon, Leeds General Infirmary. 293 Pages, Illustrated. Cloth. Pp. 293. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This volume is one of the most interesting and valuable monographs that has appeared during the past year. It deals with the surgical aspect of pancreatic diseases, and since the diseases of this gland have been studied more directly by the surgeon, much that is new has been learned, both in regard to the etiology and the treatment of the pathologic conditions of this heretofore somewhat obscure and rather inaccessible organ. The subject of pancreatitis is thoroughly considered, both from an experimental and clinical standpoint. The author has done much original work in this line, and particularly in the surgical treatment of chronic pancreatitis by means of drainage of the pancreatic ducts indirectly through the bile tracts. The work can be heartily recommended to all interested in the newer developments in the field of diseases of the pancreas.

OBSTINATE HICCOUGH. The Physiology, Pathology and Treatment, Based on a Collection of Over One Hundred and Fifty Cases from British and Foreign Works. By L. F. B. Knuthsen. Pp. 169. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1902.

The author has devoted 152 pages to more or less complete abstracts of cases found in medical literature. The anatomy, physiology and pathology are treated in three pages, the treatment occupying about two pages of print. The pathology presented is such as might have been expected twenty-five years ago, and has no foundation on pathologic anatomy or on data obtained by modern methods of accurate diagnosis. Fifty-four means of treatment, mostly by the internal administration of drugs, have been used successfully by the authors who have reported cases. The book is interesting as a collection of curious clinical cases, but it does little to advance our knowledge of the causation of hiccough, or of the intelligent treatment of the symptom.

CLINICAL METHODS. A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., M.R.C.P., Assistant Physician to the London Hospital, etc., and Harry Rainy, M.A., F.R.C.P. Ed., F.R.S.E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. With Upwards of 150 Illustrations and 8 Colored Plates. Fifth Edition. Pp. 612. Chicago: W. T. Keener & Co. 1902.

While the authors of this work do not claim it to be a treatise on medical diagnosis, it contains an immense amount of practical information within reasonable space. It is a book that will be appreciated by the student who is beginning to study clinical cases, and attempting to take histories and make diagnoses. To the practitioner who has not had the advantage of recent laboratory training in the newer methods of exact diagnosis it is also eminently adapted. It can be recommended as reliable and fairly complete.

CLINICAL EXAMINATION OF THE GASTRIC CONTENTS. Illustrated. Paper. Pp. 48. Published by the New York Pharmacal Association, Yonkers, N. Y.

This is an attractive pamphlet and gives the methods employed in the examination of the gastric juices and includes the various tests, such as Ewald's and Boas' test breakfast and double test meal. Also tests for various significations as, for instance, hydrochloric acid, lactic acid, pepsin, etc., etc. There is also a chapter on clinical significance of variations in the gastric contents, and another on the method of using the stomach tube. The pamphlet is illustrated and contains much information of practical value to the practitioner.

ESSENTIALS OF THE DISEASES OF THE EAR, Arranged in the Form of Questions and Answers. Prepared Especially for Students of Medicine and Post-graduate Students. By E. B. Gleason, S.B., M.D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia, etc. Third Edition. Thoroughly Revised. Pp. 214. W. B. Saunders & Co.: Philadelphia and London. 1902.

In the preparation of this work, the second edition has been carefully revised and considerable new matter added. Although the subjects discussed are divided by interrogatory headings, the general plan is not questions and answers, but very largely answers to a few leading questions. The plan and scope of the work should enable it to fulfill the object for which it was written.

A TEXT-BOOK OF PRACTICAL MEDICINE. For the Use of Students and Practitioners. By William Gilman Thompson, M.D., Professor of Medicine in Cornell University Medical College. Second Edition, Thoroughly Revised. With 62 Illustrations. Cloth. Pp. 1104. Price, $5.00. Philadelphia and New York: Lea Brothers & Co.

This second edition is a revision of the earlier one, which appeared about three years ago. The additions are not extensive, though the articles on dysentery, yellow fever and malaria have been rewritten, as well as one or two other changes made, and some new matter incorporated, bringing the work up to date.

THE DISEASES OF CHILDREN. By James Frederic Goodhart. Seventh Edition. With the Assistance of George Frederic Still. Pp. 813. Price $5.00 Net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1902.

In six previous editions, Goodhart's Diseases of Children has been one of the favorite books on this subject both among students and practitioners. The last revision has brought it fully up to date, and the newer matters of interest in etiology and treatment have been introduced.

Marriages.

F. V. CLARK, M.D., to Miss Duval Woodrum, at Roanoke, Va., June 30.

PAUL F. MORF, M.D., to Miss Louise E. Paulus, both of Chicago, July 9.

JOSEPH DAMIANI, M.D., to Miss Josephine Samuelson, both of Chicago, June 30.

ELAN M. RUSSELL, M.D., to Miss Lucy Harris Hart, both of Carthage, Tenn., July 3.

WILLIAM CLARENCE GWYNN, M.D., to Miss Louise Harrison Beall, at Baltimore, June 27.

PAUL S. MERTENS, M.D., Montgomery, Ala., to Miss Francis Sproul White, at Lexington, Va.

WILLIAM ELNATHAN CLARK, M.D., to Miss Frederickke Gorder of Frederick, S. D., July 8.

JAMES THOMAS NUNNALLY, M.D., Griffin, Ga., to Miss Maggie Helen Beaty of Valdosta, Ga., July 7.

J. M. CHITTUM, M.D., to Miss Teresa Smith, both of Richmond, Iowa, at Albert Lea, Minn., June 17.

ARTHUR C. MORGAN, M.D., Philadelphia, to Miss Laura Blake of Bridgeport, Conn., at Philadelphia, June 24.

DANIEL ALLEN PENICK, M.D., Nicholasville, Ky., to Miss Ella Mason Jordan of Ellicott City, Md., June 30.

NOAH ARTHUR BURR, M.D., Springfield, Mass., to Miss Rose Mary Steinway of Great Barrington, Mass., July 1.

Deaths.

Alonzo B. Richardson, M.D.

Dr. Alonzo B. Richardson, Bellevue Hospital Medical College, New York, 1876, medical superintendent of the Government Hospital for the Insane, Washington, D. C.; a member of the American Medical Association; president of the American Medico-Psychological Association; member of the Medicolegal Society of New York, and Ohio State Medical Society; formerly assistant physician and medical superintendent of the Athens (Ohio) Asylum for the Insane, and superintendent of the state hospitals for the insane at Columbus and Massillon, Ohio, died from apoplexy at the Emergency Hospital, Washington, D. C., June 27, after an illness of a few hours, aged 50. The Columbus *Citizen*, in an editorial, thus speaks of "Ohio's Loss and the Nation's":

> In the death at Washington of Dr. A. R. Richardson, Columbus shares its loss with Ohio and the nation. Born and educated in this state, he had done inestimabe service for its unfortunates and only left this field a few years ago at the call of President McKinley to continue his work in the national hospital for the insane at Washington. His death is all the more to be regretted for the fact that he was stricken down in the fullness of his powers when there was promise of still greater achievements for the relief of an army of sufferers.
>
> Dr. Richardson must be numbered among the great Ohioans. In his administration of the hospitals at Athens, Columbus and Massillon he attracted such wide attention that his promotion to the head of the great national institution, to be constructed according to his plans, was but a natural recognition of his services.

The Columbus Academy of Medicine held a special meeting, June 30, to take action on the death of Dr. Richardson, who had once been president of the Academy.

De Laskie Miller, M.D.

Dr. De Laskie Miller, one of the oldest, most prominent and best-beloved physicians of Chicago, died at his home in that city, July 9, aged 85 years.

De Laskie Miller was born in New York City, May 29, 1818. He was graduated from the Syracuse Medical College in 1842, began practice in Lockport, N. Y., then moved to Flint, Mich., and 51 years ago settled in Chicago. Seven years later he was made professor of obstetrics and diseases of women and children in Rush Medical College, and held this chair for twenty years, when he was made professor of obstetrics and diseases of children, and filled this position until 1889.

When Rush Medical College became affiliated with the University of Chicago, Dr. Miller was made president of the board of trustees, and emeritus professor of obstetrics and diseases of children, and in this position he took an active and important part in the work necessary to bring about the affiliation. He was also an advocate of the elevation of medical educational standards and persistently urged betterment in this regard throughout his entire term of service as professor and trustee.

Last winter, on account of increasing infirmities of age, he resigned his position as president of the board of trustees, but the trustees refused to accept his resignation and lightened his duties.

For many years Dr. Miller had an extensive practice, chiefly in the line of obstetrics, but retired several years ago from active work, retaining only a few of his old patients. Dr. Miller was always a student. During his thirty years of

DE LASKIE MILLER, M.D.

active teaching work, his lectures, while scientific in the highest degree, were always entertaining. He was one of the most popular members of the faculty and was greatly beloved by his students. He was always courteous and helpful to the younger men of the profession. He was a member of the American Medical Association, the Illinois State Medical Society, and a life member of the Chicago Medical Society.

His death was the result of heat prostration, which occurred July 3. He was apparently improving from this condition, but on July 4 had a cerebral hemorrhage with slight consequent paralysis from which he also partially recovered. On July 7, however, the hemorrhage recurred, and this was followed by unconsciousness, from which he did not rally, and died on July 9, at 7 o'clock in the morning. He was buried July 12; the interment was private.

Francois Jean Baptiste Rohmer, M.D. Medical College of Louisiana, New Orleans, 1835, died at his home in Mobile, Ala., June 30, aged 90. He was an ardent student of science, and at the outbreak of the Civil War was appointed by Jefferson

Davis surgeon and botanist, and detailed to collect medicinal plants for the use of the forces. He afterward established a laboratory at Mobile for the manufacture of medicines, dressings, etc. He retired from active practice about four years ago.

Julian Harmon, M.D. Cleveland Medical College, 1849, who had practiced at Warren, Ohio, for nearly fifty-four years; assistant surgeon of the Second Ohio Volunteer cavalry in the Civil War; an active member of the Trumbull County, Northeast Ohio, and Ohio State Medical Societies, died at his home in Warren, July 1, from cancer of the mouth, after an illness of three years, aged 79.

Daniel William Lassiter, M.D. University of Pennsylvania, Philadelphia, 1851, president of the Petersburg (Va.) Medical Faculty, died at his home in Petersburg, July 3, after an illness of one year, aged 76. The Petersburg Medical Society, at a special meeting, July 4, adopted resolutions testifying to the great worth and noble character of Dr. Lassiter.

James Dickson, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1875, was shot and killed by his son, who was temporarily insane, at his home in Canal Dover, Ohio, July 2. At the time, Dr. Dickson was suffering from smallpox, and his household under quarantine.

Charles Blodgett, M.D. Berkshire Medical College, Pittsfield, Mass., 1859, for 40 years an esteemed practitioner of Holyoke, Mass., who moved to San Francisco four years ago on account of his health, died suddenly at Grass Valley, Cal., from heart disease, June 25, aged 75.

Abram M. Cary, M.D. Medical College of Ohio, Cincinnati, 1876, for two years a missionary in Laos, Siam, died at his home on Walden's Ridge, Chattanooga, Tenn., June 27, after a lingering illness, aged 57. At one time he served as county physician and as coroner.

Franklin G. Armstrong, M.D. Cleveland (Ohio) Medical College, 1849, a pioneer of Carroll County, Ohio, and in 1866 its representative in the state senate, a resident of the county for seventy-five years, died at his home in Camden, June 24, aged 81.

James H. McNett, M.D. New York University, New York City, 1880, for many years a practitioner of Hornellsville, N. Y., died July 1 at the old homestead near Belmont, from Bright's disease, after an illness of a year and a half, aged 49.

Robert Douglas, M.D. National Homeopathic Medical College, Washington D. C., 1895, died at his home in Washington, D. C., June 25, from consumption, after an illness of three months, aged 58.

V. H. Harter, M.D. Northwestern University Medical School, Chicago, 1902, of Stronghurst, Ill., died at the Cottage Hospital, Galesburg, from appendicitis, June 25, after an illness of one week.

Archer Starel Cook, M.D. California Medical College, San Francisco, 1881, of San Francisco, died suddenly from heart disease, July 1, at the home of his daughter in Oakland, aged 72.

Robert F. Henry, M.D. Rush Medical College, Chicago, 1853, one of the oldest practitioners of Peoria County, died at his home in Princeville, Ill., July 1, from apoplexy, aged 80.

Levi T. Hayward, M.D. Boston University School of Medicine, 1874, or Orange, Mass., died at Cottage City, Mass., June 22, after an illness of five months, from dropsy, aged 54.

Camillus H. Fahnestock, M.D. New York Homeopathic College and Hospital, 1872, died at his home in Laporte, Ind., July 5, from apoplexy, after an illness of two days, aged 56.

David A. Fox, M.D. New York University, New York City, 1852, died at his home in Clinton, Conn., July 1, from disease of the stomach, after an illness of two weeks, aged 74.

George C. Parmiter, M.D. Philadelphia University of Medicine and Surgery, 1868, died at his home in Syracuse, N. Y., June 29, after an illness of thirteen weeks, aged 82.

Amidee F. Voorhees, M.D. New York University, 1852, one of the oldest practitioners of New Jersey, died at his home in Basking Ridge, June 26, from paralysis, aged 79.

Frank Havenstrite McNeel, M.D. Rush Medical College, Chicago, 1881, died recently at his home in Seattle, Wash., from cancer, after an illness of three months, aged 47.

John R. Kimerer, M.D. College of Physicians and Surgeons, Baltimore, 1885, died at his home in Danville, Pa., July 1, from Bright's disease, after a long illness, aged 43.

David Ellis, M.D. University of Louisville, (Ky.), 1852, an aged practitioner of Augusta, Ill., was run over by a passenger train and killed, at Augusta, July 5, aged 80.

Asa V. Hutchins, M.D. Hahnemann Medical College, Chicago, 1883, died at his home in Chicago, July 6, from injuries received in a fall a week previous, aged 59.

Daniel W. Crittenden, M.D. University of Nashville, 1859, died from uremia at his home in Gordonsville, Ky., June 29, after a short illness, aged 70.

Calvin Austin Crowe, M.D. Jefferson Medical College, Philadelphia, 1854, died at his home in Florence, Ala., June 18, after a lingering illness, aged 70.

Richard M. Green, M.D. University of Pennsylvania, Philadelphia, 1856, died at his home in Corsicana, Texas, from asthma, June 18, aged 63.

William S. Dixon, M.D. Pulte Medical College, Cincinnati, 1886, died at his home in Portsmouth, Ohio, June 30, from Bright's disease, aged 64.

Newton J. Rice, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1857, died at his home in Newton Falls, Ohio, June 29, aged 74.

H. C. Van Noy, M.D. University of Michigan, Ann Arbor, 1862, died at his home in Kansas City, Mo., from paresis, July 2, aged 71.

George Howard Kennard, M.D. College of Physicians and Surgeons, Baltimore, died at Silver Lake, Ohio, June 18, aged 43.

James Gerry, M.D. Jefferson Medical College, Philadelphia, 1863, died at his home in Shrewsbury, Pa., July 2, from heart disease.

David H. Bullard, M.D., died at his home in Glens Falls, N. Y., July 1, aged 90. He retired from practice three years ago.

Eugene M. Jones, M.D. Albany (N. Y.) Medical College, 1887, died at his home in Raynertown, N. Y., June 27, aged 43.

L. C. Means, M.D., died at the residence of his son, Dr. Edwin A. Means, Dallas, Texas, July 3, from pneumonia, aged 78.

Charles E. Nash, M.D. University of Missouri, St. Louis, 1849, died at his home in Little Rock, Ark., July 8, aged 79.

John Patterson, M.D. Transylvania University, Lexington, Ky., 1841, died at his home in Auburndale, Fla., June 27.

Robert E. Gatlin, M.D. Tulane University, New Orleans, 1891, died at his home in Summit, Miss., July 1, aged 41.

E. S. Fiske, M.D. New York University, New York City, 1884, died at his home in Towner, N. D., June 28.

W. C. Gordon, M.D., founder of Gordonsville, Texas, was shot and killed in that city, June 28, aged 35.

Francis E. Brocard, M.D., died at his home in New Orleans, June 29, after a long illness, aged 50.

Calvin M. Clayton, M.D., died suddenly at his office in Warsaw, Ind., June 29, from paralysis.

William Rubinstein, M.D., died at his home in Baltimore, July 1, from heart disease, aged 60.

Medical Organization.

Reorganization in New Jersey.

The Medical Society of the State of New Jersey held its one hundred and thirtieth annual meeting, June 23, 24 and 25, at Asbury Park. At its meeting in 1902 a committee was appointed to consider the subject of reorganization, and to report a new constitution and by-laws, if this were deemed advisable. Dr. Philip Marvel, Atlantic City, was made chairman of the committee, and he and his colleagues had given much thought to the subject. A report was presented at the opening session recommending the adoption of the American Medical Association plan, with only such modifications as might be necessary to conform to the ancient charter of the society. The report was taken up at the afternoon session and promptly adopted by a unanimous vote.

This is the oldest state society in the United States. Organized in 1776, and holding regular meetings during all these years, its influence in shaping the medical history of the state has been paramount. As in some of the other original states, it was empowered to examine and license physicians and, after a fashion, to regulate the practice of medicine.

Gradually shorn of these powers by conflicting or adverse decisions, in recent years the society had been mainly instru-

mental in procuring the enactment of an almost model medical examining law, which has the confidence and support of both the profession and people. This law has been construed by the highest courts as regulating the treatment of human ailments by any and all methods, placing New Jersey in line with the most advanced states in this regard.

The personnel of the membership in attendance impressed one as being almost as remarkable as the honorable history of the society itself. It was distinctly a gathering of mature and elderly men. In this and other respects one was constantly reminded of some of the fine old English societies. While the absence of the younger element, which was so noticeable, could not but be a disadvantage to the society, and still more so to the younger members of the profession of the state who deprived themselves of the privilege of attendance, so far as the society itself was concerned, this was compensated for, so far as possible, by the activity and zeal of these mature men. Abreast of the times in scientific work, and fully alive as to all medical and public health affairs, the papers and discussions were fully up to the average at all times. One octogenarian took part in the discussion of a report on a public health question, and spoke with a vigor and clearness beautiful to hear.

Another specially noticeable feature was the intimate relation constantly shown to exist between the society, the State Board of Health and the State Board of Medical Examiners. This was manifested not only in the interest shown in all matters relating to such public affairs, but in the prominence given them in the program and discussions. The retiring president is the secretary of the State Board of Examiners, and the president-elect is the efficient secretary of the State Board of Health. This long-continued union no doubt in part accounts for the ease with which the strong medical and health laws have been secured, and for the public and professional sentiment which made their enforcement possible without the judicial obstacles which have so hampered such work in many other states. It may also account, either as cause or effect, for the fact that over half of the registered physicians of the state are members of the county and state societies, a larger proportion than has been found in any other state except Alabama.

Considered either in the light of its long and honorable history, or of its actual achievements in all the lines of work properly belonging to such a body, any criticism of this society must be in commendation. Its staid, dignified, and somewhat cold proceedings and methods were in striking contrast with the more informal gatherings in other sections, but it was a pleasure and privilege to attend the meeting, and especially to see this conservative body ready to change its fundamental laws as soon as it was found best to do so. It could not but be an advantage to all concerned if the younger men could be induced to attend and take an active interest in the work of the society. This will doubtless be brought about under the new order of things.

Officers.

The following officers were elected for the coming year: President, Dr. Henry Mitchell, Asbury Park; vice-presidents, Drs. Addison W. Taylor, Beverly, Walter B. Johnson, Paterson, and Henry W. Elmer, Bridgeton; corresponding secretary, Dr. Ellis W. Hedges, Plainfield; recording secretary, Dr. William J. Chandler, South Orange, and treasurer, Dr. Archibald Mercer, Newark.

Council.

Drs. Thomas W. Harvey, Orange; John L. Leal, Paterson; Cornelius Shepherd, Trenton; Daniel Strock, Camden, and Philip Marvel, Atlantic City, were elected councilors. The twenty-one counties were divided into five councilor districts, and the proper steps taken to put the new constitution and by-laws into operation without delay, including a card-index for both the state and counties. J. N. McCORMACK.

Boyle County (Ky.) Medical Society.

Physicians of Boyle County met at Danville, June 26, and reorganized the Boyle County Medical Society, with the following officers: President, Dr. F. H. Montgomery, Danville; and secretary and treasurer, Dr. Spurgeon Cheek.

Madison County (Ind.) Medical Society.

This society met in called session at Anderson after due notice from the president and secretary, and unanimously adopted the constitution and by-laws suggested by the special committee of the American Medical Association. This society numbers 60 members, and should greatly increase its membership under the stimulus of the reorganization movement.

New Hanover County (N. C.) Medical Society.

The medical fraternity of New Hanover County met at Wilmington, June 25, and effected temporary organization of a county medical society. Dr. William D. McMillan, Wilmington, was made chairman and Dr. Thomas M. Green, Wilmington, secretary. A committee was appointed to draft a constitution and by-laws in conformity with those of the state society and the American Medical Association.

Northwestern Pennsylvania Medical Society.

On June 4 five county medical societies united at Cambridge Springs to form a district medical society. It is the ultimate aim of the promoters to include several other counties in the district, so as to conform with the district organization of the state medical society. Dr. Clarence W. Coulter, Oil City, was elected president, and Dr. James R. Durham, Warren, secretary. Only members of the county medical societies are eligible to membership.

Jefferson County (N. Y.) Medical Association.

Under the direction of Dr. J. Orley Stranahan, Rome, a meeting was held at Watertown, July 6, to organize a county medical association to be an integral part of the First District Branch, New York State Medical Association. The following officers were elected: President, Dr. Byron C. Cheeseman, Watertown; vice-president, Dr. Parley H. Johnson, Adams; Dr. Florence A. Sherman, Watertown, secretary and treasurer; Dr. Andrew J. Dick, Watertown, delegate to the New York State Medical Association, and Dr. Charles C. Kimball, Watertown, alternate.

Lone Star Medical Association.

This association, whose membership is made up of colored physicians, held its annual meeting at Marlin, Texas, June 16 and 17. The association adopted the constitution and by-laws as promulgated by the American Medical Association. The following officers were elected: Dr. Thomas E. Speed, Jefferson, president; Dr. Henry L. Smith, Waco, vice-president; Dr. R. E. L. Holland, Temple, secretary; Dr. Napoleon T. Atkinson, Greenville, corresponding secretary, and Dr. Rufus S. Childs, Marlin, treasurer. The next meeting will be held in Waco, Texas, in April, 1904.

Lee County (Iowa) Medical Society.

Pursuant to a call issued by Dr. Charles E. Ruth, Keokuk, councilor for the First District of Iowa, the physicians of Lee County met at Fort Madison, July 2, and organized a county society, adopting the constitution and by-laws suggested by the American Medical Association. The election of officers resulted as follows: President, Dr. France C. Roberts, Fort Madison; vice-president, Dr. Frank M. Fuller, Keokuk; secretary, Dr. John Downs, Fort Madison; treasurer, Dr. William E. Sloat, Denmark, and censors, Drs. Emmett C. Chapman, Fort Madison, Tabor R. Washburn, Donnellson, and E. M. Buck, Montrose. The next meeting will be held at Keokuk in October.

Societies.

Harvard University Medical School Alumni Association.—The triennial meeting was held in Boston, June 24. The following officers were elected: President, Dr. Charles F. Folsom, Boston; vice-presidents, Drs. John C. Webster, Chicago; Frederick W. Borden, Ottawa, Ont.; George B. Shattuck, Boston; Erasmus D. Leavitt, Butte, Mont.; Beverly Macmonagle, San Francisco; Isadore N. Bloom, Louisville; Reynold W. Wilcox, New York City; Josiah N. Hall, Denver; Percival J. Eaton, Pittsburg, and Edward F. Cushing, Cleveland; treasurer, Dr. William H.

Prescott, Boston; secretary, Dr. George S. Whiteside, Boston, and assistant secretary, Dr. John G. W. Knowlton, Roxbury, Mass.

New York State Medical Association, Third District Branch.—The nineteenth annual meeting was held in Syracuse and Onondaga Valley, June 25. A new by-law was adopted which states in substance that the council shall hereafter, in compliance with the conditions specified in the article, assume the defense of suits of alleged malpractice brought against members of the society. The council will not undertake the defense of suits brought against a member previous to his membership, and any member wishing to avail himself of the privileges of the article must first sign a contract renouncing his own and vesting in the council sole authority to conduct the defense of said suit in any manner in which may be considered fit. The council will not, however, feel obliged to pay damages in case such are declared by the court. Dr. Frank W. Higgins, Cortland, was elected president; Dr. Franklin J. Kaufmann, Syracuse, vice-president; Dr. Clarke W. Greene, Binghamton, secretary, and Dr. Frank Kenyon, Scipio, treasurer. Binghamton was selected as the next place of meeting.

Ontario Medical Council.—The Ontario Medical Council has been meeting in Toronto during the past week. It has elected for president for the ensuing year Dr. J. A. Robertson of Stratford, Ont., and the Hon. Dr. Sullivan of Kingston as vice-president. Drs. R. A. Pyne and H. W. Aikins of Toronto were re-elected registrar and treasurer respectively. The most important matter which came before the council this year was the report of the special committee on legislation, which suggested amendments to the Ontario Medical Act, which would benefit both the public and the profession. This report stated that it would be wise owing to the amount of quackery prevailing throughout the province for the legislature to clearly define what is meant by the practice of medicine. Following on this advice the medical council provided a resolution bringing these matters to the attention of the legislature. They felt, however, that it would be unwise to do anything more than call the attention of the legislature to irregular unauthorized practitioners at the present time.

MAINE MEDICAL ASSOCIATION.

Fiftieth Annual Meeting, held in Portland, June 3, 4 and 5, 1903.

President, Dr. Hiram Hunt, Greenville, in the Chair.

History of the Association.

DR. CHARLES O. HUNT, Portland, delivered the historical address. Of the 82 practicing physicians who signed the roll at the first meeting in 1853, only 3 are alive to-day, namely, Dr. Alonzo Garcelon, Lewiston, now 90 years of age and still in active practice; Dr. Cyrus Kendrick, Jr., Litchfield Corners, and Dr. Nathaniel T. Palmer, Brunswick. He then sketched the history of the society, the benefits of the medical association to the practitioner, and considered its intellectual value, its fraternal and social benefits and the value of organization. The objects of the association as stated in the constitution are "Mutual professional improvements, cultivation of friendly intercourse between its members, faithful support of regular and honorable practice and the promotion of medical science." He then took up the American Medical Association plan of organization, and suggested that a committee of five be appointed to consider the plan and report at its next annual meeting.

Election of Officers.

At the morning session of the second day the following officers were elected: President, Dr. Augustus S. Thayer, Portland; vice-presidents, Drs. Frederick L. Dixon, Lewiston, and Frank L. Shaw, Machias; corresponding secretary, Dr. Albert H. Sturtevant, Augusta, and treasurer, Dr. Arthur S. Gilson, Portland.

Historical Papers.

DR. JOHN L. M. WILLIS, Eliot, read a paper on "The History of Medicine in Maine Prior to 1853," and DR. WILLIS B. MOULTON, Portland, one "On the History of Medicine in Maine Outside of the Association Since 1853." In 1860 Maine, with a population of 626,297, had 795 physicians and 3 surgeons—one physician to every 1,050 of the population. In 1900, with a population of 694,466, 1,206 physicians were registered—one to every 576 of the population. The increase in the population in the forty years was about 10 per cent., while the percentage of increase of physicians was more than 51.

Banquet.

The annual banquet was held June 4. Dr. Edwin Fuller, Bath, presided as toastmaster. He called attention to the presence of two of the charter members of the association, the venerable Dr. Alonzo Garcelon and Dr. Cyrus Kendick. Among the toasts responded to were those on "The Relation of Theology to Medicine," "The Relation of Literature to Medicine," "The Relation of the Alienist to the Medical Profession," "The Relation of Good Fellowship to Medicine," and "The Relation of Medicine to the Student."

Entertainment.

After the adjournment of the business session about 150 members enjoyed a sail down Casco Bay and a shore dinner at Long Island.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION.

Twenty-second Annual Meeting, held at Mitchell, May 27 and 28, 1903.

The President, Dr. J. O. Duguid of Springfield, in the Chair.

The Committee on Reorganization.

DR. R. C. WARNE of Mitchell, chairman, reported in favor of adopting the recommendations of the committee on reorganization of the American Medical Association. The report of the committee was adopted without change.

By this action the state is divided into nine councilor districts (with one society in each district). A number of excellent papers were read. Dr. H. E. McNutt gave an interesting account of the passage of our model medical practice law. A vote of thanks was tendered Drs. McNutt and J. R. Hawkins for their good services in securing medical legislation.

Election of Officers.

The following officers were elected: President, Dr. B. A. Bobb, Mitchell; vice-presidents, Dr. C. B. Mallery, Aberdeen, and Dr. J. G. Parsons, Brookings; secretary-treasurer, Dr. William Edwards, Bowdle; assistant secretary, Dr. F. M. Crain, Redfield. Councilors: Dr. Daniel Geib, Groton; Dr. E. T. Ramsey, Clark; Dr. J. E. Coulter, DeSmet; Dr. O. R. Wright, Huron; Dr. A. J. Doty, Colman; Dr. F. L. Freyberg, Mitchell; Dr. J. R. Hawkins, Sioux Falls; Dr. C. C. Gross, Yankton; Dr. W. G. Smith, Sturgis. Members of the house of delegates: Dr. H. J. Rock, Aberdeen; alternate, Dr. C. J. Lavery, Fort Pierre. Place of next annual meeting, Redfield.

The association was handsomely entertained by the citizens of Mitchell and banqueted by the Mitchell District Medical Society.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Thirteenth Annual Meeting, held at New Orleans, May 4, 1903.

List of Representatives.

The Association convened in the Auditorium of Artillery Hall, and was called to order at 2:30 p. m. by the president, Dr. Wm. L. Rodman, Philadelphia.

The following colleges (45) were represented by delegates:

Arkansas Industrial University Medical Department: Edwin Bentley.

Denver and Gross College of Medicine, Denver, Colo.: Thos. H. Hawkins.

Columbian University Medical Department, Washington, D. C.: Thos. A. Claytor.

Georgetown University Medical Department, Washington, D. C.; Geo. M. Kober.

American Medical Missionary College, Chicago, Ill.: E. L. Eggleston.

College of Physicians and Surgeons, Chicago, Ill.: W. A. Evans.

Illinois Medical College, Chicago, Ill.: H. H. Brown.

Northwestern University Medical School, Chicago, Ill.: W. S. Hall.

Rush Medical College, Chicago, Ill.: J. M. Dodson.

Ft. Wayne College of Medicine, Ft. Wayne, Ind.: M. F. Porter.
Medical College of Indiana, Indianapolis, Ind.: D. A. Thompson.
Iowa College of Physicians and Surgeons, Des Moines, Iowa: Lewis Schooler.
College of Medicine, State University of Iowa, Iowa City, Iowa: J. H. Guthrie.
Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa: G. R. Jenkins.
Kansas Medical College, Topeka, Kans.: W. S. Lindsay.
Hospital College of Medicine, Louisville, Ky.: P. R. Taylor.
Kentucky School of Medicine, Louisville, Ky.: W. H. Wathen.
University of Louisville Medical Department, Louisville, Ky.: J. M. Bodine.
Kentucky University Medical Department: T. C. Evans.
Flint Medical College, New Orleans University, New Orleans, La.: H. J. Clements.
Baltimore Medical College, Baltimore, Md.: D. Streett.
Baltimore University School of Medicine, Baltimore, Md.: W. O. B. Sellman.
College of Physicians and Surgeons, Baltimore, Md.: C. F. Brown.
University of Maryland School of Medicine, Baltimore, Md.; R. Winslow.
Woman's Medical College, Baltimore, Md.: H. Harlan.
College of Physicians and Surgeons, Boston, Mass.: C. M. Cobb.
Detroit College of Medicine, Detroit, Mich.: H. O. Walker.
University of Minnesota College of Medicine, Minneapolis, Minn.: J. H. Fulton.
Kansas City Medical College, Kansas City, Mo.: T. J. Beattie.
University Medical College of Kansas City, Kansas City, Mo.: S. C. James.
Marion Sims-Beaumont Medical College, St. Louis, Mo.: H. W. Loeb.
St. Louis College of Physicians and Surgeons, St. Louis, Mo.: C. W. Lillie.
Jno. A. Creighton Medical School, Omaha, Neb.: H. L. Burrell.
University of Nebraska College of Medicine, Lincoln, Neb.: H. B. Ward.
University of North Carolina Medical Department, Chapel Hills, N. C.: R. H. Whitehead.
Miami Medical College, Cincinnati, Ohio: J. Eichang.
Cleveland College of Physicians and Surgeons, Ohio: A. R. Baker.
Ohio Medical University, Columbus, Ohio: W. J. Means.
Jefferson Medical College, Philadelphia, Pa.: J. W. Holland.
Medico-Chirurgical College of Philadelphia, Pa.: Seneca Egbert.
Woman's Medical College of Pennsylvania, Philadelphia, Pa.: W. L. Rodman.
Meharry Medical College, Nashville, Tenn.: G. W. Hubbard.
University College of Medicine, Richmond, Va.: Stuart McGuire.
Milwaukee Medical College, Milwaukee, Wis.: W. H. Earles.
Wisconsin College of Physicians and Surgeons, Milwaukee, Wis.: A. H. Levings.

The minutes of the Saratoga meeting, as printed in the proceedings, were accepted with the following corrections: (1) The minutes to show that the Kentucky School of Medicine was represented at the Saratoga meeting. (2) That the name of Dr. J. W. Chambers be inserted in place of that of Dr. Robert Reyburn at the bottom of page 6.

President's Address.

The first vice-president, Dr. R. H. Whitehead, then took the chair, while the president, Dr. Wm. L. Rodman, delivered the presidential address.

In the first place, it is my pleasure to cordially thank you for the distinguished compliment shown in choosing me as your presiding officer for this meeting. Believing that this would prove to be a critical year in the life of the Association, I assumed office with many misgivings as to my own ability to safely advise and direct the Association's affairs.

It has seemed to me best to follow the beaten paths trodden by my illustrious predecessors and spend the brief time allotted in making a few general recommendations concerning the present needs of the Association. I can not hope to say much that is new, but will endeavor to emphasize that which seems to me true. In doing so, I trust that I will give offense to none, and that I will be credited with an honest endeavor to advance the interests of this Association and to further the cause of medical education, which has ever been its prime object.

In appointing a committee at the last meeting to amend Article III of the Constitution, a judicious step was taken by the Association and one which I am sure will result only in good. The personnel of the committee should command for their carefully prepared reports the respectful consideration of all the assembled delegates. It is to be regretted, I think, that more sweeping authority was not given this excellent committee, so that other amendments, as needful perhaps as those submitted, could have been suggested. The whole constitution and by-laws should be rewritten and made to conform to the requirements of the present time. In many respects they are absolutely wanting, in others vague, and in others still the opposite of what they should be. I would, therefore, suggest the continuance of this committee in the work so well begun, with instructions to present any changes in the constitution and by-laws which may seem necessary at the next annual meeting.

I am pleased to announce that the deficit existing at the last meeting has been entirely liquidated and that there is a sufficient balance in the treasury to meet the Association's obligations during the current year. It could not have been possible, however, without raising the membership fee to ten dollars. This very necessary change will save the secretary many annoyances of a financial nature in the future, and insure, among other things, the prompt publication of the minutes of our meeting. Moreover, a fund will soon be created which can be still further increased, if necessary, by direct assessment to provide for the inspection of all the schools members of the Association. Such a step now seems to me necessary, and I would recommend that the secretary be requested to make, or cause to be made, an examination of the plants and equipments of all the colleges forming the Association, and to report thereon as soon as practicable. By taking one-third of the schools each year, a perfectly satisfactory examination could be made as to their didactic, clinical and laboratory facilities, and the result of such examination be reported on fully at the next annual meeting. Such an examination and report would do more, in my judgment, than any other step that could be taken. Poorly equipped institutions would be slow to seek admission into the Association if they were required to pay the expenses incident to a proper examination of their plant and to abide by the result of such a report made to the Judicial Council. It is easy to comply on paper with all necessary requirements. Some attempt at least should be made to hold schools responsible for what they advertise. This, seemingly, is the only way of doing so.

Membership in this Association has been like salvation, entirely too free in the past, and it can not be denied that the stronger and better schools holding membership are more than restive under the careless admission of some and the continuance in good standing of others that have sinned grievously and palpably. What we need is not more members, but better ones, so that schools seeking admission will do so because it will be both a credit and an honor to belong to the Association of American Medical Colleges, and not as is true now of some, simply for the reason that it is to their commercial advantage to do so. I am neither optimistic nor Utopian enough to believe that all the members of this Association can be of equal merit, any more than can all men or all practitioners of medicine. This is unnecessary. It is the privilege of the strong to support the weak so long as they deserve it, but it is not the duty of those who are virtuous and support the law to shield those who voluntarily transgress it. The Association fixes a minimum standard and pretends to require that all of its members live up to their obligations. They are not doing it, and everyone in this audience who is advised knows it.

JUDICIAL COUNCIL.

That many schools have sinned in the past is to be inferred from the promptness with which unanimous verdicts of the Judicial Council have been set aside by the Association when charges have been both sustained and admitted. We should either support the Council when we believe it to be right or do away with the farce of mock trials altogether. We should not allow the good fellowship of teachers to excuse glaring faults in the schools they represent, a sin easily committed. The work of the Judicial Council is tedious, and somewhat disagreeable, and those who are willing and capable of serving the Association in this capacity should be supported in all reasonable recommendations. They will always give the ac-

cused the benefit of doubts, and the Association can add something to their leniency if it seems best; but to deliberately set at naught the verdicts of a unanimous jury would hardly be countenanced by the most lenient of judges.

FEES.

This body has in the past declined to recognize or discuss the question of fees. So far as fixing a minimum rate, as is done by the Association of Dental Colleges, there are, I admit, two sides to the question. Personally, I favor it and think the time has come to say that no school holding a cheap estimate of its own work shall become a member of this Association. But as to another question, namely the reduction of fees under one pretense and another, there is but one side. This, to my mind, from verbal and written evidence, is the greatest evil from which the Association is now suffering. It can only be stopped by saying that all members shall live up to their published announcements and collect the amounts specified in their catalogues. While I am strongly in favor of a minimum charge of one hundred dollars, and consider this sum really less than a first-class course in medicine can be had for at the present day, still I would be willing to say, let a school charge whatsoever it may please, but require that it collect that amount, and collected in money and not in services or any other questionable way. So flagrant have been the transgressions along this line that it is believed by many that a sufficient forfeit evidencing the good faith of the institution should be required of every member of the Association. I see much in the suggestion to warrant its trial, and believe that it would certainly have a repressive influence if it did not absolutely prevent this blighting evil.

SCHOLARSHIPS.

Some schools have shown scant regard for resolutions hitherto passed by the Association in reference to scholarships. This is an evil parallel to the cutting of fees and should, so far as possible, be eliminated.

TRANSFER OF STUDENTS.

While the constitution is clear enough as to the privileges of members to deal with the students of other schools at the beginning of a session, it has nothing to say on the important question of transferring students in the midst of a term. Undoubtedly this is a subject demanding attention. It is a practice to be discouraged in the main, for nearly always the student wishes to change schools during a term for reasons altogether selfish and discreditable to himself. Occasionally the right will be on his side, and if his record has been good, if all reasonable requirements have been met and the Dean will so certify, there is no just ground for refusing him admission to the same class in another school. It should be made impossible, however, for any work of importance, didactic, clinical or laboratory, to be evaded.

THE ADVANCED STANDARD OF ADMISSION.

There is a pretty general feeling, and it is frequently expressed, that this Association must advance its standard at the present session or it is in great danger of going to pieces. A spirit of magnanimity has been shown for some years by schools whose standards are in many respects ahead of the Association's requirements in the hope that an advance could be made with the hearty co-operation of nearly if not all members. This hope, I trust, has not been illusory. There has been little or no advance made in the Association's requirements since 1895, a long time in this somewhat remarkable era of progress. The result of it is that the Association, which was at one time the leader in medical education, now finds itself led by nearly all of the progressive commonwealths of the country. We are in a position that simply can not and should not continue. I have the greatest sympathy and respect for a small school with no endowment and moderate equipment endeavoring to and succeeding in doing excellent work, though sandwiched in between strong schools on one side and inferior (low grade) ones on the other, such a small school naturally may be slow to favor an advance, fearing that it will suffer thereby. But the fact of the matter is that in the past none of us has ever suffered as much by advancing the standard, as we feared, and do what we will there seems every year an increasing number of students that must go somewhere. There is, moreover, a better appreciation of the small, select school at the present time than ever before, on account of the superior clinical facilities offered toward classes and to sections in the laboratories. Large classes can not be handled so well now as formerly, and this fact is keenly appreciated by medical students. Therefore, it would seem that the best way for any school of precarious existence to increase its matriculation list is by advancing its standard and increasing its facilities. Every year it seems to me that students get to be more discriminating, and certainly every year there is a greater tendency for the better ones to shift from one school to another. One year ago I insisted that our faculty raise its fee to $150, and at the same time made it impossible for any reduction to be given on any account whatsoever. It was feared that it would seriously curtail our freshman class of 1902, yet it was much the largest we have ever had. (To those who can not see things in this light and believe that their schools can only continue under the present standards, I can only say that the way for honorable withdrawal is open to them, and while we should regret to see a single member of the Association leave it, we should prefer that many would go rather than see the Association refuse to do what all of the better schools want and ask for, and an overcrowded profession demands.) No one will deny that there are too many schools and too many practitioners in this country; there are more schools in one city than in the entire Empire of Russia.

How shall the standard be raised? First, the entrance requirements must be raised. Second, no advanced standing should be given to any one having a degree, unless it is demonstrably equivalent to the freshman year in medicine. Third, the session should be lengthened. Fourth, mid-year examinations should be encouraged. No one will question that the requirements for matriculation are far below what they should be. The time has come when this Association can not maintain the respect of the profession and the several state boards of examiners unless it requires a high school diploma, or its equivalent, of matriculants in a medical college. I am not prepared to go so far as the committee and demand that the diploma be from a four years' high school; for, desirable as that is, I fear that it would be requiring more than is feasible or right. In the State of Pennsylvania, for instance, there are 193 high schools, more than two-thirds of all the high schools in the entire state, with less than a four-year course. If such is the case in Pennsylvania, which is certainly one of the oldest, wealthiest, and most favored commonwealths, the conditions are not likely to be better in many states of the Union, but in most of them actually worse. It is not equity, I admit, to put on the same footing men with two, three and four-year high-school diplomas, and it is discriminating against the city boy who will necessarily go to the best high schools with the longest courses. If there must be a favored class it should be the country boys or those from small towns, for, as a rule, they begin school later, have less means, and finally will in all probability settle in the country, where less is required and expected of them. The boy raised in the city is pretty certain to remain there, where competition is sharpest, and he should, therefore, be prepared for it in every possible way.

To say that we will require a high school diploma without qualifications will, I think, be an enormous gain, and as long a step forward as the Association is willing to take. Personally, I favor the four-year diploma, but if we can get to that point in three or five years as an Association representing so many of the states, we will be doing very well. It is only fair to give reasonable notice that such rigid requirements will be enforced so that boys contemplating the study of medicine can prepare for it by taking a four-year high-school course. Therefore, I should say, advance at once to a high school diploma, and in either three, or at most five years, require a four-year diploma or its equivalent. An examination as outlined by the committee in lieu of a diploma should always be permitted. It is unfair and undemocratic to say that every matriculate must be the possessor of a diploma. If he has the knowledge entitling him to one, that is sufficient, and there may be the best of reasons why a student in every way worthy failed to get his degree. A bill, excellent in many respects and deserving of support, lay and professional, failed of passage by the recent legislature of Pennsylvania because it did not provide for an examination of those who were self taught, or at least without diplomas. It passed the lower house by a large majority and undoubtedly would and should have passed the senate but for this unfortunate and fatal omission.

ADVANCED STANDING.

The report of the committee appointed recommends "that credit for one year be given to students holding the degree of A. B., B.S., or other equivalent from a reputable university or literary college." The minority report would withhold advanced standing to those with baccalaureate degrees. I should prefer to take a middle course and grant advanced standing only to those who have specially fitted themselves for the study of medicine. No other course, in my judgment, so well

prepares one for a professional career as a two or three years' course in the biological sciences. I have never favored the idea of granting advanced standing for any cause whatsoever, and have believed it best to require four years in a medical school. I am quite sure, and in this belief nearly all concur, that it was a mistake to give a one-year credit to dentists, pharmacists and veterinarians; a majority of the schools have discontinued the practice. I have never known of many instances where such students were not greatly handicapped throughout their entire medical career. It would seem that there is less reason for giving one year's credit to a student with an A.B. degree. Under this ruling many schools are still granting advanced standing to even high school graduates, and are really giving only a three years' medical course. It was never, I think, contemplated by the Association that the present law would be so construed, but that it has been made very elastic, and an excuse for a short cut to a diploma in many instances, there can be no doubt. It may be safer, as the author of the minority report says, to give no advanced standing to any one, but in lieu thereof to allow credit for work actually done. This is the ideal method, I admit. Practically, however, we find the biological courses in most of the eastern colleges quite the equal in every way of the freshman year in medicine, and students with such degrees easily take their places in the sophomore class and acquit themselves creditably. I have never known one to fail in the final examination before his faculty, or before a state board. Such has also been the experience of Jefferson College. Such students come with a disciplined college training and, moreover, have what all others claiming advanced standing have not, a good knowledge of anatomy, both comparative and human. I know that the presidents of all the colleges in Pennsylvania have shown great interest in their biological courses and have designed them especially for those intending to study medicine. More than two years ago, when they were all invited to take part in a discussion before the Philadelphia County Medical Society, the subject of advanced standing being then a live one with the medical schools of Philadelphia and the Pennsylvania State Board, a good account was given by the colleges represented, and most of us were surprised at the completeness of their biological courses. Since then the schools of Philadelphia have not hesitated to admit such students to advanced standing, though denying it to all others.

LENGTH OF TERM.

I heartily endorse the recommendation of the committee that this Association require as a minimum a seven months' term. Some of the best schools require nine, more eight and all should require at least seven months. The very proper action of the several state boards of examiners in demanding longer terms has made this advance absolutely unavoidable. I should prefer to see the term eight months instead of seven, as some of the state laws require it now, and others will do so very soon. This Association should lead and not be driven.

MID-YEAR EXAMINATIONS.

The time has come when this Association should encourage, if not require, mid-year examinations in writing, as is done by nearly all of the best literary colleges. Our frequent quizzes are all very well in their way, but do not prepare students for their examinations before state boards, which are invariably in writing. Men only learn to write good papers by practice, and if they were required to undergo written examinations twice a year instead of once, it is reasonable to suppose that by the end of their senior year they would present very much better papers and appear to greater advantage before the several state boards.

Every year I find the papers of the senior students much better in construction, spelling, etc., etc., than those of the juniors, which I can only explain in two ways: First, by their larger experience in written examinations; second, by the result being of greater moment to them. If the junior fails to secure a passing mark, he is conditioned; if the senior does not come up to the standard, he fails of graduation. This naturally indicates that the final examination of freshmen, sophomores and juniors should be, what they are not, as a rule, I fancy, even more rigid than the examinations of seniors. It is fairer and more just in every way to hold up a man and let him know where he stands before reaching the senior class. It is certainly most unjust to throw out a student at the end of his senior year for either bad writing, spelling, English, or all. This should be done when he applies for matriculation, and in the event of his shortcomings not being detected then, they certainly should be at the end of his freshman year. I do not teach the freshman or sophomores but the juniors and seniors, and each year I condition in surgery three times as many juniors as I vote against seniors. It is rarely the case that a conditioned man comes up lame the following year. Moreover, they are almost invariably grateful for the warning given, and meet their fate with a philosophy that a senior can not be expected to show. From an experience in four faculties during the past fifteen years I am led irresistibly to the conclusion that the senior examinations are *about* what they should be, but the examination of underclassmen is frequently little more than a sham.

In conclusion, I should say that the most pressing and needful reforms at present necessary are an increase in the preliminary requirements before matriculation, with better teaching and more rigid examination of underclassmen.

On motion of Dr. W. J. Means, the address was referred to a committee of three to report at the evening session. The chair appointed on this committee Drs. H. O. Walker, J. W. Holland and H. B. Ward.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Gonorrheal Arthritis.

E. C. Hill, in *Med. Standard*, gives the following methods of dealing with arthritic joints due to gonorrhea, which have been prescribed by different authors:

Potassium iodid, grains 5 in a tablespoonful of water every hour or two.

Syrup of iodid of iron, dram one half, gradually increased.

Treat the focus of infection in the urethra.

Apply to the joint an ointment as follows:

℞.	Ol. terebinthinæ		
	Acidi salicylici		
	Lanolini, āā	℥iii	12
	Adipis	℥iii	90

M. Ft. ung. Sig.: Apply locally.

An injection of mercuric chlorid solution is sometimes recommended as follows:

℞.	Hydrarg. chloridi corros.	gr. i	06
	Sodii chloridi	gr. x	65
	Aquæ destil.	℥i	30

M. Sig.: Inject three to five hypodermic syringefuls into the joint at intervals of three days; or:

℞.	Guaiacol	3ii	8
	Olei olivæ	3vi	24

M. Sig.: Apply to the skin over the affected joint four times daily.

Aspiration of the sero-purulent effusion, followed by compression of the joint and fixation of the limb in immovable dressing. Massage and hot and cold douches to aid absorption.

Ozena.

Voquier, in *Jour. des Pract.*, recommends, in the treatment of ozena, that the surfaces be thoroughly cleansed and the dried crusts removed by warm douches containing sodium chlorid, sodium bicarbonate, or lysol in solution, after which one of the following ointments should be applied by means of a swab or small brush:

℞.	Menthol	gr. ivss	30
	Acidi borici	gr. xxx	2
	Liq. petrolati	℥i	30

M. Sig.: Apply locally three times a day; or:

℞.	Naphthol	℥i	4
	Resorcin	gr. xv	1
	Liq. petrolati	℥i	30

M. Ft. unguentum. Sig.: Apply locally; or:

℞.	Diiodoformi	℥i	4
	Liq. petrolati	℥v	20

M. Sig.: Apply locally.

Some preparation containing iodin has always served a good purpose in these foul-smelling conditions. The iodin may

be applied as follows, after applying a weak solution of cocain to anesthetize the parts:

℞.	Iodi	gr. v	30
	Pot. iodidi	gr. xv	1
	Aq. destil.	ʒiss	6

M. Sig.: To be applied locally by means of a cotton swab or applicator.

Aperient for Pregnant Women.

Lutaud, in *Nouveaux Remèdes*, recommends the following combination to relieve the constipation of pregnant women:

℞.	Olei ricini	ʒi	30
	Syr. rhei	ʒv	20
	Spts. frumenti	ʒss	15
	Essentiæ menth. pip.	m. ii	12

M. Sig.: To be taken at one dose.

Urticaria.

The *Medical World* recommends, in the treatment of urticaria, that the patient be placed on some combination containing calcium chlorid as follows:

℞.	Calcii chloridi	ʒii	8
	Tinct. aurantii flor.	ʒvi	25
	Aq. chloroformi q. s. ad	ʒvi	180

M. Sig.: One to two tablespoonfuls to be taken three times a day.

In addition the patient should be instructed to take a bath containing soda or borax. The elimination from the bowels and kidneys should be carefully watched.

Pertussis.

Rothrock, according to an abstract in *Med. Standard*, advises, in the treatment of pertussis, that expectorants be administered in the catarrhal stage. He recommends the stimulating expectorants such as ammonia, scilla, senega, etc. Either the carbonate or chlorid of ammonium may be given.

In the second stage sedatives are indicated, such as belladonna, cannabis, indica, codein, passiflora and conium. The following combinations are recommended by the author:

℞.	Tinct. belladonna	m. xxiv	1 65
	Sodii brom.	ʒiii	12
	Syr. tolutani	ʒiii	90

M. Sig.: Five to twenty drops at a dose.

The following containing grindelia robusta is also recommended:

℞.	Tinct. grindelia robustæ	ʒss	15
	Spts. vini rectif.	ʒss	15
	Acetanilidi	gr. xxiv	1 65
	Syr. acaciæ	ʒiii	90

M. Dissolve the acetanilid in alcohol and add to the other ingredients. Sig.: Ten drops to a child of one year; to a child of 8 or 10, the dose may be increased to 20 or 25 drops every two hours.

℞.	Cochineal	gr. x	65
	Sodii bicarb.	gr. xii	75
	Pot. brom.	gr. xv	1
	Tinct. belladon.	m. xv	1
	Tinct. card. co.	ʒi	4
	Aquæ cinnamomi	ʒii	60

M. Sig.: Twenty to thirty drops every four hours; or:

℞.	Acidi hydrocyanici dil.	m. viii	50
	Tinct. ipecacuanhæ	ʒi	4
	Syr. tolutani	ʒi	30
	Aquæ	ʒi	30

M. Sig.: Ten to twenty drops every three or four hours.

The author also recommends drosera as of value in relieving the paroxysm, given as follows:

℞.	Ext. droseræ fl.		
	Ext. ipecac fl.		
	Tinct. nucis vomicæ, āā	m. v	30
	Aquæ q. s. ad	ʒiv	120

M. Sig.: One teaspoonful at a dose.

Bromoform is also recommended in 2 to 4 drop doses. Ichthyol, one teaspoonful added to 4 or 5 ounces of water and used as an inhalation, is of service.

The author condemns the use of opium, substituting codein in doses of gr. 1/100 to gr. 1/32, according to the age of the patient.

If the patient vomits to any extent, cerium oxalate should be given, as it acts on the pneumogastric nerve.

He has obtained good results from passiflora incarnata as an antispasmodic, sedative, tonic and eliminant. It is a safe remedy given in teaspoonful doses of the tincture every two or three hours.

G. Macridés, in *Jour. de Med. Interne*, recommends the following formula in the treatment of whooping cough:

℞.	Bromoformi	gtt. 1	3 30
	Syr. belladonnæ	ʒvi	25
	Aq. destil.	ʒiii	90

M. Sig.: One teaspoonful three or four times a day for a child over six years of age.

Medicolegal.

Sodomy.—The Court of Criminal Appeals of Texas holds, in Almendaris vs. State, that under a charge of sodomy, carnal knowledge, such as is essential to the crime of rape, must be proved, though the jury may infer penetration from the circumstances, without direct proof. And the Court of Appeals of Kentucky holds, in White vs. Commonwealth, that, while the decisions have not been uniform, the drift of the later decisions in both the English and American courts is to hold that nothing more than *res in re*, without regard to the extent of the penetration or emission, is all that is required.

Insufficient Evidence of Practicing Without License.—The Supreme Court of Washington says that the acts constituting the practice of medicine charged in the case of State vs. E. Dunham were that at a certain time and place the latter "did wrongfully and unlawfully establish and maintain an office, and advertise the title of doctor" in a certain newspaper. No attempt at all was made to prove that he maintained an office, and the only evidence introduced as to the other fact was a paper containing an advertisement. Clearly, the court holds, there was here no proof of the crime charged, namely, the practicing of medicine without a license. As against the presumption of innocence, it could not be presumed from the mere fact that an advertisement appeared in a paper that it was authorized by the accused, nor would it be presumed that he was the person named in the advertisement, though the name therein and his name were the same.

Liability for Disease Resulting from Injuries.—In the personal injury case of Wood vs. the New York Central & Hudson River Railroad Company, where the decline of the party suing had been substantially uninterrupted, until consumption had supervened, ascribable to the shock and muscular strain of an accident, the Fourth Appellate Division of the Supreme Court of New York says it assumes that if there is a progressive, complete connection between any diseases and the injuries inflicted, such disease may be taken in estimation by the jury, as the party suing is entitled to recover for any damages which are the proximate result of the injuries. It is a matter to be determined by the jury, and the causal connection between the injuries and the existing disease must depend in a considerable degree on the evidence of physicians. The right to embrace in the recovery damages for an existing disease may not be lost by reason of the length of time which has elapsed between its discovery or inception and the infliction of the original injuries, nor on the character of the disease. The fact may be established that the disease was the result of the injuries; that the association of the two is by a direct line; and their connection is not to be based on conjecture or speculation. If their unbroken connection is thus demonstrated, then the cause of action of the party suing may include the disease.

Without Contract Town Not Liable for Medical Services.—The Supreme Court of Mississippi holds, on the appeal of the Town of Pass Christian vs. Washington, an action brought by the latter party, a physician, to recover for services rendered in treating four cases of smallpox and preventing the spread of the disease, that the whole case failed for the want of any valid

contract for these particular services with the city. After the physician's discovery and reporting of these cases, the mayor directed him to do what was necessary, and the board of mayor and aldermen made an order that he be appointed health officer of the town, and be requested to take at once the necessary sanitary precautions for the general good of the health of the town. The Supreme Court says that this order was a mere appointment of the physician as a health officer, vesting him with the usual authority with respect to sanitary precautions for the good of the town. It was in no sense a contract to treat these four smallpox patients, and no other valid contract for that purpose was shown. Without a contract, it declares, there is no liability on the part of the town. And to much the same effect is the decision of the Supreme Court of New Hampshire in the scarlet fever case of Pettengill vs. the Town of Amherst. It says that the verdict of the jury established the fact that the services of the physician suing were not rendered at the request of the town, or under any contract with it therefor. The board of health did not employ, or attempt, as statutory agent of the town, to pledge its credit for his services rendered in this case. The board did not deem it "wise or necessary" to employ him in this case at the expense of the town, to use the words of the statute which provides that in cases of quarantine the board may render assistance when deemed wise or necessary. Whether there was a moral obligation, under the circumstances, resting on the board and the town to provide the party in question with medical attendance during the confinement of his family in quarantine, was immaterial in this action. The town could only be liable on a legal contract, which the case showed did not exist.

Libel on Physician in Board of Health Preamble.—The Ohio case of Mauk vs. Brundage and others was brought by a physician against the members of the board of health of a village for libel in causing to be published in a newspaper: "An order to prevent and restrict infectious diseases. Whereas, the board of health of the village of Delphos, Allen and Van Wert counties, Ohio, after careful consideration, has become satisfied that in said village a number of deaths have recently resulted from the carelessnesss and negligence of the physician attending the patients in childbirth soon after attending and handling other patients affected by blood poison and other infectious diseases, and that from the same cause others in said village have greatly suffered and barely escaped death: Therefore, it is hereby ordered by the board of health of the village of Delphos, Allen and Van Wert counties, Ohio, that no physician and surgeon or midwife or other person who has heretofore or may hereafter practice or attempt to practice medicine, surgery, or midwifery in any of its branches, shall within said village attend as physician, surgeon or midwife, or touch or handle, any woman in childbirth, nor perform any act of surgery, or touch the mucous membrane of any person within thirty days after such physician and surgeon, midwife, or other person practicing or attempting to practice medicine, surgery, or midwifery has touched or handled any person affected with blood poison, gangrene, erysipelas, or other infectious disease, except in continuing to treat his or her patients affected with the same, and no other infectious disease." The answer of the members of the board admitted the passage by them of the preamble and order as charged, and that the same was placed on the record of the board's proceedings, but averred that they passed the order as members of the board of health; that they had reasonable and probable cause to believe and did believe the facts stated to be true, and published the same under an honest belief that such publication was required of them in the due discharge of their official duties as such board, and denied that the same was published maliciously, or with any intent to injure the party suing. The Supreme Court of Ohio holds that the preamble, construed in connection with the order and the pleadings, was libelous per se, or by itself, and the publication of it was not privileged. It was the duty of the court to so instruct the jury, and not to submit those questions for their determination. On showing by a preponderance of the evidence that the preamble was published as charged, and that the party suing was the physician intended by the members of the board and understood by the community as such physician, he was entitled to recover at least such compensatory damages as were attributable to the publication. If, in such case, the evidence warranted a finding that in the passing and publication of such preamble some of the members of the board were actuated by express malice and others were not, and the jury should so find, it would be proper practice to render a verdict against all of the members for compensatory damages, and an additional amount as exemplary damages against those found to have been guilty of express malice. The result to be reached in the present instance, the court says, was the order providing for the conduct of physicians in the village. To reach this result, however imminent the duty of the board to pass and publish a proper resolution to correct the evil which it was assumed existed, it could not be at all important to charge negligence on the part of any physician. Not being essential, or even important, that the board should undertake to fix the blame on any particular person, it followed that the preamble was not a privileged communication, and that those who passed and published it assumed the responsibility as individuals, and could not shield themselves by merely showing that they acted as members of the board, and that the order itself was a proper one.

Current Medical Literature.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

July 4.

1 *Arterial Sclerosis as a Cause of Nervous Disease. M. Allen Starr.
2 *The Anatomy of Portal Anastomosis. Rolfe Floyd.
3 *Synopsis of Experiments on the Transformation of Circulating Uric Acid in the Organism of Man and Animals. Alfred C. Croftan.
4 How May We Cure Posterior Displacement of the Uterus? Augustin H. Goelet.
5 *Tent Life for Consumptives. J. Edward Stubbert.

1. Arterial Sclerosis in Nervous Diseases.—The importance of endarteritis in the etiology of nervous diseases is insisted on by Starr. In 200 consecutive cases of apoplexy of which he has records in private practice, in 80 per cent. there were distinct prodromal symptoms which had been regarded at the time as neurasthenic, but which are more readily explainable under the law of malnutrition due to arterial disease. He thinks if the condition of the blood vessels and the heart muscles were thoroughly investigated for the possible existence of accentuated second sound, and the tension of the arteries not only in the wrist, but elsewhere, and the condition of the kidneys were studied, the so-called neurasthenia would be more apt to yield to treatment than by the use of remedies directed particularly to the nervous system. He also remarks that it is not so commonly known that the majority of diseases of the spinal cord are equally traceable to the vessel wall where direct infection is not shown. Vascular disease is found in poliomyelitis, bulbar palsy, myelitis, spastic paralysis, so-called senile paraplegia and combined sclerosis, all of which can be traced often to arterial degeneration. Diseases of the peripheral nerves are also occasionally due to endarteritis, as in case of alcoholic neuritis. The facts in regard to the occurrence of partial neurasthenia and prodromata of apoplexy also suggest the possibility that some minor nervous symptoms, spinal or otherwise, are possibly due to malnutrition of the brain from arterial disease. It is not sufficient to make a diagnosis of spinal neurasthenia in some of these cases; the possible underlying cause, endarteritis, etc., must also be considered. The various forms of neurasthenia may also be brought under this same etiologic category. He would not say that all nervous affections are due to this cause, but very many have it for a factor, and it should receive more attention in the management of these cases. The treatment of neurasthenia, neuralgia, spinal and hemiplegic symptoms also includes methods which have for their aim the establishment of an equable circulation. The ordinary treatment of arterial sclerosis by drugs he does not

consider very satisfactory. There is usually very great variation in the tension of the pulse, and while we can control this with various remedies, it is improper to keep such constantly employed. He has never observed in the treatment of Graves' disease a high-tension pulse. He thinks the thyroid secretion in the blood is responsible for this. This suggests the use of thyroid extract in the conditions of arterial disease. He has found it of great benefit in managing temporary high pressures, and has also seen a certain amount of benefit from its use in chronic conditions, for which he prefers it to nitroglycerin. It should not be overlooked that many patients who have extensive arterial disease, with its symptoms, live to extreme old age, and this should be remembered in making the prognosis. Many persons also having the physical signs of extreme arterial sclerosis have no symptoms whatever. The underlying condition is one that may spontaneously subside or disappear under treatment.

2. **Portal Anastomosis.**—Floyd's article gives a description of the liver circulation in the fetus at term, the changes following at birth and the sites of anastomosis between the portal and systemic veins in the adult. The article is detailed and contains several schematic diagrams which aid in its comprehension.

3. **Uric Acid.**—Croftan has investigated the effect of uric acid injected into the system and how it is destroyed. His clinical conclusions are stated at some length. He finds that the watery extracts prepared from the kidney, liver, muscles, blood and spleen all destroy uric acid in varying degrees, and it is probable that these organs have the same effect during life by the aid of unorganized soluble ferments secreted. The proposition that uric acid is normally destroyed in the organism may therefore be considered answered in the affirmative by these experiments, and from analogy with certain animal experiments. Bulk for bulk, the kidney destroys more uric acid than the liver, the liver more than the muscles, the muscles more than the spleen and the blood. The fact that the kidneys normally destroy uric acid teaches that great care should be exercised in drawing conclusions from the plus or minus of the urinary uric acid excretion. The circulating urinary uric acid can not be considered as an index. It merely represents the algebraic sum of circulating uric acid and the uric acid destroyed in the kidneys. There is, therefore, always more of circulating uric acid than is indicated by the urinary uric acid excretion. Derangement of the liver function has been considered as a cause of uratic diathesis, more uric acid than normal being formed. It seems to Croftan that the derangement consists in inability of the liver to destroy the normal amount of circulating uric acid or the excess that is so frequently ingested. The power of the muscles to destroy uric acid may explain, as Wiener suggests, why exercise often relieves uratic symptoms. The accelerating effect of salicylates and dilute alkalies on the power of one of the uric-acid destroying bodies (the nucleo-proteid) to liberate oxygen, aids in explaining why these remedies are beneficial. The formation of oxalic acid from uric acid in the kidney may explain the clinical fact that in gout oxaluria is not infrequent, and occasionally the appearance of much oxalic acid in the urine is accompanied by a corresponding decrease in the uric acid. The formation of urea from uric acid demonstrates that uric acid is not a terminal product, but an intermediate one between certain albumins and urea—the old view slightly modified. Much that has been written on the urea-uric acid ratio is sheer nonsense. There is much experimental evidence to show that the function of certain organs that destroy uric acid is also to destroy fats and sugars. Inadequacy of this triple function would lead to the accumulation of fat, of sugar and of uric acid, pointing to the pathogenic relationship between obesity, diabetes and the uratic diathesis, all characterized by accumulations in the blood and tissues of bodies that should normally be destroyed.

5. **Tent Life for Consumptives.**—Stubbert insists on the value of tent life giving free ventilation which can not be supplied in the winter by sleeping with the windows open, excepting in very exceptional cases where the room has a southern exposure and there are windows on three sides. Tent life furnishes the conditions needed and should be made as comfortable as possible. For the summer months hardly anything more than a sheltering roof will be required, but in the winter in the colder regions something more substantial is needed, such as a conical tent with perfect ventilation in all kinds of weather. He advocates the erection of tents in connection with hotels and summer resorts. The great value of the open-air treatment is its cheapness combined with its demonstrated efficacy. The best site for a tent is not in a forest, but on the edge of a wood where the patient can have the full benefit of sunshine and free circulation, with shade within reach and protection from the colder winds.

American Medicine, Philadelphia.

July 4.

6 *The Occurrence of Painful Affections of the Feet Among Trained Nurses. Robert W. Lovett.
7 *Sixty-eight Reasons why "Glasses Did Not Give Relief." George M. Gould.
8 *Funnel-chest, with Report of Two Cases. Florence H. Richards.
9 *The Early Diagnosis of Pregnancy. J. J. Gurney Williams.
10 *Hemorrhage Following Tonsillotomy, with Report of a Serious Case. Adolph H. Urban.
11 What Are the X-Rays? J. Rudis-Jicinsky.
12 The Medical Institutions of Madrid. Nicholas Senn.

6. **Painful Affections of the Feet.**—The frequency and severity of affections of the feet among trained nurses have been studied by Lovett, who details his methods of treatment and offers his conclusions as follows:

1. It has not been possible to tell, with any certainty, by examination whether or not the feet of an individual are likely to give trouble. The only reliable information obtained in these cases was given by the imprints seen through glass. A foot with a well-distributed pressure area seemed rather less likely to give trouble than one resting on two islands; the degree of pronation, the condition of the circulation, the relative weight of the nurse, and the dorsal flexibility of the foot all proving of little or no value as elements in prognosis. A flat foot may be perfectly serviceable, as may also a severely pronated one, while an apparently well-balanced foot may become painful.

2. The factors in causing the trouble among the nurses were to be sought rather in the general conditions than in any special conformation of the foot. It followed, in many cases, illness and other conditions causing muscular debility. It occurred in most cases from two to three months after entrance, and it began most often in the early spring, when the nurses had been indoors all winter, and least often in the fall.

3. The trouble was caused by a rolling in of the foot and a shifting inward of its weight-bearing areas and not in any case observed by a breaking down or even lowering of the arch.

4. Although proof by figures is lacking, it is probable that the amount of trouble has been decidedly less than it would have been without the use of a proper boot.

7. **Why Glasses Do Not Give Relief.**—It is naturally impossible to detail all of the sixty-eight reasons with their bases as here given by Gould. He emphasizes, however, the defects of the physician in refraction work, which he claims requires a special adaptability, perfection of methods and appliance, care in determining the relative amounts of astigmatism, etc., and the proper methods of examination. The necessity of wearing the right kind of glasses and seeing that they are properly adjusted are emphasized. For further details the reader is referred to the article.

8. **Funnel-Chest.**—Two cases are reported by Richards, one of which was extreme. This form in which the entire sternum is depressed is rare. There is always a congenital deformity and treatment is practically unavailing.

9. **Pregnancy.**—The most important signs of early pregnancy, according to Williams, are change in the shape of the uterus from the pyriform to more spherical shape, the softening of the lower uterine segment, which is not always reliable, the bluish discoloration of the vagina, which he thinks is of considerable value, the lowered cervix and the increase in the weight of the uterus and its lessened mobility. In conclusion some remarks are made on the recognition of ectopic pregnancy.

10. **Tonsillotomy.**—The point of interest in the case reported by Urban is that complete exsanguination resulted from tonsillar hemorrhage following tonsillotomy, bleeding from the nose, lungs and stomach being excluded by careful examination. The occurrence of such severe bleeding in children is rare, and there was here probably an anomalous tonsillar or internal maxillary artery. The case indicates that one should be prepared for such complications.

Boston Medical and Surgical Journal.

June 25.

13 *Surgical Tuberculosis. (To be continued.) Herbert L. Burrell.
14 *The Blood in the Typhoid of Children; a Clinical Study. Frank Spooner Churchill.
15 *The Cure of Cancer by Use of the X-Ray. H. W. Van Allen.
16 A Case of Strangulation of the Testis Due to Torsion of the Cord. Arthur T. Cabot.

July 2.

17 *Surgical Tuberculosis. (Concluded.) Herbert L. Burrell.
18 *The Clinical Associations and Significance of the Cardiopulmonary Murmur. James J. Putnam.
19 Nasal Polypi: A Study of 147 Cases. J. Payton Clark.
20 Septic Endocarditis. A. W. Dudley.

13 and 17.—**Surgical Tuberculosis.**—Burrell accepts the view that about 80 or 90 per cent. of adults at the age of 40 have been affected in one way or another with tuberculosis. The infection is a universal one. The fatality of the disease, however, is decreasing. The surgical type itself is most frequent between the ages of 10 and 30 years of age according to Leonte. It is clear that the majority of individuals are able to conquer the disease; it is not as malignant in character as has been alleged. He discusses at some length the pathology and the principles of treatment, which are physiologic rest and improvement of the powers of resistance of the individual. Naturally sanatorium treatment is discussed at some length, and he describes the methods and makeshifts which have been utilized, and criticises the ordinary hospital construction in some respects for this disorder.

14. **Typhoid in Children.**—The conclusions of Churchill's article are that the blood in infantile typhoid differs from that of adults only in degree. There is a reduction of the erythrocytes, especially during the first three weeks, with subsequent increase, reaching normal on the fifth week. The hemoglobin suffers more, proportionately, than the erythrocytes. The leucocytes are reduced throughout the first four weeks, the lowest average being reached during the second week excepting in severe cases. Leucopenia is of diagnostic value, especially in children, in whom most febrile affections produce a leucocytosis. We need more data to determine the relative proportion of the different varieties of leucocytes in the different groups, the greatest variation being in the polymorphonuclears and mononuclear elements, the latter increasing and the former diminishing with the disease. The increase in mononuclears is chiefly in the lymphocytes.

15. **Cancer and the X-Rays.**—Van Allen insists on the importance of the selection of apparatus, favoring the use of a coil rather than a static machine; the proper selection of tube; care as to inflicting burns, either on the operator or the subject; the frequency of treatment; the length of exposure, etc. In many cases he finds the combination of removal by cutting and radiation the best course. He briefly mentions other uses of the rays, such as for lupus erythematosus, epilation and pustular eczema of the lip; reporting cases.

18. **Cardiopulmonary Murmur.**—This murmur, which has been considered as indicating some unusual relationship of the heart and lungs, has been found by Putnam to be more frequent among neurasthenics than among other classes. His observation suggests that it is not impossible that it is a disease due to some abnormality or defect of the innervation by which the action of the heart is brought into relation with that of the lung. The explanation of the phenomenon is easier if we assume that the regulator mechanism governing the lung tension or tension of the vessels has been damaged and the relation between the two has become defective. He does not claim this as an adequate explanation, but one that may possibly assist in obtaining a satisfactory one.

New York Medical Journal and Philadelphia Medical Journal (Consolidated).

July 4.

21 *Intravascular Antisepsis. (To be concluded.) Charles C. Barrows.
22 *A Simple Method of Appendectomy. Emil Ries.
23 The Hookworm Disease in Alabama. E. D. Bondurant.
24 *Gonorrhea Insontium. Especially in Relation to Marriage. (Concluded.) Prince A. Morrow.
25 *Perineal Partial Prostatectomy. Weller Van Hook.
26 *The Treatment of So-called Diabetic Gangrene of the Extremities. Howard Lilienthal.
27 *The Diagnostic Value of a Proctoscopic Examination in Proctitis, with Some Remarks on that Affection. Herman A. Bray.
28 *A New Method of Drainage in Empyema. Samuel Lile.
29 Black Chromidrosis with Hysterical Paralysis. James W. Putnam.

21. **Intravascular Antisepsis.**—Barrows defends the use of intravascular antiseptics, claiming that experiments made on rabbits with unfavorable results do not invariably represent the conditions in the human subject. Much stronger solutions of formaldehyd have been used by Jenks of Memphis, Nelson of Virginia and Maguire of London in the treatment of pulmonary tuberculosis, without harm. His own experience has borne out their conclusions, and he is satisfied that one need have no fear of trouble in this direction. His technic is described. A freshly-made 1 in 5,000 solution of formalin (40 per cent. formaldehyd) and freshly prepared normal saline solution at a temperature of 100 is injected into a superficial vein, care being taken to have the nozzle in the vein and that air is prevented from entering. The fluid should be slowly injected, the amount depending somewhat on arterial tension and the general character of the pulse. He reports four cases in this installment of his article, which is to be concluded in a future number.

22. **Appendectomy.**—A simple method here described by Ries consists in freeing the appendix from the mesoappendix down to the cecum, then cutting it off about one-third of an inch from its base, inserting a suture with a round straight needle into the lumen of the stump, passing it out about one-sixteenth of an inch below its end. Then the needle is introduced into the lumen of the stump and carried out through the cecum externally about an inch from the base of the appendix. Traction on this thread inverts the appendix into the cecum and the serous funnel of the inverted appendix is then sutured. The thread which has drawn the appendix into the gut is then cut off close to the surface of the cecum and rubbed into its lumen. The mesentery is then sutured in such a way that its stump covers the suture of the appendix so that no raw surface or foreign body remains in the peritoneal cavity except the last knot of the catgut. The perforation of the bowel by a needle is, he claims, perfectly harmless. It is completely closed by rolling the bowel between the fingers. Another possible objection is that the inversion would be impossible where there is a stricture or obliteration of the appendix. This, however, might be overcome by simple perforation of the obliteration or stretching of the stricture. He has never had any trouble as a consequence of the use of this method, which he prefers to others, and has employed in 21 cases. The whole operation takes less time to perform than to describe it, as can be seen by three cuts.

24.—See abstract in THE JOURNAL, xl, p. 1602.

25. **Perineal Partial Prostatectomy.**—Van Hook operates somewhat on the plan of Zuckerkandl, making a transverse incision in the perineum about an inch in front of the anus, not over an inch to an inch and a quarter in length. He then makes a median incision into the membranous portion of the urethra, in this respect differing from Zuckerkandl, who continues the transverse cuts. The point of the knife, under the guidance of the finger, is introduced into the urethra and into the groove of the staff and pushed forward. An opening of the desired size is made, usually about three-fourths of an inch in length. The bladder is then completely explored with the finger, and it is always necessary to empty it to do this thoroughly, and possibly to have an assistant push it down from above. Next the prostate, the median and lateral lobes are carefully examined, which can be better done with the finger within the bladder than in any other way. Next the finger is removed from the urethral wound, and the lateral lobes are palpated through the capsule, passing the finger outside the urethra between the lateral halves of the levator ani until the commissure of the prostate is reached, when the finger is passed over each lateral lobe in succession. Usually the right half of the prostate is first operated on. It may be necessary to cut the capsule enough to facilitate penetration of the prostate with the finger. The finger is then swept around the main mass of prostatic tissue, the operator

keeping his mind on the preservation of the capsule. The masses which have been loosened are removed with a stone forceps or the hysterectomy volsella forceps of Richelot. It may be necessary to draw down the uppermost part a little with the tenaculum forceps. The left half can generally be removed in the same manner and the median lobe can almost invariably be removed without opening into the bladder. In case of excessive fibrous character of the mass, making the enucleation process of the finger difficult, Van Hook has devised a sort of scissors-like instrument for morcellating the organ. It is only a matter of convenience to use this, as curved scissors can also be used. Having removed as much of the prostate as seems necessary, he introduces a drainage tube into the bladder about the size of a finger, suturing it to the skin of the perineal wound. Two strips of gauze, one on each side of the tube, are then inserted into the space previously occupied by the lateral lobes. The after-treatment is important. The gauze strips are left for twenty-four to thirty-six hours, care being taken not to disturb the drainage tube in removing them. The drainage tube is left for a much longer period, three or four days to two weeks. A smaller tube may be substituted for a time. The fistula is usually a little slow to heal, but if sounds are introduced twice a week, and if exuberant granulations are kept down by passing a probe armed with silver nitrate along the fistula, there is no difficulty about the eventual closing. The patient should not be required to lie continuously on his back, but after the first twenty-four hours should be turned from side to side, thus facilitating closure of the wound. He thinks the advantage of this partial prostatectomy is that we are less liable to do damage to the other structures. From his experience he thinks the anterior parts of the gland may be easily left, but further experience may be required to decide how much to leave. Probably a diminution in the size of the remainder of the prostate may be anticipated after partial intracapsular prostatectomy. Usually the lateral and posterior parts of the gland are the cause of the trouble, and operation may be reasonably confined to them. He reports a number of cases illustrating the success of the operation.

26. **Diabetic Gangrene.**—Lilienthal divides these cases into three groups according to their urinary and symptomatic indications: Group 1, general condition good; no acid intoxication; sugar much or little; one or two toes or fingers affected with or without phlegmon, but not threatening usefulness of the member. In these cases the treatment should be conservative, the affected fingers and toes removed and the plegmon drained by the freest incision and the wounds packed; wet dressings applied, tendon and fascia being allowed to slough away. Group 2, general condition good; no acetone or diacetic acid in the urine. Local condition threatening the usefulness of the member. Here the ablation of the limb high above the upper level of the disease is the proper course. If the disease is in the foot, it is best to make the amputation well above the knee. In the upper extremity, however, amputation need not be above the elbow for gangrene of the hand. Skin and muscle flaps instead of mere skin flaps should be used. Group 3, general condition poor or comparatively good. Much or little sugar; acid poisoning present. Disease threatening or not threatening the part. In these cases treatment must be palliative until the acid poisoning and its impending coma shall have disappeared. If this can not be brought about, the prognosis is poor and should deter us from radical operation. This does not mean, of course, that drainage should not be used. On the contrary, free incision of the tissues impeding free evacuation of the phlegmonous spaces must be practiced in any event, but no more than is absolutely necessary should be done, and no radical operation. He remarks on the change in treatment that this form of gangrene has undergone within the last fifteen years owing to our more improved clinical methods of testing the urine for acetone, acetoacetic acid and total ammonia.

27. **Proctitis.**—Two cases are reported by Bray and discussed. He insists on the importance of digital examination in case of chronic diarrhea which will detect polyps, ulceration and impactions. The next in importance is the use of the procto scope. With it in a proper light the entire circumference of the bowel can be seen. He puts the patient in the Sims position, oils the tube and slips it through the sphincter while the patient is straining. When it has been introduced about three inches in the bowel, atmospheric inflation will lift the walls out of contact, and the direction of the tube can be observed as it is passed up in the sigmoid flexure. When fully introduced it is gradually withdrawn and the whole gut thoroughly examined. It is important that the diagnosis should be made early for proper remedial measures to be employed. The first thing to do is to remove the cause. The local treatment consists in antiseptic and astringent injections. If there is any local disease, this, of course, should be first attended to.

28. **Drainage in Empyema.**—Lile describes a new drainage tube of hard rubber with a cup-shaped funnel on each end, bent at an angle a little greater than a right angle. The short arm is inserted into the pleural cavity. The longer arm is flattened to hold it in place. It can not slip either in or out and drains perfectly. Irrigation can be done through it with perfect ease. With this drainage tube he sees no reason for resection of the ribs, excepting in cases with sinuses existing for months after removal of the tubes, or in certain tuberculous cases.

Medical News, New York.

July 4.

30 *The Struggle of the Body Against Tuberculosis and Its Immunization. Edoardo Maragliano (Genoa).
31 *Tuberculosis in the Tenements; a New Use for Fire Escapes. Alfred Meyer.
32 Societies for the Prevention of the Spread of Tuberculosis; the Necessity of Such Organizations and the Work to Be Accomplished by Them. F. M. Pottenger.
33 The Sanatorium Treatment of Tuberculosis. Herbert M. King.
34 Tuberculosis of the Middle-ear, with the Report of a Case. Z. L. Leonard.
35 *The Present Status of Some of the Problems of Tuberculosis. John L. Heffron.

30. **Tuberculosis.**—Maragliano's article has already been reviewed at some length in these colums, p. 67.

31. **Tuberculosis in the Tenements.**—The suggestion made by Meyer is that the fire escapes be utilized for the open-air treatment of tuberculosis in tenement houses, and he gives illustrations. There is one difficulty in the way, and that is the section of the building code which prohibits placing encumbrances on any of the fire escapes, but he thinks this is practically disregarded. He believes that public opinion will justify the use of fire escapes for the preservation of life from the ravages of tuberculosis. They are available in most tenement houses in the large cities. He points out their advantages in the way of open-air, shelter, or the easy possibility of such, etc.

35. **Problems of Tuberculosis.**—Heffron notes the overthrow of the importance of heredity in tuberculosis, the importance of infection and the remedial value of producing a soil that is resistant. He says the decrease of tuberculosis has been very marked and, as regards bovine infection, he holds that the burden of proof is on Koch's side and he will be required to show to the perfect satisfaction of others that infants are never infected by the use of milk of tuberculous cows. The diagnosis of tuberculosis is practically impossible in its incipient stages. The fact is that most persons have probably suffered from it to some degree, and he does not see how we can escape the view of Welch that with proper search almost universal infection must be admitted. As regards the methods of diagnosis, he thinks accurate thermometry is one of the most important, while the tuberculin test is also reliable if properly used, and is not injurious. The present status of prognosis shows a marked change from twenty years ago. Throughout the world the number of deaths from tuberculosis is decreasing, England heading the list. The percentage of cures in the various sanitariums and so on shows the tractability of the disease under proper care. The prognosis is better the earlier the disease is recognized. The immunity question is noted, but Heffron is not prepared to admit that immunizing injections can yet be safely used on man. In the treatment there are certain general principles: faith in the

curability of the disease, and not so much the attack on the bacillus as the strengthening of its host by open-air treatment, etc. Recoveries from tuberculosis are far more frequent than those from insanity, as he shows by comparative statistics.

Cincinnati Lancet-Clinic.

July 4.

36 Tubercular Peritonitis in Childhood. Alfred Friedlander.
37 Chloride of Sodium. Brose S. Horne.
38 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

June 27.

39 The Werthelm Operation for Cancer of the Uterus; Report of a Case. H. S. Crossen.

Medical Age, Detroit.

June 25.

40 *Operative Treatment of Glaucoma. W. A. Harper.
41 Ovulation and Menstruation. Q. W. Hunter.
42 A Case of Continued Development of the Fetus in Utero, After Rupture of the Membranes and Escape of the Liquid Amnii. H. W. Chapman.

40. Glaucoma.—The only treatment for glaucoma, Harper holds, is iridectomy, though he sees a possible future for Jonnesco's operation.

American Gynecology, New York.

June.

43 *The Conservative Operative Treatment of Chronic Inversion of the Uterus. Reuben Peterson.
44 *The Present Position of Hysterectomy for Fibroids. Skene Keith.
45 The Treatment of Fibroid Tumors of the Uterus. Archibald McLaren.
46 A Plea for the Removal of a Minimum Amount of the Board Ligament in Salpingo-oophorectomy. J. Wesey Bovée.
47 *The Vaginal Incision in Sepsis Following Abortion. Hunter Robb.

43. Chronic Inversion of the Uterus.—Peterson describes a case operated on by the vaginal method, splitting the uterus and replacing it. He asks why, in cases of chronic inversion with our present knowledge, we should not in any given case disregard the old methods of reposition and at once employ the more modern, safer and surer surgical methods. The elastic pressure method is uncertain and dangerous and may increase hemorrhage, which the patient can not afford. The same is true to a greater degree of taxis. This is not the less true because of the fact that spontaneous reposition has taken place. The safest way is some form of incision operation by the vaginal route.

44. Hysterectomy for Fibroids.—The position held by Keith is a conservative one in the main. It is impossible to lay down positive rules for hysterectomy. The age of the patient, surroundings, etc., should be considered. In the following cases, however, he says we can safely say that hysterectomy ought to be the rule. In all fibro-cysts, in all edematous tumors when accompanied by profuse watery discharge, in large tumors causing symptoms; that is those reaching up to the ribs, and when the patient is under 50 years of age, and even over that age, it may be worth while to have a large tumor removed. In small tumors extending not higher than the umbilicus, fibro-cysts and edematous tumors excepted, he would advise the Apostoli treatment which he has, in fifteen years' experience, found to be valuable in reducing the growth, and causing early menopause in the great majority of cases of fibroids where the growth is not submucous, without danger to the patient. He does not hold that electricity, even in case of small tumors, is always the best treatment, because the risk of hysterectomy is so slight.

47. Vaginal Incision in Postabortive Sepsis.—Robb finds that in the majority of cases the infection begins in or near the external genitals, successively implicating the vagina and cervix, the uterus and fallopian tubes and finally reaching the peritoneal cavity. His method of treating these cases is to dilate the cervix, curette the uterus either with the finger or finger and curette combined, wash it out with hot saline solution and 2 ounces of peroxid of hydrogen, then cleanse again with hot saline solution and sponge dry. Two or three drams of iodoform powder are then carried into the cavity, and it is packed with strips of sterile gauze. He then makes a free opening into the cul-de-sac, and after evacuating any fluid that may be present, irrigates it freely in the same way as has been done with the uterus. Then two or three drams of sterile iodoform powder are dusted in the cul-de-sac, which is filled with strips of sterile gauze. By this method he claims that we prevent future absorption of toxins from the cul-de-sac, save the fallopian tubes and ovaries by preventing adhesions which would almost inevitably form as a result of the organization of the exudate. He gives in conclusion the bacteriologic and clinical history of 10 cases of septic infection thus treated.

Wisconsin Medical Journal, Milwaukee.

June.

48 *Nephritis, Its Diagnosis, Particularly of Atypical Forms, and Some Points in Its Treatment. Arthur R. Edwards.
49. *The Moist Dressing in the Treatment of Compound Fractures. Charles H. Lemon.
50 A Case of Bromoderma Pustulo-Tuberosum. M. Milton Portis.

48. Nephritis.—The chief conclusions of Edwards' article are given in substance as follows: Carefully repeated routine chemical and microscopical examination of the urine every twenty-four hours usually, but not invariably, detects acute and chronic nephritis, if aided by examination of other viscera and parts, such as disclosure of cardiovascular changes, retinal involvement, etc. The visceral or somatic changes, usually present in nephritis, may be lacking in such cases and be capable of other interpretation, such as polyuria, atheroma, etc. The most essential urinary findings may be lacking and we may still suspect nephritis, even after negative results. Nephritis may be unattended by albuminuria. It is then usually interstitial in type, though chronic parenchymatous nephritis, acute nephritis and chronic interstitial nephritis, as well as the type described by Dr. D. D. Stewart, may also occasionally occur. Casts should always be searched for. They sometimes seem to indicate a degeneration rather than an inflammation, and are not invariable in nephritis nor are they invariably nephritic. Further clinical caution and pathologic examination will probably increase the number of cases of non-albuminuric renal inflammation of acute, subacute and chronic types. The non-albuminuric nephritis of the Stewart type is of special importance in life insurance and in practice, since prophylactic measures may be instituted and the prognosis affected. Uremia may be easily confused with organic brain lesions, and vice versa. Every type of focal brain lesion is simulated, and it may, moreover, coexist with brain disease. In treatment rest to spare the kidneys and save the heart is of prime importance. Rest applies to nervous strain as well as to physical work. The diet should not irritate or tax the kidneys in its elimination Nutrition requires individual study; the classic diet must be abandoned when there is loss of weight or increasing anemia. Edema is poorly managed by diuretics; cathartics too often threaten assimilation and nutrition; sweats tend to concentrate the blood and rather favor uremia. Mechanical drainage is the best procedure, since it removes not only the fluid, but the contained impurities, avoiding their repassage through the already surcharged blood and damaged kidneys. The condition of the heart and the efficiency of response to cardiants is often the main thing in the prognosis and treatment.

49. Moist Dressings in Compound Fractures.—The moist dressings here described by Lemon consist in the application of hygroscopic gauze moistened or wrung out of water or an antiseptic solution, and applied to the skin or wound surface, its evaporation and consequent drying prevented by its being covered with some impervious material like oiled silk or gutta-percha tissue. Its hygroscopic character promotes absorption of the wound secretion, distributes it evenly and prevents its accumulation in the wound. It stimulates the regional capillary circulation in the cut surfaces and induces a vigorous blood current which mechanically washes out the wound and brings an abundance of blood tissue to the threatened area, the best antiseptic, provided the infective material is not too excessive. In treating compound fracture he would introduce a bit of gauze or some strands of catgut through the wound for a drain. Such a wound properly treated has no swollen or everted edges, no redness, no sloughing surfaces, no tension,

pain or fever. This is the ideal result. If we know that infection is absolutely absent a dry dressing would be better, but we can not be sure. Illustrative cases are given.

Pennsylvania Medical Journal, Pittsburg.

June.

51 *The Wisdom of Removing All of the Tonsils Whenever Enlarged and Diseased. Louis J. Lautenbach.
52 *The Use and Abuse of Radiotherapy. George C. Johnston.
53 On the Management of Rectal Diseases. William M. Beach.
54 The Abuse of Drugs. G. O. O. Santee.
55 And Then. (Consideration on Medical Policy.) Z. B. Taylor.
56 Clinical Report of a Case of Typhoid Fever in a Seven-Months-Old Infant. A. W. Clouse.
57 A Case of Gastric Crisis of Tabes. Frank H. Murdoch.

51. **Tonsillectomy.**—Lautenbach holds that enlarged tonsils are always a menace to health, and unless there are unusual complications, should be removed. The operation is not difficult and seldom has serious results. It is attended with increased health, better respiration and improved digestive function; there is less liability to microbic disease, especially diphtheria, and the nasal catarrh will be improved. The lymphoid structures in the pharynx will disappear; the tendency to ear disease is diminished and there will be no more tonsillitis.

52. **Radiotherapy.**—Johnston holds that there is only one way to become a good radiotherapeutist, and that is by experience. Every tube must be studied by itself. It should be seasoned by a course of radiographic work before it is used for treatment. The same tube acts very differently under different circumstances. After a man has used one for a while he learns its peculiarities. The low vacuum is more dangerous in inexperienced hands, but the hard tube is not much safer. It is not necessary to burn the patient, and if proper dosage or suitable radiation has been administered the healthy tissues suffer very little. The pathologic tissues, however, slough or are absorbed. The danger of desquamative dermatitis is an ever-present one whenever radioscopic inflammation exists. We must be especially careful in operating around the tongue, pharynx and lips on account of the difficulty of giving outside drainage and danger of swallowing of the irritating secretions. The cumulative action, with the long period of incubation, must not be lost sight of, and idiosyncrasy should be considered. The so-called strawberry blondes are peculiarly susceptible to *x*-ray burns or dermatitis. He claims that treatment, with proper management and skill, of the various forms of skin lesion is very satisfactory, but the man who wishes to apply it should study his apparatus and his patients and select them carefully. He should avoid routine measures.

Archives of Otology, New Rochelle, N. Y.

June.

58 *The Limits of Variation in the Depth of the Mastoid Antrum. Philip D. Kerrison.
59 Intradural and Later Double Cerebral Abscess Complicating Chronic Tympanic Suppuration; Operation; Cure. B. Alex. Randall and Barton H. Potts.
60 Osteomyelitis of the Skull, with Empyema of the Nasal Accessory Cavities; Sinus Thrombosis; Pyemia; Death; Autopsy. Arnold Knapp.
61 *A Discussion on the Differential Diagnosis and the Treatment of Osteosclerosis of the Mastoid Process. Otto J. Stein.
62 Three Cases of Encephalitis in Connection with Otitis Media. Dr. Voss.

58. **Depth of the Mastoid Antrum.**—From measurements and facts adduced, Kerrison thinks we are justified in saying that in operations on the mastoid process the antrum should be approached from the nearest point of the mastoid cortex which, in the great majority of cases, is a small triangular space just behind the spine of Henle. This point of attack not only furnishes a guide to the site of the antrum, but also affords fairly accurate data in regard to the depth beyond which it is not safe to proceed. The depth of the antrum is always less than the length of the postero-superior wall of the meatus; in the great majority of bones it is not over 12 mm., is often very much less, and never greater than 15 mm., or ⅝ of an inch. Therefore, in surgical attempts to expose the antrum, ⅝ of an inch should be regarded as the extreme limit of safety.

61. **Mastoid Osteosclerosis.**—The diagnosis of this condition is discussed by Stein, who quotes largely from authorities. He points out the possible differentiation from hysteria and neuralgias from other causes, such as syphilis, reflexes from diseased teeth, nasal and laryngeal disorders, etc. In hysteria we have the characteristic mental condition and symptoms. Pain is more frequently located in the auditory canal, and is also referred to the temples. It is greatly affected by the mental condition. The history, heredity, etc., should also be considered. In syphilis the history of infection and the characteristic nocturnal pains are usually sufficient. The pain of neuralgia shoots in the direction of the nerve trunk and its branches. The symptoms of osteosclerosis are largely centralized throughout in pain. There may be nothing objective whatever to be noticed, though we may discover a slight redness and edema and possibly a spot on the line of the meatus that elicits a sharp sensation of pain. The pain is continuous, lasting over long periods with only remissions, and very seldom intermissions and with frequent exacerbations. There may be some rise of temperature in the early stage and deafness. The fact, however, that this nagging, constant pain may develop a neurotic disorder should not be forgotten. While local treatment, such as rubefacients, etc., may be employed in the early stage, surgical treatment is the important part of the therapeutics and authorities seem to agree as to its benefits. In operating, the object is to relieve the bone tension, and we should remove as large a core of bone as possible with clean, smooth edges and surface. In conclusion, he urges the recognition of a broader field for surgical intervention in affections of the temporal bone.

Illinois Medical Journal, Springfield.

July.

63 A Sociologic View of Criminal Abortion. W. J. Fernald.
64 *The Practical and Scientific Value of Bacteriologic Examinations of the Blood During Life. Ludvig Hektoen.
65 Educational Influences and Opportunities of Our Civil Courts from a Medical Standpoint. O. B. Will.
66 *The Diplococcus Scarlatinæ. W. J. Class.
67 Sewage Disposal for Inland Towns. Arthur N. Talbot.
68 Successful Removal of a Cystic Fibro-myoma of the Uterus Weighing 87 Pounds. J. Clarence Webster.

64. **Bacteriologic Examinations.**—Hektoen points out the advantages of bacteriologic examination of the blood during life, and describes the technic, the making of cultures, etc., and reports instances of its value. His conclusions are that bacteriologic examination of the blood by modern methods has proved of scientific and practical value in septic diseases, in septicemia, in pneumonia, and especially in typhoid and paratyphoid fevers. The etiologic diagnosis, that is, recognition of the exact disease, requires the application of practical medicine or laboratory methods, which, however, will be more and more facilitated for private use by the physician in his office.

66. **Diplococcus Scarlatinae.**—Class argues for the characteristic value of the diplococcus, which he says usually appears as a very large diplococcus, at least four times as large as the ordinary staphylococcus. It occurs in about 90 per cent. of cultures if made early in scarlatina, and can, as a rule, be easily differentiated from other large cocci. It may happen, however, that we may have cultures on blood serum giving but small staphylococci. The negative result is due either to the change of form of the germ or that it does not take the stain. These difficulties will seldom occur with his earth agar. It is also a good plan when primary cultures fail to show the typical diplococcus to isolate the germs in cultures by means of the plate method when the cultural characteristics of the organism, such as its glutinous character, and the fact that it does not affect milk in its growth, will prove of great aid in its recognition.

Atlanta Journal-Record of Medicine.

June.

69 *Uncinariasis (Ankylostomiasis); Its Frequency and Importance in the Southern States. H. F. Harris.
70 Post-operative Treatment of Six Cases of Abscess of the Appendix, with Some Observations on the Use of Large Doses of Strychnin for Ileus. R. M. Harbin.
71 The Treatment of Stricture of the Anterior Urethra. W. L. Champion.
72 Medical Jurisprudence. James R. Cain.

69. **Uncinariasis.**—Harris gives an account of this disorder as it occurs in Georgia, especially in the towns along the Georgia Southern and Florida Railway. His findings agree with those of Stiles. He notices the difference between the disease

when due to American and the old world species, the lack of petechial spots, etc., and suggests that the *duodenale* type may be the more severe form of infection. He has never found Charcot-Leyden crystals with the eggs, though they are said to be invariably found in the stools of those affected with the European malady. No disease so grave as this can be cured with such rapidity and certainty. He has never seen a case where complete expulsion of worms was not secured if the patient followed directions as regards not eating the day before, the use of free purgation and the taking of 60 gr. of finely powdered thymol. Alcohol should be avoided. Beyond this it is hardly necessary to do anything further, though there is no harm in giving tonics.

Therapeutic Gazette, Detroit.

June 15.

73 Sedatives, with Special Reference to the Bromides. John B. Chapin, Robert H. Chase and William P. Spratling.
74 An Ophthalmic Clinic in the Hospital for the University of Pennsylvania. G. E. de Schweinitz.
75 *Hyoscin in the Treatment of Morphinism. T. D. Crothers.
76 *Report of 53 Cases of Typhoid Fever, Treated in the Medical Wards of the Presbyterian Hospital, in Which Acetozone Was Used During November and December, 1902, and January, 1903. D. Flavel Woods and M. C. Thrush.
77 Iodoform Substitutes and Adulteration. V. Coblentz.
78 The Physiologic Action of Adrenalin Chlorid. Isaac Ott and S. B. Harris.

75. **Hyoscin in Morphinism.**—Crothers condemns the use of hyoscin as an antidote for morphinism. He thinks the withdrawal of one narcotic and the substitution of another can never bring about a cure, and is a very doubtful measure, and that further experience will sustain this opinion.

76. **Acetozone in Typhoid.**—From the results of 53 cases here tabulated, Woods and Thrush conclude that acetozone is a valuable intestinal antiseptic, apparently lessening the tendency to tympanites and diarrhea, especially when given early and continued until convalescence is well established. The stools seem less offensive, and in most cases the color and consistency are not affected by its administration. The drug does not seem to act on the heart or respiratory organs or have any appreciable effect on the kidneys, and hyperpyrexia rarely appears when it is used. Relapses are also infrequent if it is properly employed until well into convalescence. All the cases here reported gave the positive Widal reaction and other clinical symptoms.

Annals of Surgery, Philadelphia.

June.

79 *Results of One Thousand Operations for the Radical Cure of Inguinal and Femoral Hernia Performed Between 1891 and 1902. William B. Coley.
80 *Myositis Ossificans. William J. Taylor.
81 *Pathology of the So-called Bone Aneurisms. Harvey B. Gaylord.
82 Gunshot Wound of the Longitudinal Sinus. B. Farquhar Curtis.
83 *The Orbital Route for the Removal of the Second Branch of the Fifth Nerve at the Foramen Rotundum. Ansel G. Cook.
84 Tubage of the Pharynx for Facilitating the Administration of Anesthetics and Preventing the Inhalation of Blood in Certain Operations on the Mouth and Face. A Hot-Water Bed for the Operating Table. George W. Crile.
85 *The Drowning of Patients in Fecal Vomit During Operations for Intestinal Obstruction and Septic Peritonitis. E. Wyllys Andrews.
86 *Splenic Infections. Albert L. Stavely.
87 *Primary Typhoidal Perforation of the Gall Bladder. John F. Erdmann.
88 Retroperitoneal Hernia. Alfred B. Atherton.
89 A Suction Apparatus for Continuous Drainage. Karl Connell.
90 *Primary Carcinoma of the Appendix. Alexis V. Moschcowitz.
91 Excision of the Scapula for Progressive Chronic Interstitial Myositis Associated with Obliterating Endarteritis. William B. Hopkins.
92 Instruments for Use Through Cylindrical Rectal Specula, with the Patient in the Knee-chest Posture. Howard A. Kelly.

79.—See abstract in THE JOURNAL, xl, p. 1669.

80. **Myositis Ossificans.**—There are two types of this condition, one where bone has formed in the softer tissues, with or without history of injury, and no apparent connection with the skeletal bones or their periosteum, or where osteophytes occur to which muscle tissue is attached and which has undergone osseous change. The second is where there is formation of new bone resulting directly from accident to the bone or its periosteum, and involving the muscles and fibrous structures. A number of cases have been reported like this where the muscles became quickly ossified after injury. Several of these are reviewed in brief. The author then reports his own case in which a man was kicked by a horse in the thigh, producing periosteitis and the muscles—especially the deeper fibers—contained small bony particles. The pieces of bone and muscle tissue that were here removed were directly in contact with the periosteum. The patient made an uneventful recovery. The second case was more on the first type, a gradually developing formation of irregular bone plates growing from the fibula.

81. **Bone Aneurisms.**—This term has been applied to certain obscure, pulsating hemorrhagic tumors of the bone which are considered a specific affection by Oehler. Gaylord reviews the five classical cases noticed by Richet and Volkmann, and some more recently reported ones by Anger, Wythe and Oehler. He follows these with a report of his own case, with microscopic findings. He concludes that the affection can hardly be considered a specific one and that in all probably the greater portion, if not all, of the cases of bone aneurism were originally medullary sarcomata. He agrees with Gentilhomme that while these tumors may have the characteristics of aneurisms, their etiology and the mechanism of their development are quite different. The question, therefore, to be decided is whether the term "bone aneurism" should be continued in the literature or whether we should refer to these cases as pulsating sarcomatous hematoma of bone.

83. **Resection of the Fifth Nerve by the Orbital Route.**—Cook gives in detail the method used for resecting the second branch of the fifth nerve at the foramen rotundum, bringing the distal end to between the alveolus and the upper lip, thus three inches away from the proximal end and turned in another direction, devised by Dr. Melancthon Storrs. The description of the operation is given as follows: The patient is put half reclining in a rocking chair, wedged with sand bags. One assistant is necessary to give the anesthetic and a second to hold the retractor.

> The lower edge of the orbit can easily be felt through the skin. Make a clean incision along this edge, from the inner to the outer angle of the orbit, through the tissues, including the periosteum, down to the bone. Then, with a blunt instrument, carefully elevate the periosteum from the floor of the orbit, going well back and exposing the sphenomaxillary fissure. Lift the eyeball out of the way with a spoon-shaped retractor inserted under the periosteum. Usually a bluish spot will appear, showing the situation of the infra-orbital nerve, covered by a thin plate of bone, in its canal in the floor of the orbit. Should there be any difficulty in locating the nerve, it can easily be done by passing a probe into the infra-orbital foramen and up into the orbit. Having located the nerve, with a chisel or any suitable instrument, crush the thin plate of bone covering it. The nerve can then be easily hooked up and brought into view. The infra-orbital artery is usually torn at this time, and bleeds for a few moments; but it is of no importance and will soon take care of itself. Having hooked up the nerve, ligate it securely with a piece of silk passed around it with an aneurism needle. Then cut the nerve, leaving the ligature fastened to the proximal end of the cut nerve. We now have the nerve under perfect control. By making a slight traction on the ligature we can bring the nerve into view, and by following it on can readily crush down the thin wall of the canal, removing the bone fragments with suitable forceps. When the nerve enters the sphenomaxillary fissure, it passes out of the bony canal, and is only surrounded by soft structures, which can easily be hooked or wiped away. Should the sphenomaxillary fissure be narrow, and not readily admit the introduction of instruments, it can easily be widened by inserting a suitable blunt instrument and by wedging or widening the walls. It is remembered that the upper wall of this fissure is the strong wing of the sphenoid bone, and that the lower angle is the thin wall of the antrum. If either bone should break in these manipulations, it would be the wall of the antrum which would be crushed down and out of the way, and would cause no trouble. Having the nerve thus free to the foramen rotundum, next slip the ends of the silk ligature through a loop of wire, held with a small snare (the Jarvis snare of the rhinologists). The loop of wire in the snare is passed down the nerve to the foramen rotundum, just as a tunnel sound is passed over a filiform bougie. When the loop of wire reaches the foramen rotundum it is closed, and the nerve is cut and removed. To return now to the distal end of the nerve. Separate the integument from the bone down to the infra-orbital foramen, gather up with a hook the mesh of nerves going to the cheek, and drag the divided nerve through the foramen. Storrs then puts the nerve into the loop of a threaded needle and carries it down into the mouth, leaving the end which has been in the infra-orbital canal suspended between the alveolus and the upper lip; this end he cuts off even with the mucous membrane. This was for the purpose of preventing any possible restoration of any communication between the peripheral branches of the nerve and the stump left at the foramen rotundum. To complete the operation, place a small gutta-percha tissue drain in the track of the nerve, extending from near the foramen rotundum to the surface. Suture the skin wound. The drain should be removed at the end of twenty-four hours.

He says the operation is very simple and can be performed on elderly and feeble people with but little shock. Relief is immediate in all cases and permanent cure is effected in many. Scarring is insignificant and the patient is not long confined.

85. **Drowning by Fecal Vomit.**—Andrews reports two cases in which he thinks this accident occurred. The conclusions are given as follows:

1. Flooding of the air passages by fecal vomit is a real danger, and probably has caused many unexplained deaths. 2. Resuscitation is impossible or very difficult. 3. The fluid may flow by gravity through the relaxed stomach sphincters directly out of the intestine where it has accumulated in enormous quantities. 4. The accident occurs with great suddenness and with a stomach supposedly empty. The suffocation may be so complete that no outcry is made and may not be noticed by the attendant. 5. It may occur as late as an hour after anesthesia, or at any time until consciousness is restored. 6. We have no evidence that it can occur during consciousness even in extremis. 7. After septic laparotomy, patients, when returned to bed, should be watched, without even momentary intervals, to full consciousness. 8. A suggestion made to me by Dr. McArthur that as many as possible of such cases be operated under cocain anesthesia, seems to me sound in the light of the above report.

86. **Splenic Infections.**—Stavely reports two cases; in one he considers the diagnosis of splenic abscess with perforation of the kidney and discharge of pus *per urethram*. The abscess was opened, but full exploration was not attempted. It was irrigated with salt solution and closed. The patient recovered with a small sinus. The second case was one where a diagnosis was made of displacement of the spleen, malarial hypertrophy, hemorrhage, suppurative perisplenitis, infective splenitis, thrombosis of the splenic vessels and infarction. The spleen was removed, and found greatly enlarged, soft and friable and densely engorged. The parenchyma and retiform spaces of the organs were infiltrated and greatly distended with blood extravasation and with some hypertrophy of the retiform framework. Cultures from the organ yielded growths of the *Staphylococcus pyogenes albus* and *Bacillus coli communis*.

87. **Typhoidal Gall-Bladder Perforation.**—Erdmann reports the case of a woman, 46 years of age, on whom cholecystectomy was performed, and adds 3 more to those already collected by Keen and analyzes them. All the cases that recovered were operated ones; 4 out of 7. The diagnosis depends on a careful and thorough study of the cases, stress being placed on the original site of pain, and bearing in mind that pain in this region may come from perforating ulcer of the stomach at its duodenal end, or from the duodenum itself or the gall-bladder, and it may be also the pain of acute pancreatitis. The only treatment is operative. He prefers incision through the rectus muscle rather than at its outer border, or in the median line, as this gives the best exposure and the least possibility of hernia. Cholecystectomy is the only thing to do; the friability of the tissues is against the repair of the perforation. In the 2 fatal cases, the operations were incomplete, leaving only one in the 5 fatal cases where complete operation was done.

90. **Primary Carcinoma of the Appendix.**—From his study of the signs, symptoms and anamnestic data, Moschcowitz concludes that we can not give an exact estimate of the frequency of the condition. It is rare as compared with inflammatory disorders of the appendix, but so many new cases have been reported during the last few years that we may have to modify our opinion as to its extreme rarity. Apparently all primary carcinomata begin in the mucosa and it is probable that they take their origin in some preceding inflammatory process. The disease is most frequent at the time of life in which inflammatory diseases of the appendix are most common. This accounts for the early age of the cases reported. It is more frequent in the female than in the male sex, the statistics being about three to one. If it is proved true that primary carcinoma of the appendix originates in prior inflammatory processes, it will be an additional argument in favor of the removal of the appendix when once diseased.

Medical Fortnightly, St. Louis.
June 25.

93 Factors Affecting the Condition of the Kidney. Byron Robinson.
94 Briefs on Mental Diseases. F. Savary Pearce.
95 An Incubator for Delicate or Premature Infants. Vitray P. Blair.
96 Atresia of the Uterus. Report of a Case. J. A. Young.

Northwestern Lancet, Minneapolis.
July 1.

97 Some Therapeutic Uses of the X-Ray. W. P. Spring.
98 A Dispensary for Tuberculosis in Minneapolis. Henry L. Ulrich.
99 The Organized Medical Profession. J. W. Andrews.

Bulletin of the American Academy of Medicine, Easton, Pa.
June.

100 "Muck-rake" Methods in Medical Practice. Charles McIntire.
101 *Time Allowance in the Combined Collegiate and Medical Course. (Second report.) A. L. Benedict.

101.—See abstract in THE JOURNAL, xl, p. 1527.

Southern Practitioner, Nashville, Tenn.
July.

102 Address of Welcome, Association of Medical Officers of the Army and Navy of the Confederacy at New Orleans. Stanford E. Chaille.

Kansas City Medical Record.
June.

103 Hysteria. I. A. Johnson.
104 Alcohol (C_2H_6O). E. E. Gilmore.

St. Paul Medical Journal.
July.

105 The Organized Medical Profession. J. W. Andrews.
106 Biographical and Literary Notes on Paracelsus. Charles Greene Cumston.
107 Urethral Stricture. F. D. Patterson.
108 Tuberculosis of the Peritoneum. John Lyng.
109 Ureteral Dilatations, Constrictions and Spirality. Byron Robinson.
110 Subcutaneous Paraffin Injection. A Case of Eighteen Months' Standing. Two Mishaps and a New Syringe. Albert C. Heath.

Northwest Medicine, Seattle, Wash.
June.

111 Progressive Pernicious Anemia. S. J. Holmes.
112 Methodical Training in Surgical Technic. R. C. Coffey.
113 Lessons from the Life of Pasteur. (Concluded.) John G. Clark.
114 Rational Therapeutics. Wilbur N. Hunt.
115 Purpura Hemorrhagica Due to Ptomain Poisoning. George A. Tripp.

Richmond Journal of Practice.
June.

116 The Use and Abuse of Nitrites. A. B. Greiner.

Fort Wayne Medical Journal-Magazine.
June.

117 The Vaginal Segment of the Ureter. Byron Robinson.
118 The Modern Treatment of Entropion. Albert E. Bulson.

Hot Springs Medical Journal.
May.

119 Spring Medicine. A. H. Ohmann-Dumesnil.

Pacific Medical Journal, San Francisco.
June.

120 The Collection of Medical Journal Subscriptions. C. F. Taylor.
121 Some Random Comments on the American Medical Association. Ethan H. Smith.

Journal of the Eye, Ear and Throat Diseases, Baltimore.
May-June.

122 Dermoid Cyst of the Conjunctiva. Francis M. Chisholm.
123 Operation for Extensive Maxillary Necrosis from Antral Empyema. L. R. Culbertson.

Columbus Medical Journal.
June.

124 Scarlet Fever. George M. Waters.
125 Pleurisy: Causes and Symptomatology. R. A. Kidd.
126 Frambesia, Morula Smallpox, Cuban Itch. George W. Mangus.
127 The Inadequate Teaching of Hygiene in the Public Schools. Frank Warner.
128 Case 1: Mercurial Poisoning. Case 2: Femoral Aneurism. W. J. Means.

New Orleans Medical and Surgical Journal.
July.

129 Appendicitis, and the Attitude of the General Practitioner as Well as the Surgeon Towards It. F. W. Parham.
130 Internal Antiseptic Therapy in the Treatment of Acute and Chronic Pathologic Processes. H. L. Ducrocq.
131 Some Notes on the Treatment of Phthisis Pulmonalis. E. M. Dupaquier.
132 Recent Advances in the Treatment of Diarrhea. R. B. Paine.
133 Ligation of Canaliculi for Extraction of Cataract Complicated with Dacryocystitis. Drs. Bruns and Robin.

Toledo Medical and Surgical Reporter.
July.

134 The Milk Supply of Toledo, with Demonstrations of Simple Forms of Milk Analysis. L. Marsh Dolloway and Albert Steinfeld.
135 Eczema. Edwin D. Tucker.

Western Medical Review, Lincoln.
June 15.

136 President's Address, Nebraska State Medical Association. A. B. Anderson.
137 Acne Vulgaris. E. E. Womersley.
138 Practical Skiagraphy. A. V. Robinson.
139 The Social Side of Pediatrics. I. C. Philbrick.

Woman's Medical Journal, Toledo.

May.

140 Asthenopia. M. Jean Gale.
141 The Diagnosis of Pregnancy. Anna E. Blount.

Texas Medical Journal, Austin.

June.

142 Eclampsia. W. H. Allen.
143 Alcohol. E. E. Guinn.
144 Treatment of Fractures in a Country Practice. W. B. Collins.
145 Diluting and Washing the Blood in Certain Forms of Poisoning. W. W. Greer.

Canadian Journal of Medicine and Surgery, Toronto.

July.

146 President's Address, Ontario Medical Association. J. C. Mitchell.
147 Uterine Myomata and Their Treatment. Thomas S. Cullen.
148 Diphtheria. J. J. MacKenzie.
149 Waistbands and Corsets in the Genesis and Treatment of Movable Kidney and Associated Ptoses. A. Ernest Gallant.
150 Cutaneous Anthrax. Wilson Y. Young.

Carolina Medical Journal, Charlotte, N. C.

June.

151 President's Address, Medical Society of the State of North Carolina. A. W. Knox.
152 Benefits Derived from a County Medical Society. Albert Anderson.
153 A Consideration of Injuries as Seen in Wood-Working Factories. C. A. Julian.
154 The Normal Saline Solution; Its Physiologic Action and Uses. George P. Edwards.
155 Some Experiences in Obstetrics. Twenty Cases of Puerperal Eclampsia. The Induction of Premature Labor; Retained Placentæ. L. B. McBrayer.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 27.

1 History of Medicine. Joseph Frank Payne.
2 Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
3 *The Etiology of New Growths. Keith W. Monsarrat.
4 *A Criticism of Current Doctrines Concerning Hernia. Edward Deanesly.
5 Etiology and Treatment of Mucomembranous Colitis. Dr. Bottentuit.
6 Case of Perforation of the Aorta by a Pin Accidentally Swallowed. Isambard Owen.
7 The Epidemiology of Plague: Note on the Fleas of Rats. Frank Tidswell.
8 Potassium Permanganate in the Treatment of Lupus. J. Hall-Edwards.

3. New Growths.—The points of Monsarrat's article are summarized by him as follows:

1. Cell activity and cell type must always be the resultant of bio-chemical reaction of the principles of which the researches of Ehrlich and others have enabled us to obtain some information. 2. Cell proliferation as a form of cellular activity is always the resultant of such reaction. When it takes place as the result of increased availability of normal food material, the new cells produced conform to the type of the parent cells. When it follows the action of assimilable materials of abnormal constitution new cell types are evoked, variants on the type of the parent cells. 3. Cell proliferation of the latter type takes place in certain microparasitic infections. 4. The new cell types thus evoked exhibit various degrees of instability. 5. In the granulomata (Infectionsgeschwülste) their stability is considerable; in certain growths which result from infective agents (for example, condyloma) the equilibrium of the new type appears to be stable. 6. In the so-called true tumors, cell types arise as variants on the normal cells of the organ or tissue of origin. The ways in which such cell variants may be evoked is not discussed, but that they may result in some cases from the action of micro-parasites is a reasonable view. 7. These cell types are stable; their stability is due to the capacity of the particular variant to attach to itself and assimilate material in conformity with its type. 8. In the simple tumors they are only locally stable, and are not immune to reactionary influences outside the tissue of origin and the normal relationships of parenchyma and connective tissue. 9. In the malignant growths they possess a wide range of stability and immunity, and the degree of this is the measure of their capacity to form metastases, while local infiltration, the other histologic characteristic, is dependent on the principle of chemotaxis, the cells extending in those directions in which their variant and aberrant bio-chemical affinities enable them to annex material conformable to the building up of their characteristic type.

4. Hernia.—Deanesly holds that oblique inguinal hernia is always in a measure congenital, due to a pre-existent patent funicular process. To prove that the sac of any oblique hernia is ever formed by an independent protrusion of the peritoneum unconnected with the processus vaginalis, is absolutely unsupported by any evidence and the only possible proof of it would be the demonstration of the co-existence of an unclosed processus vaginalis with a separate hernial sac alongside of it. This, so far as he knows, has never been demonstrated. The question of congenital or non-congenital origin of ordinary inguinal hernia has, he says, some practical importance. The first deduction is that every case could be certainly cured by the efficient removal of the congenital malformation, that is, the sac—provided the operation is done soon after the first appearance of the hernia or, at any rate, before the presence of the hernia or the pressure of the truss have produced secondary distension or atrophy of the inguinal canal muscles. Delay, therefore, whether the truss is worn or not, increases the difficulty of radical cure. In infants the truss is sometimes an efficient method of treatment, as it enables the patent funicular process to undergo its natural obliteration.

The Lancet, London.

June 27.

9 *Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
10 The History of Medicine. Joseph Frank Payne.
11 On the Diagnosis of the Cause of Jaundice. Sidney Phillips.
12 *Note on the Persistence of the Gruber-Widal Reaction in Convalescence from Typhoid Fever. H. S. D. Browne and K. E. Crompton.
13 *On the Use of the Roentgen Rays in the Diagnosis of Pulmonary Disease. J. F. Halls Dally.
14 A Brief Note on a Bacillus in a Case of Ulcerative Colitis. Theodore Fisher.
15 Three Cases of Cholecystectomy. Frederic S. Eve.
16 The Prevalence of Pneumonias in Infancy. S. Vere Pearson.
17 Respiratory Crises in Grave's Disease. J. Gordon Sharp.

9. Muscular Movements.—The third and fourth lectures of Beevor appear in this issue. The last one discusses the cerebral localization of the various movements, reviewing what has been published from time to time by various authorities, and giving the results of experiments of the author in connection with Sir Victor Horsley in regard to the movements occurring on the same side of the cortex with irritation.

12. The Gruber-Widal Reaction.—From a study of 68 cases of the convalescent type where the Gruber-Widal reaction was tested at various periods after recovery from typhoid, Browne and Crompton find merely 3 cases giving a positive reaction, and one of these only two months after the attack. This is a much smaller proportion of positive reactions than that given by some other authorities, the difference being partly due to the inclusion by authors of cases in which only a few weeks had elapsed from the original attack, and partly to the low dilutions used by them. A dilution of 1 to 10 was first used in all of the authors' cases. When any indication of reaction occurred weaker dilutions were employed. Other observers have used dilutions down to as low as 1 in 2 and 1 in 9. If they themselves had considered, the authors say, a positive reaction of 1 in 10 as sufficient, their list would have shown 8 more positive reactions, bringing their proportion up to 11 out of 68. While they do not doubt that the reaction of low dilution shows that the blood in some cases retains for a long time the specific agglutinative action of the *Bacillus typhosus*, yet they wish to insist that this need lead to no error of diagnosis, provided that sufficiently high dilutions, that is, 1 in 20 or 1 in 50, are proceeded with in cases in which there is any doubt. Their findings agree with those of Elsberg, who sees no relation between the severity of the attack and the duration of the reaction.

13. Pulmonary Tuberculosis.—Dally finds from his studies that the Roentgen rays are an important adjunct to the methods of physical investigation heretofore in use in testing for tuberculosis, and that unilateral limitation of diaphragmatic movement as seen by the fluoroscope is often the earliest indication of incipient disease. He holds that by the aid of the Roentgen rays pulmonary tuberculosis can be diagnosed at an earlier stage than by any other means at our disposal.

Archives Gen. de Medecine, Paris.

Last indexed XL, Page 877.

18 (LXXX, 8.) *Rachitisme tardif et chondromes multiples. Boinet and Stephan.
19 (No. 9.) Le souffle d'asthénie cardiaque. Lamacq.
20 (No. 10.) Hemiplégie à répétition d'origine urémique. J. Le Calve.
21 (No. 11.) Sur 2 cas de meningisme urémique. G. Carrière.
22 (No. 12.) Pathogénie générale des affections buccales. J. Choinpret.
23 (No. 13.) *Study of Syphilis in the Country in Russia. Marcou.—La syphilis du paysan en Russie.
24 Hemorragie dans le tubercule quadrijumeau antérieur droit. Bouchaud. One case.

25 *Hepatic Syphilis from a Surgical Standpoint. C. G. Cumston (Boston, Mass.).—La syphilis hépatique au point de vue chirurgical.
26 Des modifications respiratoires produites dans la tuberculose pulmonaire par le traitement tracheal. Mendel.
27 (No. 16.) Two Distinct Cancers on Same Breast. H. Morestin.—Epithélioma du mamelon et epithélioma glandulaire de la mamelle. Névralgie intercostale.
28 Les syndromes fonctionnels de la pathologie rénale et l'insuffisance renale. L. Bernard.
29 *Du tremblement provoqué ou exagéré par l'opothérapie surrénale ou thyroidienne. Boinet (Marseilles).
30 (No. 17.) *The Blood in General Paralysis and Tabes. M. Klippel and E. Lefas.—Le sang dans la paralysie générale et le tabes.
31 Traitement de la stérilité pas les eaux sulfureuses de Luchon. J. de Segrais.
32 De l'intervention chirurgicale dans les inflammations chroniques du gros intestin (rectum excepté). P. Launay.
33 (No. 18.) Des lesions de la couche musculeuse de l'estomac dans les gastrites non compliquées d'obstacle mécanique. G. Hayem and G. Lion.
34 Glycosurie et hypophyse. P. E. Launois and P. Roy.
35 (Nos. 19-21.) Dietary in Temperate Climates. E. Maurel.—Aperçu général sur la ration d'entretien pendant les saisons intermediaires dans les climats tempérés.
36 Treatment of Consequences of Phlebitis. H. Hannequin.—Les suites de phlébites.
37 Syndrome surrenal chronique experimental. R. Oppenheim and M. Loeper.
38 Etude du polyadenome polypeux et de l'adéno-papillome de l'estomac. J. Bret (Lyons).
39 Syphilis of Liver in Adult. E. Boix.—La syphilis du foie chez l'adulte.
40 (No. 23.) More than the Physician, the Surgeon Should Make Blood Examinations. J. Silhol.—Plus encore que le médecin, le chirurgien doit examiner le sang des malades.
41 Varicocele tubo-ovarien. G. Michel. One Case.
42 (No. 24.) Action de la sécrétine et action de l'acide dans la sécrétion paucréatique. M. C. Fleig (Montpellier).
43 De l'insuffisance respiratoire dans la tuberculose pulmonaire. Mendel.
44 The Americans and Yellow Fever. M. Boigey.—Les Americains et la fièvre jaune.

18. **Tardy Rachitis and Multiple Chondromata.**—Boinet shows that during the entire course of the growth of the skeleton there are liable to be disturbances in its normal development, involving its various tissues. The changes in the bones regarded as tardy rachitis, whether or not they belong in the category of true rickets of early childhood, should be included in these deviations in development. With them belong also the chondromata that develop in association with these tardy bone lesions. He illustrates a typical, very pronounced case. The incidental cause of the formation of the cartilaginous tumors seemed to have been a traumatism. He also notes that an eruptive fever preceded the appearance of the bone malformations and the swelling of the epiphyses in both this and another case. Consecutive to a fracture of the ankle the right calcaneum in his case became infiltrated with a cartilaginous product and histogenetic troubles rapidly developed, leading to benign gelatinous degeneration.

23. **Syphilis in the Country in Russia.**—Marcou was sent by the French government to study medical conditions in Russia, and expatiates on the differences between syphilis there and in other countries. Outside of the large towns, in which the conditions approximate those in western Europe, throughout the country districts, entire villages and scattered communities are decimated by syphilis, which the habits of the Russian peasants allow to spread rapidly by extra-genital infection. Women and children are peculiarly the victims owing to their promiscuous use of articles, clothing, etc., and their more confined life. The habit of kissing sacred images and acquaintances on certain feast days aids in the dissemination of the virus.

25. **Hepatic Syphilis from Surgical Standpoint.**—Cumston's report of 3 cases and review of the literature is similar to that published previously in this country and recently reviewed in these columns, page 1539.

29. **Tremor Induced by Opotherapy.**—Boinet has observed 10 cases in which tremor was induced by thyroid or suprarenal treatment. Analyzing them, he finds that the tremor is not a sign of intoxication, but merely that the limit dose has been reached. The cases of Addison's disease that exhibited it were the ones most benefited by the opotherapy. The tremor may serve to differentiate this disease and exophthalmic goiter after test of opotherapy.

30. **The Blood in General Paralysis and in Tabes.**—Klippel reports the result of examination of the blood in 31 cases of these affections. The blood count always showed a lack of normal cellular balance. The proportion of polynuclears was increased at first, and later of the lymphocytes, in general paralysis, and in tabes there was also a red anemia and reactional eosinophilia. These facts suggest infection, and are valuable for differentiating dubious cases as general paralysis and possibly tabes may be assumed to be of an infectious nature.

Archives de Neurologie, Paris.

Last indexed XL, page 1175.

45 (XXV, May.) Etude sur la manie. S. Soukhanoff and P. Gannouchkine.
46 Nouvelles observations de névrose d'angoisse. H. Hartenberg. Three cases.
47 Physio-psychologie des religieuses; les religieuses de Port-Royal. C. Binet-Sanglé. (Concluded. Fifth series of five observations.) Historical.
48 (June.) Note sur un cas de bestialité chez la femme. Ch. Féré.
49 La clinique psychiatrique de l'Université de Giessen (Hesse). P. Serieux.

Revue de Medecine, Paris.

Last indexed XL, page 1265.

50 (XXIII, 4.) *Manifestations cardio-vasculaires de l'hérédo-dystrophie para-tuberculeuse. E. Mosny.
51 *L'indicanurie dans les affections de l'estomac (of stomach). J. Carles (Bordeaux).
52 Deux cas de fièvre typhoïde à localisations anormales (colotyphus). V. Le Golc.
53 (No. 5.) *Trois cas de broncho-pneumonie continue, et remarques sur l'hospitalisation des pneumopathes. G. Rosenthal.
54 Painful Lassitude as Epileptic Equivalent. Ch. Féré.—Note sur la courbature comme equivalent épileptique.
55 Syndrome de Weber from Injury of Right Orbit in Fencing. Bichelonne.—Coup de fleuret dans l'orbite droit. Syndrome de Weber. Hystéro-traumatisme probable.

50. **Cardio-Vascular Lesions in Children of Tuberculous Parents.**—The taint in the progenitors, infectious or toxic, especially tuberculosis, entails on the children a liability to congenital hypoplasia of ovular or ontogenetic origin, affecting the tissues which have a common blastodermic origin. When the cardio-vascular apparatus is affected, the lesions are distinguished by the prolonged latency, the consequence of the extreme tolerance of the organism for the lesions to which it seems to have adapted itself before birth. The revelation of their presence comes late, usually on account of some stress which upsets the balance established between the organism and the system marked by hypoplasia, or under the influence of some intercurrent infection or intoxication which brings into evidence its primal insufficiency. This latency is particularly striking when compared with the symptoms from acquired lesions of the same localization which are so often the cause of grave functional disorders almost from the start. This fundamental difference indicates the prognosis and the therapeutics. The lesions are not tuberculous in nature. The subjects are frequently free from the slightest tuberculous lesion and do not seem predisposed to them nor rendered immune against them. Early or late, however, the manifestations of this "para-tuberculous heredo-dystrophy," as Mosny calls it, become apparent, but the chlorosis, pure mitral stenosis, stenosis of the pulmonary artery or aorta, and diffuse arterial aplasia, alone or combined, have each their special features which allow them to be differentiated from acquired lesions.

51. **Indicanuria in Stomach Affections.**—Carles concludes from study of 22 subjects that indicanuria is not observed in hyperchlorhydria, but is almost always constant in case of deficient secretion of the gastric juice or hydrochloric acid, and also in case of fermentations in the stomach. The liver functions do not seem to have much to do with indicanuria, but it appears to be intimately connected with the functioning of the gastric mucosa. Indicanuria indicates not only the measure of gastro-intestinal fermentations but is also an index of the gastric secretions.

53. **Continuous Bronchopneumonia.**—Rosenthal's 3 cases were all due to the enterococcus of Thiercelin, and commenced with ordinary bronchopneumonia. The long duration, predominance of general phenomena, attenuation of the functional signs, slight hyperthermia, sometimes polycyclic, and the cachexia, simulating that of tuberculosis, are all included in the syndrome. No Koch bacilli could be discovered. The patients were pining in the hospitals when the fresh-air cure was instituted with prompt and rapid recovery in each case.

Semaine Medicale, Paris.

56 (XXIII, 22.) Hazardous Risks and Life Insurance According to the Transactions of the Examiners' Congress. F. Farnarier.—Risques tarés et assurance sur la vie d'après les travaux du congrès de Paris. See report on page 1785 of last volume of THE JOURNAL.
57 Letter from America. F. Munch.—Traitement du shock chirurgical aux Etats-Unis.
58 (Nos. 23-24.) Detailed Report of German Congress of Surgery.
59 Letter from America. F. Munch.—Sur le parasite de la variole.
60 Ibid. Traitement opératoire des rétrodeviations utérines.
61 *Influence du paludisme dans l'apparition du béribéri. C. L. Urriola (Panama, Colombia).
62 *Le traitement des tuberculeux dans les colonies familiales. H. Erni (Gersau, Switzerland).

61. **Influence of Malaria on Beri-Beri.**—In Urriola's experience at Panama he has examined the blood of 22 patients with beri-beri, and invariably found the malaria parasite. The beriberic symptoms, he mentions, always followed the onset of malarial symptoms. He thinks that there is more than a mere coincidence in this fact. Almost all the beri-beri deaths were due to heart complications, and loss of memory was frequent and so complete in one instance that the subject was unable to follow any occupation. The heart symptoms of the beriberi were dyspnea at the slightest effort, embryocardia and increasing asphyxia to fatal suffocation, but no true cardiac soufiles were noticed. Manson's "pendulum" sign has only relative value, as the memory suffers in beri-beri and the malaria induces a characteristic endocarditis and probably also a myocarditis with granulo-fatty degeneration. In most cases, therefore, it is impossible to establish a difference between beri-beri and malarial neuritis, and in fact, Urriola thinks there is no difference, and that the two are identical. Before incriminating the humidity or the food in the etiology of beri-beri we must first exclude or cure the malaria. He has been very successful in curing beri-beri by applying suspension, quinin, iron, and cold hydrotherapy. His patients were completely cured by 15 to 30 applications of suspension supplementing the other measures.

62. **Treatment of Consumptives in Family Colonies.**—Erni describes the homes offered to tuberculous subjects on the slope of the Righi. There are several villages at different altitudes where the families make a practice of taking tuberculous subjects into their homes. The fare is simple; little meat, but eggs and milk in abundance, five or six meals a day, and the host watches over his guests to see that no undue exercise is taken. In fact, long walks are impossible as the ascents are so steep. The price of these accommodations is not more than $4.20 a week, and the inmates thrive under the enforced repose and patriarchal conditions, as well as in pretentious sanatoria. Some families take only 2 or 3, others as many as 8, and during the last ten years nearly 2,000 tuberculous guests have been thus received in the canton of Schwyz. The village physicians have looked after them at reduced rates. Erni recommends this plan of mountain family colonies as having proved its usefulness at the minimum of expense. Nothing has been observed during the ten years that suggests that any of the hosts have become infected from their guests. The plan offers a means of gain to these mountain villages, which they are glad to exploit under the supervision of the local physician. The lack of comfort is no detriment.

Beitraege z. Klin. Chirurgie (v. Bruns'), Tuebingen.

Last indexed XL, page 342.

63 (XXXV, 1.) *Ueber die Tuberkulose der männlichen Geschlechts-Organe. von Büngner (Hanau).
64 Study of Chemical Composition of Aseptic Wound Secretions. V. Liebiein (Prague).—Zur Kenntnis der chem. Zusammensetzung des asept. Wundsekretes.
65 Luxations of Pelvis. P. Linser.—Ueber Beckenluxationen. One case.
66 *Zur Ligatur-Behandlung der Hemorrhoiden. E. Ehrich (Rostock).
67 Hernias of Bladder. Lossen (Carlsruhe).—Ueber Harnblasenbrüche.
68 *Zur Statistik und Kasuistik des primären Extremitäten-Krebs (cancer). K. Franze (Innsbruck).
69 *Die Nephrotomie und ihre Folgen (consequences). O. Langemak (Rostock).
70 Tavel's Salt-Soda Solution. H. Küttner (Tübingen).—Ist die physiol. Kochsalzlösung durch die Tavel'sche Salzsodalösung zu ersetzen?
71 (No. 2.) Carbon Dioxid Narcosis. O. Rothschild (Breslau).—Ueber Kohlensäurenarkose.
72 Experiences with Spinal Cocainization at Breslau. G. E. Stumme.—Unsere Erfahrungen über die Cocainisirung des Rückenmarks nach Bier.
73 Remote Results of Operative Treatment of Cleft Palate. W. Kassel (Breslau).—Zur op. Behandlung der angeborenen Gaumenspalte mit bes. Berücksichtigung der funct. Erfolge.
74 *Splenektomie bei dem primären Sarkom der Milz (spleen). W. Simon (Königsberg).
75 *Rectum-Tumor und Corpus liberum der Bauchhöhle. J. Elter (Rostock).
76 *Zur Anatomie und Klinik der Struma maligna. O. Ehrhardt (Königsberg).
77 Zur Operation der Scrotalhernien bei Kindern (in children). W. Anschütz (Breslau).
78 *Considerate After-Treatment of Septic Operations. H. Küttner (Tübingen).—Schonende Nachbehandlung septischer Op.
79 (No. 3.) *Ueber die Schneiderlin'sche Skopolamin-Morphium-Narkose. E. Blos (Carlsruhe).
80 Zur Kasuistik der Schadel- und Gehirnverletzungen (skull and brain injuries). Amberger (Frankfurt a. M.).
81 Kosmetische Behandlung von Sattelnasen mit Vaselin-Injektionen. M. Wassermann (Munich).
82 *Ueber Spontan-Gangrän der Extremitäten. O. v. Wartburg (Zurich).
83 *Foreign Bodies in Air Passages. E. Monnier (Zurich).—Ueber Fremdkörper in den Luftwegen und die Bedeutung der Bronchoskopie bei solchen.
84 *Ueber Hydronephrosis intermittens. J. Michalski (Zurich). (Commenced in No. 1.)
85 Operating During First Whiffs of Ether. H. Küttner (Tübingen).—Das Operiren im Etherrausch.
86 *Application of Electro-magnet for Removal of Foreign Iron Bodies in Bladder. F. Hofmeister (Tübingen).—Anwendung des Elektromagneten zur Entfernung eiserne Fremdkörper aus der Harnblase.

63. **Treatment of Tuberculosis of the Male Sexual Organs.**—Büngner reports continued success with his method of treating tuberculosis of the male genitalia. It includes what he calls "high castration," that is, castration with evulsion of the vas deferens. Instead of dividing the vas at the ordinarily accessible point, he mobilizes and pulls steadily on it until it breaks high up. About four-fifths of the vas can usually be removed in this way, and his experience during nine years has demonstrated that the remaining portion soon heals. His method also includes direct injection into the vas deferens of a 10 per cent. glycerin solution of iodoform. He injects 3 or 4 gm. upward and 1 or 2 downward. Experiments on the cadaver show that the solution permeates the entire generative tract on this side, even distending the seminal vesicles. His experience also confirms von Bruns' that tuberculosis of the generative tract is almost invariably ascending, so that by this method of high castration all or nearly all the morbid parts are removed and the rest soon heals when freed from irritation from below. He has treated 18 patients by this high castration, which he recommends for tuberculosis restricted to the testicles and vas alone. He supplements it with the intracanalicular iodoform injections when there is reason to think the entire tract is invaded, including the seminal vesicles and prostate, or applies these injections alone. As a last resort, he ablates the tract the entire length of its course. The latter is very seldom necessary. All of his last series of 10 were cured, and all but 2 of the remainder. This is a total of 86.6 per cent. cured in contrast with Bruns' percentage of 46 per cent. cured by unilateral castration and 56 per cent. by bilateral, in 111 cases followed for three to thirty-four years. Simon has reported from Heidelberg 66.3 per cent. cured in 92 cases, and Kocher 26.3 per cent. in 45. Injurious after-effects that might be attributed to the castration were not found by Bruns in any of the 33 examined and by Simon only once in 34. Büngner details the particulars of his last series of 11 cases, and in the colored reproduction of the testicles, etc., and vas from a cured case he shows how the vas was diseased far above the point where it is usually severed. He has found that the epididymis is generally first involved and the vas next, the testicles being affected much less frequently than the latter. Only in the rarest cases were the prostate and vesicles also diseased. In 2 of his cases, high castration plus a single intracanalicular injection resulted in the complete healing of the lesions above, which were to have been removed later in a second intervention. One was a man of 39 and one a boy 4 or 5 years of age.

66. **Ligature Treatment of Hemorrhoids.**—Ehrich thinks that ligature is far superior to excision or cauterization in treatment of hemorrhoids, as far as the simplicity of the technic and of the after-treatment is concerned. At the same time it guarantees better against complications of various kinds, and is fully the equal of cauterization in respect to the ultimate outcome. He has thus treated 58 patients and 14 others plus excision of some of the nodules. In 16 cases he supplemented

the ligature by injection of one or two drops of a 90 per cent. solution of carbolic acid, protecting the sound parts with alcohol. Three cases were treated by these injections alone. All of his total of 98 patients were cured in ten to fourteen days; a few required a single injection of morphin on account of pain in the region. Catheterization was necessary in 11 cases. The nodules drop off in dry necrosis. Recurrence after ligature treatment occurred in only 4, and in 4 the benefit was merely partial, but 68 have been permanently cured. The only mishap in his experience was the death of one patient the seventh day with symptoms of embolism of the lungs, who had been treated by ligatures alone.

68. **Primary Cancer of the Extremities.**—Franze has had occasion to observe 21 cases of a malignant growth on an extremity. In 11 it developed at the site of some old injury, mechanical, thermic or chemical. In this group the glands are involved very late and the possibility of early removal of the neoplasm renders the prognosis good; 69.7 per cent. were cured and 30.29 per cent. succumbed. In another group were 5 cases of primary cancer on sound skin, the back of the hand in 3 and the thigh and heel in 1 each. None of these patients died. His third group includes those in whom the cancer developed from a congenital wart or maternal mole, 5 in all, and all fatal. The back of the hand was involved in 2, the sole in 1, the forearm in 1, and the left calf in the fifth. He has found 8 similar cases on record, all likewise fatal, and only 1 has been published in which there has been no recurrence since ablation. They usually occur in elderly persons and run their course in a year and a half. He thinks that the physician ought to impress on his patients the necessity of prophylactic removal of these congenital warts and moles, including the pigmented nevi, the latter on account of the liability of melanosarcoma. The mortality of the combined statistics shows 65.2 per cent. cured and 34.8 per cent. mortality or omitting the malignant third group, the mortality has been 30.3 per cent., with nearly 70 per cent. cured.

69. **Consequences of Nephrotomy.**—Langemak warns that his experience with rabbits indicates that any deep incision into the kidney induces an infarct, corresponding in size to the artery that is severed. Also that coagula may plug the entrance into the ureter, causing temporary insufficiency of the kidney. This latter danger should never be forgotten in operating on the kidney, and hemorrhage into the organ should be avoided and all blood in it should be carefully removed.

74. **Sarcoma of Spleen.**—The experience at Königsberg demonstrates that the spleen should be removed on suspicion of sarcoma, without waiting for definite and serious symptoms. In 7 cases operated on and published in the literature the results were favorable in 6, as also in a case personally observed. The latter patient was a woman of 38 from a malarial region, a multipara, who had noted at long intervals pains in the left half of the abdomen. The blood was apparently normal.

75. **Free Body in Abdomen.**—A supposed tumor on the rectum, protruding into the Douglas cul-de-sac, was extirpated and found to be a necrotic and calcified fibrolipoma that had been cast off from the omentum. It had lodged on and grown to the rectum. Similar lipomata were found scattered over the omentum at the autopsy, and evidences of carcinomatous degeneration were also discovered which explained the symptoms observed and credited to the bunch palpated in the Douglas sac.

76. **Malignant Struma.**—Ehrhardt remarks that malignant struma usually develops in a goiter, but not always. Ordinary goiter is movable as a rule, but the malignant struma does not move during the act of swallowing. This absence of movement was noted in 40 per cent. of the cases of malignant struma on record. He has collected 131 cases of carcinoma with glandular metastases in 49, and 107 cases of sarcoma with glandular involvement in 18. In operating general anesthesia should be avoided.

78. **Considerate After-Treatment of Septic Operations.**—Küttner hints that when a surgeon has been himself the subject of a septic operation he is better able to appreciate some of the details that add to the comfort of the patient. Among these is the use of drain tubes instead of gauze, as easier to change. If the temperature and pain do not increase, why not leave the dressings untouched for days? And if moist dressings are applied why not apply fresh ones outside and leave the one in contact with the wound undisturbed? The practice of cauterizing wounds with pure carbolic acid is particularly useful, as it reduces the secretions in the wound for days. A wet dressing soothes pain far better than a dry one. In replacing tampons in a crevice or narrow cavity, much pain is avoided by having the lips of the wound gently pulled apart by retractors. The wound surface should be touched as little as possible, and as soon as the acute inflammation is past, apply the salve dressings. If new incisions become necessary do not attempt local anesthesia, as it is liable to fail in the debility of extensive septic processes. Operate during the "ether drunk," that is during the first few whiffs of ether.

79. **Scopolamin-Morphin Anesthesia.**—This method of anesthesia was used in 105 cases at the Carlsruhe clinic. In the majority, Blos states, it proved "ideal." It failed in 29 cases, and in two-thirds of these ether had to be given to complete the operation. Hysteric and neurasthenic patients are liable to react with restlessness, palpitations and vomiting, even to small doses. The danger in this method of narcosis is from arrest of the circulation. There were respiratory disturbances in 9 of the 70 cases in which it was administered unmodified. In 4 of the 9 the disturbances were slight and spontaneously righted themselves at once; in 2 after massage had been applied to the heart and in one each after artificial respiration or wiping out the throat. A few vigorous pulsations of the heart—induced by the massage—had a particularly favorable action on the respiration. One patient died, the death explainable by advanced pulmonary lesions, nephritis and heart weakness. The narcosis is rarely so deep but what the subject can be roused by shaking and calling to him—a great point in its favor. He thinks that inhalation of oxygen might be useful in case of trouble. The mucous glands are paralyzed by this narcosis and consequently ether given afterward has none of the dangers as under other circumstances. His experience indicates that 10 dmg. scopolamin and 6 cg. morphin is the best dose to start with. After waiting an hour or an hour and a half, a second smaller dose may be given but can usually be dispensed with. Vomiting was noted once or twice in 12 of 99 cases. It was not accompanied by nausea. [The latest communication on the subject by Schneiderlin, the inventor of this method of narcosis, was reviewed very fully in THE JOURNAL of April 11, 1903, p. 1036.]

82. **Spontaneous Gangrene of the Extremities.**—Wartburg describes 3 cases of gangrene from embolism of the iliac or femoral artery, traceable to a valvular affection, and 1 due to an aneurism in the popliteal. He has also observed 5 cases in which the gangrene was due to thrombosis, evidently the result of a circumscribed endarteritis subsequent to some infectious disease. Pains in the limb had been noted as the first symptom. Amputation may cure in these cases as the prognosis is better than in the first group. The mortality in 32 cases of senile gangrene was 63.75 per cent. The gangrene is probably due to arteriosclerosis in senile as also in diabetic gangrene, of which he has observed 8 cases. The prognosis after amputation is more favorable in diabetic than in senile cases. All were cured in 6 treated by exarticulation of the knee, and 4 were cured in 7 after amputation of the thigh.

83. **Foreign Bodies in Air Passages.**—Monnier expatiates on the value of direct bronchoscopy and urges that we must not be deceived by the mildness of the symptoms noted after a foreign body has been drawn into the air passages.

84. **Intermittent Hydronephrosis.**—The details of 133 cases collected are tabulated, plus 8 unpublished ones.

86. **Extraction of Foreign Body from Bladder with a Magnet.**—An iron peg, 5 cm. long by 6 mm. wide, was inserted in the urethra by a young man and slipped into his bladder, where it could be seen by radioscopy. It was extracted by means of a Hirschberg portable magnet, the short tip used in ophthalmology being replaced by a long one, shaped something like

a catheter, considerably wider than the peg. A hair pin in a woman's bladder was also successfully removed with it.

Deutches Archiv f. Klin. Medicin, Leipsic.

Last indexed XL, page 1616.

87 (LXXVI, 1-3, Pribram Festschrift.) Zur Kenntnis der Callus-Bildung bei osteomalacischer Fracturen. H. Beckmann.
88 Beziehungen der Tetanie zur Epilepsie und Hysterie, nebst Mittellung eines Falles von Tetanie bei Osteomalacie. E. Freund.
89 *Prophylaktische Wirksamkeit des Urotropins bei Typhus-Bakteriurie. E. Fuchs.
90 Mode of Action of Cotoin and Fortoin on Intestinal Content. R. Karb.—Wirkungsweise des Cotoins und Fortoins auf den Darminhalt.
91 Hyper- und metaplastiche Hematopoiese bei universeller Carcinose. L. Kast.
92 Ueber Wachsthumsstörungen der Knochen bei multiplen cartilaginösen Exostosen. K. Lippert.
93 Ueber die baktericiden Wirkungen des menschlichen Blut-Serums bei Gesunden und Kranken. W. Löwenstein.
94 Heat Sense. F. Neumann.—Zur Klinik des Wärmesinnes.
95 Zum diagnostischen Werth der Lumbal-Punktion. G. Orgimeister.
96 *Zur Aetiologie des akuten Gelenk-Rheumatismus. C. Philipp.
97 Transcortical Disturbances in the Motor Apparatus. F. Pick.—Ueber transcorticale Störungen des Bewegungsapparates.
98 *Klinische Beobachtungen bei 10 Fällen von Diabetes insipidus. E. Pribram.
99 *Untersuchungen über Diabetes. L. Schwarz.
100 *Ueber die Tuberkulin-Reaktion. L. Zupnik.

89. **Urotropin in Prophylaxis of Typhoid Bacteriuria.**—The articles in this Festschrift in honor of Professor A. Pribram of Prague, all issue from his clinic. Fuchs states that urotropin administered in time to typhoid patients will effectually prevent bacteriuria later. He found bacilli in the urine in 26 out of 75 cases of typhoid fever, while in 40 treated with the urotropin, only one had bacteriuria, and in this latter case the drug had not been given as early as to the others. It must be commenced before the fever subsides, 2 gm. in an aqueous solution daily, and continued into convalescence to the latest date at which bacteriuria is liable to develop.

96. **Etiology of Acute Articular Rheumatism.**—Philipp believes that this disease is one apart from others, of entirely unknown etiology to date. No substance has yet been isolated from the blood or joint exudate which is pathogenic for any animal except the calf. Experiments with calves seemed to suggest a positive result and further tests with this animal are necessary. If the calves could be left with the mothers better results would probably be obtained than was possible under the circumstances in his experimental researches.

98. **Clinical Pictures in Ten Cases of Diabetes Insipidus.**—Besides the usual polyuria and polydipsia which in one case were superposed on a diabetes mellitus, nearly all the patients exhibited some affection of the central nervous system, especially genuine atrophy of the optic nerve. The peripheral nervous system was involved in a few, sciatica in some cases and exaggeration of the knee-jerk. The sexual functions were disturbed in nearly every instance. Evidences of arrested development were prominent in the younger subjects; in one case before the advent of the polyuria. In some instances there seemed to be a reversed proportion between the pulse and the polyuria. The heart beat and radial pulse were weak. In one case there was a hemorrhagic diathesis and in another incontinence of urine. All the patients were benefited by ergot and gradual deprivation of water, but a permanent cure was not obtained in any instance.

99. **Study of Diabetes.**—The practical conclusions of this comprehensive article state that in the dietetic treatment of diabetes the amount of fat to be allowed should be determined for each individual case by the intensity of the elimination of the acetone bodies. The tests showed a marked decrease in the elimination of the acetone bodies after administration of gluconic acid, a fact which, as Schwarz remarks, requires confirmation. The interposition of a day of fasting during the transition from a mixed to a diet free from carbohydrates, seems to reduce the acetone bodies at once and hastens the vanishing of the sugar. The tests also showed that the proportion of fats in the blood is above normal.

100. **Tuberculin Reaction.**—Zupnik does not think that this reaction is specific to the species but merely to the genus. The susceptibility of a tuberculous man is a hundred times greater than that of a tuberculous guinea-pig. He states that he has observed a case of tuberculosis of the kidney which, from both the clinical and pathologic points of view, seemed to be typical. The bacilli causing it, however, were not the Koch bacilli, but merely an acid-proof variety, apparently a smegma bacillus.

Deutsche Zeitschrift f. Chirurgie, Berlin.

Last indexed XL, page 1763.

101 (LXVIII, 1-2.) Obituary of Carl Nicoladoni. List of His Fifty-four Works.
102 *Experimental Sutures of Arteries. H. Amberg (Kocher's clinic, Berne).—Exp. Beitrag zur Frage der circulären Arteriennaht.
103 *Beitrag zur Myositis ossificans. Borchard (Posen).
104 *Ueber Geschwülste (tumors) des Musculus psoas und Musculus iliacus internus. H. Jacobstahl (Göttingen).
105 *Zur operativen Behandlung der Knie-Gelenk-Tuberkulose mit besonderer Berücksichtigung der Anwendung der Iodoform-Plombe nach v. Mosetig. N. Damianos (Vienna).
106 *Laparotomie und Ventralhernien. Silbermack and Hirsch.
107 *Die Lokalisation der Osteomyelitis in den Seitenthellen des Os sacrum und ihre Beziehung zu den Wachsthumsvorgängen. H. Gross (Riedel's clinic, Jena). Six cases.
108 *Ueber traumatische Accessorius-Paralyse nach Schädel-Basis-Frakturen. J. Krähenmann (Zurich).
109 Instrument for Introducing Wire Saw. E. Payr (Graz).—Instrument zur bequemen Führung der Gigli'schen Drahtsäge.
110 Ueber solitäre Darmstenosen. Hacker (Innsbruck).
111 Volvulus in einem 19-tägigen Säugling. M. Pescatore. One case; 19 days' infant.

102. **Experimental Circular Suture of Arteries.**—The experiments were made on 7 animals, including 2 horses. In 3 the lumen of the artery remained entirely permeable, and in 1 partially. An obliterating thrombosis occurred in 2, and is liable whenever the vessel is below a certain size. About 15 mm. seemed to be the limit. The walls of the vessels are thicker in man than in dogs, and Amberg reports that he has successfully applied a circular suture in a clinical case, invaginating the femoral vein with the artery over a magnesium prothesis shaped something like a napkin ring. Stubenrauch has experimented with this prothesis on the femoral artery in dogs, but thrombosis followed in every instance.

103. **Myositis Ossificans.**—The treatment of this affection can be only operative, removing the periosteum for 1 cm. if the morbid process be adherent to the bone. Two cases on record indicate that early massage might ensure the resorption of small foci of ossification. In 2 cases personally observed, the process spread from little islands of ossification in the interstitial connecting tissue, leading to hyperplasia and ossification from the proliferating perimysium. The growth was rapid and was removed in twenty-one and twenty-four days. In the 61 cases of this affection that have been published, the quadriceps was involved in 26; the brachial in 21; the iliopsoas in 3; biceps in 3; adductor longus in 3 and the triceps, gastrocnemius, gluteus, masseter and diaphragm in one each. It usually occurs when the muscles are at their prime and a traumatic factor was evident in many if not all of the cases.

104. **Four Cases of Tumors in Psoas and Internal Iliac Muscles.**—The lesions all simulated a tumor in the kidney or pelvis. Symptoms had been noticed for six to fifteen months before the operation. One patient was a woman of 47, who died two months after the fibroma had been removed from the iliacus; another a man of 37 with fatal recurrence of the spindle-celled sarcoma in three months after the intervention. A fibrosarcoma was removed from the third patient, a woman of 31, the tumor located in the psoas, and followed by rapid fatal recurrence. The fourth patient was a man of 26, and he recovered without mishap after removal of a myxofibroma in the psoas.

105. **Radical Treatment of Tuberculosis of the Knee.**—Mosetig restricts radical operation to persons under 50, although König has reported 50 per cent. cured in 100 elderly subjects treated by resection. The general condition is also an important factor in the ultimate outcome. During the last ten years Mosetig has done synovial arthrectomy in 7 and resection in 114 cases of tuberculosis of the knee, and six or seven-tenths of the total number were cured. All severer cases should be operated on at once, as the lesion is constantly spreading and the danger of general infection increasing. He operates under chloroform, resecting the parts involved, especially the bursa suburalis, which is a favorite location for

the morbid process. A thin curving slice is sawed off the head of the tibia, perpendicular to its long axis. If circumscribed foci are discovered on the sawn surface each is incised singly into sound tissue. After the cavity left has been disinfected with formalin and dried, it is filled with the bone filling, which Mosetig has previously described (see THE JOURNAL, page 1545 of the last volume). As the new bone forms and grows into the filling, it comes in contact in time with every particle of the iodoform. The halves of the patella are united with catgut passing entirely around it, and the soft parts sutured on each side of the patella, leaving a strip of rubber tissue at the bottom of the wound. The skin is then sutured with silk and the leg placed in a wooden splint, lined with cotton, covered with gauze. The splint is bound to the leg with gauze and an immobilizing bandage applied outside to include the entire limb. The leg is raised a little the first day. He has never had temperature in any case. The bandage is left undisturbed for three or four weeks, during which the patients remain in bed. The outside bandage is then removed and the patient allowed to go about on crutches. The limb can be used the seventh or eighth week, but a flannel bandage should be kept on a while longer and warm baths taken frequently. The patient leaves the hospital in two months. There is no limp when the sole is raised 2 cm. After a few weeks of careful use of the limb it can be used without fear in the hardest work. The harmlessness of the procedure is shown by the rapidity with which the patients completely recuperated, while the iodoform filling ensures smooth, rapid and permanent cure of the local lesion.

106. **Laparotomy and Ventral Hernia.**—By following Lennander's technic, an extramedian incision to avoid injury of motor nerves—the cause of atrophy in the muscles—and by leaving the fibers of the rectus intact between the cicatrix in the anterior aponeurosis and the peritoneum, Hirsch affirms that there can be no danger of ventral hernia later. He has watched the ultimate results in 41 cases thus operated on and found that Lennander's claims are justified.

107. **Osteomyelitis in the Side of the Sacrum.**—Gross has observed 6 cases and collected 10 in the literature in which the osteomyelitis was located in the lateral portions of the sacrum. In 10 the disease proved fatal. The osteomyelitis may be mild or severe, and much depends on proper surgical intervention, as he explains in detail. When a secondary abscess forms in the psoas it may be reached by resection of the sacro-iliac symphysis.

108. **Traumatic Paralysis After Fractures of Base of Skull.**—In Krähenmann's own 2 cases and in 3 he has found in the literature, there was trouble in swallowing, from unilateral paralysis of the palate musculature, and also disturbances in voice and speech from unilateral paralysis of the recurrent laryngeal. In 4 there was unilateral paralysis of the sternocleido and trapezius muscles, and in 2 unilateral loss of taste, in one instance only over rear part of one side of tongue. The injury to the nerves was located by these symptoms in the foramen lacerum posterius which transmits the three nerves involved. The sternocleido and trapezius muscles became paralyzed, but as other muscles compensated, there are no motor disturbances. Two of the 5 cases entirely recovered except for slight trouble in swallowing, still requiring care.

Mitteilungen a. d. Grenzgebieten der Med. u. Chir., Jena.

Last indexed XL, page 1617.

112 (XI, 3.) *Affection of Cauda Equina in Consequence of Tuberculosis of Adjoining Bones. M. Barteis.—Ueber Erkrankung der Cauda equina im Gefolge von Tuberculose der Symphysis sacroiliaca und der angrenzenden Beckenknochen.

113 *Can a Tumor in Spinal Cord Spontaneously Retrogress? S. E. Henschen.—Kann ein Rückenmarkstumor spontan zurückgehen?

114 *Die Exstirpation der Milz (spleen), ihre Indicationen und Resultate (an der Hand von 6 erfolgreichen Splenektomien). M. Jordan (Heidelberg).

115 Surgical Importance of Influenza. R. Milner (Hanover).—Zur chir. Bedeutung der Influenza; akute, chronisch rezidivirende Spondylitis mit Schwielenbildung, Kompressionslähmung und Purpura nach Influenza.

116 *Blood Count in Appendicitis, etc. E. Stadler (Leipsic).—Zur diagn. Bedeutung der Leukocytenwerthe bei den von Blindarm und Wurmfortsatz ausgehenden entzündlichen Prozessen.

112. **Secondary Tuberculous Affections of Cauda Equina.**—Bartels reviews the clinical picture in 2 cases personally observed and one other. If the tuberculosis develops secondarily to a tuberculous affection in the sacroiliac symphysis and adjoining bones of the pelvis, the nervous symptoms from compression of the cauda equina usually locate the lesion without difficulty. He considers surgical intervention justified when the spinal vertebræ are not affected and the symptoms indicate compression by the upper portion of the sacrum. There is little to be gained from an operation if only the lower portion of the sacrum or the coccyx is involved.

113. **Probable Spontaneous Retrogression of a Tumor in Spinal Cord.**—Henschen's report of the recovery of a patient who exhibited symptoms of a tumor in the spinal cord which later apparently vanished, was reviewed in detail in THE JOURNAL when first published in the *Upsala Lakarefor. Forhandlinger*, vii, 8. The abstract will be found on page 1554 of vol. xxxix.

114. **Indications for Removal of Spleen.**—Jordan has become convinced that the spleen is an organ which can be easily spared; and that the removal of a movable spleen may be regarded as an almost entirely harmless intervention. The danger increases in proportion to the number and extent of the adhesions. The most favorable chances are when the affection is strictly localized to the spleen; if it is secondary to some constitutional affection, extirpation is dangerous. The statistics show that spleen affections are more frequent in women than in men. He has performed splenectomy six times with success and reviews 10 other cases he has found in the literature. He corroborates the existence of a chronic hyperplasia of the spleen which develops as a purely local lesion, affecting chiefly women between 20 and 30, and requiring years to develop, eight to fourteen years in the published cases. The spleen tumor is the only morbid process and the sole cause of the existing disturbances. The symptoms are those of crowding other organs or tissues. The spleen may grow to a weight of 2 to 6 pounds. The normal condition of the blood, liver and glands excludes a constitutional affection, and complete recovery follows the removal of the spleen, which is easily accomplished. Even the coexistence of cirrhosis of the liver is no contraindication in case of this primary, idiopathic hypertrophy of the spleen. Splenectomy has been done twice on account of primary tuberculosis of the organ, and in each instance a complete cure was effected. In case of a wandering spleen, if at all abnormal, ablation is indicated and also in case of doubt. The friability of the organ renders the results of splenopexy dubious, although theoretically indicated. Necrosis of the spleen with perisplenitic suppuration such as has been observed after trauma, and intrasplenic hematogenic abscesses indicate operation. The results have been remarkably favorable in such cases to date. The seven on record were all cured. Compensation soon develops after splenectomy, even in debilitated or pregnant subjects. Recovery was also complete in a case of primary malignant tumor of the spleen treated by splenectomy. In case of echinococcus and blood cysts, the organ should be removed unless bound down by adhesions. Extirpation should also be the rule in appropriate cases of malarial spleen hypertrophy.

116. **Leucocyte Count in Inflammatory Processes Originating in the Cecum and Appendix.**—Stadler has examined 70 cases and confirms the experience of others in regard to the value of the leucocyte count in differentiating simple fibrinous exudate from abscess formation. In the former there may be in the beginning a leucocytosis of 23,000, but it rapidly subsides. If the number of leucocytes remains continuously high or reaches or surpasses 25,000 later in the affection, an abscess may be assumed or retention of pus. In case of diffuse peritonitis the height of the figure is not so characteristic as its tendency to rise or fall.

Zeitschrift f. Heilkunde (Chiari's), Prague.

Last indexed page 142.

117 (XXIV, 2 and 5: Int. Med., 1-2.) Ueber autochthone Thrombose des Hirn-Sinus und der Vena magna Galeni. K. Waiko (Prague). One case.

118 Ueber die bacterielle Diagnose des Typhus abdominalis nebst Bemerkungen über Anreicherungsversuchen mittelst der activen Beweglichkeit der T.-bacillen. C. Hayashikawa (Prague).
119 Influence of Mechanical and Thermic Measures on Blood Current and Vessel Tonus. F. Pick.—Einfluss mech. und therm. Einwirkungen auf den Blutstrom und Gefässtonus.
120 Cause of Peptone Formation in Leukemic Blood. F. Erben (Vienna).—Ueber die Ursache der Peptonbildung im leukämischen Blute.
121 Fall subacuter, spinocerebellarer Ataxie mit anatomischen Befund. J. Süsswein (Vienna).
122 Ueber Isoagglutinine beim Menschen mit besonderer Berücksichtigung des Kindesalters. J. Langer (Prague).
123 *Influence of Fats on Gastric Digestion and Treatment of Hyperacidity. K. Walko.—Einfluss der Fette auf die Magenverdauung und über die Behandlung der Hyperazidität.
124 Fall leukämieartiger Erkrankung mit schwerer megaloblastischer Anämie und eigenthümlichen Exanthem. E. Hitschmann und H. Lehndorff.
125 (XXIV, 1 and 4: Path. Anat. 1-2.) Ueber einen sehr jungen, pathologischen, menschlichen Embryo. A. Fischel.
126 Changes in Spinal Cord After Loss of an Extremity. Q. Mathyas.—Zur Lehre von den Rückenmarksveranderungen nach Extremitätenverlust.
127 Unusual Collateral Circulation. H. Haberer (Graz).—Fall von seltenem Collateralkreislauf bei congenitaler Obliteration der Aorta und dessen Folgen.
128 Ueber ein Lymphangiom der Leber (of liver). R. Maresch (Vienna).
129 *Gummatous Affections of Female Urethra. G. Löwenbach (Vienna).—Die gummösen Erkrankungen der weiblichen Urethra.
130 Ueber Myeloschisis mit abnormer Darmausmündung (intestinal outlet). F. Lucksch.
131 Fall von Streptothrix-Pyämie beim Menschen. A. Horst (Vienna).
132 *Frequency of Arteriosclerosis in the Young. S. v. Sumnitzky (Prague).—Ueber die Häufigkeit von arteriosklerotischen Veränderungen in der Aorta jugendlicher Individuen.

123. **Influence of Fats on Hyperacidity.**—Walko has been studying the effect of olive oil on the stomach. He found that it not only retarded the secretion of hydrochloric acid, but also restricted within much narrower limits the proportion of free acid and total acidity in the further course of the digestive process. The results of a number of clinical tests are tabulated, which demonstrate that 50 c.c. is fully as effective as 200 in this respect. Another set of tables shows that the amount of fat-splitting ferment in the stomach is largest after ingestion of milk, smaller after meat and smallest after ingestion of carbohydrates. In another series of 8 clinical tests he found that the simultaneous ingestion of 50 c.c. of oil with other food does not disturb the proteolysis, and in case of hyperacidity, the digestion of albumin and of starch proceeds much more rapidly than without the oil. The favorable influence of oil and other easily-digested fats is felt not only in the stomach but in the small intestine and in the relief of constipation. On the basis of the result of these researches he has been applying olive oil extensively and systematically for the treatment of hyperacidity. He administers it in a tepid emulsion, through the stomach tube, increasing from 50 c.c. at first to 100 or 200. The patients sometimes preferred to drink the oil, and all gained from 4 to 10 pounds in four to six weeks. His experience includes 92 patients thus treated during the past two years. Some were cases of acute hyperacidity, others chronic, and all forms of secretion neuroses and acid hyperesthesia, chronic ulcer, chronic gastric catarrh and ulcer scars. He has also been much impressed with the value of bone marrow taken with the dinner. This contains 96 per cent. of fat and has a marked inhibiting action on the secretion of hydrochloric acid. He details experiments with atropin and sodium bicarbonate, which showed that the relief from either was only temporary, while the bicarbonate has a distinctly injurious action, more and more acid being secreted to neutralize the alkali. He found decided and permanent benefit from Carlsbad water or Carlsbad salts in case of hyperacidity in otherwise healthy persons, but it induced motor insufficiency in debilitated subjects. In case of ectasia with hyperacidity he always obtained excellent results from lavage of the stomach with a 1 or 2 per cent. saline solution, followed by pouring in of 100 or 200 c.c. of olive oil. He remarks that it is important to siphon out the last drops of the water introduced. He adds, in conclusion, that hyperacidity of the stomach is frequently benefited by a decided change in the diet, and that the subjective state of health is perhaps the best criterion, but the dietary should always include some easily-digested fats, such as milk fat, butter, bone marrow or an oil emulsion.

129. **Gummatous Affection of Female Urethra.**—Löwenbach has observed 28 cases of this comparatively rare affection. The lesions may resemble gummatous formations elsewhere, but are usually distinguished by a peculiar tendency to hyperplasia of the margins of the elephantiasic tumors and their cicatricial terminal products. They also display a marked tendency to recurrence at the same or adjacent points, and are rebellious to the usually effectual mercurial treatment. Persevering administration of iodid finally conquered the affection in a few instances. He illustrates some of the cases with colored plates.

132. **Arteriosclerosis in the Young.**—Sumnitzky was amazed to find lesions of unmistakable arteriosclerosis in 27.5 per cent. of 38 cadavers of individuals under 25, free from syphilitic infection. He suggests that the acute infectious diseases probably play a more important rôle in its production than heretofore recognized. In 18 of the cases there had been previous severe pneumonia, diphtheria, scarlet fever, measles, typhoid, smallpox or chronic tuberculosis. In one pronounced case of arteriosclerosis in a child of 2, there was a history of diphtheria, followed by measles and later fatal pneumonia. In 3 others there was hypertrophy of the heart, from scoliosis or a history of epilepsy.

Zeitschrift f. Klin. Medizin, Berlin.

Last indexed page 148.

133 (XLIX, 5-6.) Study of Diaphragm Breathing. de la Camp.—Zur Physiologie und Pathologie der Zwerchfellathmung, einschliesslich der zugehörigen Herzbewegungen.
134 *Zur Frage der Pathogenität der Blastomyceten beim Menschen. R. Bernstein.
135 *Fall von chron. allgem. idiopathischem Edem mit tödlichem Ausgang. R. Staehelin.
136 Relations of Iron in Blood to Iron in Urine, Blood Pigments and Red Corpuscles. A. Mayer.—Ueber das Verhältniss des Eisens im Blut, etc.
137 Metabolism During Convalescence from Typhoid. H. Benedict and N. Suranyi (Budapest).—Stoffwechsel, etc.
138 Action of Baths on Blood Pressure. J. Jacob.—Die Wirkungen des indifferenten temperirten 36-35 C. Süsswasser- und Kohlensäurebäder auf den Blutdruck Zugleich ein Beitrag zur Messung der relativen Geschwindigkeit des Blutlaufes.

134. **Blastomycosis in Man.**—Bernstein describes a case of infectious disease with irregular fever in a little girl, two and one-half years old, fatal in less than two months. The autopsy revealed numerous foci resembling miliary tubercles, but no tubercle bacilli were found in them. Blastomycetes were found in the tissues and also at one time in the blood during life, but vanished from the blood later.

135. **Idiopathic Edema.**—No heart nor kidney lesions could be discovered in the case of chronic, idiopathic generalized edema described by Staehelin, and even at the autopsy no signs of an infection or intoxication could be detected.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRAXIS OF URINARY ANALYSIS. A Guide to the Chemical Analysis of Urine. With Directions for Preparing Artificial Pathologic Urines for Practicing the Various Tests, and an Appendix on the Analysis of Stomach Contents. By Dr. Lassar-Cohn, Professor in the University of Koenigsberg. Authorized Translation from the Author's Enlarged and Revised Second Edition. By H. W. F. Lorenz, A.M., Ph.D. (Berlin), Late Instructor of Organic Chemistry in the University of Pennsylvania. First Thousand. Cloth. Pp. 58. Price, $1.00. New York: John Wiley & Sons. London: Chapman & Hall. 1903.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VI. Illustrated by Chromo-lithographs and 763 Half-tone and Wood Engravings. Cloth. Pp. 1004. Price, $7.00 per Volume. New York: Wm. Wood & Co. 1903.

A TREATISE ON DISEASES OF THE RECTUM, ANUS AND SIGMOID FLEXURE. By Joseph M. Mathews, M.D., LL.D., President of the American Medical Association, 1898. With 6 Chromo-lithographs and Numerous Illustrations. Third Edition, Revised. Cloth, Pp. 589. Price, $5.00. New York: D. Appleton & Co. 1903.

MERCK'S 1901 MANUAL OF THE MATERIA MEDICA. A Ready-reference Pocketbook for the Practicing Physician and Surgeon. Compiled from the Most Recent Authoritative Sources. Flexible

Cloth. Pp. 282. Price, $1.00. Published by Merck & Co., New York and Chicago.

THE GEOGRAPHY OF DISEASE. By Frank G. Clemow, M.D. Edin., D.P.H. Camb., British Delegate to the Ottoman Board of Health. Cloth. Pp. 624. Price, $4.00. Cambridge: University Press. New York: The Macmillan Company. 1903.

REPORT ON WATER PURIFICATION INVESTIGATION AND ON PLANS PROPOSED FOR SEWERAGE AND WATERWORKS SYSTEMS. Jan. 1, 1903. Pasteboard. Pp. 266. New Orleans. A. W. Hyatt Stationery Mfg. Co., Ltd. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the week ending June 22, 1903:

Arthur, William H., major-surgeon, will repair to Washington, D. C., and report in person to the governor of the U. S. Soldiers' Home for duty as attending surgeon, to relieve Major Louis A. LaGarde, surgeon.

Bloombergh, Horace D., first lieut. and asst.-surgeon, now on leave of absence at Easton, Pa., will, on the expiration of said leave, proceed to San Francisco and report for transportation to the Philippine Islands, where he will report for assignment to duty.

Brechennin, Louis, major-surgeon, is relieved from further duty in the Division of the Philippines and will proceed to San Francisco, and report by telegraph to the adjutant-general of the Army for further orders.

Crosby, William D., major-surgeon, will proceed to San Francisco and report for transportation to the Philippine Islands, where he will report for assignment to duty.

Fisher, Henry C., captain and asst.-surgeon, is relieved from duty as attending surgeon and examiner of recruits at Baltimore, Md., and from further temporary duty at Fort McKinley, and will proceed to Camp George H. Thomas, Chickamauga Park, Ga., for duty, to relieve Major William D. Crosby, surgeon.

Lyster, Theodore C., first lieut. and asst.-surgeon, is relieved from duty at West Point, N. Y., and will proceed to New York City for temporary duty as attending surgeon and examiner of recruits, to relieve Major William H. Arthur, surgeon.

McCalum, Francis M., contract surgeon, now on leave, is relieved from further duty in the Department of the Lakes, and will proceed to Fort D. A. Russell for duty.

Price, Richard J., contract surgeon, is granted leave for three months on surgeon's certificate, to take effect about July 1.

Purviance, William E., captain and asst.-surgeon, will report to Major Louis A. LaGarde, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination for promotion.

Pipes, Henry F., contract surgeon, now in Washington, D. C., will proceed to Governor's Island, N. Y., and report to the commanding general, Department of the East, for assignment to temporary duty.

Wells, George M., captain and asst.-surgeon, will report to Major Louis A. LaGarde, surgeon, president of the examining board, at the Army Medical Museum Building, Washington, D. C., for professional examination for promotion.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 4:

A. A. Surgeon J. T. Miller, detached from recruiting duty and ordered home to wait orders.

A. A. Surgeon R. B. Chapman, detached from recruiting duty and ordered home to wait orders.

Medical Inspector D. N. Bertolette, ordered to Washington, D. C., as member of the naval medical examining board.

Asst.-Surgeon J. A. Murphy, detached from the *Monadnock* and ordered to the *Celtic*.

Asst.-Surgeon R. K. McClanahan, detached from the *Oregon* and ordered to the *Villalobos*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended July 2, 1903:

Surgeon Preston H. Bailhache, leave of absence for seven days from July 1, 1903, under paragraph 189 of the Regulations.

Surgeon H. W. Sawtelle, granted leave of absence for two days from June 30.

Surgeon J. M. Gassaway, granted leave of absence for two days from June 28.

Surgeon G. W. Stoner, leave of absence for two days from June 29, 1903, under paragraph 189 of the Regulations.

Asst.-Surgeon M. J. White, to report to chairman of board of examiners, San Francisco, July 10, 1903, for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon L. D. Fricks, to report to chairman of board of examiners, Immigration Depot, New York, N. Y., July 6, 1903, for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon A. J. McLaughlin, relieved from duty at New York, N. Y., and directed to proceed to Washington, D. C., for duty in the Bureau.

A. A. Surgeon G. T. Simonson, granted leave of absence for one day.

A. A. Surgeon Jay Tuttle, granted leave of absence for thirty days from July 1.

Pharmacist S. W. Richardson, relieved from duty at St. Louis, Mo., and directed to proceed to Portland, Me., and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist M. Walerius.

Pharmacist M. Walerius, on being relieved by Pharmacist S. W. Richardson, to proceed to St. Louis, Mo., and report to medical officer in command for duty and assignment to quarters.

BOARDS CONVENED.

Board convened to meet at Washington, D. C., July 3, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus, recorder.

Board convened to meet at the Immigration Depot, New York, N. Y., July 6, 1903, for the examination of Asst.-Surgeon L. D. Fricks to determine his fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: Surgeon G. W. Stoner, chairman; Surgeon C. T. Peckham; P. A. Surgeon T. Clark, recorder.

Board convened to meet at San Francisco, Cal., July 10, 1903, for the examination of Asst.-Surgeon M. J. White to determine his fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon R. Blue; P. A. Surgeon H. S. Cumming, recorder.

DISMISSAL.

Asst.-Surgeon F. J. Thornbury dismissed, by direction of the President, from the Public Health and Marine-Hospital Service for conduct unbecoming a gentleman and an officer, insubordination, etc., to take effect on receipt of letter of dismissal (effective July 1, 1903).

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 3, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, June 20-27, 5 cases.
California: San Francisco, June 14-21, 2 cases.
Illinois: Belleville, June 22-29, 5 cases.
Indiana: Indianapolis, June 20-27, 1 case.
Louisiana: New Orleans, June 20-27, 4 cases, 1 death.
Massachusetts: Fall River, June 20-27, 3 cases; Taunton, June 20-27, 1 case.
Michigan: Detroit, June 20-27, 7 cases; Flint, June 20-27, 1 case; Grand Rapids, June 20-27, 3 cases; Port Huron, June 20-27, 10 cases.
New Hampshire: Manchester, June 20-27, 2 cases.
New Jersey: Bordentown, June 6-27, 24 cases, 5 deaths; Trenton, June 20-27, 1 case.
Ohio: Cincinnati, June 19-26, 3 cases, 2 deaths; Cleveland, June 20-27, 1 case; Toledo, June 13-20, 2 cases.
Pennsylvania: Altoona, June 20-27, 1 case; Johnstown, June 20-27, 1 case; Philadelphia, June 20-27, 26 cases, 4 deaths.
South Carolina: Charleston, June 20-27, 2 cases.
Wisconsin: Milwaukee, June 20-27, 2 cases.

SMALLPOX—INSULAR.

Philippines: Manila, May 2-9, 9 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, June 6-13, 4 cases.
Belgium: Antwerp, June 6-13, 4 cases, 1 death; Brussels, June 6-13, 8 deaths.
Brazil: Rio de Janeiro, May 24-31, 1 death.
China: Hongkong, May 2-16, 12 cases, 1 death; Shanghai, May 9-16, 2 deaths.
Colombia: Bocas del Toro, June 9-16, 2 deaths.
Great Britain: Bristol, June 6-13, 1 case; Cardiff, May 2, 28 cases; Dublin, June 6-13, 15 cases, 1 death; Dundee, June 6-13, 2 cases; Leeds, June 13-20, 12 cases; Manchester, June 6-13, 9 cases, 1 death; Newcastle-on-Tyne, June 6-13, 1 case; Sheffield, May 30-June 6, 9 cases; Sunderland, June 6-13, 1 death.
India: Bombay, May 25-June 2, 44 deaths; Calcutta, May 23-30, 1 death; Karachi, May 23-30, 3 cases; Madras, May 23-29, 1 case.
Japan: Kobe, May 23-June 6, 5 cases.
Mexico: City of Mexico, June 7-14, 18 cases, 12 deaths.
Russia: Moscow, May 30-June 6, 2 cases, 2 deaths; St. Petersburg, May 30-June 13, 41 cases, 10 deaths; Warsaw, May 16-24, 2 deaths.
Switzerland: Zurich, June 6-13, 1 case.

YELLOW FEVER.

Colombia: Panama, June 15-22, 3 cases, 1 death.
Costa Rica: Limon, June 11-18, 2 cases.
Ecuador: Guayaquil, May 2-23, 6 deaths.
Mexico: Merida, June 1-20, 5 deaths.

CHOLERA—INSULAR.

Philippines: Manila, May 2-9, 44 cases, 38 deaths; Provinces, May 2-9, 343 cases, 242 deaths.

CHOLERA—FOREIGN.

India: Calcutta, May 23-30, 52 deaths.
Straits Settlements: Singapore, May 2-9, 72 deaths.

PLAGUE—INSULAR.

Philippines: Manila, May 2-9, 6 cases, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, May 24-31, 1 death.
China: Amoy, May 16, present; Canton, May 16, present; Hongkong, May 2-16, 215 cases, 184 deaths.
Egypt: May 23-30, 4 cases, 4 deaths.
Germany: Berlin, June 5-18, 2 cases, 1 death, contracted in laboratory work.
India: Bombay, May 25-June 2, 186 deaths; Calcutta, May 23-30, 52 deaths; Karachi, May 24-31, 105 cases, 100 deaths; Mauritius, May 21-28, 1 death.

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Original Articles.

CLOSURE OF WOUNDS.*

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FORT WAYNE, IND.

The methods of closing wounds now in vogue are not the best. This opinion is based on personal experience, observation of the work of others, inquiry and reading, and is the excuse I have for the presentation of this paper. I do not claim either priority or originality in the methods of wound closure advocated in this paper. My object in writing it is chiefly to urge a general adoption of the improved methods, and incidentally to show the desirability of a wider application of them than is made perhaps even by those who already use them.

For a considerable time I thought the method of closing wounds by tier sutures of absorbable material with a subcuticular suture for coapting the skin was the acme of perfection. Now, with rather rare exceptions, I never use a stitch in either the skin or subcutaneous tissue, but use adhesive plaster instead. The plaster is applied in strips about one-fourth of an inch in width, after the skin has been thoroughly dried. No more strips are used than are necessary to maintain perfect coaptation. If desired, they may be left on for two weeks. Some cases, as for instance operations for mammary carcinoma, will require either two or three tension sutures in connection with the adhesive strips, or instead the wound may be closed throughout with subcuticular stitches of catgut. Again, in rare cases a few stitches may be needed to obliterate dead spaces in very fat subjects. In these cases, however, it is usually possible to obliterate the dead spaces by placing strips of adhesive plaster over rolls of gauze placed parallel to the wound. I regard the use of adhesive strips in the closure of wounds as a long step in advance of the buried absorbable suture, which in its turn was a long step in advance of the older methods.

To-day, with the combined use of buried absorbable sutures and adhesive strips, results may be obtained which are far superior to those following the use of through-and-through sutures. Save in cases where much tension is necessary to maintain coaptation in the presence of infection, a suture through the skin is unnecessary, and will soon come to be considered as an evidence of want of skill or care on the part of he who places it.

Tension alone of the skin or subcutaneous tissues is not a sufficient excuse for placing a suture through the skin in a case where the avoidance of a scar is particularly desirable.

Superficial abscesses are less frequent with buried than with through-and-through stitches; they are least frequent when adhesive plaster is used and all stitches are avoided. There are three reasons why this is true: 1. There is better drainage when no stitches are placed. 2. The coaptation is more perfect. 3. Trauma is avoided. It may seem paradoxical to say that the drainage is better with the method which gives the most perfect coaptation. Nevertheless this is true. The blood which collects beneath the skin easily presses apart the elastic skin edges between the plaster strips and is immediately taken up by the gauze, and as soon as the oozing stops the skin again falls into apposition. I frequently remarked that the dressing over wounds closed with adhesive strips, other things being equal, was much more blood-stained than the dressings over wounds closed by suture. Perfect coaptation is, then, not incompatible with drainage. Indeed, the principal objection to the subcuticular stitch is that by its use the wound is closed too tightly. When suppuration does occur in wounds coapted by adhesive plaster it is of much shorter duration and less extensive than when stitches are used. By the use of adhesive plaster the scar is reduced to the minimum.

Another advantage of the adhesive plaster is that its use takes so much less time than does the placing of sutures by any method. The objection may be urged that there is danger of the plaster not being aseptic. There need be no fear on this score, however, as the plaster may be kept ready for use in an air-tight receptacle in the presence of formalin, which will thoroughly asepticize it without in the least diminishing its adhesive properties. I have used many of the rubber plasters in the market, and save that some adhere a little more strongly and promptly than others, I have found no difference in them. Plasters with much resin in them may irritate the skin.[1]

In operations about the face the avoidance of scars is particularly desirable. How common is it, for instance, to see the face of a patient who has been operated on for hare-lip terribly disfigured by scars caused by the stitches or pins used for purposes of coaptation. The cases of hare-lip requiring the placing of a stitch which shows are exceedingly rare. Subcuticular sutures with adhesive plaster is all that is required, and the results obtained will be found to be infinitely more satisfactory. Stitch-abscesses are a menace to life in a very slight degree only, but in however so little they increase the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. Folding both ends of each strip of plaster so as to produce a hem, as it were, free from adhesion, will materially facilitate the removal of the strips. I am indebted to Dr. H. A. Duemling of Fort Wayne for this suggestion.

danger of operation this were a sufficient reason for doing all in our power to avoid them. In many cases the strongest reason for preventing suppuration of this kind is because it decreases the strength of the wound. For a through-and-through skin stitch, or a subcuticular stitch to be the cause of suppuration extending to the deeper structures is not an extremely rare thing. Generally speaking, animal sutures, with our present knowledge of preparing them, are not, as a rule, to be used in the presence of infection. This necessitates the use of non-absorbable sutures which can be removed when they have fulfilled their purpose. Such a necessity sometimes arises in operations for hernia. It can be met by placing the sutures mattress-fashion, and bringing the ends out through the skin and fastening them there by using perforated shot and buttons.

This method reduces the number of skin punctures to a minimum, and does away with the dangers incident to the constriction produced by tying the sutures in the ordinary way. Another plan which has been found to work well is the use of a running stitch of non-absorbable material, each end of the thread being fastened by the shot and button. The objections to this later form of suture are two: 1. Its removal is painful. 2. If suppuration does occur it will be more extensive, other things being equal, than with an interrupted suture. When either of these methods are used for the deep structures the superficial ones are coapted by the adhesive plaster. Still another plan which I have found to work well where for any reason non-absorbable material was deemed necessary for the deeper tissues is to place the stitches as though the usual figure-of-eight stitch were to be used, but instead of completing the figure by tying, and thus coapt the skin, each end of the thread is fastened by the shot and button at a short distance from the margin of the wound. The skin is then brought together with adhesive strips. No matter how fat the subject, the proper placing of this stitch will not only result in effectually coapting the deep structures, but will also prevent the formation of a dead space between the deep structures and the skin, and with a minimum of constriction and trauma, both of which are particularly to be avoided in fatty tissue.

Save in intestinal work, I believe that non-absorbable material should not be used for suture with a view of allowing it to remain permanently. Personally, I have not for five years seen a case in which I thought such use necessary or advisable. Within this time I have operated on several large scrotal and umbilical hernias. I said in an earlier part of this paper that animal sutures were usually contraindicated by the presence of infection. This, I think, is correct, and yet I have used them under these circumstances, with the most gratifying results. In a case in which a large part of the half of the lower jaw was resected together with a portion of the cheek for an infected carcinoma I closed the wound throughout, except for one silkworm-gut stitch next to the drainage tube, with subcuticular catgut stitches and adhesive plaster, with the result that the scar was reduced to a line in width, save at the exit of the tube and the location of the through-and-through stitch. The necessity for drainage for other than infectious fluids is not a bar to the use of animal sutures.

In the presence of infection necessitating drainage there is especial reason for avoiding sutures particularly to coapt the skin or subcutaneous tissue. In such cases only such sutures should be used as are absolutely necessary to coapt the deeper structures, and the superficial ones should be coapted by the use of adhesive strips. Even these deeper sutures can be avoided in many cases wherein they are now, by the majority of operators, deemed necessary. To illustrate, an amputation of the arm seldom, if ever, requires a suture, and, as indicated above, they are especially to be avoided in such operations done through infected tissues. Court plaster, collodion and cotton and collodion alone are inferior to aseptic adhesive plaster. The reasons for this opinion, it seems to me, are too patent to require their being given.

CONCLUSIONS.

In conclusion, I desire to emphasize the following points:

1. The use of sutures should be avoided save where necessity demands their use. Many wounds, in which sutures are now commonly used, may be coapted more perfectly, more speedily and more safely without the use of sutures.

2. Tension and moisture are the only conditions making sutures necessary.

3. When sutures are necessary buried absorbable sutures should be used in all cases where there is no infection.

4. The necessity for drainage does not contraindicate the use of adhesive plaster for purposes of coaptation.

5. It is doubtful if the use of non-absorbable suture material should ever be used with a view to its remaining permanently.

6. Non-absorbable sutures are not necessary nor advisable save in intestinal work and in the presence of sepsis.

7. In those cases in which non-absorbable sutures are necessary that method of applying them should be chosen which will subject the tissues to the least possible trauma, produce the fewest possible avenues for infection through the skin, and permit of their being removed when they have fulfilled their mission.

207 W. Wayne Street.

DISCUSSION.

Dr. John E. Summers, Jr., Omaha—When I commenced the practice of medicine more than twenty years ago I used plaster in the open treatment of wounds. With our modern methods of the treatment of wounds we discarded plaster, and we discarded a very useful material, but probably it was a good thing, because it taught us to be more cleanly; but as plaster is made to-day there is no doubt that it can be used, and there is no question that thoroughly clean work can be done with it. The technic which Dr. Porter brings to our attention seems to me to be ideal. For the repair of wounds we have two or three things to consider: we must have accurate hemostasis; we must have exact coaptation of the edges, and from the bottom to the top the wound must be held together without tension. If this can be accomplished, we have done all that is necessary, and the very best things that can be done.

This can be accomplished in the superficial wounds always, but in the deep wounds I doubt whether it can be done, and as the Doctor has suggested, it may sometimes be advisable to use some kind of a stitch as an aid to the result desired. I would hesitate very much to rely entirely on plaster strips for the coaptation of abdminal wounds, except in selected cases where a normal convalescence was assured. Now in an abdominal operation of any seriousness there is a certain amount of shock, with moist skin, and after the wound has been dressed the adhesive plaster may loosen and not keep the edges together. For this reason I hold that it is unwise to use plaster in wounds of that kind. However, when we do use adhesive plaster, I think you should have a pretty definite idea of how it should be applied, and judging from the Doctor's drawing, he does apply it as I think it should be. Both ends of the plaster strips should be applied at reasonably fixed points.

Below they should go over the crest of the ilium, and they should cross over the inner border of the latissimus dorsi muscle. Then you have two points as nearly fixed as they can be gotten. If it is applied in this manner, then you can be sure if distension occurs that the plaster will hold.

DR. HERMAN E. PEARSE, Kansas City, Mo.—The tendency of us all is to do too much suturing about wounds, too little of which is really effective. We must recognize the fact that one of the most prominent steps in surgery was taken when suture material was perfected. It seems to me that the plan that the Doctor advises of the surface approximation of wounds, and if necessary the absorbable suture below the surface is a most excellent one. It has never seemed to me safe surgery to depend entirely for the closure of abdominal wounds on absorbable sutures. It may be that one or two unfortunate instances have made me more cautious in this regard. I remember particularly one old lady, quite advanced in years, where healing was particularly slow, in which the absorbable suture was used, and through some defect in the suturing or suture material the wound gave away on the fourth day, and I was chagrined to see three or four coils of intestines roll out. These were returned, and a through-and-through suture applied, and the patient made an uneventful recovery without hernia, and yet I suspect that many a case has this accident beneath the skin. If the damage was done in the first few days, it might never be suspected by the surgeon, and there would perhaps be a sufficient union for the surface to heal, and leave the inner layers of the abdominal wall separated. It seems to me that this method is better than suturing for wounds on the extremities and about the face. I think that the through-and-through suture of silkworm-gut should be used in abdominal surgery in addition to the superficial suture. At least one should use a few such "splinting" silkworm-gut sutures in connection with the adhesive strapping and the absorbable sutures.

DR. ANDREW W. MORTON, San Francisco.—I have been very much interested for a considerable number of years in the use of adhesive plaster for the closure of wounds, and I do not think we should let this speaker go on record without a challenge. In the first place the Doctor speaks of closing wounds in the abdominal cavity by means of adhesive plaster, without using any suture to close the fascia. We all know very well from our experience in abdominal surgery that the principal thing that gives strength to the abdominal wall is the fascia, and if it is not brought together by means of stitches, how can it be brought together? The adhesive plaster simply pulls the outer structures together, and the fascia, which gives strength to the abdominal wall simply disappears by retraction. You can simply make coaptation of the skin by means of the adhesive plaster. but not of the deep structures, and if there is one thing that we are taught in surgery, it is not to leave any dead spaces. You take any deep wound and it is practically impossible to prevent dead spaces occurring by means of the adhesive plaster. I speak on this subject because I find that there is one thing that we are prone to do with any new subject, and that is to go to the extreme. Now, in closing superficial wounds, we have long since learned that it is an admirable method, because, in that condition we generally have a very low vitality of the structures, and on account of the amount of pressure which is necessarily brought to bear in closing these wounds by a stitch, which produces tissue necrosis—always an unfavorable condition. Another thing in regard to the use of the stitch, and the principal reason why the stitch is so often objectionable is on account of infection. In my opinion there are only two reasons for getting infection: First, not being aseptic, and second, surgeons all over this country in tying a stitch, put too much strength on it, and as a result they get tissue necrosis, which invites infection. To-day there is not the objection to the use of buried catgut sutures that there was a few years ago. I can see no objection to the use of the adhesive material, if you use the absorbable catgut suture, or chromatized catgut, to close the deep wounds. There is only one form of adhesive plaster with which I have had a large experience, and that is the form prepared by oxid of zinc. The first I used was the other, and I found that eight or ten days after the operation there was great danger of excoriation of the skin, which is naturally painful and dangerous. This excellent paper brings our attention to one of the prominent things in surgery, but I believe that the Doctor is using it in cases where it is hardly justifiable.

DR. WILLIAM M. PERKINS, New Orleans—In many wounds perfect union may be prevented by maceration of the tissues or by slight hemorrhages either subcutaneous or appearing between the stitches. Sutures have a distinct hemostatic function which can not be satisfactorily performed by adhesive strips. The perspiration, when confined by an impermeable covering, may cause sufficient maceration to greatly favor superficial infection. Germs like heat and moisture. Asepsis is a relative term; practically no wounds are germ-free, but we aim to limit the numbers of pathogenic micro-organisms and to secure conditions unfavorable to their development. It is often advantageous, especially in warm climates, to afford free ventilation to the gases under a dressing. Adhesive plaster prevents this to some extent. The whole theory of the use of *absorbent* gauze and cotton is based on the necessity for having a dressing which will keep wounds free from moisture and allow for the circulation of gases. Adhesive plaster strips are an excellent means of closing many wounds, but are by no means universally applicable.

DR. MILES F. PORTER, Fort Wayne, Ind.—I can not consider it possible that my paper was misunderstood by very many, as it seems to have been by this gentleman. I stated that you could not use adhesive plaster where there is tension, and there is tension where you coapt a hernia wound. I have used the adhesive plaster for the purpose of coapting wounds that could be coapted by it, and not for the purpose of deceiving myself. I stated that wherever there is tension, it must not be used. The method I ordinarily employ in abdominal wounds is to use the tier sutures of absorbable catgut, sterilized, for the deep structures and plaster for the skin. I have never had occasion to be sorry for it, although in some cases I have had occasion to be sorry that I made the operation, as in such cases as those related by Dr. Summers. Vomiting with opening of the wound, however, will occur when non-absorbable sutures are used as often as when absorbable sutures are used. I agree with Dr. Summers that it is advisable sometimes to employ stitches of nonabsorbable material. In regard to the moisture that you have when you coapt the skin with adhesive plaster, I do not know how it would be in this climate, but I have closed over one hundred wounds in this manner without trouble from this source. Beneath the plaster, of course, there is a small amount of moisture which comes from the follicles.

When you come to remove these little strips of plaster, oftentimes it is hard to pick up the end, but if you will just take the strip and turn in a quarter of an inch on each end before applying it to the wound, then you can take hold of each end very easily. Now regarding the treatment of abdominal wounds. I use short strips of adhesive plaster, three inches in length and one quarter inch wide, to coapt the skin, and over the dressing I place long, wide strips of adhesive plaster that reach three-quarters of the way around the body. My strips of adhesive plaster are put on solely with a view of keeping the skin and subcutaneous fat coapted, and you can not keep anything else coapted in that manner. If the man who has made many operations on the face using through-and-through sutures will try the subcuticular stitch with adhesive plaster, I warrant you he will never go back to the old method.

For Prickly Heat.—*Clinical Medicine* suggests, since prickly heat is caused by the irritation from perspiration which can not readily evaporate, that it will be found better to resort to soap and water, used frequently, and to avoid alcoholic and alkaline washes. Once a day, perhaps, the irritated parts should be gently bathed, then dried thoroughly, and afterward anointed with cocoanut oil; which is absorbed readily, and should be applied with the hand. It is not greasy, and will not soil the clothing unless an excessive quantity is used.

A CASE OF ACUTE, NON-TRAUMATIC, MULTIPLE OSTEO-MYELITIS,

PRODUCED BY THE STREPTOCOCCUS, OCCURRING IN A MALE ADULT.*

JOHN T. BOTTOMLEY, M.D.
BOSTON.

NARRATION OF CASE.

A. H. C., 43 years old, a theatrical manager, was born in France, lived most of his life in England, and had been five years in this country. His family history was negative. His previous history up to 1892 was not noteworthy. Though he had led an irregular life, with much excitement, travel and exposure, he had always been strong and robust. Venereal infection was denied; a moderate use of alcohol admitted. About 20 years ago he broke his left tibia at the junction of the lower and middle thirds, but it had given him no bother since.

Ten years ago he had an attack of "left-sided pleurisy" which lasted about six weeks. Though he soon recovered his normal weight and strength, he has since then had more or less pain in his left chest, a harassing cough, an almost constant bloody expectoration and the lower lobe of his left lung has been flat to percussion. These symptoms have always been exaggerated after prolonged physical exertion or mental worry. Occasionally, but only for a period of a few weeks at most, he would be free from them. Such a period occurred last spring, but the symptoms, returning in June, continued till his death. Several specialists, both here and abroad, had examined him, but a definite diagnosis had never been made. The uniformly bloody, prune-juice expectoration had been carefully examined again and again for tubercle bacilli, streptothrix, actinomyces and for neoplastic elements, but always with negative results. He had undergone, as a diagnostic measure, most thorough anti-syphilitic treatment without relief or change in his condition. His symptoms, subjective and objective, continued the same year after year. Repeated punctures at different times showed only a thickened pleura. No fluid, purulent or otherwise, was ever obtained, nor was a cavity in his lung ever demonstrated. A distinguished New York specialist who saw him a number of years ago had an opportunity of re-examining him last fall and found the physical signs unchanged, which rendered very improbable the diagnosis of a slow-growing malignant tumor of the lung which had once been advanced.

Aug. 1, 1902, while making a railroad journey, very sudden and severe pain began both in his left arm just below the shoulder and in his left leg about the middle. Though he had considerable fever (103), the severe pain was his only subjective symptom for several days; then he had a chill, a diarrhea started in and he began to feel "sick all over." A physician was called who reports that at that time (six days after the acute onset) there was "a swelling with deep pain on pressure over the inner surface of his left upper arm, at the junction of the middle and upper thirds. There was also deep induration over the outer aspect of the middle third of the left leg. Both arm and leg were swollen and the swellings were so tender that a thorough examination was impossible. There was no glandular involvements. The urine was negative; there was no temperature." Anti-rheumatics internally with local cooling lotions seemed to afford some relief for a day or two, but the pain then became more intense and the patient started a run of fever which varied between 100 and 102, but followed no definite type. Sweating now began, slight at first, but gradually increasing till it became a feature of his illness. A white count, made about the sixteenth day, showed a leucocytosis of 17,000. The patient became more and more ill; the temperature assumed a higher level and fluctuation finally appeared in the swellings on the arm and leg. A surgeon who saw the case in consultation at this stage opened the abscesses under local anesthesia, the patient's critical condition contraindicating a general anesthetic. The humerus and fibula were found to be partially denuded of periosteum, but "no connection with the bone marrow could be established." During the following month several operations were done on the left arm and leg to secure proper drainage. The symptoms, however, continued and the patient's condition grew gradually worse. His temperature varied from 101 to 103, while his pulse was about 125. A month after the onset of the disease his right forearm and right leg began to swell and to become tender and painful. An abscess over the upper part of the ulna was opened and drained; bare bone was once more found. The leg was not opened. The pus from all the abscesses showed the streptococcus in pure culture and the same organism was found in the expectoration. About the sixth week of his illness the state of the left arm became so bad that amputation was advised, but it was not done, partly because of the patient's unwillingness and partly because of his condition, which by this time had become so critical that even simple incision of an abscess under local anesthesia threw him into marked shock. For the latter reason a sequestrum which had formed in the left humerus was not removed. Numerous punctures into the flat area of the chest were made, but no pus was found. Yet a specialist in chest diseases who saw the patient in the sixth week of his illness diagnosed the chest condition as a pulmonary abscess.

Oct. 17, 1902, in the eleventh week of his illness, the patient came under my personal observation. He was emaciated and evidently septic. His temperature was running about 101.5, his pulse about 120. His respirations were only slightly accelerated. His chief subjective symptoms were his cough, severe pain in the left arm and right leg and moderate pain in his left leg and right forearm. His urine showed a slight trace of albumin, but was not particularly abnormal. He had an intermittent diarrhea which annoyed and weakened him greatly.

The whole left upper arm was swollen, thickened and edematous. On all its aspects were the wounds of his previous operations, some partially healed, some wholly open. From all came a free, foul-smelling, thick, purulent discharge; through all the examining finger could feel bare, roughened bone. The shoulder joint was involved in the process. The left forearm and hand were also swollen, but only as a result of the impeded return circulation.

On the external aspect of the left leg in its upper third was a partially healed wound about four inches in length. A sinus at its center led down to the fibula denuded of its periosteum over a considerable area. The discharge was not profuse. The upper half of the leg was only moderately swollen.

There was some general swelling of the whole right leg, but it was more noticeable over the lower half, especially just above the ankle joint, where there was marked edema and the tenderness was exquisite. The skin over this area was not reddened.

The right forearm was swollen from elbow to wrist, mostly posteriorly and on the ulnar side. Over the upper posterior surface of the ulna was a wound two inches long which, like the others, led down to bare bone and gave exit to a profuse discharge of thick pus. The elbow joint was apparently uninvolved, but was fixed at an angle of 45 as a result of its being held in that position for some weeks.

The rest of the story can be briefly told. At the first visit simple incisions were made in the right leg to relieve the tension and let out the pus. The previous incisions on the other members were lengthened to provide more effectual drainage. These procedures afforded so little relief that, after consultation with Dr. John C. Munro, radical measures were decided on, notwithstanding the critical condition of the patient. In two operations, one following ten days after the other, under general anesthesia, a very foul sequestrum six inches long was removed from the left humerus (the well-marked involucrum adding much to the difficulty of the operation), one

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

about four inches long from the left fibula and another about two inches long from the right ulna; the right leg was freely opened and large areas of bare bone found on both tibia and fibula; the tibia was trephined and, pus having been found in the medullary cavity, a gutter was made with a chisel down the whole front of the cortex. The medullary cavity of the right fibula was opened with rongeur forceps and drained. It was not so extensively involved as the tibia. The right ulna was treated likewise and free drainage provided.

Necrosis of bone was very extensive in the left humerus and right tibia. There was a large quantity of foul, thick pus in the soft parts of the lower right leg. The periosteum was but little thickened over the upper half of the tibia, but was retracted from a large portion of the cortex of the lower half.

These operations brought the temperature down to normal for the first time in the course of the disease and there it remained till the end, save when backing up of the pus on two occasions caused a temporary rise to 101. The pulse also fell to the neighborhood of 100 and for two weeks following the operations the patient was very comfortable and spent part of each day in a wheelchair. But, unfortunately, recurrent attacks of diarrhea, the several operations necessary to maintain proper drainage, with possible advancing amyloid disease of his internal organs, so weakened him that he died early in January, 1903, on the one hundred and fifty-fifth day of his illness. Without doubt he had septicemia. An autopsy could not be obtained.

His fever was at its highest during the third and fourth weeks, touching 104.8 on the twenty-ninth day. It touched normal for the first time on the ninety-seventh day. The average temperature was about 101.5; the average pulse about 115; the highest rate reached was 140, coincident with the highest point of temperature. Except for a period of two weeks following the free opening of the bones, the patient was very restless and nervous, particularly at night. On and off a severe diarrhea gave him much trouble and was most difficult to control. He took very large quantities of nourishment throughout his whole illness and had very little gastric disturbance. Profuse sweats were common; chills were absent. During the course of his illness he developed a marked pilosis—a condition not uncommon in these cases. His cough was very troublesome and the expectoration always blood-stained, sometimes with dark, but more often with bright blood.

The immediate cause of his death was cardiac failure, of which he had several attacks during the last two weeks of his illness.

COMMENTS ON THE CASE.

With regard to the diagnosis in the case there is but little to say. The long-standing affection of his lung, whatever may have been its nature, afforded to the streptococcus a focus of development in the body, a point of entrance to the circulation and a consequent opportunity to produce the unusual condition already described.

After the paper of Lexer[1] and that of Nichols, presented at the present meeting, there is at present nothing to be added to the bacteriology and pathology of osteomyelitis. This clinical contribution to the subject has reason for its being in these three factors: (*a*) the case showed multiple foci; (*b*) it occurred in an adult 43 years old, and (*c*) the infecting organism was the streptococcus.

Acute multiple osteo-myelitis, while not a very rare disease, is still by no means common. Funke[2] reported to the Surgical Congress in 1895 644 cases of osteo-myelitis; of these only 37 were examples of the multiple type. Neumark[3] reports 30 cases, five of which were multiple; Volkmann and Roser[4] consider the multiple form rare, and Wenzel reports a single case in a girl of 13. Haaga[5] says that one-fifth of all the cases are multiple. But, apart from the question of the rarity of this form of the disease itself, the fact that the present case occurred in an adult far removes it from the ordinary run of osteo-myelitis cases. Only 56 of Funke's 644 cases were found in patients over 25 years old. Of the 37 cases with multiple foci, all—without exception—occurred in children. In fact, he says that the multiple form occurs only in children. Four cases mentioned by Volkmann[6] were all in patients under 14 years old.

In a fairly thorough search of literature I can find but one similar case of acute multiple osteo-myelitis occurring in an adult. H. F. Devel, in the proceedings of the Warsaw Society in December, 1885, reports the case of a soldier, 24 years old, who, in the course of a severe cold, developed osteo-myelitis foci in a rib and tibia synchronously; these were followed in the next three months by foci in six other bones. The infecting organism was not mentioned. Even this case comes on the border-line between youth and manhood.

Moreover, the case is noteworthy from the bacteriologic standpoint also. Lexer[1] in his exhaustive article (1896-1897) collected only 20 cases of osteo-myelitis in which the streptococcus was the infecting organism; 10 of these had been previously reported to the French Surgical Congress by Lannelongue.[7] Lexer remarks that the streptococcus, like the staphylococcus, shows a marked tendency to develop in the bones of the young. Lannelongue's cases varied in age from 10 days to 13 years. Of Lexer's 10 cases 8 were under 14 years of age.

In the examination of the pus from 73 cases of osteomyelitis Lannelongue and Achard[8] found the streptococcus alone only 7 times.

Lexer has demonstrated that the clinical course of cases of streptococcus osteo-myelitis may not be unlike that of a staphylococcus infection. He divided streptococcus infections into three groups, in the first of which—containing those cases in which phlegmon was very marked in the affected bone and sequestration was found—the present case falls. Clinically it does not differ in any important item from the cases caused by the staphylococcus. Before Lexer wrote his paper Lannelongue had recognized a difference both clinically and anatomically between the streptococcus and the staphylococcus infections, and the symptomatology of the present case illustrates the fact (mentioned by Lannelongue) that both the fever and the pain in the streptococcus cases are apt to disappear on the third or fourth day. The improvement, however, is only temporary. Both symptoms return again.

It seems to be generally agreed that the pus in streptococcus cases is thinner and the necrosis of bone and soft parts less than in the cases of staphylococcus infection.

Klemm[9] says that a widespread phelgmon of the medulla is rare in streptococcus cases and that edema of the soft parts is of wide extent. Because a single case can not be maintained as the standard, the fact that the pus in the present case was thick and that the medulla was widely involved is of no particular importance. Besides, secondary infection was present at the time I first saw the case.

But let the clinical or the pathologic or the bacteriologic aspects and differences be as important as they may, the fact remains that the important and imperative thing, the factor that means most to us and to the patient, is an early diagnosis. An early operation must follow an early diagnosis. The old principle of "Where there is pus, open and drain" holds here. Pus is in the medullary cavity and it is the medullary cavity

in the acute cases that must be opened and drained, that results may be achieved. Doing less than this is doing nothing. Temporizing, when a diagnosis has once been made, is criminal.

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DISCUSSION

ON THE PAPERS OF DRS. BOTTOMLEY AND NICHOLS.*

DR. DE FOREST WILLARD, Philadelphia—It is not only the ordinary practitioner who is dilatory in diagnosis, but there are many surgeons who are slow in making up their minds and the golden opportunity is lost. Every case of osteomyelitis is infective, and we know that it needs as prompt attention as does a case of acute appendicitis. It should be recognized in the first forty-eight hours; it should be operated on in the first forty-eight hours. It should be operated on as soon as the diagnosis is made, whether it be of a streptococcus infection or a staphylococcus infection, and therein I would differ with Dr. Bottomley. In regard to the infection: I believe that the streptococcus infection is particularly serious, but in either case cutting inside the medullary cavity of the bone, freeing it from pressure and from infective elements is the only method which promises relief from total, or large destruction of tissue. The ordinary practitioner, and still less the surgeon, ought not to allow these cases to go on to destruction, suppuration and death. These cases are practically dying from sepsis when they come into our hands, and they have been treated for what? For that bane of progressive medicine, "rheumatism." If we could strike the term rheumatism out of the surgical world, it would be a blessing. One of the most potent destroyers of men, women and children is that cloak of ignorance, inattention and neglect, "rheumatism." How many cases we see dying day by day with an abscess containing ounces of pus, and the physician still treating it for rheumatism, or for typhoid fever. This is not an uncommon thing—every surgeon sees it over and over again. What is most needed is early, correct diagnosis. The treatment is plainly indicated. Where we have the evidences of rapid infection, with increasing pain, and deep-seated tenderness, there is only one rational treatment, that is to operate at once, relieve pressure and establish thorough drainage from the medullary cavity of the bone. The opening can not be made too quickly or too freely.

DR. J. CLARK STEWART, Minneapolis—I think it is most opportune that these papers should have been read to-day, because we have been hearing so much of the various forms of abdominal surgery, particularly that of ulcer of the stomach, gall-bladder disease and appendicitis, while it is rare to hear papers on osteomyelitis. I overheard a remark while in my seat, which I hope the gentleman who made it will pardon my repeating. When Dr. Nichols took the stage he said, "What, another paper on osteomyelitis; they must have a great deal of osteomyelitis in Boston," which reminded me of Dr. Oschner's story in regard to gall-bladder disease in Rochester, and I think that Dr. Nichols might answer very much in the same way that Dr. Mayo did: "We diagnose our cases of osteomyelitis in Boston." I think, without doubt, that osteomyelitis occurs in the practice of every man here, and possibly oftener than he recognizes, and there is no question that a very large percentage of the cases are primarily diagnosed erroneously. The diagnosis of these cases as rheumatism, which Dr. Willard mentioned, is probably the commonest error made, this being especially true of the subacute and chronic cases. Among the acute cases the diagnosis of typhoid is often made, and this error is a very serious one in causing delayed treatment. It has been my lot to see several cases treated in a general hospital as typhoid until the abscess presented at some external point, and this, of course, has not the excuse of the same diagnostic error earlier in the history of the case when severe sepsis may so mask the local symptoms as to make the resemblance to typhoid quite striking. The leucocytic count ought to clear up all these obscure cases, as there is regularly a decided leucocytosis in all acute cases of osteomyelitis. The early diagnosis of osteomyelitis is unquestionably the important point, and with the facilities at our command ought to be made in most cases without great difficulty. In the subacute and chronic cases the difficulty of diagnosis is very much greater, and frequently there is no diagnosis made until a bone lesion is discovered at the bottom of the superficial abscess cavity. Fortunately, in these forms early operation is not of so great importance as in the acute cases. In regard to Dr. Nichols' paper there were two or three points in which I was particularly interested. One was the instruction that in early operations you should cut in the medullary cavity and drain the bone without interfering with the marrow. This seems to me dangerous as a general rule, for while I have no doubt that in many cases operated on early, one is able to say whether or not marrow is infected, still judging from my own experience there are cases with multiple foci scattered through the marrow where it would be extremely difficult without removal of the marrow itself to determine the limit of the infection. In regard to Cushing's operation for the removal of the whole bone, it seems to me that this is unnecessarily severe and liable to misuse, for there are a great many cases of partial osteomyelitis in which a much less extensive operation will secure perfectly satisfactory results. In many cases you can remove the sequestrum, clean out the cavity and get primary union by organization of a blood clot, and in other cases by the slower method of packing, the final results are very satisfactory. Personally, I have had very little experience with the Cushing operation, and the results which he reports in cases of total necrosis are certainly very brilliant, but I doubt whether it should displace the other methods which have stood the trial of time.

DR. RICHARD H. GIBBONS, Scranton, Pa.—Those of us who have been taught by William T. Detmold, James R. Wood, Thomas M. Marco of New York, and D. Hayes Agnew, the Grosses and our distinguished ex-chairman and teacher, Dr. Willard, need not fail to make a diagnosis of osteomyelitis nowadays, or in much earlier times. When I first began practicing medicine, thirty years ago, Detmold taught that pain of a dull character in bone was due to one of two causes, either syphilis, or inflammation that would result in abscess. If syphilis, one will get pitting on pressure over the tibia, whether there is inflammation or not, or how extensive it may be, whereas you will get but slight pitting if due to non-syphilitic inflammation of bone. Long since, I have been applying to suspected bone the test which the dentist applies to the questionable tooth. As Dr. Murphy has said, you will not get pain by pressure, unless it is long-continued, but you will get pain by percussive pressure. However slight it may be, you will get painful response by this method, even in the first hour of the attack. The thing to do before opening up or trephining inflamed bone is to locate the seat of the infection, by gently tapping over its supposed site. I have had considerable experience in this kind of work in the anthracite coal regions of Pennsylvania, where many of the boys engaged in and about the mines become infected, and I have chiseled out bone throughout its length, and I have never had a bad effect, although I chiseled the bone all the way from the head of the tibia to the ankle joint. In one case I trephined and then guttered the entire bone, down into the maleolus. This was in an old man, and he recovered. These cases ought to all get well by operation, promptly performed, unless there is a tubercular infection in connection with the trouble.

DR. J. B. MURPHY, Chicago—I wish to congratulate the gentlemen on the practical points in the papers, and I wish to speak particularly on the second paper; I desire to still more forcibly emphasize the point of early diagnosis in acute infec-

* Because of its length Dr. Nichol's paper will be published later.

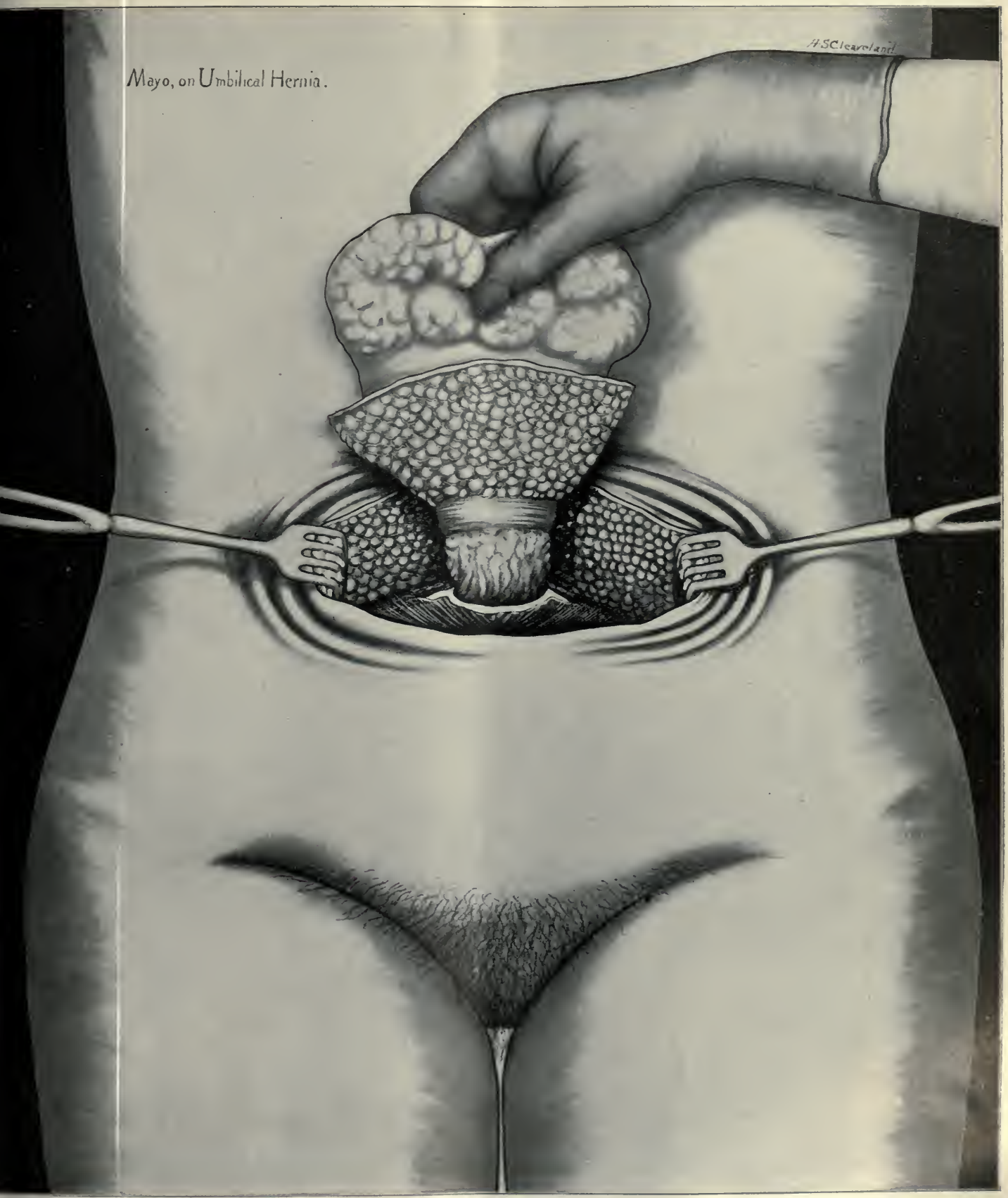

Figure 1.

Figure 2.

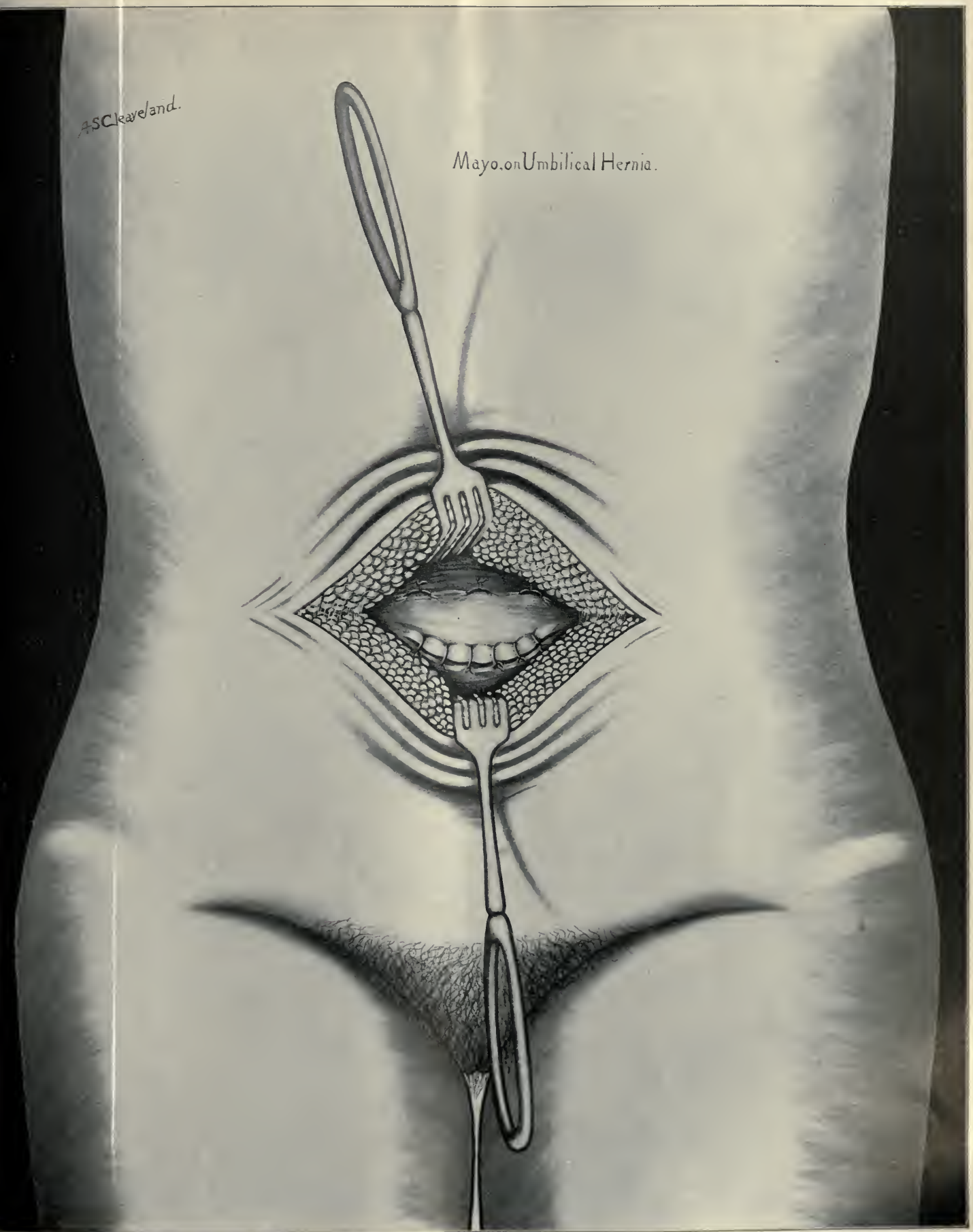

Figure 3.

tive osteomyelitis. What do we mean by early diagnosis in acute infective osteomyelitis? In what way is the physician of importance to his patients in a case of acute osteomyelitis? He is of importance to his patient in only one way, and that is when he makes a diagnosis inside of the first forty-eight hours. He is only of value to the patient when the case is diagnosed and operated on inside of the first forty-eight hours. Can it be done? Yes. The history of a case of osteomyelitis is so classic, so typical and so uniform that one can make the diagnosis ten hours after infection has occurred, or ten years, by interrogating an individual who was present at the time of the infection. What is the order of symptoms? The acute pain is usually preceded by a chill, followed by high temperature. The pain occurs usually in the extremities of the long bones, and in the majority of cases in children is not associated during the first forty-eight hours with effusion into the joint close to the focus of the disease, differing in this particular from rheumatism, which it is so uniformly erroneously diagnosed. The pain and sepsis increase hourly, but there is no local sensitiveness. Now then, what takes place in the third twenty-four hours after the infection? It is purely a symptomatic expression of pathology. During this period there occurs septic intoxication, acute absorption, high temperature, delirium, and all that goes with it. And with the advance of pathologic changes, with the increase of infectious products, with increasing pressure within the medulla of the bone from the bacterial invasion, we have destruction of the bone tissue, both by the toxic and biotic action of the infective flora, acting under great pressure. Rapid absorption continues until there is destruction of a vessel in one of the Haversian canals and the escape of the pus into the subperiosteal space. In the early stages of a case of acute osteomyelitis, there are no signs of inflammation on superficial pressure over the bone. I mean, during the first forty-eight hours, while the infective material is confined and restricted by the bony wall. In the third day of the infection, we usually have an escape of the pus from the center to the subperiosteal space, and sensitiveness to superficial pressure. But there is a sign that is an important one from a practical standpoint in the early stages; deep and continued pressure elicits pain and frequently indicates the position of the infection, even while the infection is still entirely within the bony wall. This will aid in making the diagnosis of the location of the focus of the infection. When the pus elevates the peritoneum, there is rapid necrosis as the circulation is cut off from without and within. In forty-eight hours one may have complete destruction of the entire shaft of the bone. Therefore, if we are to be of service and beneficial to the patient, we must relieve that infection focus from the condition which is so dangerous in any tissue of the body, namely, infection under pressure, by making an incision down into the bone and allow the infective material to escaps and thus avoid necrosis. We have just as perfect a guide to the source of infection as we find in many other cases of infection. One should drill a hole through the bone into the seat of the infection and allow the pus to escape from the bone, and thus relieve the intoxication and avoid necrosis.

If the general surgeon will get that window in the bone inside of the first forty-eight hours, he will save the patient from destruction of the bone, from the possibility of involvement of the joint, from the danger of fatal sepsis, and put him in condition for the line of demarcation to form, so that he will have but one small sequestrum. Then the case goes on and gets well, and the dead bone is easily removed through this window, after the separation of the sequestrum, usualy in six weeks. Chills, high temperature, local aching and no sensitiveness in the first forty-eight hours, except on deep and continued pressure for one or two minutes, when the pain becomes excruciating, are very strongly in favor of acute osteomyelitis and demands as prompt surgical intervention as acute infectious peritonitis.

DR. EDWARD H. NICHOLS, Boston—One or two points brought out in the discussion deserve some mention.

As regards the question of diagnosis: during the past five years I have had an opportunity to see many of these cases during the acute stage, at the Boston City Hospital, both on my own service and on that of the other surgeons, who have kindly allowed me to see their cases, and I quite agree with all that Dr. Murphy says in regard to the desirability of early diagnosis, if we are to expect the best results. I do not agree, however, that the early diagnosis always is easily made. In some of the cases the typhoid symptoms come on so early that the patient is too stupid to notice the pain, and the cases may be treated as typhoid fever by excellent diagnosticians. In other cases the joint pain and swelling may be so extreme as to entirely obscure the bone affection, although monarticular pain, especially in children, always should arouse at least a suspicion of osteomyelitis.

In regard to the reparative power of the marrow: the integrity of the cortical bone is dependent on the integrity, both of the periosteum and of the endosteum. Extensive stripping of the periosteum usually produces considerable necrosis of the cortex; if the endosteum also is destroyed marked necrosis of the cortex is certain. Thence if one trephines into infected marrow and curettes out the remnant of undestroyed endosteum he destroys the membrane which, in some cases at least, might regenerate the infected marrow, and maintain the integrity of the inner layer of the cortex. No one would, of course, remove the periosteum because he found an abscess between it and the shaft, and the same thing applies to the removal of the endosteum.

In regard to the removal of the necrotic shaft. It is not always necessary to remove the entire diaphysis. It may be sufficient to remove one half, or whatever portion of the diaphysis is necrotic. The removal of the entire diameter of the necrotic shaft is, however, much preferable to removing merely a shell of apparently necrotic cortex. When a mere shell of cortex only is removed it will be found, if the cases are followed for a number of years, that recurrences take place in a large majority of cases, and permanent cures are not common. The cases where removal of a superficial shell gives a permanent cure are usually cases of periostitis with little involvement of the marrow.

FURTHER EXPERIENCE WITH THE VERTICAL OVERLAPPING OPERATION FOR THE RADICAL CURE OF UMBILICAL HERNIA.*

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ROCHESTER, MINN.

The results of operations for the radical cure of umbilical herniæ in adults have, heretofore, not been encouraging. These patients are usually obese, with attenuated abdominal muscles, and the thin, rigid character of the ring does not offer mechanical conditions advantageous to lasting union.

The principles of closure have been the same as after an ordinary abdominal section, the object being to split the fascia at the ring margins laterally, until the recti muscles are reached, and then, by a series of buried sutures, to reconstruct the abdominal wall in layers. The defect in this method is the natural separation of the recti muscles at the level of the umbilicus. Below this point the muscular structures are practically in contact, but above there is from one-fourth to three-fourths of an inch separation. To bring the recti together in this locality amounts to a muscle transplantation. In a small hernia this muscular approximation is not difficult, and is the operation of choice, but in the larger openings an inch or more in diameter, it is impracticable. and, so far as I have been able to judge, the attenuated muscles, when secured, are

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

not of great value as retentive agents in this variety of hernia. In very corpulent subjects the muscular separation is greater. If such a patient, lying on the back, be directed to rise, bringing into play the recti muscles, the lateral deviation at the level of the umbilicus is easily shown, and in the majority of cases demonstrates the impossibility of bringing them firmly into median apposition. The strain in these cases is from above downward rather than laterally. This is well shown by the pendulous abdomen commonly found in very adipose people, in many cases covering the pubes and often the region of the upper thighs. On assuming the recumbent posture the stretched tissues allow of great mobility and one can often grasp the abdominal wall and overlap a number of inches without difficulty. The fibrous margins of the ring in umbilical hernia usually lie entirely above the junction of the urachus and the remains of the hypogastric arteries. These latter structures, as they deviate from the middle line below, often allow of the formation of considerable pouches between them and the urachus, showing their weight-bearing function.

The causation of acquired umbilical hernia can be said to depend on downward traction of the abdominal walls and their contents brought to bear on a fixed point at the umbilicus, causing separation, and before this takes place there is an increased vertical lengthening of the abdominal wall and also, to a less extent, in a lateral direction.

In a paper[1] read before the American Academy of Railway Surgeons, Oct. 4, 1898, I called attention to the impracticability of covering in the defect, left by excision of the larger umbilical hernia, with muscle, and advocated the overlapping of the aponeurotic structures which were already at hand, securing a wide area of adhesions in place of edge-to-edge union. This method we had then employed in five cases; in three the overlapping was from side to side, and in two from above downward. Extensive lateral incisions to find sufficient muscle to make the routine operation described by surgical writers compelled us, as a matter of necessity, to overlap from above downward in these two cases and, to our satisfaction, we found the parts came together with less tension than when drawn laterally, and time proved that the strength of union was as lasting.

The first of these overlapping operations was done in 1895. We have now made this operation 35 times, overlapping from side to side 10 times, and 25 times from above downward. There were no deaths. We have found the operation so much easier from above downward that we now employ it exclusively. We have recently had the majority of these cases examined and the permanency of cure was most gratifying; in only one case had there been a relapse, and in this one there was merely a boat-shaped stretching. The operation had been done from side to side, and the patient was much relieved from her former condition. So far as we could find out, there were no failures when the vertical overlapping had been properly accomplished. In a paper[2] on this subject read before the American Surgical Association, May, 1901, I again called attention to this method. Further experience with the operation, as well as good results in the hands of other members of the profession, has more than ever convinced me of its value. Writers on this subject deplore the poor results of operation for this variety of hernia and even the latest compilations speak most disparagingly as to the permanency of cure by any method, and this was previously our experience. To-day the expectation of cure approaches that of inguinal hernia. The operation is easily and quickly performed. The steps are as follows:

1. Transverse elliptical incisions are made surrounding the umbilicus and hernia; this is deepened to the base of the hernial protrusion.

2. The surfaces of the aponeurotic structures are carefully cleared two and a half to three inches in all directions from the neck of the sac.

3. The fibrous and peritoneal coverings of the hernia are divided in a circular manner at the neck, exposing its contents. If intestinal viscera are present, the adhesions are separated and restitution made. The contained omentum is ligated and removed with the entire sac of the hernia and without tedious dissection of the adherent portion of omenta.

4. An incision is made through the aponeurotic and peritoneal structures of the ring extending one inch or less transversely to each side, and the peritoneum is separated from the under surface of the upper of the two flaps thus formed.

5. Beginning from two to two and one-half inches above the margin of the upper flap, three to four mattress sutures of silk or other permanent material are introduced, the loop firmly grasping the upper margin of the lower flap; sufficient traction is made on these sutures to enable peritoneal approximation with running suture of catgut. The mattress sutures are then drawn into position, sliding the entire lower flap into the pocket previously formed between the aponeurosis and the peritoneum above.

6. The free margin of the upper flap is fixed by catgut sutures to the surface of the aponeurosis below, and the superficial incision closed in the usual manner. In the larger herniæ the incision through the fibrous coverings of the sac may be made somewhat above the base, thereby increasing the amount of tissue to be used in the overlapping process.

In very large protrusions in which part of the hernial contents is irreducible the patient should be kept in bed on a reduced diet and directed to manipulate the hernia, with the intention of replacing as much as possible. The irreducible portion must not be forced into the abdominal cavity after losing the "right of habitation." If of omentum only, it is readily disposed of by excision; if intestine, enough omentum previously contained in the peritoneal cavity should be removed to allow of reduction of the bowel without pressure. The patients should be kept in bed three to four weeks after operation and, after getting about, should not apply a truss, although most of these patients prefer to wear an abdominal supporter for a year. Piccoli[3] reports a case successfully operated on in August, 1899, after the lateral plan, and refers to a case reported by Bonomo, operated on Dec. 9, 1899, with a favorable result. J. A. Blake[4] reports several cases operated on by the lateral method during the year 1900, and refers to an article by Sapiejko,[5] in which a lateral operation is described.

The writer had described and operated by the lateral overlapping plan several years before the cases reported by these authors and the lateral operation is a good operation, but it is not as good as the vertical method, in which the retaining structures are given a bearing point above the site of the umbilicus and intra-abdominal pressure thus acts to prevent separation instead of aiding it.

1. Annals of Surgery, January, 1899.
2. Annals of Surgery, August, 1901.
3. Centralblatt fur klinische, Chirurgie, Jan. 13, 1900.
4. Medical Ass'n of Greater New York, Jan. 14, 1901.
5. Rev. de Chir., 1900, No. 2, p. 240.

DISCUSSION.

DR. A. J. OCHSNER, Chicago—The fact that with but a few exceptions every text-book on surgery, and every book dealing with the question of hernia, claims for the radical cure of umbilical hernia: First, a large mortality; and second, a large proportion of recurrences, makes this paper of especial value to this Association.

The writers of these works have no appreciation whatever of the proper treatment of umbilical hernia. One of the most distinguished authors on the subject of herniotomy told me personally only a few months ago that he operated on these cases only when he was absolutely compelled to, simply because he did not know how to operate on them. As a matter of fact the reason there is a high mortality in these cases is because of the extreme and unnecessary traumatism occasioned by the ordinary operation. The ordinary operation contains at least ten times as much traumatism as is necessary. The operation usually described in text-books contemplates the establishment of conditions very similar to those which were present before the umbilical hernia was produced. The fact that those conditions were unfavorable for a permanent cure is shown by the fact that the umbilical hernia occurred. Statistics show that umbilical hernia in children heals spontaneously in nearly 100 per cent. of all cases, simply because it is impossible to keep a circular opening in any part of the body open, unless it is lined with a serous or an epithelial lining. So long as the opening is kept circular it will heal spontaneously. We find in all of these cases in the adult that there is a dragging of the abdominal wall transversely, causing the opening to assume an elliptical form. Then we find that the preperitoneal fat is forced up into this opening, the consequence being that the hernia occurs. To relieve this condition, we know that we can establish a condition very similar to the linea alba. We have the aponeuroses of the external oblique, the internal oblique and the transversalis muscles; we can make use of these, but we should not do so in such a manner as will prevent their drawing from side to side. This can be accomplished by the operation described by Dr. Mayo. In this manner the greater the tension on the abdominal wall the more firmly the hernial opening becomes closed. That is the reason he does not get recurrences. If the patient vomits, the more he vomits the tighter the wound is closed. I had the good fortune of learning this trick from Dr. Mayo several years ago. I have operated nearly as many times as he has, but I always closed the wound from above downward. In one-third of his cases he made the same mistake that Blake and the other gentlemen made who have described similar operations, but who overlapped the edges from side to side instead of from above downward.

The great advantage in this operation does not only come from the fact that the strong fascial layers are doubled but also from the fact that the deformity which always exists in these cases, namely, the shortening of the transverse circumference at the level of the umbilicus and the lengthening of the distance between the sternum and the pubis, is utilized to advantage.

DR. J. B. MURPHY, Chicago—It is a particular pleasure for me to discuss a paper on umbilical hernia, because I have had some misfortunes. I was very much surprised at the close of my clinic one day to have a visiting physician ask me if a case of umbilical hernia ever got well. That was an actual occurrence. He had just visited several other celebrated clinics and he said that all the cases he had seen operated on there died. It frightened me, and that very day the patient whom I had operated on died. That caused me to make some investigations and to ask some questions and it led me to visit Dr. Mayo and observe him do this work. My particular patient died from one of the causes that is cured by just this operation, and I believe that many of the other deaths have resulted from just this same cause, because in looking up the literature you will find that most of them died shortly after the operation. My patient died of pulmonary edema. In doing the lateral operation, the tension put on the suture incapacitates the patient for diaphragmatic breathing and the patient has an edema beginning shortly after the operation, and if the irritation is sufficient, in one, two or three hours after the patient has recovered from the anesthetic, you will see him panting for breath. It was my extreme pleasure, after doing the first operation by this method, to see that the patient was vomiting without even the slightest distress at the seat of the wound, and the reason for that is the excellent mechanical application, the one applied on the other, giving such perfect support that there is no tension on an edge-to-edge suture. I feel that the question of umbilical hernia is solved primarily and finally by this very simple, complete and perfect operation.

DR. WM. H. WATHEN, Louisville, Ky.—If we perform the operation for umbilical hernia, as outlined by Dr. Mayo, we have no bad results following the operation, and then consider the previous methods in vogue for this procedure and the high mortality following them, we will come to the conclusion that there is no operation which has more simplicity about it, or which may be performed with less mortality and with better results. Since I saw the report of Dr. Mayo's first operation, I have been performing it, and find it practically universally successful. About a year and a half ago, a lady consulted me, who was so large and fat over the abdomen that certainly no surgeon would have undertaken the operation after the old method, the hernia being very large, with many adhesions. She was operated on by the transverse overlapping method, taking away a very large piece of fat, and recovered without pus or temperature. She now has an abdomen changed in shape, and is perfectly well in every particular. I have had no trouble in these cases during the operation or subsequent thereto.

If I understood Dr. Oschner correctly, he said that the great success in these operations was due to the fact that it shortened, or contracted the transverse diameter, and elongated the abdomen longitudinally. Well that is what may occur in the old vertical method, but not in the overlapping transverse method. You shorten the abdomen vertically. The pressure transversely cannot pull the surfaces apart, and the patient continues to get well.

DR. WILLIAM H. MAGIE, Duluth—I wish to endorse the operation of Dr. Mayo by reporting two cases of umbilical hernia that I have operated on during the past year. They were both very fat women, the hernias were of long standing, and the results so far have been very satisfactory. I have used the same method in operation for cures of ventral hernia resulting from surgical operations in the abdominal cavity.

DR. ALEX. H. FERGUSON, Chicago—A lateral operation for umbilical hernia is indicated in certain cases, and in others I would commend the operation worked out by Dr. Mayo. In either instance the procedure is a plastic one in which the surgeon makes the best use of the material at hand to most securely prevent a return of the hernia. When the opening is not very large, the recti muscles in good condition, the lateral operation gives excellent results, remembering that the muscles must be liberated and sutured in mid-line over the coapted peritoneum, and transversalis fascia. Any redundancy of the pendulous fat in the abdominal wall may be removed at the same time and greatly to the comfort of the patient. This I have done several times.

When, however, the opening is large it can be more easily closed by overlapping the structures from above downward and thereby obtain a very strong abdominal wall. But let me suggest an additional step which furnishes more strength to the umbilical region. That is to slit open the sheaths of the recti and bring them nearer together over the overlapped fibrous structures. This will leave these muscles in a position to protect by their contraction a weak place during sudden increased intra-abdominal pressure.

While I agree with Dr. Murphy that it is not a good thing to constrict the abdomen, still I should be inclined to attribute the cause of death in his case as due to something else.

DR. WILLIAM J. MAYO, Rochester, Minn.—In answer to a question I will say that we have removed the fat in two cases. I feel somewhat overcome by the remarks of Drs. Oehsner

and Murphy, and I think we must all take them as a joke. Dr. Ferguson has insisted on saying that this is the Mayo operation. My own feeling is that all this stuff about priority is bosh. I have no doubt that this operation was done by Hippocrates; he was a very sensible old fellow and quite likely, as they get in deeper in the Egyptian ruins, they will find that this operation was performed by the inhabitants several thousand years ago.

REPORT ON OPERATIVE TREATMENT OF GRAVES' DISEASE.*

T. C. WITHERSPOON, M.D.
ST. LOUIS.

CASE 1.—In April, 1895, a patient presented herself for treatment suffering from a well-developed Graves' disease. Exophthalmia was not marked, but the cardiac frequency and the thyroid enlargement was present. Tremor, loss of flesh and bowel symptoms made the case one of undoubted Graves' disease. She submitted to partial thyroidectomy under chloroform and made a nice recovery. Two years afterward I received word from her through a friend that she was well and strong, able to attend her duties and suffering none of the former symptoms.

CASE 2.—In 1898 a patient was sent me who suffered from a similar condition. She was 52 years of age, very thin, having lost a great many pounds of flesh, suffered from recurring diarrhea and was very weak, practically bed ridden. The pulse rate was 140 to 160, the thyroid very large and vascular, exophthalmia not marked. The right lobe being the larger was removed under cholorform anesthesia. There was very free hemorrhage from the inferior thyroid, and on account of pulse weakness she was given a pint of saline under the skin while on the table. This was repeated in two hours. Within six hours the pulse had regained the rate and quality which characterized it when she went on the table. During the night it began to increase in rate and lose in strength. There was no response to stimulants and in forty-eight hours she died.

CASE 3.—The third case on whom I operated was a woman 59 years of age. She was born in Missouri and had lived in St. Louis for many years. Her first visit to me was in September, 1899, at which time she suffered from very evident Graves' disease. The goiter was well marked, the right thyroid lobe being the larger, there was moderate exophthalmia and the pulse rate was from 130 to 150. She had lost a good deal of flesh, the skin was always moist because of an exhausting sweating, the nervous symptoms were marked, heard strange noises and had ideas of persecution; the respiratory movements were extremely shallow and pectorals wasted, bowels were diarrheic, urine contained casts and albumin, and was slightly increased in the 24 hour amount. A diagnosis was made of chronic interstitial nephritis associated with Graves' disease. I was of the opinion that her general condition contraindicated so extensive an operation as partial thyroidectomy and advised a double sympathectomy. September 10 the three ganglia on the right side were removed and on the 21st those of the left, under chloroform. The healing was primary and shortly after the second operation the pulse showed improvement in quality and rate. Her general condition was likewise benefited, the bowels ceased to become overactive, the sweating stopped, the weight improved. December 14 she had so far recovered that she took a trip into the country to take advantage of the fresh air and outdoor life possible there. From her son I learned later that in the latter part of the month of February while out riding she became chilled and died two hours afterward. He states the pulse rate had become normal before her death, the exophthalmia had almost entirely disappeared and the goiter fully half. Her mental condition was normal and the nervous symptoms had cleared up to a large extent. What part was played by the nephritis in her sudden death can, of course, be only a matter for conjecture, but it must be admitted the operation was followed by decided relief.

During the last twelve months I have had a series of six cases presented me for operation in all of which partial thyroidectomy was performed. They were as follows:

CASE 4.—About the first of May, 1902, S. S. was sent to me with a pronounced exophthalmic goiter. She had been under treatment without benefit and an operation was advised. She was born in Germany, came to St. Louis when 16 years of age, and has lived here since, a period of 23 years. There is nothing of note in her family history. At the time of her first pregnancy the thyroids became larger and remained so afterward. There were no symptoms of Graves' disease until about a year before I first saw her. At that time she noticed an increased nervousness and rapid heart action. At the time of the examination she had a well-marked exophthalmia and stated that the intensification of the symptoms dated back five months, at which time she became pregnant. Her general condition indicated a process of only moderate severity. There was not a great loss of flesh and her appetite and strength were fair. She did suffer from a marked degree of nervousness, however, and insomnia was distressing. The pulse rate varied from 100 to 120, exophthalmia marked, Graefe symptom present, the right thyroid lobe the larger. Other symptoms were present, as tremor, sweating, headache, recurring diarrhea. She had had attacks which resembled asthma for years, and these had been intensified.

May 6 the right lobe was removed under local anesthesia. After finishing the operation and while putting on the dressing she had a slight tetanic attack, general in character and accompanied with a loss of consciousness for the moment. No ill effects followed this, and after being placed in bed she felt quite easy, except for a mild degree of burning in the area of the wound. This lasted only two hours and disappeared. The improvement in her condition was apparent in two days, and within the next week she was fairly free from nervousness. The pulse dropped to 74 in forty-eight hours. There was rapid improvement in the exophthalmic condition also. During the remaining time of pregnancy she showed only such symptoms as are characteristic of the period. She was delivered at full time of a healthy child, making a nice recovery herself. At the present writing her condition is quite normal.

CASE 5.—Mrs. B. came to me in June presenting the following history and conditions: Born in St. Louis, lived here all her life, 35 years, parents were German, she was married some years, but had no children; examination revealed no pelvic disturbance. Gives no family history which could shed light on her trouble. About nine months before coming to me she noticed the first marked symptoms of her present disease, although for some months prior to that time she had noticed an increased nervousness and a tendency to tremble when using the hands. I found on examination well-developed thyroids, larger on right side, pulse varied from 120 to 130, exophthalmia marked and Graefe and Moebius symptoms were demonstrable. The other symptoms were present, tremor of the hands, diarrheas, sweating, loss of flesh, sleeplessness, easily excited, headaches, dry hair coming out in rather large quantities. The right vessels gave both a distinct bruit. An interesting feature was the pronounced prominence of the left eye.

The right lobe was removed under local anesthesia and betterment of the condition immediately followed. At the present time all of the old symptoms have disappeared, including the exophthalmia. She has gained in flesh and feels well.

CASE 6.—In July I removed the right thyroid lobe of a patient in one of the city institutions. She presented the usual symptoms and had in addition a movable right kidney and slight uterine prolapse. After the operation she made a rapid recovery, sleeping well, no tremor and gaining in strength. After leaving the institution I lost track of her.

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CASE 7.—Mrs. W., age 62, born in Switzerland, lived in St. Louis eighteen years, was sent to me in July for an operation. There was no family history of importance except that a daughter of 36 years of age has at the present time a simple goiter. She had a goiter herself for twenty years, during which time there was no indication of trouble from it. The symptoms of Graves' disease dates from the time of the death of her child three years ago. This daughter died of tuberculosis. In January, 1902, she suffered an attack of pneumonia, from which she did not fully recover. Effusion into the left pleura followed it and on May 17 three pints of this was removed. Again on the 27th this was repeated, removing the same amount. The physician in charge at the time reported on the character of this fluid, stating it was not purulent nor bloody. The expectorate was likewise examined and found to contain no tubercle bacilli. At this time the symptoms of Graves' disease became very pronounced. The tremor marked, muscular weakness with emaciation sufficient to cause her to remain abed, insomnia, emotional perturbations, pulse varying in rate from 135 to 160, and frequent diarrheic attacks. The exophthalmia was not readily noticed unless attention was called to it.

The right thyroid lobe was the larger, and this one was removed July 20. It had grown downward into the chest behind the sternum and was adherent to the trachea for a short interval. The vessels were very friable and the forceps pinched through the inferior thyroid during the operation and bleeding became very active. This necessitated a haphazard catch, which included the inferior (recurrent laryngeal) nerve. Immediately a fluttering vocal cord was the result. In tying the vessel after stopping the hemorrhage it was carefully separated from its surroundings. The voice returned very slowly afterward, never to its normal quality. A pneumonia was set afoot, which appeared on the fifth day in the left lung, the seat of the former attack. Eventually this subsided in part and the patient began to improve. A careful examination still failed to reveal tuberculosis. In six weeks the nervous symptoms had nearly disappeared and the rate of heart action was between 90 and 100. There was a slight, constant fever and cough and the fluid reaccumulated in the side. On aspiration this was found to be purulent. An operation was strongly advised, but refused until late in October. By this time she had lost the flesh gained just after the operation on the thyroid and was very weak. The process had extended to the lung and a large quantity of stinking pus was being expectorated constantly. A portion of rib was removed under local anesthesia and a drain established. She never rallied, however, and died about Christmas last. There was a complete disappearance of those symptoms which were distinctly characteristic of the Graves' affections before her death.

CASE 8.—A widow, aged 44, born in Germany, came to St. Louis 16 years ago. She has one living child healthy. She gives no history of former trouble which could bear on the present trouble except that 18 years ago she contracted a venereal disease from her husband which confined her to the hospital for several months. The cervix of the uterus is entirely gone and a small opening in the midst of scar tissue is the os uteri. Menstruation is normal except scant in amount. She gives no history of syphilis. Her pulse varied from 95 to 110, some degree of exophthalmia, goiter goose egg in size, the right lobe the larger. A fine tremor, muscular weakness, diarrhea, sweating, nervousness, sleeplessness, headaches were present. I removed the right lobe of the thyroid in September. The pulse rate became normal after the operation, the general condition improved and the tremor left. She still suffers, however, from headache, fullness in the throat and complains of weight in the pelvis. This, I believe, is due to the uterine condition.

CASE 9.—Just operated on. Patient is 29 years of age, born in Kansas, and has lived in various parts of the country during the last ten years. Of herself she writes the following history, and because of its exactness I give it in full. Rather anemic looking since fifth year, scrawny shoulders and small arms. All through life frequent headaches in forehead. In sixteenth year moved to Colorado, living in altitudes of from 6,000 to 9,000 feet, where was employed as a railroad clerk for three years. Felt well greater part of the time. Eyes would occasionally become inflamed; riding on trains augmented this trouble. Vision was not impaired for three years after first inflammatory attack. About twentieth year moved to Memphis, Tenn., eyes becoming more often sore. Oculist advised against glasses and used some drops in eye for two months daily. Vision now became impaired, objects blurred, lines of type ran together. Saw another oculist, who fitted glasses, said trouble was flattened cornea. Wore these glasses with some relief for about a year, eyes gradually becoming worse; inflamed with imperfect vision. In twenty-fourth year another oculist fitted glasses, saying the trouble was compound myopic astigmatism with the consequent inflammation. Great relief followed; worn the glasses since with improved vision, inflammation lessened. Past three years has had many spells of aching back of left eye and followed by reddened conjunctiva. About the twenty-fourth year hand became unsteady when writing. During the summer months each year while in Memphis got debilitated and irritable. During the winter of the twenty-fifth year worked all day and until 11 o'clock at night. Kept up by large quantity of alcoholics. In spring of same year, 1899, passed first-class examination for old line life insurance. No enlargement of neck was noted at the time. Pulse was a trifle quick, attributed to running up stairs. During the summer became gloomy, brooded over unfair treatment thought she had received at the office where working. Spent month of July in St. Louis, read much pessimistic and agnostic literature. Thought a great deal about suicide, did not contemplate suicide, but the subject was more attractive than others. Returned to Memphis August of the same year in the same state of mind. Friends tried in every way to divert her mind into new channels without success. Again worked hard the fall and winter of the twenty-sixth year. Gradually mind became normal. December, 1899, noticed neck seemed to look too full in front, friends thought it was all right. In winter was tired all the time, sore and ached all over on awakening; very nervous and irritable. Hands and feet became swollen and red, burned and itched when taking exercise. For last three years perspired profusely on slightest exertion. Hands and face would be moist and clammy while those about were dry and comfortable. Did not sweat at night when quiet in bed. Hair became faded and dry, but did not fall out to any appreciable extent. During the summer of 1900 lost much flesh and became more nervous and weak. In the fall some improvement.

About Jan. 1, 1901, noticed rapid heart action and shortness of breath. Remained in bed for a part of February complaining of prostration, nervousness and insomnia. At this time the goiter became quite perceptible. Dr. R. Maury prescribed tr. iodin applications without benefit to the goiter. Massage was then resorted to for a month with no benefit. If anything this last increased the nervousness. The professor of nervous diseases at the Memphis Medical College then prescribed Norwoods tincture of veratrum viride, to be taken constantly and a mixture of hyoscyamus, potassium bromid and chloral to quiet. This latter was taken at bed time for two years. For the remaining time the bromid alone has been used to produce sleep (60 to 100 grs.).

Exophthalmia was noticed in June, 1901. At this time she gave up all stimulants, as they caused a sense of weakness and she had to go to bed after taking them. Later in same summer went to Lake Superior for a visit and improved remarkably, gaining 18 pounds. In fall relapsed into old condition on returning south. Complained at this time of having both knees give away while walking, causing her almost to fall at times. Arms and legs became numb after resting in one position for a while. Last summer spent at Put-in-Bay, but an exhausting diarrhea prevented improvement.

In fall went to Colorado, where nervousness and rapid heart increased and mental condition became worse than ever. Had maniacal spells, screamed, tore clothing and refused to remain in the room with any one. Physician in charge gave thyroids and strychnin, and if anything the symptoms were

intensified. Pulse was frequently as high as 150 and felt like a pile driver in the neck. Thyroid increased in size. Took 400 grains of bromid in two hours to quiet. Later returned to the chloral mixture and a tonic. During the last three months suffered from alternating diarrhea and constipation. Appetite fluctuated from a craving for food to a distaste for it. Limbs twitched in bed and insomnia continued. Sore around body and hung clothes from shoulder; temperature of 99 to 100 in the late afternoons. Has a cough which developed in December, 1901, and has continued more or less ever since. At menstrual periods the gland seems to become turgid and causes a sense of choking from pressure.

The only family history which could bear on this condition is on the mother's side. She had asthma until her sixteenth year, always had an affection of the right side of the mouth and jaw. Right lobe of thyroid slightly enlarged and had been so from childhood. Never had the other cardinal symptoms of Graves' disease. Mother of seven children, three died in infancy; one son and three daughters are living. Son as a child suffered from nervous twitching, is now 40 and healthy; daughter, aged 32, has writer's cramp at present, always nervous. Other daughter always free from nervousness. Mother in good health at present.

July 15, 1903.—This patient is in better health than for some time. Exophthalmia gone. Pulse 80 to 90.

These cases of Graves' disease have been in the past most unsatisfactory to treat. Nearly every effort to bring about permanent relief has been fruitless. We have all seen temporary benefit follow the administration of different remedial agents, and have been at times tempted to believe that much of permanent character had been accomplished, only to be disappointed later when, after losing sight of the patient for a while, they would return in a more deplorable condition than ever. Failure in this disease has, as in many other maladies, led to the adoption of a host of remedies for its cure.

It is exceedingly interesting to follow the views of the various writers of the different decades on the subject, and note the changes in the methods of treatment. We read of the disease being a dyscrasia, then, again, a blood impoverishment expressing itself by changes in the thyroid, eyes and heart; later the opinion of alimentary intoxication, a sympathetic disease or a pathologic condition of the central nervous system located in the area of the pons or medulla. Of the recent authoritative writers Moebius adheres to the belief that the seat of the lesion is in the thyroid gland, while Kocher, of Berne, considers the thyroid condition an expression of a central lesion located in the cerebrospinal axis. Mention should be made of the work done by Gley, of Paris, showing a disturbed parathyroid relation with the thyroid as a possible cause of the disease symptoms. As from time to time new light has been shed upon the subject, bringing modified ideas of its pathology, the methods of treatment have accordingly been modified or changed altogether. Iodin, strophanthus, veratrum viride, bromids and chloral, galvanism, thyroid extract, adrenalin, sodium phosphate, sodium salycilate, dietetic regulation, massage, the serum of thyroidectomized goats, the flesh and milk of these animals, and lastly, various surgical procedures, have each been advocated as most helpful.

Naturally, the question arises, what are we to do for, how are we to relieve this class of patients when they come to us for relief? Is there an underlying cause for the condition which can be attacked alike in each case, is there a procedure which could become universally applicable? In the light of our present knowledge we can not hold to too strict limitations, though no doubt were the exact nature of the disease known some rule of action would become applicable to all cases. At the present time a certain degree of empiricism must enter into the treatment; our conduct toward these cases must rest to a large extent on our experiences in the past. We must notice where the internist obtains good results, and weigh carefully the data he presents; likewise have we to consider the surgeon's side of the question, and noting here success and there failure, obtain an explanation of the different results by the different manners of operation, and the individual characteristics of the patients.

I present here the results which I have obtained in cases in which internal medicine failed to give relief. The outcome has been very satisfactory to me, and has helped very materially to lead me to the belief that these cases are eminently surgical. Since reading Kocher's article, this belief has been confirmed, and I feel enthusiastic in supporting proper surgical methods for the relief of Graves' disease. Of course, do not understand this to mean that I advocate operation in every case, regardless of all conditions, local or general. In the first place, we must be governed by those rules which are followed in advising operation on any part of the body for the various conditions which fall to the surgeon's hands. In the second place the symptoms which characterize Graves' disease must be given due consideration, and proper value placed on the conditions which characterize each individual case.

A number of surgical procedures have been proposed. The injection of agents into the gland which tend to destroy its secreting power is dangerous, and should never be resorted to.

Ligation of the thyroid arteries to reduce vascularity of the gland has a warm advocate in Kocher. This method was recommended by Woefller for the common goitre, but Kocher put it to use in the exophthalmic variety. Rehn, Trendelenburg, Rydygier, Wilmers, Reinbach and Mikulicz have reported cases treated in this way. Ligation of the superior thyroid is relatively easy, but the inferior can not be gotten at through an incision in front of the sternocleidomastoid, except by luxating the gland upon the surface, in many of the cases. In selecting the vessels, attention will be paid to the amount of vascular degeneration of the different parts of the gland. It is rare that the whole gland is alike affected. Those vessels are ligated which best control the vascularity. The operation is simpler than removing the lobe, and is to be recommended in those cases where the symptoms remain intense after resting the patient. Later, however, this procedure should be supplemented by a partial thyroidectomy in the large percent of cases. The initial ligation always renders the removal of the lobe easier than where this is done primarily.

Unquestionably, the operation which gives the greatest degree of satisfaction is the removal of the most involved lobe of the thyroid gland. Very frequently this is the right. Why this should be so is difficult to understand. Many explanations have been given, but none satisfactory. Two incisions are to be recommended, one in front of the sternocleidomastoid parallel to its anterior border, and the U-incision recommended by Kocher with the convexity over the sternal notch. Kocher recommends the latter because it allows easy access to the median line, where after separation of the muscles which lie upon the trachea the thyroid lobe can be readily reached. This avoids cutting any of the muscles of the neck. The scar is low and not readily seen. Personally, I prefer the incision anterior to the muscle edge. The length need never be more than 4 inches, and it allows the least bloody handling of the gland. The one objection to the incision is that it necessitates the cutting of

some fibers of the sternothyroid or the sternohyoid. This is inconsequential, for the fibers of these muscles run nearly enough parallel to allow of separation directly through their bellies, and only a few fibers of the one or the other have to be cut at the ends of the incision. This opens the field perfectly for the largest goitre I have had to deal with. The scar is small and located in an anatomic position which to some extent renders it less apparent.

There are some precautions to be mentioned. The capsule of the gland is usually adherent to it, thickened and very vascular. In separating it from the enclosed gland a very considerable amount of hemorrhage follows. This is avoided to a certain extent by ligating the superior thyroid artery first. Just under the muscles, coming from above and entering the top of the gland, this vessel is easily found. It frequently enters as several branches, and care must be exercised to ligate all of these if the main trunk can not be gotten at. The next difficult step is securing the inferior thyroid artery. This can only be done after raising the gland from its bed and carrying it toward the median line. The whole vascular apparatus is so friable that it is possible that some vessels of size be torn in this separation and bleeding hard to control. To render this less difficult, bring about very careful, gradual luxation, catching each bleeding point with a forcep as it occurs. After reaching and ligating the inferior thyroid all forceps can be removed, as these two vesesls supply the area with blood. It is wise to ligate the large veins, however, for, though forcipressure suffices to check their bleeding for the time, their lumens are apt to open later and allow of a large clot formation in the wound. A very difficult point in the operation is catching hold of the highly vascular gland with any instrument with which to hold it. Vulcella forceps tear out and cause very serious hemorrhage. I find it expedient after exposing the anterior surface of the gland, to pass heavy mattress stitches of silk from side to side, and when these are tied the forceps catch better, and bleeding does not follow any little glandular laceration. Great care must be used in avoiding the recurrent laryngeal nerve, while dealing with the inferior thyroid.

This operation should always be performed under local anesthesia. Kocher recommends a 1 per cent. solution along the line of skin incision. I prefer a 0.125 per cent. solution. It is incorrectly stated that there is no pain after reaching the deep structures of the neck. These patients, very nervous and strung to a high pitch by the thoughts of the operation, do complain of pain in handling the deep structures, and are more readily controlled when the whole area is infiltrated. Eucain, being non-toxic when used in reasonable amounts, can be freely injected in very dilute solution. Infiltration is made between the gland and its capsule just ahead of the separation. I have never required more than ½ gr. of the drug to complete the entire operation. It is wise to reinfiltrate the skin before attempting to stitch the wound. All ligatures are made with a fine silk. I have not drained my cases. At one time there was a fear that the secretion expressed during the operation into the wound, and that formed and given off from the cut surface afterward were dangerously toxic. Drainage allowed these to escape, and therefore was recommended. There is some danger from the bleeding into the closed wound afterward, this causing suppuration and septic symptoms. A twelve to twenty-four hour drain is allowable when there is likelihood of much oozing.

Socin proposed the excision of enlarged nodes. This is not to be recommended, as it is incompetent and bloody, and many thyroids are uniformly degenerated. The Mikulicz operation, proposed for the ordinary parenchymatous goitre, has been resorted to in some cases of exophthalmic goitre with double enlargement. This operation consists in exsecting a portion of each lobe. This is too bloody to be recommended. A ligation of both superior thyroid arteries and a later removal of one lobe will accomplish more, and is more readily performed.

Jaboulay's operation of exothyreopexy is not to be recommended. The process of healing is too tardy, and the benefit not as assured as by either the ligation of the vessels or the partial removal of the gland. I do not know that this method is being adopted by any other than Jaboulay.

Lastly, I shall mention the operations on the sympathetics. Surgery of the cervical sympathetics had its initiative with Alexander, of Edinburgh, who resected the superior ganglion on both sides for epilepsy. This was in 1889. Jonesco, in Aug., 1896, resected the superior and middle cervical ganglia for Graves' disease, and the operation has since borne his name. A Russian surgeon by the name of Barocz proposed the operation as early as 1893. In my one case for exophthalmic goitre the operation was done in two sittings. The incision being made along the posterior border of the sternocleidomastoid. It can be readily done under eucain anesthesia.

Whatever the operation performed, general anesthesia should not be used. The myopathy and the vaso motor disturbance makes it exceedingly dangerous. This caution against general anesthetics holds also where the operation is for some other purpose than to relieve the symptoms of the exophthalmic goitre. Strange to say, the condition which follows operation upon these cases under general anesthesia is alike, whether done for the relief of the goitre or for other purposes, indicating that handling of the gland is not an explanation for it. I recall a case in which I used general anesthesia in the curettement of a bleeding uterus, following an abortion, in which all other means had failed. For two days following the operation the pulse rate was between 190 and 210. Eventually, she recovered from the immediate danger, only to succumb to an enteric attack later.

An objection to the use of cocain based upon the report of Riviere and Edmunds is not well taken; they assert the symptoms of cocain intoxication correspond to those of Graves' disease. Even if so, I can not agree with those who consider a unity of action in the two cases. However, in using eucain anesthesia, the amount of the drug is too small to produce additional intoxication.

The results from operative treatment of Graves' disease have been, on the whole, gratifying. Naturally, they vary somewhat with different operators, and also with the character of operation. Mortality has been surprisingly low; in 1896 Starr gave a record of 190 cases collected, with a mortality of only 12 per cent. Kinnicut the same year presented the record of 187 cases with 7 per cent. mortality. Schulz records 20 cases without mortality. The most valuable record of the present time comes from Kocher, of Berne, in which he had four deaths in 59 cases operated upon by himself. In these, the operation could not be held entirely responsible. Ligation had in the past a larger per cent. of mortality than thyroidectomy, but there should be no reason for this at the present time. In the group of cases

I present, the one death was undoubtedly the result of having given a general anesthetic.

The relief of the symptoms of Graves' disease has been gratifying. A fair average for the cures from operative procedures during the last ten years may be stated as 60 per cent.; of decided benefit 15 per cent.; and of deaths and failures, the remaining. In the 7 cases surviving the partial thyroidectomy performed by myself, the symptoms in all practically disappeared. Betterment was noted in all but one within forty-eight hours. The continuation of a high pulse in Mrs. W. was due to the pulmonary complication. Nervousness in each case disappeared almost completely before leaving the hospital, with the exception of the last case operated on but a few days since.

In one of my cases the nerve was injured by being grasped by forceps, and though the ligature was put about the vessel afterward, in such a manner as to avoid including the nerve, the voice was never quite normal afterward. Two of the cases had a slight tetanic convulsion immediately following the operation, but recovered as speedily as the others, without apparent ill effects. Mrs. B. had an interesting condition in that the right lobe of the thyroid was the larger, while the left eye was most protuberant. Exophthalmia in her case disappeared entirely after operation. Case S. S. carried her child to full term under a far more comfortable condition than was possible without relief of the exophthalmic goitre symptoms. After the operation certain symptoms may continue for a longer or shorter time before disappearing. The most persistent of these is the exophthalmia. In my cases ocular co-ordination was one of the first noticeable benefits. The physchic disturbances which follow, I believe, may be attributed to an infection of the wound in the majority of cases. This is illustrated by my last case. Three days after the operation she sat up, declaring herself better than for sometime. Her pulse and nervous symptoms certainly indicated this. On the sixth day she began to complain of pain in the area of the wound, which was the result of a slight inflammatory reaction. After that she became extremely irritable, taking marked dislike for her nurse. In her case the whole of the left thyroid was removed, with the exception of a small portion of the upper end, containing an apparently normal para-thyroid.

The question arises did the presence of the para-thyroid produce this excitation, or was it septic? The removal of the para-thyroids in animals gives rise to symptoms like those of Graves' disease, but I am at a loss in the absence of the thyroid proper to account for the presence of these bodies producing any such effect.

The character of the gland changes differed in the various cases. Vascular degeneration was apparent in all, but in many there were primary conditions not related to the exophthalmic goitre, and in some, undoubtedly secondary changes, consequent upon the marked vascularity of the thyroid.

As time will not permit a discussion of these differences in detail, I shall have to present them in a later paper.

DISCUSSION.

Dr. W. W. Grant, Denver—I have had no experience, whatever, with the operation for the treatment of exophthalmic goiter. The operation is more particularly appropriate to certain cases of traumatic epilepsy and glaucoma. Kocher, in 200 or 300 operations performed during the last two or three years, has used a solution of cocain. He has abandoned the use of general anesthetics, because of the unsatisfactory results, one of which is vomiting, which may occur during the progress of the operation, and if any surgeon attempts to perform this operation on a reasonablly large tumor, and particularly on a vascular one, without due consideration of the difficulties and complications that may arise, he is liable to a rude awakening. I have performed only a few of these operations, but I invariably open the capsule. It is much easier to make the incision through the skin, dissect from the tumor, and then open the capsule. It is much easier to ligate the arteries, and the operation can be done much more quickly; and this is an operation demanding all possible celerity. I had a case two or three months ago, the largest of these tumors that I have ever removed. It occurred in a woman 40 years of age, and the tumor had existed for twenty years. Whether or not we can explain it, it is a fact that the condition of many of these patients, although seemingly good, is not so in reality. They have but little resisting power. They succumb to the slightest hemorrhage as well as to anesthetics, their condition becomes alarming at times during the most critical period of the operation. After opening the capsule I had no difficulty in ligating the inferior thyroid vessels, but in separating the tissues for the superior thyroid I opened a sinus with the finger and a blood stream came out, which, it seemed, was as large as the little finger. It was quickly arrested, and although but a small amount of blood was lost, it was noticed that the patient was in a state of collapse. I proceeded with the operation, while assistants used restoratives and the patient recovered quickly, and her convalescence was uneventful. I always prepare the patient for such an operation. I insist that the patient should remain in the hospital for three or four days (or a week or more) and use 1/30 of a grain of strychnia three or four times a day. I have found this to be very useful. If necessary, atropin may be administered before the operation as a heart tonic. I have found it very appropriate in these cases. The amount of cocain which Kocher uses is a 1 to 2 per cent. solution, but I have not employed it because I fear its effect on the heart, especially in large tumors. I have used chloroform, but fear general anethesia also.

Dr. Emmet Rixford, San Francisco—Goiter is a disease which produces fearful suffering to the patient, and whether we can cure those patients by operation or not, we are doing a tremenduous service to them, if we can alleviate their symptoms. But the operative treatment is not so simple as it may appear. The problem is an extremely difficult one. Exophthalmic goiter may be said to be of two sorts, primary exophthalmic goiter and secondary exophthalmic goiter. By the latter I mean those cases in which the disease or symptoms supervene in the presence of existing goiter, and prognosis from operative procedure is infinitely better in the latter class of cases. In these cases there is very often an encysted thyroid adenoma, which is the seat of the goiter. The operation is much simpler in those than in the so-called primary exophthalmic goiter. It simply requires the removing of the adenoma, if the capsule can be identified. The operation should be undertaken with the greatest caution in those cases in which the heart shows degeneration. Confidence is of the greatest value to such a patient, and he should be made to rest and become accustomed to the surroundings in the hospital, mental as well as physical preparation for the ordeal being necessary. The greatest danger, as Kocher has definitely demonstrated, is the anesthetic. I have seen the greatest trouble from an anesthetic, the heart beating faster and faster until it reached 200, then 300 per minute, and finally became too fast to be counted. These patients perspire tremendously. They do not stand antiseptics well, and they should be used with the greatest caution. They do not stand sepsis well and, therefore, the greatest care should be used to have a perfect technic. I have operated on four cases of exophthalmic goiter, protecting the wound by a piece of sterilized cloth around the neck, and held up by uprights at the end of the table, so that the patient cannot see the hemorrhage, and so that he could not see what was going on. The sight of the forceps and instruments, etc., increases the nervousness of the patient. I employ 1 per cent. cocain as a local anesthetic. I prefer to make the transverse incision where the tumor is not very large, principally because of

the cosmetic effects. Women are much more likely to have this condition than men, and the transverse incision can be made very low down and the scar can always be covered by a bit of ribbon. The vertical scar always sticks up above the collar. The incision along the sternocleidomastoid always gives more room and where the tumor is large, it is the preferable operation. I was interested in hearing Dr. Witherspoon speak of opening the posterior fascia of the neck and enucleating the tumor. Kocher speaks of cocain being of assistance. In my last case that I operated on I thought that it was so simple that I could remove it without much of a wound. I did not draw the gland to the middle line, but worked from the outside. I passed the ligature around some vessels and the man indicated that he could talk. The ligature was removed and the man has since recovered his voice. As to the relief of these exophthalmic symptoms, in certain cases, it is wonderful and often immediate. I had one case that had been having from fifteen to twenty passages from the bowels a day. She suffered from profuse perspiration, the sheets had to be changed several times during the night. The patient did not expect to recover; in fact, she preferred to die. Within a week from the time of the removal of the thyroid adenoma she had lost thirty pounds in weight. She had been practically bedridden and unable to walk more than half a block before the operation, but within three months thereafter she had ridden a bicycle twenty miles over a rough country road.

DR. J. SHELTON HORSLEY, El Paso, Texas—I think we can not determine the proper surgical treatment of this condition until its pathology has been more definitely settled. There are two theories; one is that the disease is due to morbid impulses originating in the medulla and sent out over the sympathetic nervous system, the excess of thyroid secretion being due solely to these impulses. The other theory is, that the disease is caused by an excess of thyroid secretion in the blood, which acts on the nervous system. We know that in cases of exophthalmic goiter there is nearly always present an excess of thyroid secretion. However, this is not universally true, for some French surgeons have observed this disease in cases in which the thyroid gland had been previously removed by operation and in cases in which it was apparently congenitally absent, or at least so small as to escape detection. These facts have been very well brought out by Dr. Alfred Gordon, of Philadelphia, in a paper in the *Philadelphia Medical Journal* a few years ago. If this first theory is correct, Jonnesco's operation is unquestionably the correct procedure, as it permanently interrupts these impulses by taking out all of the cervical sympathetic ganglia. If, however, the second theory is correct, Jonnesco's operation is clearly inapplicable, and the only logical procedure is excision of the thyroid gland. As these two operations are founded on pathologic theories that are diametrically opposed to each other, it does not seem proper to use indiscriminately either the Jonnesco operation or excision of the thyroid, depending on whichever may be easier performed in a given case.

About three years ago I operated on a case of exophthalmic goiter having all the classical signs and symptoms of that disease. I did a partial Jonnesco operation, removing the cervical sympathetic ganglia on the right side of the neck. I intended removing them on the left side also, but the patient's condition forbade it, as her pulse was about 200 when the right side was finished. The operation was reported in the *Annals of Surgery* about eight months later, as it was one of the first cases in which the Jonnesco operation for exophthalmic goiter had been done in America. At the time of the report, she had improved wonderfully; pulse was 100 and she had gained in weight more than 30 pounds. The swelling in the thyroid, however, had not perceptibly decreased. Soon after this time, the patient began to get worse, and is now in the same condition she was in when first operated on. A second operation for removal of the ganglia on the left side of the neck, though proposed, has been rejected. It seems that cases of exophthalmic goiter may be cured, or at least relieved and improved, by either Jonnesco's operation or excision of the thyroid—operations which are founded on entirely different pathologic theories. It has occurred to me, in view of the improvement and subsequent relapse of my case and after reading the literature on the subject, that operation may have the same effect in exophthalmic goiter that is attributed to trephining in epilepsy. In other words, any operative procedure that is sufficiently severe to affect profoundly the nervous system, may result in relief of this disease, just as epilepsy is often apparently cured by simply trephining.

DR. T. C. WITHERSPOON, St. Louis—In regard to the indication for operation in exophthalmic goiter I believe that these cases should first be subjected to internal medication and then, if that fails, we should operate. In regard to the last Jonnesco operation I am not in a position to express an opinion on it. I was not gratified by the results obtained in these cases. I have not done it in exophthalmic goiter but once, but I have tried it three times in epilepsy and in none of the three cases did I secure results that were very gratifying. The one important thing that I want to speak of is the giving of a general anesthetic to these patients. We should not forget that when they are operated on for removal of the thyroid or for any surgical condition whatever they suffer tremendously from the effects of a general anesthetic. I remember a case I had in which the pulse was from 140 to 150, and I gave chloroform to allow of uterine curettement, and her pulse ran up to between 190 and 220, but she ultimately recovered from this condition. A general anesthetic is dangerous, and those who operate under general anesthesia are going to obtain poor results. In the next place those gentlemen who prefer simply to deal with the gland by primarily shelling it out I think are going to regret it some day. You should tie the blood-vessels early. There is but one way to tie them, and that is to get back of the fascia. If you get back of the fascia above the gland and run your finger behind the gland you can separate the carotid sheath and vessels from the gland, and render ligation and separation of the structures easy. I had one case in which a portion of the gland had grown down back of the sternum and another in which the gland was very deep in the neck, so that they are very different in shape and can not be dealt with alike.

PATHOLOGY AND TREATMENT OF SMALLPOX.

AN ANALYSIS OF OVER TWO THOUSAND CASES AND OF FIFTY AUTOPSIES.*

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CLASSIFICATION.

It is not my intention to discuss in detail the problem of the pathology of smallpox, but only to utilize in so far as practical the knowledge acquired by personal observation and autopsy in the treatment of this disease. The subject of the pathology of smallpox is in itself one of large scope and bearing, and worthy of single effort. Inasmuch as the tendency of medicine at the present day is to build the treatment of disease on the knowledge acquired of anatomic defects, it seems consistent to group the two headings.

The pathology of smallpox comprises at least three distinct considerations: First, the conditions arising from the poisonous influences of the variolous contagion itself (mainly purely speculative and relating to black smallpox). Second, the conditions arising from the maturation stage; and third, the incidental complications and sequelæ. In the latter class are considered boils, abscesses, phlegmonous conditions, erysipelas, the eye symptoms and the accidents to pregnancy.

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While it may be impossible in many instances to draw any line of demarcation between any or all of these conditions, it is well to have some basis of division, in order to more perfectly understand the clinical feature or features of the disease. Likewise, different varieties of the disease must be recognized and classified. I have unhesitatingly adopted the classification of Osler as the best and most perfect I have yet seen. His five distinct varieties of the disease are arranged as follows, and now form the generally recognized classification:

Variola Hemorrhagica.
- (*a*) Purpura variolosa; "black smallpox."
- (*b*) Variola hemorrhagica pustulosa.

Variola vera.
- (*c*) Variola confluens.
- (*d*) Variola discreta.
- (*e*) Varioloid.

THE PATHOLOGY OF PURPURA VARIOLOSA.

But little is known of this condition, the rarest of all forms of smallpox, and in itself essentially and always fatal. The awfulness of the disease impresses itself on the physician and beholder. It is distinctive from its fellow forms in that the patient dies always before the appearance of an eruption. Those who have been fortunate enough to examine these cases postmortem report abundant blood extravasations into the serous membranes and loose connective tissue of the body; into the muscles, the joints and bone-marrow. These, in conjunction with the well-known external manifestations, namely, petechiæ of the skin of the abdomen, chest and crural region and flexures of the arm, and conjunctival ecchymoses, are the main pathologic conditions.

In the one case in which I have had the privilege of an interior examination, blood was found in the vitreous humor of the eye in profuse quantity. This is the one and only condition which I am able to add to the literature of variola purpura, and which I have so far failed to find in any text-book or book of reference on the subject.

Blood examinations have been made by various observers, including the writer. So far, nothing pathologic has been determined. The blood is thin and dark, and clots very slowly. No change was noticed in the size or shape of the blood corpuscles.

The main lesion in purpura variolosa seems to be a tendency to blood extravasation, either into interstitial tissue or in or through the mucous membranes. Whether or not its etiology is that of "blood dissolution" of acute infectious diseases or of the "bacterial coagulation thrombosis" of Unna is as yet unproven. A condition of acute hematophilia exists—severe in its intensity—and its obscure etiology and exact pathology is as yet a matter of pure speculation.

Mode of Death.—Death occurs certainly from the intensity of the variolous contagion, before the appearance of an eruption, and the intellect is unclouded to the end.

VARIOLA PUSTULOSA HEMORRHAGICA.

This variety of smallpox distinguishes itself from purpura variolosa in that an eruption always develops to a greater or lesser degree. Elevation of a macule to the papule always occurs. Hemorrhage may occur into the lesion at any time in the cycle of its existence. I have seen it occur in the macule, the papule, the vesicle and the pustule. Hemorrhage may occur into the conjunctiva and bleeding occur as in purpura variolosa from the nose, mouth, arms or vagina.

Internal lesions present themselves always in the respiratory tract. These are always the cause of much distress and discomfort to the patient, and undoubtedly have much to do with the unfavorable prognosis of this division.

In contradistinction to purpura variolosa the lesions of variola hemorrhagica pustulosa appear with perfect regularity on the mucous membranes as above described. On account of the varying conditions governing the secretion, digestion and motility they never go to full development, and present themselves as small ulcers with a surrounding inflammatory base. These undergo a retrograde metamorphosis, break down and discharge a thick purulent secretion which is coughed up by the individual in the form of a thick, ropy mucus. They often heal and leave no cicatrix or evidence of former inflammation.

I have repeatedly demonstrated these lesions at autopsy, even in the smaller bronchioles.

The differential feature, then, of variola hemorrhagica pustulosa is an eruption with hemorrhage into the lesion of eruption, and not the simple interstitial or subcutaneous hemorrhage, as exists in purpura variolosa.

Mode of Death.—The intensity of the poisonous element of the contagion of variola may cause death with the early hemorrhage into the macule as early as the fourth day, or the individual may go on with subsequent affliction and perish later of complication or sequelæ. Again, he may recover. In any event, this condition is very grave, and the pathologic conditions are many.

VARIOLA CONFLUENS.

Variola confluens presents the classical clinical picture of smallpox. It is the true type of the disease. Feeling better on the fourth or fifth day of an often undiagnosed illness, the patient may notice a small macule or a small round spot on the brow or wrist. On the next day, fifth or sixth, appear many more bright red spots, with a tendency to grow hard as the day advances. These papules or pimples undergo the successive changes of vesicle and pustule. On the eighth, ninth or tenth day they may run together, producing great blebs, and the individual falls into a condition of profound septicemia from absorption of poisonous toxins elaborated in the countless pustules. Co-incidentally bacteria develop in the blood and the patient dies from profound sepsis, and often in delirium.

Extensive pharyngeal, laryngeal, nasal and bronchial lesions are always present in severe cases of variola confluens. They are often confluent, and the writer has demonstrated at autopsy lesions almost co-extensive in length with that of the trachea itself. These internal ulcers again add to the severity and distress of the patient's condition, and are a frequent cause of pulmonary complication. The author has seen frequent deaths occur as the result of these often overlooked, untreated and unknown conditions of the respiratory tracts, and believes that too much emphasis can not be placed on the consequent necessity for proper therapeusis for these untoward conditions.

Pericarditis, pneumonia, pleurisy, albuminuria, if arising during the course of the disease, present their usual manifestations, and need not be considered in detail.

Of special symptoms, those which concern the eye are of prime importance. In former times one-half the cases of blindness were due to smallpox. In recent years, thanks to vaccination, this percentage has very materially decreased. The eye symptoms may be either extrinsic or intrinsic.

1. Symptoms in which the external parts of the eye are the seat of pustules or pocks, namely, the lids and marginal conjunctiva.

2. Where the eye or eyeball is itself involved. *a*, conjunctiva; *b*, cornea; *c*, interior of eye. The pocks or pustules appearing on the eyelid in no way differ from those of other regions, and except for their inconvenience are of no importance. Those which appear on the conjunctiva, if not adjacent to the cornea, are likewise of little import.

Those which appear on the cornea, however, have a distinct pathology, and their clinical history is often a matter of deep concern to the practitioner. Corneal ulcers appear most frequently in albuminuric patients. Rapidity of development is the characteristic feature of a variolous corneal ulcer. The pock may entirely destroy the area of the cornea on which it is situated within twenty-four hours. In such cases blindness almost invariably results.

Panophthalmitis may occur. I had one case in which I did an enucleation. Death occurred. Albumin was present in this case, as in many of my other eye cases.[1]

VARIOLA—SEVENTH DAY.

Fig. 1.—Showing the influence of the disease modified by vaccination (indicated by cross). The black spot on the arm is a taking vaccination. Below, at the elbow, is a small confluent patch. Notice the dissemination of the lesions and their limited number. From the author's wards, at North Brother's Island, New York. This child was one of a ward of children removed from the New York Foundling Hospital. The original infecting child perished. Vaccination was immediately practiced and the disease was mild in all the cases.

THE HISTOPATHOLOGY OF THE SMALLPOX LESION.

It is to Unna of Hamburg that we owe any knowledge of the histology of the smallpox lesion whatsoever. His view is that the stratum mucosum softens and becomes edematous in its upper layers. An exudate appears; suppuration occurs from secondary infection, and owing to the fibrinous material exuded from the cells, septa are formed. The exact cause of the umbilication, however, is unknown.

Following the removal of the scab a depression in the skin presents itself. Depending on the ability or rapidity of epithelialization depends the character and degree of pitting. Quick epithelialization generally means an absence of marking and the converse well-known clinical fact has long been established, viz., slow pustulation is not only dangerous to the patient, but means extensive scarring as well.

The other varieties of variola present no distinct pathologic condition not already considered.

THE TREATMENT OF SMALLPOX.

The treatment of smallpox divides itself naturally into: 1. The prophylactic treatment; 2, the treatment of the disease itself; 3, that of its complications and sequelæ. Special consideration will also be given the red-light treatment.

SYNOPSIS.

1. PROPHYLACTIC TREATMENT.
   (*a*) Isolation and disinfection.
   (*b*) Vaccination.
2. TREATMENT OF THE DISEASE ITSELF.
   (*a*) Prodromal symptoms.
   (*b*) Local treatment. Treatment with baths. Removal of pustules and opening of them to remove contents—emollient treatment—prevention of scarring and pitting.
   (*c*) Constitutional treatment; purely symptomatic and supportive, alcohol and strychnia. Ammonium compounds for throat complications. Opium for hemorrhage, and intravenous infusions for the septic and hydremic stages.
3. COMPLICATIONS AND SEQUELAE.
   Boils, abscesses, phlegmonous conditions, erysipelas, albuminuria, eye complications, edema glotidis, pulmonary and vasculo-cardiac complications. Nervous symptoms and lesions.
4. THE RED LIGHT TREATMENT.
   A failure. Results observed in over 300 cases in New York and Indianapolis.

PROPHYLAXIS.

The prophylactic treatment will be dismissed with but a few words. In company with every other scientific mind, the writer regards vaccination and repeated vaccination as the only means of protection against the disease. I have no patience with those misguided health officers who advocate isolation and disinfection as the proper means of prevention. The city of Cleveland, Ohio, is a monument to such a fallacy. It is interesting to note that the health officers of that city who pinned their faith to formaldehyd have since retracted. The city of New York is a monument to the results which may be obtained by universal vaccination. Eight hundred thousand vaccinations in one year at public expense have abolished the disease in that city, as it will in every well-vaccinated locality.

Recent vaccination absolutely prevents smallpox. It has afforded me my only protection. During the last four years I have been mixed with every variety of smallpox, from purpura variolosa to the mildest varioloid. I have never had smallpox, and my one safeguard has been repeated vaccination. During these four years I have been vaccinated at least fifty times, two of these vaccinations being successful. Vaccination provides immunity for varying periods of time from two to thirty years or more. Neither painful nor dangerous, and applicable at all ages, from the newborn babe to those of mature years, it should be insisted on whenever smallpox is epidemic. However seemingly perfect isolation or detention may appear, whenever smallpox is prevalent they will show themselves to be defective means of prevention.

Truly, indeed, may it be said that as regards smallpox the struggle for existence is the struggle of the vaccinated. And just as truthful is the converse proposition that the survival of the fittest is the survival of the vaccinated, in which the unvaccinated perish.

THE TREATMENT OF THE DISEASE ITSELF.

Purpura Variolosa.—No observer of smallpox has as yet published a case of the survival of a patient once

1. I can not agree with the authorities in the 5th volume of the XX Century Practice of Medicine on the rarity of eye symptoms. Such statements as are made by Homer and Swanzey are certainly far from giving a correct opinion of these complications.

diagnosed as suffering from black smallpox. Awful and tragic to behold, with the knowledge back of the physician that every other case of this variety has perished, and that this one can be no exception, he may for the first time realize the horror of this disease. The intellect is generally keen to the last, and if the patient be apprised of his condition he may even give directions as regards his business affairs or to his family, even to the moment of his death.

Pain in the back is one of the most prominent symptoms of this variety. It is relieved only by morphin, generally given hypodermatically. Large dosage should be employed.

The only theoretical treatment that might seem to be of service in this condition would be abstraction of the blood in large quantity and the intravenous infusion of saline solution. In the only case in which I had an opportunity to try this form of therapy the patient died

VARIOLA—NINTH DAY.

Fig. 2.—Showing hand and arm of woman at the ninth day of disease. Notice the swelling of hand and wrist; the inflammatory zone around the vesicles; the tension in some, and the umbilication in most vesicles, and their depressed centers. Just at the lower end of the ulna is a confluent patch made up of four previously separate vesicles. From the author's cases at North Brother's Island, New York. Photographed by Dr. S. Pollitzer.

before the necessary measures could be provided for even this simple procedure.

Variola Pustulosa Hemorrhagica and Variola Confluens and Discreta.—Prodromal symptoms may be treated in the usual manner. The use of opiates and laxatives with baths for the fever and delirium is to be encouraged.

In case of marked epistaxis, or hemorrhage from the mouth, anus or vagina in the hemorrhagic type of the disease, recourse should be had to large doses of opium. Tincture of opium or powdered opium should be given unstintedly. The author has never seen good results follow the use of the various salts of iron. Unpleasant and nasty to take, they cause the patient much uneasiness and distress. They can not substitute the somniferous effect derived from opium. Opium should be exhibited unsparingly and unhesitatingly in large doses in hemorrhagic smallpox.

External Treatment.—As soon as the eruption appears the patient should at once be given hot baths. If no tub can be provided hot packs should be substituted. These should be given at intervals of every three or four hours and continued as long as they do not enervate the patient. The hot bath promotes diaphoresis and kidney action; helps eliminate poisonous elements in the blood and has a quieting influence on the nervous condition of the patient. A sense of relief and comfort is also furnished that can not be obtained by any other means.

After the pustules have fully formed and in case resolution does not immediately occur, the pustules should either be removed or their contents evacuated. For this purpose, in cases of slow pustulation and with little tendency to resolution, the writer has frequently used a sharp spoon or curette and simply curetted away great masses of pustules. In this way many foci of suppuration are removed and the general tendency of the suppurative stage to an unfortunate issue averted.

After the removal of the pustules the patient may be given an antiseptic bath of either carbolic acid, bichlorid of mercury or boric acid. On account of the mechanical inability of any antiseptic solution to penetrate through the fibrinous exudates which compose the outer crust or walls of the individual pustules, I have no confidence or faith whatsoever in the so-called antiseptic bath treatment. My experience has proved its inutility and utter uselessness, and the mechanical features which I have already described are against even its theoretical employment.

Antiseptic baths in the treatment of smallpox to be of any service should only be given after the pustule has been incised or removed. The emollient treatment, which may be employed during the period between the baths, may consist of such simple remedies as a mild carbolic vaselin and the use of a mild dusting powder, such as boric acid.

The Prevention of Scarring or Pitting.—To a great extent this is entirely outside and beyond the power of the physician to either avoid or modify. Whatever remedies are of service in this regard must be those which possess the power of keratolization. Chief among these is the well-known salicylic acid. In 3 or 4 per cent. ointment form it causes increased epithelialization. Applied immediately after the pustule is dry enough to remove, it may, by its keratolytic action, cause enough epithelium to grow to quickly fill the pit and also stimulate the subcutaneous tissue beneath. I believe I have seen some benefit follow its use, but in well-marked cases of confluent smallpox but little can be accomplished.

Of other procedures that have been advocated, such as the use of silver nitrate stick in the pustule itself, iodin, tannic acid, etc., they are only mentioned to be condemned. Salicylic acid does all that is claimed for them and much more.

Continuous application of hot cloths to the face and protection from the air either by oils or salves during the pustular stage is also to be recommended. As soon as large scales or crusts form they should be removed and some antiseptic medication applied, followed by the use of an ointment.

The Constitutional Treatment.—The constitutional

treatment of smallpox is purely symptomatic. Control of fever and delirium by baths, of hemorrhage by opium in large doses, supportive measures for the heart, such as alcohol, strychnia and digitalis, especially in the septic stage. The diet should be liquid, mainly milk and egg-nog, broths and soups. Water should be administered *ad libitum*, and the patient forced to drink copiously.

Of special symptoms to be met and receive appropriate treatment the pulmonary tract must be given special attention. It often happens that the mucous membrane of the respiratory tract may be almost entirely denuded from the teeth and nose to the finer bronchioles. We have many reasons to believe that this condition may obtain, and yet the patient may entirely recover.

In my collection of tracheæ which I have removed at autopsy I have one which shows lesions as above described, and in which the ulcers are at least four inches in length. Yet patients with known lesions of this character do recover.

It is therefore essential that something be done for this conditon. I have secured the greatest benefit to my patients through the use of ammonium chlorid and aromatic spirits of ammonia exhibited in full doses. Liquefaction of the mucus and loosening of the chest occurs, and the pulmonary action may be carried on unhindered.

The Hydremic State of the Blood.—There is but little doubt that in the full pustular stage of smallpox with co-existent sepsis, delirium and coma there exists a markedly hydremic state of the blood. Not only this, but the blood carries in solution an immense number of toxins.

To combat this condition is one of the greatest problems in the treatment of the maturation stage of smallpox. In my wards at North Brothers' Island rectal enemata-enteroclysis was often resorted to. On account of the difficulty of making the patient retain these enemata but little benefit was derived from their use.

In order to better combat this condition I have proposed and used what I consider a far better method, namely, direct intravenous infusion of normal saline solutions. Their action is to dilute the blood of known poisons (toxins or ptomains absorbed or manufactured from the pustules of smallpox) and to stimulate the heart in a period of depression owing to a decreased blood volume, and to promote excretion.

I have found marked benefit to follow their use, and believe the knowledge now given of their use is a distinct and valuable acquisition to the literature on the therapy of smallpox.

COMPLICATIONS AND SEQUELÆ.

The boils and abscesses which so frequently follow in the desiccating stage should be widely opened by free incision. Free drainage should always be secured. If deep cellulitis occurs the part should receive appropriate wet dressings and the knife be freely used. If albuminuria occurs it should receive appropriate treatment with hot packs and the diuretics; special care should be observed in regard to the eyes if albumin is once detected, and they should receive frequent inspection.

Laryngitis is a serious complication in many ways. It may cause necrosis of the larynx or cellulitis of the surrounding parts with quick edema following and death supervening. In three of the author's cases at North Brothers' Island intubation was practiced for this condition. In two of these cases it was afterward necessary to resort to tracheotomy. This quick and sudden edema is a serious affection, and its possibility must always be considered when aphonia is present in the patient.

The eye symptoms should receive appropriate treatment. Corneal ulcers should be early detected, cauterized with the silver stick direct, and then receive frequent irrigations with a mild antiseptic solution such as a saturated solution of boric acid.

Pneumonia and pleurisy are dangerous complications, and most often fatal. Pneumonia, when it occurs, is often a septic bronchopneumonia, and the pleurisy a purulent effusion. Naturally, but little can be done in such conditions. Cardiac complications are rare. The writer has seen but very few in the cases under his observation.

Diphtheria in children is a common affliction. It comes on suddenly owing to the soil already prepared for it by serious and numerous throat and nasal lesions. Antitoxin should necessarily be exhibited in large doses, and an early diagnosis is imperative.

Nervous Symptoms.—Delirium is one of the most marked characteristics of the disease. It occurs early, and is much more severe than that often met in typhoid fever. Delirium tremens is often seen in men addicted to alcohol, and is a most unfortunate complication. The general run of somniferous and nervous depressants are often powerless to control the agitation of the patient, and simple restraint is the only means of service. If too wild or flighty the patient should be put in a strait-jacket and kept in restraint as long as indicated.

VARIOLA—ELEVENTH DAY.

Fig. 3.—Showing invasion of soles of feet at eleventh day of disease. From the author's cases at North Brother's Island, New York. Photographed by Dr. S. Pollitzer.

I have seen but two cases of insanity follow or occur in or during the course of variola. One of these was permanent.

THE RED-LIGHT TREATMENT OF SMALLPOX.

In the May 2, 1903, number of THE JOURNAL of the American Medical Association there appears an excellent analysis of the claims of the efficiency of red light in the treatment of smallpox by Dr. J. F. Schamberg. This excellent exposition of the subject by such an eminent writer is worthy of reproduction in even the popular press. Dr. Schamberg takes up in detail the history of the red-light method and shows its fallacies when applied to the treatment of variolous subjects. To all of what Dr. Schamberg says I heartily agree. Dr. Finsen was not the originator of the red-light treatment of smallpox.

John of Gaddesden, six centuries before, had used it in the treatment of an English prince, and numerous instances of its use have been recorded since. In the detention hospital at North Brothers' Island two wards were fitted up in an appropriate manner to try this form of treatment. In the Indianapolis City Hospital Detention House two wards were also fitted up to try the red-light theory.

In both of these hospitals I have had abundant opportunity to watch the effect of elaborate arrangements to try the theory of red-light treatment of the disease. With the experience of at least 300 cases I regret that I also must corroborate the results that Dr. Welch and Dr. Schamberg arrived at in Philadelphia in the two cases in which they tried the red-light treatment of the disease, and say that there is nothing in it. While it may sound well in theory, and look beautiful in practice, yet it is nevertheless true that the dead are still removed and the pitted and the scarred still recover in a red-light hospital.

In the Indianapolis Hospital suppurative fever and death have not been less in the red-light wards than in the other wards. A careful daily investigation of the patients showed conclusively that the patients under the red-light treatment have not done any better than did an equal number of patients suffering during the epidemic in four other wards exposed to sunlight and the ordinary incandescent electric light. During the time that the red light has been in use in this hospital about thirty patients have died in the red-light wards. Those from the red-light wards were as badly pitted as those from other wards.

We may conclude that the extent of scarring, pitting or pocking depends entirely on the severity of the disease and the depth to which the pustules affect and enter the true skin.

The question of the prevention of pitting is really not within the hands of the physician. It is rather that the physician and the patient should be grateful that recovery has occurred at all than that they should feel chagrin or remorse that pitting has occurred despite their earnest but useless efforts to prevent a condition which is wholly outside their power to ameliorate, to resist or to relieve.

CLINIC AT CHARITY HOSPITAL, NEW ORLEANS.

CONDUCTED BY DR. ISADORE DYER, NEW ORLEANS.

A clinic was held at the Charity Hospital, New Orleans, May 7, as a part of the program of the Section on Cutaneous Medicine and Surgery. Several cases of leprosy and other interesting skin disorders were shown and commented on by Dr. Isadore Dyer. He remarked that he made it a special point in cases of leprosy to note the effect of the disease on the face; this he believes is characteristic.

The first patient shown was a man 32 years old, who reported at the hospital first in 1897. At that time both hands and face were covered with tubercles, which were still very evident up to a year and a half ago. At the present time he is comparatively free from tubercles, though his face is scarred where they formerly existed. He has fair use of his hands, and the only actual evidence of the disease at present is in his feet. He was born in New Orleans in the district where the old leper hospital stood. Dr. Dyer remarked that whether there was any direct connection or not he is not aware; the fact is that nearly all the cases originating in New Orleans develop from that center. The patient's father was German, his mother English, and both had lived nearly all their lives in New Orleans. This emphasizes a point he had frequently remarked, that leprosy does not occur in anyone who has lived in New Orleans less than ten years. The only exception to this of which he is aware was a Norwegian, who was sent to the clinic by the U. S. Marine-Hospital Service and returned by the same boat on which he came to the city.

The treatment in the case consisted of 1/60 of a grain of strychnin with 40 drops of chaulmoogra oil, three times a day. The patient has been taking this since last December. The general condition of the skin is improved. In spite of the fact that he has advocated other lines of treatment and experimented with antivenene serum, Dr. Dyer has fallen back on chaulmoogra oil, and is inclined to agree with Bibb of Saltillo, Mexico, who says that any person who gets enough of the oil will get well, provided he has not been mutilated. The results of the Charity Hospital are in harmony with that opinion. He has two patients on chaulmoogra oil, one taking 60 drops without trouble, and a large amount of the pigmentation has disappeared from that patient's face.

Case 2 was a woman, 41 years of age, with the same disease. At first glance the diagnosis would not be clear, as there was no evidence of disease in the face. She also was of German parentage. In the reports of cases from Louisiana at the Berlin conference it was remarked that the most frequent cases were natives of Louisiana of either French or Spanish or of mixed French and Spanish parentage. This woman was born in New Orleans, in the fourth district; not the same district where the other patient was born. She has had some spots on her hands, but most are on her legs. The color has gone in a large degree. Lepers were not isolated before 1886, and the patients in the Leper Home formerly received no medical treatment. It seems a matter of conscience that patients suffering from this disease should not be merely isolated and allowed to die. Isolation is compulsory. This patient is taking only five drops of chaulmoogra oil, as that is all she can bear. The disease in her case is of five years' duration, and it is now considerably improved. She has taken the treatment regularly, but has taken the oil only in small doses.

Dr. Hopkins has charge of the treatment of the cases at the Leper Home. Out of 40 cases treated for the last year and a half two or three are nearly ready to be discharged.

The third case exhibited was a very recent one. At first glance the color is not characteristic. There is a good deal more symmetry than is usually met and the condition looks more like erythema than like leprosy. The spots are hardly marked enough for leprosy, but are all anesthetic. Those on the leg are characteristic lesions, the center being lighter. The woman says the spots on the arms and face came first. She was born in New Orleans and lived there since 1853. She lives in the third district where the old Leper Hospital was situated. The color and thickening of the skin with the anesthesia confirms the diagnosis. This case has developed within six months. Dr. Dyer referred to an error that he made before his class. A patient came in with a lesion similar to those of the patient just seen, and Dr. Dyer made a diagnosis of erythema and dismissed the case. Two weeks later he examined the patient more thoroughly and changed the diagnosis.

Cases of the tubercular type were not shown, as they go very promptly to the home. The face is usually first attacked, and it does not require that they be sent to the clinic for diagnosis. The tubercular cases are in the majority.

Beside the leprosy cases he exhibited one of cystic epithelioma. The general condition of the patient's face is better than it has been for a long time. He has had at times as many as forty and fifty tumors existing together. Most of the spots on the body have disappeared. He has been under care for more than ten years. At first it was the custom to curette the growths, but it was found that it had to be done almost weekly, and at present resorcin is being used. The interesting thing in connection with this patient is that he had an attack of erysipelas about four years ago and the epithelioma did not disappear. In private practice Dr. Dyer is using the x-ray in these cases with good results. In this instance the patient has had the disease for about fifteen years.

Beside these cases of herpetiform dermatitis and nevus unius lateris were shown. In the latter case the Doctor remarked he had not seen the warty type of linear nevus disappear, but

the plain vesicular type he had. He has made it a rule in infants under 6 years of age not to interfere.

Another interesting case showed the effects of Unna's thiosinamin soap on a scar caused by fire. He also exhibited cases of infantile eczema which he called reflex eczema, a term for which he has fought during the last ten or twelve years. It is most common in boy children, and disappears after circumcision. If it occurs in girls regulation of the diet seems to favor its disappearance. The chief thing is to find the cause and eliminate it, then the simplest sort of treatment is effective.

Other cases of infantile syphilis, pediculosis lesions, psoriasis and chloasma in a colored person were also exhibited.

LIMITATIONS OF NON-SURGICAL TREATMENT IN ACUTE INTESTINAL OBSTRUCTION.*

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The term "acute obstruction of the bowel," broadly used, embraces all of those conditions, however varying in their etiology and pathology, which suddenly obstruct the lumen of the intestine to the extent of interfering with the passage of its contents. It is well known that the intestine may be obstructed by omental bands, fibrous bands, the result of peritoneal adhesions, as in appendicitis or peritonitis (*ante et post operationem*), by Meckel's and other diverticula, or at the neck of an internal or external hernia; that it may become kinked or twisted as in volvulus; that one segment of the intestine may become telescoped into a neighboring segment, as in intussusception; that the lumen of the intestine may be obstructed by gallstones, enteroliths, foreign bodies or its own normal contents; that it may be narrowed by pressure of tumors from without; that its lumen may be narrowed by benign or malignant strictures, or by the pressure of neoplasms or acute swellings arising within its own walls, and by the presence of embolism or thrombosis of the arterial or venous circulation of the bowel wall. Symptoms of acute obstruction may also develop suddenly in cases of malignant, syphilitic or gonorrheal stricture.

In all of the above enumerated conditions the obstruction may be said to be purely mechanical. Cases of apparently purely functional closure of the intestine—intestinal spasm—are recorded. Heidenhain and others report a few cases of purely spastic or reflex tonic contracture. In Heidenhain's cases, the contracture seemed to be complete and irreducible. Quintard[1] collected fourteen such cases from the literature. Quintard's list is doubtless incomplete, but nevertheless cases in which complete contracture of the intestine is thus brought about by reflex irritation must be quite rare. Perhaps operation and very careful direct ocular examination in these cases would have left fewer of them recorded as of purely reflex origin. It is well known, however, that the syndrome known as ileus, as a purely reflex phenomenon, may attend or be consequent upon torsion of the pedicle of an ovarian tumor, or pinching of the spermatic cord, and that in an inorganic or functional form it may be due to ptomain poisoning or to dysentery or other inflammatory conditions in the large or small intestine. No one knows how many cases of reflex or functional interference with the procession of the intestinal contents have been included in the list of cases of mechanical intestinal obstruction cured by internal therapy.

If a surgeon, speaking from the standpoint of a limited personal experience and observation, may assume to enumerate the forms of acute obstruction of the bowel which may be cured by internal medication, the writer would include the following: First, simple coprostasis. It should be borne in mind, however, that behind the picture of simple impaction may be hidden deep strictures benign and cancerous, or compression of the colon from without by adhesion bands, etc.; second, cases of incomplete stenosis of the small intestine from chronic peritonitis. Heidenhain states that many of these cases are cured by thorough and repeated rinsing of the stomach, the use of enemata and proper dieting; third, volvulus of less than 180 dgrees when involving the colon; fourth, reflex closure of the intestinal lumen. Medical treatment of reflex ileus is not only valid, but it is our best resource. The preparations of hyoscyamus are useful agents in this form of obstruction. A single hypodermic injection of morphin may, by one brilliant stroke, efface every symptom of a violent reflex ileus, as noted by Dr. Hugo O. Pantzer of Indianapolis. It is in ileus of the reflex type alone, however, that morphin is useful, and even in cases strongly suspected of being of reflex origin, the administration of morphin or antispasmodics should not be continued too long; fifth, functional obstruction due to dysentery or other ulcerative and irritative processes, such as ptomain or lead poisoning. In such cases the cause of the ileus may usually be removed by non-surgical methods; sixth, intussusception of the colon during the early stages.

Körte has called attention to the fact that the symptoms of incarceration of gallstones are often so similar to those of a suddenly developing ileus with obstruction of the bowel, that a mistaken diagnosis of stricture or volvulus may have been made. Celiotomy is clearly indicated in such cases. Cholelithiasis is, as is well known, a surgical disease, notwithstanding it is not necessarily fatal, and is occasionally amenable to medical treatment. The ileus produced by it should be relieved by surgical removal of the cause.

No doubt in very rare cases invagination has been reduced by the forced introduction of air into the rectum, or by high colonic injections of water, but that the vast majority of these cases must be given over to the surgeon, is, or should be, well known. A volvulus of 180 degrees in the first stage of the disease may be reduced by air or water; however, in cases of volvulus reaching 250 or 300 degrees, it becomes impossible to inject water into the closed-off segment. The stenosis is complete. No one would presume to be able accurately to estimate the amount of twisting of the bowel in any given case before operation, or to specifically diagnosticate volvulus at all. As for internal stenosis due to organic stricture, it is hardly imaginable that such a case could be successfully treated by other than surgical means, and it is generally taken to be undebatably concluded that obstruction due to bands, diverticula, strangulation of herniæ and the presence of neoplasms must be dealt with surgically.

It would be obviously very difficult accurately to determine the number and character of cases spontaneously relieved or cured by non-surgical means, since after the subsidence of symptoms and cure of the patient, the abdomen not having been opened, the nature and cause of the trouble must remain in the dark. We find ourselves here on the ground of pure hypothesis. We know how difficult it is to determine the exact nature of an

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

1. Murphy, Prac. Med. Series, 1901.

obstructing intestinal lesion by consideration of the external signs and subjective symptoms alone.

In cases of definitely diagnosticated mechanical obstruction of the intestine of any sort, there are few surgeons who, with instruments at hand, would adopt any less radical measure than that of operation. The non-operative methods of treatment may, under very extraordinary circumstances, be used in mechanical obstruction by one who, for various reasons, feels that he dare not open the abdomen. For one, however, with proper surgical means at his disposal, to stand by with folded hands, or deal with these cases by the so-called palliative means, requires upon his part a reckless degree of indifference indeed. The palliative means are nearly always ineffectual in cases of mechanical obstruction, are often deceptive in their effects, and are never free from danger.

Even very young children stand abdominal operations remarkably well, and there is no reason why a celiotomy, if indicated, should be withheld from an infant, even if it be only a few days old. Here the methods of inflation and injection are not devoid of danger. Knaggs reports eight instances of fatal injection. In seven of these ruptures occurred. In one case, that of a young infant, only nine ounces of water were injected when a rumbling noise was heard in the abdomen, which was immediately followed by death. (Maylard.)

It will appear to any one familiar with the anatomico-pathologic nature of the condition that the reduction of intussusception of the small intestine by the injection of water or air will hardly be possible after the onset of symptoms. It is doubtful whether in the adult it is possible to force water through the ileocecal valve. In the cadaver this may be done. Here the valve may leak, but it should be remembered that this phenomenon, though it may be demonstrated by the use of force in the cadaver, can hardly be produced in the live subject.

It must be conceded that in acute intussusception, the lesion being almost always in the small intestine, little can be gained by the injection of water. Irritating enemata may stimulate peristalsis in the lower intetine, and the movements may in some degree be transmitted to the small bowel. This will hardly suffice to release the intussuscepted small intestine if sufficient time has elapsed for the establishment of a clinical diagnosis: For by this time the intussuscepted bowel will have become quite thickened and choked, or even gangrenous. The employment of massage or taxis blindly through the abdominal coverings has never accomplished anything in any case of intussusception of which the writer has any personal knowledge. The toughness of the adhesions between the layers of the intussusceptum and the sheath or intussuscipiens and the rapidity of their development are extreme.

A few cases in which symptoms of intussusception had existed for from six to nine days have been, according to reports, relieved by the combined conservative methods. The Almighty only knows how many thousands have been lost through the employment of these so-called, but miscalled, conservative methods. Operation will conserve the lives of a certain small percentage of cases of intussusception. It represents, therefore, in the strictest sense, conservative treament. Many cases of successful excision of acute intussusceptions have been reported, and in many more cases lives have been saved by the employment of the at once less brilliant and less dangerous methods of operation.

A favorable result sometimes follows irrigation of the stomach and colonic injections of water, or insufflations of air. The physician permits himself to be deceived by the comparatively good condition of the patient, and operation is postponed until the patient is moribund, then an operation is allowed and surgery is charged with a mortality.

Successful treatment of intestinal intussusception is only possible by operation performed early, while tympanites is still slight and the patient is in relatively good general condition. Later, distension of the intestine becomes so great that often, with the abdomen opened, the most careful and zealous surgeon can not find the obstruction at all.

It would be well if there were unanimity of opinion among surgeons and physicians as to the proper treatment of a malady in which the mortality is not less than 75 per cent.

Laparotomy in such a case is always a dangerous operation, but the disease unoperated is distinctively more dangerous.

Nature has shown us the way to deal with intussusception. When, as rarely happens, she effects a cure, she does it by sloughing and gangrene and discharge of the intussuscepted segment through the bowel. It may seem quite superfluous for one to declare at this day the necessity for prompt diagnosis and prompt operation in cases of intestinal obstruction of this character. But the fact is that physicians, as a rule, are not promptly making differential diagnoses in these cases, nor operating them until the patients are *in extremis* with subnormal temperature, flickering pulse and abdomens blown out as tightly as a snare drum.

Already many successful operations for intussusception in young children are recorded. Karrsberg[2] operated on a boy 3 years and 9 months old, with invaginatio ileocecalis subchronica with complete success. Bryant[3] describes a case of acute double intussusception in a girl baby of 9 months, operated on twenty-four hours after the onset, with rapid recovery. A. B. Mitchell met a case of retrograde intussusception in a boy 4 months old. It was reduced by operation thirty-six hours after the appearance of symptoms and recovery followed. Wright and Renshaw[4] reported successful operation on a 3-year-old child with invagination of the appendix into the cecum, and Eve successfully operated on an intussusception at the ileocecum in a baby. Poppert of Giessen saved an 8-months-old child with intussusception by prompt operation, and Sells[5] also operated successfully on an infant 4 months old, 18 inches of the ileum having passed through the ileocecal valve. Several dozen similar cases have been reported. Northrup, on the other hand, reports relief of a child seven months old with intussusception by high colonic injections of water, and Ouvry[6] successfully treated a case of acute colonic invagination in a male infant 9½ months old by catheterization of the invaginated bowel.

The surgeon, however, will ask, with a shrug, whether these and other similarly palliatively treated cases were really intussusceptions. Relief in Northrup's case followed free movement of the bowels and the only indications of intussusception were a sausage-shaped tumor under the liver and bloody dejections.

Fitz's statistics give fifty-one cases treated without operation, with sixteen recoveries and thirty-five deaths (69 per cent.). Pilz reported in 1870 ninety-four cases in patients under 1 year, with a mortality of 84 per cent.

2. Hospitalstidende, 1896, No. 5.
3. Lancet, Oct. 12, 1901.
4. British Medical Journal, June 12, 1897.
5. Lancet, Aug. 31, 1901.
6. Gaz. Hebd., June 20, 1901.

From 1870 to 1891 135 cases in patients under 1 year gave a mortality of 59 per cent.[7] More recent statistics would show a much smaller percentage of mortality after operating, as the result of earlier and more skillful surgical intervention.

A case of invagination reported by Jaboulay[8] is instructive, for the reason that no operation was made, and the autopsy showed that surgery would doubtless have saved the patient's life. The case was received into the clinic forty-eight hours after the appearance of symptoms. There was no stercoraceous vomiting. On the following day there were bloody stools. Operation was withheld because it was assumed that after seventy-two hours the vitality of the intestine must be practically lost, and, moreover, the lesion could not be accurately located. Administration of opium was followed by improvement, then the symptoms grew steadily worse. At the autopsy on the tenth day there was found a high intussusception (about 18 inches from the stomach) which was readily released by delicate traction. The intestine was in relatively good condition.

When considering operation, it often becomes a difficult matter to determine whether a given condition of ileus has been mechanically produced, or produced by peritonitis, for it is well known that the most vicious peritonitis may proceed without fever. Lejars has called attention to the fact that tubercular peritonitis may produce all the phenomena of intestinal obstruction without the slightest mechanical obstruction being present. Here the doubt should weigh in favor of operation, for since the operative treatment of peritonitis promises relatively good results, the operation is therefore specially indicated. In point it may be mentioned that Turner[9] operated on a case of obstruction due to tubercular peritonitis with prompt recovery and rapid disappearance of the peritoneal tubercles.

Volvulus or twisting of the intestine is a comparatively rare cause of obstruction. There are, in most cases, no symptoms sufficiently distinctive to admit of differentiation from obstruction due to other causes. Were it possible to diagnosticate these cases, they would in the very nature of their development and formation lend themselves rather favorably to treatment by abdominal taxis, or if in the colon, to treatment by injection or inflation. Rigorous shaking with manipulation of the abdomen, and stimulation of peristalsis by enemata may rarely untwist the involved gut. As a matter of record, however, it is rarely indeed that anything avails in severe cases except operation, and the same rules regarding early operation should apply here as apply in cases of mechanical obstruction of other forms.

The direct untwisting of the volvulus before great thickening and destructive changes have taken place in the obstructed part is often comparatively easy. A few days will place its reduction beyond the highest skill of the surgeon.

In early operation lies our greatest hope in all cases of mechanical intestinal obstruction. Naunyn collected from the literature 288 cases of operation for ileus. From the record of these cases it appears that by far the best results were obtained after operations on the first or second day after the beginning of symptoms. Results of laparotomy for intestinal obstruction in individuals suffering from hernia were particularly fortunate. These were, of course, not cases of incarcerated hernia, but cases of ileus as the result of stasis, adhesions and torsions in the neighborhood of the hernial openings.

The reason for the surprisingly good results in these hernia cases is to be sought in the fact that the operators knew where to look for the obstruction, and operated early. This fact forcibly impresses one with the value of accurate localization of the obstruction before operation, and early operating. The fact seems to stand forth in very clear light that in all diagnosticated cases of mechanical obstruction, and all cases in which there is doubt as to the nature of the obstruction, the so-called conservative methods, the administration of morphin, stomach lavage, injection and inflation of the colon are not only almost valueless, but often really dangerous. Morphin is especially treacherous. In giving it we "fall back upon the soft pillows of Providence," in most instances stultified and deceived, awaiting the messenger with the inverted torch.

In paralytic reflex ileus following abdominal operations, it must be conceded that the expectant plan of treatment is the better to follow. Unfortunately, it is not easy to distinguish this form from mechanical ileus; moreover, the former may develop into the latter. Here, again, doubt must weigh in favor of operation.

Post-operative adhesions producing obstructions must be dealt with promptly by reopening of the abdomen. In such adhesions are assumed to be present when oil and salts in generous doses fail to pass the intestine, and high colonic injections administered by one who really understands how to fill the colon with water fail to give relief.

The value of laparotomy as a purely diagnostic measure should not be underestimated. Notwithstanding Treves, Maylard and others have laid down very useful rules and precepts for differential diagnosis in intestinal obstruction, it is nevertheless very well known by those who frequently deal with these cases that the exact nature of the lesion is rarely made out before anesthesia has to some degree relaxed the abdominal wall, and usually not until the abdomen has been opened and the cavity explored.

In addition to the great number and variety of conditions which are well known as causes of intestinal obstruction, there are many which we would hardly consider as common causes of acute ileus, yet they are causes, and they are purely surgical conditions, and can be dealt with in no other way. For example, a case of obstruction due to cyst of the ileum and cecum is reported by Hochenegg, and Magnoux reports a case of invagination due to the presence of a myoma. This author collected from the literature reports of eleven cases in which this condition was caused by myoma. Morison records a case of obstruction due to polypus of the small intestine.

Neoplasms of the intestine may suddenly produce symptoms of obstruction of the bowel without previous warning. It is probable that in such cases hypertrophy of the muscularis above the obstruction compensates for the narrowing of the lumen, but with the lodgement in the constricted segment of some unusually large or hard mass of intestinal contents, an acute fulminating ileus suddenly develops. The sudden appearance of ileus does not always mean that a recent lesion is the cause.

It has been said by Treves that in ileus too much prominence must not be given to the mere circumstance that the bowel is obstructed, that to be sure obstruction of the bowel is often the prominent symptom, but not the sole basis upon which the malady depends. It can hardly be denied that the issue of a given case will

7. Fischer, N. Y. Med. Jour., Feb. 21, 1903.
8. Province Med., 1896, No. 5.
9. Lancet, April 12, 1902.

depend more or less directly on the length of time during which the intestine has been obstructed, regardless of whether the intestine be strangulated or plugged with its own contents. But mere plugging will not often produce the classical condition of ileus. The bowel may be completely plugged for weeks, and the patient make a good recovery. If, however, the intestinal wall be strangulated, its circulation blocked, the symptoms immediately become urgent: Here we must think of "strangled vessels," and beginning gangrene. Unfortunately, we too often confuse these cases of strangulation with mere obstipation or impaction.

It should be borne in mind that the condition of ileus with strangulation of the bowel is very rarely produced by mere plugging, and that when the symptoms of genuine ileus appear, nine times in ten the time of usefulness of the syringe and the enema is gone. I would not place a low appreciation upon the colonic douche. Its proper use requires brains and art and patience, and in no case should radical surgical means be considered until the colonic douche has been faithfully tried, but as a rule lavage of the stomach, inversion of the patient and colonic injection of oil, air and water are at best only palliative. Capillary puncture, abdominal massage and the administration of opium are perilous and reprehensible in practically all cases. With prompt diagnosticating, prompt operating and better operating the mortality will be steadily lowered.

It may be said that, as a rule, the urgency is not so great in obstruction of the large intestine as in closure of the small gut. In the former sedatives, hot stupes, taxis and enemata may be justly employed for a longer time than in the latter.

To some it might seem unnecessary to urge the necessity for early operation in cases of intestinal obstruction with ominous symptoms. This excludes mere obstipation, for the reason that impaction *per se* does not produce severe symptoms, as before observed, but physicians, for the most part, are for some reason not recognizing intestinal strangulation promptly enough, except it be consequent upon sudden descent of a hernia, and are not promptly advising operation.

It is a dangerous surgeon who counsels operation merely for the sake of operating, and who would operate in a "stable with a pocket knife," but he who bears the name of surgeon, and who is adequately equipped, and can provide a reasonably aseptic environment, but who stands by with folded hands, resigning these cases to Providence and the rectal douche, is ten times more dangerous. The surgeon who does not realize the limitations of his art is a dangerous man indeed, and he who is not aware of its possibilities is useless. But no man is more dangerous nor more useless in his community than the physician who would cling to a case of mechanical strangulating intestinal obstruction which he has been unable to accurately diagnosticate, and which he has not the facilities nor the intrepidity to treat in the only way which avails, that is by operation.

Abuse of the Medical School at Zurich in a Novel.—A Swiss authoress has written a novel which claims to portray the life of a medical student at Zurich. It is abusive in tone and has aroused much indignation. Professor Krönlein has written to the daily press explaining away the misconceptions, and a mass meeting of the students was held to protest against the statements in the book. The writer was a student in the literary course at the university. Her novel has been widely advertised by the protests, which is perhaps what she intended.

BACILLARY DYSENTERY (SHIGA).*

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GENERAL REMARKS.

Dysentery has been, from the earliest times, a disease of great importance, and especially has this been the case in the tropics and in the camps of great armies in the field. My own impression, gained from something over two years' service in the tropics, is that intestinal disorders far outnumber all other diseases, and that of these, dysentery is of overshadowing importance; both on account of its high rate of mortality, and because of the invaliding which results from it.

In the medical history of the War of the Rebellion something over 259,000 cases of acute dysentery and 28,000 cases of the chronic type are reported to have occurred in the Federal Army alone; and, again, during the Spanish-American War the same disease played havoc among our troops in Cuba, Porto Rico and the Philippines; in the South African campaign it was also widely prevalent.

In the tropics it is endemic at all times, and its importance may be gathered from the observations of Strong that of 1,830 cases in soldiers admitted to one hospital in Manila in sixteen months, only one-third were returned from there to military duty, and that the deaths from dysentery in the Army in the Philippines were nearly four times as great as from any other single disease.

For many years an epidemic form of bacillary dysentery has prevailed in Japan in the late summer and fall; in 1899, there were some 130,000 cases, with more than 26,000 deaths.

The disease occurs all over the world, increasing in frequency and importance the nearer we approach the tropics. In the temperate zone it occurs sporadically, at times assuming an epidemic form, which, even in cold climates, may be widespread and fatal; and this is especially apt to be the case in institutions such as insane asylums, or other places where there is overcrowding and bad hygienic conditions. Dysentery is especially a disease of the late summer and autumn, and in the tropics is most prevalent toward the end of the rainy season, though it occurs at all seasons. Age and sex have apparently no other influence than that resulting from the greater exposure incident to the life of the male adult.

ETIOLOGY.

The dysenteries have been variously classified on epidemiologic, clinical and pathologic-anatomic grounds, and the varieties described by different authorities have been as numerous as their points of view.

On the one hand, some writers believe in the essential unity of all the dysenteries, while on the other it has been held that many forms of bacteria and several varieties of amebæ were each responsible for a particular form of the disease. Since the discovery by Losch, in 1875, of amebæ in the stools of dysenteric patients, these organisms have been regarded as the cause of tropical dysentery by many authorities. Between that date and 1897 nearly all the varieties of intestinal flora have been accused of being the causative agents of dysentery; but it was not until the latter year that Shiga, studying an epidemic of acute dysentery in Japan, was able to dem-

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onstrate the constant presence, in the intestinal discharges and in the inflamed mucous membranes, of bacilli which were not found in the intestinal tract of healthy subjects or in those suffering from other diseases, and using the agglutination test of Widal, announced the year before for typhoid fever, proved that the blood serum from his dysenteric cases gave the specific agglutination with the newly-isolated bacillus.

Flexner, in 1900, found the same bacillus in dysenteric stools in Manila, but was not satisfied that it was a specific organism. Later in the same year Strong and Musgrave confirmed his findings, and expressed their belief in the specific character of the organism. Since then the same bacillus has been isolated from dysenteric stools by Krause in Germany, Flexner and Duval and Vedder in the United States, Deycke in Turkey, Frosch v. Drigalski and Conradi in Prussia in the dysentery supposed to have been brought from China during the recent war, and by Foulerton among the English troops from South Africa. Still more recently Duval and Bassett have isolated the same bacillus from the stools in the summer diarrhea of infants.

It thus seems to be established that there are, etiologically, at least, two distinct types of dysentery, one ordinarily acute and due to the *Bacillus dysenteriæ* of Shiga, and the other usually chronic without the Shiga bacillus in the stools, and due to the ameba dysenteriæ. To the bacillary types belong the epidemic dysenteries, and the sporadic dysenteries of temperate climates, as well as the summer diarrheas of infancy.

Bacillary dysentery, then, is an acute infectious disease due to the *Bacillus dysenteriæ*. It is characterized clinically by frequent loose passages containing blood and mucus, by pain in the abdomen, tenesmus, and more or less fever.

Anatomically, there is catarrhal inflammation, fibrinous exudation, coagulation necrosis, and finally, ulceration. The inflammation affects chiefly the large intestine, but sometimes the lower end of the ileum is involved as well.

THE BACILLUS DYSENTERIÆ.

These bacilli are small rods with rounded ends, resembling the typhoid and colon organisms. They are slightly motile, flagellated, stain with ordinary dyes, decolorize with Gram, and do not liquefy gelatin. Their resisting power is slight, being readily killed by weak antiseptic solutions, and by an exposure of half an hour to sunlight.

The bacillus is not readily found in the evacuations for the first few days nor in the subacute and chronic stages, but by the end of the first week it is found abundantly in the blood and mucus discharges. Toward the end of the attack it disappears to reappear in relapses.

In the intestines it is found in the fresh exudate and in the deeper layers of the ulcers. It is also found in the mesenteric glands, but never elsewhere.

The blood of dysenteric patients agglutinates the *Bacillus dysenteriæ* in dilutions of 1 to 20 to 1 to 130, depending on the severity of the case and the stage of the disease. According to Shiga, this alone is not sufficient evidence, and to be positive the agglutination should progressively increase in intensity. Agglutination appears, according to Strong, as early as the third day, and is usually marked by the fifth or sixth day; but, according to Shiga, it is not positive until the second or third week, and is not therefore, of great importance in diagnosis. It has been found as late as eight months after recovery.

The value of the bacillary diagnosis is lessened by the fact that the bacilli can not often be found in the early stages or in the mild cases, but when the morbid process is low down in the colon or in the rectum, they can generally be found without difficulty. Agar plates are made in the usual manner, and after twenty-four hours' incubation the colonies are examined, and those which are least developed and most transparent are tested as follows:

1. Agglutinating capability with immune serum.
2. Cultivation upon glucose-agar.
3. Cultivation in milk.

If the agglutination reaction is positive, no gas is produced, and milk is not coagulated, the microorganism is *B. dysenteriæ*.

Shiga gives the following proofs that his bacillus is the specific cause of dysentery:

1 It is present in all cases.
2. It is never found in other diseases or in healthy persons.
3. Its presence in the stools corresponds in degree with the intensity of the morbid process.
4. It is found in the lesions in the intestinal wall.
5. It, or its toxins, cause intestinal hemorrhage.
6. It is agglutinated only by the blood of dysenteric patients.
7. The agglutinating power of the blood increases in intensity with convalescence.
8. Pfeiffer's reaction is marked.
9. Immune serum is of therapeutic and prophylactic value.
10. The infection of man: this occurred in one case where a pure culture was intentionally given to a condemned criminal, and in another where a culture was accidentally drawn into the mouth. There have also been at least two other cases of accidental laboratory infection.

PATHOLOGIC ANATOMY.

The lesions are those of a catarrhal, diphtheritic and sometimes hemorrhagic inflammation of a part or the whole of the large intestine, and occasionally of the lower portion of the small intestine.

The inflammation is most marked opposite the flexures of the colon because of the tendency of fecal masses to lodge there and set up inflammation through irritation. The changes begin in the mucosa and extend to the deeper parts, in contradistinction to those of the amebic type, where they are most marked in the submucosa. There is extensive coagulation necrosis; but, according to Strong, few or no real ulcers. Shiga, in Japan, reports the colon as riddled with small, shallow, clean-cut ulcers. The anatomic picture, however, is very different from that of amebic dysentery, with its large, ragged ulcers and undermined edges, not infrequently resulting in perforation. The submucosa is much thickened and infiltrated, the peritoneal coat is sometimes inflamed, and occasionally there are adhesions and hemorrhagic spots. Perforation seldom or never occurs. In the superficial layers of the inflamed region all sorts of bacilli and cocci are found; but in the deeper layers and in the adjacent inflamed and swollen mesocolic glands the *Bacillus dysenteriæ* is found in pure cultures.

When the small intestine is involved the changes are the same as in the colon, except there is not so much thickening of the submucosa.

The liver and spleen are not involved, while in the amebic type liver abscess is common.

MODE OF CONVEYANCE.

The disease does not appear to be directly contagious. The bacillus must be taken into the mouth, and this is accomplished ordinarily through the medium of infected drinking water. It may occur through infected milk

or uncooked foods, and it is possible that it occurs from contamination by the dust from infected soil, and may be carried by flies in the same manner as in typhoid fever.

Intestinal disorders, indigestion, improper food, exposure to cold and wet, starvation, overcrowding, and, indeed, all bad hygienic conditions are strong predisposing causes.

CLINICAL HISTORY.

General Description.—The incubation period is very short, usually not more than two or three days, while in one case where a pure culture was intentionally swallowed, dysentery resulted within twenty-four hours. In another instance where a small quantity of a liquid culture was accidentally drawn into the mouth, the same result followed in less than forty-eight hours. In still another case where infection was supposed to have occurred through the rectum from the use of an infected chamber, the incubation period was twenty-four hours.

Ordinarily, the disease comes on suddenly. Often the patient goes to bed well and wakes up in the night with pain in the abdomen, followed by diarrhea, the movements becoming more and more frequent, until they consist almost or entirely of blood and mucus. The number of movements varies from a dozen to fifty or more, and may be over a hundred in the twenty-four hours. There is more or less fever, intense thirst, much restlessness, coated tongue, straining at stool, and finally the movements become almost constant and involuntary. The swollen and infiltrated intestine can often be felt through the abdominal wall, and is very tender on pressure.

The disease is ordinarily of short duration, not more than ten days or two weeks. Before the end of the second week many cases will have terminated in death or convalescence, or the disease may gradually assume a chronic type.

Special Features.—The mode of onset is almost always sudden. The facial aspect in the early stages is anxious and expressive of suffering; toward the end it becomes apathetic. Fever is generally present, of irregular type and variable in amount, often reaching 103 F. to 104 F.; toward the end there may be a sudden fall to subnormal, a very unfavorable sign, or there may be a sudden rise. Rigors are rare. The skin at first is hot and dry, but toward the end it may be cold and clammy.

The pulse is rapid and often small and weak; death usually results from cardiac exhaustion.

The tongue is coated white, and at first is moist, but later becomes dry and glazed. Vomiting is unusual, though it does occur. Thirst is usually marked and persistent. The stools, at first diarrheal, soon consist of mucus and blood only; in the chronic stages there is an admixture of pus. Hemorrhage is rare, but does occur.

Abdominal pain is commonly marked, and there is tenderness over the seat of the lesions in the colon. The spleen and liver are not ordinarily enlarged or tender.

The blood changes are not very important. The white corpuscles, especially the polymorphonuclears, are usually moderately increased, though they may be diminished, especially in the fatal cases. The red corpuscles, at first increased through the loss of fluids by the bowels, are later diminished on account of the loss of blood in the stools.

Pulmonary complications may occur, especially broncho-pneumonia. The nervous system is not markedly affected unless the lesions are high up in the colon or in the small intestine; delirium may occur toward the end of fatal cases.

The urine is often diminished in amount and retention occurs. Sometimes there is a small amount of albumen, and occasionally there is an acute nephritis. Parotitis is an infrequent complication.

Shiga states that the general symptoms are due to the absorption of the products of the solution of the bacilli themselves, and not to toxins produced by them; that these symptoms are not so marked as in typhoid fever is due to the location of the lesions in the less readily absorbing large intestine. Sometimes the lesions are higher up in the small intestine, and then the disease is much more grave and the toxemia marked. Symptoms such as high fever, headache, pains all over the body, sleeplessness, stupor, delirium, ecchymoses, etc., appear, and when the rectum is much involved, tenesmus is marked. The disease has a constant tendency to ascend, and the higher up the lesions the more marked the toxemia, the larger the stools and the greater the gravity of the case.

ASSOCIATION WITH OTHER DISEASES.

The older writers, particularly Manson, seemed to think that the disease is often associated with malaria; but this view is opposed by Strong as a result of his experience in the Philippines.

There have been, however, a number of cases of double infection with the ameba and with the Shiga bacillus.

There are two types, or rather stages, of the disease; the acute form or ordinary epidemic dysentery of the tropics and temperate zones, and the subacute or chronic stages following the acute.

DIAGNOSIS.

Local rectal troubles causing blood and mucus discharges, such as hemorrhoids, polypus, malignant disease, etc., are to be excluded by direct examination. The most important differentiation is that from amebic dysentery, and this is often not possible from a consideration of the general symptoms alone. The most important points are the sudden and severe onset, the rapid course, high mortality, and epidemic occurrence of the Shiga dysentery, as contrasted with the more gradual and milder onset and course of the amebic disease and the endemic prevalence of the latter. The amebic type is, however, sometimes acute in its onset. Liver abscess seldom or never occurs in the bacillary disease, while it is common in the amebic form. In amebic dysentery, except when complicated with liver abscess, toxic symptoms, such as fever, malaise, headache, anorexia and nervous symptoms, seldom occur.

The specific tests are the only reliable ones; the isolation of the bacilli from the stools and the agglutination tests for the Shiga organism, and the finding of the ameba in the stools in the amebic type. The bacilli are found in the stools in all severe cases of Shiga's dysentery as early as the end of the first week in the acute stages, and sometimes in pure cultures. They may not be found in the later stages, and they are never present in the intestinal tract of healthy persons.

PROGNOSIS.

This depends on the severity of the epidemic and extent of the lesions. If the rectum and sigmoid flexure only are involved, the prognosis is favorable, while if the whole large intestine, and especially a portion of the small intestine is involved, it is very unfavorable. Nervous and other toxemic symptoms indicate such involvement, and are hence unfavorable signs. Failure of the agglutination reaction to increase in intensity is also a bad omen.

The disease is always a grave one, the mortality ranging in the Japanese epidemics from 30 to 40 per cent. Recovery is rare in the more severe cases, and death usually occurs in the first ten days. Those who do recover are left very much weakened and emaciated, but usually without the digestive disturbances which so often follow amebic dysentery.

PROPHYLAXIS.

In the treatment the same precautions to prevent extension of the disease are required, as in typhoid fever; the most important of these consists in thorough disinfection of the discharges from the bowels and everything liable to have been contaminated by them, including the hands of attendants and instruments and appliances used about the patient. Personal prophylaxis includes also the use of water that has been sterilized and the avoidance of uncooked fruit and vegetables. The disease is a preventable one, and with military commands it should be prevented whenever it is possible to control the water and food supply of the men.

TREATMENT.

In the acute form the first essential is absolute rest in bed, with sufficient covering to protect from cold and draughts. Diet is also of the utmost importance, and should be exclusively liquid, and of such a nature as to be completely digested in the stomach. Milk is the best food, and may be given plain, peptonized or diluted with carbonated water or lime water; in the form of koumyss it is also well borne. All drinks should be tepid or warm, and given in small quantities at a time, and at frequent intervals. When milk is seriously objected to or can not be borne, strong broths of beef, mutton or chicken may be used; albumin water is of value in very severe cases. Stimulants may be given if needed, and the best is good brandy in the form of milk punch, or an occasional egg-nog.

The success which has been attained in Japan with the specific serum treatment instituted by Shiga gives that method the first rank in the consideration of therapeutic agents. Having had no experience with the method myself, I quote from Shiga's own article in the Twentieth Century Practice:

IMMUNIZATION OF HORSES AGAINST DYSENTERY.

An agar culture of the *B. dysenteriæ* which has been maintained at the incubator temperature for twenty-four hours is emulsified in normal saline solution and heated at 60 C. for one-half an hour. This mixture is then inoculated subcutaneously into horses in the usual manner, beginning with small doses which are gradually increased in amount. The immunization can be more easily produced if immune serum is added to the emulsion of the dysenteric bacilli, because abscesses which reduce the vitality of the animal are often produced at the site of the inoculation when bacilli alone are employed.

PRACTICAL SERUM TREATMENT.

Dysenteric serum, like typhoid serum, is bactericidal, but in practice the former gives much better results than the latter. According to my opinion, this is due to the localization of the lesions and the toxic symptoms. In dysentery, the lesions are usually localized in the rectum and lower portion of the large intestine, whose physiologic function is principally mechanical, and where absorption of the food does not take place as in the small intestine. The toxic symptoms are intimately connected with this localization, against which bactericidal serum is valueless. Such symptoms in dysentery are happily less prominent than in typhoid fever. This is the chief reason for the favorable influence of dysenteric serum. This conception also accounts for the very unprofitable prognosis in enterodysentery.

RULES FOR ADMINISTRATION.

In accordance with my researches I have formulated the following rules for the administration of dysenteric serum for use in the Institute for Infectious Diseases in Tokyo:

1. In mild cases the serum is inoculated once in a dose of 6 to 10 c.c.

2. In cases of medium severity the serum is twice inoculated in doses of 10 c.c. The interval is from six to ten hours.

3. In severe cases the greatest quantities of serum are inoculated (about 60 c.c.). The daily dose does not, however, exceed 20 c.c.

By serum treatment the disease in its first stages is quickly cured or remarkably ameliorated. In advanced or inflammatory stages the effects produced are about as follows: The number of stools is markedly diminished (generally reduced by halves for three successive days, followed by rapid recovery), the tormina and tenesmus decrease, the blood in the stools diminishes or entirely vanishes, the abdominal pains lessen, the fever vanishes, the appetite increases, and the general condition is much improved. In the ulcerative stages the action of the serum is not so pronounced as in the earlier stages, nevertheless healing of the ulcers with cicatrization often takes place. In such cases the fever is reduced, the number of stools is markedly diminished, the general condition is improved, and the appetite increases. In this stage even the results obtained are far better than those given by any other method of treatment.

By the serum treatment the course of the disease is shortened in those who recover, and lengthened in those who die. Of the 510 cases which I have treated (298 with serum and 212 with drugs) the entire course (counting from the beginning of the sickness to the discharge from the hospital) was on the average as follows:

	Recovered.	Died.
Serum treatment	25 days.	16 days.
Symptomatic treatment	40 days.	11 days.

The mortality of dysentery varies according to the climate, the epidemic, etc.; in order to estimate properly the value of the serum treatment I will here record the mortality in hospital treatment.

The mortality by the use of the serum treatment was reduced one-third below that given by symptomatic treatment, and was less than one-half the minimum obtained by such treatment.

MORTALITY IN HOSPITAL TREATMENT.

Year.	Place.	Treatment.	Number of Cases.	Deaths.	Percentage of Deaths.
1895	City Hospital	Symptomatic.	38	22	55.0
1896	City Hospital I.	"	221	86	39.0
1896	City Hospital II.	"	6	2	33.3
1897	City Hospital I.	"	336	143	42.4
1897	City Hospital II.	"	4	1	25.0
1897	City Hospital III.	"	767	304	39.6
1897	Inst. for Infec. Dis.	"	34	8	23.5
1898	City Hospital I.	"	178	73	42.0
1898	City Hospital II.	"	385	141	36.6
1898	Inst. for Infec. Dis.	Serum.	65	6	9.2
1899	City Hospital I.	Symptomatic.	98	32	32.6
1899	City Hospital II.	Serum.	88	11	12.5
1899	City Hospital III.	Symptomatic.	481	105	22.0
1899	Inst. for Infec. Dis.	Serum.	105	5	8.5
1900	Inst. for Infec. Dis.	"	40	5	12.5

Certainly this is a showing which encourages us to give the serum treatment a careful and extended trial. But Shiga says:

Whether or not serum-therapy is employed, suitable cathartics and enemata should always be administered, since these tend to limit the upward extension of the disease. For this purpose I generally order 0.5 grams of calomel, to be given twice, or 10 to 15 c.c. of castor oil, which is to be given but once. Thereafter, enemata of 1 per cent. saline or soda solution should be given once or twice daily. Combined with the serum treatment I generally order acid or alkaline drinks or red wine.

MEDICAL TREATMENT.

This may be considered under two headings, antiseptic and eliminative treatment. Of antiseptics, those

usually employed are calomel, bichlorid of mercury and salol. All these have been highly praised and extensively used, but with the exception of calomel, which at times is very useful as an eliminative agent, it is doubtful if any of them have real value.

The most important eliminative agents used are the saline laxatives, especially the sulphates of soda and magnesia; ipecac in large doses is also highly recommended.

These remedies act first by emptying the bowels of all irritating fecal matter and then mechanically flushing them out, sweeping out at the same time many of the bacilli and their toxins.

Some physicians use the salines in large doses and only at the beginning of the disease, while others use small doses frequently repeated until blood and mucus disappear from the stools.

The ipecac treatment is very popular with the British, more especially in the British Indian service, but it has never gained much of a foothold among the profession either here or in our tropical possessions. In this method no food is given for several hours, then a mustard plaster is applied to the epigastrium and twenty or thirty drops of laudanum given by the mouth; half an hour after the laudanum two grams of ipecac are given in bolus or capsule, and the patient kept perfectly quiet with head low. If the medicine is rejected by vomiting it is repeated after an hour or two; if it is retained it is nevertheless repeated after eight, ten or twelve hours, according to the effect produced, the object being to secure a feculent movement free from blood and mucus.

My own plan, as a result of experience gained in the tropics and the southern states, is to give 10 grams of Epsom salts in half a glassful of water every hour until a movement is obtained free from blood and mucus. This method is combined with irrigation of the lower bowel with warm normal saline two or three times a day, and as soon as the movements assume an ordinary diarrheal character astringents, such as bismuth subgallate in large doses, combined perhaps with a little Dover's powder, are given every three or four hours; should blood and mucus reappear, the saline flushing is repeated. The lower down in the bowel the lesions are seated the more important becomes the local treatment by irrigation.

In convalescence great care is required in the management of the diet. These patients are usually greatly weakened and emaciated, and a slight indiscretion in regard to food will often cause a serious relapse. Only liquids or very soft and digestible solids should be used for some time after the movements become normal. A change of climate or a sea voyage greatly hastens recovery, and for patients in the tropics is often essential.

TREATMENT OF THE SUBACUTE AND CHRONIC STAGES.

In the subacute and chronic stages of the disease the treatment is somewhat different, but even here salines may often be used with advantage in the beginning. Local treatment is, however, of the first importance in these cases; the patient should be given an anesthetic, the sphincter well stretched, and the rectum carefully examined with the speculum to detect ulcers. These ulcers will often be found with a little pocket at the lower end in which fecal or other foreign matter lodges, keeping up the irritation. These pouches must be slit up to the bottom, scraped with the curette, or touched with pure carbolic acid or lunar caustic; after this the use of warm saline injections two or three times a day with proper diet suffices to effect a cure. When the lesions are higher up nitrate of silver injections, 1 to 500 or 250, are given every day or every other day; the injections should be large, two or three pints, warm, and given slowly through a tube introduced 12 or 15 inches; the patient should be in the left lateral position with the hips raised. Internally, large doses of dermatol are useful in these cases.

MALARIAL DYSENTERY.*

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One has but to review the literature of dysentery to arrive at the conclusion that there is no fixed etiologic factor in this disease; that the lesions, which are mainly confined to the large intestine, are quite characteristic, but are induced by several different agents, is a pretty constant finding, and is worthy of consideration.

The *Amœba coli* is designated as the specific causative factor of dysentery, but here one is confronted with the fact that these bodies are found in less than one-half of the cases of all varieties and stages of the disease, and that the colon may be the normal habitat of amebæ, not only of this, but other amebæ—*Amœba guttula, diaphana, vermicularis, oblonga, reticularis and proteus*—which, it may be, are quite as culpable as *Amœba coli*. Moreover, these bodies are usually accompanied by other organisms, some pathogenic, and others which, by the proper environment, may be made pathogenic. Again, injections of amebic stools into the bowels of laboratory animals have not produced dysentery, and on the other hand, ameba-free stools injected in like manner have produced the flux. *Amœba coli* occurs nearly constantly in the pus of about half of the cases of liver abscess from dysentery; bearing out the contention of Councilman and Lafleur that amebæ are found, not alone in the pus and on the walls of intestinal ulcers, but in the tissues around them, they could not, therefore, reach the liver without some such portals of entry. I quite agree that the *Amœba coli* is one of the agents in the etiology of dysentery.

The work of Shiga, Flexner and others have given the profession a ray of hope looking to the minimizing of the agents of this great scourge, but up to the present we are only able to say that there are "forms of dysentery," under which heading "several diseases unlike in their etiology and pathologic anatomy and, occurring under different conditions of climate and locality, although resembling each other to some extent in their symptoms." Thus we have dysenteric and diarrheal symptoms accompanying typhoid infection, pneumonia, bronchitis, hepatitis, abscess of the liver, etc.

Celli and Fiocca believe that the *Bacterium coli communis* is the etiologic factor in dysentery; this in connection with a bacillus resembling the typhoid bacillus and streptococci induce dysentery. Flexner has observed in the Philadelphia Hospital one case of dysentery, where the *Bacillus dysenteriæ* was found, and states that further observations are necessary to determine definitely whether this form of disease prevails in this country.

In short, it seems the part of wisdom to admit that in so far as there is a distinct, definite causative factor in the production of the fluxes, we are largely in doubt.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

Thus, desultorily, I am lead to the subject of this paper. I could not better begin than by quoting from Manson: "In respect to geographic distribution and certain epidemiologic points, tropical dysentery bears a close resemblance to malaria. Like malaria, although dysentery is found in temperate climates, in them it is, with exceptions, a comparatively rare and mild affection. Like malaria, as we approach the Equator dysentery tends to become more common, and in type more severe. Like malaria, it is endemic in certain spots, where it often appears in sporadic form, and, at times, in limited local epidemics. Like malaria, it may extend beyond these endemic spots and involve more extensive tracts of country. Like malaria, it appears to have a predilection for low-lying damp places; and, like malaria, when occurring in temperate climates it is most prevalent in the late summer, or in early autumn. Like malaria, it tends to disappear on the cultivation and drainage and improved sanitation of a country."

In looking over the "Medical and Surgical History of the War of the Rebellion," I have been struck by the apparent accurateness of the observations of the medical officers on the "Pathologic Anatomy and Pathology of Malarial Disease," and the deductions drawn therefrom, measured by the present-day knowledge of the pathologic conditions brought about by the malarial parasite.

The postmortem notes, so far as required for our subject, are as follows:

Stomach.—In 21 of the cases the condition of the stomach is not stated; it was normal in 5 and constricted in 1. In 13 cases a morbid condition was specified thus: In 4 the organ contained a green-grumous or mud-like liquid; in 3 its mucous membrane was congested; in 1 softened; in 1 slate-colored; in 1 thickened, and in 4 ecchymosed.

Intestinal Canal.—In 6 of the 40 cases the intestines were reported healthy; in 9 their condition was not stated. In 13 of the remaining 25 cases the large and small intestines, so far as can be ascertained from the phraseology of the reports, were both affected. Five of the cases were much congested or inflamed, but not ulcerated; in the first-mentioned, for instance, the canal was almost black from the engorged condition of the capillaries, and coagulated blood was found in its interior. In 1 of the 13 cases the mucous membrane was softened, and in 7 ulcerated; in 2 of the latter the duodenum alone was ulcerated, although the canal was generally highly congested; in 1 the ulcerations were reported as slight; in 1 as old; in 1 as large and in 1 as small, and in 1 as associated with a congested condition of the mucous membrane. In 6 of the 25 cases the condition of the small and large intestines is specifically stated: In 1 both were inflamed, but the patches of Peyer were not diseased; in 1 both were much congested and ecchymosed; in 2 deposits of black pigment were found in the large intestine, while the ileum in 1 was but slightly congested, and in the other merely stained with bile; on the other hand, the patches of Peyer in 1 presented the pigmented appearance, while the rectum was ulcerated; in 1 the mucous membrane of the ileum was softened and thickened, that of the colon congested. In the remaining 6 of the 25 cases the small intestine or ileum only was affected. In 3 it was congested, in one of which the patches of Peyer and the solitary glands were enlarged; in 1 it was ulcerated; in 1 congested to a purple color, which presented a deeper tint in the apices of the solitary glands, although the patches of Peyer were unaffected; in 1 also there was a deeply colored congestion which was especially marked throughout the jejunum.

I might quote the parallel observations of Maillot and of Laveran on the incidence of dysentery in malaria among the French troops; many others have contributed thoughts along this line. Craig, in his book on Estivo-Autumnal Malaria, leans very pronouncedly to the plasmodium as a causative factor in diarrhea and dysentery.

I have seen many, many times cases of dysentery respond promptly to quinin treatment. I am not now possessed of the case notes in these cases, but I remember well to have had a small epidemic of dysentery, each case of which began with the algid form of pernicious malaria. These were not merely of the catarrhal character, but there was "chopped meat" discharges, evidence of some sloughing. All of these cases—about 12 in number—responded to ordinary antiseptic irrigations, gland arousement and quinin in a week or less. Convalescence rapid.

Lastly, malarial parasites have been found not infrequently in the vessels of the mucosa and submucosa in cases of malarial dysentery coming to necropsy.

NOTE.—The discussion on the symposium including the papers of Drs. Mason and Burns will follow later.

TRAUMATIC PNEUMONIA.*

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The compound term "traumatic pneumonia" implies association of injury with disease. Its ample interpretation concerns alike surgical and medical science. The Greek word "trauma" is very near to that of the English word "injury," both as to use and significance. Pneumonia is a medical appellation given a disease involving the presence of specific germs, and various changes in the air vesicles, parenchyma and associated structures of the lungs. "Pneumonitis" and "inflammation of the lungs," formerly used to designate this malady, have given place to the more liberal term "pneumonia." The use of the latter designation does not commit us to any theory as yet in dispute, and is in harmony with empiric evidences, as well as bacteriologic demonstrations of the present. Under whatsoever garb or name, and whether recorded in the chaos of lapsed eons or mingling with the dust and tumult of twentieth century activity, pneumonia has been and continues to be the assassin of human comfort, health, life and medical theory. Its autobiography is written in signs and symbols so legible that "he who runs may read," without betraying its origin or end. It shows no respect for time, place, age, sex or condition. Now it may be individualistic, again communistic, and anon socialistic. The frontier medical man "sees it in the clouds and hears it in the wind." The bacteriologist, confused by its multo-coloring, announces it an emanation from pleural sources.

Trauma is one causative agency in the awakening of pneumonia not yet accorded full recognition as a medical or surgical entity, which appeals to the consciousness of the physician of this age as never before. The importance of the subject augments with every step of human advance involving the utilization of energies and mechanical inventions unknown to our forefathers.

With "traumatic pneumonia" the profession is not as familiar as it should be, neither is it equipped with

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ample literature from those who have been the awed but mute witnesses of its consequences.

Surgical science, as displayed in the war between the north and south, hinted at the subject, and the immortal Hamilton observed that "The shock produced by a musket ball is sufficient to cause a rupture of some of the more superficial pulmonary vessels, and in other cases it gives rise eventually to pleuritis, or even pneumonia." He further says "a missile may impinge upon the thorax and without causing rupture of the skin or anything more than a slight abrasion, may fracture the rib, rupture the lungs, or some of the large blood vessels, or even tear open the heart itself."

Reidinger gave the name of "concussion of the chest," or commotio thoracica, to a series of cases of this character, but produced in various ways which were remarkable for their fatalities.

Litten, a more recent and copious writer upon the subject, recognizes the large influence of trauma upon the occurrence of pneumonia, and concludes that, "lobar, croupous (or fibrinous) pneumonia may arise as a sequel to violence upon the thorax, where no external signs appear." In his terminology he uses the name "traumatic pneumonia" for those cases following penetrating wounds in the lungs, and reserves the term "contusion pneumonia" for those resulting from external force producing concussion of the lungs.

Rezerot notes that "the results of injury may show pneumonia, localized spots of catarrhal pneumonia, and even interstitial thickening of the lungs."

Stephen Paget, a most reliable and capable observer and author, expresses himself thus: "We are tempted to make light of a general injury of the chest, unaccompanied by fracture, or by a serious wound of the soft tissues. But apart from the fact that very grave and even fatal results may follow a blow or a bruise over the chest, which seemed in itself insignificant, general injuries of the chest are sometimes attended by changes so unexpected and so obscure that they need careful consideration." In conclusion, he adds: "We are bound, therefore, not to think lightly of contusions of the chest merely because there is no fracture or external wound."

Pirogoff is authority for the statement that "such injuries are at least as dangerous as penetrating wounds."

Stern, who has made a special study of pneumonias from all causes, places the statistics of those produced by trauma at 4.4 per cent.

From all this we must infer the importance of the subject presented, and be also impressed with the necessity for careful inquiry into the causal factors in all classes of pneumonia, and especially those preceded by injury, no matter how trivial the objective evidences of trauma may appear. We must not forget that accident and fright may be factors in the production of traumatic pneumonia. Some recent authorities claim that fright is the first element of danger, although manifestly greater in some than in others. In our study of the factors contributing to the occurrence of traumatic pneumonia, we need not prove faithless to the theory associating the disease with the diplococcus, as it is a fact that the micro-organisms are present in the expectorations of those suffering from traumatic pneumonia.

The purpose of this paper is the consideration of those cases of traumatic pneumonia which appear from contusions, and, as far as possible, refrain from mention of those due to penetrating injuries of the lungs, or those including fractures of the bones or cartilages.

The question arises, "how is it possible for a jar or force expended upon the external surface of the yielding thorax to be so transmitted as to do violence to the contained viscera, and especially the elastic lungs?" We may understand why the delicate tissues of the brain may be injured by slight concussion, even by contrecoup or force upon the lower end of the spine, but we are naturally inquisitive about like possibilities in the lungs. The normal elasticity of the chest, in the majority of cases, is capable of rendering *nil* the accidental forces which antagonize it. The extremely young will resist a crushing weight, as that of the wheels of a wagon, to which the mature thorax would yield. However, a stroke of 100 to 300 pounds, carrying with it past the point of contact upon the chest all of the force not antagonized by the resistance offered, will cause the elastic walls to impinge upon the lungs with dangerous results, corresponding to the degree of thoracic elasticity. It would be more to the pulmonary disadvantage if the lungs were surprised by accident during full inspiration than if occurring at the end of expiration. Unfortunately, the former is the attitude of the lungs at the instant when the largest number of injuries are received. Fright is associated with 90 per cent. of chest injuries. In more than half of these fright prompts a gulp of air, closure of the glottis, rigidity of the diaphragm and other muscles of respiration and a fixidity of the thorax. There is also an attempt to free the arms, as in the attitude of self-defense. The chest is never guarded in this pose, instinctively responsive to the primal law of nature—self-preservation. Fright has not time for appeals to the ideational centers. The frightened human "holds his breath," and a stroke or fall on the chest is often received in the position of pulmonary disadvantage. To this condition of the chest is often added an advantageous angle for the force because of the unfortunate position assumed by the individual.

Hamilton describes the mechanism of force thus: "The ribs with their cartilages are bent inward violently and made to encroach very far upon the contained viscera, and serious lesions may be produced before the bony parietes are fractured."

Thus far we have considered normal conditions of the thorax and lungs, and the inference is that the force required to produce injury to the lungs varies with the age, elasticity of the chest, position of the lungs in the respiratory act, the exact angle at which the stroke may be received, and the individual factors.

It must be remembered that if a blow impinges upon the chest walls it is distributed to adjacent structures much as the sound waves in the air, amplifying and making greater impressions upon localities most easily influenced.

Peyrot claims that if a blow is received by the chest it is distributed to adjacent structures, but the lung itself is independent of this movement. Any want of elasticity, however, will favor yielding under stress, and injury results. This is direct injury. Moreover, there are numerous foci of latent weaknesses and chronic maladies in the average lungs which are liable to be affected by force thus extended. Tubercular diseases, pulmonary emphysema and congestions, as from heart disease, alcoholism, etc., act as predisposing causes and give wider range to traumatic influences than would be available in normal conditions.

Adhesions may influence changes in a mechanical way in parts remote from the seat of force. The jar may

awaken a latent disease protected hitherto by areas of inactivity and solidification.

Many intrinsic and extrinsic causes must be considered in the efforts to account for pneumonia which will appear peculiar to each case and constitute the individual factors. One thought must be ever present with the physician called to examine the chest after injuries, and that is the universal possibility afforded everywhere for acquiring traumatic pneumonia. Pneumonia is today made available to all. The wholesome and the unwholesome, the wise and the unwise, are almost equally liable to become its victims. Nor is it needful that they await the incubation period of the pneumococcus or streptococcus, but by thoughtless dalliance during the millionth part of an instant in the way of a rapid transit electric car or a twentieth century juggernaut—the automobile—pneumonia begins to weave the network of death in the lungs. From the cultivated "interference" of the foot ball field, the polite fistic arena and other places for the display of athletic proficiency, as well as amid the hum and whir of mill and workshop, and from every point of the world where the strenuous life of the twentieth century thrills human kind, traumatic pneumonias are reported. These augment the numerical statistics of pneumonia and increase the mortality.

Interest in the subject is enlarged also by its medico-legal aspect. It is required that the physician commit himself most positively and under oath to the theory of its cause and consequences. The numerous incidental notations which concern the history, the onset, complications and sequelæ will be investigated by life assurance companies, accident insurance associations, and other corporations or individuals charged with liability, and tedious trials and litigations demand of the attending physician the most careful, exact and conscientious judgment of which he is capable.

The question will arise, "is the pneumonia an accidental or coincidental circumstance?" This must be answered by the physician in every case involving medical and surgical possibilities, whether before the legal judiciaries or the bar of his own conscience.

The responsibility of the physician ends not with the apparent cure of the acute conditions, but continues without limit because of diseases which develop later and may be regarded as sequelæ.

Pleurisy, pneumothorax, pyothorax, empyema, phthisis and almost every malady in the category of chest disorders have been charged to injury received at some period in life. The postmortem evidences have been most effective in some investigations.

When a physician is called to a case of injury liable to produce traumatic pneumonia he will probably find a rapid pulse and accelerated respiration, and in fully 65 per cent. the sputum will show some blood within a few hours, if not immediately. The shock is the first element of alarm demanding attention. The respiration reaches 60 to 70 per minute, but is not so common a symptom in adults as in children, and does not always correspond with the extent or gravity of the injury. Hamilton notes that "expectorations of blood in most cases occur immediately—frequently not until after the lapse of several hours, or even days, but it is rarely seen after the fifth, sixth or tenth day." The writer observed in a recent case that spitting of blood continued until the fourteenth day after the injury. Dyspnea may be absent, and no duskiness of the face, and nothing to suggest injury except disturbed breathing. No general or extensive contusion may appear with the history of a slight blow, affecting one portion of the chest and yet the shock be most disastrous. A condition of syncope immediately following trauma may be due to direct stimulation of the vagi, or to direct cardiac compression. The depressor nerves and the sympathetic may also act as causative agents in lowering the blood pressure during any prolonged period.

The examination of these cases must be conducted with celerity, and the physician should endeavor to give the patient as little discomfort as possible. The horizontal position is usually the safest and one causing least suffering. The external bruise or contusion will heal rapidly, and the pneumonia usually gives its characteristic signs and symptoms after forty-eight hours from the time of the contusion. This pneumonia may or may not be promoted by a destruction of continuity of the lungs, pleura or bronchial tubes, and the mechanical jar of the impinging stroke cause a slight tenderness or soreness which may arouse latent pneumonic energies which otherwise might have continued in abeyance or be counteracted without reaching the dignity of a pneumonia. Slight concussions are rarely dangerous in a purely surgical sense, but can thus directly prove fatal, and it is well to remember that infection may come to the lungs thus crippled and phthisis speedily follow. The relations of time to these consequences are very variable, and it is not safe to say that pneumonia coming on a fortnight after the injury of the lungs is not due to concussion, nor is it to be regarded as a safe position to assume that a phthisis, following years after the lungs have shown apparent cure, bears no responsibility as a causative agency. The rusty sputum is likely to succeed upon the streaked sputum as soon as the pneumonia reaches its second stage. Moreover, the diplococcus is to be found in traumatic pneumonias as easily as in cases free from injury. It is a fact that these germs are to be found in the mouths of most healthy people.

Jobert separates into three degrees, or classes, these injuries:

First—Hemorrhagic punctata from capillary rupture, the parenchyma remaining intact.

Second—Includes those in which small ruptures exist in tissue, including alveoli, bronchioles and vessels about them.

Third—Tears of the lungs, bronchi and vessels.

No systematic or conventional method of observation or treatment can be provided for these cases, as each is a law unto itself, yet a review of a few of the records may prove of advantage.

E. Block tells of a man 41 years old falling and striking upon the lower portion of the right side of his chest, who developed signs of pneumonia the following day in the right lower lobe. No chill was recorded, and the crisis occurred at the end of the fourth day. Bloody sputum was absent. It is assumed in the report that a moderate injury of the lungs may have given opportunity for the invasion of the pneumococci, which were found in the sputum.

Dr. R. A. Booth, physician to the City of Pittsburg, is quoted as having a case of traumatic pneumonia a few days ago in the hospital, caused in a man 62 years old, and which proved fatal in the fourth day. At the hospital the patient told the attendants he was injured by falling down stairs. A number of cases gathered by research have been charged to similar accidents.

R. E. Lord has placed on the list a case of injury to the chest by striking against a desk followed by hemoptysis and consolidation of the lung immediately under-

lying the seat of injury. This is one of a number of reports of cases of traumatic pneumonia resulting from violent contact of the chest and the edges of desks.

Dr. A. Koch adds the case of a man aged 38 years who fell from a height and received a severe contusion of the left side of the thorax, and in less than forty-eight hours after died in the hospital. Postmortem examination showed croupous pneumonia, with red hepatization and pneumonia bacilli. The man was free from disease at the time of the accident, and the ribs were not injured.

A case of "contusion pneumonia" contributed by Aufrecht shows that the pneumonia occurred on the side opposite to the injury, which later was produced while pushing a wheelbarrow heavily loaded, when the left handle struck upon the left side of the chest. The man was 38 years old, and up to the time healthy. About ten hours after the accident pneumonia appeared on the right side. Three days after the injury he died. An autopsy showed pneumonia of the right base.

During a professional experience of over three decades there have been personal opportunities afforded for observation in the City of Iron and Smoke. The list of traumatic pneumonia, inclusive of fractures of the bones and cartilages, as well as those due to contusions and concussion, challenges credulity. Those within the scope of this paper are not so numerous, and a brief recitation of some of these will be interesting. A man aged 29, of good health and uncertain family history was thrown upon his back and rudely tossed against the front door of an electric car which had deserted the track at a sharp curve and collided with a telegraph pole. He was completely disabled, and was lifted into a carriage and conveyed to his home, a distance of five blocks. Dyspnea, with the psychologic evidence of excessive alarm, were associated with blood-spitting and complaints of unease within the thorax. Appropriate treatment speedily annulled the immediate signs of the shock. Perfect quiet in the recumbent position was secured, but notwithstanding these precautions, a traumatic pneumonia was in evidence before the conclusion of the first forty-eight hours, without any special features, except that the hemoptysis gave place to rosy sputum on the third day. This case terminated by lysis, and was followed by prolonged convalescence. Three months later hectic symptoms appeared and tubercle bacilli were found in the sputum. A few days short of two years after the accident the life terminated. A suit was brought by the relatives against the street railway company, whose legal advisor made satisfactory settlement.

A man aged 61, of reasonable health, who was filling the duties of labor boss, was caught between an overturned wagon and the side of an excavation. His release was affected after about eight minutes. He was faint and suffered from a sense of suffocation. The employment of alcoholic stimulants, administered by the mouth, and crude attempts at artificial respiration gave him some relief until medical aid arrived. Hypodermatic use of strychnia and brandy were resorted to with good results. He was removed to his home and placed in the most restful and quiescent condition possible. This man developed a pneumonia before the end of the first twenty-four hours, in which the temperature range never exceeded 103.8. The pulse, which was 148 during the period of shock, fell to 118 after the lapse of ten hours, but fluctuated between this and 138 without apparent cause. This case showed no real abatement until after the fourteenth day, when the pneumonia ended rather abruptly, and all symptoms disappeared gradually. The patient resumed his former occupation at the beginning of the sixth week.

A man aged 57 years was walking on the railroad track when he was struck by an engine and precipitated over an embankment of 16 feet, sustaining fractures of the right humerus in two places. The force of the stroke caused the arm to infringe upon the right side of the thorax, producing an extensive contusion over the entire side. Blood-spitting appeared immediately. After sixteen hours, and without chill, the temperature reached 103.8, respiration 44 and pulse 128. The signs and symptoms of pneumonia continued until the seventh day, when they suddenly diminished and convalescence was rapid, leaving only the external surgical conditions for treatment. After a lapse of twenty-eight months this man continues in perfect health.

Dr. Ulysses Strouss of Beaver, Pa., reports a case in a man aged 32, standing on the rear end of his wagon unloading coal, when his horse suddenly started forward and he was thrown violently to the pavement, alighting on the posterior superior portion of the chest. He spat blood in a few minutes after the accident, which was succeeded by traumatic pneumonia, terminating by crisis on the fifth day, and there was rapid recovery. Six months have elapsed and no unfavorable symptoms have appeared.

A case illustrative of the lapse of time before betrayal of the results of injury is that of a man riding in an automobile and colliding with an electric car, precipitating him to the pavement with considerable force, upon the posterior aspect of the chest. The injury did not retire the subject from his duties until after the expiration of ten days, when a large quantity of dark blood was expectorated, in which the molds of the bronchial tubes were plainly demonstrated. The temperature ranged during four days between 102 and 103, when it ended by lysis. The physical signs were those of bronchopneumonia, with copious mucous râles of varied size, and cough and respiration of suffocative character. The sputum was examined carefully for tubercle bacilli with negative results. Subsequently, by the city physician, with like report. A third specimen expectorated in the writer's presence, and divided into three parts, was examined by three different persons, and several bacilli discovered by one. The last reports have been that the patient is perfectly well. This accident occurred ten months ago.

A man aged 41, lumber dealer, and of good habits and health, was thrown from the steps of a rapid transit car while attempting to alight, the signal to start being premature, and he received a severe stroke upon the anterior portion of the chest walls. He was taken to his hotel and placed in bed. No fracture existed, but in a few minutes after the fall he expectorated some blood-streaked sputum. Ten hours after the accident a fever of 104, pulse 138 and respiration of 52 were observed. The sputum became thoroughly mixed with blood and rusty. This case was prolonged, ending in lysis the fourteenth day after the advent of fever. Convalescence was slow, and the patient never recovered fully from a bronchial catarrhal condition, with numerous streptococci, but no tubercle bacilli in sputum. This case is still under observation. The chest is of paralytic appearance and conformation, and the subject admits the history of former bronchial catarrh, but claims that it was but temporary.

One of the most remarkable cases in the writer's experience was that of a man aged 31 years, 5 feet 8 inches in height, weight 168 pounds, of good family history

and excellent health, a puddler by occupation, who was struck forcibly upon the right anterior portion of the chest by the handle of the tongs with which he was transferring a ball of metal. He immediately became faint and was seized with dyspnea. A physician examined the chest without discovering any external or internal signs of injury, except a swiftness of respiration. After the use of hypodermics of strychnia, brandy and other antidotes to the shock, he was able to go to his home by street car, a distance of about four miles. Here he received attention during the succeeding four days, and the diagnosis was pneumonia. The temperature, pulse and respiration, rusty sputum, etc., were in evidence in the history, as related to the writer, who was called in consultation on the fifth day, because of the alarming dyspnea which suddenly appeared. The patient was on his knees on the floor pressing the anterior portion of the chest against the mattress and begging for relief for his breathlessness. His features mirrored his desperate suffering. The side opposite to the pneumonia was distended to its utmost by pneumothorax. A paroxysm of severe coughing had preceded the pneumothorax, and doubtless produced a bronchial communication with the pleural cavity belonging to the lung engaged in supplementary respiration. The discomfort was reduced by a hypodermic injection of morphia gr. ¼, repeated in two hours. The proposition to use a trocar and give exit to the air was persistently rejected. After twelve hours it was determined to give surgical relief, regardless of the patient's opposition. At the hour appointed for the operation the patient was lying calmly in bed, the signs of distress had departed, respirations were reduced from 56 to 40, the pulse from 132 to 110, and the temperature had fallen 3.8 degrees. The physical signs of pneumonia were not gone, neither were those of pneumothorax wanting, but to each side they were much reduced, and the operation was abandoned, and the case progressed to a favorable termination of the pneumonia, which had ended by crisis, but the evidence of effusion succeeded the pneumothorax. The patient, notwithstanding all this, gained flesh, refused to have the fluid removed, and worked six months at the puddling furnace, after which he visited his home in Scotland, returning to his duties at the end of four months. He presented himself for examination one year and two months following the accident with a pyopneumothorax which had evacuated itself of one pint to three pints of pus through the mouth, repeating the evacuations at intervals of twelve to sixteen days. Specimens of this fluid examined on several occasions revealed numerous tubercle bacilli, streptococci and other microorganisms. This spontaneous method of relief continued during seventeen months, when it ceased, and the pleural cavity became distended, to finally present an empyema necessitating pointing between the ninth and tenth ribs on the vertical midscapular line. A hectic condition continued the pulse, temperature and respiration elevations for some time.

He was taken to the hospital and the chest opened, drained and washed out and treated with antiseptics. After three weeks he returned to his home much improved, but gradually yielded to phthisis eight months thereafter.

The study of these cases must include their medical, surgical and legal aspects. This has been advanced by references to numerous authorities and cases. Diagnosis, differentiation and treatment are so interwoven that it seems like supererogation to go into any further detail. The prognosis has been intimated. The medical treatment should be similar to that of ordinary pneumonia plus the demands of the surgical contributions. Complications or sequelæ are also subject to general and well-known medical and surgical management.

VERNAL CONJUNCTIVITIS.*

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So little is understood concerning the pathogenesis of vernal conjunctivitis, and its treatment is so generally ineffective, that it occurred to the writer some months ago to address a circular letter to ophthalmic surgeons throughout the United States, with a view to ascertaining their experience in studying and treating this rare form of disease, and especially for the purpose of determining whether locality influenced the frequency of its occurrence or modified its clinical manifestations.

The paper which follows has, accordingly, been based in large measure on the answers which were received, together with a few personal observations which the writer has been enabled to make on a number of cases which have come under his own care.

HISTORICAL SUMMARY.

Before proceeding with this, however, on account of the rarity of the disease and the still comparatively scanty literature upon it in the English language, it may not be amiss to review briefly its history and chief characteristics. Although Arlt, in 1846, undoubtedly referred to this disease in a paper in which he described "Three Cases of Infiltration of the Limbus by Grayish Yellow Transparent Gelatinous Masses," and Desmarres likewise, when he referred to cases of what he designated *hypertrophie perikeratique de la conjunctive,* it was not until 1872 that vernal conjunctivitis was assigned a place as a distinct and separate form of disease, by Saemisch and his pupil, Brockhaus. In addition to Arlt and Desmarres, Graefe, de Wecker and Hirschberg had also reported cases which were beyond doubt true instances of vernal conjunctivitis, but they assumed, in common with Desmarres, that they were dealing with unusual forms of phlyctenular disease.

Saemisch's account of the disease is very complete, and the symptomology which he gave of it is much the same as we know it to-day, with the important exception, however, that he failed to include in his description any lesions of the palpebral conjunctiva. These, which are probably the most common, and certainly the most characteristic features, were first noted by Raymond in 1876, and described more fully by Vetsch in 1879. Since that time a number of important monographs have appeared which have further established the propriety of classifying it as a distinct form of conjunctivitis. Burnett, of Washington, was the first to call the attention of American ophthalmologists to it, in an article which appeared in 1881, entitled "Circumcorneal Hypertrophy of the Conjunctiva." In 1884 Kipp, of Newark, made the second contribution to the American literature. Since then Gifford, Gradle and May have made communications of value and importance.

Vernal conjunctivitis, as we know it to-day, and as it occurs in all probability the world over, consists of an inflammation of the conjunctiva, at times of the lids alone, at times of the globe alone, and not rarely of a combination of these two, possessing certain physical

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features which distinguish it from all other forms of conjunctivitis, but which has, in addition, the peculiar characteristic of appearing with the advent of warm weather and of disappearing with the cold, and of repeating this peculiarity year after year. This seasonable characteristic, whence the name of the disease is derived, is the essential feature of vernal conjunctivitis.

The physical appearances of vernal conjunctivitis are as follows:

I. LESIONS OF THE PALPEBRAL CONJUNCTIVA.

(*a*) The most constant, and perhaps the pathognomonic symptom is a peculiar bluish white, milky appearance of the tarsal conjunctiva. Vetsch was the first to describe this condition, which is present in a greater or less degree in nearly all cases. In the few instances where it is not present the conjunctiva appears dull, infiltrated and thickened.

(*b*) The surface of the thickened conjunctiva may be smooth; usually, however, there are a number of elevations which present a striking appearance, resembling the granulations of no other form of conjunctival disease. These elevations present a pale pinkish, waxy appearance, and are quite flat, resembling plaques with crevices between. They are situated on the tarsus, the fornix being free, and are usually thickest in the middle of the lid. They are slightly pedunculated.

(*c*) In another and smaller group of cases the granulations are not so flattened, are yellow, semi-transparent, and cover more of the conjunctiva of the lid. These bear a close relationship to the granulations in follicular conjunctivitis.

In all three types the upper lid is the most affected, the conjunctiva of the lower lid being rarely more than thickened, with but a few elevations on it. The granulations are hard and gristly, this being especially true of the more rounded variety. A watery or mucous discharge is more or less constant, rarely it becomes mucopurulent, but never purulent.

II. LESIONS OF THE OCULAR CONJUNCTIVA.

(*a*) The limbus of the cornea becomes thickened and encroaches upon the cornea, forming a narrow ring of grayish yellow opacity, which encircles the cornea. The inner edge of this zone is sharply circumscribed; the outer blends gradually with the surrounding tissue. This area of infiltration does not show any tendency to broaden and invade the central portion of the cornea, or to break down into ulcers.

(*b*) Large yellowish red elevations, more or less circumscribed, appear at the limbus in the palpebral fissure, either on the nasal or temporal side, or on both. These are usually somewhat triangular in shape, but may be oval or quadrilateral. When the former, the base of the triangle is situated at the limbus, and is sharply defined from the corneal tissue, while the apex blends gradually with the episcleral tissues toward the equator.

(*c*) Under this class is included a combination of the first and second forms; in this type the entire limbus of the cornea is thickened and occupied by a series of irregularly rounded warty like tumors, grayish yellow in color. The inner edge of the zone of infiltration is not so sharply defined as in the two preceding types, and at times the corneal tissue is encroached on to a considerable extent. No case has been reported, however, where this was sufficiently marked to affect vision.

(*d*) Ordinary saturated ulcers of the cornea, which sometimes result from pressure and irritation, occasioned by unusually large and hard granulations in the palpebral conjunctiva. The tumors or elevations which surround the cornea are like the granulations in the conjunctiva of the lids, hard, dense, and as a rule non-vascular. They are not painful on pressure.

It is extremely rare that the disease occurs in the typical form, exhibiting the characteristic lesions of the tarsal and bulbar conjunctiva at the same time; though even in those cases where the elevations are most marked on the bulbar conjunctiva, there is usually at some time or other during the course of the disease, at least the milky haze, if not the characteristic granulations, on the tarsal conjunctiva. Terson has pointed out that often there is a kind of compensation between the tarsal and the pericorneal lesions, the characteristic changes being absent in one part when they are present in a marked degree in the other.

PATHOGENESIS.

Various observers have thought the disease to be dependent on a diathesis, and syphilis, scrofula, rickets, gout, and a general neurotic condition have been variously described as the soil upon which vernal conjunctivitis develops. It is possible, however, to exclude each of these in most cases, the disease occurring for the most part in perfectly healthy subjects; nor is there evidence, as will be more fully stated later, to assume that the disease is secondary to any local inflammation elsewhere, as in the throat or nose. In this connection, however, mention must be made of the relation of vernal conjunctivitis to recurring skin eruptions, by reason of the frequency with which eczema has been encountered in cases of vernal conjunctivitis by foreign observers, among whom may be mentioned Uhthoff, Vetsch, Danvers and Terson.

It is generally recognized that vernal conjunctivitis shows a predilection to develop in low-lying localities, the testimony of men from mountainous regions being that they see but few cases, and none at all from the highlands. The influence of humidity in aggravating the symptoms has been remarked, and the conjunction of a high temperature and high barometer has been found to be most distressing to subjects of the disease. Although certain authors would have it that a country life predisposes to the affection, there is no evidence to prove this, as it appears that city life, with the irritation provoked by the dust from the street and by the smoke with its carbon particles suspended in the air, offers as favorable conditions for its development.

Unlike most forms of conjunctivitis, vernal conjunctivitis affects all grades of society. All races are apparently equally susceptible, both whites and blacks being subject to it, and the disease seems to occur with the same relative frequency among the Jews.

On account of the recurrent nature of the affection, a micotic origin has been repeatedly searched for, but as yet no pathogenic micro-organism has been isolated.

It was thought by some, by reason of a certain similarity in their physical appearances, that vernal conjunctivitis was a form of trachoma. Until the morbid entity of both diseases is better understood, it is impossible to deny absolutely a relationship between the two, but the course and sequelæ of both diseases are so different that there are but few who now hold to such a theory. In like manner, there is no evidence to support the theory of an association with phlyctenular conjunctivitis; indeed, though Knus would regard vernal conjunctivitis as a peculiar hyperplastic conjunctivitis in intermediate relationship with the ordinary inflammations of the conjunctiva, and thinks that the disease is a modification, or at any rate develops

from these, there are no grounds to couple it with any form of other ocular disease.

PATHOLOGY.

An excellent résumé of the histological changes which have been seen by various observers in vernal conjunctivitis, has been recently given by Terson. This author states that with few exceptions writers have given an excessive preponderance at one time to the epithelial nature, and at another to the subepithelial character of the granulations; so far as he is concerned, however, he agrees with Redmond in holding that the epithelium, although proliferated, does not constitute the mass of the neoplasm, but that the granulation is really a proliferation of the conjunctival tissue itself, with the increase in the number of elongated and narrowed cells, and also of embryonal and round cells.

In common with others, Terson noted that the histological changes differ somewhat in the pericorneal and tarsal forms; thus in the former he found a thickened epithelium of stratified pavement cells of a greater number than normal, but without the invagination noted by most authors; there was no well defined basal membrane; the tissue contained vessels, dilated capillaries and lymphatics, but was lacking in cells; the conjunctival cells were flattened and fusiform, and were compressed between enormous bands of fibrous connective tissue. In addition to these changes, he observed that the tarsal granulations are provided with an epithelium which is less abundant, though of the same nature, and without epithelial invaginations, the mass of the tissue being equally fibrous, though the infiltration with round cells and with leucocytes is much less marked. In this class of cases there is a proliferating tarso-conjunctivitis, a true papilloma of the tarsus, greatly hypertrophied and proliferated with elements which are newly formed and without the enormous lymphatic nests of trachoma. It was noted that in the tarsal variety the epithelial proliferation is less important than in the pericorneal, and that the typical granulations are formed by the subepithelial tissues.

Terson concludes finally that, as a mark of differentiation from the granulation of trachoma and the pustule of phlyctenular disease, the vegetation of vernal conjunctivitis is indurated, and he regards it as being really an attenuated papilloma which does not attain the composite structure and full development of the true form.

These views are substantially those of Danvers, who based his observations on a series of specimens, some of which were taken from eyes at the very commencement of the disease, others in the third year of the recurrence, and others after the tenth year of recurrence.

From the study of sections of the tarsal conjunctiva taken from three cases and mounted for him by Dr. E. A. Shumway and Dr. Harold Goldberg, the writer found a dense fibrous tissue beneath the epithelium which had apparently occasioned the elevations. The epithelium between the contiguous elevations could be seen to dip down below them in finger-like prolongations from the surface. Sections made parallel to the surface showed a network of epithelial cells with the spaces in it filled with dense fibrous tissue, each patch of fibrous tissue having a central blood vessel.

SUBJECTIVE SENSATIONS.

The disease usually begins, like an ordinary attack of catarrhal conjunctivitis, with smarting, burning and lachrymation, though an annoying itching sensation in the lids is apt to predominate. These symptoms persist with remissions during the course of the disease, being aggravated by hot murky conditions of the weather and ameliorated on dry and cool days.

COURSE.

The symptoms usually begin with the first warm days of spring, and persist until the days become permanently cool in the autumn. The disease is essentially chronic, recurring each year with obstinate persistency. In a few cases there are remissions, the symptoms failing to manifest themselves during an entire summer, this exception being attributed by Danvers and others to a relatively low humidity during these particular years.

DIAGNOSIS.

In its typical, or even under the forms under which vernal conjunctivitis usually presents itself, there should be no difficulty in differentiating it from any other form of conjunctivitis, provided, of course, the observer is familiar with its characteristics, either by study of a previous case seen by him or from a familiarity with the description of the disease as it now appears in all text-books on ophthalmology. In atypical cases, however, the diagnosis is not always an easy matter, and it will often need the history of attacks in previous springs to enable one to differentiate the not uncommon type where the filmy white appearance of the conjunctiva, the granulations and the lesions at the limbus are wanting, and the dull, thickened, infiltrated conjunctiva is the only apparent lesion, from an attack of phlyctenular conjunctivitis. But even in these cases the milky hue of the conjunctiva and granulations will usually manifest themselves if the case be kept under observation a few weeks.

Undoubtedly, however, the greatest difficulty in diagnosis is to differentiate the rather unusual type in which the granules are not flat, but round, and of a semitransparent pinkish yellow tint, from trachoma or from follicular conjunctivitis. Here the history of the case, the absence of pannus and discharge, will enable one to exclude trachoma, while the restriction of the granules to the upper lid, and to the median portion of the tarsus, and the hard, gristly nature of the granules, will make the diagnosis from follicular conjunctivitis. When the palpebral manifestations are absent and those at the corneal limbus are alone present, it is possible that vernal conjunctivitis may be confused with epithelioma, sarcoma, episcleritis, phlyctenular keratitis, gerontoxon, and certain pericorneal hypertrophies and verrucosities which are occasioned by sclero-choroiditis anterior. The history of the case, the age of the patient, and in doubtful cases the microscopic examination of a portion of the growth, will usually enable one to make the differentiation from tumors, while the diagnosis may be made from episcleritis and phlyctenular disease by the absence of signs of inflammation.

Such is a brief outline of the history, of the generally accepted clinical picture and of the pathogenesis and histology of vernal conjunctivitis, and of its diagnosis from other forms of ocular disease. Other details, in reference to its etiology, distribution, frequency, prognosis, treatment, etc., will now be considered, especially with a view to the expression of the views of American ophthalmologists on these subjects, as they have embodied them in their answers to the circular letter already referred to.

Can You Estimate the Proportion of Cases of This Disease in Your Locality, in Comparison With Other Forms of Conjunctivitis?

This, the first question, elicited a series of answers which were puzzling, and might have been misleading had several factors not been taken into consideration before any deductions were drawn from them. It was apparent, in the first place, that answers which were practically at variance with one another came from ophthalmologists in the same vicinity, often in the same cities and towns, all being based upon observations of ocular disease occurring among members of the same community. Where one would state that he saw ten cases of vernal conjunctivitis annually in his private and hospital practice, another would say that although he had been practicing in that community for twenty years or more, and had observed thousands of cases of ocular disease, he had never encountered one which he considered to be a true instance of vernal conjunctivitis. Thinking there must be some explanation for this, the writer had further communication with a number of those who disclaimed ever having seen a case, and elicited from most of these that they had been looking for typical examples, and relegated all others to other forms of conjunctivitis.

Taking this factor into consideration and making allowances for "the personal equation," in a number of instances, it was ascertained that vernal conjunctivitis existed in all parts of the United States, always as a very rare disease, but exceedingly uncommon in New England, the Northwest and the highlands of all the states, and that it occurred in most of the large cities of the other parts of the country, inland as well as seaboard, in the proportion ranging from one case of vernal conjunctivitis to every 200 to 500 of conjunctival disease.

Certain observers give a greater relative frequency and others a far lower, but this proportion is a conservative estimate of the average.

It was noted that the percentage of cases was higher in private than in hospital practice, but this, it is thought, may be explained by the lesser frequency with which all forms of conjunctivitis occurs among the better classes, and also by the fact that sooner or later, by reason of its intractability, nearly all cases of vernal conjunctivitis are brought to the private consultation of the ophthalmic leaders in every community.

It is difficult to ascertain how these figures compare with those obtained in other lands, but from personal observation and from communications received from Fuchs of Vienna and Collins of London, and from Terson's studies in Paris, the writer would judge that it occurred in these cities with about the same frequency as in the larger American cities. There is an impression among American ophthalmologists, particularly those who have spent some time in foreign clinics, that vernal conjunctivitis occurs more frequently abroad than at home. The writer, however, would recall to such the large number of patients in attendance at most foreign clinics, and that as students they saw all the rare cases in each clinic. Danvers quotes a number of statistics regarding the frequency of the disease in foreign lands, but does not mention the proportion in which the disease occurs with other cases of conjunctivitis, merely giving the frequency of its occurrence among the total number of cases. He found that as a general rule the disease is more prevalent in southern than in northern countries.

Do You Think This Disease Is Becoming More Prevalent?

From the answers received to this question, there seems to be no ground for the belief that vernal conjunctivitis is increasing in frequency, the relatively greater number of cases which have been observed in recent years being due, in all probability, to a more widespread knowledge of the disease, especially in its atypical forms.

Which Type Predominates in Your Locality—the Palpebral, Where the Disease Is Limited to the Conjunctiva of the Lids, or the Ocular, Where There Are Distinct Changes at the Corneal-Scleral Margin, or the Associated, Where Both Palpebral and Ocular Types Are Combined?

This question had a two-fold purpose; first, to ascertain whether locality had any influence upon the physical appearance of the disease, and secondly, to determine the relative frequency of occurrence of the various types. In regard to the first, it was apparent that locality has no influence whatever upon the type which the disease assumes, for upon this phase of the subject similar answers were received from the most widely separated parts of the country; bearing upon the latter point, the answers were most instructive, for they showed that the palpebral type was much the more common (60 per cent.), that the associated form occurred next in frequency (30 per cent.), while the disease was limited to the ocular portion of the conjunctiva in but 10 per cent. of the cases. It is possible that the percentage of cases of the palpebral type is even higher, as many cases of this type are doubtless overlooked, either from the patient not seeking relief, or from the ophthalmologist not recognizing it, by a failure to evert the lid; when the changes are at the scleral-corneal margin, the diagnosis is more readily made.

It is proper at this point to refer to a type of the disease which Burnett, of Washington, has described in negroes. In his article, which appeared in Knapp's "Archives for Ophthalmology" (Vol. X, page 414), under the title of "Circumcorneal Hypertrophy of the Conjunctiva," this distinguished observer said that "In addition to these appearances (i. e., the typical) which I have observed in both the white and colored races, I have found quite a peculiar and remarkable appearance in the conjunctiva in every case of this disease I have met with in the negro. This consists in a brownish discoloration of the conjunctival tissue, most intense at the scleral base of the mass, and gradually fading away toward the equator of the ball. This discoloration, which is undoubtedly situated in the conjunctival tissue itself, as well as in the epithelial layer, is not regular in its distribution, but appears to consist of a collection of small deposits of brown pigment. These deposits are sometimes collected in rather large masses, particularly near the base of the elevation, but toward the equator they appear as small brownish specks in the dull and succulent conjunctiva. In some instances this brownish discoloration extends but 3 mm. from the circum-corneal elevation, while in others it reaches almost to either canthus."

Though Philadelphia is a northern city, it has a very large colored population (60,000), and the writer is in charge of three large clinical services, two of which are situated in the quarter in which most of the negroes dwell. He has observed the changes so accurately described by Burnett, a number of times, but has always considered them to be occasioned by a marginal phlyc-

tenular keratitis, or to changes somewhat similar to those producing pingueculum or pseudo arcus senilis. The inflammation in this class of cases persists all the year, is not associated with the peculiar whitish film and flattened granulations of the palpebral conjunctiva, and usually yields readily to tonics and the local remedies prescribed in phlyctenular keratitis. To obtain further testimony regarding this subject, special letters which covered this phase were addressed to a number of eminent southern ophthalmologists, and the replies of all indicated that while they had observed vernal conjunctivitis in negroes, they had found that it assumed its ordinary form in this race also, and that though they were familiar with the changes observed by Burnett in the limbal tissues of these subjects, they did not consider them to be in all instances due to vernal conjunctivitis, but in most cases to be the result of a localized inflammation of the limbus, as they considered that there was a tendency to a thickening of the tissues at the margin of the cornea in most inflammatory diseases of the eye of the negro.

Do You Often See the Peculiar Flattened Fungoid Elevations of the Palpebral Conjunctiva Referred to in the Text-books; or does the Disease Take the Form of a Thickening of the Conjunctiva Without the Development of the Elevations?

In the description of the clinical varieties under which vernal conjunctivitis might occur, the writer divided the palpebral forms of the disease into three classes; (*a*) those which present the milky white appearance of the conjunctiva, and others where this is absent, but in which the conjunctiva is dull, infiltrated and thickened; (*b*) those in which the conjunctiva is covered by rows of flattened elevations, and, (*c*) those in which the granulations are round and yellow, and harder than in the preceding variety.

From an experience gained by carefully following three cases during the past ten years, and a dozen or more for shorter periods, the writer is of the opinion that the first two forms represent but different stages in the development of the disease. In the first year or two, before the disease has persisted sufficiently long to produce very marked changes, the conjunctiva is in the condition described under class (*a*). After several years of recurrences, however, and proliferation of the epithelial tissue, elevations form, which attain a greater growth each year unless treatment is inaugurated. Such elevations are usually flattened, but occasionally assume a rounded form. This latter type is most intractable to treatment, persisting through the winter, and manifesting a tendency by the size and hardness of the granulations to injure the cornea by mechanical means. Cases of this type resemble trachoma, and it is probable that May referred to these in his report of six cases of mixed forms of trachoma and spring catarrh. From a careful reading of his article, it does not appear to the writer that May substantiated a diagnosis of trachoma in any of these six cases, the slight cicatrization in the conjunctiva being readily explainable by the employment of caustics and operations of expression, and the faint trace of pannus to an irritation of the cornea by the granulations.

From the answers received to these questions, it was apparent that elevations in the conjunctiva appeared in about 60 per cent. of all cases, though in many they were but slightly marked.

Have You Found Both Lids to Be Affected, or Have You Noticed a Predilection of the Disease to Attack the Upper Lid?

The majority of the answers showed that both lids were, as a rule, affected, though the lower lid rarely manifested more than the thickening already referred to, the milk-white haze and the elevations being seen only on the upper lid. Callan, of New York, explains the occurrence of the granulations on the upper lid, to the greater pressure to which the conjunctiva of that lid is subjected, and believes that this excites tissue changes, analogous to the growth of a corn on the foot.

Have You Ever Seen the Disease Limited to One Eye?

Vernal conjunctivitis is essentially bilateral, though from the answers received it is apparent that in a small number of cases (7 per cent.) it may be limited to one eye. It is possible, however, that even in these few cases, the observers may have seen the disease in an early stage, and that manifestations appeared later in the fellow eye.

Do You Think the Peculiar Whitish Coloration of the Conjunctiva the Most Constant Symptom of the Disease?

From the statistics it was learned that the conjunctiva presented a milky white appearance in 70 per cent. of all cases. This sign was present in every instance in the palpebral variety except in those which were characterized by the rounded variety of granulations and in another small number where the conjunctiva was dull and thickened. This appearance must be regarded as the pathognomonic physical sign of the disease, as the pathologic changes on which it depends, i. e., the thickened epithelium augmented later by the formation of a delicate subepithelial film of cicatricial tissue, must occasion it sooner or later. It is usually an early manifestation.

What Have You Found to Be the Age Limits of the Disease?

The experience of American ophthalmologists corresponds with those of European observers in regard to the age limits, cases being cited in the statistics occurring at ages ranging from 18 months to 50 years. The majority concurred, however, that the disease had its most frequent manifestation between the years of 6 and 16, and that it was very rare in individuals over 40 years of age. Desmarres noted that the disease could occur in very young children, at times almost congenitally. The writer has observed a well-marked case of the pericorneal type in an infant of 8 months, and Fuchs writes him that he has treated the disease in a man over 60 years of age. Risley reports a case in a man 50 years old.

Have You Observed Vernal Conjunctivitis in Females, or Do You Think Males More Liable?

The statistics obtained from the answers to this question showed that the experience of American ophthalmologists was analogous to that of Knüs, 85 per cent. of whose cases were males and but 15 per cent. females. A number recorded never having seen a female affected by the disease. No explanation of this comparative immunity of women has yet been offered.

At What Month Does the Disease Usually Appear in Your Neighborhood, and When Does It Disappear?

As would be supposed from the earlier advent of hot weather in the south, answers from the southern ophthalmologists showed that the disease appears earlier there than in the north. This subject is best considered under two headings; first, as regards subjective symptoms, and, secondly, objective signs. The former appear during the first few warm days of spring, and disappear entirely only with the cold weather of the autumn; the objective signs may, however, persist through the entire year—and this is particularly true of cases exhibiting

the hard rounded granulations in the conjunctiva and those with large prominence at the limbus, though occasionally a few flat granulations, and more rarely the whitish film of the conjunctiva will persist through the winter months, even in comparatively mild cases.

Although the time at which the disease first appears varies each year, according to the temperature, the first symptoms manifest themselves, as a rule, in the northern states in March or April, and in the southern states a few weeks earlier. By October all acute symptoms have usually disappeared. It has been the experience of the writer that when the atmospheric conditions which favor an outbreak of vernal conjunctivitis are present, that many of those who had been under his care in previous years for this disease, would consult him within a few days of one another, giving unmistakable evidence of the relationship existing between the various types, and enabling him to classify several cases as vernal conjunctivitis of whose precise nature he had been up to that time somewhat in doubt. He would also call attention to the fact already noted by others, of the influence which humidity has in precipitating attacks, the two factors of excessive humidity and high temperature being apparently necessary for an outbreak of the disease.

Have You Found That the Disease Grew Less Marked in Succeeding Years?

It was learned from the consideration of the ninth question that it was only in very rare cases that vernal conjunctivitis was seen in subjects after 40 years of age; it was judged from this that either when this age was attained, the pathogenic agent producing the disease had exhausted itself, or that by that time changes had occurred in the tissue of the conjunctiva which rendered it immune to the particular agent causing the disease. It was hoped that the answers to this question might determine whether there was not some limitation other than age, and whether the hope could not be extended to subjects of the disease that although treatment appeared ineffectual in curing the attack in any one year, nevertheless changes were wrought by it which would occasion a disappearance of the symptoms after a period of years. The writer's observation of nine cases which he has been able to follow by comparatively frequent study, for the past six years, indicated that though the disease persists in most instances for six or eight years, it loses its activity after that time. The observation of others corroborates this, as well as the rarity of the disease, for did it persist in all instances from the time of its first appearance, in early infancy perhaps, with annual manifestations, until adult life was attained, it would be much more commonly met with than is the rule; although Weeks speaks of a case in which recurrences had taken place every year for seventeen years, and Schwenck has followed a case since 1885, who has had yearly remissions.

It may be stated in general that the disease shows a tendency to become less marked from year to year; there may be years when, owing to some unusual climacteric influences, or to some special systematic condition of the patient, the symptoms are aggravated, but generally speaking, they seem to lessen as years go by. Whether this may be attributed to the persistence and continuance of treatment, or to changes in the ocular tissues themselves, can not be ascertained.

The prognosis, therefore, of vernal conjunctivitis may be stated in general terms to be good, for although the duration of the disease is protracted, and its symptoms so annoying in many cases that all use of the eyes must be suspended during a considerable period of each year, the ultimate issue is favorable, for with the exception of the ulceration of the cornea, which is occasioned in a few instances by the hard and horny granulations in the comparatively rare form of palpebral involvement, the center of that membrane is unaffected. As a general rule, the disease disappears wholly, leaving no trace in either the lids or the eyeball, though in a few cases certain changes occur which detract from the appearance of the eye from a cosmetic standpoint.

The most constant of these is a white ring of opacity on the margin of the cornea and a slight drooping of the upper lids, which imparts a sleepy look to subjects of the disease.

Have You Found Any Connection Between the Ocular Disease and Any Other Local Disease, Such as the Nose and Throat?

Upon account of the close anatomical connection between the mucous membrane of the eye and nose and pharynx, most cases of vernal conjunctivitis present symptoms of more or less irritation of the nose and pharynx. This has occasioned in the minds of many the belief that the inflammation of the mucous membrane of the eyes was secondary and dependent on a disease of the naso-pharynx. The answers would indicate that a number of American ophthalmologists held this view, which agrees with the observations made abroad by Coüetoux, Tétan, Silex, Danvers and others; the writer, however, quotes the opinion of the majority of American observers when he states that he believes the naso-pharyngitis to be purely of secondary origin, and to be explainable in the words of Bennett, of Buffalo, as follows: "The lacrimation in these cases is often excessive, and the carrying off of so much extra fluid into the nose causes the turbinals to become soggy, and the nostrils to become wholly or partially occluded. The proof of this to my mind is that when the elevations in the lid are removed, the excessive lacrimation ceases and the catarrh rapidly subsides."

In 1886 Gradle, of Chicago, reported four cases of a disease of the conjunctiva, which, by reason of their periodicity—lasting only during the warm season—suggested to him that they represented the pathologic entity known as hay fever, localized, however, entirely or principally in the conjunctiva. Although there was no manifestation on the globe, the changes in the tarsus were characteristic of vernal conjunctivitis. In a later paper (1895) this author states that the etiology of the affection is unknown, and adds that none of the cases observed by him presented the history of annually recurring typical hay fever.

Have You Ever Known the Disease to Be Contagious?

All of the answers to this question were negative, with the exception of that received from Weeks, of New York, who replied that "often two or more in a family were attacked, a fact which points to a contagious quality," although he adds, "it is possible that infection alone may explain the manner of the acquisition of the affection in all of the cases that come before us."

Have You Ever Known the Disease to Be Hereditary?

Although the answers received to this question would tend to corroborate the view held hitherto, that the disease is not hereditary, a number of replies were received which indicated that the reverse might sometimes be true. Thus Wilder, of Chicago, cites the case of a boy 6 years old, whose mother gave a history of having had attacks of vernal conjunctivitis for a number of years, although an examination of her eyes made at the same time with her son's, showed no signs of it. Stevenson,

of Ohio, saw both mother and daughter affected. Jackson, of Denver, thinks that he has seen instances where the disease was transmitted to the second generation. Theobald, of Baltimore, reports cases of the palpebral variety occurring in both father and son; and finally, Gifford, Tiffany and several others believe the disease to be sometimes hereditary.

What Treatment Have You Found Most Efficacious?

The chief interset of the clinician in vernal conjunctivitis undoubtedly centers in the treatment, for there is perhaps no other disease in the realm of ophthalmology which has been found to be equallly resistant to all therapeutic effort. There is scarcely a drug or a measure which could exert any possible beneficial action on the conjunctiva which has not been essayed. On account of the resemblance of the granulations to those of trachoma, treatment which was known to be of service in controlling that form of conjunctival disease has been generally tried, but in most cases the caustics employed were found to aggravate the symptoms, and removal of the granulations by grattage or excision was usually followed by their rapid reappearance. Milder astringents have also been employed, but from the answers which have been obtained, the experience of American ophthalmologists is apparently in agreement with that of foreign authors, that while remedies may be at times of service in relieving acute symptoms, none have been found which exerted a curative influence. Among the drugs which have proven most valuable in alleviating the symptoms and shortening its course, are mentioned weak solutions of silver nitrate, or its substitutes, protargol and argyrol; formaldehyd solution and protargol 4 per cent., hydrastin, holocain, antinosin, solutions of adrenalin chlorid, dilute acetic acid, the chlorid and sulphocarbonate of zinc, ointments of yellow oxid of mercury, of salicylic acid and of lanolin. While the writer is forced to acknowledge the intractability of this disease in many cases, he still believes that there is reason to approach the conduct of cases of vernal conjunctivitis with some confidence of success. In the first place, he would insist upon the value of certain prophylactic remedies which should be applied to the conjunctiva for some weeks or even months before the annual attack in the spring is expected. For this purpose he employs weak astringent washes with occasional massage of the conjunctiva with unguent hydrarg oxid. flav. (½ per cent.). Casey Wood massages the conjunctiva with lanolin to obtain the same result. Any constitutional disturbance is corrected and general hygienic measures enjoined, such as out of door exercise and cold bathing. If well borne, arsenic should be administered internally, as a number of foreign observers think they have established the connection between this disease and certain eczematous skin eruptions. If despite these precautionary measures, the symptoms of the disease appear, then if this be the first attack the patient should be advised of the nature of the affection, and should be counseled to restrict the use of his eyes at near work on the days when his symptoms are most intense, and to remain as much as possible in a cool, darkened room, out of the irritation of the sun's rays. Dark glasses should be worn in the light. Iced compresses should be maintained almost constantly, and all lotions which are to be instilled should be iced also. The lids should be anointed from time to time with a salve of the yellow oxid of mercury (½ per cent.). A mild antiseptic nasal spray may be employed, but as the writer has not been able to satisfy himself of any causal relationship existing between the irritation of the nasal pharynx, which is present in most cases, and the conjunctivitis, he does not think any special treatment of the nose or throat necessary. The drugs which are to be employed locally will depend largely on the type of inflammation which the disease assumes; if, as is usually the case, the tarsal conjunctiva is alone affected, and the granulations have not attained great size or density, mild antiseptic washes, either of boracic acid or boracic acid and cocain (acid boracic gr. x; cocain, gr. ii to f. ℥i) or of bichlorid of mercury (1-5,000) or of dilute acetic acid (gtt. x ad. f. ℥i), should be used at frequent intervals to keep the eyes clean and freed from secretion. In addition to this, a solution of adrenalin (1-5,000) will be found not only to bring great relief to the symptoms, especially to the itching which is always so troublesome, but to exert a marked influence upon shortening the course of the disease. Weeks has found the insufflation of calomel powder on the palpebral conjunctiva in an extremely thin layer, once in every forty-eight hours, to be of service.

In cases of longer standing, where the granulations are larger, but still flat and not yet of gristly consistency, the same lotions may be continued, but more powerful alteratives should be employed, such as either a solution of corrosive sublimate (in the strength of 1-5,000); massage of the lids with an ointment of yellow oxid of mercury (2 to 4 per cent.), or the application of boroglycerid and protargol 4 per cent. Suprarenal solution with chloretone, and a solution of formaldehyd and protargol are often of value. The persistent use of weak (¼ per cent.) solutions of nitrate of silver is of service in this variety also, especially if there be much associated catarrh of the conjunctiva. If the granulations still persist, despite these remedies, recourse should be had to electrolysis or the actual cautery, but excision of the granules by the knife should not, in the opinion of the writer, be performed in this stage, for it is possible, indeed usual, for such granulations, even those of large size, to disappear wholly on the advent of cool weather, and for the conjunctiva to assume a perfectly normal appearance. It does not seem justifiable, therefore, to employ a method of treatment which might produce permanent changes in the lids and lead to troublesome complications. Cauterization of the granulations by strong acids, such as chromic, is also to be depreciated.

In the third variety of the tarsal type, that in which the granulations have become hard and gristly and are rounded, it is better to proceed at once to the removal of such granulations by surgical measures. In this type the granulations persist through the winter, though the subjective symptoms may disappear, and as they occasion a permanent thickening of the tarsus, the scar tissue which is left by their removal is less annoying and disfiguring than the presence of the granulations themselves. The removal of the granulations in this stage is not an easy matter. The roller forceps will be found useless, and it is impossible to express the contents of such a granulation, even after it has been incised; each granulation is really a dense fibrous body, and is best removed by shaving it off even with the conjunctiva by means of a very sharp knife. Massage of the conjunctiva with lanolin or with a salve of the yellow oxid of mercury (4 per cent.) should be steadily maintained after the operation, as it will be found that the granulations will exhibit a tendency to recur; indeed, despite these local applications, repeated removals with the knife will often be necessitated. The prompt surgical intervention in this class of cases is usually followed by the greatest

amelioration in the symptoms; and the ulceration of the cornea, which is not infrequent in this type, from the mechanical pressure exerted upon the cornea by the size and hardness of the granulations, may usually be prevented.

In the ocular type of inflammation, massage of the globe with the yellow oxid of mercury will cause the disappearance of the swellings in many instances, if these be but small; where the granulations are large, frequent insufflations with calomel are of service, but at times the cautery will have to be resorted to. In the associated form, a continuation of the double line of treatment just outlined may be employed, and it will be found that if the granulations on the tarsal conjunctiva be similarly attacked, the changes around the limbus will be seen to disappear *pari passu* with those on the lids.

It is of interest to note that Starr and Bennett, of Buffalo, have obtained benefit from exposure of the conjunctiva to the action of the *x*-rays.

Although few, perhaps, may be able to take advantage of the benefits which accrue from it, change of climate is of great importance; while, as already stated in an earlier paragraph, it is impossible to ascertain from the answers received to the circular letter whether there was any part of the country which exhibited an absolute immunity against the disease, there is general testimony that cases of vernal conjunctivitis get well quicker in a high, dry, cool climate than under any other conditions. Thus patients do better in the mountains than at the seashore. Though it should be mentioned in this connection that Kipp has found that an ocean voyage removes annoying symptoms.

Note.—The complete bibliography of vernal conjunctivitis may be found in the article by Terson appearing in *La Gaz. des Hopitaux*, July, 1898, and in the monograph by Danvers, entitled "Spring Catarrh of the Eyes," and published by J. Bale, London, 1901.

DISCUSSION.

Dr. John E. Weeks, New York—I have seen a comparatively large number of cases of this kind, the percentage being greater in the last few years in proportion to the number of cases of eye disease. It is a curious fact in my experience that these cases have occurred among the well-to-do in a proportionately larger percentage than in those whose hygienic surroundings have been less favorable. Children who live in the city during the winter and go to some country home in the summer are those who have furnished the largest number of cases. In my experience children under the age of 3 years seldom present this condition, and I do not think that I have ever seen the onset of the disease after the age of 25 years. I have, however, observed the results of this condition and a continuation of it in adults up to the age of 45 or 50 years.

The striking feature in this disease is the variability in the length of time during which it persists. I have observed it in children from whom it has entirely disappeared after the third summer. I have observed it in other cases in which its recurrence has been noted for at least eighteen years.

There does not seem to be any particular predisposition on the part of the individual to contract the disease; it occurs in the robust equally as often as in those who show evidence of relatively poor nutrition. In regard to locality, I have observed it in those who live near the seashore as well as those who live inland.

In regard to the cause of the disease, I have nothing to offer. It presents many of the qualities of an infectious nature. I have not as yet been able to discover any proof of contagion. I have, however, from time to time, observed it affecting two or three children in one family, but have never observed it in the form of an epidemic. In regard to the comparative frequency with which it affects the sexes, I have seen it more often in males. Terson (*Annales d'oculistique*, November, 1902) states that in the cases that he observed 85 per cent. were in males.

The disease affects both eyes almost without exception. I have seen involvement of the cornea in some cases, particularly those in which vegetations occur.

As to pathology: vernal conjunctivitis differs from trachoma in that the retrotarsal fold never presents vegetations; in fact, it does not appear to be involved, if we except some slight swelling. The minute papillary elevations which occur present a character entirely different from the trachoma follicle. They may be likened to the pile of velvet, perhaps a trifle coarser and shorter. This condition persists in a modified manner throughout the months of quiescence. After some years the papillæ become more or less aggregated and form fungoid elevations. These elevations under the microscope show a condition resembling fibrous papillæ. In some the sections show a great deal of fibrous tissue, the epithelial cells dipping down into it; in others the papilliform arrangement is more marked. The fungoid masses may be very few in number, scattered over the tarsal conjunctiva of the upper lid, or they may be quite numerous and involve the tarsal conjunctiva of both lids. It is at this stage that corneal complications are prone to occur. In this and the early stage a scanty, tenacious, muco-purulent secretion is present. The hypertrophied pericorneal tissue may encroach on the cornea, leaving on subsidence an irregular, opaque annular ring which may reach 2 mm. in width. I have never seen it extend over the entire cornea.

In the treatment of this condition I have found that mild measures serve best. Bathing the eyes with a warm solution of boric acid twice daily and the introduction of a 1 to 1.5 per cent. ointment of the yellow oxid of mercury into the eye once daily, at night, serve to reduce the inflammatory phenomena and to bring about a favorable condition. It has also been my habit to dust calomel on the conjunctival surface after everting the lids, perhaps every second day, putting on a very thin layer of calomel. The fungoid masses may be excised, but they are pretty sure to return in a very short time. However, if they are causing much irritation to the cornea, they should be excised. An attempt to change somewhat the nutrition of the conjunctiva by compressing it between the blades of trachoma forceps is sometimes of service. On the whole, however, mild treatment results in the greatest good to the patient. In regard to the use of cocain, I would say that in my hands it has not been beneficial. The congestion that follows often prolongs the disease.

Dr. Henry Dickson Bruns, New Orleans—In our clinics in this city I have had a good opportunity of comparing diseases of the eye as they exist in the white and negro races. I have just finished the study of 17,000 odd cases, of which 36 per cent. were negroes. Now the point I would like to dwell on is this: I have long paid especial attention to phlyctenular ophthalmia because of its frequency in the negro. The negro is often blinded by the disease, a condition that I have never seen in a white patient. I believe that the elevated ring appearing around the cornea and to a certain extent resembling that seen in spring catarrh, is a phlyctenular phenomenon. I have observed every possible transition type and every possible variety of infiltration. The transient nature of the disease, the readiness with which it seems to yield to simple treatment, is notable; the local application of mercury and internal administration of small doses together with keeping the conjunctiva clean suffice to bring about a cure in a very short time. I have never seen the disease last more than three or four months. If you evert the lid and look for changes you find a conjunctiva smooth, natural and not injected. This is not spring catarrh.

Dr. H. Gradle, Chicago—As far as I am aware, this disease had been described only as circumcorneal tumefaction with occasional changes in the conjunctiva of the lids until I called attention in 1884 to the disease limited to the lids without lesion around the cornea. Among some 35 cases seen in Chicago I have found the circumcorneal lesion but twice.

The changes in the conjunctiva are progressive and increase from year to year. During the earlier years they disappear entirely in the winter. Later on both the lesions and the subjective symptoms may not cease entirely during the cold season, although invariably they diminish in severity. I believe I was the first to point out the analogy between spring catarrh and hay fever, both being limited to the warm season and to certain geographical regions. The patient with spring catarrh finds relief as soon as he visits a locality exempt from hay fever. I have seen, however, but one instance of coexistence of spring catarrh and hay fever in the same patient.

May has described the combined occurrence of spring catarrh and trachoma. Personally, I have never seen such a combination. As far as I have seen and learned, a radical distinction between spring catarrh and trachoma is the absolute exemption of the cornea in the former disease. As a rule, too, it is not impossible to distinguish the conjunctival lesions of the two diseases, independently of the history.

In the past two years I have seen at least three instances of conjunctival disease resembling advanced spring catarrh, but without the characteristic periodicity of that disease. These three were all recent affections according to the statements of the patients, but nevertheless they continued with but little abatement after the cold weather had begun. Since close inspection of the conjunctiva excluded trachoma absolutely there has been some doubt in my mind about the diagnosis. These patients, however, were finally cured by the continued use of a suprarenal solution of adrenalin, with the addition of chloretone (0.5 per cent.). In one the lesions and symptoms ceased gradually during the winter. In two others (and perhaps a fourth) the disease subsided gradually during the following warm season on continuing more steadily the same treatment.

DR. WILLIAM ZEUTMAYER, Philadelphia—I desire to corroborate the observations of Dr. Posey regarding the classification of Dr. Burnett. I have long regarded that clinical picture as a racial type of phlyctenular conjunctivitis. To my mind, in vernal catarrh the most characteristic subjective symptom is itching and objective symptom, non-involvement of the fornix conjunctiva.

DR. A. R. BAKER, Cleveland, Ohio—I would like to ask Dr. Posey to detail more fully the diagnostic features of this disease. In my practice I seldom if ever make a diagnosis of vernal catarrh. Either we do not have the disease in Cleveland or else I do not recognize it as such. If you call phlyctenular conjunctivitis "vernal catarrh," of course, we have lots of it, but I have not seen such cases as have been described as occurring in Switzerland and in Vienna.

DR. HIRAM WOODS, Baltimore.—I would like to ask about the pathology of the corneal complications in this disease. In Baltimore we see almost exclusively the variety which Dr. Bruns has described. In two cases under my care there have been corneal complications. It was specially noticeable that while the eyes presented appearances of acute inflammation, there was entire absence of the so-called corneal symptoms, photophobia, lacrymation, etc. Yet there was a peripheral ring of corneal opacity, partly hidden in one case by the swollen conjunctival tissue at the limbus. But for the presence of the acute conjunctival inflammation, one would have thought he was studying a cicatrized annular ulcer. With this absence of corneal symptoms it is improbable that we have acute keratitis. Still, the corneal changes are transient and can hardly be regarded as degenerative.

DR. M. D. STEVENSON, Akron, Ohio—The observation has recently been made that by passing a metallic or glass rod over the conjunctiva itching in the one case or painful sensation in the other would be developed, thus differentiating between vernal catarrh and trachoma. I have sometimes observed the contrary, and consider this statement of little value.

As to the treatment, I would like to mention the use of the *x*-ray. Dr. Smith of Warren, Ohio, has told me of some cases he had treated between the paroxysms of the disease with the *x*-ray with very great benefit. In one case he treated the lid that was most affected, and while its appearance changed but slightly, it did not become inflamed with the beginning of warm weather, while the lid of the other eye did.

Vernal conjunctivitis affects the palpebral conjunctiva chiefly and is often confined to the lids, but seldom to the limbus. True phlyctenulæ in phlyctenular conjunctivitis, on the other hand, are nearly always confined to the conjunctiva of the eyeball. I consider these two diseases entirely distinct and that, although not always easy to differentiate from one another, they are usually quite unlike in course and history.

DR. LOUIS STRICKER, Cincinnati—I would like to endorse what Dr. Bruns has said. I have had much difficulty in making a diagnosis of vernal catarrh, and have restricted the diagnosis to disease of the palpebral conjunctiva, and when I have found it to be a disease of the ocular conjunctiva I have put it down as phlyctenular conjunctivitis, and I treat these cases by internal medication only, with no local applications. I look on it as a peripheral neuritis, a result of toxemia from the intestinal tract. I do not believe there is a vernal catarrh of the ocular conjunctiva.

DR. HAROLD GIFFORD, Omaha—It seems unfortunate that there is a tendency to confound ocular vernal conjunctivitis with phlyctenular conjunctivitis. They are as distinct as they can be. As to its occurrence in the negro, I think Dr. Bruns said he had never seen a case in a negro; is that correct?

DR. BRUNS—Yes.

DR. GIFFORD—I have seen it in a perfectly characteristic form in two negro girls. There was no question of its being phlyctenular conjunctivitis, although the severe forms of phlyctenular conjunctivitis are common in negroes in our vicinity, as Dr. Bruns says.

In regard to the time it occurs, I think we are sometimes mistaken as to its occurring in life, being led to that idea by defective history on the part of the patient. I have seen the trouble crop out after many years of apparent freedom from it in patients I just happened to know had it when 8 to 12 years old. We sometimes see mild forms in children, which fade away, but during a very hot season crop out again, developing perfectly characteristic symptoms.

Another point is in regard to the one-sided cases. I think they are like the one-sided cases of trachoma; cases where they have had it in both eyes and have gotten over it in one. I have followed one such case, where a boy of 5 came to me with vernal catarrh of both eyes. I lost track of him, and after five years he came back with one eye practically normal and in the other a severe form of palpebral vernal conjunctivitis, as severe as I have ever seen. In this case vision was reduced to 20/200 in the affected eye, and, although it would improve under treatment, it would go back with sight greatly reduced, and finally I excised the conjunctiva of the upper lid and replaced it with an epithelial lip-flap. I think that is the only successful operative treatment.

DR. J. H. CLAIBORNE, JR., New York—I think I can array myself on the side of those who have seen vernal catarrh. I have never seen it in the negro, however, although I lived in the south before going to New York. I have seen it in New York City. We find it often in cases of good standing in life rather than in the lower classes, and I know of several cases where it repeats itself every year, and where it is restricted to the ocular and not to the palpebral conjunctiva. I have had the best results with the use of nitrate of silver and atropin and adrenalin combined. I should like very much to see the type Dr. Bruns refers to, and will certainly avail myself of the opportunity if I may.

DR. ROBERT L. RANDOLPH, Baltimore—In regard to the treatment, some five years ago I thought I had discovered what was almost a specific in the use of strong ointment of salicylic acid, but since reporting five cases I have seen two in which it failed. I start with an ointment of 1 per cent. and increase it up to as much as 80 grains to the ounce, or 16 per cent. In the cases of my original report the vegetations were pronounced on the upper lids, and I found with the use of the strong ointment that the vegetations disappeared, leaving a clean conjunctiva. I have since then, however, met with a

case in which the ointment had no effect whatever. It seems to be a trustworthy treatment in the cases of ocular vernal catarrh, but less so in the palpebral form. I have never entertained the idea for a moment that the disease was of bacterial origin.

DR. E. P. MORROW, Canton, Ohio—Dr. Baker spoke of never seeing these cases of vernal catarrh. I have seen a number of cases and am only sixty-three miles south of him. In treatment, the salicylic acid ointment, just spoken of by Dr. Randolph, has given me the best results. The strength I have used has been from 5 to 10 grains to the ounce. The intense itching complained of by these patients is entirely relieved by the application of ice cloths, the method of applying them being the same as employed in purulent conjunctivitis. I believe that this tends also to shorten the disease.

DR. WM. CAMPBELL POSEY, Philadelphia—As to the occurrence of the disease in different parts of the United States: Men who have lived in Maine many years have told me that they had never seen a case there, and I have had an opportunity of personally observing that one case at least who presented very marked symptoms in Philadelphia was immediately benefited by a change of residence to Mt. Desert Island.

It is only in the cases where there are the hard, rounded granulations on the lids that the diagnosis is difficult, and in those the absence of pannus and the history will generally suffice to differentiate them from trachoma. I have observed a number of cases of vernal conjunctivitis in negroes, both of the palpebral and ocular forms, but I believe that most of the cases referred to by Burnett are of phlyctenular origin. In conclusion, I would like to call attention to the employment of the *x*-rays in the treatment of vernal conjunctivitis, especially since I have just received a letter from Dr. Bennett of Buffalo, in which he states he has had most excellent results in one case from this method.

Clinical Report.

A CONGENITAL SACRAL TUMOR.

RICHARD T. HENDERSON, M.D.
URBANA, OHIO.

History.—I was called, April 10, 1903, to see Mrs. L., a medium-sized woman, apparently healthy, aged 30. She was the mother of two children, the younger being 2 years old; she had never had any sickness since the diseases of childhood. Her family history was good. She was at about the seventh month of gestation.

Examination.—Her excessive abdominal enlargement was double that of any woman I had ever seen at full term. Palpation was impossible, as the slightest pressure caused excruciating pain. She was unable to assume the recumbent position owing to dyspnea.

Labor.—After being called once by a false alarm, I found her in labor April 20, the contractions being short and of not much force, though she said she had been in labor for five hours. Dilatation had taken place to the size of a silver dollar. Three hours later there was more dilatation. The contractions, however, seemed to be on the wane, though the woman was not in the least exhausted. After twelve hours of labor, the contractions becoming weaker and weaker and the intermissions more and more prolonged, I ruptured the membranes. A flood of water, at least five pints, passed at once. With a few strong contractions the head was now born, with the cord wrapped around the babe's neck. There everything stopped. After loosening the cord (in which I found no pulsation) I waited one-half hour for a return of contractions, but as none occurred, I began gentle traction. This caused such agony that I was forced to desist. I anesthetized her completely and easily delivered the shoulders, but was unable to accomplish anything further. I introduced my hand and found what I took to be the buttocks of another child, but was soon surprised to find this mass firmly attached to the buttocks of the half-born babe. I then drew down both feet and began traction. After fully thirty minutes' traction the tumor was delivered, followed by a quart of water. The third stage was normal.

The tumor was located on the sacrum and coccyx, and was 18½ inches in circumference.

The woman rallied slowly, then did very well for six days. On the sixth day she had a chill and a temperature of 106.

After treatment by the administration of quinin and by vaginal and intrauterine irrigation the temperature returned to normal and the patient recovered her usual health.

The County Society the Unit.—A year's work under its new constitution and by-laws has shown where certain changes are imperatively necessary to the proper and successful carrying out of the society's work in harmony with the American Medical Association. The existence of "members at large" is in conflict with the spirit, if not, indeed, with the law of the A. M. A., and all such "members at large" should be obliged to join their county societies. It is the county society that is the fundamental unit of organization—properly so—and all licensed and reputable physicians should belong to this fundamental organization. Anything other than this would be as inconsistent as permitting a man becoming a member of the Knights Templars without being a member of a "blue lodge." The illustration cited is further apropos, for the whole plan of reorganization of the A. M. A. is merely an adoption of the general fraternal society plan. Therefore, we would say to all members at large, "Join your county society, or the county society nearest to your home, if there is none in your own county."—*California State Jour. of Med.*

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THE ETIOLOGY OF SYPHILIS.

It requires but the briefest survey of the literature of syphilis to realize the stupendous amount of work that has been done for half a century in searching for a microbic cause of the disease. It seems as if most of the individuals who have begun the search succeeded in finding a microbe, and under the force of enthusiasm, rather than of satisfactory proof, many have claimed the rôle of specific etiology for their organism.

The name of Donné is one of the first, if not the first, to be associated with the microbic etiology of syphilis, but this was more or less unintentional on his part, apparently, as his partisans state that he did not believe certain organisms he found in the discharges of syphilitics were the cause of the disease. His work was published in 1837. No noteworthy contribution to the subject was made until 1869, when Hallin claimed that a micrococcus which he found constantly in the blood of syphilitics caused the disease. This was a queer organism. It was found in the red blood cells, which became enlarged and vacuolated as a consequence of the invasion, and after a time they acquired ciliary elongations. It will be remembered that a few years ago Arnold described a number of morphologic peculiarities which develop in red blood cells as a result of standing. Hallin's observations in syphilis probably concerned some such artefact. In the same year Klotzsch found certain "spores" in the blood and skin lesions and cultivated them in broth; but his cultures were not taken in the light of confirmatory evidence by his contemporaries.

The "crypta syphilitica" of Salisbury and Brühlkens, which was published in 1870, was followed shortly by two discoveries of meteor-like career. Klebs, in 1870, described a remarkable organism, cultivated from syphilitic lesions, which was capable of growing either as a coccus or a bacillus, and often in peculiar and characteristic masses. It would seem probable that he had a mixed culture. However, he succeeded, to his satisfaction, in conveying syphilis to monkeys by inoculating this culture. He also infected monkeys with syphilis by direct transplantation of chancres. Then Lostorfer held the attention of medical scientists for some months with his "corpuscles of syphilis." They were seen to develop in syphilitic blood which had been kept for a few days in a moist chamber. There seems to have been an interesting sitting of the Wiener Medicinische Gesellschaft at this time, when Lostorfer volunteered to base the diagnosis of syphilis on an examination of the blood. The opportunity was given him, and he is said to have arrived at the differential diagnosis with considerable exactness in this way. But soon other observers found the same "corpuscles" in the blood in health and in various diseases, and the conclusion was reached that they were disintegration products, "granules of paraglobulin," as one writer said.

There appear to have been some equally successful observers in America at this time. Bermann of Baltimore had found bacilli and micrococci similar to those of Klebs, in the sections of the tissues, particularly in the vessels. Some critics believed he was studying intravascular fibrin. Then there was the dramatic demonstration of the fungus of syphilis by Cutter of Boston at a meeting of the American Medical Association held in Chicago in 1878. He found mycelium in the chancres by the use of a 1/50th and a 1/75th objective lens.

In 1881 Aufrecht found a micrococcus or a diplococcus in papular lesions, and Obraszow a similar organism in lymph glands. The findings of Birch-Hirschfeld, also of Peschel, in 1882, differed little from some previous observations. They found groups of cocci in all gummatous tumors except those which were cicatricial, in mucous patches, papules, and in indurated chancre. The best results were obtained by a study of fresh tissues in either acetic acid or potassium hydrate. Those who have used these solutions in the study of fresh tissues will recognize how closely various granules may simulate cocci. In the same year the results of Martineau were published. He introduced hogs into the experimental study of syphilis, claiming to have transferred the disease to them by inoculating cultures of hard chancres. These cultures were made by placing the chancre in a liquid medium at brood-oven temperature, a growth of micrococci resulting. The overlying liquid was used in the inoculations. The hogs underwent a papular eruption and the microbes could again be cultivated from the blood; they resembled somewhat those described by Klebs. He also gave monkeys a hard chancre on the prepuce which was followed in time by a characteristic papular eruption. Many others since then have obtained micrococci from syphilitic lesions, but there were also published valuable negative results, especially by Köbner (1883) and Neumann (1883), who failed utterly in the attempt to inoculate animals with syphilis.

Of all the micro-organisms observed or described in syphilis the bacillus of Lustgarten (1884) has been accorded the most favorable reception up to the present time. It will be remembered that this organism resembles the tubercle bacillus in morphology and staining properties, but is more easily decolorized by acids. He found it in small numbers in the primary sores and in internal organs in all of sixteen cases examined. It has never been cultivated artificially. Confirmatory work on this organism was undertaken by several observers. De Michele and Radice found it in forty-five out of sixty-four cases examined. It seems that Doutrelepont

and Schutz had carried on studies contemporaneously with Lustgarten and shortly after the latter's report described an organism resembling or identical with the Lustgarten bacillus (1885). It was found in two initial scleroses, two broad condylomata, a papule from the chin and a gumma. It occurred singly or in small groups especially at the periphery of lesions, but often many sections contained no organisms.

De Giacomi and also Gottstein (1885) were able to demonstrate the Lustgarten bacillus in a number of cases in both initial scleroses and gummata, and offered some improvements in the staining methods. Many others have been unable to find the organism, notably Sabouraud (1892), who after a study of twenty cases concluded Lustgarten had found only a pretty stain for the tubercle bacillus. This may not have been entirely just to Lustgarten.

More recently interest in the etiology of syphilis has revived. V. Niessen since 1898 has been publishing assiduously descriptions of his organism and his animal inoculations. As this is a pleomorphous organism, usually a streptobacillus, he is willing to concede that Klebs, Lustgarten and others may have seen one or another of its forms. It stains by Gram's method, is easily decolorized by acids, has endospores, and is found in all lesions and in the blood in all stages of syphilis, and it is supposed under no other conditions. He has been able to cultivate it, to produce syphilis in rabbits by injecting the culture, even to the extent of causing hereditary syphilis (abortion). The bacillus was found in the fetal lungs, and a papular eruption and ulcerated buttocks were present! Since the organism was present in all stages of the disease he concluded that syphilis is absolutely incurable. V. Niessen has met a great deal of ridicule among the Germans.

In 1901 de Lille and Julien cultivated a Gram-staining bacillus from the blood which was pathogenic for guinea-pigs and frogs and was agglutinated by the serum of syphilitics. The hog has been used for inoculation with syphilitic blood and excretions especially by Adrian and by Hügel and Holzhauser, and they claimed to have caused a generalized papular eruption which appeared about four weeks after the inoculation.

Joseph and Piorkowski have attacked the subject in a novel way. Since it seems probable that the sperm of syphilitics may infect a woman and convey syphilis to offspring, they concluded to study the sperm bacteriologically. They thought also that placental tissue might logically be a good culture medium. This was accordingly inoculated with the sperm of syphilitics and with that of healthy men as controls. Subtracting everything that was considered contamination, they centered their attention on certain clear colonies made up of a motile bacillus having the morphology of the diphtheria bacillus and the size of the subtilis bacillus. It stains by Gram's method, is not acid-proof and degenerates soon, with the formation of metachromatic granules. It has since been cultivated on various ordinary media. The positive findings occurred in about forty cases in stages varying from five weeks to five years of the disease, and was absent in the sperm of fifteen normal cases; positive results were secured also in twenty-seven hard chancres, in papules, mucous patches and other lesions. No satisfactory animal experiments have been obtained.

The medical profession appeared to have been little impressed with the protozoic cause which Max Schüller discovered about two years ago. He incubated syphilitic tissue and found the development of bodies resembling protozoa, which some German critics considered cork cells. The fact that he found similar "organisms" in carcinoma and sarcoma added no strength to his theory.

We may say that now we are confronted with the bacillary theory of syphilis, in contradistinction to the micrococcus theory which prevailed in previous years. It appears probable that several recent observers have been studying the same bacillus, particularly would this seem true in regard to the Gram-staining organism. And one may say that circumstantial evidence against this form of organism is accumulating rather formidably. But unfortunately confidence is often lessened in the work published because of hasty conclusions on the part of the investigators. A papular eruption in a hog or rabbit is surely not easy of recognition, and it is possible that many organisms may be able to produce it. And there are perhaps many organisms which would cause a rabbit to abort, as any infectious disease might; and excoriations on the buttocks of an immature, thin-skinned, fetal rabbit may have many explanations. Moreover, it does not follow that the specific germ for syphilis would be pathogenic for animals in the same way as in man. In pathology there are many instances where this is illustrated. Then the agglutination test for specificity of an organism can not be relied on unless it is most carefully controlled by experiments with normal serum.

In this day of rapid scientific progression, it is not to be forgotten that with new methods of differentiation, new burdens of proof have to be met.

INFANTILE HYPERTROPHIC STENOSIS OF THE PYLORUS.

The increasing number of reports of this disease, the contentions over its surgical or medical treatment and opposing views as to its nature and cause, it is to be hoped, will soon lead to a few careful and thorough anatomic studies. The earlier conception of its fundamental congenital genesis, at least for the majority of cases, has been abandoned; this is mainly due to the absence of symptoms for varying periods after birth. In the 23 cases collected by Pritchard in 1900 there were some in which symptoms were not observed until the infants were several months old. The absence of any reports of increased connective tissue in the histologic studies of the hypertrophied pylorus is also to some extent opposed to the intrauterine development of the condition. In a small number of cases, a prenatal stenosis at the pylorus may occur, as it does in other parts of the

alimentary canal, e. g., imperforate anus or ileocecal valve.

There are reasons for believing that the name of the affection might with advantage undergo further modification—the designation congenital having been dropped—since it is altogether likely that the obstruction of the pylorus is but one phase of a series of events and does not primarily cause either the repeated emesis or the final death. Numerous instances of stenosis of the pylorus are recorded in adults; the observation by Landerer of a stenosis, the passage way measuring only 2 mm., in a man who lived to the age of 45, is a notable example. In a number of the cases reported of stenosis in infants, the obstruction was not as marked.

There are certain difficulties confronting investigation of the infantile hypertrophic stenosis; for instance, there is at present no means of determining whether, at the time of fixation of the specimen, unstriped muscle fibers are in a condition of contraction or relaxation; in consequence, those who maintain that the obstruction of the pyloric orifice is caused by tonic spasm are unable to find in the microscopic examination anything to refute or confirm such an idea. Accurate measurements of the infantile pylorus, its caliber, and the thickness of various coats, at different periods of development, are also wanting.

The anatomic change in the specimens examined is a remarkable hypertrophy of the layer of circular fibers. Whether this hypertrophy is only apparent and caused by "systole," as is urged by Pfaundler and others, or whether it is real and secondary to prolonged contractions, remains to be determined. In some instances the stenosis has disappeared with the pressure of a column of water of a certain height, implying thereby a condition unassociated with organic disease.

One direction research should take is the careful examination of the nervous system of these infants, for it is to be remembered that Yzeren was able to produce forcible and prolonged contraction of the pylorus and adjacent region in dogs and rabbits by section of the vagi. That alterations in the innervation of the stomach may be responsible for this disease of nurslings has occurred to more than one observer; examination of the nervous system, so far as we know, has not been made. Degenerative changes in the vagi, or their nuclei of origin, and consequent lessening of their inhibitory action, might result in spasm to which hypertrophy was secondary.

The number of reported cases is now over 50; two or three years ago it was half that number; of the 50, 20 have been operated on, with eight deaths. Pylorectomy, pyloroplasty, dilatation of the pylorus (Loreta's operation) and gastroenterostomy have all been performed, the last two with greatest frequency. The difficulty and high mortality attending and following surgical intervention are discouraging, and, on the other hand, good results are reported from attention to the diet. The presence of free HCl in the gastric juice, as determined by Knöpfelmacher and in a number of cases recently by Freund,[1] with their recommendation that cow's milk, raw or skimmed, be given to counteract this, also point to the eventual removal of the affection from the domain of surgery.

SUICIDES OF PHYSICIANS AND THE REASONS.

Incited by a cable dispatch from London announcing a great increase of suicides among physicians in Great Britain, the Chicago *Tribune* reviews the records for the United States, and finds for the past twelve and one-half years that a total of 519 physicians have committed self-murder. The average annual number is about 41, which has been exceeded six times in twelve years. The smallest number was 23, in 1891, while the largest number was 53, in 1893, a time, by the way, of great financial depression. A record for the first six months of 1903 indicates that the present year will probably be up to the average. The above figures, while not indicating such an increase as is reported from abroad, are sufficiently formidable as they are; they far exceed the average ratio of suicides in the general population, in this country at least, and are suggestive in many ways. In Great Britain the cause of the increase is attributed largely to depreciation of income. They suffer there from overcrowding of the profession, competition with quacks and the exploitation of the medical profession by workingmen's clubs, which has become a standing theme in our English contemporaries. In this country we have the trouble of overcrowding to even a greater extent, for here we have twice the number of physicians in proportion to the population as in Great Britain. Moreover, the world is getting healthier, and this healthfulness, again, is largely due to the labors of physicians, who are the only ones that work against their own interests continuously. Mainly through their efforts morbidity is greatly decreased and the professional income of the physician is also diminished.

We have here, moreover, greater competition with quacks and all aberrant sects, like Eddyism, Dowieism and others than do our confrères abroad, and we are annually educating, as Dr. Billings has shown, about twice the number that is required to fill the naturally occurring vacancies in the profession. It is not remarkable, in considering these facts, that failures must occur, that many of our professional brethren have to drop out of the profession in one way or another, and that weaklings, those morbidly disposed, and those lacking in high principles and moral inhibitions, might very easily adopt suicide as the most direct way to end their troubles. That more do not do this we think speaks well for the profession, both here and elsewhere.

Another reason suggested is that the physician is familiar with death in all its forms, and always has the means of suicide at hand. This is also probably worthy of consideration in connection with the materialistic tendencies which, we think, exist too much among us.

1. Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1903, xi, 309.

It is not a bad thing to be reminded of unpleasant facts, if by such reminders any influence whatever is exerted toward doing away with the evils that exist. If we know that physicians are disproportionately given to suicide under the stress of modern life, while other professions also suffering from overcrowding are not, it is well to look for the reasons. The real main factor is, we believe, the business negligence of the profession as a whole. It does not look out for its own interests as it might very properly do without in the least disregarding the interests of the public. With proper organization and regulation, which is now, we believe, fairly well inaugurated, though far from being perfected, there will be less reason, we trust, in the future than there has been in the past for suicide among physicians.

THE STRIKE FEVER.

An Indiana official has, according to newspaper reports, diagnosed the cause of the present epidemic of strikes as due to a bacillus. As far as its prevalence and apparent contagion goes, it would seem to be a rational conclusion that there is some sort of morbid virus or germ extant that produces the present outrageous condition of things. The extirpation of this particular germ, however, is a sociologic problem, not a medical one, except in so far as the mental condition of the strikers at the present time is a psychologic phenomenon that deserves some attention by the psychiatrist. There is no question, however, that if the present febrile movement continues there will be some complications calling for medical treatment. The enforced idleness of a large number of working people and their consequent financial embarrassment, will have much to do in depreciating their bodily welfare, and in causing impairment of natural immunity. Should the "epidemic" go further, the public at large will suffer. Great sociologic injury may easily result from extensive stagnation of manufacturing and other occupations, and the financial condition of the country may thus be seriously interfered with. These results are an interesting matter for study, both in their influence on present pathologic conditions of the laboring classes and on the people as a whole.

THE YELLOW FEVER ORGANISM.

Within the past two or three years the number of the animal parasites known or suspected to be the cause of disease has been notably increased, and if the extension of our knowledge in this direction continues at the same rate, we may have to modify our terminology to some extent, and instead of the name "bacteriology" as a branch of medical science, use some more comprehensive term. One of the latest additions to the list is the *Myxococcidium stegomyiæ,* which Drs. Parker, Beyer and Pothier[1] of the Public Health and Marine-Hospital Service find as a regular denizen of the yellow fever contaminated mosquito. It is true that not all the steps necessary to positively assure us of the etiologic importance of this organism in yellow fever have yet been taken, or at least, if taken, have not been published, but it has a respectable—if that be the word—standing on the suspected list. We can hope at least that it will be determinately ascertained to be the cause of this tropical scourge, and that by the further study of all its life history we can in time exact a still more efficient control over the disorder. It is something to know, or even reasonably suspect, who are our enemies, and be able to act accordingly. The authors make no claim to the discovery of the genuine organism, though they evidently are not unwilling to call attention to the fact that their discovery strongly points that way. There is an apparent advantage in the study of these pathogenic animal organisms over that of bacteria; we have in them a fuller life history to work out, and while specific characters are not as marked as in the higher organisms, there are more to characterize them in a biologic point of view than is the case with the lowlier vegetable forms. The field, however, is wide enough in both, and either may have its special advantages in the study of its life cycles and that of its toxic action and constituents.

1. Report of Working Party No. 1, Yellow Fever Institute, Public Health and Marine-Hospital Service, Washington, 1903.

RESEARCHES ON DENGUE.

In connection with the above we may say here that the catalogue of the iniquities of the mosquito is not yet exhausted. Besides its maleficent function as the transmitter of malaria and yellow fever and its general character as a pestilent nuisance, there is yet another disease of tropical and warmer temperate regions that is being credited to its mischief. The Hawaiian Board of Health has already taken action against it as a factor in the spread of dengue, and in the *Journal of Tropical Medicine,* July 1, Dr. H. Graham of Beyrouth, Syria, reports his investigations into the causation of this disease, and his conclusion derived therefrom that it is due to a protozoön conveyed and inoculated by the mosquito. He has found and studied the evolution of a parasite in the mosquito and in the blood of dengue cases that seems to him satisfactorily assured as the cause of the disease. Dengue not being a fatal or serious disorder, he found no difficulty in obtaining plenty of human subjects on whom to experiment; indeed, he says the difficulty was to select the best from the multitude who offered for the sake of the compensation paid. His experiments paralleled to some extent those of Reed and his associates with yellow fever, and though they were not so elaborate and conclusive, yet they seem, as related, to afford a very fair presumption in favor of his conclusion. The species of mosquito chiefly implicated appears to be *Culex fatigans,* but the notorious *Stegomyia fasciata,* which coexisted with it in Beyrouth and its environs where the experiments were made, is perhaps not above suspicion. The culex, however, seems pretty well convicted of being a harborer of the germ. Experiments were also made with inoculation of the salivary glands of this species, carefully dissected out and mixed with a warm sterilized normal peptonized saline solution. These inoculations produced an attack in every way similar to dengue, but so severe that he desisted from further experiments in this line. It would seem that in this way a particular concentration of the virus was obtained. Dengue organisms were found in the blood of the patient, thus removing the suspicion of septicemia in

the case. If Graham's findings are confirmed in other parts of the world where dengue abounds, and the special variety or varieties of mosquitoes accurately determined, it will be another victory for preventive medicine over a most annoying, if not actually dangerous, affection.

Medical News.

ILLINOIS.

Personal.—Dr. Herman A. White, St. Charles, will sail for Europe August 4.

State Officials Enjoined.—Joseph Hanreddy, the lowest and an unsuccessful bidder for the contract to erect eight cottages at the Illinois Hospital for the Incurable Insane, at Bartonville, has filed a bill asking an injunction against the state auditor, the trustees of the hospital and the contractor, alleging fraud in the awarding of the contract.

Chicago.

Vaccination and Smallpox.—Of the 311 cases of smallpox which have come under observation and treatment in Chicago this year, only 39 showed any evidence of vaccination whatever, and not one of these had a recent, protective vaccinal mark; they were all adults who either showed marks of vaccination in childhood, never revaccinated, or doubtful, non-characteristic scars, as of burns or other injuries.

Personal.—Dr. N. Senn is taking his vacation in the west. He went by way of Rock Springs, Wyo., where he was the guest of Dr. R. Harvey Reed, to the Yellowstone Park, and from there will visit the Yosemite Valley.——Dr. Julius Grinker has returned from Europe.——Dr. George W. Newton and family sailed for Europe July 18.——Dr. Stanton A. Friedberg sailed for Europe July 17.——Dr. and Mrs. William Cuthbertson have returned from their European tour.

Less Contagious Disease.—Only 57 cases of the contagious diseases—diphtheria, measles, scarlet fever, smallpox, etc.—were reported during the week ended July 18. This is the lowest number since September, 1901. In the corresponding week last year there were 119, and the 34 cases of diphtheria and 14 cases of scarlet fever reported this week are one-third and one-half less than the respective number reported during the previous week. Measles, which has been epidemically prevalent for many months, is fast disappearing, as also is smallpox, the solitary reported case of which was that of an unvaccinated infaut of 6 months.

Comparative Mortality.—During the first six months of 1903 a total of 15,201 deaths from all causes were reported, giving an annual death rate of 16.24 per 1,000. This is an increase of 3,103 deaths over the number for the first six months of 1902, and an increase of 18.5 per cent. in the annual rate in proportion to population. Of the causes of death showing the greatest rate of increase were typhoid fever, 154 per cent.; scarlet fever, 147 per cent.; measles, 136 per cent.; pneumonia, 60 per cent.; Bright's disease, 58 per cent.; acute intestinal diseases, 29 per cent.; suicide, 24 per cent.; consumption, 17 per cent.; heart diseases, 14 per cent. Pneumonia caused 3,133 deaths in these six months, as against 1,961 in the first six months of last year, and consumption 1,561 and 1,325 respectively.

MARYLAND.

Baltimore.

Doctors Indicted.—Drs. Robert X. Giering and Anna Giering were indicted by the grand jury, July 15, on the charge of publishing improper matter in a medical book. The former gave $300 bail; the latter is said to be out of the city.

Deaths of Last Week.—There were 124 deaths of children under 5 last week. This was nearly one-half the entire mortality, which was 251, equivalent to an annual rate of 23.41 per 1,000. There were 60 deaths from cholera infantum, and 4 each from typhoid fever and sunstroke. Consumption and pneumonia caused respectively 19 and 12 deaths.

Faculty Changes.—The following changes have been made in the faculty of the Maryland Medical College: Dr. George B. Scholl, associate professor of pathology and bacteriology; Dr. Gustavus Dohme, demonstrator of chemistry; Dr. Clarence P. Erkenbrack, lecturer on osteology, and Dr. Wilbur M. Pearce, clinical professor of diseases of children and physical diagnosis.

Personal.—Dr. Eugene F. Cordell has resigned the chair of practice in the Woman's Medical College and has accepted the honorary professorship of history of medicine in the University of Maryland.——Dr. N. G. Keirle, Jr., has resigned his position as resident physician of the Hebrew Hospital and will go abroad in August to study the Pasteur treatment.——Drs. Ridgely B. Warfield, Harry Friedenwald and Thomas R. Brown have gone to Europe.——Dr. Hunter Robb sailed for Antwerp, July 18.——Dr. Joseph E. Evans, Merion, S. C., has been appointed to the Marine-Hospital Service and assigned to duty at the Marine Hospital here.——Dr. Alfred H. Powell is again resident physician at Capon Springs, Va.

MASSACHUSETTS.

Goat's Milk for Babes.—There has been started in Malden, Mass., a goat farm for the production of goat's milk. The promoters expect that there will be a large demand for the milk, especially for the dietary treatment of sick babies.

Largest Class on Record.—More than 200 applicants took the examination before the State Board of Registration in Medicine, in Boston, July 14. Never before has so large a number appeared to take the examination for license to practice.

Personal.—Dr. Edward O. Tabor has been elected city physician of Lowell.——Drs. Ralph H. Seelye and Charles P. Hooker have resigned from the staff of Mercy Hospital, Springfield; Dr Charles J. Downey has been made visiting physician, and Dr. Harvey W. Van Allen electro-therapeutist to the hospital.

Free Antitoxin and Vaccine.—The law having been enacted which makes it the duty of the State Board of Health to manufacture for free distribution both diphtheria antitoxin and vaccine virus, the state bacteriologist, Dr. Theobald Smith, who will have charge of their production at the Bussey Institute, has gone to Europe to study the best methods of production there, specially in Germany.

Boston Deaths.—The report of the Boston Board of Health for the year ended Jan. 31, 1903, shows the lowest death rate ever recorded, 18.73 per 1,000, or .97 lower than the year before. The large items in this decrease were in zymotic disases, 360; in diphtheria, 128; in scarlet fever, 123. Typhoid fever caused 139 deaths. Of children under five there were 3,367 deaths, a decrease of 102. The total number of deaths for the year was 10,983.

Mortality of the Week.—With the coming of the hot weather the city's death rate, which was phenomenally lower in June, has returned to more usual conditions, and for the week ended July 18 was 18.58 per 1,000. Of infectious diseases 31 cases of diphtheria were reported, with 5 deaths; 20 of scarlet fever, with 3 deaths; 16 of typhoid fever; 23 of measles, and 34 of tuberculosis with 18 deaths. Pneumonia caused 25 deaths, and heart disease 21. The number of babies under one year who died was 52, and of children under five years, 67.

Brookline's Fight Against Mosquitoes.—Brookline's efforts to exterminate mosquitoes, which seemed so successful early in the season, have met much criticism and ridicule more recently, when the wet weather, followed by humid heat, has produced a scourge of the pests everywhere. The difficulty seems to be that a large sum of money is needed to do thorough work, and that is not available to the board of health. Steady work is being done, however, both in filling in, drainage and petrolizing. An attempt may be made to enforce the town ordinance which makes a pool of stagnant water wherever found a public nuisance.

MICHIGAN.

Pitcher Acquitted.—Dr. Sheldon Pitcher, Detroit, charged with causing the death of a young woman by a criminal operation in September last, was acquitted, June 18, by a Recorder's Court jury.

Refuse to Register.—The State Board of Medical Registration has declined to register Dr. D. M. Cooley, who attained some unenviable notoriety while a student at the Michigan College of Medicine, Detroit, by alleged unethical practices, and who obtained a diploma only on his signing an agreement to go out of the patent-medicine business.

Personal.—Dr. Elliott K. Herdman, Ann Arbor, has been appointed medical inspector of schools.——Dr. Oscar L. Dales has been appointed a member of the board of health of Grand Rapids, vice Dr. Hugh Lupinski, deceased.——Drs. John H. Neary, John W. Hoffman, William S. Brownell, Moses A. Fechheimer, George W. Augustin and William P. Melody have been appointed city physicians at Detroit.

Comparative Morbidity.—For June compared with the average for June in the 10 years, 1893-1902, nephritis, scarlet fever, typhoid fever, smallpox and diphtheria were more than usually

prevalent; and neuralgia, diarrhea, consumption, pleuritis, intermittent fever, remittent fever, inflammation of bowels, erysipelas, whooping cough, cholera morbus, cholera infantum, meningitis and dysentery were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Meningitis was reported present during June at 3 places; whooping cough at 43 places; typhoid fever at 65 places; diphtheria at 68 places; smallpox at 107 places; scarlet fever at 109 places; measles at 113 places; and consumption at 208 places. Meningitis was reported present at 3 places less; whooping cough and typhoid fever at the same number of places; diphtheria at 9 places more; smallpox at 20 places less; scarlet fever at 22 places less; measles at 22 places less, and consumption at 12 places more, in June, than in the preceding month.

June Mortality of Michigan.—There were 2,319 deaths reported in June, corresponding to an annual death rate of 11.4 per 1,000. The number of deaths was 414 less than the previous month. There were 378 deaths of infants under 1 year, 149 deaths of children aged 1 to 4 years and 699 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 200; typhoid fever, 22; diphtheria, 56; scarlet fever, 10; measles, 19; whooping cough, 28; pneumonia, 128; diarrhea and enteritis, under 2 years, 65; cancer, 133; accidents and violence, 164, including 23 from drowning and 2 from lightning. There was a general diminution in the mortality from the causes given, as compared with the preceding month. Five deaths were reported from smallpox, and one death from chicken-pox.

NEW YORK.

Buffalo Personals.—Dr. William H. Callahan has been appointed health officer of Chautauqua for the season.——Dr. Roswell Park has suffered a relapse from erysipelas, but is again improving.——Dr. Marcello Hartwig is still confined to his home.——Dr. Charles Cary has returned from abroad.——Dr. Joseph W. Grosvenor has been elected president of the Buffalo Academy of Medicine.

Thousands Wanted for Consumptives.—The commissioner of charities of New York city has submitted a report on the question of establishing a municipal sanitarium for consumptives at some out-of-town but accessible locality. He recommends an appropriation of $400,000 to enable the health department and the board of trustees of Bellevue and allied hospitals to proceed with the work.

June Deaths in Buffalo.—The monthly report of the department of health shows an annual death rate of 1,282 per 1,000. The principal causes of death were as follows: Consumption, 44; cerebrospinal meningitis, 4; diphtheria, 7; typhoid fever, 9; debility, 34; cancer, 35; apoplexy, 13; meningitis, 13; valvular heart disease, 24; appendicitis, 5; nephritis, 15; abortion, 1, and violence, 29. The total deaths were 406, as compared to 364 for June, 1902. The small number of deaths from typhoid fever, in view of the typhoid fever agitation for purer water, is noteworthy.

Warns Against Second Epidemic in Ithaca.—Dr. George A. Soper, New York, who was sent to Ithaca by the State Department of Health to have charge of the sanitary measures during the typhoid epidemic, has reported to the board of health that there is great danger of another epidemic resulting from the use of infected water. There are now no less than 9 persons ill with the fever, with 5 suspected cases. He had just discovered that in a residence situated near Six-Mile Creek, a man has been ill with the fever for ten days, and that in all probability the refuse germs had washed directly into the supply from which the most of the citizens get their water. The city is practically in the same danger of an epidemic as it was in February and March.

PENNSYLVANIA.

New Hospital Opened.—The new Frankford Hospital fills a great need in one of the greatest manufacturing districts of Philadelphia. Equipment of the hospital is being rapidly accomplished through the generosity of its president, Dr. J. Bruce Burns and others.

Smallpox Situation in Hand.—The new smallpox cases for the week ended July 18 numbered 24, as compared with 54 for the previous week. The health officials will not relax their activity in fighting the disease, but will continue vigorously the campaign of vaccination and other preventive measures. They have confidence that they are getting control of the situation.

Condensed Tuberculosis.—Dr. Lawrence Flick, manager of the Phipps Institute for the Prevention and Cure of Tuberculosis, is said to have determined that a comparatively small area, that east of Broad street and south of Market street, has more cases of tuberculosis than all the rest of Philadelphia. This district is teeming with foreigners, especially Italians and Russian Jews, often crowded into the filthiest tenement houses, with meager fare and less pure air.

Hospital Roof Garden.—On July 14 the new roof garden of the Philadelphia Hospital was formally opened. This roof-garden, providing the open-air life for the consumptive male inmates, was built under the direction of Director Martin. It is 30 by 200 feet, and covered with canvas, giving the appearance of a huge tent. Cots are provided for about 100 patients. Flowers and plants brighten the place. An elevator runs from the first floor to the roof. The plan is somewhat of an experiment, and a careful study of the effect of this mode of life on the consumptives is to be made.

To Prevent Tetanus.—For the week ended July 18 at least three more were added to the list of deaths from tetanus in Philadelphia, making 9 since July 4. Many deaths from the same cause are reported from Pittsburg, Reading, Harrisburg, Wilkesbarre and various points throughout the state. It is believed that the district attorney of Philadelphia will prosecute dealers who illegally sold pistols to children. The State Board of Health has instructed its committee on poisons and explosives to recommend the passage by the legislature of an act to prevent the use of toy pistols by minors.

Hospital To Be Reconstructed.—The contract has been let for $150,000 for the reconstruction of the Medico-Chirurgical College Hospital, Philadelphia. When the work is completed the building will be practically fire-proof, and the equipment will be entirely modern. The work of the hospital, now chiefly confined to emergency cases, is temporarily transferred to a series of houses nearby, owned by the institution. The college, by the will of the late Dr. Spencer Morris, formerly professor of medical jurisprudence and toxicology, bequeathed $12,250, the income of which is to be awarded annually to the member of the graduating class who received the highest general average for the degree of doctor of medicine.

Boards of Health Meet.—On July 16 the State Board of Health, with representatives of similar boards of other states, met at Marietta, Pa. Reports of inspection of the Schuylkill River were read, and some of the sources of pollution pronounced abated. Secretary Lee was instructed to file a petition with the Court of Common Pleas of Montgomery County asking for an injunction to restrain the borough of Norristown from discharging its sewage into the Schuylkill. The number of cases of smallpox for May and June in the state was 1,092, with 62 deaths, as against 1,416 cases and 61 deaths for the preceding two months. The conditions in rural districts where epidemics had prevailed were reported as much improved. Dr. Samuel T. Davis of Lancaster was re-elected president, and all the old appointees of the board were retained.

GENERAL.

Scourge of Mosquitoes in New England.—Because of the wetness of the season, there is an enormous increase of mosquitoes along the North Atlantic coast.

The Mosquito Further Indicted in Honolulu.—The Hawaiian Board of Health has decided that the mosquito is the cause or an agent in the spread of dengue which has prevailed in the territory for some months, over 1,500 cases having occurred, and will take measures for the extermination of the insects.

The Government Borax Diet Tests.—It is announced that the official report on the tests of preservatives in food, which have been carried on in the Department of Agriculture, will be ready July 29. Only borax has been administered in the food thus far. Experimentation has been suspended for the summer, and will be resumed October 1. The health of several of the men who were fed on the preserved food is said to have suffered so as to compel their withdrawal from the tests.

Yellow Fever Commission Reports.—The U. S. Commission appointed to investigate the transmission of yellow fever has reported, after six months' study, as follows:

1. That the bacteriologic examination of the blood of cases of yellow fever during life and the blood and organs at autopsy performed immediately after death in uncomplicated cases is negative.
2. That stegomyia fasciata when contaminated by feeding on a case of yellow fever forty-one and a half hours after the onset of the disease and subsequently fed on sugar and water for twenty-two days, one and a half hours, can, when permitted to feed on a non-immune individual, produce a severe attack of the disease.
3. That stegomyia fasciata, contaminated by yellow fever and after varying periods killed, sectioned and appropriately stained, presents with regularity a protozoan parasite, myxococcidium

stegomyiæ, that can be traced through a cycle of development from the gamaete to the sporozoite.

4. That stegomyia fasciata fed on blood from a case of malarial fever on normal blood or artificially fed does not harbor the parasite indicated in conclusion three.

Manila Medical Society.—A circular letter issued by this society calls attention to the fact that while it has been in existence only a little over a year; it now has a membership of nearly forty, including American, English and native physicians. The circular letter, sent to members of the profession in Manila who are not already members of the society, calls attention to the fact that it is "a field rich in opportunities from a scientific standpoint, and it is our duty to ourselves, to our colleagues in other parts of the world, and to suffering humanity to discuss these questions, and to give the world the benefits of our conclusions." Here in our own country we have the opportunities and the men to support and prepare a journal of tropical medicine, that will be the equal of any now issued." We understand it is the purpose of the society to establish such a journal in the near future.

Making Manila Healthy.—Surgeon-General O'Reilly has received a report showing a steady decrease in the death rate of the city of Manila as a result of the work of army medical officers. The death rate has decreased steadily from 46.80 per 1,000 for the first quarter of 1900 to 22.17 for the first quarter of 1903. Assistant Surgeon Munson says the improvement has been accomplished in spite of Asiatic cholera and bubonic plague and the existence of a largely unvaccinated population in the provinces. Cases of plague, cholera and smallpox have occurred in Manila during the present year, but precautions taken by the board of health have prevented an epidemic. Attention is called to the fact that the present annual mortality in Manila, 22.17 per 1,000, is lower than that of many cities not commonly regarded as unhealthful situated in the United States and elsewhere. According to Dr. Munson, the present death rate of Manila compares not unfavorably with those of San Francisco, Boston, New York, Glasgow, Paris, Vienna and Havana.

Factors in Spreading Typhoid Fever.—During 25 years, reports to the State Board of Health showed that typhoid fever existed in Michigan inversely as the depth of water in wells. Recently there has apparently been a marked change in this relation. From March 1 to June 30, 1903, the average depth of water in the observation well at Lansing has been over twice as much, and the typhoid fever over 80 per cent. more prevalent than the average for the ten years preceding. The unusual spread of typhoid fever in Michigan, notwithstanding the existence of conditions which hitherto favored its decline, may be due to several facts—such as that one circuit judge has decided that typhoid fever is not a communicable disease, dangerous to the public health, and some boards of supervisors have refused to allow bills for expenses incurred by local health officials for the care of indigent typhoid fever patients, thus practically putting a stop to local work, by health officials, for the restriction of typhoid fever in those parts of the state. In cities, especially in Menominee, typhoid fever is and has been a great factor in the mortality rate. Even the Detroit Board of Health takes no action to require reports from householders and physicians, or other measures for the restriction of this dangerous communicable disease, such as placarding of premises, disinfection of discharges, and of premises after death or recovery of patients.

CANADA.

Acid in Canned Meats.—The analysts of the Inland Revenue Department of the Canadian government at Ottawa, have just completed an analysis of 99 samples of canned meats. Of these 94 were all in good condition. One spoiled sample contained boric acid, and with this exception all the other samples were found to be in good condition. The only preservative discovered was boric acid, which was found in 21 samples. In no case did the quantity of boric acid found exceed the limit fixed by the British parliamentary commission, viz., .05 per cent., and in most cases it fell markedly below that standard.

The Medical Curriculum in Ontario.—At the beginning of the session of 1902-03 in the Ontario medical colleges considerable concern was manifested over the action of the Ontario Medical Council for last year in raising the standard of matriculation in this province. The Ontario Medical Council has just held its annual meeting in Toronto. It was a new council as the territorial elections had been held since last they met, and several of the old councilors had fallen in the battle. This matter of matriculation came up for considerable discussion, and was referred to a small select committee, which is to report on the subject next year. This will ensure full consideration of a difficult matter. For the first time in its history the council has adopted measures which permit the various medical teaching institutions to exercise their own discretion in determining the time which is to be allotted to instruction in a subject of the curriculum. That the customary action of the council on this point is abandoned is of great significance, for it will help very considerably in the project, now almost consummated, of building up one great medical faculty in Toronto.

Keeping Out Undesirable Immigrants.—The immigration policy of the Canadian government has recently been much discussed in parliament. Members of parliament have complained that the present policy does not look sharp enough after such minor diseases as lupus and trachoma; and they have insisted that the Canadian government ought to make arrangements with the government of the United States for mutual action in reference to the inspection of immigrants. The Canadian government immigration policy makes no provision to keep out criminals or paupers, with the result that many undesirable immigrants are permitted to find homes in Canada. During the season of 1902 4,986 persons were inspected at the port of Montreal by the United States officers, and of this number 2,028 were rejected. Of this number 419 were rejected because they were contract laborers, 812 were paupers, 8 idiots, 5 ex-convicts and 496 as having loathsome and contagious diseases. These were all dumped on Canadian soil, and none of them had been deported by the Canadian government. The statement has appeared in an editorial in a leading daily that many of our foreign-born patients in our insane asylums have been in similar institutions before coming into Canada. A comparison of Canadian and American inspection goes to show that the quality of Canadian immigration should in future be more carefully maintained.

FOREIGN.

Sir Frederick Treves will retire from active practice, it is announced in the English newspapers.

Cuba Has Little Yellow Fever.—Only three cases of yellow fever have come into Havana this year, all from Mexican ports.

The plague in Chili is spreading, having occurred in several cities, including Valparaiso. Smallpox is also spreading and occasioning much alarm.

Kraepelin Goes to Munich.—Professor Kraepelin of Heidelberg has accepted a call to Munich to the chair of psychiatry left vacant by the death of Anton Bumm in April.

Physicians in the German Reichstag.—The new Reichstag will contain seven medical members, including Drs. Mugdan of Berlin, Leonhart of Kiel and Ruegenburg of Bonn. All but two were elected by different political parties.

London Burdened with Mosquitoes.—The suburbs of London along the Thames, below the city, are said to be scourged with mosquitoes, so that outdoor life in the evening is a burden. The cause is not mentioned in the press despatches.

How Many Miles Does the Blood Travel?—The *Riforma Medica* states that with about sixty-nine pulse beats to the minute the blood flows a distance of seven miles an hour. This is equivalent to 61,329 miles a year, and in a man 84 years of age to 5,151,636 miles during the course of his lifetime.

Prize for Joannovics of Vienna.—The Brussels Académie de Médecine has awarded to Dr. G. Joannovics, assistant at the Vienna Institute for General and Experimental Pathology, the prize of $200 offered for the best work based on new experimental researches. His subject was "The Pathogenesis of Icterus."

Panhellenic Congress.—The second annual congress of Greek-speaking members of the profession was held at Athens, May 17 to 23. About 95 of the 350 members in attendance were from the countries farther east. The communications were so numerous that they required ten sessions to complete the program.

Paris Zambaco Prize.—This prize, offered by the French Society of Dermatology, was not awarded this year but an "encouragement" of $70 was given to Messrs. Bezançon, Griffon and Le Sourd for their monograph on "Bacteriology of Simple Chancre," and to Messrs. Carle and Meynet for one on "Digestive Disturbances in Eczema."

An Anti-Mosquito Plant.—Captain H. D. Larymore describes in the London *Times* a plant found in the Niger district which attracts and stupefies mosquitoes. One of these plants grow-

ing in a room frees it of mosquitoes and protects against malaria. He has officially reported the existence of the plant to the authorities at Kevy, the capital of the district.

Medical Sea Voyage.—Dr. G. Hirte of the Rheineck sanatorium at Nieder-Walluf a. Rh., Germany, will repeat this year the medical sea voyages with patients which proved so successful last spring. The first voyage will be to Buenos Ayres or Brazil and is expected to last two months or two months and a half. On his return he will start for Japan with another party for a three to four months' trip.

Proceedings of the Prussian Medical Court of Honor.—This peculiar German official institution described in The Journal, has had 211 cases before it during the last fiscal year. Of this number the complaints came from government officials in 25 instances, from physicians in 110, from the lay public in 25, and 4 were anonymous. About 80 of the suits were dismissed, 26 were compromised, in 14 a penalty or reprimand was imposed and 81 suits are still pending.

Post-Graduate Headquarters at Berlin.—Nearly $315,000 has been collected for the proposed headquarters for post-graduate medical instruction to be established in Berlin. It is to be known as "the Empress Frederick House," and from this center all the paraphernalia necessary is to be despatched to various small towns or villages as needed. These free traveling post-graduate courses which have been established in the last year or two in Germany, have already become a prized feature of German medical life.

The Radium Cancer Cure.—Considerable interest is reported to have been excited in Vienna medical circles by reports of cancer cured by exposure to the rays emanating from the remarkable substance, radium. This was mentioned editorially July 11. Now Dr. Mackenzie Davidson of Charing Cross Hospital, London, reports a case of cancer of the nose cured by the same means. Four exposures, aggregating an hour altogether, were given at intervals of a few days. In three weeks healing was progressing satisfactorily, and in six weeks the growth was all gone.

Suspension of "Memorabilien."—For forty-four years this medical journal has been published at irregular intervals of from one to several months. Dr. F. Betz of Heilbronn has been the publisher and editor and Dr. Guido Bell of Indianapolis the American collaborator. It has been principally devoted to abstracts and has borne as its motto: "Sometimes the smallest ache is the index to diagnosis and therapeutics." Dr. Betz does not care to continue the journal further, and announces its suspension with the close of 1902.

Contract Practice at Bourg, France.—The physicians of this town of 18,000 inhabitants—14 in all—found that the sickness benefit societies were materially decreasing their income while the rates paid—20c. a visit, day or night—were too low. When they asked for 40c. for an office consultation and 60c. for a call at the residence, with a reduction of 20 per cent. on the total when the bill was paid before a certain date, the societies were incensed and denounced them, and are doing their utmost to induce other physicians to move to the town and accept their rates, ignoring the physicians already settled there. To date they have been unable to do this, and our French exchanges are warning the profession at large not to "pick up the bone which the local physicians have found too bare."

Correspondence.

Regarding "The Boy's Venereal Peril."

New York, July 16, 1903.

To the Editor:—Since publication of the above-mentioned article, I have received requests for 2,090 reprints thereof. Pressure of practice renders me unable to reply individually to each one of the gentlemen who wrote me on the subject. I therefore ask the privilege of using your columns to answer all.

1. The kind sentiments which my correspondents convey stimulate me to greater efforts than ever before, so to revise the article that it may represent the best work of which I am capable. I need not tell other busy practitioners that I can not do this within the next few days. I expect, however, to have the reprints ready in about three weeks.

2. A number of those who have favored me, ask for "some" or "several" copies. If they will kindly specify how many they desire I will know how large an order for reprints I must give.

3. Many of my correspondents ask me the price of the reprints. Having written the paper to benefit humanity as much as is in my power, I do not desire to profit thereby. Moreover, being engaged exclusively in genito-urinary work, I have no inclination to earn money otherwise.

4. It is beyond my power to grant licenses to reprint "The Boy's Venereal Peril." The copyright rests with the American Medical Association, which owns all papers presented before it.

5. The paper as published in The Journal of the American Medical Association is incomplete; one reason therefor is in the fact that the remainder, being addressed to boys, is too elementary for appearance in a scientific publication. I therefore requested its omission.

6. The reprints will not contain my name or address or anything else to reveal my authorship. This will prevent such laymen as may be advised to read the paper from confounding it with the advertisements of quacks.

7. Lack of time prevents my undertaking to deliver messages, to ascertain the prices of books and other articles, or to make purchases for some of those who wrote me regarding "The Boy's Venereal Peril."

I repeat my sincere thanks to all those who gave such kind encouragement to this one of my efforts.

Ferd. C. Valentine.

Historical Errors.

Chicago, July 20, 1903.

To the Editor:—In The Journal of the American Medical Association, July 18, 1903, p. 195, it is stated, under the head of deaths, that the late Dr. DeLaskie Miller of Chicago was "born in New York City," graduated from "Syracuse Medical College in 1842," which is evidently erroneous. According to reliable authority Dr. Miller was born in Niagara County, New York, May 29, 1818, and graduated from Geneva Medical College, New York, in 1842, there being at that date no medical college in Syracuse.

On page 196 of The Journal it is stated that the New Jersey State Medical Society was organized in 1776, which is evidently erroneous. According to reliable authorities that state society, the oldest in the country, was organized in 1766, and held its meetings annually until they were interrupted by the Revolutionary War in 1776; but they were resumed as early as the exigencies of the war would permit. N. S. Davis.

Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

WHAT IS IT?

Castroville, Texas, July 11, 1903.

To the Editor:—I wish information about a peculiar epidemic we have had here for several months. Nothing in the literature at my command helps me. We have had malaria here for three years, known to me by examination of the blood, generally examined while fresh, and showing the plasmodium and spores, and in each case the margin of the tongue shows some minute red spots, very noticeable, being of different color from the surrounding membrane and varying from a half dozen to several dozen. The other symptoms are very variable, from high fever (103 F. to 99 F.) every other day, headache, sometimes a distinct chill and sometimes not, neuralgias or abdominal pains, in fact all somewhat differently effected, but whenever the tongue showed these spots the blood showed plasmodium and spores. Quinin or methylene blue gave relief and in several instances cured the symptoms, but also in several instances the plasmodium and spores continue in the blood in spite of the continued use of quinin mixed with either arsenic or iron or both, etc. Now things have changed in respect to symptoms, although I have still, among adults, occasional cases with the above symptoms, but children here have developed a cough due to a pharyngitis with relaxed uvula that very closely simulated whooping cough; some last about a week and some are still coughing after six weeks; and now, to confuse the thing more, an erythema has developed, accompanied by fever, 102 F. or so. It is scarlatiniform in appearance, yet there is an accompanying cough and conjunctivitis and very mild coryza. The rash

lasts from two to three days, and fades when fever is low, with no desquamation, no enlarged glands and no albumin in the urine, but spores and plasmodium in the blood and the spots before mentioned on the outer margin of the tongue, which, at the same time, shows in some cases enlarged papilla. We have had scarlet fever, measles, German measles and whooping cough here, but this does not fully represent any one of them, yet resembles them all in some cases, or, rather, some one of them more particularly. I am forced to believe it is malarial. Very fortunately so far there have not been any deaths, and the bronchitis very mild that accompanies or, rather, follows the rash. I have tried to describe the condition, but it is hard; some have the cough and no rash, some rash and little cough, some itch and some do not, and the more I consult the record I have been keeping, the more confused I get when I try to compare the symptoms with any of the (to me) known diseases.

JOHN T. FITZSIMON, M.D.

State Boards of Registration.

New Medical Provisions in the Virginia Law.

The legislature of Virginia has passed the following amendments to the medical practice act:

1. Be it enacted by the general assembly of Virginia that section seventeen hundred and forty-seven of the Code of Virginia, as amended and re-enacted by an act approved March 7, 1900, be amended and re-enacted so as to read as follows:

1747. *Examination of Applicants for the Practice of Medicine and Surgery; Re-examination; Fees of Board.*—It shall be the duty of the said board, at any of its said meetings, to examine all persons making application to them, who shall desire to commence the practice of medicine or surgery in this state, provided said applicant shall produce before said board a diploma or other satisfactory evidence of his graduation in some medical college or institution teaching the art of healing human diseases chartered by the state or territory in which the same is situated; provided, that any undergraduates taking a graded course in any regularly chartered medical school shall be entitled to examination on such branch or branches as he or she may present a certificate from the said college of having passed a satisfactory examination, and having once passed a satisfactory examination on each of such branches before the State Board of Medical Examiners no further examination shall be required on such branch or branches; but an applicant failing to pass a satisfactory examination on any of such branches shall not be permitted to be examined on such branch or branches until he or she presents a diploma of graduation as doctor of medicine from some regularly chartered college of medicine. And when an applicant shall have passed an examination satisfactory as to proficiency before the board in session, the president thereof shall grant to such applicant a certificate to that effect; provided, however, that any applicant professing a system of medicine which does not require the use of drugs in the treatment of disease shall be exempt from standing an examination of materia medica.

A fee of ten dollars shall be paid to said board, through such officers or members as it may be designated, by each applicant before such examination is held. And in case any applicant shall fail to pass a satisfactory examination he shall not be permitted to stand any further examination within the next six months thereafter, nor shall he have again to pay the fee prescribed as aforesaid; provided, however, no applicant shall be rejected on his examination on the account of his adherence to any particular school of medicine or system of practice, nor on account of his views as to the method of treatment and care of diseases; and provided, further, that when, in the opinion of the president of the board, any applicant has been prevented by good cause from appearing before the board, he shall have authority, in his discretion, to grant a special permit to such applicant to practice medicine or surgery until he shall have an opportunity to appear before the board in session for examination, which said special permit shall be revocable at the discretion of the president; and in no case shall it entitle the holder thereof to practice after the next regular meeting of said board.

The said board shall have, in their discretion, authority to accept in lieu of examination of an applicant a diploma or other satisfactory evidence of the graduation of the applicant in some medical college chartered by the state or territory in which the same is situated, and a certificate from the examining board of any state or territory of the United States or the District of Columbia, showing that said applicant has passed a satisfactory examination as to his proficiency, and obtained license from said board to practice medicine and surgery in said state, territory or district; provided, that any person who was examined by the state examining board prior to Jan. 1, 1900, and whose fee for such examination was only paid, but who failed to pass said examination, shall have the right and privilege of taking the examination before the state board, notwithstanding the provisions of this act.

2. This act shall take effect from its passage.

Approved April 23, 1903.

Be it enacted by the general assembly of Virginia that section seventeen hundred and fifty of the Code of Virginia, as amended and re-enacted by an act approved March 7, 1900, be amended and re-enacted so as to read as follows:

1750. *Who Prohibited from Practicing Medicine or Surgery without Certificate; Penalty for Practicing Illegally; What Courts Have Jurisdiction to Inflict.*—No person who shall have commenced the practice of medicine or surgery in this state since Jan. 1, 1885, or who shall hereafter commence the practice of the same, shall practice as a physician or surgeon for compensation without having first obtained a certificate from the State Board of Medical Examiners and cause the same to be recorded as aforesaid, or a special permit from the president of the said board. To open an office for such purpose or to announce to the public in any way a readiness to practice medicine in any county or city of the state, or prescribe for, or to give surgical assistance to, or to heal, cure or relieve, to attempt to heal, cure or relieve those suffering from injury or deformity, or disease of the mind or body, or to advertise, or to announce to the public in any manner a readiness or ability to heal, cure or relieve those who may be suffering from injury or deformity, or disease of the mind or body, shall be to engage in the practice of medicine within the meaning of this section; provided, that nothing in this section shall be construed to apply to or to limit in any manner the manufacture or sale of proprietary medicines, or apply to, affect or interfere in any way with the operation of any hospital now established in this state, or any person while engaged in conducting such hospital now established, if there be a licensed physician resident and practicing therein, or to any person who commenced the practice of osteopathy in this state prior to Jan. 1, 1903.

It shall also be regarded as practicing medicine within the meaning of this section if any one shall use, in connection with his or her name, the words or letters "Dr.," "Doctor," "Professor," "M.D." or "Healer" or any other title, word, letter or designation intending to imply or designate him or her as a practitioner of medicine or surgery in any of its branches; but this section shall not be construed to apply to non-itinerant opticians who are at this time engaged in the practice of optometry in this state nor to professional or other nurses. Any person who shall practice medicine or surgery in this state in violation of the provisions of this section shall be fined not less than $50 nor more than $500 for each offense; and it shall not be lawful for him to recover by action, suit, motion or warrant in any of the courts of the state any compensation for services which may be claimed to have been rendered by him as such physician or surgeon. The county and corporation courts shall have exclusive original jurisdiction to try offenses for violations of the provisions of this section committed within their respective counties and corporations.

2. This act shall take effect from its passage.

Approved April 24, 1903.

This, as the *Old Dominion Journal* remarks, applies to faith healers, Eddyites, osteopaths, etc., all of whom must pass the examination if they pose as healers.

Deaths.

Herman Nauman, M.D. University of Jena, Austria, 1851, a pioneer physician of Milwaukee, surgeon of the Ninth Wisconsin Volunteer Infantry in the Civil War, formerly county physician of Milwaukee County, and in charge of the Marine Hospital, died at his home in Milwaukee, July 4, aged 79.

Samuel J. Radcliffe, M.D. University of Georgetown, D. C., 1852, a veteran of the Civil War, in which he served as medical director, a member of the Medical Society and Medical Association of the District of Columbia, died at his home in Washington, July 9, after an illness of seven months, aged 75.

George R. Wells, M.D. Rush Medical College, Chicago, 1886, of Livingston, Mont., died at Bethany, N. Y., July 10, from the effects of chloroform, self-administered, presumably for the relief of spinal pain, aged 41. He was a member of the American Medical Association.

William C. Bailey, M.D. Berkshire Medical College, Pittsfield, Mass., 1844, assistant surgeon of the 179th N. Y. Volunteer Infantry in the Civil War, and a resident of Adams Center, N. Y., for half a century, died at his home in that place, July 6, aged 77.

Joseph S. Cook, M.D. University of Pennsylvania, Philadelphia, 1856, surgeon of the 31st N. J. Volunteer Infantry in the Civil War, died at his home in Washington, N. J., July 4, from hypostatic pneumonia, after an invalidism of thirteen years, aged 73.

Nathan F. Brown, M.D. Detroit Medical College, 1870, a veteran of the Civil War, and a member of the Michigan State Medical Society and the American Medical Association, died at his home in Detroit, July 6, after years of ill health, aged 66.

Robert Black Ewing, M.D. University of Pennsylvania, Philadelphia, 1865, a member of the American Medical Association, and for nearly forty years in practice at West Grove, Pa., died at his home in that place, July 3, from heart disease, aged 62.

R. B. Parker, M.D., inspector on the steamer *Mount Vernon*, died from yellow fever at the government quarantine station, Ship Island, Miss., July 6, from yellow fever, with which he was stricken on his first trip to Costa Rica.

Richard W. S. Martin, M.D. Medical College of Virginia, Richmond, 1861, a member of the Lauderdale County Medical Society, died at his home in Henning, Tenn., after an illness of three years, from dropsy, July 16, aged 63.

Alonzo Garwood, M.D. Starling Medical College, Columbus, Ohio, 1850, the oldest practitioner in Cass County, Mich., died July 1, from heart disease at his home in Cassopolis, aged 78. He retired from active practice in 1901.

Charles Thomas Van Swearingen Butler, M.D. University of Maryland School of Medicine, Baltimore, 1874, of Shepherdstown, W. Va., died at the Winchester (Va.) Memorial Hospital, July 8, aged 53.

Bernard S. Simpson, M.D. St. Louis Medical College, 1897, professor of physical diagnosis in the St. Louis College of Physicians and Surgeons, died July 1 at his home in St. Louis, aged 30.

Marcella C. Baldwin, M.D. Woman's Medical College, Chicago, 1882, of Rockford, Ill., died from tuberculosis at St. Anthony's Hospital, Rockford, July 7, after an illness of eight years, aged 45.

Frank W. Morley, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1884, died from inflammation of the brain at his home in Sandusky, Ohio, July 4, after a brief illness, aged 42.

W. V. Hawthorne, M.D. Medical Department University of Tennessee, Nashville, 1902, of Watertown, Tenn., died suddenly at Hot Springs, Ark., Oct. 4, 1902, aged 39.

Samuel A. Bowen, M.D. Barnes Medical College, St. Louis, 1897, died at his home in Corinne, S. C., July 4, from typhoid fever, after an illness of three weeks.

Louis A. Falligant, M.D. Hahnemann Medical College, Philadelphia, 1858, died suddenly at his home in Savannah, Ga., July 5, from heart disease, aged 66.

G. Paul Jones, M.D. Jefferson Medical College, Philadelphia, 1869, died suddenly from apoplexy at his home in Princess Anne, Md., July 6, aged 61.

James Alfred Perkins, M.D. University of Maryland, Baltimore, 1854, of Chestertown, Md., died suddenly at Germantown, Pa., July 7, aged 71.

Arthur H. Barr, M.D. Tulane University, New Orleans, 1900, of Starkville, Miss., died at San Angelo, Texas, July 6, from pneumothorax.

Willis D. Hamilton, M.D. University of Pennsylvania, Philadelphia, 1890, died at his home in Kennett Square, Pa., July 3, aged 36.

Emma H. Yates, M.D. Fort Worth (Texas) University, 1899, died at her home in Ander, Texas, June 12, from tuberculosis.

C. W. Hinchman, M.D. American Medical College, St. Louis, 1885, died at his home in Golden City, Mo., July 7, aged 72.

Frank Buys, M.D. Western Reserve University, Cleveland, 1885, died at his home in Painesville, Ohio, July 2.

T. J. Caldwell, M.D., died at his home in Lannius, Texas, July 3, from paralysis, aged 74.

William Van den Berg, M.D., 1849, died July 6 at his home in Zeeland, Mich., aged 77.

Book Notices.

THE DIAGNOSIS AND MODERN TREATMENT OF PULMONARY CONSUMPTION, with Special Reference to the Early Recognition and the Permanent Arrest of the Disease. By Arthur Latham, M.A., M.D. Oxon., M.A., Cantab., Author of the Prize Essay on the Erection of His Majesty's Sanatorium. Cloth. Pp. 215. Price, $1.50 net. New York: Wm. Wood & Co. 1903.

Our readers are probably aware that in the competition for the plans of the King Edward VII sanatorium the prize was awarded to Dr. Arthur Latham, assistant physician at the Brompton Hospital for Consumption and Diseases of the Chest. Dr. Latham has brought together a series of articles which he has published during the last few years, especially on the diagnosis and treatment of pulmonary diseases, and with especial reference to the sanatorium treatment. He has contributed a valuable memoir to the literature of this at present very much written up disorder. The book is well arranged, and contains a large amount of practical information. The author does not seem to have much faith in the opinion that there is danger in the marriage of tuberculous individuals as far as direct contagion is concerned, or of transmission to the offspring, and he thinks that by marriage tuberculous individuals are often enabled to lead a more regular life and avoid some of the more dangerous vicissitudes that threaten them. One of his concluding remarks, that the wise physician never gives a prognosis in cases of tuberculosis, is an excellent one. The disease is not one that is directly amenable to prognosis, especially when all proper means of treatment are available, and the most desperate cases sometimes recover.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, United States Army. Authors and Subjects. Cloth. Pp. 894. Second Series. Vol. VIII. Insane—Kysthospitalet. Washington: Government Printing Office. 1903.

The eighth volume of the Index-Catalogue includes the literature from Ins to Kyst, and, like its predecessors, is the most valuable summary of bibliography we have within its alphabetical limits. There is nothing else of which we know that can fill the place of the Index-Catalogue in its first and second series. It is a most creditable monument to the United States Government's interest in the general welfare of mankind.

Miscellany.

Medical Education.—The profession of medicine need not feel shame at any inquiry into the character of its regular practitioners, but only the self-satisfied among us would assert that even a higher level may not be attained. Considering the matter from the view-point of the profession, nothing could be more wholesome than a high standard of requirement for admission to membership in a body that has always been regarded by the public as one of general culture and intelligence. The country has grown rapidly and the medical curriculum has become exacting. Not unnaturally, therefore, some men have entered the profession without sufficient preliminary training. It is but natural to suppose that the exactions of the medical schools and the state boards of examiners will increase rather than decrease.—*Pennsylvania Medical Journal.*

The First Case of Appendicitis.—Dr. Howard A. Kelly of Baltimore, according to the *British Medical Journal* of July 4, has greatly delighted our French brethren by giving the credit of the first clear description of a case of appendicitis to a French surgeon. Speaking in French to the Société de Chirurgie, he said that in the *Journal de Médecine, de Chirurgie et de Pharmacie*, Mestivier in 1759 reported the following case: A man, aged 45, presented himself at the Saint André Hospital, Bordeaux, for treatment of a tumor situated near the umbilical region on the right side. The surgeon made an incision, giving issue to about a pint of pus of bad quality. The patient died. At the necropsy the cecum presented nothing extraordinary. The same could not be said as regards the vermicular appendix. There was found a large pin all crusted over and eroded. It may be inferred that this pin had been long imprisoned in the appendix, and had there set up the symptoms of the disease and caused death. A few years later, in 1776, a medical student named Joubert Lamotte published a report of a necropsy in a person who had died of tympanites. The author, after describing the symptoms of the illness, states that he had found in the vermiform appendix a foreign body as it were petrified, and in the cecum entire cherries. The necropsy having been made in September the cherry season was long past. The cherries had therefore remained in the cecum, and the petrified body is the first example of fecal calculus. The first case in the nineteenth century was published by Jadelot in 1808. In 1812 a case was published in England, and in 1813 another in France by Wegeler. In 1824 appeared a paper by Louyer-Villermay, entitled "Observations to Serve for the History of Inflammations of the Cecal Appendix." In this paper are related two typical cases, in each with a necropsy. It is unquestionable, therefore, says Dr. Kelly, that to Louyer-Villermay belongs the honor of having been the first to point out the importance of appendicular inflammation. Three years later, in 1827, Melier published a memoir on the subject, based on a case of his own, and a study of the two others related by Louyer-Villermay, and on two new ones. He described the lesions in the appendix, and had even a notion of the possibility of surgical intervention. Melier had, unfortunately, no official position, and apparently little confidence in himself. His ideas did not find favor with Dupuytren, then the sovereign authority in French surgery; otherwise one of the most brilliant triumphs of modern surgery might have been achieved 70 years earlier than it was. This is one of the many examples of the disastrous influence of the superior person on the progress of science.

Association News.

The Committee on Medical Legislation of the American Medical Association.

The Committee on Medical Legislation of the American Medical Association met at the Holland House, New York, June 7, 1903. The following was adopted:

Resolved, By the Committee on Medical Legislation of the American Medical Association, that by virtue and in pursuance of the authority vested in it to devise means for the better promotion of needed legislation relative to the public health and to the medical profession, it hereby creates a committee,

First. To be known as the National Auxiliary Congressional and Legislative Committee of the medical profession of the United States.

Second. To consist of one legally qualified practitioner of medicine in each county of each state and territory of the United States and in the District of Columbia.

Third. To be appointed by the Committee on Medical Legislation of the American Medical Association on nomination by the president of each state and territorial medical association.

Fourth. It shall be the duty of each member of the National Auxiliary Congressional and Legislative Committee to bring all and only such matters of pending legislation as may be referred to him, either by the legislative committee of his respective state or territorial medical association or by the Committee on Medical Legislation of the American Medical Association, to the attention of the medical profession and the people of his respective county, and by every honorable means, personal and political, individual and professional, private and public, direct and indirect, secure desired action thereon by his representatives in both branches, as the case may be, of the state legislature or of the Congress of the United States. And it shall be his further duty promptly to report all such efforts on his part, first, relative to state legislation, to the chairman of the committee on legislation of his state medical association, and, secondly, relative to national legislation, to the chairman of the Committee on Medical Legislation of the American Medical Association.

Resolved, That the chairman of Committee on Medical Legislation of the American Medical Association is hereby directed (*a*) to procure from the president of each state and territorial medical association nominations for such National Auxiliary Congressional and Legislative Committee: (*b*) to formulate a list of the chief executive and legislative officers of the United States government and of the government of each state and territory: (*c*) to collate necessary information relative to the executive and legislative departments of the American Medical Association and of each state and territorial medical association; (*d*) to formulate a list of the officers of each state and territorial board of health and medical licensing board and (*e*) to secure a brief summary of proposed legislation, state and national. And he is further directed to arrange the information thus collected into a Congressional and Legislative Directory of the American Medical Association.

Resolved, That these proceedings, together with the Congressional and Legislative Directory above indicated, be published as the *ad interim* report of this committee, first, by installments in THE JOURNAL of the American Medical Association, and subsequently in book form, the latter to be issued in anticipation of the congressional and legislative season of 1903-4.

By the Committee,

CHARLES A. L. REED, Chairman.

Medical Organization.

Hill County (Texas) Medical Society.

The physicians of Hill County met at Hillsboro, July 11, and organized in conformity with the plans of the state and National associations.

Polk County (Ark.) Medical Society.

The physicians of Polk County met at Mena, June 18, and organized a county medical society with the following officers: Dr. Walter L. Magness, president; Dr. L. B. Sutherland, vice-president; Dr. Philip R. Watkins, secretary, and Dr. William P. Parks, treasurer, all of Mena.

Santa Rosa County (Fla.) Medical Society.

On call of Dr. J. Harris Pierpont, Pensacola, councilor for the district, the physicians of Santa Rosa County met at Milton, July 3, and organized a county medical society, with Dr. Charles E. McDougall, president; Dr. Wm. Austin Mills, vice-president, and Dr. Henry E. Eldridge, secretary and treasurer, all of Milton.

Whitley County (Ind.) Medical Society.

Dr. Albert E. Bulson, Jr., Fort Wayne, councilor for the 12th congressional district, met the physicians of the county at Columbia City and organized a county medical society on the basis suggested by the American Medical Association. Dr. Oliver V. Schuman was elected president; Dr. Frederick G. Grisier, secretary, and Dr. William F. King, treasurer, all of Columbia City.

Bexar County (Texas) Medical Society.

Physicians of Bexar County met at San Antonio, July 9, and organized a county medical society. The constitution and by-laws as outlined by the American Medical Association and endorsed by the Texas State Medical Association were adopted. The following officers were elected: President, Dr. Thomas T. Jackson; vice-president, Dr. William M. Wolf; secretary, Dr. Thomas E. Moore; and censors, Drs. John S. Lankford, Dabney, Berrey, and William E. Luter, all of San Antonio.

Webster County (Iowa) Medical Society.

On June 27, on call of Dr. Charles H. Churchill, councilor for the tenth district, a meeting was held at Fort Dodge to organize a county medical society. The constitution and by-laws recommended by the American Medical Association were adopted. The following officers were elected: President, Dr. Robert Evans, Fort Dodge; vice-president, Dr. Orville E. Evans, Gowrie; secretary, Dr. William W. Bowen, Fort Dodge, and treasurer, Dr. Floyd B. Olney, Fort Dodge.

Wright County (Minn.) Medical Society.

Physicians of Wright County met at Buffalo, July 2, and organized a county medical society, according to the plans of the state and National organizations. Dr. Edwin Y. Chilton, Howard Lake, was elected president; Dr. Albert F. Lynch, Monticello, vice-president; Dr. Edward A. Shannon, Buffalo, secretary, and Dr. G. M. F. Rogers, Buffalo, treasurer. Drs. Theodore J. Catlin, Delano; Arthur L. Hill, Monticello, and Timothy O'Connor, Maple Lake, were elected censors.

Societies.

Santa Clara County (Cal.) Medical Society.—At the annual meeting and banquet held in San Jose, June 17, the following officers were elected: President, Dr. William T. McNary, San Jose; vice-presidents, Drs. James T. Harris, San Jose, and David A. Beattie, Santa Clara; secretary, Dr. J. L. Asay, San Jose, and treasurer, Dr. William D. McDougall, San Jose.

Yale Medical Alumni Association.—The annual meeting and banquet were held in New Haven, June 22, at which the following officers were elected: Dr. J. Francis Calef, Middletown, Conn., president; Drs. Frederick B. Sweet, Springfield, Mass., W. S. Miller of Michigan, Edward W. Goodenough, Waterbury, Conn., Homer T. Partree, Blandford, Mass., and John Edward Lane, Hadley, Mass., of the class of 1903, vice-presidents.

Sioux Valley Medical Association.—The semi-annual session was held at Fort Dodge, Iowa, June 26. The following officers were elected: Dr. Van Buren Knott, Sioux City, Iowa, president; Drs. Charles H. Churchill, Fort Dodge, Iowa, and Frederick A. Sedlacek, Tyndall, S. D., vice-presidents; Dr. Maxwell E. Silver, Sioux City, secretary (re-elected), and Dr. Samuel A. Brown, Sioux Falls, S. D., treasurer. Sioux City was selected as the meeting-place in January, 1904.

Alumni Association of the Medical Department of the University of Texas.—The annual meeting was held in Galveston, May 30, at which the following officers were elected: President, Dr. John T. Moore, Galveston; vice-presidents, Drs. H. B. Decherd, and C. D. Cantrell, Galveston, and Miss M. Giddings, Brenham; secretary, Dr. Herbert F. Sterzing, Austin; treasurer, Dr. H. O. Sappington, Galveston; orator, Dr. S. H. Grant, Rugby, and alumni editor, Dr. Louis H. Kirk, Austin.

GERMAN GYNECOLOGICAL ASSOCIATION.

Tenth Congress, held at Würzburg, June 3 to 6, 1903.

The President, Professor Hofmeier, in the Chair.

The questions appointed for discussion were: Extrauterine Pregnancy and Prolapse Operations.

Extrauterine Pregnancy.

The addresses on the first subject were by J. Veit of Erlangen and Werth of Kiel, who discussed both the anatomy and treatment. Veit attributes the severe hemorrhage into the abdominal cavity in case of ruptured tubal pregnancy to the deportation of villi. If a vein beneath the peritoneum becomes filled with villi the blood current is arrested and the vein ruptures. When the rupture occurs the resistance at this point is

less and the blood pours freely in this direction. The ovum is detached as a result of the stagnation of the blood current, and blood also escapes from the points where it has been attached. In abortion in the uterus the contraction of the walls tends to arrest the bleeding, but there is no contraction in tubal abortion, and the hemorrhage continues unchecked. He maintains the possibility of tubal abortion, that is, violent hemorrhage into the abdominal cavity without rupture. He prefers incision to exploratory puncture, and operates when the fetus is still in the tube, but if it has escaped from the tube he waits as long as possible. If impossible to distinguish he is guided by the severity of the symptoms. The ideal is the complete extirpation of the fetal sac. In case of suppuration, however, it is certainly better to suture it in. He chooses the vaginal route only in case of fever, and then only incises the sac. Werth thinks that the results of active and conservative treatment about balance.

In conclusion, he made an earnest plea for stricter concentration of research in the domain of ectopic pregnancy, and the restriction of the literary over-production which is spreading over wide surfaces without going deep. This over-production renders it more and more difficult for one to keep posted on the subject, and is a direct hindrance to scientific progress, for in the overwhelming mass of long-established facts which are simply brought forward and published over and over again, the really new and important results of original research are easily overlooked by those especially interested in the subject.

Sarwey, Tübingen, from an experience of 71 cases of extrauterine pregnancy believes that colpotomy should be restricted to cases of uncomplicated tubal moles without hematocele, or suppurating and purulent hematoceles.

Strassmann, Berlin, with an experience of 20 cases, urges laparotomy for every case of severe hemorrhage, or of dubious diagnosis or lack of after-care in a clinic. He warns that the uterus must never be drawn forward; it must always be able to be pushed upward. This warning was endorsed by others.

Jung, Greifswald, does not agree with Veit that it is best to wait if the fetus is dead, and operate only on renewal of symptoms. The conditions in the latter case are much less favorable for an operation. Long-continued absorption impairs the working capacity and the case frequently terminates in perimetritis. In his 86 cases he operated through the abdomen in 43, and through the vagina in the same number, with 2 deaths in each category. He always operates unless particularly favorable external conditions exist or there is reason to expect rapid absorption. He always strives to leave as much as possible of the tube or ensure the permeability of the other.

Küstner, Breslau, has operated on 154 cases of extrauterine pregnancy with a mortality of 5. He advocates exploratory puncture and reiterates that a small amount of old blood in the canula is evidence of an old extrauterine pregnancy. Wealthy women may be treated expectantly, but women of the working classes should be operated on and by the abdomen, as the formation of adhesions can thus be better guarded against.

Prolapse Operations.

The addresses on this subject were by Martin, Greifswald and Küstner, Breslau. The former ascribes the etiology of prolapse to impaired resisting power on the part of the connective tissue after pregnancy or infectious diseases or in the menopause, etc. Obstetric trauma, inflammations, tumors, are merely the incidental factor on this foundation. He does not regard pessaries as of much value for prophylaxis; the prolapse benefits as the general health improves. He advocates early operation, early reduction of the size of the vaginal protrusion and restoration of the bladder to its place. Extirpation of uterus and vagina is only exceptionally indicated, 19 times in his experience in 2,000 operations for prolapse. Küstner, on the other hand, is a partisan of pessary treatment, except for working women, for whom the ring pessary has its inconveniences. He thinks that the pessary ensures a better position than any operation. It must be worn with the uterus in a good position for a year at least, after which recurrence is rare. Treatment should be addressed principally to the retroversion; the vaginal prolapse is a secondary matter.

Ziegenspeck, Munich, has been experimenting on cadavers, trying to induce prolapse, and found it practically impossible. For this and other reasons which he enumerated, he believes that the cause of prolapse lies in the difference between the abdominal and the atmospheric pressure. When the portio vaginalis happens to lie over the opening in the floor of the pelvis, the conditions are ripe for prolapse, as it then experiences the stress of the difference in pressure and is sucked outward by the lesser atmospheric pressure.

Schauta, Vienna, described his method of treating severe cases by drawing down the uterus to the vesico-vaginal septum with extensive colpoperineorrhaphy, closing the vagina behind completely over the uterus. The important point is the strengthening of the recto-vaginal septum. Conception must naturally be prevented after this operation, and he asserts that all methods which retain the sexual function are liable to recurrence. Bumm, Halle, believes in total extirpation for women near the menopause in cases of unusually large prolapse with enterocele, of chronic metritis, erosions or ulcerations, affections of the adnexa or tumors and rebellious cystitis with cystocele. In 105 patients treated by total extirpation, 93 per cent. have regained their complete working capacity and 75 per cent. are objectively cured. His mortality has been 2 in 105, and in 176 cases reported in the literature the mortality was 6.9 per cent.

Plans for the Next Congress.

The eleventh congress will convene in 1905 at Kiel, under the presidency of Professor Werth. The special subjects appointed are: "Methods of Artificial Dilation of the Pregnant and Parturient Uterus," and "Permanent Results of Ovariotomies, with Special Reference to Tumors of Dubious Anatomy."

The association also voted by request on two subjects as suggestions for the international congress of gynecology to convene at St. Petersburg in 1905, adopting for the first, "Suture of the Abdominal walls," and for the second, "Operative Treatment of Uterine Myomata."

A detailed report of the congress appears in the *Muenchener Med. Wochft.*, June 23 and 30.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Thirteenth Annual Meeting, held at New Orleans, May 4, 1903.

(*Continued from page 201*)

Report of Committee on Revision of Constitution as to the Standard of Admission.

The motion of Dr. Geo. M. Kober, that the order of program be changed so that the symposium take precedence of the report of the special committee on revision of the constitution, was lost. (Nays, 23; yeas, 21.)

The report of this committee being called for, Dr. J. M. Dodson, in the absence of the chairman, Dr. Ritchie, offered the following majority report:

MAJORITY REPORT.

REQUIREMENTS FOR ADMISSION TO MEDICAL COLLEGES.

In presenting their report on the Revision of Article III of the Constitution, the committee deems it unnecessary to enter into a very extended argument, but it may be of advantage to call attention to a few facts in connection with the matter and to set forth their reasons for framing certain portions of the amendment as they appear.

Attention is first called to the action of the Association at Saratoga, which led to the appointment of this committee. It will be remembered that the address of President Vaughan, which, among other things, recommended an increase in the admission requirements prescribed by the Association, was referred to a committee; the following action was taken in the matter of the report of that committee. I quote from the minutes: "On motion the recommendation of the committee with reference to making the standard of admission the full equivalent of a four years' high school course and the appointment of a committee to consider this matter and to prescribe the branches to be included in this course and time to be devoted to each, was adopted. It was moved to accept the recommendation that the examination of the student (for

admission) be taken entirely out of the hands of the medical school. Motion amended to lay on the table. Amendment lost by a vote of 21 against and 13 for. The original motion to accept was then put and carried. The committee recommended that Article III, Section 3, should be amended to read 'two conditions' instead of 'two or more' conditions. This recommendation was accepted on motion. The committee further reported as follows: "The committee would recommend that a special committee of three be appointed to consider the question whether the standard of admission should not be made the full equivalent of a four years' high school course, such committee to report at the meeting of the Association next year."

"On motion of Dr. Long the report was adopted as a whole, and the committee, Drs. Ritchie, Dodson and Wathen, continued, as the special committee recommended in the report, this special committee to report at the New Orleans meeting, May, 1903."

It will be observed that the instructions to this committee by the Association at Saratoga were very explicit with regard to certain things. While the minor details of the report may, therefore, be criticised, the recommendation that the requirements for admission as laid down in Article III be made a four years' high-school diploma, or a full equivalent therefor, has already been passed on by this Association.

Previous to the organization of the Association of American Medical Colleges there was a standing committee on medical education of the American Medical Association; this committee was abolished when this Association was formed, it being understood and agreed at the time that the chief object of this Association was to elevate the standards of medical education in the United States. It is believed that this organization was a factor in elevating the standards in the early period of its existence and that, at least indirectly, it assisted in securing the statutory enactments in the several states establishing the standard of attainment for medical practice. If this be true, however, the impulse given to the several state boards of health and examining boards has carried them considerably beyond the point reached by the Association, for, at the present time at least, eight states, namely, New Hampshire, New York, Pennsylvania, Ohio, Indiana, Illinois, New Mexico and Colorado refuse to recognize colleges which do not demand a four years' high school diploma or its equivalent as a prerequisite for admission. The advance made by the state boards in this direction has been very rapid and satisfactory, and the example set in the states mentioned is very certain to be followed by others in the near future. Meanwhile, this Association has remained at a standstill for more than five years, in spite of the earnest effort to secure some action which has been made at the last four meetings.

For some reason, too, the American Medical Association seems to have concluded that it ought again to take an active part in the matter of medical education, the inference being that the status of this Association, to which were relegated all matters of medical education at the time of its organization, is not satisfactory. At the meeting in Saratoga last year a standing committee on medical education was appointed which will make a report at the session about to be held. It is not known, of course, what this report will be, but that action of some sort will be taken seems very probable. It has been intimated that membership in the Association and its constituent state and county societies should be denied to those who are connected with medical schools not up to a given standard. It would be humiliating, indeed, for this Association, if standards should be established by the American Medical Association considerably in advance of the standards of this body, which has posed as the particular sponsor for higher medical education in this country.

So far from representing the relatively high standards for which it stood at the time of its organization, its requirements are utterly inadequate to meet the demands of the profession at the present time. The Association has lost the respect of the profession, its standards are entirely discredited by the better examining boards, and it may fairly be said that it is a questionable honor for any institution to be a member of it. A position in the faculty of some of the institutions here represented is a dubious distinction.

It will, perhaps, be urged against increasing the existing requirements to the standards proposed, that it is a hardship to the poor and self-supporting students who may not have had an opportunity to secure a high school education. The reply to this criticism is obvious; in the first place, the medical college is not an eleemosynary institution designed to induce poorly-prepared young men to enter the ranks of a profession for which they are not qualified. In the second place, it is a serious injustice to such a student to allow him to take up the study of medicine. With over five thousand graduates emerging from our medical colleges annually, which is at least two thousand in excess of the demand, the competition among practitioners is keen and growing ever keener; it is not difficult to foretell that the successful men in this competition will be, with rare exceptions, those who are well equipped, and especially those whose fundamental education is the most thorough. Reasonably high requirements, therefore, are primarily in the interest of the students themselves. And, thirdly, it should be said, that the self-supporting students are the ones of all others, who can afford to spend the extra time necessary to properly prepare themselves for medical study. The student who is dependent on his parents, or some one else, for his support may well be anxious to complete his course as soon as possible that he may cease to be a burden on others and become self-supporting; to the student, on the other hand, who is paying his way as he goes, the addition of one, two, or three extra years is a matter of minor importance.

That the adoption of such standards as are proposed here would be disastrous to unendowed medical colleges, seems to your committee a most surprising argument to bring forth. For what are medical colleges established? For the benefit of the members of the faculty, or of the board of trustees who may reap some financial profit from them? Surely this is not the case. No medical school can justify its existence except on the ground that it is engaged in a work that is necessary to the community and that it is being conducted in a proper and legitimate way along lines and in accordance with the standards that are demanded by the times. If the statutes and rules of the examining boards of eight of the leading states have already established higher standards, it seems to your committee that it must be a difficult task for any faculty to maintain its right to turn out students on requirements far below these demands which are pretty uniformly the very minimum that the conditions warrant.

The report of the committee scarcely needs any elaborate explanation, but it may be well to point to some things in connection with the several sections.

First, it will be noted that in Section 1 very liberal allowance is made as to what sort of credentials a student may present; they may be from a four years' high school, from a normal school, a certificate of admission to a university or college, or by examination. It is true that the institutions from which credits may be accepted are confined to those recognized by a state university. Surely one could hardly ask a more liberal proposition than this, however; some restriction must be imposed, as it is well known that the term "high school" may mean anything from less than a good grammar school to the high grade institutions of our larger cities, and similarly the term college must be defined, for as indiscriminately used in this country it may mean anything from a cheap grade business college to an institution of real university rank.

It has been suggested, however, that in some states there is no state university and in some others the state institution does not represent the highest standards. This objection seems to your committee a valid one, and we desire to propose an amendment to the article as printed. May I say, at this point, that the committee is not at all insistent in reference to the minor details of this report; indeed, we believe that certain other changes will meet objections which have been raised by members of the Association with whom the committee have conferred, and we propose, therefore, some other amendments, presently to be mentioned. The committee is strenuous only in its insistence on the fundamental requirement of a four-year high-school diploma or its equivalent. In reference to this clause, your committee propose the following amendment: "It is moved to amend Section 1 by striking out subsections A and B, as they appear in the printed report, and substituting therefor the following: '(A) A diploma from a four-year high school, or academy, or normal school, which requires for admission evidence of the completion of an eight-year course in the primary or intermediate schools.'"

It has been objected further to Section 1, (C) that because of the great lack of uniformity among colleges, it would be difficult, if not impossible, to make sure that the certificate of admission to the freshman class of a college or university is the full equivalent of a four-year high school education. It is proposed to amend this section by substituting the following: "(C) a bachelor's degree from an approved college or university."

In specifying the subjects which may be presented on examination, it has been the aim of your committee to make the terms very liberal; no branches are made compulsory which are not already included in the demands of this Association and the additional credits which may be presented to make up the equivalent of a four years' high school course cover every branch which is at all likely to be included in the high school curriculum. It is thought by some that a larger list than this and greater liberality should be provided for in these branches of choice, and, therefore, the following amendment is proposed: Moved to amend Section 1 (D) of Article III, by adding to the branches of choice, "general history, one or more years; Greek, one or more years; logic, one or more years; psychology, one or more years; Greek and Roman history, one or more years.

Section 2 is simply an explanation of the actions of this Association taken at Saratoga last year. Some objection has been made to allowing the faculty of a literary or scientific institution to conduct this examination, while the members of the medical faculty are prohibited from so doing. Your committee propose, therefore, the amendment of Section II so that it shall read as follows: "This examination must be conducted by or under the authority of the superintendent of public instruction of the city or state in which the college is located. In no case shall it be conducted by any person connected with the faculty, medical or otherwise, of the institution to which the student is seeking admission."

Section 3 is also a simple statement of the conditions to which the Association is already committed by its action at Saratoga; the existing custom of allowing a student to enter a medical school with unlimited conditions is so illogical and indefensible that comment on Section 3 seems superfluous.

Section 5 prescribes the minimum of time attendance which is possible under existing statutes; the length of session which is laid down by our present constitution, namely, six months, is one month short of that demanded by several state examining boards at the present time.

Section 6 is modified from the existing regulations only in omitting the allowance of credit to graduates in pharmacy, dentistry, and veterinary medicine. At least four boards of health, namely, New York, Pennsylvania, Illinois and Minnesota, have already ruled in accordance with the proposed amendment. We believe that the time has come when no allowance should be given for work which corresponds so imperfectly to that of the medical schools proper. The allowance of credit for work actually accomplished in a standard university or college in the course for the bachelor's degree is retained, for it is believed by a majority of your committee that this plan has been of immense service in encouraging young men intending to study medicine to take a college course as a precedent thereto. To the argument that there are many colleges and universities whose work is unworthy of credit, the reply is obvious that discrimination must be exercised by the medical schools in this regard just as in accepting credit from other medical schools, and it is believed that there is no larger proportion of unworthy institutions of general learning than there is of unworthy medical schools in this country. Many of our better colleges now offer to students courses in chemistry, physics, anatomy (even including human dissection), histology, embryology, physiology, and bacteriology which are uniformly of higher character and will average to be much more thorough than the corresponding courses offered in the medical schools. The plan of giving a flat year's credit for a degree irrespective of work done is not satisfactory and your committee would propose that another year the amendment be modified so as to give credit only on the basis of work actually accomplished which corresponds to the work of the medical curriculum; such credit should carry with it, however, a corresponding time credit. It was thought that it would be best, however, to leave the ruling in regard to college graduates as it stands for another year.

In conclusion, we beg to express the opinion that if this report errs it is on the side of leniency because the proposed amendments will not place this Association on any higher plane, so far as requirements for admission are concerned, than has already been established by statutory enactment or the rulings of medical examining boards in several states, but the effort to make any increase in requirements has been so barren of results up to date that it was thought best not to ask more than is prescribed. We beg to express the hope that the Association will place itself again in a position which will command the respect of all those who are interested in higher medical education by the passage of the proposed amendment. By nothing less than this can the Association justify its continued existence as an organization which was established and presumptively continues to exist to elevate the standards of medical education in America.

[Signed.] Parks Ritchie.
John M. Dodson.

The following amendment was introduced by a majority of the special committee appointed for the purpose of revising Article III of the Constitution:

It is moved to amend Article III by striking out all of it and inserting in lieu thereof the following:

Article III.

Section 1. Every college holding membership in this Association shall demand of each student, as a minimum requirement for admission to the medical course, either (*a*) a diploma from a four-year high school or academy whose credits are accepted by a state university, or (*b*) the diploma of a state normal school having a course of instruction equivalent to a four-year high school course whose credits are accepted by a state university, or (*c*) a certificate of admission to the freshmen class of a state university or of a college whose credits are fully recognized by a state university, or (*d*) an examination in the following branches:

(*A*). English—grammar, rhetoric and composition, the equivalent of two years' high school work in this branch.

(*B*). Algebra—to quadratics.

(*C*). Latin—one year high school work, including grammar and four books of Cæsar, or a full equivalent therefor.

(*D*). Physics—one year of high school work, including some laboratory work.

(*E*). U. S. History—one year of high school work.

Besides the above, seven additional branches of the student's choice selected from the following:

1. Latin—one year; Cæsar, Cicero or Virgil.
2. German—one year; grammar and literature.
3. French—one year; grammar and literature.
4. Chemistry—one year; with laboratory work.
5. Botany—one year.
6. Zoology—one year.
7. Geometry—one year; plane.
8. Geometry—one year; solid.
9. Trigonometry—one year.
10. Astronomy—one year.
11. Physiology—one year.
12. Physical geography—one year.
13. English literature—one year.
14. Advanced algebra—one year.
15. Civics—one year.
16. General history—one year.

Sec. 2. This examination must be conducted by members of the faculty of a literary or scientific college, or by a superintendent of public instruction; in no case shall it be conducted by any person connected with the faculty of a medical school to which the student is seeking admission.

Sec. 3. A student may be allowed to enter on his medical work conditioned in not more than two branches (one year's work in each), but these conditions must be removed by satisfactory examination before he is allowed to enter on the second year of his medical course.

Sec. 4. Colleges members of this Association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this Association, excepting for the fourth year of their course.

Sec. 5. Candidates for the degree of doctor of medicine shall have attended four years' courses of study, each annual course to have been of not less than seven months' duration and at least twelve months shall intervene between the beginning of any course and the beginning of the preceding course.

Sec. 6. Time credits may be given to students who have the necessary entrance requirements and who are graduates or students of colleges of homeopathic or eclectic medicine for such courses of instruction of the required duration as they have successfully fulfilled, excepting in the course of the fourth year, provided they pass satisfactory examinations in materia medica and therapeutics. Credit for one year of time may be given to students holding the degree of A.B., B.S., or other equivalent, from a reputable university or literary college.

Sec. 7. A college which gives less than a four years' course of study, but does not graduate students and is possessed of other required qualifications, may be admitted to membership.

Note.—One year's work in any subject of a high school or academic course is defined to mean a series of daily recitations, of forty-five minutes or more in time, for each week of a school year of not less than thirty-six weeks.

This amendment is seconded by the following colleges: medical department of the University of Buffalo, Johns Hopkins University Medical School, medical department of Western Reserve University, medical department of the University of Michigan, Rush Medical College, in affiliation with the University of Chicago, Northwestern University Medical School, medical department of the University of Minnesota, medical department of the University of Iowa, medical department of the University of Kansas, medical department of the University of California.

In the form finally adopted the amendment read as follows, and it was provided that it take effect July 1, 1905:

Article III.

Section 1. Every college holding membership in this Association shall demand of each student, as a minimum requirement for admission to the medical course, either (*a*) a diploma from a four-year high school or academy or normal school requiring for admission evidence of the completion of an eight-year course in primary and intermediate schools, or (*b*) a bachelor's degree from an approved college or university, or (*c*) an examination in the following branches:

(*A*). English—grammar, rhetoric and composition, the equivalent of two years' high school work in this branch.

(*B*). Algebra—to quadratics.

(*C*). Latin—one year high school work, including grammar and four books of Cæsar, or a full equivalent therefor.

(*D*). Physics—one year of high school work, including some laboratory work.
(*E*). U. S. History—one year of high school work.
Besides the above seven additional branches of the student's choice selected from the following, each to have been pursued one or more years:

1. Latin—Cæsar, Cicero or Virgil.
2. German — grammar and literature.
3. French — grammar and literature.
4. Chemistry—with laboratory work.
5. Botany.
6. Zoology.
7. Geometry—plane.
8. Geometry—solid.
9. Trigonometry.
10. Astronomy.
11. Physiology.
12. Physical geography.
13. English literature.
14. Advanced algebra.
15. Civics.
16. General history.
17. Greek.
18. Logic.
19. Psychology.
20. Ethics.
21. Greek and Roman history.

SEC. 2. This examination must be conducted by or under the authority of the superintendent of public instruction of the city or state in which the college is located; in no case shall it be conducted by any person connected with the faculty, medical or otherwise, of the institution to which the student is seeking admission.

SEC. 3. A student may be allowed to enter on his medical work conditioned in not more than two branches (one year's work in each), but these conditions must be removed by satisfactory examination before he is allowed to enter on the second year of his medical course.

SEC. 4. Colleges of this Association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this Association, excepting for the fourth year of their course.

SEC. 5. Candidates for the degree of doctor of medicine shall have attended four years' courses of study each, and at least twelve months shall intervene between the beginning of any course and the beginning of the preceding course.

SEC. 6. Time credits may be given to students who have the necessary entrance requirements and who are graduates or students of colleges of homeopathic or eclectic medicine for such courses of instruction of the required duration as they have successfully fulfilled, excepting in the course of the fourth year, provided they pass satisfactory examinations in materia medica and therapeutics. Credit may be given to the holder of a bachelor's degree from a reputable college or university for any work in the medical branches which he has successfully completed in his college course that is the full equivalent of corresponding work in the medical curriculum. Such a student may be allowed to complete the course for the medical degree in not less than thirty-one months, provided that he completes the remainder of the medical curriculum in that time.

SEC. 7. A college which gives less than a four years' course of study, but does not graduate students and is possessed of other required qualifications, may be admitted to membership.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the disease seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Intolerance of Milk.

Robin, in *Jour. des. Pract.*, states that milk, in order to overcome intolerance, should be given at regular intervals and in definite quantities. It is best administered hot, but not boiled. The patient should be instructed to sip it slowly and should lie quietly for half an hour after taking it, with hot fomentations over the gastric region. Diarrhea, pain, flatulence and constipation may render it difficult to keep the patient on a milk diet.

To relieve the epigastric pain and distress the following is recommended:

℞. Sodii bicarb.
Magnesiæ ustæ, āā ..... ʒi 4
Cretæ preparatæ ..... ʒiss 6
M. Ft. chart. No. x. Sig.: One to be given after each feeding of milk; or:
℞. Pil. pancreatin ..... gr. i-ii |06-.12
Sig.: One to be taken after food.

To relieve the flatulence which is dependent on fermentation the following solution is recommended:

℞. Ammon. fluorid. ..... gr. iii |20
Aq. destil. q. s. ad ..... ʒx 300
M. Sig.: One teaspoonful after taking the milk.

If in doubt as to the nature of the fermentation the following should be given:

℞. Sulphuris ..... gr. iii |20
M. Ft. cachet No. i. Sig.: One after each feeding.

To correct the constipation the following pill:

℞. Pulv. aloes ..... gr. i |06
Ext. hyoscyami
Ext. belladonnæ, āā ..... gr. 1/12 |005
Ext. glycyrrhizæ ..... gr. iss |09
M. Sig.: One to three such pills at bedtime.

The diarrhea may be checked by administering an infusion of strawberry root, using about twenty grains of the root at one dose, from which the infusion should be made, or by bismuth in proper doses.

Gastrointestinal Atony.

The following is recommended by *Médecine Orientale* in the treatment of gastrointestinal atony:

℞. Magnesiæ ustæ
Cretæ preparatæ, āā ..... ʒi 30
Pulv. calumbæ ..... gr. xxx 2
Pulv. vanillæ ..... gr. xv 1
M. Sig.: One half teaspoonful before each meal.

Chronic Articular Rheumatism.

E. C. Hill, in *Med. Standard*, recommends the following treatment for chronic articular rheumatism:

As a liniment.

℞. Linimenti terebinthinæ
Tinct. opii, āā ..... ʒi 30
Linimenti saponis ..... ʒiii 90
M. Ft. linimentum. Sig.: To be applied externally to the affected joints.

Internally the following:

℞. Potassii iodidi ..... gr. xx 1|30
Vini colchici rad. ..... m. v |30
Syr. sarsap. co. q. s. ..... ʒi 4
M. Sig.: At one dose, to be repeated after each meal; or:
℞. Liq. potassii arsenitis ..... m. v |30
Pot. iodidi ..... gr. v |30
Syr. simp. q. s. ad ..... ʒi 4
M. Sig.: To be taken at one dose and repeated after each meal.

In the aged and debilitated the following:

℞. Quin. sulph. ..... gr. iss |09
Tinct. ferri chloridi ..... m. xii |75
Elix. cascaræ sagradæ q. s. ad ..... ʒi 4
M. Sig.: One dessertspoonful three or four times a day well diluted in water; or:
℞. Potassii iodidi ..... gr. x-xx |65-1.30
Spts. chloroformi ..... m. v |30
Tinct. cinchonæ co. q. s. ..... ʒi 4
M. Sig.: At one dose, to be repeated three times a day, well diluted in water; or:
℞. Acidi salicylici ..... gr. xv 1
Elix. cascaræ sagradæ ..... ʒiv 15
M. Sig.: At one dose.

As an ointment the following:

℞. Acidi salicylici ..... ʒv 20
Alcoholis ..... ʒiii 90
Olei ricini ..... ʒvi 180
M. Ft. unguentum. Sig.: Apply locally.

Enuresis.

The following formulæ by Sheffield are recommended in the treatment of enuresis:

℞. Ext. ergotæ flu. ..... ʒiii 12
Ext. rhois toxicodendron. flu. ..... ʒi 4
M. Sig.: Five to ten drops every four to six hours.

In cases of incontinence due to hyperesthesia of the neck of the bladder, irritating foods should be avoided, sitz baths employed and the following antispasmodic mixture given:

℞. Ext. hyoscyami ..... ʒss 2
Sodii bromidi ..... ʒi 4
Aq. anise ..... ʒi 30
Syr. simp. q. s. ad ..... ʒii 60
M. Sig.: One teaspoonful every 4 to 6 hours. Counter-irritation by means of mustard plasters should be employed over the lumbo-sacral region.

Treatment of Scalp Wounds.

Bayard Holmes, in *Denver Med. Times*, gives the following suggestions in the treatment of scalp wounds:

1. Shave three inches about every scalp wound.
2. Make every scalp wound a large incised scalp wound, so that it may be explored with the finger.
3. Use no probe except the index finger.
4. Trim with the scissors the edges of the scalp wound; the razor and the brush are not effective.
5. Scrape out an old wound with a sharp spoon as a part of the mechanical removal of infection.
6. Sew up clean and bloodless scalp wounds without drainage, inserting the stitches half an inch or more from the edges of the wound and tying on one side.
7. Remove the stitches at the end of forty-eight hours, being careful to cut the stitches near the skin so that none of the exposed and infected silk will be drawn through the scalp.

Trachoma.

The following treatment of trachoma is recommended by *Médecine Orientale:* An instillation of iodic acid (1 to 100) and the conjunctiva swabbed with the following solution:

℞.	Potassii iodidi	ʒiss	6
	Acidi iodici	gr. lxxv	5
	Aquæ	ʒiii	90

M. Sig.: Apply locally. Any granulations present should be touched with a stick of iodic acid, and the membrane massaged after applying the following powder:

℞.	Acidi iodici	gr. xv	1
	Sodii iodati	gr. lxxv	5
	Acidi borici	ʒiii	90

M. Sig.: Apply locally to the affected membrane.

Pertussis.

The following outline of treatment, according to an abstract in *Month. Cyc. of Med.*, is the most satisfactory in the treatment of whooping cough: Antisepsis of the buccal and nasal mucous membrane; painting the pharynx several times a day with validol containing some oil of bitter almonds, and a 5 per cent. solution of cocain; inhalation of oxygen saturated with validol and cherry laurel water, several liters, five or six times a day; a daily change of bedroom and daily fumigation of the vacant room with sulphur; internally euquinin and belladonna:

[Validol contains 30 per cent. menthol, 70 per cent. valerianic acid, and is a nerve sedative, given internally in 10 to 20 drop doses.]

Kilmer, in *N. Y. Med. Jour.*, recommends inhalations of pure steam or creasote vapor to allay the paroxysm. This may be administered by means of the croup kettle and repeated two or three times daily. Where there is marked spasm of the glottis, inhalations of chloroform are of benefit. Antipyrin, sodium bromid and quinin are the drugs preferred by the author. For a child two years of age the following combination:

℞.	Sodii bromidi	gr. iii	20
	Antipyrini	gr. i	06
	Syr. ipecac.	m. iv	25
	Aquæ q. s. ad	ʒi	4

M. Sig.: One such dose every two hours for three or four days.

The patient is then given three grains of quinin sulphate every three or four hours for four days and then put back on the liquid combination.

He advises, as a mechanical measure, the use of a stockinet band similar to that employed by the orthopedic surgeon before applying a plaster-of-paris bandage. This band is made to extend from the axillæ to the pubes and fits the body snugly. This bandage is used to control the vomiting, and thus in nurslings prevents the inanition which would otherwise occur on account of the vomiting.

This band, it is stated, will also aid in aborting the paroxysmal stage as it is manifest that the paroxysms are very much milder when the band is worn. There is some liability, unless care is observed, to an eczema which soon disappears when the band is taken off.

Medicolegal.

Unnecessary Operation to Produce Sterility Warranting Refusal to Marry.—One of the defenses to the breach of promise case of Edmonds vs. Hughes was that at the time the party sued promised to marry the party suing the latter was a woman in possession of the power of procreation, and was able to bear children; that after the promise was made she voluntarily submitted to and permitted an unnecessary surgical operation to be performed upon her body, by which she was rendered unable to procreate or bear children, and would forever remain so. If this was true, the Court of Appeals of Kentucky holds that it constituted a valid bar to the woman's alleged cause of action for breach of promise to marry her.

Demonstration of Injuries to Jury by Expert Witness.—The Court of Appeals at St. Louis, Mo., says that, in the personal injury case of Rice vs. the Wabash Railroad Company, the company was loud and vehement in its complaint against what was termed the anatomical and surgical lecture of the suing party's expert witness in describing and illustrating, by reference to that party's nose, the nature of the injuries sustained. But, if the method adopted by the party suing in presenting such testimony was effective and potent, the court says, the presiding judge was clothed with broad discretionary authority in the proper course and seemly conduct of trials before him, and, in the absence of clear abuse of such power, the court is inclined to defer to his action, and assume that he properly controlled the management of the trial, and it is not disposed to hold that the manner in which the injuries of the party suing were demonstrated by the physician to the jury constituted reversible error.

Bases of Non-Liability for Negligence of Physicians.—The Court of Appeals at St. Louis, Mo., says, in the malpractice case of Haggerty vs. the St. Louis, Keokuk & Northwestern Railroad Company, that the later judgments have apparently renounced the notion that whatever immunity from the law of respondeat superior (the superior or master must answer) is enjoyed by eleemonsynary trustees and corporation is allowed in order to protect trust funds and public money from outlays not contemplated by the donor or the legislature. Recent cases which exonerate charitable institutions from liability for certain negligent acts of employes, such as unskillful treatment or nursing, appear to do so on the theory that a patient, in accepting gratuitious attention of that kind, assumes the risk of injury by the carelessness of employes. But it was obvious, the court says, that neither the railroad company sued nor its relief department was the trustee of public funds put into its hands to use in a prescribed manner. Nor, in view of the regulations provided for its government, could the relief department be classed as a charity without doing violence to every significance that word bears, either in popular or legal usage. The fund administered was not a gift by the employes, who made contributions; much less by the railroad company, which did not make any unless a deficit occurred. The fund was made up from sums contributed by the members for their mutual benefit, and to be enjoyed by them if they suffered from sickness or accident. It was, in effect, a provision made by the employes to insure a stipend for them to live if they were disabled, and a benefit to their families if they died. In addition to this, if disabled by accident, their medical attendance was paid out of the fund. This strikes the court as a purely business arrangement on the part of the employes of the railroad company. To call the enterprise a charity on the part of the company itself is extravagance, when it is noted that one of its purposes, as carved in high relief on the face of the regulations, is to prevent damage suits. Enterprises much more benevolent have been excluded from the list of charities by the courts. To give such organizations as this one the legal status of a charity, and determine the employer's liability on that theory, is not only illogical, but must ultimately prove pernicious, by subverting to commercial and selfish uses principles of law designed to protect only benevolent institutions. Wherefore the court declines to accede to the argument that the party

suing here for malpractice had no case, because, if treated by the company's physicians, he was the recipient of charity. Unquestionably, if it undertook to supply him with surgical attendance, or deprived him of a choice in the matter, it was bound to employ reasonable care to get men of average skill. But its obligation ended there, though not on the principle that it was operating a charity. In cases like this the surgeon is not regarded as sustaining in full measure the relation of servant to the railway company, which carries the right of direction and control as to the mode of doing the work. There is little likelihood of railway companies or other employers becoming careless in the selection of physicians to wait on employes; and, as their business managers and superintendents are not selected for their expert knowledge of medical and surgical matters, they are unfit to supervise the work of physicians, and therefore the doctrine of respondeat superior, or that masters are answerable for the wrongful acts of servants, cannot well be applied to such matters. These, the court thinks, are the real reasons why the courts have refused to extend the rule to them.

Requisites to Charging Wife for Medical Services.—The Appellate Term of the Supreme Court of New York says that the sole question in the case of Hazard vs. Potts was whether the wife there sued was liable for medical services which it was admitted were rendered to her husband and his family. The court says that the liability for such services was presumptively and primarily on the husband, unless the wife, by express agreement, charged herself personally with the same. Therefore, in order to charge her with liability, it was necessary to prove that she undertook liability, and that such services were rendered on her credit. The evidence showed that the services were rendered on the request of different members of her family; but, even if she had requested the rendition of any of them, such request, the court holds, would not have raised any implied promise on her part to pay for the same; but, on the contrary, since all the services were necessary for her family, and the physicians knew it, the presumption would be that she had made such request as agent of her husband. The record was barren of any evidence tending to show that the services were rendered upon her personal credit, or that the physicians, when they rendered them, told her that they would look to her for payment of the same. Under these circumstances, no recovery against her could be maintained, unless some effect could be given to testimony adduced that, after all the services had been rendered, she made two payments on account, and thereafter asked for a bill, and said she would probably pay the claim in installments; subsequently she wrote one of the physicians that as soon as she was able to go to New York she would call, and that she meant by that letter that she wanted to go there for the purpose of borrowing money from a friend; thereafter, one of the physicians and his brother called at her residence, where they at first met her husband, who excused himself by saying that his wife would be in presently and talk with them, and that she then appeared and stated that they wanted to pay the bill if given time to do so, and that she was willing to give a note, but that she could not speak for her husband, and that a day or two thereafter she told a lady that she would pay the bill. The wife, however, denied that she promised to pay such bill, but, even if she did, the court holds, such promise would not, for obvious reasons, enable an action to be maintained thereon, but might, at most, be some evidence of an agreement at the outset to pay, if nothing appeared to the contrary. Such question, however, need not be considered, since it appeared from the evidence that the physicians did not have any conversation with her about payment for the services until after they had been rendered. There was therefore no evidence in the case from which it might be legitimately inferred that the services were rendered upon the agreement of the wife to be personally liable for them. On the contrary, the bills rendered by the physicians were made out to the husband, which facts strongly tended to show that the services were rendered upon his credit alone. Hence, in the absence of an original agreement to be personally liable, the wife's alleged subsequent promise to pay for them, even if established, must be presumed to have been made in her relation of wife, and in the exercise of her implied agency to obtain medical attendance for the family. Wherefore, in the absence of proof showing an agreement on her part to be personally liable, the court holds that a recovery against her was not warranted.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 11.

1 *One Hundred Consecutive Cases of Myoma of the Uterus. Guy L. Hummer.
2 *Selection of the Anesthetic: Method of Administration: Complications Encountered and How to Deal with Them. George Spencer.
3 *Observations on the Diagnosis of Nasal Sinusitis. Walter J. Freeman.
4 A Case of Double Curvature of the Spine with an Interesting Complication. Edward J. Wynkoop.
5 Two Cases of Appendicitis and Some Deductions Therefrom. E. R. Secord.
6 The Duties of the School Teacher in the Combat of Tuberculosis as a Disease of the Masses. S. A. Knopf.

1. **Uterine Myoma.**—Hunner's article is an analysis of 100 cases, including 31 colored and 69 white women. The admissions of colored women are only about one-sixth of the total, showing that myoma is nearly twice as frequent in the colored as in the white race. The youngest patient was 24, the oldest, 67. The majority were in the fourth and fifth decades of life. He remarks in regard to the caution required to distinguish between fibroid and pregnancy. Of the chief symptoms, 35 patients complained of abdominal tumor. In 2 cases this was the only symptom. Pain in the abdomen, pelvis or diaphragm was complained of by 53 patients. An increased menstrual flow was noted in 41 cases. Copious hemorrhages at or between the menstrual periods occurred in 15 patients, making 56 per cent. with hemorrhagic loss of blood. In 9 cases the hemoglobin at time of operation was 46 per cent. or lower. These all recovered in spite of the anemia. In the older patients hemorrhage was a prominent symptom in the majority and in only the minority of these cases was it of the menstrual type. One patient had undergone a double oöphorectomy eleven years before, with only temporary relief. Gastric symptoms were prominent in 6 cases. A number of patients suffered from complications. Carcinoma of the fundus was present in 3, of the cervix in 2 cases and sarcoma was present in 2, making 7 per cent. of malignant disease. Adenomyoma was present in 2 cases. Many cases exhibited complications outside the uterus and tumor involving the uterine adnexa. Six patients died, as against only 2 per cent. in ordinary gynecologic operations. In 5 of these there was serious pelvic inflammatory disease and complications. The operations performed were myomectomy in 19; panhysteromyomectomy in 14; supravaginal hystero-salpingo-oöphoromyomectomy in 40 cases, and supravaginal hysteromyomectomy, leaving one or both ovaries, in 16; vaginal myomectomy in 5 cases, and vaginal hysteromyomectomy in 6. Nine patients were treated by the method of bisection. He thinks if we can find in a series of 100 cases such a record of suffering, sterility, miscarriage, etc., one will not wonder that he announces his attitude toward myoma of the uterus as radical.

2.—This article appeared elsewhere. See THE JOURNAL, xl, title 155, p. 1263.

3. **Nasal Sinusitis.**—The diagnosis of inflammatory conditions of the frontal, antral, ethmoidal and sphenoidal sinuses is discussed at length by Freeman, who thinks that the transillumination test has been too much relied on. Frontal sinusitis is generally easily diagnosed, though there are conditions in the absence of pain, usual with free drainage, where our attention may not be directed to the proper locality of the suppuration. In antrum inflammation no sign has been as useful to him as the discovery of pus flowing over the upper surface of the posterior end of the inferior turbinal. He has also been able to make a tentative diagnosis of sinusitis by

certain well-defined odors, those of sour pus and of sulphuretted hydrogen. The symptom of intermittent cacosmia is very significant of sinus suppuration, generally of the antrum. Syphilitic necrosis in the sinus, however, may be an exception. The presence of discolored molars or bicuspids is always significant and suspicious. A capped six-year molar is always suspicious. Any tooth from the wisdom to the central incisors may be the cause of antrum inflammation. In endeavoring to wash out the antrum through the normal opening, he has found it of advantage to explore first with a delicate cotton wound-probe, the point curved downward, and he has also devised an irrigation cannula which has proven of great service to him. It is made of hard rubber and easily molded to any shape by heating and is not so uncomfortable as a metal tube. He thinks the ethmoid is not infrequently credited with trouble which is due to the antrum, and before sacrificing the middle turbinal it is due the patient to at least suspect the antrum and try irrigation. Except in atrophic rhinitis or in rare cases of deformity of the septum with accompanying lack of development of the turbinals, a direct flow of pus from the sphenoid opening can seldom be seen. Edema of the mucous membrane at the upper portion of the septum posteriorly should direct our attention to the sphenoid. The statement that the formation of crusts in the vault warrants a probable diagnosis of sphenoid disease, as asserted by Schaeffer and others, is, he thinks, misleading. Vertigo and pain at the occiput, deep in the eyes and in the ears, may be caused by disease of any one of the sinuses, and the distressing pain across the bridge of the nose considered so characteristic of ethmoid disease is repeatedly caused by manipulations within the sphenoidal cavity. In regard to ocular manifestations, he quotes Posey, who says that the general symptoms of asthenopia, which are obstinate and not relieved by glasses, should direct attention to the nasal sinuses. Freeman advises against the use of suprarenal extract in examination for sinus suppuration, as the blanching of the surfaces prevents the recognition of small amounts of secretion. He has found it useful to have the patient close the opposite nostril and sniff and blow alternately. This draws the pus rapidly from the sinuses and saves time. The morning is the best time for detecting pus from the frontal and ethmoids and the evening for secretion from the antrum and sphenoid.

New York Medical Journal.

July 11.

7 Report of a Case of Pernicious Anemia with Marked Ptosis of the Abdominal Viscera. C. Bertram Gay.
8 *Humeroacromial Suture for Habitual Dislocation of Shoulder. Carl Beck.
9 A Device to Protect Against Infection in Operations on and Around the Rectum. J. M. Lynch.
10 *Intravascular Antisepsis. (Concluded.) Charles G. Barrows.
11 Mental Aberration Consequent on Pelvic Disease—Cases. L. G. Hanley.
12 *The Source of Typhoid Fever. Charles F. Davidson.
13 The Peculiar Case of Lam ah Chan. J. A. Guthrie.
14 *Radiotherapy in Enteritis and Colitis. Sinclair Tousey.
15 *Some Observations on Stacke's Operation. Thomas R. Pooley.

8. **Shoulder Dislocation.**—Beck reports a case where, on account of a recurrent humeroacromial dislocation of the shoulder, he operated by exposing the acromial surface of the capsule, which was found to be so much relaxed that a fold could be taken up and contracted by making a purse-string suture in it. At the same time a hole was drilled into the head of the humerus and into the acromion and a medium silver wire carried through it to ensure retention of the head by adhesion formation. There was no evidence of rupture of the supraspinatus muscles, or, infraspinatus, causing rupture of the capsule or any abnormality of the joint. The operation was followed by no reaction and when the wire was removed five weeks later the result was good. Six months after operation it appears perfect.

10. **Intravascular Antisepsis.**—Barrows continues his article on the formaldehyd treatment of septicemia and mentions its advantages. He quotes, in conclusion, from Sajous, that it has an effect in stimulating the adrenal system if used in moderate doses.

12. **Typhoid Fever.**—Davidson has studied a number of cases of typhoid occurring in his practice and finds in every instance evidence of a water-borne infection. He does not pretend to say that infected fruit and vegetables might not sometimes be responsible; they may lie on the ground and come in contact with infected water from some source or other, but so far as his observations go, he has not been able to trace a single case to anything except an infected well.

14. **Radiotherapy in Colitis.**—Tousey has begun the use of electrotherapy in certain cases where there is a chronic condition of pain or discomfort with frequent mucous and occasionally bloody discharges and false membranes, and which have failed to yield to the use of intestinal antiseptics. The way he made the applications has been by having the patient lie flat upon an examining table with the surface of the abdomen exposed, and with an *x*-ray tube supported eight inches from the surface, with the rays directed principally to the painful part. At this distance the exposure may last for three to five minutes for the first treatment and may be gradually increased in duration. He takes precaution to use a large tube, 40 cm., and to avoid allowing the platinum disc to become red hot. To avoid this it is necessary to turn off the current several times during a long exposure. We must consider the character of the parts exposed to the light, the degree of vacuum in the tube as well as the duration and frequency of the applications. The parts which it is not desired to influence should always be protected by sheet-lead or something else opaque to the *x*-ray. In addition to the *x*-ray proper he has made other applications by means of glass vacuum tubes connected by a thoroughly insulated wire with one pole of the great Ruhmkorff coil, which should form part of the *x*-ray outfit. When the current is turned on such a tube is filled with a wave of light passing from the rheophore toward the bulbous extremity, which is in contact with the skin, and the patient receives, with hardly any sensation, a wave-like discharge of very high voltage and considerable amperage. The connection is with only one tube of the coil. The tube is provided with an insular handle for the use of the operator. If removed from the skin a shower of sparks passes from the vacuum tube and does not seem to produce as good results as the direct contact, and is more disagreeable. Direct application is almost without sensation, but the patient can give another person quite a spark by touching him. He has had his patient, more or less, completely insulated, but is not certain as to the importance of this point. The cases under treatment seem to show an improvement, perhaps on account of the novelty, as the author suggests, but his expectation of lasting benefit is not so much on account of the germicidal action of the *x*-ray as on account of the stimulating and altering effect of the combined application of the *x*-ray and the high tension discharge from the vacuum tube.

15. **Stacke's Operation.**—The radical mastoid operation generally known as Stacke's is criticised by Pooley, who points out the following dangers of the procedure:

1. The wounding of the facial nerve, dura, lateral sinus and the semicircular canals.

(*a*) The facial nerve may be wounded on account of its anomalous position, carelessness in chiseling too near the floor of the external canal, or the too tight packing of the wound.

(*b*) In using the middle ear curette it must not be forgotten that the tympanic walls are often very thin from necrosis and the internal carotid artery, as well as internal jugular vein, are imperfectly protected and liable to be penetrated.

(*c*) In carrying the operative procedure upward and backward the semicircular canals must be avoided.

2. In contemplating this operation it must be taken into account that a radical cure is by no means always obtained by one operation. A second operation, or even a third or fourth, may be necessary, in order to obtain a complete cure of the otorrhea.

3. The length of time required for the healing process may vary from three to six months. And lastly,

4. The possibility of permanent impairment of hearing in patients who, before the operation, could hear fairly well.

Considering these and the uncertainty of cure, together with the long duration of after-treatment, he thinks every case of chronic otorrhea should be carefully studied before being subjected to such severe operative procedure. While he does not wish to detract from the merits of the operation, he does not think all cases of chronic otorrhea should be indiscriminately so treated. In spite of the present opinion against the cure of otorrhea by medication, removal of polypi,

and intratympanic curetting, he holds that each of these methods often meets with success. Many cases of chronic suppuration of the middle ear can be healed by vigorous antiseptic treatment, removing granulations, cholesteatoma, etc. He summarizes his view as to when operation should be performed as follows:

The objective indications may be grouped under two forms: any case of reinfection or of a rapid extension of a chronic otitic process, or whenever a grave complication is threatened; the indication is then for immediate operation.

The indication is not immediate when the patient suffers little or no pain and there is no striking symptom in the mastoid, but even here the indication may be operative. If the osseous lesion is extensive. The subjective symptoms are: persistent and recurrent pain in the ear or mastoid process, with persistent and fixed pain in the parietal or occipital region, increased by percussion, which frequently points to temporal or cerebellar abscess; vertigo, either permanent or intermittent attacks, which may be due to erosion of the external semicircular canals, and well-marked brain symptoms, such as headache, heaviness, pressure, torpor, loss of consciousness, etc.

Medical News, New York.

July 11.

16 *Stomach Vertigo. Charles S. Fischer.
17 *Notes on the Selection of a Climate for the Treatment of Tuberculosis. Russell Bellamy.
18 *Hypnotism and Hysteria. Wm. B. Pritchard.
19 *Dry Superheated Air in the Treatment of Septic Infection. Clarence E. Skinner.
20 *The Sanatorium Treatment of Tuberculosis. (Concluded.) Herbert M. King.

16. Stomach Vertigo.—The various theories of stomach vertigo are reviewed by Fischer, who thinks it is unproven that there is any relation between abnormal gastric secretion and vertigo. He has taken from his own records a number of cases bearing on this point, and finds that both subacidity and acidity may exist with this symptom and not much difference in proportion from those that occur with normal gastric findings. There is very little relation between gastric acidity and vertigo in his opinion. The simplest clinical indications of gastric irritability are pain and nausea, and it would be interesting to know in what proportion of vertigo symptoms these two symptoms are pronounced. From his own observations it would seem that very little causative relation exists between gastric irritability and vertigo in inflammatory affections of the stomach, nor does he find that atony or gastroptosis seem to have very marked relations, though each may have its effect. That vertigo should be associated most frequently with atony is comprehensible, as atony is the most frequent pathologic condition in chronic gastric disease. Autointoxication is also doubted, as it can not explain all cases. He makes the classification of vertigo into: 1. Those in which it is intense and is the only prominent nervous system. 2. Those where it is associated with intense palpitation, precordial fear, dyspnea, and possibly syncope, following isolated acts of indiscretion in diet. 3. Cases where it occurred as a momentary sensation in the course of well-defined pathologic conditions in the stomach. The first class assumes the existence of a chronic gastric disease with or without dyspeptic symptoms. There are no specific gastric states with which this type can be directly connected and fortunately the cases are rare. The second type is more frequent, but can hardly be justifiably called gastric vertigo, for the latter is not the principal feature of the attacks. Many of them occur very soon after meals, thus eliminating the possibility of fermentative and putrefactive changes. The third class comprises those cases in which the vertigo is associated with chronic gastric diseases as a momentary sensation. These are numerous, but the causative relation of gastric disorder is often very obscure. There is generally an accompanying neurosis. The author is inclined to think that the vertigo is due either to external influences affecting the special senses, or originates in the central nervous system as the result of a predisposition engendered by mental depression or irritability. Fischer seems to consider that the stomach has been credited with more than is properly its due in these cases.

17. Tuberculosis.—Bellamy describes the climates of New Mexico, Colorado and Arizona, and in summing up their advantages offers the following points: 1. Consumptives with a rapid breaking down of lung tissue should avoid high altitudes, although he has heard of many cases being taken 2, those with especially developed cardiac lesions, with a marked tendency to a disturbance of cardiovascular balance. 3. Those completing the fifth decade, where the capacity of muscular exertion is considerably limited, should avoid high altitudes, although I have heard of many cases being taken to Colorado, recovering and taking up their life there. 4. Laryngeal cases do better at the low altitudes.

18. Hypnotism in Hysteria.—Pritchard advocates the utility of hypnotism, although there seem to be some contraindications such as delusional insanities and organic and toxic nervous diseases.

19. Superheated Air in Sepsis.—The good effects and mechanism of superheated air in cases of sepsis are described and illustrated with cases by Skinner. The mechanism is, according to him, through the reflex stimulation of the vasomotor tracts relieving stasis and lessening pain, augmenting the nutrition by stimulation of the trophic centers, the raising of temperature, disturbing the conditions favoring propagation of micro-organisms and stimulating the integumental emunctories to increased function. He doubts there being any danger from local hot air applications in localized infections. He has never heard a logical defense of this charge and has never heard of an authentic case where there was any satisfactory evidence that such a result was properly attributable to hot air. There is no hard and fast rule as regards the duration of application and the intensity of the heat. Overstimulation should be avoided. In non-febrile cases and those exhibiting only a low degree of febrile action, it is usually an indication that sufficient influence has been induced when the mouth temperature has been increased 2 F. above the normal or the pulse has been accelerated to 120 or 130 beats. Other measures should also be employed, such as electricity, the judicious regulation of diet and of the excretory functions, proper surgical dressing, etc. While hot air is a good thing in septic infection it is not invariably a sure thing. It will cure unaided and alone many cases. Others will require all the remedial sources at our command.

20. The Sanatorium Treatment of Tuberculosis.—King concludes his article and sums up that sanatorium treatment consists in placing the patient in the best possible environment to aid resistance and counteract the effect of waste and toxins. This is done by: 1. Securing increased sunlight; 2, enforced rest in the open air day and night; 3, increased consumption of proteids; 4, accurately governed exercise; 5, constant and unremitting medical supervision. If this can be had at home, so much the better, but he has rarely found it possible.

Medical Record, New York.

July 11.

21 Some Recent Methods of Intestinal Anastomosis. George G. Ward, Jr.
22 *The Physician and the Ophthalmoscope. Francis Valk.
23 *The Cystoscope; Its Indications and Contraindications in Genito-urinary Diseases. Follen Cabot and Henry G. Spooner.
24 A Case of Paraffin Injection Into the Nose Followed Immediately by Blindness from Embolism of the Central Artery of the Retina. Lee M. Hurd and Ward A. Golden.
25 Some Practical Remarks on the Management of Breech Presentations. Joseph Kucher.

22. The Ophthalmoscope.—Valk describes the methods and use of the ophthalmoscope and what it reveals, and calls attention to the importance of the physician's understanding the use of this instrument.

23. The Cystoscope.—Cabot and Spooner describes the cystoscope and its use, pointing out that the physician must learn not only how to insert the instrument, but also how to interpret the images seen. It should never be used until we have acquired an accurate knowledge of the length and caliber of the urethra and tested the capacity of the bladder. It is in bladder diseases that its principal value exists, though it may be of use as an aid in the diagnosis of diseases of the prostate gland. In case of foreign body it may aid a doubtful diagnosis. It is contraindicated in nearly all cases of acute cystitis and probably in tuberculous cystitis, though it can at least tell us the extent of the involvement, when it can be employed without too much aggravation of painful symptoms, and it alone reveals ulceration.

Boston Medical and Surgical Journal.

July 9.

26 *Subparietal Injuries of the Kidney. (To be continued.) Francis S. Watson.
27 A Case of Acute Epididymitis in an Undescended Testicle, with Gonococci Demonstrated in the Excised Organ. Fred T. Murphy.
28 The Nernst Lamp for the Production of Ether Waves for Use in Therapeutics. William Rollins.
29 A Case of Malignant Endocarditis with Meningitis, Pneumococcus Infection. L. C. Miller.

26. **Subparietal Injuries of the Kidney.**—An experience of 6 cases led Watson to investigate the subject. He has collected, formulated and analyzed clinical data from 660 cases, including all previously published series of importance and all but about 78 individual cases scattered through the literature, which are inaccessible to him at this time. Kidney lacerations may be due to muscular action alone and to apparently very inadequate force. Eleven cases of this character were found and are given in brief. In 20 cases the injury was the result of blows upon the abdomen. Where a single intraperitoneal organ was injured in association with the lacerated kidney, in all instances it was on the same side as the kidney injured. Abdominal symptoms, such as are usually associated with peritonitis, occurred in 18 cases, in 8 of which operation demonstrated the absence of any intraperitoneal complication, and in the other 10 the symptoms subsided so rapidly as to exclude such. Such symptoms are not infrequently seen in conditions which appear to be abdominal muscular contusions only. In a larger number of cases, the abdominal symptoms did represent intraperitoneal complications. Tumor in the loin appeared in 111 out of a total number of 486 uncomplicated cases, chiefly caused by hemorrhage in the peritoneal tissues. In other cases the tumor was due to traumatic hydronephrosis or perinephritic abscess. When due to perirenal extravasation it may appear almost immediately and frequently within one or two days. Subparietal injury of the kidney is rather an infrequent condition. Out of 2610 autopsies at the Middlesex Hospital in ten years there were but 12 cases. Other hospitals show similar proportions. Nevertheless it is evidently the most frequent resulting lesion in the abdominal viscera in cases of abdominal contusion, as shown by Makins' table of such cases. In a few cases it may be due to direct impaction of the ribs. In others it would seem probable that it may be due to hydraulic pressure acting through the full vessels and pelvis and causing rupture, as alleged by Küster, quoted by Morris. The regenerative power of the organ and its ability to keep up the function under such circumstances is remarked upon. The hemorrhage may occur either as hematuria, perirenal, intrarenal or intraperitoneal, the hematuria being the most common and present in at least 80 per cent. of all cases. It may last for considerable periods, even up to fifty days or more as in one case reported, but the average time is eight days according to records. Perirenal hemorrhage may be spontaneously arrested by pressure on the parts or by thrombus formation. Injury to the renal blood vessels occurred in 4 cases. Morris has collected 19 cases of aneurism of the renal vessels. Suppuration seems to be variously estimated as regards frequency. It was noted in 68 cases out of 486 uncomplicated ones. The most fatal factor, however, was hemorrhage, which was responsible for 25 deaths out of a total number of 112 uncomplicated cases which ended fatally. Laceration of the peritoneal or intraperitoneal organs is the most fatal complication, and is usually due to intraperitoneal hemorrhage. The total number of cases of this complication was 62, and the total number of deaths 48, intraperitoneal hemorrhages causing death in 36 of these 48, or a little over 66 per cent. Twenty-five of the 112 deaths of the 486 uncomplicated cases were due to suppuration. Anuria caused death in 10 of the series in which but one kidney was injured and the other normal. In several others, death resulted from laceration of both kidneys and in 4 there was only one kidney. There were 9 deaths referable to peritonitis in the uncomplicated cases, 5 of these having injuries of the abdominal organs associated with that of the kidney. As regards treatment, it would appear from analysis of the 487 uncomplicated cases that the smallest percentage was in those operated on otherwise than by nephrectomy; the percentage here was only 7. Expectant treatment gave a little better percentage than nephrectomy. (The article is to be concluded in a coming number.)

Cincinnati Lancet-Clinic.

July 11.

30 *Absence of Gastric Juice; Its Significance and Treatment. Henry W. Bettman.
31 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

30. **Achylia Gastrica.**—This disorder, which is generally a benign one, is described by Bettman, who calls particular attention to the peculiar vomiting and characteristic emptying of the stomach after test meals. The particular type of vomiting, characteristic of achylia, as he portrays it in two typical cases, has not been described by other writers. It occurred from two to three times every twenty-four hours, fluid being ejected with marked force and without warning. The author remarks that only under certain conditions is it difficult to distinguish achylia from cancer. In the latter, pepsin can be demonstrated in the large proportion of cases, and the actual dyspeptic symptoms are very much more marked. The blood changes are characteristic, and hematemesis, tumor, belching, lactic acid and the bacteria of the gastric contents are all wanting in achylia. The chief symptom in common is progressive loss of weight. In all cases of achylia it is well to think of the possibility of cancer, though so far as he knows no case has been reported where cancer was its result. In treatment we should consider first the activity of the motor function and that intestinal digestion is usually sufficient. Treatment, therefore, consists in an intelligent effort to ignore the stomach altogether. Where gastric irritability exists, lavage is indicated, and irritating substances should be avoided in the diet. Where the symptoms are chiefly intestinal, the diet should be directed entirely to them. Bettman finds that meat is excellently tolerated. He has had cases recover completely on a diet in which meat and raw eggs predominated. Flatulence may contraindicate milk; in other cases it may be well borne. Drugs are not indicated except for special conditions.

St. Louis Medical Review.

July 4.

32 Practical Points in the Treatment of Angina Pectoris. A. C. Griggs.

Virginia Medical Semi-Monthly, Richmond.

June 26.

33 *The Gall Bladder as a Source of Danger. M. M. Johnson.
34 Adrenalin in Eye, Ear and Nose Work. T. W. Moore.
35 Some Cases Illustrating the Treatment of Diarrheal Affections with Tannigen. N. G. Price.
36 The Country Practitioner and What He Can Do for His Patients as a Specialist. John R. Cook.
37 Heat Exhaustion. William F. Waugh.
38 Some Experience with Diphtheria and Its Treatment. O. M. Patterson.
39 Notes on Syphilis. Presley C. Hunt.
40 Some Observations on the Treatment of Pulmonary Phthisis in Private Practice. H. J. Chapman.
41 Successful Case of Pigskin Grafting. Wm. Flegenheimer.
42 The Mineral, Animal, Vegetable and Spiritual Kingdoms of Food. Ephraim Cutter.

33. **The Gall Bladder.**—Johnson holds that the gall bladder is useless and dangerous, and that it should be removed in all cases where the biliary and common ducts are unobstructed. The most important factor in the production of gallstones is the lack of proper drainage, due to the anatomy of the parts or the presence of bacteria. Cholecystitis is the most dangerous condition for which we are called on to operate, and it is the only one in which a stone lodged in the cystic duct should be left for a secondary operation. He does not think there is any history of cases of reformation of gallstones after operation.

Interstate Medical Journal, St. Louis.

May.

43 *A Method for Radical Cure of Vesico-vaginal Fistula Without Loss of Vesical Tissue. R. F. Amyx.
44 *The Healing of Granulating Surfaces by Application of Cobalt-anrate Animal Membrane. Warren B. Otten.
45 Cerebral Softening or Encephalomalacia. John Punton.
46 Extrauterine Gestation—Report of Three Cases. C. E. Ruth.

43. **Vesicovaginal Fistula.**—Amyx describes a method of treating vesicovaginal fistula by dissecting a circular flap around the fistula and inverting it and stitching it into the bladder by carrying the stitches inward through the urethra. It is useful for small fistulas. In larger openings, one-half to

one inch in diameter, he would recommend a wider dissection of the circular vaginal flap. The after-treatment consists in inserting a soft rubber catheter in the bladder for drainage, and at the end of fifteen days the interrupted silkworm-gut sutures are removed. The catgut anchor sutures attached to the pubes are absorbed on the fourth or fifth day. He thinks the operation has the advantage of no loss of vesical tissue. A portion of the vaginal mucous membrane is used to lengthen the tract so that a long invaginated tract can be obtained. The large area of freshly exposed surface is obtained for the purpose of repair in the invaginated portion.

44. **Cobalt-Aurate Membrane.**—Outten recommends the use of gold-beaters' skin put in hot sterile water, from 98 to 100 F., then inserted into a solution of cobalt and gold chlorid, 1 ounce and 1 dram respectively in, 10 ounces of distilled water, and 2 ounces of oil of cassia is added after the membranes are immersed. They turn a dark, purplish hue, showing a deposition of the chemical salts. They are kept in wide-mouthed, glass-stoppered bottles, and when used on granulating surfaces are cut out the size of the surface; after being washed in alcohol and hot water to remove the cinnamon oil, they are punctured and put over the wound, and then covered with six or eight layers of sterile gauze. Another piece of membrane is applied on top of the gauze, and above this a bandage of sterile cotton. The dressing thus applied may be allowed to remain undisturbed for at least forty-eight hours. Within twelve or fifteen hours after the application of the cobalt-aurate membrane on any granulating surface, the membrane in contact with the granulation is completely absorbed with no vestige remaining. The granulations assume a bright, vivid, healthy hue and the epithelial border appears to be stimulated in a remarkable manner. The chemical agents contained in the meshes are deposited on the surface of the granulation. As an aid in the perfect establishment of skin graft, he thinks the method is ideal.

Chicago Medical Recorder.

June 15.

47 *The Surgical Pathology of Genu Varum and Genu Valgum. Wallace Blanchard.
48 *Continuous Intra-uterine Irrigation in Grave Puerperal Sepsis with Report of Case. Edson B. Fowler.
49 The Principles of Medical Gymnastics. Walter M. Fitch.
50 Report of a Case of Traumatic Tetanus Treated with Antitetanus Serum. W. A. Kuflewski.
51 Report of a Case of Congenital Pulmonary Stenosis with a Discussion of the Case. Ellis K. Kerr.

47. **Genu Varum and Genu Valgum.**—From a study of these conditions with illustrations by skiagrams, etc., Blanchard holds that epiphysiolysis is hardly worthy of consideration as a remedy as compared with either osteotomy or osteoclasis. That osteotomy has some slight dangers from which osteoclasis is free, and the comparatively prolonged time required for bone union and recovery should condemn it when osteoclasis is available.

48. **Puerperal Sepsis.**—Fowler reports a case of puerperal sepsis treated by continuous intrauterine irrigation, and gives the advantages of the treatment. He does not think there is much danger of forcing septic fluid through the fallopian tubes with the pressure used. No case of air embolism has been reported, though other emboli have been in three cases. Hemorrhage is not serious, and while puncture of the uterus has occurred twice by the use of the hand bulb syringe, no such accident has occurred with the fountain syringe. Most of the symptoms of shock may be prevented if the irrigations are taken slowly with the cervix dilated and water at 100 F., gradually lowered as needed. He thinks all serious objections to this treatment can be overcome by the use of sterile water at a proper temperature and pressure for the case in hand.

Journal of Cutaneous Diseases, New York.

July.

52 A Case of Chronic Purpuric Erythema (Eight Years' Duration) with Pigmentation of Skin and Enlargement of Liver and Spleen. William Osler.
53 *"White-spot Disease." James C. Johnston and Samuel Sherwell.
54 *Sarcomatosis Cutis. Grover W. Wende.
55 *Parapsoriasis. L. Brocq.

53. **White-Spot Disease.**—Johnston and Sherwell report a case of this condition, which they find to be a pure degeneration of the skin, limited to the papillary body and the upper portion of the reticular layer. The whiteness is probably due to the translucency of degenerated skin, which is opaque in the reflected light. The disease should be classed with the atrophies, next to symmetrical atrophy, which perhaps closely approaches it. The name "white-spot disease," which Westberg gave it in 1901, is characteristic enough to be retained. The spots are arranged like beads on the chest, very slightly raised above the surface and smooth. The color is the dead white of snow. In the course of time some of these undergo involution and scaly separation. There is left an atrophic area exactly corresponding to the spot which preceded it.

54. **Sarcomatosis Cutis.**—Wende's conclusions are given as follows:

1. Sarcomatosis cutis (Kaposi), which is now designated as sarcoid growths of the skin, is clinically recognized as having its own individual characteristics. 2. It chiefly attacks adults. The initial lesions are small papules deeply seated in the skin. These gradually develop to a certain size, when some break down, suppurate and end in exuberant granulations. 3. Histologically it consists of a round-cell infiltration primarily existing in the deeper layers of the skin, around the blood vessels, hair follicles, sebaceous glands and lymphatic spaces. While this is suggestive of true sarcoma, it may present the inception of granuloma. The etiology is at present obscure; apparently we have to do with an infectious disease. 4. While there is a strong resemblance microscopically to mycosis fungoides, the clinical appearance is so entirely different that one need not hesitate to exclude that affection from consideration, it being separate and distinct from this. The theory of syphilis is contraindicated by the clinical appearance and therapeutic test. Lymphoderma and blastomycetic dermatitis are excluded by the microscopical findings. Carcinomatosis cutis is also ruled out by the microscope, although the clinical appearances in the two are very similar. 5. Taking into consideration the spontaneous disappearance of the tumors; the limitations of the growths to the skin without any remarkable tendency to infiltration of the surrounding tissue: the non-involvement of lymph nodes or metastasis, and the fact that the malady remains a cutaneous disease, the conclusion is forced on us that the present case far more closely resembles granuloma than true neoplasm.

55. **Parapsoriasis.**—This name is given by Brocq to a type of dermatoses first described by him as *erythrodermies pityriasiques en plaques disseminées*, which he subsequently included under the term parapsoriasis. He gives the history of the affections. They have certain features in common. Histologically this group is characterized by an infiltration of round cells about the dilated papillary vessels, flattening of the papillæ and a marked tendency to their disappearance; by a marked edema of the upper layers of the derma, and of the epidermis; by almost complete disappearance of the germinative layer; by a dilatation of the intracellular spaces in the prickle layer; by an edema of the granular layer, which is wanting in places; by the absence of the stratum lucidum, and by the absence of nuclei in the horny layer, except over the places where the germinative layer is absent. The lesions are characterized by their long duration; the slowness of their evolution; their torpidity; the slight disturbance of the general health; absence of itching, and the superficiality of the process. They are very resistant to all local medication. He describes the three following subdivisions: 1. A variety closely related to psoriasis, parapsoriasis guttata; 2, one intermediate between lichen and psoriasis, psoriasis lichenoides, and 3, parapsoriasis in patches, closely allied to seborrhea psoriasiformis. The etiology and pathology of these are obscure. They seem neither contagious nor epidemic. They may appear at any age, in any class, and are slightly more frequent in women than in men and in youths and adults. To cause them to disappear he has seen nothing to equal the cacodylate of soda, which is often inert. He has had some benefit from the glycerites locally, but the best results have been obtained through an ointment containing 10 per cent. of pyrogallic acid, to which was added 2.5 per cent. of salicylic acid. This may have to be pushed to the limit of tolerance, care being taken to avoid general intoxication, keeping the patient under close supervision.

Journal of Nervous and Mental Disease, New York.

July.

56 *A Case of Progressively Developing Hemiplegia, Later Becoming Triplegia, Resulting from Primary Degeneration of the Pyramidal Tracts. Charles K. Mills and William G. Spiller.
57 *The Results of Surgical Treatment of Brain Tumors. M. Allen Starr.
58 *A Contribution to the Pathology of Paramyoclonus Multiplex (Friedreich's Type). J. Ramsay Hunt.

56. **Progressively Developing Hemiplegia.**—From the report of cases here studied and others from the literature, Mills and Spiller conclude that there is a form of progressively developing hemiplegia usually of the ascending type, sometimes becoming triplegia, or even quadriplegia, due to progressive primary degeneration of the pyramidal tracts, which begins on one side and may extend to the other. The clinical picture may be produced by other lesions, but they hold that they have established the fact that primary progressive degeneration of one pyramidal tract occasionally occurs, this is a unilateral lateral sclerosis. They discuss the subject of primary bilateral sclerosis, quoting cases reported by Erb as indicating that primary spastic paralysis exists.

57. **Brain Tumors.**—Starr has collected and analyzed a number of cases operated on for brain tumor, cerebral and cerebellar, making a total of 365, in 11 of which the tumor was not found, and in 27 of which it was not removed. In 59 cases the tumor was removed, but the patient died, while in 168 the patient recovered. The accuracy of diagnosis is greater in recent years, and, he says, given a history of slowly progressing disease, with symptoms of headache, vomiting, vertigo, cerebral discomfort, progressive emaciation and feebleness, and gradual loss of sight due to choked disc, the only possible hypothesis is the existence of brain tumor. The localization of tumor has become more definite and the newer surgical means of access to the brain have rendered operation safer. The invention of the electrical saw is of special advantage in the surgery. It has been shown that it is of great importance in extraction of tumor to have plenty of space, and that large bony flaps can be replaced without danger. It has also been shown that extensive cutting and taking away of parts of the brain is not necessarily attended by danger if hemorrhage is not extensive. For these reasons he thinks the statistics of the next ten years will show a much greater percentage of successes than do the statistics up to date. As regards cerebellar tumors, however, the prognosis is not good. Only one-tenth of the cerebellum can be reached by the surgeon through the occipital fossa, as he has determined by measurements on the cadaver. This region is rarely the seat of cerebellar tumor. It is usually in the middle lobe of the cerebellum, directly beneath the tentorium, or lies in the sulcus between the cerebellum and the pons; both of these are inaccessible localities. He thinks, therefore, that the operation throughout is a futile one. The causes of failure in operations for brain tumor are: 1. Mistakes in the diagnosis. The local symptoms are not infallible. 2. Some tumors when accessible are not removable, such as infiltrating gliomata without boundary. The dangers of hemorrhage and meningitis are less dreaded than formerly, and proper asepsis prevents the latter complication in all cases.

58. **Paramyoclonus Multiplex (Friedreich's Type.)**—Hunt holds that there is considerable confusion in the nomenclature of this condition, which he thinks is generally spinal in its origin. His remarks are:

1. The term paramyoclonus multiplex, or myoclonus multiplex, should be reserved for that form of myospasm characterized by multiple, spontaneous, isolated contractions of individual muscles. 2. This type is peculiar and distinctive, and receives its most logical explanation in a disturbance of the spinal centers. 3. It should be carefully separated from the cerebral type of the myospasms, which are characterized by movements of a more or less co-ordinated type, as are observed in the *maladie de tic, tic convulsif* and the convulsive tremor of Pritchard and Hammond. 4. The contractions of paramyoclonus multiplex are closely related to the myokymia and fibrillary contractions. 5. Paramyoclonus multiplex may occur as an idiopathic or a deuteropathic affection, in the latter complicating various organic and functional diseases of cerebral and spinal origin.

Journal of Medical Research, Boston.

June.

59 *Hodgkin's Disease—A Pathological Analysis of Nine Cases. Channing C. Simmons.
60 *Observatons on the Distribution and Culture of the Chancroid Bacillus. Lincoln Davis.
61 *Chronic Cystic Mastitis—A Study of Thirty Cases. Robert R. Greenough and Harry F. Hartwell.
62 *Bacteriology of the Fibrinous Exudate in Septic Peritonitis. Thomas J. Manahan.
63 *Transplantation of Arteries. Joshua C. Hubbard.
64 *The Effect of X-rays on Living Tissue. Seabury W. Allen.
65 On the Increase of Bacteriolytic Complements in the Rabbit's Blood. E. B. Vedder.

59. **Hodgkin's Disease.**—Simmons concludes from his analysis and study of cases that Hodgkin's disease should be regarded as a clinical entity, presenting a definite histologic picture. It has no relations to leukemia or tuberculosis, though the latter may co-exist. Eosinophiles are often, though not always, present in the glands. A considerable portion of his paper is taken up with a report of cases.

60. **Chancroid Bacillus.**—From his investigation Davis concludes that the accumulating evidence of the specific agency of the bacillus of Ducrey in the causation of chancroid justifies the following conclusions:

1. The organism is present in the purulent secretions of the great majority of cases of chancroid, and occasionally also in the pus of buboes, and may be identified by its morphology and staining reaction, together with its ability to grow on ordinary culture media. 2. Characteristic growth of the organism in a pure state may be obtained in suitable media from genital chancroids direct and also from chancroidal buboes in some cases. Growth is most luxuriant in a medium of fresh blood and bouillon, but unmixed human blood is the best medium for obtaining cultures from a source open to contamination. 3. Inoculation of a pure culture of the bacillus or of chancroidal pus on the skin of a certain species of monkey reproduces the lesion, from which in turn the original organism may be recovered in culture. 4. The cultivation of the same organism in a pure state from lesions on the hands, clinically resembling chancroid, in the absence of genital lesions, indicates that chancroid may be primary on an extragenital site. 5. Bacteriological examination of all ulcers of this type is likely to establish in the future a greater prevalence of extragenital chancroid than has hitherto been reported.

61. **Chronic Cystic Mastitis.**—From their analysis of 30 cases, Greenough and Hartwell conclude that the name "chronic cystic mastitis" (Koenig) is the best of many terms used to describe the condition of fibroid tissue increase and cystic formation in the breast at the time of the menopause. The term "mastitis" should not imply an inflammatory process due to bacteria, but rather an increase of fibrous tissue of other than local tumor origin. This increase of the fibrous tissue of the breast is normal in the stage of decline of the gland at the climacteric period. The formation of cysts and proliferation of the epithelium of the cysts and acini are striking features of the disease. Variations of the epithelium are found in this disease, from atrophic forms, through columnar cells, to papillary proliferation and cell masses of an adenomatous type. The transition of adenomatous proliferation to carcinoma of the adenocarcinoma type occurs in a few cases, but transition to other forms of cancer has not been observed. This danger is sufficient to make removal of the entire gland desirable in all but the very early and slight degrees of the affection. The operation to be advised is, as a rule, the subcutaneous resection of the entire gland without removal of the nipple. This is best done by means of the Thomas incision under the fold of the breast.

62. **Septic Peritonitis.**—Manahan has investigated the bacteriology of the fibrinous exudate in 19 cases of septic peritonitis. In 17 bacteria were found in the fibrin, pneumococci, streptococci, colon bacilli and *Bacillus aerogenes capsulatus.*

63. **Transplantation of Arteries.**—This is an account of experimental research by Hubbard, dogs being used. He was able in a number of cases to make an anastomosis which would not leak, and which transmitted circulation for the time being, but thrombosis followed in many of the cases. All of the experiments were carried out on the carotids. The same method could be employed on the aorta. In two animals he attempted to transfer branches of the aorta and controlled circulation long enough to perform the operation, though neither of the cases were successful so far as the anastomosis was concerned. He remarks that Matas has published the report of three cases of aneurism cured by suturing the sac, leaving a lumen when possible. This has, therefore, solved part of the problem he applied himself to solve, and by combining Matas' technic with his own, he thinks it might be possible to cure aneurism of the abdominal aorta. The aneurism could be sutured by the method of Matas, preserving its lumen, and any branches which arise from its sac and are too important to obliterate might be transferred to another portion of the aorta.

64. **The X-Rays.**—Allen finds:

1. The effect of prolonged *x*-ray exposures on vinegar worms and protozoa is fatal. 2. On superficial capillary circulation the effect is like that of an irritant, producing vaso-dilatation. The relief of pain in cases of deep malignant growths may be explained by this phenomenon. 3. On the heart in cold-blooded animals *x*-rays act as an inhibitor. 4. On growing plants the effect is distinctly stimulating, in fact over-stimulating. On full-grown plants it is not apparently harmful. 5. Exposures

produce immediately a local increase in the number of leucocytes in the blood. This is consistent with the irritant effect upon the skin and capillaries. 6. On surface malignant growths the effect is curative in a great majority of cases, the cure not necessarily being the result of necrosis. 7. On deep malignant growths there is no microscopic change to be found in the pathological or normal cell elements. 8. Excessive exposure on healthy skin produces sloughing of the superficial tissues, leaving a low-grade, sluggish ulceration which heals slowly or not at all. Permanent dilatation of the capillaries and a scarcity of granulation tissue and blood vessels are common in such ulcerations. 9. Clinical effects are not due to *x*-rays so much as they are to some other unknown, but closely allied, phenomenon.

International Medical Magazine, New York.

June.

66 *Questions and Answers Concerning Hyperchlorhydria. Answers by C. A. Ewald, Carl von Noorden, Th. Rosenheim, Max Einhorn, J. C. Hemmeter, L. Küttner, G. W. McCaskey and Boardman Reed.
67 *The Pathology and Etiology of Gastric Hypersecretion. George Hayem.
68 On the Treatment of Primary Hyperchlorhydria by the Direct Application of Electric Currents of High Frequency to the Mucous Membrane of the Gastrointestinal Tract. George Herschell.
69 *An Experimental and Clinical Study of the Etiology of Hyperchlorhydria. John C. Hemmeter.
70 *The Treatment of Hyperchlorhydria. Fenton B. Turck.
71 The Medicinal Treatment of Hyperchlorhydria. Allen A. Jones.
72 The Relations Between Hyperchlorhydria and Neurasthenia. John A. Lichty.
73 The Effervescence Test for Gastric Acidity. A. L. Benedict.
74 A Further Development of the Benedict Effervescence Test for Gastric Acidity. Boardman Reed.
75 The Etiology of Hyperacidity. A. Robin.

66. **Hyperchlorhydria.**—This issue contains a symposium on hyperchlorhydria. A number of queries were submitted to various distinguished authorities, and their answers are given. The frequency of the condition seems to be variously estimated. Ewald, Küttner and McCaskey consider it by no means the most frequent of gastric disorders, while, on the other hand, Einhorn and Reed seem to think it outnumbers all other derangements. Von Noorden and Hemmeter are guarded in their answers in regard to the matter. The relation of hyperchlorhydria to gastric ulcer is also a point on which the authors differ, some holding that gastric ulcer causes hyperchlorhydria and others that it is a direct effect of it. As regards treatment, there are also differences of opinion, some believing in the free use of carbohydrates and fats and the withholding of meats, while others still allow the latter. The alkaline drug treatment seems to be the one in favor.

67. **Gastric Hypersecretion.**—Hayem finds the cause of hypersecretion to be the various forms of parenchymatous gastritis. It is probable that some of the vices of alimentary hygiene, which are the habitual causes of gastritis, act in a special manner on the glandular element, but it would be difficult to indicate them at the present time. An excess of food, especially nitrogenous, fermented beverages, and in women the compression of the waist by the corset, are the most frequent causes noted by him. The influence of heredity seems to be also incontestable.

69. **Hyperchlorhydria.**—Hemmeter recognizes two classes of this infection: 1. Those of a neurotic type in which there is a preponderance of nervous symptoms and fragments of the mucosa show no increase in the number of gland tubules or in the oxyntic or acid cells. 2. Those where there is an increase in the number of gland tubules or in the oxyntic cells. There is no sharp line between these two, but they require somewhat different treatment. In some cases the hyperacidity may be kept up by a proteid diet, though the latter may relieve the annoying symptoms for a time. If this relief is very brief, however, and the indican increases, then he advises a diet rich in carbohydrates and fats. All cases of hyperacidity require a certain amount of carbohydrates. In case of ulcer the diet must be as little irritating as possible.

70. **Treatment of Hyperchlorhydria.**—Turck goes at length into the mechanism of the symptoms and advises the use of demulcents as imitating Nature's method in throwing out mucus on the irritated stomach. To prevent the irritating action of water directly on the mucous membrane he has long advised the use of an intragastric bag, which will give the beneficial effects of heat in water without causing irritation. Water vapor, on the other hand, has a soothing effect, and is improved by the addition of volatile antiseptics, a few drops of oil of cloves, menthol, cinnamon, etc., added to half a gallon of water. He finds that these oils lessen the flow of hydrochloric acid rather than increase it. He describes the methods of forced feeding or gavage and the class of cases in which it is indicated, especially those in which the appetite fails, and there is repugnance to food, loss of weight, and where it is found desirable to so arrange the food as to coat the stomach with a bland substance, giving it in a mucilage of slippery elm, etc. One of the chief advantages of this is that the psychic gastric juice secretion is prevented, the odor of food and its taste being absent. In the severe forms, rest to the stomach is important in the initial treatment; putting the patient to bed and withholding all food for forty-eight hours, following this by one meal a day by gavage. The medication consists in the alkalies for neutralizing the acid and atropin to lessen secretion. In conclusion he mentions the Carlsbad mineral water and the French Lick spring water, which should be taken in small quantities, and the value of psychic treatment, gymnastic exercise and outdoor life.

Clinical Review, Chicago.

July.

76 *Gastric Ulcer; Its Diagnosis and Indications for Surgical Intervention. A. F. Stewart.
77 Lectures on Gynecology. Franklin H. Martin.
78 Pathogenesis of Locomotor Ataxia. (Continued.) G. B. Hassin.

76. **Gastric Ulcer.**—Stewart thinks that gastric ulcer is more frequent than supposed, and that if we rely on the so-called classical symptoms, we will miss an early diagnosis in about 60 per cent. of cases. It may be reasonably held that a patient suffering from trouble in the right upper quadrant of the abdomen, unrelieved by medical treatment or suitable diet, probably has gastric ulcer or cholecystitis or both. Any medical treatment in which the hemoglobin fails to approximate the normal will fail, and surgical intervention is contraindicated with a low hemoglobin percentage and a high leucocytosis. The mechanical irritation of food in ulceration is a strong factor in the subsequent development of carcinoma; hence, gastro-enterostomy should be instituted early to secure the physiologic rest necessary to repair.

Maryland Medical Journal, Baltimore.

July.

79 *Effects of the Streptococcus on the Cortical Nerve Cell in Meningitis. Leonard K. Hirshberg.
80 *Is Cesarean Section Advisable in the Treatment of Placenta Previa? Henry D. Fry.

79. **Meningitis.**—Hirshberg has investigated and reports a case of meningitis with complete postmortem details and examination of the cortical brain cells. The infection in this case was clearly a streptococcic one, the organism being found by lumbar puncture during life and in cultures from the surfaces of the brain and spinal fluid after death. Sections taken from the cortex in the rolandic area, where the green purulent exudate was very thick, stained by Nissl's modified method, showed interesting changes. All of the Nissl (or tigroid bodies had entirely disappeared from the cell bodies, and many of the cells had lost their nuclei and took the stain poorly. The cells were shrunken, distorted and irregular where the nucleus remained, and it was swollen, vesicular, and its limiting membrane at times in contact with the body wall of the cell. The nucleus as well as the nucleolus was displaced in many cases. The changes were not exactly the same as those which Barker found in his case of epidemic cerebrospinal meningitis. The nuclei were more swollen and disorganization of the stainable substance of Nissl was more complete. This may be either a question of degree of intoxication, the author says, or it may show a distinct action of the streptococcic toxin. Though there may have been some effects from reaction at a distance, direct or immediate action of the toxins of the streptococcus is the most probable.

80. **Cesarean Section.**—Fry discusses the question as to the advisability of cesarean section in placenta previa, and concludes that it is advisable in a small proportion of cases when the woman is in good condition and has not been exhausted by prolonged labor or hemorrhage, and when the placenta is implanted centrally, or nearly so, and when the cervix is un-

dilated and undilatable. He thinks it increases the chances of saving the infants better than other methods.

Albany Medical Annals.

July.

81 *President's Address, American Medico-Psychological Association. G. Alder Blumer.
82 Improvements in Extension Apparatus. George E. Gorham.
83 Postural Treatment in Cases of Hypertrophy of the Prostate with Residual Urine. H. W. Boone.
84 A Case of Acute Nephritis Complicated by Lobar Pneumonia in Infant Seventeen Months of Age. John M. Griffin.

81. Psychiatric Progress.—Dr. Blumer's presidential address reviews the subject of psychiatric progress, noticing the advances of the clinical school, as shown by the acceptance of Kraepelin's teachings, and its services to the profession. The reformation of the New York State Hospital services are remarked on and the development of the tendency to centralization and politics which is criticised. Blumer notices the increase of insanity, showing that it is a fact and giving data making an estimate of the number of insane in new England alone as 1 to every 307 individuals. The question whether we are doing all in our power for the prevention of insanity is also raised, with special reference to the increase of degenerates by their intermarriage and by marriages of consanguinity. In conclusion, he remarks on the more rigid laws recently enforced, partly through the efforts of the New York State Commission on Lunacy, in regard to the prevention of immigration into this country.

International Journal of Surgery, New York.

July.

85 Cholelithiasis: Diagnosis and Surgical Treatment. Wm. Mackie.
86 *Posterior Cervico-vaginal Fixation for Uncomplicated Retroversion of the Uterus. Augustin H. Goelet.
87 The Surgical Assistant (Operations on the Intestines). Walter M. Brickner.
88 Cancer of the Uterus; Its Cause and Cure. I. B. Perkins.
89 Radical Treatment of Mastoiditis, with Report of Cases. Robert E. Moss.
90 Report of My Own Case of Fractured Skull. Operation, Complete Recovery. Oscar C. Young.
91 Brief Notes on a New Formaldehyde Derivative. L. H. Schwerin.
92 The Chicago and Alton Stretcher. Howard Crutcher.

86. Posterior Cervicovaginal Fixation.—The operation described by Goelet aims at overcoming retroversion by holding the cervix permanently backward in the hollow of the sacrum and doing away with the pessary. Its success depends on the close attachment of the vagina to the rectum, especially in its upper portion. Its field of usefulness is restricted to cases where communication between the vagina and rectum is not too loose or the latter is not permanently dilated. The operation consists in denuding an area about one-half an inch square on the posterior surface of the cervix, and a similar surface on the posterior vaginal wall, well up in the sulcus behind the cervix, is likewise denuded; approximating the parts by deep sutures inserted from in front backward under the denuded area of the cervix and from behind forward under that of the vaginal wall. Three or four of these will usually suffice, and when they are tied the cervix is drawn backward and the fundus thrown forward. The suture material used is silkworm gut, stained with methylene blue to render it more conspicuous for convenience in removal. A tampon of gauze is placed against the cervix to take the strain off the sutures and keep the surface dry. It is removed on the second day, and may be renewed or not, according to the surgeon's judgment. The patient is kept in bed for a week, but is encouraged to rest on either side rather than on the back, and when she gets up is advised to use moderate care for two or three weeks to avoid exertion that might cause a strain on the parts. The sutures are not removed until the end of the second or third week or not until it is certain that firm union has been secured. He thinks the operation has a future, though its adaptability is somewhat limited.

American Practitioner and News, Louisville.

May 1 and 15.

93 Report of Hysterectomy for Inversion; Prostatectomy for Hypertrophy; Appendicitis Complicating Pregnancy. Irvin Abell.
94 The Pelvic Ureter; the Pelvic Floor Segment (the Visceral, Mobile, or Converging Segment). Byron Robinson.
95 Reasons for Believing that the Only Way in Nature for Yellow Fever to be Contracted by Man is from the Mosquito. John W. Ross.
96 Statistics of the Census of 1900 for the Commonwealth of Kentucky. T. B. Greenley.

Journal of the Michigan State Medical Society, Detroit.

July.

97 President's Address. Reorganization of the Medical Profession of Michigan. Albert E. Bulson.
98 A Case of Streptococcic Puerperal Infection Successfully Treated in which Serum Therapy was Used. H. W. Longyear.
99 Oration on Medicine. The Rôle of Suggestion in Therapeutics. Irwin H. Neff.
100 Some Practical Considerations on the Tumefactions of the Climacteric Breast. Theodore A. McGraw.
101 Modified Milk for the Babies of Detroit. Collins H. Johnston.
102 Some Considerations on Infant Feeding. Alexander M. Campbell.

California State Journal of Medicine, San Francisco.

July.

SYMPOSIUM ON PURE MILK SUPPLY.

103 The Necessity of a Pure Milk Supply for Infant Feeding. George H. Evans.
104 Diseases of Infancy Due to Faulty Nutrition. Infantile Rhachitis, Infantile Scorbutus and Infantile Atrophy. William N. Sullivan.
105 The Home Modification of Milk. E. W. Twitchell.
106 Prostatic Obstructions and Their Removal. (Continued.) Granville MacGowan.

Indiana Medical Journal, Indianapolis.

July.

107 The Unrecognized Debt of the Public to the Profession. Hobart A. Hare.
108 Deafness Due to Chronic Middle Ear Catarrh. John J. Kyle.
109 The Treatment of Tonsilitis. H. B. Graham.

Canada Lancet, Toronto.

July.

110 Presidential Address, Ontario Medical Association. J. C. Mitchell.
111 Uterine Myomata and Their Treatment. Thomas S. Cullen.
112 The Treatment of Pneumonia. J. H. Musser.
113 Exercise in the Treatment of Debility from Chronic Diseases. Alexander McPhedran.
114 The Operative Treatment of Goiter. Geo. A. Bingham.

The Laryngoscope, St. Louis.

June.

115 Etiology, Pathology and Symptomatology of Acute Suppurative Otitis Media. Norval H. Pierce.
116 The Treatment of Otitis Media Suppurativa Acuta. S. MacCuen Smith.
117 Etiology, Pathology and Symptomatology of Chronic Suppurative Otitis. Charles W. Richardson.
118 The Treatment of the Complications of Otitis Media Suppurativa. James F. McKernon.
119 The Technic of the Radical Operation for Chronic Suppurative Otitis Media. Edward B. Dench.

Medical Summary, Philadelphia.

July.

120 Amputation After Traumatisms. Thomas H. Manley.
121 A Valuable Digestant. W. R. D. Blackwood.
122 A Non-surgical Treatment of Rectal Diseases by Use of an electrolytic Self-retaining Medicator. S. L. Kistler.
123 The Prevention and Cure of Hernia. C. Fletcher Souder.
124 Remarks on Chloride of Sodium. Brose S. Horne.
125 Race Suicide. C. E. Boynton.
126 Water. Ben H. Brodnax.
127 Absorption and Elimination. J. L. Wolfe.
128 Electricity for Cancer. L. G. Doane.

Canadian Practitioner and Review, Toronto.

July.

129 Presidential Address, Ontario Medical Association, Twenty-third Annual Meeting. J. C. Mitchell.
130 Uterine Myomata and Their Treatment. Thomas S. Cullen.
131 A Case of Brain Tumor with Unusual Localizing Symptoms. W. B. Thistle.
132 Immunity in the Light of Recent Studies. V. E. Henderson.

Mississippi Medical Record, Vicksburg.

July.

133 Eulogy on the Late Dr. Isaac Perry Partin. J. H. Blanks.
134 Report of Three Cases Associated with Purpura, with Some Remarks on Same. James B. McElroy.
135 Summer Diarrhea Among Children. R. H. Speck.
136 Puerperal Fever Treated with Marmorek Serum. H. L. Sutherland.

Journal of Medicine and Science, Portland, Me.

June.

137 Light and the Light Cure. D. M. Currier.
138 The Germicide Value of Lemon Juice. Bertram L. Bryant.
139 The Treatment of Whooping Cough. Charles W. McIntire.
140 The Local Treatment of Acute Rheumatism and Allied Conditions. Dr. Meyer.
141 Gangrene Following the Use of Orthoform. Wm. L. Cousins.
142 Report of Part of the Cases Treated During May at the Maine Eye and Ear Infirmary. Frank Y. Gilbert.

Medical Mirror, St. Louis.

June.

143 Ectopic Gestation. Edwin Walker.
144 Colorado Springs as a Health Resort for Lung and Heart Diseases. Harlan Trask.

145 Meddlesome Gynecology. I. N. Love.
146 Uterine Anatomy. O. Henley Snider.
147 Country Surgery. F. E. Burgevin.
148 The Collection of Medical Journal Subscriptions. C. F. Taylor.

Memphis Medical Monthly.

July.

149 Excision of Branches of the Fifth Nerve for the Relief of Tic Douloureux. John W. Brandau.
150 Rigg's Disease. Howard T. Stewart.
151 An Eye Clinic (Trachoma, etc.). E. C. Ellett.
152 Keloids, Result of Human Bite. Frank Jones.
153 The Practice of Medicine a Specialty. G. W. Penn.
154 The Physician as a Citizen. Sidney Thompson.
155 Intramural Fibroid; Tuberculosis of the Abdominal Viscera; Pathologic Rectal Valves. John L. Jelks.
156 The Ideal Training School for Nurses. Vinnie A. Middleton.

Medical Times, New York.

July.

157 The Successful Treatment of Gastric Ulcer, with the Latest Views on Pathology. G. R. Johnson.
158 The Physiology of Pain. Hermann Gasser.
159 Appendicitis Complicating Pregnancy, with Report of Cases. J. Hubley Schall.
160 The Antiseptic and Dietetic Treatment of Typhoid. A. L. Benedict.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 4.

1 *Cancer of the Prostate and the Selection of Cases for Suprapubic Prostatectomy. Reginald Harrison.
2 Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.
3 *Some Points in the Pathology and Treatment of Prostatic Obstruction, with an Account of Thirty-three Operations for Its Removal. W. Bruce Clarke.
4 The Life-span of Filaria Medinensis. Patrick Manson.
5 History of Medicine. Joseph F. Payne.
6 Muscular Movements and Their Representation in the Central Nervous System. Charles E. Beevor.
7 Protruding Auricles Treated by Operation. T. G. Ouston.
8 Note on the Operation for Cleft Palate. Charles P. Childe.

1. **Cancer of the Prostate.**—Harrison holds that carcinoma of the prostate is far more common than has been held. The disorder is not infrequently met in younger persons than those suffering from the ordinary forms of prostatic enlargement or adenoma. It may occur at or about the age of 50. It is usually associated with considerable lumbar and sciatic pains, and involves the glands in the groin. Rectal examination shows a hard stony gland with fixedness. Slight hemorrhages are common, but there may be only a late obstruction to catheterism. Loss of weight is usually noted. The conditions are very different from those of ordinary adenomatous enlargement. He insists on the use of the electric cystoscope to confirm the diagnosis on account of its importance at the present time, when operations are frequent. Prostatectomy is not so urgently indicated in the early stages of cancer and the prospect of recurrences should be fully considered. If urinary obstruction, however, exists, a suprapubic opening may give immense relief. The paper also includes remarks on partial operation for prostatectomy, the removal of a limited portion of the gland, and in conclusion he suggests the possibility of stricture following operations and due to laceration of the prostatic urethra.

3. **Prostatic Obstruction.**—According to Clarke there are at least three conditions of prostatic obstruction quite independent of one another, and depending on several pathologic conditions: 1. Adenomatous growths; 2, the sclerotic type; 3, a condition of enlarged veins in connection with the organ, and there is also a fourth condition of inflammation and congestion of the mucous membrane surrounding the urethral orifice and all of these possibilities should be considered in our treatment.

The Lancet, London.

July 4.

9 *Bright's Disease from a Clinical Standpoint. J. Rose Bradford.
10 The History of Medicine. Joseph Frank Payne.
11 Dysentery and Intestinal Hemorrhage. Lauder Brunton.
12 *On the Fatal Effects of Chloroform on Children Suffering from a Peculiar Condition of Fatty Liver. Leonard G. Guthrie.
13 The Education of Physically Defective Children Under the London School Board. F. May Dickinson Berry.
14 Perforations of the Gall Bladder; Treatment by Invagination. H. A. Ledlard.
15 *The Influence of Diet in Pregnancy on the Weight of the Offspring. D. Noel Paton.
16 The Biological Action of Moulds on Arsenical Compounds. H. de R. Morgan.
17 *The Ortol Reaction as a Means of Distinguishing Raw Milk from Boiled. Carstairs C. Douglas.

9. **Bright's Disease.**—Bradford points out the distinction of Bright's disease from nephritis. The latter may be simply the result of toxic action from infectious disease, from renal infarction, or from drug intoxication. Bright's disease, on the other hand, has for its characteristic onset not merely urinary changes but also sudden occurrence of dropsy, peculiar in its character and distribution. In acute Bright's disease there is always a diminution of urine and a varying degree of albuminuria. In some cases the urine is also loaded with blood, but cases of very acute Bright's disease with marked dropsy may occur with little or no blood in the urine or little or no albuminuria. Chronic Bright's disease is difficult to classify, but he recognizes two fundamental varieties: 1. A more or less close correspondence with the condition described as large, white kidney, though the kidneys are frequently not greatly enlarged. This may follow an attack of acute Bright's disease or may be the final result of a number of recurrent attacks or it may be chronic or persistent from the beginning. The second form has caused much difference of opinion. Some include it under the general category of granular kidney, and there is undoubtedly some resemblance in the symptoms. There is a sharp distinction, however, in the presence of a large amount of albuminuria, anemia, emaciation, etc., so marked in Bright's disease, which is often lacking in true granular kidney. In both forms we have a large quantity of dilute, highly alkaline urine; in both the dropsy is likely to be absent and it is by no means uncommon for chronic Bright's disease to be discovered when not expected, especially the second type. The progressive loss of strength and flesh is most characteristic. Another not uncommon feature is the presence of pigmentation which has often led to the diagnosis of Addison's disease. There is a marked neuroretinitis in most cases and the suggestion of an unrecorded form of chlorosis is sometimes possible. There are some syphilitic conditions which are undistinguishable in many respects from Bright's disease, but the results of treatment and the history will clear matters up. He sums up, therefore, the four different types of Bright's disease or related forms, as: 1. Nephritis; 2, Bright's disease; 3, two different forms of chronic Bright's disease, and 4, granular kidney. The anatomic conditions and the etiology have considerable in common, but the author's conclusion is that we may regard the various forms of nephritis as produced by a toxic agent on the kidney and in Bright's disease with dropsy the toxic agent acts not only on the kidney but on the vessels generally. The diagnosis is not usually difficult, especially in the acute form, but as already indicated, it may be troublesome in the chronic type where the renal symptoms are not prominent and the separation of Bright's disease from amyloid disease is a matter of importance on account of the difference in treatment. The character of the urine and sometimes the presence of waxy casts and the recognition of a cause capable of producing amyloid degeneration will generally aid in the differentiation. The differential diagnosis from the more passive congestion, especially in cardiac cases, is an important one from a prognostic point of view. Usually the character of the casts in the two cases, the difference in the specific gravity in the urine and the fact that renal congestion is most likely to be present where there are other signs of distension of the venous system, will aid the diagnosis. In some forms of heart disease with albuminuria it is very difficult to say which is primary.

12. **Chloroform.**—Guthrie recalls a former article in which he reported a number of cases of death occurring within ten hours to six days after operation was performed under chloroform in children and one case in which recovery took place after very serious symptoms. In these fatal cases he found a peculiar fatty degeneration of the liver, and he remarks that the chloroform may have been responsible as against the possibility of carbolic acid poisoning which was suggested as the cause of death in some of his cases in which antiseptics were used in the preparation for operation. There is no doubt in these cases of the carbolic acid poisoning, but he does not consider

that the principal factor. Experiments on animals show that generally fatty degeneration is the result of chloroform narcosis, but it is more difficult to suppose that this might be followed by death from anesthesia of only an hour or so. From the facts presented, he thinks it is probable that the liver being in an advanced state of fattiness previous to operation, was probably on the verge of functional inadequacy with regard to elimination of toxins entering the portal circulation, though still able to hold its own in ordinary circumstances. Chloroform aggravated the condition and lowered the hepatic function so that ptomains or toxins escaped into the general circulation, or by their specific action on the kidneys prevented the elimination of such poison. These are the conclusions of his former paper. He remarks on the possibility of foreseeing whether chloroform will be dangerous in a given case, and refers to Poehl's statement that the quantity of alkaline substance may be a guide. Whether this has been proven to be a face he does not know, but there are practical difficulties in the thorough examination of the urine to the extent required. He also suggests a possibility of danger in the practice of utilizing phloridzin before operations to test the adequacy of the kidneys. It has, according to Romfeld, the effect of causing a storage of fat in the liver. The diagnosis of these cases is not difficult when we consider the cerebral symptoms and delirium which is noted. Jaundice was only present in one case. The treatment which he would recommend would be the use of stimulants, active purgation, venesection and saline transfusion. There is no use to wait until the chold is comatose before resorting to these measures.

15. **Diet in Pregnancy.**—Paton has investigated the effect of diet on the weight of the newborn, and finds that observations, though not numerous, agree so closely that they warrant the conclusion that the size of the offspring depends very directly on the diet and nutrition of the mother during pregnancy. While this explains the easy labors among the healthy lower classes and confirms Prochownick's conclusion that by dieting the mother the children of rickety women may be so reduced in size as to be viable, it also helps to explain the very high infant mortality among the very poor. The physiologic point of chief interest seems to be the demonstration of the limitations in the extent to which the tissues of the mother can be utilized for the construction of the embryo. The nutrition of the maternal tissues seems to take precedence over the nutrition of the fetus. If this were not the case, we would find that badly nourished mothers produce a greater proportion of weight than well-nourished mothers, which is the reverse of what occurs. The mother thus appears to pass on the surplus nourishment to the fetus and the better the nourishment of the maternal tissues the greater the growth of the young *in utero*.

17. **The Ortol Reaction.**—Douglas calls attention to the color reaction recently described by Saul in the *British Medical Journal*, which he has employed in a number of cases. It is simply the adding of a few drops of a 1 per cent. solution of an organic compound, ortlomethyl-aminophenyl-sulphate to raw milk or milk which has not been raised above a certain temperature and following it by a drop of weak peroxid and hydrogen (5 volume strength), which produces in a very short time a deep reddish-pink color. When this is carried out on milk that has been heated above the pasteurization point (above 75. C) or a little higher, this reaction fails, or only a slight brownish tinge is given. As the compound is expensive, Saul advises the use of ortol instead, a substance used in photography, and consisting of the above body mixed with quinol. Douglas has always employed it, and for the sake of convenience calls the test the ortol reaction.

Indian Medical Gazette, Calcutta.

June.

18 *Vesical Calculus. W. K. Hatch.
19 Some Septic Infections and Nervous Lesions Following Chancroids. E. F. Gordon Tucker.
20 Note on the Climate of Erythrea. G. M. Giles.
21 Note on the Mycoid Body Found in the Blood Corpuscles in Remittent Fevers. (Continued.) W. Leonard Braddon.

18. **Vesical Calculus.**—Hatch has had considerable experience with stone in the bladder in Bombay, and gives his views. As regards lateral lithotomy he thinks there are very few occasions in which it can be used in adults with advantage. The possibilities of causing urine incontinence and also of opening the peritoneum are decidedly against it. As regards litholapaxy in the ordinary uncomplicated cases in adults it is almost an ideal operation, and he thinks the perineal method has not been sufficiently valued and utilized. The operation requires skill on the part of the operator, and especially in children where the tissues tear easily and the parts are small. The anesthetizing is an important matter in these cases, and it is impossible to seize and crush the fragments unless the bladder walls are passive, and sometimes the use of instruments sets up a movement which may hamper, if not destroy, the possibility of further progress. Without a skillful anesthetist he would hesitate to operate by crushing. Suprapubic lithotomy he thinks undesirable in adults, excepting in a case of very large stone. It is slow in healing, and the accumulation of phosphates, etc., causes an irritation, and the patient sometimes dies from exhaustion. In any case he thinks it is well to drain through the perineal urethra. It does not increase the risk, and only takes a few minutes. In children, however, the operation is a good one. The bladder is naturally high, is easily raised above the pubis, readily opened without danger to the peritoneum, its contents can be easily removed, and subsequent suturing carried out with facility. For men engaged in general practice, as opposed to hospital practice, the operation is much safer than litholapaxy in children. Cystitis is also less likely to occur in children. Cutting is, therefore, more cleanly and the incision heals better. With small stones and roomy passages, it is often possible to remove the calculus by a good-sized evacuating canula. He has several times succeeded by this method. He does not find many cases of encysted stone, indeed has had but one case where it was unreachable by the lithotrite. In this case the suprapubic operation was required. The mortality of the suprapubic operation in his cases was about 32 per cent.; in his perineal lithotomies about 10 per cent.; of 352 litholapaxies only 16 died, or 4.5 per cent. His tabulation does not include a series of two hundred or more cases where sufficient data were lacking for publication, but the results of these two hundred averaged rather more favorably than those reported. The patients were of a better class, mostly from outside the city, and in better physical condition.

Intercolonial Medical Journal of Australasia, Melbourne.

May 20.

22 Observations on Pathology and Surgery of Retrodisplacements of the Uterus. (Continued.) G. Rothwell Adam.

Annales d. Mal. d. Org. Genito-Urinaires, Paris.

Last indexed XL, page 408.

23 (XXI, 1.) *Recherches expérimentelles sur la tuberculose génito-urinaire, surtout sur la tuberculose des reins (of the kidneys). P. N. Hansen (Copenhagen).
24 De la valeur de l'electrolyse linéaire dans le traitement des rétrécissements de l'urèthre (urethral strictures). Moran.
25 (No. 2.) Revue critique sur les lois de la formation des sexes. F. P. Gulard.
26 *Des perfectionnements récents apportés au diviseur vésical gradué. F. Cathelin.
27 (No. 3.) Entérite et bactériurie. J. Janet.
28 3 cas de traumatisme du rein (of kidney). P. Guibal.
29 (No. 4.) Du rétrécissement (stricture) blénnorragique de la portion membraneuse de l'urèthre. P. Bazy and Decloux.
30 *Urine Segregation in Children. G. Luys.—La séparation de l'urine des 2 reins chez l'enfant.
31 (No. 5.) *De l'influence de la résection du vas déférent sur le tonus du sphincter vésical. A. Wassilieff (Warsaw).
32 *Double Bladder. F. Cathelin and Ch. Sempe—La vessie double.
33 Illumination for Urethroscopy. Bensa.—De l'éclairage dans l'uréthroscopie.
34 (No. 6.) *Du traitement des rétrécissements de l'urèthre par l'electrolyse linéaire. F. André (Nancy). See above in No. 1.
35 Traitement des uréthrites chroniques. B. Motz.
36 *Déformations de l'urèthre dans l'hypertrophie de la prostate. Nouvel sonde pour le cathétérisme des prostatiques. J. M. Bartrina (Barcelona).
37 *Ablation of Suppurating Inguinal Glands. A. Pousson (Bordeaux).—Sur l'extirpation des adénites vénériennes suppurées de l'aine.
38 (Nos. 7-8.) *Modifications du technique des injections epidurales. F. Cathelin.
39 *Contribution à l'anatomie pathologique de la tuberculose de l'appareil urinaire. N. Hallé and B. Motz. (Commenced in December, 1902.)
40 (No. 9.) *Du cancer primitif et limité de la prostate et de son traitement par la prostatectomie périneale. Oraison (Bordeaux).

41 (No. 10.) *Massage in Treatment of Strictures of Urethra. J. M. Bartrina (Barcelona).—Traitement des rétrecissements de l'urèthre par le massage.
42 (No. 11.) Role de la prostate dans les tumeurs epithéliales infiltrées de la vessie (of bladder). E. Monfort.

23. **Experimental Tuberculosis of Genito-Urinary Organs.**—Hansen found it impossible to induce hematogenic tuberculosis of the bladder in his experiments on rabbits, even after contusion of the organ and simultaneous subcutaneous injection of tubercle bacilli. But direct inoculation proved successful, especially when accompanied by transient retention of urine. The resulting lesion was generally insignificant and displayed no tendency to spread by way of the ureters to the kidney, but it almost invariably involved the prostatic vesicle and the prostate itself. Inoculations in the lower portion of the vas deferens induced tuberculous lesions, not only in the testicle and epididymis, but also in the vas and prostatic vesicle. In one instance the prostate was likewise invaded, but never the bladder, and still less the ureters or kidneys. In one single case injection into the ureter, plus ligature, was successful in inducing a tuberculous lesion in the kidney.

26 and 30. **Intravesical Segregation of Urine.**—The instruments devised by Luys and Cathelin have been described in THE JOURNAL from time to time during the past year. Luys has found a small size useful for children. See THE JOURNAL, xl, p. 62, ¶39.

31. **Influence of Resection of Vas Deferens on Vesical Sphincter.**—Wassilieff ascribes to reflex action on the tonus of the bladder sphincter the favorable results observed after resection of the vas deferens in case of hypertrophy of the prostate. He has been led to this conclusion by the constant results in a series of experiments on dogs. This explains the promptness with which the result is attained, sometimes in a few hours. The suppression of the spasmodic contraction of the sphincter affords better conditions for drainage of the bladder thereafter, and this ensures continuous and prolonged benefit. The most brilliant successes in these sexual operations have been obtained in cases of acute retention. Pankreatieff reported in 1900 that only 3 failures had been observed in 39 cases belonging to this category. In the experimental research described the degree of intravesical pressure necessary to emit the urine was determined before and after the intervention, and in every instance resection of the vas reduced the tonicity of the sphincter.

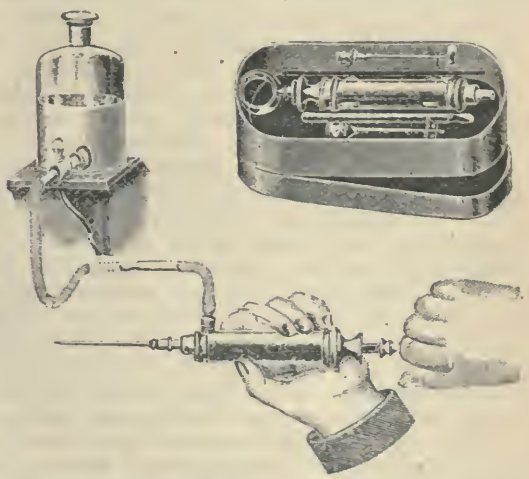
32. **Double Bladder.**—Cathelin gives the details of 17 doubtful but probable cases of double bladder that he found in the literature, and of 15 certain cases, including one personally observed. In the latter a man of 82 died in urinary cachexia from complete retention. Two bladders were found, both about the same size and located one behind the other. The right ureter opened into the anterior and the left into the posterior organ.

34. **Linear Electrolysis for Urethral Stricture.**—André concludes from study of 23 cases that this method of treating a stricture may be indicated when it is not multiple or not more than three; when the stricture is not too hard, and especially when it is merely a narrow belt and the urethra is not constricted for any distance. Under these conditions electrolysis is to be preferred to urethrotomy on account of the simplicity of the intervention and the lack of necessity for after-care. But it is very important that the dilation realized should be maintained by occasionally passing a bougie, as after any method of treating stricture. Neglect of this precaution may undo all the benefits derived, as he has learned from his experience.

36. **Flat Catheter for Hypertrophied Prostate.**—Bartrina has found that the hypertrophied prostate frequently nearly closes up the orifice into the bladder, but leaves a long, narrow slit. In these conditions he has found that a catheter made flat instead of round could be readily passed through the slit, when it was impossible to introduce ordinary round catheters even of a much smaller size.

37. **Ablation of Suppurating Buboes.**—Pousson treats suppurating venereal inguinal adenites the same as a malignant neoplasm. He removes the entire infected pleiad of ganglia with the gland involved. His patients were dismissed cured in fifteen to twenty days, and he is convinced that better results follow this method of treatment.

38. **Improved Technic of Epidural Injections.**—A. Strauss of Barmen has introduced Cathelin's epidural injections into Germany, modifying the technic somewhat. He is preparing an address on the subject for the approaching Naturforscher Congress in Germany, and in the meantime has published a work on the subject extolling the method as important progress. Cathelin and Strauss both claim that this method of spinal cocainization is free from the dangers of the subarachnoid route as also from its inconveniences, while it is at least fully as effective. (Cathelin's technic was described in THE JOURNAL, xxxviii, 1902, p. 1279, ¶60.) Strauss announces that the lowest limit of efficacy of the cocain solution, .02 per cent., can be reduced by one-half if it is dissolved in physiologic salt solution. His formula is: .2 sodium chlorid; .01 cocain hydrochlorate in 100 gm. distilled water, with the addition of 2 drops of 5 per cent. carbonated water. He has invented a syringe which fills itself automatically and is peculiarly adapted for this work, and also for infiltration anesthesia as it has a double valve arrangement allowing both aspiration and expulsion.



He uses a platinum needle about 6 cm. long and 1 mm. in diameter, kept very sharp. Cathelin gives illustrations showing the various points in the technic.

39. **Tuberculosis of the Urinary Apparatus.**—In the second part of this important contribution and review of the vast material at the Necker Hospital, tuberculosis of the posterior urethra, prostate and seminal vesicles is considered, with 44 cuts. Rectal exploration is the only effectual mode of investigating the condition of the prostate. Increase in size and tension reveal the perituberculous congestion. The finger sinks in, the tumefied organ feeling like a uniform, pasty mass. In the atrophic, sclerous form, frequently one phase of healing, the organ will be found diminished in size and indurated. Palpation of the vesicles reveals the same pasty consistency. Expression of the prostatic juice by massage through the rectum is liable to reveal the Koch bacillus. A subvesical cavity is suggested when the forcible evacuation of urine is followed by a dribbling from the pocket below the bladder. Hemorrhage may also occur from the pocket, as hemoptysis from a cavity in the lung. The pocket may be palpated through the rectum and its contents evacuated. The feeling through the rectum of a catheter in the cavity is also characteristic. The prognosis of tuberculosis in the posterior urethra is grave, but tubercles in the prostate and seminal vesicles are liable to heal. A perituberculous reaction on the part of the connective tissue may arrest and cure the tuberculous focus, and the possibility of this contingency should always be borne in mind. Secondary infection is liable to prove disastrous and catheterization should therefore be restricted to the minimum. The possibility that the tuberculous focus is single is slight. Saxtorph found only 9 cases of an isolated focus in the prostate and 2 in the vesicles in 205 cases of chronic urogenital tuberculosis. On the

other hand, the pathologic anatomists find a marked tendency to encystment of the lesions. At the Necker Hospital many cases of actual spontaneous cures by this process of sclerosis have been encountered, and the clinic confirms the possibility of spontaneous cure of tuberculosis of the testicles, prostate and vesicles. The surgeon should, therefore, refrain from precipitate intervention. Vigorous medical, hygienic and medicinal measures should be instituted, refraining from all instrumental or topical treatment. If the affection continues a progressive course, threatening softening and suppuration, the surgeon should proceed to forestall the pathologic destruction of the organs by suppressing the focus. The prostate and vesicles should be removed if the lesions in them are extensive and softening has already occurred, liable by their further progress to endanger life. The results will be good, barring complications elsewhere. Even in an advanced stage, regardless of the general condition, surgical intervention may sometimes be useful. By evacuating a large subvesical cavity through the perineum, draining and diverting the course of the urine to obviate stagnation and its general effects, the surgeon will frequently relieve and may sometimes cure.

40. **Cancer of the Prostate.**—Oraison has observed 2 cases of primary cancer of the prostate. Twenty-eight cases have been encountered at the Necker Hospital in the course of three years in a total of 306 prostatic subjects, and 16 at Saint-André in twelve years, in a total of 170. Albarran and Hallé found 14 epitheliomata of the prostate in 100 cadavers which had been labeled as merely hypertrophy of the organ. They were the first to describe the circumscribed variety, adenoid epithelioma. Neoplasms in the prostate are usually observed under 10 or over 50 years of age. In young subjects sarcomata of the prostate are more frequent and epitheliomata in the elderly. The above writers have published 10 cases in which simple hypertrophy of the prostate became transformed into a malignant neoplasm. Socin, Klebs and Thompson have met with 3 more. Different varieties of cancer have been found in the prostate, carcinoma 48, and sarcoma 7 in 55. In 10 cases on record operated on more than four years ago, the cure has persisted to date. In 6 cases there was an operative cure, and in 4 the patients died during or soon after surgical intervention. In 3 others recurrence followed in nine to fourteen months. The conclusions imposed by experience and review of the literature are that every suspicious case of hypertrophy of the prostate causing symptoms sufficiently annoying to justify intervention, should be treated by prostatectomy, according to Albarran, and very frequently the lesion will prove to have a tendency to malignancy. Even when a cure is not possible, an operation may afford great relief. Subtotal prostatectomy will usually answer unless the prostatic urethra be likewise involved. When the cancer has passed beyond the limits of the gland abstention is the wisest course.

41. **Massage in Treatment of Urethral Strictures.**—Bartrina first fills the bladder with a 1 per 2,000 solution of mercury oxycyanid and then dilates the strictures with two or three catheters, as usual, at each sitting, massaging the urethra for five minutes over each catheter in turn. These procedures summon the leucocytes to the spot, but in order to reach it they have to pass the zone of the stricture sclerosis. In order to cross this zone the leucocytes have to make a way for themselves through the interstices of the fibrous tissue. By this microscopic burrowing through the tissue its trabeculæ become less compact, the meshes are stretched and the tissue becomes more flexible. The leucocytes also bring away with them the infiltrates in the glands and sweep them clean as it were. Massage is therefore indicated to promote absorption, and as a preventive measure in case of infiltration to prevent its becoming organized into sclerous tissue. It is especially effective in the treatment of chronic urethritis, which so often accompanies a stricture, but its chief value lies in its modification of the stricture itself.

Revue mens. d. Mal. de l'Enfance, Paris.

Last indexed XL, page 1762.

43 (XXI, June.) *Les paralysies précoces du voile du palais dans la diphthérie et leur pathogénie. Deguy.

44 *Dilatation aortique rheumatismale. Zuber.

45 *Propriétés du sérum antidiphthérique. L. Martin.

43. **Early Paralysis of Soft Palate in Diphtheria.**—Deguy suggests that there is a secondary infectious factor in these paralyses as well as a toxic. Five cases which he reports confirm this assumption.

44. **Dilation of Aorta from Rheumatism.**—Zuber has had occasion to observe two cases of this condition, and has traced one for three years. The lad is now 16 and has had seven attacks of acute articular rheumatism. The aortitis has continued a progressive course and the aorta is now enormously dilated.

45. **Antidiphtheria Serum Tablets.**—In this communication from the Paris Pasteur Institute Martin states that he has established that the curative serums contain a sensibilizing substance when they are able to induce agglutination, which ordinary serums do not have. He also announces that antidiphtheria serum applied locally to the throat in case of diphtheria rapidly reduced the pain in all his experiences. Local applications are too transient for much benefit to be derived in this way and still better results are attained by incorporating dried serum with some vehicle which slowly dissolves in the mouth. Tests of serum tablets thus made and given to adults and older children, showed that the pain rapidly subsided under their influence, the membranes turned yellow, swelled, and were soon cast off. Cultures taken from the throats after using these tablets showed that a much smaller number of colonies developed after twenty-four hours than in control cultures, and very few could be discovered after forty-eight hours. His experience demonstrates that the persistence of the diphtheria bacilli in the throat can be diminished by using these tablets, and that they will also serve as a prophylactic measure. He never failed to make the usual subcutaneous injections of the serum in cases of established diphtheria, and regards the tablets in such conditions as merely an adjuvant until further orders.

Beitraege z. Klin. Chirurgie (von Bruns'), Tuebingen.

Last indexed page 213.

46 (XXXVI, 1.) Sarkome und Endotheliome nach ihren path.-anat. und klinischen Verhalten. L. Burkhardt.

47 Ueber die Dupuytren'sche Finger-Kontraktur. G. Doberauer.

48 *Ueber Adenome des Dünn- und Dickdarmes (of intestines). F. Smoler (Prague).

49 *Die Behandlung der Spina ventosa mittelst freier Autoplastik. C. Timann (Rostock).

50 *Ueber das mal perforant des Fusses. O. v. Wartburg (Zurich).

51 *Zur Chirurgie der Milz- und Leberverletzungen (spleen and liver injuries). H. Roeser (Carlsruhe).

52 Intracranial Affections in Case of Empyema of the Sphenoidal Sinus. Kander.

53 (No. 2.) *Zur Diagnostik und Therapie des inneren Darmverschlusses (internal intestinal obstruction). E. Hepner.

54 *Exp. Beitrag zur Kenntnis der infektiösen Thrombose. L. Talke (Königsberg).

55 *Articular Affections in Syringomyelia. Michel (Tübingen).—Zur Kenntnis der Gelenkerkrankungen bei Syringomyelie.

56 Ueber Volvulus der Flexura sigmoidea. F. Kuhn (Königsberg).

57 *Zur Lokalisation der inneren Darm-Okklusionen und zur Frage der Autointoxikation. C. Borszeky and A. v. Genersich (Budapest).

58 *Ein neues Massage-Verfahren. F. Hofmeister (Tübingen).

59 *Prospects of Operative Treatment of Mammary Cancer When Supraclavicular Glands are Enlarged. H. Küttner (Tübingen).—Welche Aussichten bietet die Operation, etc.?

60 (No. 3.) *Treatment of Varices According to Madelung's Shelling-out Method. F. Fraenkel (Nuremberg).—Ueber die Behandlung der Varicen der unteren Extremität durch Ausschälung nach Madelung.

61 *Krause Skin Flaps. H. Widmann.—Ueber Transplantation ungestielter Hautlappen nach Krause.

62 Transferring the Nerve Groove in Soft Parts in Treatment of Radial Paralysis After Fracture of Arm. G. Reisinger.—Kasuistischer Beitrag zur Nervenlösung bei Radialislähmung nach Oberarmfractur. 2 Cases. Successful Results.

63 *Zur operativen Behandlung frischer Subkutaner Patellar-Frakturen. K. Thienger.

64 *Ueber die Aberration von Prostata-Drüsen und ihre Beziehung zu den Fibroadenomen der Blase. Ch. Thorel.

65 Fall von Eierstocksschwangerschaft (ovarian pregnancy). R. Bandel.

66 Congenital Tumors of Sacro-Coccygeal Region. J. Wieting (Hamburg).—Beitrag zur den angeb. Geschwülsten der Kreuz-Steissbeingegend.

67 Ueber die retrovisceralen Geschwülste und Strumen unter bes. Berücksichtigung ihrer Topographie und der Technik der Operation. C. Brunner.

68 Die transpleurale Laparotomie und die offenen Milzwunden (open spleen injuries). F. Schaefer.

48. **Adenomata of Intestines.**—Smoler's experience includes 8 cases of polypi in the rectum observed at the Prague clinic,

and he reviews 12 in the literature. He also describes a typical case of adenoma in the small intestine, with 5 collected, and 15 cases of adenomata in the large intestine. On this basis he describes the clinical picture, prognosis and treatment.

49. **Autoplastic Treatment of Spina Ventosa.**—Tilmann advocates Müller's method of substituting the diaphysis of the metacarpus by a fragment of bone taken from the ulna with its periosteum. One of the advantages of this method is that both wounds are near enough together to be dressed with the same bandage. He has thus treated 13 cases, and remarks that this method can be considered comparatively certain and the resulting function good, although induration or a fistula may persist in some cases for a time. He emphasizes the necessity of taking a larger piece of bone for the substitute flap the younger the subject.

50. **Mal Perforans.**—In 6 of the 14 cases reported from the Zurich clinic no causal factor could be determined, but in the others there was evident degeneration of the nerve or vascular sclerosis.

51. **Surgery of Injuries of Spleen and Liver.**—Roeser is able to report 2 severe cases of rupture of the spleen and hemorrhage into the abdominal cavity which were cured by an abdominal splenectomy. In the third case, a stab wound was merely tamponed, and the patient succumbed to metastatic pneumonia. He also describes 5 cases of injury of the liver treated by surgical intervention.

53. **Treatment of Internal Intestinal Obstruction.**—Hepner reviews the published statistics of certain German clinics in addition to Riegner's at Breslau, and concludes that the best results are obtained when attention is paid chiefly to improving the conditions of the circulation and relieving the overfilled intestine. In Riegner's experience with 37 cases, operative intervention was required in 31, and 15 of these recovered. The palpation findings were positive in 17 of the 31, in 12 negative and in 2 misleading. He thinks the indication to relieve the distended intestine is as urgent as to make a correct diagnosis by palpation beforehand. Hepner describes the cases in detail.

54. **Experimental Infectious Thrombosis.**—Talke found that thrombosis occurred in 33 experiments out of 44, in which he inoculated rabbits, cats or dogs with staphylococci in the vicinity of a vein or artery. In 16 cases the thrombi completely obliterated the vessel, and in 12 only partially closed the lumen. Thrombosis was noted as early as nine hours after the inoculation. He describes the histologic findings; they suggest that the thrombosis occurred indirectly, by the intermediation of inflammatory alterations.

55. **Changes in Joints in Syringomyelia.**—In 17 cases of syringomyelia observed at von Bruns' clinic, the joints were affected, the shoulder in 12, elbow in 4, wrist, hip, knee or ankle in one each. This represents 30 per cent. of the total number of cases of syringomyelia observed during the last forty years at the clinic. Men were affected more frequently than women, and trauma seemed to be an important factor. The joint affection is slow and chronic, and in only 2 cases was operative intervention required. Sokoloff noted joint troubles in 10 per cent., and Schlesinger in 25 per cent., in their experience with syringomyelia.

57. **Autointoxication in Case of Intestinal Occlusion.**—The experimental researches reported apparently demonstrate that the passage of the bacterium coli into the blood and tissues, in case of intestinal occlusion, is the cause of the general symptoms observed. Indicanuria was noted in 85.7 per cent. of the cases after occlusion of the small intestine; in 19 per cent. after occlusion of the large intestine, and in 20 per cent. after occlusion of the cecum The bacterium coli was found very early in the blood and in the abdominal cavity in a large proportion of the experiments.

58. **Mercury Massage for Fingers and Hands.**—Hofmeister describes a gentle means of massaging the hand in use at von Bruns' clinic. The patient is seated and dips the finger or hand gradually into an iron cylinder about 12 to 15 cm. in diameter and 50 cm. high, half full of quicksilver. A layer of 30 per cent. alcohol on top, a few centimeters thick, prevents evaporation or loss of the metal by its sticking to the hand or arm. Any wound on the fingers is protected by an adhesive plaster. The single sittings are from a quarter to an hour long, and the absolute painlessness, the regularity and the gradual way in which the hand can be immersed in the quicksilver at rhythmic intervals, commend this new massage procedure for general adoption. The only drawback is the expense of the quicksilver.

59. **Prospects of Operative Treatment of Mammary Cancer.**—Küttner reports from the same clinic that not a single one has survived to date out of the 41 cases of mammary cancer, operated on between 1880 and 1892, in which the supraclavicular glands were enlarged. All the apparently morbid elements were removed at the intervention. He reviews the details of 54 cases in which the supraclavicular glands were thus removed with the cancer.

60. **Treatment of Varices by the Madelung Method.**—Fraenkel states that extremely favorable remote results were obtained in 16 out of 21 cases of severe varices on the leg treated by shelling out the varicose veins. In 3 no appreciable benefit was derived, and 2 were merely improved. This operation has been performed at the Nuremberg clinic in 9 other cases also, of more recent date, a total of 35 operations on 30 patients, 7 of whom were women. Healing proceeded smoothly in all but 3 cases, in which there was moderate necrosis of the skin. This method of operating is reserved for the severer cases, in which operative intervention is indicated by the recurring neuralgic pains, cramps in the calves, swelling, hemorrhage or danger of it, obstinate eczema or ulcers. Such cases may call for the most radical ablation of the morbid venous network with excision of the saphena magna up into the thigh nearly to the fossa ovalis. Only in case such an extensive operation is absolutely contraindicated by the danger of the narcosis or other reason, is the Trendelenburg method preferable, that is, resection of a portion of the vein about 10 cm. long, just below its mouth. The technic of both methods of surgical intervention is described in detail. For the first, after a day or so of preparation the leg is wrapped in a sterile cloth and allowed to depend over the side of the bed for a few minutes, after which elastic constriction is applied at the root of the member, and under general narcosis the incision, starting at the fossa ovalis, exposes the saphena, which is resected between two ligatures. The peripheral threads are not cut but serve to locate the vein. The shelling out is more difficult below the knee, and several incisions may be necessary to avoid too much undermining of the skin. He uses fine silk to ligate the lumina and closes the long incision without drainage. The leg is placed in side splints and raised as high as 60 cm. for a week and then gradually lowered.

61. **Krause Flaps.**—The chief point in transplanting unpedunculated flaps is to keep them in place with catgut sutures. Widman describes 29 cases. In 11 the flap was applied on a finger after amputation, in 4 after removal of a tumor, in 5 after excision on account of lupus, disfiguring scars or traumatic defects.

63. **Treatment of Recent Fracture of the Patella.**—This article, with the 7 others preceding or following, issues from the Nuremberg clinic. In operative intervention in 5 cases of fractured patella the parts healed smoothly and the functional results are most excellent. Contact with the fingers in operating is scrupulously avoided, the joint cleaned with saline solution and fixation accomplished by an electric drill and silver wire. The wound is closed without drainage. Thienger lays great stress on the after-treatment, massage, suspension, etc. The patients are allowed to get up the fourth week, still wearing an immobilizing apparatus.

64. **Aberrant Tissue from Prostate.**—Thorel describes some very small tumors found by chance between the mouths of the ureters in the bladder at 4 autopsies of men between 20 and 59. Histologic investigation disclosed a structure similar to that of the prostate, and he thinks that certain cases of adenomatous neoformations in the bladder may be due to aberrant elements from the prostate.

Centralblatt f. Bakt. u. Inf. Krankh., Jena.

Last indexed page 66.

69 (XXXIII, 4.) Zur Frage der Pathogeneität des Bacillus subtilis, bes für das Auge (especially for the eye). B. Kayser (Freiburg).
70 Plague Bacilli in the Blood. W. J. Calvert (St. Louis).
71 *Protection of Accessory Cavities Against Bacterial Invasion by Ciliary Movements. F. Törne (Lund).—Das Vorkommen von Bakterien und die Flimmerbewegung in den Nebenhöhlen der Nase.
72 Variations in Virulence of Different Cultures of Tubercle Bacilli. D. Veszpremi.—Virulenzunterschiede verschiedener Tub.-Bacillenkulturen.
73 Zur Kenntnis der Ratten-Pest. T. Skschivan (Odessa).
74 Ueber ein für Haus-Ratten pathogenes Bakterium. C. Toyama (Tokyo).
75 Forest Mosquitoes and Forest Malaria. A. Lutz (Sao Paulo, Brazil).—Waldmosquitos und Waldmalaria.
76 Some Observations on the Protective Bodies and on Their Relation to Bacterial Virulence. E. W. Ainley Walker (London).
77 Die Züchtung von Gonokokken auf "Thalmann-Agar." S. H. Brongersma and T. H. Van de Velde.
78 *New Stain for Flagella. E. Gemelli (Milan). Eine neue Färbemethode der Bakteriengeisseln.
79 (No. 5.) Contribution à l'étude des caractères morphologiques et des cultures du Bacterium pestis et des rapports de ce bacille avec Bacterium pseudotuberculosus rodentium. B. Galli-Valerio (Lausanne).
80 Immigration of Ankylostomum Through the Skin. A. Looss (Cairo).—Weiteres über die Einwanderung der Ankylostomen von der Haut aus.
81 Immunity to Anthrax. O. Bail (Prague).—Untersuchungen über natürliche und künstliche Milzbrandimmunität.
82 A Study of Immunization Hemolysins, Agglutinins, Precipitins and Coagulins in Cold-blooded Animals. H. Noguchi (Woods Holl, Mass.).
83 The Interaction of the Blood of Cold-blooded Animals with Reference to Hemolysis, Agglutination and Precipitation. Ibid.
84 Properties of Serums. W. Beljaeff (Moscow).—Ueber einige Eigenschaften agglutinierender sowie auch anderweitiger spezifischer Serumarten. (Commenced in No. 4.)
85 Experimentelle Untersuchungen über die Ausscheidung der Typhus-Agglutinine. C. Stäubli (Zurich).
86 Zur Kenntnis der Symptome und Prophylaxie der experimentellen Lyssa. D. Konradi.
87 Apparat für Anaeroben-Kulturen. S. S. Mereshkowsky (St. Petersb.).
88 Ueber den Nachweis der Typhus-Bakterien in Wasser nach der Methode von Dr. A. E. Windelbandt. E. Schelewsky.

71. **Bacteria and the Ciliated Epithelium of the Accessory Cavities.**—Törne found in calves and cadavers examined within two hours after death that the nasal accessory cavities were always sterile. He assumes that the ciliary movements are an important factor in preventing the entrance of bacteria.

78. **Stain for Flagella.**—Gemelli states that the flagella show up beautifully by the simple stain he describes, and that it never fails. He has studied with it the typhoid, colon and cholera germs, proteus, etc. The best media for this purpose are made with glycerin. A loop of the culture is diluted with 5 c.c. of distilled water on a watch glass, and one drop of the mixture is transferred to a boiled cover glass just taken out of alcohol. It is then dried under glass. The cover glass is then placed for ten to twenty minutes in a solution of 25 cg. potassium permanganate in 100 gm. distilled water. The cover glass is then rinsed in distilled water and placed in a stain made by adding 1 per cent. neutral red solution to a solution of .75 gm. calcium chlorid in 100 gm. distilled water, in the proportion of 20 to 1. The cover glass is left in this fluid for fifteen to thirty minutes. It is then rinsed, dried with blotting paper and mounted in balsam.

Deutsche Zeitschrift f. Chirurgie, Berlin.

Last indexed page 215.

89 (LXVIII, 3-4.) Obituary of Eugen Hahn. H. Neumann.
90 *The Appendix in Gynecology. Hermes (Berlin).—Erfahrungen und Veränderungen des Wurmfortsatzes bei gynecologischen Erkrankungen.
91 Bakteriologische Studien an der Hand von 46 Gallenstein-Operationen nebst einem Beitrag über etiologische Fragen des lithogenen Katarrhs der Gallenblase. O. Hartmann (Jena).
92 Crushing and Aspiration of Urinary Calculi. C. Krüger (Berlin).—Zur "Blasensteinzertrümmerung" mit nachfolgender Aspiration.
93 Renal Papillomata. M. Matsuoka.—Ueber multiple Papillome der harnführenden und der harnbereitenden Wege der Niere.
94 Elevation of Scapula. Kayser.—Ueber Hochstand des Schulterblattes mit congenitalen Hals- und Schulter-Muskel-Defecten.
95 Flat Foot and Pes Calcaneus. M. Hofmann.—Zur Anatomie und Mechanik des Platt und Hackenfusses.
96 *Ueber die genuine diffuse Phlebarteriektasie an der oberen Extremität. Löwen (Leipsic).
97 Ueber das Uterus-Papillom. N. Biagi (Rome).
98 Suggestions for an Ideal Surgical Clinic. V. Chlumsky (Cracow).—Ueber Bau und innere Einrichtung einer chirurgischen Klinik.
99 (No. 5-6.) Obituary of Max Schede. H. Graff.
100 *Zur Statistik der operativ behandelten Aneurysmen. H. Jakobsthal. (Commenced in preceding number.)
101 Prognosis of Fractures of Base of Skull. Graf (König's clinic, Berlin).—Prognose der Schädelbasisbrüche.
102 *Ueber Prostatitis acuta mit Abscessbildung nach Furunkulose. A. Söhngen.
103 *Herniotomy on Infants and Children. Grunert (Magdeburg).—Ueber Herniotomien im Kindesalter, insbes. im Säuglingsalter, darunter 2 seltene Fälle von Einklemmung.
104 Zur Casuistik des Exophthalmus pulsans. J. H. Thierry (alparaiso). Two cases.

90. **The Appendix in Gynecologic Affections.**—Hermes thinks that the appendix is sometimes responsible for affections of the internal genitals, and advises examining it whenever the abdomen is opened for any cause. If signs of inflammation are found in the appendix it should be removed, especially if accompanied by adhesions.

96. **Phlebarteriectasia.**—Löwen does not refer to varicose aneurism, but merely to general diffuse dilatation of the veins and arteries without communication between them, as he observed in a case recently in his charge. The patient was a locksmith, 43 years of age, and one arm was affected. After excision of the radial dilatations the pains in the fingers were relieved, and he was able to return to his occupation. The affection gradually progressed and amputation is being considered as the last resort. This was done in 4 out of the 6 cases of the condition found in the literature, always forced by threatening hemorrhage. Löwen adds a list of nineteen works on the subject, but it contains no American names. In 3 of the 7 cases the right arm and in 4 the left was affected, and all the subjects were men, with one exception.

100. **Statistics of Operative-Treated Aneurisms.**—This communication issues from Braun's clinic at Göttingen. In the first part the history of operative treatment of idiopathic aneurism of the subclavian is reviewed, with a bibliography of 94 references and 21 new cases collected since Souchon's statistics of 81 in 1890. In the 21 new cases there were 17 men and 1 woman; the right subclavian was affected in 12 and the left in 5. In 19 cases followed for sufficient length of time 13 were permanently improved and 3 definitely cured. Treatment by distal ligature has 3 improvements out of 5 to its credit; proximal ligature, 5 out of 7; both distal and proximal, 1 out of 2, and extirpation, 3 cures out of 4 cases. The general conclusions of the work are that extirpation is the ideal method of treatment. It not only guarantees a radical cure, but also prevents the pains liable to occur after the aneurism has been obliterated by thrombi. Extirpation is not practicable if the walls are thin and pulsating unless the aneurism is very small and free from adhesions, or if large, is partially obliterated with thrombi. In case the aneurism is adherent to the clavicle and subclavian vein, the parts involved must be resected too. When extirpation is impossible, proximal ligature is next advisable. If the contents of the sac do not become solid after central ligature, a distal one should be applied. The latter alone offers little prospect of a cure. In case operative treatment is impossible Macewen's method of introducing needles and scratching the walls certainly deserves attention, as it proved successful in one case in his experience. As a last resort, electrolysis and "filipuncture" might be tried. Each has one case of improvement to its credit. Judgment is still in suspense in regard to the efficacy of gelatin injections.

The second part of the work is devoted to aneurism of the aorta, reviewing 13 new cases in addition to the 34 of previous statistics. In 10 the thoracic aorta was involved, and in 3 the abdominal. The results of operative treatment demonstrate that simultaneous ligature of the right carotid and subclavian in case of aneurism of the ascending aorta can not be considered a particularly dangerous operation. In a number of cases it was followed by improvement in both the subjective and objective symptoms. The same remarks apply also to ligature of the left carotid or simultaneous ligation of the left and subclavian in case of aneurism of the arch. Reports of the ultimate outcome of the cases on record are needed before final judgment can be passed on this operative treatment.

102. **Acute Prostatitis After Furunculosis.**—In the case described, as also in 4 found in the literature, the inflammation and abscess formation in the prostate originated in hemato-

genic infection. In 3 there was pyemic metastasis. The abscess should be incised and evacuated as soon as diagnosis is possible.

103. **Hernia in Young Children.**—In Grunert's 34 cases all were boys but one, and phimosis was noted in 13. The frequency of this coincidence of phimosis suggests some causal connection, and that circumcision might be useful in prophylaxis. None of these patients were Jews.

Zeitschrift f. Heilkunde (Chiari's), Prague.

Last indexed page 142.

105 (XXIV, 3: Surgery, 1.) Structure of Spongiosa of Upper Extremity. K. Büdinger.—Der Spongiosabau der oberen Extremität. II. First part in preceding volume. Seventy-eight cuts and 7 plates.
106 2 Fälle von Teratom der Sacral-Gegend. J. Preindlsberger (Sarajevo).
107 Fall von Fett-Embolie nach Redressement. Ibid.
108 Case of Pigmented, Plexiform Neuro-Fibroma. Ibid.—Fall von Rankenneurom mit Pigmentbildung.

Sei-I-Kwai, Tokyo.

Last indexed XL, page 882.

109 (XXII, 1-5.) *On the Weight of the Encephalon of the Japanese. K. Taguchi.
110 The Impregnated and Non-Impregnated Ova of the Ascarides. K. Miura.
111 Investigations on Poisonous Rice. J. Sakaki.
112 *Tuberculosis.
113 *Public Health in Japan.

109. **Weight of the Brain of the Japanese.**—Taguchi compares the weight of the brain as noted in 397 male subjects, with similar statistics in England. It ranges from 1,345 gm. between 14 and 20, to 1391 between 40 and 50, and declines to 1,333 between 70 and 80. The corresponding English averages for 699 subjects were 1,376 gm., 1,360 and 1,290. The Japanese male brain, therefore, averages higher than the English, as also the female brain. It averaged 1,246 to 1,130 gm. for 766 English women and from 1,264 to 1,102 for 156 Japanese.

112. **Communicability of Tuberculosis.**—An editorial announces that in October, 1901, twelve healthy cows were inoculated with human tubercle bacilli in some official tests at the "Cattle Epidemic Laboratory of the Department of Agriculture and Commerce." In March, 1902, the cows all responded to tuberculin with a pronounced reaction, and when they were slaughtered recently unmistakable lesions of tuberculosis were found.

113. **Public Health Matters in Japan.**—Dr. Yamane, a member of the house of representatives, proclaimed, in a recent debate, that more than 130,000 persons succumb annually to tuberculosis in Japan, and the number is constantly increasing. In regard to leprosy he stated: "There is no country in the world in which this disease is so prevalent and so neglected. The home office returns show that there are 33,059 lepers in Japan, while their offspring number 999,300. The authorities allow leprous beggars to sit on the public streets and to infect the very air with their spittle. . . . A very small percentage are taken into the charitable asylums under French or English management." He also referred to the fact that there are 880,000 trachoma patients in Japan, and that in Tohoku district it is impossible to obtain the requisite number of recruits for the army if some sufferers from this disease are not admitted, adding, "The Japanese army will physically collapse if things are to go on in this manner." In conclusion he raised the question as to whether the prophylactic injections of anticholera serum should be continued, claiming that they had proved practically a failure last year.

Rivista di Patologia nervosa e mentale, Florence.

Last indexed XL, page 1177.

114 (VIII, 2.) Glioma bilaterale del centro semiovale. E. Lugaro.
115 Non-existence of a Peripheral, Interretinic Commissure. R. Rebizzi.—Non esiste una commessura periferica inter-retinica.
116 Bulbar Connections of Vagus. G. T. Allegra.—Sulle connessioni bulbari del nervo vago.
117 Sulle pseudo-allucinazioni (allucinazioni psichiche di Baillarger). E. Lugaro. (Commenced in No. 1.)
118 (No. 3.) Local Action of Urine on Blood Vessels. B. Vasoin and G. Astolfoni.—Azione locale dell'urina sui vasi sanguigni.
119 Alterazioni degli elementi nervosi centrali e periferici consecutive all' avvelenamento subacuto e cronico per C O. F. Federici.

New Patents.

Patents of interest to physicians, June 16, 23 and 30:

730911. Plaster package. Frank F. Hawkins, Troy, N. Y.
731188. Druggist's mass-divider. John W. Jackson, Weston, Mo.
730926. Film for wrapping medicines. Masataro Kobayashi, Ise, Wataraikori, Tamaru-Machi, Japan.
731201. Supporting bandage. Lee R. Miller and E. T. Richert, Akron, Ohio.
731131. Pasteurizer. Wm. J. Ruff, Quincy, Ill.
731083. Surgical appliance. Lewis G. Tandy, St. Louis.
731141. Truss. Oakes Tirrill and A. De Vevoise, New York.
730989. Dispensing apparatus. Dayve B. de Waltoff, New York.
731004. Thermocautery. Louis Wirsching, New York.
731543. Massage instrument. John H. and C. Carpenter, Chicago.
731767. Shield for *x*-ray tubes. Robert Friedlander, Chicago.
731578. Solid soluble antiseptic. Rene Koehler, Lyons-Monplaisir, France.
731693. Massage roller. Talbot Lennox, Ames, Iowa.
731610. Fumigating tent. Wm. H. Payne, Monrovia, Cal.
731496. Gastroscope. Paul Poirier and P. Michel, Paris, France.
731709. Truss. John Railton, Cheboygan, Mich.
731615. Tincture extractor. Henry Redlich, Chicago.
731973. Nasal inhaler. Charles K. Teter, Upper Sandusky, Ohio.
732035. Pasteurizer. S. M. Barre and C. Mignault, Winnipeg, Canada.
732159. Apparatus for generating formaldehyd. Edgar F. Billings, Boston.
732620. Druggist's dispensing oil can. Joseph A. Dinkler, Anadarko, Oklahoma.
732414. Massage machine. Thomas D. Ingram, Washington, D. C.
732356. Massage instrument. Benjamin E. Joseph, Chicago.
732689. Medicine dropper. Frank A. Liftchild, Brooklyn.
732361. Hernia truss. Heinrich Loewy, Berlin, Germany.
732135. Atomizer. Charles A. Tatum, New York.
36397. Design, water bag. Edward E. Menges, New Haven, Conn.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE. A Contribution to the Pathology of High Blood Pressure, Headache, Epilepsy, Nervousness, Mental Diseases, Asthma, Hay Fever, Paroxysmal Hemoglobinuria, Anemia, Bright's Disease, Diabetes, Gout, Rheumatism, Bronchitis and Other Disorders. Alexander Haig, M.A., M.D. Oxon., F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Sixth Edition. With 75 Illustrations. Cloth. Pp. 947. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

ORGANIC NERVOUS DISEASES. By M. Allen Starr, M.D., Ph.D., LL.D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons. Illustrated with 275 Engravings in the Text and 26 Plates in Colors and Monochrome. Cloth. Pp. 751. Price, $6.00 net. New York and Philadelphia: Lea Brothers & Co. 1903.

ON SYPHONAGE AND HYDRAULIC PRESSURE IN THE LARGE INTESTINE, with Their Bearing on the Treatment of Constipation, Appendicitis, etc. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Cloth. Pp. 80. Price, $1.00 net. New York: William Wood & Co. 1903.

PROTOZOA AND DISEASE. By J. Jackson Clarke, M.B. Lond. Cloth. Pp. 177. Price, $2.50 net. New York: Wm. Wood & Co. 1903.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, July 11:

Rhoads, Thomas L., first lieut. and asst.-surgeon, will proceed to Hot Springs, Ark., and report in person to the commanding officer of the Army and Navy General Hospital for treatment, and when in the opinion of the commanding officer of the hospital he has sufficiently recovered, he will return to his proper station at the U. S. General Hospital, San Francisco, Cal.

Richardson, George H., first lieut. and asst.-surgeon, will proceed to Fort Bayard and report at the U. S. General Hospital for temporary duty during the absence of Capt. George M. Wells, asst.-surgeon, and on the return of Capt. Wells to duty will rejoin his proper station at Fort Logan.

Spilman, R. S., contract surgeon, is granted leave for one month from about June 25.

Truby, Willard F., first lieut. and asst.-surgeon, now on temporary duty at Fort Ethan Allen, is assigned to permanent duty at that post.

Tenney, E. R., contract surgeon, is granted leave of absence for one month.

Woods, Oscar W., contract surgeon, now under treatment at the U. S. General Hospital, Presidio, is relieved from further duty in the Division of the Philippines, and will proceed to Vancouver Barracks and report to the commanding general, Department of the Columbia, for assignment to duty.

Arthur, William H., major, surgeon, is granted leave for six days.

Brown, Henry D., contract surgeon, is relieved from duty in the Division of the Philippines and from temporary duty at the Presidio for assignment to duty with the Second Battalion of the 19th Inf., and to accompany that battalion to Vancouver Barracks, where he will report to the commanding general, Department of the Columbia, for assignment to duty.

Borden, William C., major, surgeon, is granted leave for one month and fifteen days, to take effect about July 17.

Corbusier, William H., major, surgeon, is relieved from duty at Fort Crook, to take effect at such time as will enable him to proceed to San Francisco, Cal., and report for transportation to the Philippine Islands on the transport to sail from San Francisco August 1. On his arrival at Manila Major Corbusier will report to the commanding general, Division of the Philippines, for assignment to duty.

Duval, Douglas F., first lieut. and asst.-surgeon, will report to Maj. Louis A. La Garde, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for professional examination and physical re-examination for promotion.

Devereux, John R., first lieut. and asst.-surgeon, is relieved from further duty at Fort Snelling and will proceed to Fort Meade for duty, to relieve Maj. Frank R. Keefer, surgeon, in time to enable him to comply with his orders for the Philippine Islands.

Foster, Chas. L., contract surgeon, now in Washington, D. C., will proceed to Fort Myer for duty.

Gandy, Charles M., major, surgeon, is relieved from duty in the Division of the Philippines, to take effect at such time as will enable him to proceed on the first transport to sail after September 1 from Manila to San Francisco, Cal., where he will report by telegraph to the adjustant-general of the Army for further orders.

Henderson, Albert B., first lieut. and asst.-surgeon, is granted leave for one month and ten days on surgeon's certificate, to take effect about July 10.

Keefer, Frank R., major, surgeon, is relieved from duty at Fort Meade, to take effect at such time as will enable him to proceed to San Francisco, Cal., and report for transportation to the Philippine Islands on the transport to sail from San Francisco September 1. On his arrival at Manila Maj. Keefer will report to the commanding general, Division of the Philippines, for assignment to duty.

La Garde, Louis A., major, surgeon, is granted leave for one month, with permission to apply for an extension of three months, to take effect about July 15.

Mason, Chas. F., major, surgeon, is granted seven days' leave, to take effect on the adjournment of the board of medical officers.

Marrow, Chas. E., first lieut. and asst.-surgeon, is relieved from further duty at Fort Sheridan and will proceed to Fort Crook for temporary duty.

Polhemus, Adrian S., major, surgeon, is relieved from duty in the Division of the Philippines, to take effect at such time as will enable him to proceed on the first transport to sail after September 1 from Manila to San Francisco, Cal., where he will report by telegraph to the adjutant-general of the Army for further orders.

Rutherford, Henry H., first lieut. and asst.-surgeon, is relieved from further duty at the U. S. General Hospital, Presidio, and will proceed to Fort Mackenzie for duty.

Williamson, Llewellyn P., first lieut. and asst.-surgeon, is relieved from further duty at Jefferson Barracks and will proceed to San Francisco, Cal., and report for assignment to temporary duty at the U. S. General Hospital, Presidio of San Francisco, Cal.

Winter, Francis A., captain and asst.-surgeon, is granted leave for ten days with permission to apply for an extension of twenty days.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending July 11, 1903:

Asst.-Surgeon R. L. Sutton detached from Naval Hospital, Washington, D. C., and ordered to Baltimore, Md., for special temporary duty.

Asst.-Surgeon O. Kohlhase ordered to Naval Hospital, Mare Island, Cal.

Asst.-Surgeon W. H. Rennie ordered to Naval Hospital, Naval Home, Philadelphia, Pa.

Asst.-Surgeon W. B. Smith ordered to Naval Hospital, Pensacola, Fla.

Asst.-Surgeons J. S. Woodward and P. T. Dessez ordered to Naval Hospital, Navy Yard, Washington.

Asst.-Surgeon J. D. Manchester ordered to Naval Hospital, Navy Yard, Boston, Mass.

Asst.-Surgeons A. J. Geiger and W. S. Haen ordered to Naval Hospital, Navy Yard, Norfolk, Va.

Asst.-Surgeons C. E. Ryder and J. A. Randall appointed asst.-surgeons with rank of lieutenant, junior grade, from June 26, 1903.

Acting Asst.-Surgeon J. T. Miller ordered to Navy Yard, Mare Island, Cal.

Acting Asst.-Surgeon F. W. Tyree appointed acting asst.-surgeon with rank of lieutenant, junior grade, from July 1, 1903.

Medical Inspector S. H. Dickson granted sick leave for three months.

Acting Asst.-Surgeon G. R. Plummer appointed acting asst.-surgeon with rank of lieutenant, junior grade, from July 1, 1903.

Surgeon H. N. T. Harris detached from *Glacier* and ordered home to wait orders.

Surgeon F. W. F. Wieber detached from Naval Academy and ordered to wait orders.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended July 9, 1903:

Surgeon J. M. Gassaway granted leave of absence for two days from June 28, amended so as to be effective from July 5.

Surgeon G. W. Stoner to proceed to Richford, Vt.; Malone, Niagara Falls and Buffalo, N. Y.; Montreal, Canada; Port Huron, Detroit, and Sault Ste. Marie, Mich., for special temporary duty.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence, on account of sickness, until July 15.

Asst.-Surgeon F. E. Trotter, granted leave of absence for 7 days.

Asst.-Surgeon A. J. McLaughlin, assigned in charge of Miscellaneous Division, Bureau of Public Health and Marine-Hospital Service.

Asst.-Surgeon H. McG. Robertson, granted leave of absence for 5 days.

Acting Asst.-Surgeon R. Chandler, granted leave of absence for 8 days from July 18.

Acting Asst.-Surgeon F. H. Cleaves, granted leave of absence for 23 days from July 6.

Acting Asst.-Surgeon R. S. Primrose, granted leave of absence for 10 days.

Acting Asst.-Surgeon W. M. Wightman, granted extension of leave of absence for one week from June 26.

BOARD CONVENED.

Board convened to meet at Washington, D. C., July 8, 1903, for the purpose of considering the preparation of plans for the inspection of vaccine farms and antitoxin establishments. Detail for the board: Asst. Surgeon-General H. D. Geddings, chairman; P. A. Surgeon M. J. Rosenau; P. A. Surgeon J. F. Anderson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 11, 1903:

SMALLPOX—UNITED STATES.

California: Fresno, June 1-30, 7 cases; Stockton, 4 cases.
Colorado: Denver, June 6-20, 15 cases.
Georgia: Atlanta, June 24-July 1, 2 cases.
Illinois: Belleville, June 27-July 4, 6 cases; Chicago, 11 cases.
Indiana: Elwood, June 28-July 5, 3 cases.
Iowa: Des Moines, June 27-July 4, 3 cases.
Kentucky: Lexington, June 27-July 4, 1 case.
Louisiana: New Orleans, June 27-July 4, 1 case.
Maryland: Baltimore, June 27-July 4, 1 case; Cumberland, May 1-June 30, 45 cases, 6 deaths.
Massachusetts: Fall River, June 27-July 4, 1 case; New Bedford, June 29-July 6, 1 case.
Michigan: Detroit, June 27-July 4, 5 cases, 1 death; Flint, 1 case; Grand Rapids, 1 case; Port Huron, 5 cases.
Minnesota: Winona, June 27-July 4, 1 case.
Missouri: St. Louis, June 21-July 5, 7 cases.
Montana: Helena, June 1-30, 1 case.
New Hampshire: Manchester, June 27-July 4, 7 cases.
New York: Elmira, June 27-July 4, 1 case.
Ohio: Hamilton, June 27-July 4, 1 case; Toledo, 1 case.
Pennsylvania: McKeesport, June 27-July 4, 2 cases; Philadelphia, June 26-July 3, 30 cases, 8 deaths; Pittsburg, June 20, July 4, 46 cases, 9 deaths, two cases imported.
South Carolina: Charleston, June 27-July 4, 8 cases; Greenville, June 20-27, 1 case.
Tennessee: Nashville, June 27-July 4, 1 case.
Utah: Salt Lake City, June 21-27, 7 cases.
Washington: Tacoma, June 22-29, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, May 8-16, 6 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, June 13-20, 7 deaths; Liege, June 6-13, 1 case, 1 death.
Brazil: Rio de Janeiro, May 31-June 14, 12 deaths.
Canary Islands: Las Palmas, June 6-13, 9 cases.
Chile: Antofogasta, May 1-31, 3 deaths.
China: Hongkong, May 20-27, 2 cases.
Colombia: Bocas del Toro, June 17-24, 2 deaths.
Great Britain: Birmingham, June 13-20, 1 case; Dublin, 9 cases, 3 deaths; Leeds, June 20-27, 10 cases; Liverpool, to June 20, 24 cases, 2 deaths; London, June 13-20, 16 cases; Manchester, 3 cases, 1 death.
India: Bombay, June 2-9, 24 deaths; Calcutta, May 30-June 6, 2 deaths; Karachi, May 30-June 7, 1 death.
Mexico: Coatzacoalcos, June 20-27, 1 case; Tampico, 1 death.
Russia: Moscow, June 6-13, 3 cases, 2 deaths; St. Petersburg, June 13-20, 35 cases, 2 deaths; Warsaw, May 31-June 6, 6 cases.
Turkey: Constantinople: June 14-21, 1 death.

YELLOW FEVER.

Alabama: Mobile, July 3, 1 case on S. S. *Mount Vernon*, from Limon. July 4 death of case occurred at Gulf Quarantine, Ship Island.

YELLOW FEVER—FOREIGN.

Ecuador: Guayaquil, June 6-13, 1 death.
Mexico: Progreso, June 20-27, 1 case; Tampico, June 13-20, 37 cases, 23 deaths; Tampico, June 20-27, 30 deaths; Vera Cruz, 20 cases, 8 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, May 8-16, 66 cases, 58 deaths; Provinces, 358 cases, 245 deaths.

CHOLERA—FOREIGN.

India: Bombay, June 2-9, 1 death; Calcutta, May 30-June 6, 35 deaths; Karachi, May 31-June 7, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Manila, May 8-16, 8 cases, 8 deaths.

PLAGUE—FOREIGN.

Africa: Cape Colony, May 10-16, 6 cases.
China: Amoy, May 9, 50 deaths; Two Kwangs, May 12, daily increasing.
India: Bombay, June 2-9, 229 deaths; Calcutta, May 30-June 6, 11 deaths; Karachi, May 31-June 7, 43 cases, 35 deaths.
Japan: Nagasaki, May 21-31, 1 case, 1 death; Yokohama, May 23-30, 3 cases, 3 deaths.

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Original Articles.

THE ILL-HEALTH OF RICHARD WAGNER.

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The following quotations are from the life by Glasenapp and Ellis, and from the volumes of letters to Heckel, Wesedonck and Liszt. I regret exceedingly that the reproduction here of so large a number of excerpts is necessary. I have omitted many that seemed possible to be spared and not spoil the clinical picture. Only by the careful reading can one get a clear idea of Wagner's sufferings and symptoms, and be thus enabled to come to a sound diagnosis of the one malady that resulted in such various and life-long symptoms.

RICHARD WAGNER [Lenbach].*

Richard Wagner was born in 1813. His delicate constitution required peculiar care, for he was already troubled with that irritating form of erysipelas (erythema or eczema?) which recurred at intervals throughout life . . . Down to his sixth year he had no regular lessons; the mother wished to give him time to pick up strength, and would not have plagued him with school work. . . . A pale, slim little chap in short-armed frocks, but unruly enough already—thus the traditions show the tiny Richard. G., p. 61.

My good uncle tried his best to put me through some educational training, . . . That I did not profit much by his instruction was, I fear, my own fault. I preferred rambling about the little country town and its environs to learning the rules of grammar. . . . I often beguiled my uncle into reading me a story that I might avoid working. 1821 or 1822.

By right they had to suffer for each other, as both were most excitable and fitful sleepers. . . . Cäcilie had plenty to say of her brother's sudden shouts and talking in his sleep, his laughter and tears in the night. 1822-1823.

To roam about the country was his chief delight. *Do.*

He ranked among the best pupils in that gymnasium from the first, and passed through various divisions and classes with fair rapidity. 1822-1827.

He was plagued with a cutaneous malady even in his school days. . . . Repeated attacks of the kind . . . An attack would be preceded by depression of spirits and irritability of temper. Conscious of his growing peevishness, he would seek refuge in solitude. As soon as the attack was subdued, his bright animal spirits returned. *Do.*

The refinement and energy of his features and the look of wanness and suffering they wore. About 1838.

The prose must be turned into verse, and the music composed in a fortnight. . . . his nerves have been so overtaxed that he has "often sat down and wept for a quarter of an hour at a stretch." 1843.

Constant victimage to a feeble stomach while instrumenting Tannhäuser in 1845.

My whole being had been so consumed with ardor for my task that the nearer I approached its completion the more I was haunted by the notion that a sudden death would stay my hand; so that when at last I wrote its closing chord I felt as joyful as if I had escaped some mortal danger. 1845.

Lonely walks. 1845.

Devoted some five weeks from July 3 to humoring his health, as well as his unresting brain would let him. 1845.

Despite the doctor's warnings against my engaging in any such occupation. Working at Lohengrin, 1845. The doctor's orders were so emphatic against any interruption of his present cure that Wagner was obliged to abandon the outing. . . . The reason for declining was a determination of blood to the brain, brought on by his exertions of the past season, not yet left him. *Do.*

Scarcely could he himself say for certain whether his state of health was the cause of his low spirits or they the ground of his feeling so unwell; perhaps it was a little of both. 1846.

The condition of his health just now is proved by his obtaining a three months' leave of absence, "to breathe again as man and artist" in Switzerland. 1846.

Indulged in his favorite pastime, reading. 1846.

*By the courtesy of Dent & Co., the publishers of Chamberlain's "Richard Wagner."

Was there any possible way out—save death? 1847.

He speaks of a sick bed to which he has been confined for some days. The indisposition must have lasted for at least a month, for in January, 1848, he wrote that he has had a "severe attack of illness." 1847-1848.

He was busy with ideas for a big work from German mythology, but feared he might be too old, and should have undertaken it when younger. 1848—aged 35.

The writing of the Niebelungen Myth is followed by "a period of great depression." 1848.

Winter seems to have been always attended with a certain lowering of vitality. Last year we saw it take the form of a serious illness; this year it takes that of a general depression of spirits. . . He felt "too old" to undertake his Siegfried. 1848-1849.

The sole redemption lay in flight from out this life, in casting off its claims on me by self-destruction. End of 1848.

Gnawing torments. 1848.

His passport describes him as "of medium stature, brown hair, wears glasses." 1849.

His ancient winter foes return, particularly rheumatism, which this time makes an inroad on his heart. 1849.

He was thoroughly broken down for the present, what with rheumatism and his recent spell of literary work at high pressure. January, 1850.

Feeble, full of pain, unable to sleep, in search of quiet. February, 1850.

I'm happy to tell you I've got to the root of my illness; a violence done to my spirit had aggravated my bodily torments to a dangerous pitch. February, 1850.

He means to take a journey southwards for complete recovery of his health. March, 1850.

RICHARD WAGNER.*

I've lost my health, my nerves are shattered. For the present I can live for little more than convalescence. . . . My sufferings became so insupportable that the instinct of life drove me to save myself by breaking with everyone . . . and fleeing into God-knows-what strange land. 1850.

Ah, let us above all things get health. 1850.

Ill, very ill as I was. Letter to Heine, 1850.

Four to five months were indeed too short to devote to a work of such originality and magnitude; too short for the author's own health . . . The last pages of this copy I have written in a mood I can intelligently describe to no one. Candidly speaking, my only wish is to get the hateful manuscript out of the house. Of "Opera and Drama." 1850.

Nine years afterwards Wagner refers to the "fatigue" that had come over him when writing "Opera and Drama," a fatigue that "so sorely weighed upon his brain" that he calls it an "abnormal state of mind." *Do.*

I am glad to be able to tell you that I have discovered the nature of my illness; it was to a great extent melancholy; at any rate, a strained state of mind has brought my constitution into the present dangerous and excited condition. 1850.

My illness was the result of melancholy. 1850.

The master has just been ordered to the water cure. 1851.

His health was so broken by previous excess of work. 1851.

Winter is my mortal enemy. 1851.

My headlong mode of working always tells upon me somewhat severely in the end, and I am obliged to recuperate awhile, as usual; for the next few days, accordingly, I can not undertake the making of a copy for you. 1851.

To my joy I found music shaping itself to these verses most naturally and easily, altogether of itself as it were. Only the first beginning of this labor warned me that I should completely undermine my health, if without having thoroughly attended to it, I yielded to my impulse, and pursued—presumably without a break—what I had just begun. So I came to this hydropathic establishment. 1851.

Had I gone to my "young Siegfried" in my present state perhaps I should have become incurable by next spring. Moreover, if I had dragged along with my infirm lower man I should have been highly inconsistent with my principles. The idea of setting to work at my Siegfried in perfect health has something of what I might call a glad solemnity. So — it's settled — I shall undergo the complete water cure. 1851.

I have become a complete water man. This time I was ten weeks in the hydropathic establishment; only on account of the winter setting in early and with great severity have I given up the cure for the present. However, it was sufficient to give me the clearest foretaste of perfect health, a new and indescribable feeling of comfort, etc. 1851.

This "water" interlude we may take as a not unwelcome relief in the midst of a more intricate topic. What Wagner had to undergo, however, in the vain attempt to diet his body into a condition of robust health, would be past belief in these days of saner physiology had we not his written word for it. Poor Uhlig himself, its original instigator, succumbed to the effects of a less drastic form soon afterward.

It was nearly a twelvemonth since that Uhlig began pressing his "water views" on his leader; Wagner then replied, "I only drink water when I feel a thirst for it; yet I am far less sanguine than you!" (Oct. 9, 1850.) But the idea soon exercised a kind of fascination over him; in a fortnight he is so far on the road to conversion that he admits its value on the testimony of his younger friend's experience. By Christmas he had commenced to experiment on himself, in an amateur fashion: "I, also, am doing a sort of water cure; besides a sponge down in the morning, cold water drunk in bed." That does

*Reproduced from Chamberlain's "Richard Wagner," by the courtesy of Dent & Co.

not satisfy the zealot Uhlig; he recommends a "Neptune girdle," which sounds something like a wet waistband, and makes one shiver at the thought of wintery cold in Switzerland. Wagner valiantly attempts it. "I followed your advice about the Neptune girdle at once. I hope it will suit me. On the whole I feel surprisingly better than last year." (Jan. 20, 1851.) Two weeks later, however, he has paid the penalty of dabbling. "I'm rather unwell. By the advice of a first-rate physician, who also is an advocate of water, I have had to lay aside the Neptune girdle for a time." And laid aside it appears to have remained, till Uhlig came to Zurich and waxed eloquent about the virtues of a system that decidedly had added neither color to his cheeks nor flesh to his bones.

Uhlig unluckily did more; he brought with him a water volume by a certain Rausse, and well-meaningly left it behind him. On the 24th of August (1851), taking a rest after the labor of fair copying the Communication, Wagner relates how he has begun to turn Rausse's theories into practice during the past week: no wine, no beer, no coffee, no soup; only cold water and milk, so far as drinkables are concerned; 3 to 4 glasses of cold water in bed before rising, and any number of glasses during the day; baths at home, or in the lake at midday; half an hour's walk immediately (!) after food. No wonder he remarks that his head feels "lighter, but often somewhat dull," though he considers the latter a mere passing effect, and expects "to end by getting more health than I shall know what to do with." Naturally the end of another fortnight reveals him in a wretched state, so wretched that he has been to consult the proprietor of a hydropathic quackery (September 8), who equally naturally insists on his coming there, to submit to heroic measures. September 16 Wagner goes to Albisbrunn in the commune of Hausen, on the hills to the southwest of Zurich, too ill to think of any Siegfrieds for the moment.

RICHARD WAGNER.

From Rubenstein's arrangement of the vocal score of Tannhäuser. This photograph probably formed the basis of Lenbach's realistic drawing.

On the whole, these ten weeks at Albisbrunn appear to have done him temporary good, but rather as a change of air and scene, a relaxation of mental strain, than in any other way. His humor does not forsake him, and it is here that his gigantic plan matures; but when one reads of the treatment to which he is subjected, one can feel nothing save amazement at the power of resistance innate in his constitution. This is how he describes the "cure," a fortnight ere its termination: "My daily program now: 1. From 5:30 to 7 in the morning, cold pack; then cold tub. Wanne and promenade; breakfast at 8, dry bread and milk or water (no butter allowed, as he says in another letter). 2. Short promenade again; then a cold compress. 3. Towards 12 o'clock a wet rub-down; short promenade; another compress. Then dinner in my room, to avoid disrelish (was it, or the sight of other victims, so nasty?). An hour of idling; brisk walk of two hours—alone. 4. About 5 o'clock another wet rub-down and a little promenade. 5. Hip bath for a quarter of an hour, about 6, followed by a promenade to warm me (surely in a corridor, for it must have been pitch dark by then). Another compress. At 7, supper; dry bread and water. 6. Whist party till 9, followed by another compress; and about 10 o'clock to bed. This regimen I now can manage very well; perhaps I shall even increase it." "I feel myself on the high road to recovery." 1851.

Quiet! Quiet! Quiet! Country! Country! Then—health—cheerfulness—hope! else—all is lost! I can no more. 1851.

Beyond the water business my employment consists in building a house on paper with rule and compass. 1851.

This winter I shall idle for my health, only sketching as thoughts occur to me. 1851.

For the recovery of my youth, for health, nature, an unreservedly loving wife and a flock of children I would barter *all my art!* There, take it! Give me the other. January, 1852.

I have got so far that I place no faith in any system, but only in a specially gifted and sound physician, an individual. For such an one I long, not for any fads. 1852.

The water cure had "worked wonders," as he fondly imagined for a while. "I am basking in a sense of a well-being such as I had never conceived. My indomitable cheerfulness," etc.

At Albisbrunn he had been condemned in the end to baths of but 7 degrees above freezing point; at home he has raised their temperature to the more civilized limit of 55 F., but mental rest is strictly enjoined on him, together with a diet which he describes as "dry bread" and milk for breakfast, dry bread and water for supper; at midday English cooking, i. e., vegetables boiled plain and meat roasted on the spit . . . The water business he still has so at heart that he writes to Sulzer a defense of it three quarto pages long, though the only extract published by Herr Steiner does not make clear whether outward or internal application is the bone of contention: "As I could not possibly subside into a merely casual acquaintance with a man who has been and is, at a crucial period of my life, what you have been and still are to me; a man I sincerely respect in the warmest sense of which that word is capable—the ultimate consequence (of Sulzer's recusance) would be that I must give my Zurich haven up; a necessity I feel so deeply that I was compelled to declare it yesterday to our two friends." It is difficult to believe that such earnestness has reference to nothing more serious than a divergence of views on the efficacy of water; but, however we interpret it, Herr Steiner further informs us that, rather than allow the split to go to such a length, Sulzer made certain "concessions."

As for Wagner himself, departure from a strict observance of cold water soon was forced on him by the same consideration that had started it—his health. All through this winter, in fact until next autumn, we hear of one modification or another, in the endeavor to restore a shattered set of nerves, culminating in the lesson of experience passed on to Uhlig next October: "Our water doctors, one and all, don't know enough about nerve troubles. Constitutions like mine are benefited by none but warm baths, whereas cold ones ruin them entirely. If I can only get my nerves right, you'll hear another story!" The same with his teetotalism, which is wisely abandoned at last for an occasional glass of good wine. Had he but had his good Dresden doctor Pusinelli within arm's length, instead of various experimenters on a bodily constitution they understood as little as his critics his artistic theories, perhaps the music of the Niebelungen might have actually been finished in not much over the three years orig-

inally propounded for its term. But the awl of the amateur health cobbler was picked up first by one friend, then by another, till the letter last quoted avows: "For the present my doctor is Herwegh: he has great knowledge of physics and physiology, and is more sympathetic toward me, in every respect, than any physician who is not at the same time a friend." February, 1852.

"I'm terribly fatigued again." March, 1851.

I am daily thinking of my death. 1852.

I can not pull round as yet, and am suffering from sleeplessness with great dejection. *Do.*

Beethoven, the Holländer, ill health, sleepless nights, repeated disillusions—all were factors in the evolution of that colossal drama which had occupied his brain ever since he returned from Albisbrunn. G., 1852.

I am now living for nothing but my health. I am taking a rest after the somewhat trying effects of my late cure. Dec. 14, 1851.

It is to no water establishment that Wagner goes this time, as once proposed; his faith in that drastic regimen has been rudely shaken during the last few months. Moreover, "it is quite impossible for me to spend half a year at a hydro." Not long ago he had heard through Ernst Kietz of a certain Dr. Karl Lindemann, a fellow exile, then "working remarkable cures in Paris with a marvellously mild water régime. His specialty seems to be nervous disorders." So he had written Lindemann a detailed account of his symptoms, and received a regular chart of instructions to cover a protracted period: for diet, chiefly game simply cooked, with a glass or two of good wine; his baths to be tepid rather than cold; the main affair—"I'm to keep quiet and write poetry." May, 1852.

The open air is doing me much good; every morning I roam about for two or three hours before setting to work. My working time I don't extend beyond two hours a day; it was by frequently working five to six hours that taxed my nerves before. I have finished the entire draft of the Walküre now. May, 1852.

His lonely walks. *Do.*

Yesterday I finished my Walküre after a month of work. . . . once more I am somewhat severely knocked up; no doubt I work at too high pressure. July 2, 1852.

When I've finished a thing like the Walküre I always feel as if I had sweated a huge anxiety out of me, an anxiety ever increasing toward the end of the work, a kind of dread lest I should spoil something: my signature and date foot the page, as though the devil were standing behind me, trying to stop my last stroke. Much the same had it been with the scoring of Tannhäuser: The nearer I approached its completion the more I was haunted by the notion that a sudden death would stay my hand; only there is a new element here. *"Lest I should spoil something."*

I was going to begin the composition and found to my joy that the music adapted itself to these verses quite naturally and easily, as if of its own accord. But the very commencement of the work reminded me that I should ruin my health entirely if I did not take care of it thoroughly before yielding to my impulse and finishing the work at a stretch and probably without interruption. When I went to the hydropathic establishment, etc. (November, 1851. Letter to Liszt.)

My previous continual anxiety about my health has also now been relieved by the conviction I have since gained of the all-healing power of water and of Nature's medicine; I am in the way of becoming, and if I choose, of remaining, a perfectly healthy man. If you wretched people would only get a good digestion, you would find that life suddenly assumes a very different appearance from what you saw through the medium of your digestive troubles. (November, 1851. Letter to Liszt.)

I am still occupied in resting from the finally somewhat powerful effect of my cure. December, 1851.

We sedentary animals scarcely deserve to be called men. How many things we might enjoy if we did not always sacrifice them to that damnable "organ of sitting still." 1852.

The nerves of my brain are so overwrought that even these few lines set me in a violent commotion. I find that I may be able to do something good, but only on condition that I keep a strict watch on myself, and especially that I interrupt my work often and completely divert my thought before going on again. May, 1852.

Then I had a sublime view of the terrible mountain world of ice and snow and glacier, which seems to be so close that one might clutch it—I am walking capitally, quite strong on my legs; only I'm not contented with my head as yet. The nerves of my brain are hideously out of order; agitation or prostration—never any time true repose. July, 1852.

My digestion has been in a very bad way of late. *Do.*

Peace I did not find. It's all up; there's no youth left in me; to live stands no longer before me; all my making and doing can now be naught but gradual decay. The nerves of my brain, there's the trouble. *Do.*

Unfortunately I can work but slowly, as everything is an uncommon tax on my brain just now. Only to-day have I finished the MS. of my address on the performing of Tannhäuser. . . It has taken much out of me, and I shall have to try to rest it off. August, 1852.

Throughout the whole of these six months we hear one constantly repeated cry of "headache," as if the twofold strain on the mind were wearing out its organ. At no other period does the physical suffering appear to have been at once so acute and so protracted. Is it a condition normally attendant on the birth of a colossal masterpiece? "My health is none of the best, and although my body looks fairly robust, my nervous system is in a serious state of increasing exhaustion. Through this everlasting life of phantasy without any corresponding reality, the nerves of my brain are so severely overwrought that I can only work by spurts now, and with long interruptions, if I don't mean to become a complete and chronic wreck." *Do.*

From the perpetual expression "the nerves of my brain" ("meine Gehirnnerven"), coupled with the apparent "robustness of body," I should argue (writes Ellis) that the malady was nothing deeper-seated than megrim, alias migraine or "sick headache"; but anyone who has ever been a victim to that scourge, similar in many of its nervous symptoms to "influenza," will recognize the sheer impossibility of mental application when an attack is in full swing. The various forms of dieting to which Wagner had subjected himself would only tend to lower the general tone of the nerves, and thus exacerbate the malady; whereas the last thing a sensible physician would have advised would have been the climbing of dizzy Alps and the forced march across the Italian frontier, which the patient had undertaken on his own account by way of recuperation. And on his holiday to be plagued with business details, too! The result is, that he returns to Zurich so prostrated that he exclaims to Uhlig a day or two after: "You people mustn't talk theory any more to me just now; it sends me clean crazy. The nerves of my brain! there's the mischief. I've terribly assaulted them; it's quite possible I may yet go mad!" August 9, 1852.

And so it goes on, with variations of the same complaint (chiefly addressed to Uhlig), at least until the Rheingold poem is completed and the greatest load thus discharged from his mind. At first, in fact, it is impossible even to think of poetry. "I've written Heine to-day. My head is not yet clear enough for working." August 11.

"Unfortunately I'm getting on very slowly (with the Tannhäuser Guidel), as all manner of work tries my head uncommonly just now." August 14.

"If my head were but better! With that cursed brochure, which I rushed at last so as to polish everything off, I ruined myself again. Often it's like a sharp knife cutting into the nerves of my brain. Moreover, I'm feverishly tired in all my limbs; but if only my head will recover, they also will rapidly improve; on it—that laboratory of the imagination—depends everything. . . . Forgive me my many commissions; but if you don't do a double turn for me now, 'twill be all up with

me. Think of it! even this letter almost knocks me down." August 30.

There cause and effect are plain as can be; the Tannhäuser, with all the correspondence involved, has told severely on an excitable system, and the "nerves of his brain"—scientifically speaking, the region round about the optic thalami—must pay the penalty. That "sharp knife" cutting, the "feverish tiredness in the limbs," and the sense of impending evil, are the very symptoms of megrim; the attacks of which, especially if brought on by mental labor, may sometimes be prolonged for several days by successive relapses.

"Only two lines; I mustn't write, because I can't; that's how things stand with me"; and after barely a dozen lines, "I can write no more. Good-bye." Three days later an equally short letter, so unusual in this correspondence, ends with "That's all I'm able to squeeze out to-day. Don't take it amiss!" September 8.

On the same date that notable letter to Liszt about Raff, Berlioz and new creations (p. 360 ant.), begins and ends as follows: "Unluckily I can't reply to you as I should wish. The nerves of my brain are so racked again that I have had to give up all writing and reading for a while—I might almost say, all mental existence. Every letter—even the briefest—knocks me terribly up, and nothing save the greatest quiet (where and when?) can—or rather, could—put me really right. . . . I can write no more now! Don't be cross with me! My head is nigh bursting! I'll just hurriedly add the warmest farewell I have in my heart." Another three days later: "My head is still bad, and all my nerves upset, in consequence of this eternal friction with an invisible load outside. . . . Farewell, I must stretch myself full length on the divan, to close my eyes (to U., September 11).[1] Next day we have the letter to Roeckel, cited a page or two back. A week after that: "I am growing accustomed to the ruin of my nerves; one can always do a little something with them still. . . . To-day is the federal fast day, and for the last week the Föhn has been enough to make one wish one's nerves at the Devil." The Föhn is a moisture-laden south wind peculiar to the valleys and lakes of Switzerland, but similar in its general effects to the sirocco so prevalent at Venice, etc. Its humidity would really seem to have eased the writer, however, much as a vapor bath might; for, not only does he indulge once more in a good streak of his pristine humor in this letter of September 19 to Uhlig, but also has important news for us: "My condition isn't a hair's breadth better yet; only I'm gradually accustoming myself to a fresh degradation of my health; I'm accommodating myself to it, and even work a little hour a day now!"

Progress with the poem was by no means break-neck at first: "a little hour a day." Nor even every day; for a fortnight later the intimation to Liszt runs, "My nerves are still none of the best; yet I have begun to work a short hour a day at my poem again, off and on. There'll be no peace for me till I know it is finished, which I hope will be ere long." October 3.

The presence of Belloni and Vieuxtemps would scarcely expedite matters, and October 5 we read (to U.), "I shall tell you nothing about my work; it's going slowly, but well!" Unhappily the next sentence is ominous: "Farewell and healthier than me. I shall shortly go crazy!"—a repetition of the fear expressed two months ago. Before a week is out the poem has to be laid aside: "That I am able to write you at all to-day is simply due to my decision to make a forced pause in my poetic work, not to fall once more into that fatal condition the most painful effects of which I have only just outrun a little. Letter-writing, however, I now am convinced once for all severely taxes me, and you therefore may flatter yourself if I manage even to fill this sheet of paper. If the weather were not so inveterately bad I should have started to-day on a couple of days' excursion. Already I had mapped out a tour to Glarus and Schwyz. Unfortunately, with this eternal gray dampness of the atmosphere I shall have to adjure any pleasure trip; simply my afternoon walk I keep up, mostly three to four hours, however hard it rains, albeit with a hang-dog sort of pleasure." October 11.

The "sheet" gets filled to overflowing, nevertheless, and lower down this letter we learn that "warm baths of 86 degrees for half an hour in the evening just before going to bed" have helped him much. "Without that bath I should have been a lost man by now; it quiets my nerves and gives me good sleep every time. Lindemann has even advised me to take a similar bath for half an hour in the morning, if I want to get rapidly well; for the present I only take a short one in water chilled to 77 degrees. My head I repeatedly douche with colder water during each bath." It is while thus "comparing notes" with a brother invalid, poor Uhlig, that Wagner receives the elating news of the Breslau success of Tannhäuser.

(To be continued.)

1. Under the heading "Megrim (migraine, hemicrania, sick-headache), a standard English medical authority remarks: "During the paroxysms nothing is so efficacious as complete rest in the recumbent posture, in a perfectly quiet and darkened room." The further statement that his malady "generally subsides with advance of years. Patients do not often suffer from it after 50," bears out my diagnosis, since we do not hear of these sick headaches when Wagner has passed that age.—W. A. E.

EPISPADIAS.

REPORT OF A CASE OPERATED ON BY A MODIFICATION OF CANTWELL'S METHOD.*

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The purpose of this paper is to again call attention very briefly to an almost ideal operation for the relatively rare but distressing deformity, epispadias; and, further, to describe a modification of the original operation which the writer found it necessary to make in the single case on which he had the opportunity of operating.

This operation, described by Cantwell[1] in 1895, performed by Herbert Page,[2] in 1898, and again by Parham and Martin[2] in 1900, seems not to have gained the recognition it deserves, and not to have found its way into the recent text-books of surgery.

Bryant voices the sentiment of practically all the text-book writers when he says: "The ability to secure as satisfactory results in this deformity as have been secured in hypospadias has not yet been attained."

The procedures usually recommended are similar to the plastic operations applicable to the condition of hypospadias, and of these the methods of Thiersch and Duplay are the best and most useful examples. But these operations leave much to be desired, both from the standpoint of functional result, in overcoming the incontinence, and the length of time required for the progressive steps.

Cantwell's operation, having for its object the transplantation of the newly formed urethra to its normal situation beneath the body of the penis, permits a quick result to be obtained, and relieves entirely, or in a marked degree, the distressing incontinence.

TECHNIC BY CANTWELL.

Briefly described, the operation of Cantwell is made as follows: A curved pair of forceps is first introduced into the bladder and its point made to bulge the perineum. This is cut down on and drainage of the bladder provided by means of a rubber tube which is left in place until the process of healing is complete. Next an incision is made on both sides of the penis at the junction of the mucous membrane and the skin beginning proximally at the opening of the bladder, and extending distally to the end of the glans penis. The

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. Annals of Surgery, December, 1895.
2. Ibid., January, 1901.

meatus is usually just under the pubic arch. The mucous membrane lining the groove on the dorsum of the penis, and marked out by these incisions, is now dissected up, care being taken to carry the dissection well back to the infundibulum, almost to the bladder wall.

When this is thoroughly done the urethra can be drawn out surprisingly. This mucous membrane flap is now converted into a urethral tube by suturing its free edges together, and should be long enough to reach quite to the end of the glans penis.

Next a new bed for the urethra is made by dissecting apart the two cavernous bodies, leaving them attached only by the skin at the under surface of the penis. In the normal penis this separation would be most difficult, but in epispadias is extremely easy. This separation should be carried well back behind the pubic arch, so as to transplant deeply the urethra for its whole length; a slight incision is necessary in the glans. The urethra is now transplanted into this groove between the corpora cavernosa, a few sutures serving to anchor it to the underlying skin of the penis. Above the urethra the corpora cavernosa are brought together and united by continuous suture; and finally the overlying skin, which is usually abundant for the purpose, is sutured over all. This produces a penis which presents a surprisingly normal aspect, except for the apron of foreskin.

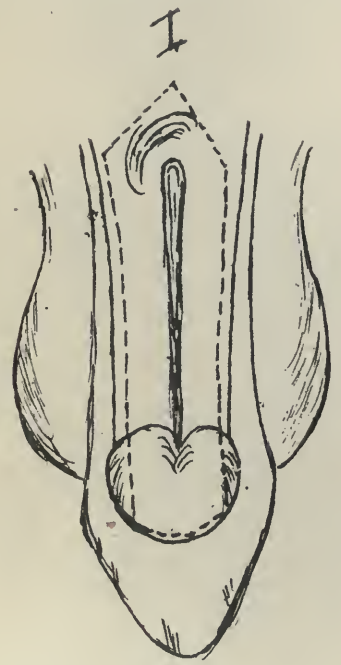

Fig. 1.—After Cantwell.

If healing occurs by first intention, the whole procedure is through with in two weeks' time. The patient is able to retain his urine almost perfectly in some cases, and can void a full stream through a meatus at the normal situation in the glans penis.

MODIFIED METHODS.

Cantwell recommended that the operation be not undertaken under 10 years of age, because of the small size of the parts and the presumption that the younger the patient the more dangerous any operation. The case reported by Parham and Martin, however, was only 5 years of age, and my own was 7 years of age. There are certainly reasons why it is advantageous to perform the operation at an earlier age than originally recommended by Cantwell. My own patient, operated on in 1901, was a boy of 7 years, otherwise healthy and well developed. The meatus was beneath the pubic arch, and the foreskin hung down in a well-marked apron. On dissecting up the mucous membrane over the sulcus and the glans penis, it was found impossible to avoid injuring this portion of the mucous membrane to such an extent that it had to be discarded and cut away entirely. As a consequence, the new made urethra was too short; even after thoroughly mobilizing it and drawing it well forward it could only be made to reach

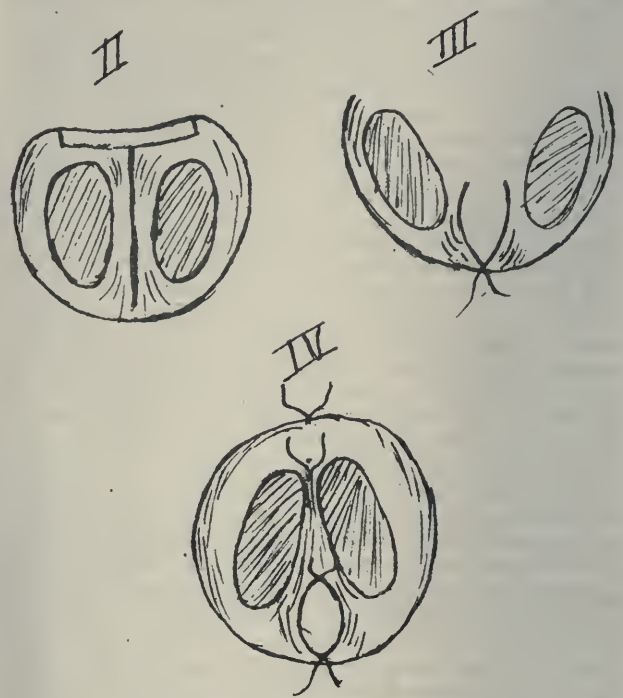

Fig. 2.—After Cantwell.

a point well behind the glans penis. It was therefore found necessary to adopt the suggestion made by Parham to combine Van Hook's method[3] of tubular canalization with Cantwell's urethral transplantation. Van Hook, in a case of hypospadias, made a canal by tunneling through the glans penis, and then lined this canal with a pedunculated flap, converted by suture into a

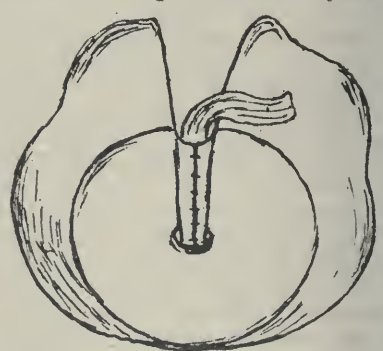

Fig. 3.—Van Hook's operation; forming preputial lining for tunnel through glans penis.

tube, taken from the preputial hood. The distal end of this flap, now become proximal, was finally sutured to the distal end of the urethra, so completing the canal.

In my case a sufficient flap was cut from the underlying preputial apron, was then converted into a tube by suture, and finally was drawn through a tunnel made through the glans penis. It was then united over a soft catheter to the already formed proximal portion of the urethra. The remaining steps of the operation were

3. Annals of Surgery, vol. xxiii.

carried out in accordance with Cantwell's recommendations. The success of the operation was surprising. With the exception of a pin-hole opening situated a little in front of the pubic arch, there was healing throughout by first intention. At the end of ten days the perineal drainage was withdrawn, and three weeks after operation the boy was exhibited to the Falls City Medical Society. He had been instructed to retain his urine for several hours before exhibition, a thing utterly impossible before operation. Just as he was placed on the table he found it impossible to longer retain his urine, and discharged several ounces over the table and carpet in a stream from a meatus situated at the end of the glans penis.

Singularly enough, I found the closure of the pin-hole fistula more difficult than the original operation. Having failed in one effort to close it, opportunity has not yet presented to successfully deal with it.

This boy's continence has markedly improved. A recent report informs me that there is occasional dribbling by day and sometimes wetting of the bed at night; but this latter is not by dribbling, but by voiding at one time a bladder full of urine.

In conclusion, I desire to say that I feel satisfied that no other operation, in my hands, could have produced anything like so good a result in anything like the short space of time.

DISCUSSION.

Dr. F. W. Parham, New Orleans—I think the condition of epispadias, although an extremely rare condition, merits our serious consideration, because when present it is so very distressing. I find myself in the singular position of making suggestions in the treatment of a condition wherein I have not had a single case to operate on. However, I have had the good fortune to assist my friend, Dr. Martin, in such a case, and I have seen another case in which Dr. Fenner has obtained a very satisfactory result by the method commended in the paper of Dr. Bullitt. The old operations of Nélaton, Rosenberger and others did not fulfill the conditions because, although they effected the re-establishment of the canal, this was too pouch-like, and the incontinence was not relieved. Beside, the time required was too long. None of the later operations have proved satisfactory, except that of Cantwell of Trenton, endorsed by Dr. Bullitt in his paper. I have looked up the subject thoroughly, and I find no procedure that can compare with it in simplicity and results. Cantwell's operation at once places the canal below the organ, where it belongs, and the whole operation can be finished at one sitting. In the normal penis the union of the corpora is very intimate, indeed, so intimate that the fibers of one side seem actually to decussate, but the connection is very frail in the epispadiac condition. English, in fact, reported one case where the corpora were completely separated. In some cases the separation may be made without cutting. In the technic of the operation I have learned in the case in which I assisted Dr. Martin that it is well to carry the dissection well up under the pubes so as to mobilize the trough freely, and then to make the canal carefully before separating the corpora and carrying it to its place under the organ. One difficulty in the operation is to get the canal placed far enough forward in order to allow for retraction. In some cases a second operation will be required to locate the meatus properly. I believe the addition of the Van Hook plan, as carried out by Dr. Bullitt, will prove of decided benefit, because it assures the meatus at the proper point, and I feel personally indebted to Dr. Bullitt for showing by his case that it has distinct advantages.

Dr. E. D. Martin, New Orleans—My case amounted almost to exstrophy of the bladder. It was necessary to dissect an anterior flap from the pubis in order to complete the upper border of the urethra. This was sutured on either side and the tube, being completed, was buried between the corpora. The case has been greatly improved, though the incontinence has not been entirely overcome. This I hope to correct with the use of paraffin injections.

In regard to hypospadias, I would like to make a suggestion which I think is of some value. I had very recently a case in which I tried the suggestions of both Rochet and Nove-Josserand. The method of the former of making a tube of scrotal tissue and passing it under the skin was only partially successful. The latter, of wrapping a Thiersch graft around a catheter and pulling it through the slit, failed also, and I then divided the corpora the full length of the deformity, laid them wide open and covered the entire raw surface with a Thiersch graft. This succeeded beautifully. I then brought the corpora together, forming a deep groove all the way. I pared the edges freely, held the corpora in position with mattress sutures and sutured the margin of the skin with catgut. All united, with the exception of a small fistula on the junction of the newly-formed canals, and I agree with Dr. Bullitt that these are always difficult to close, and that perineal drainage is always necessary to insure success.

Dr. Erasmus D. Fenner, New Orleans—I had a case in which I had an opportunity to treat acute epispadias, and my case was very considerably below what I believe to be the proper age limit in these cases. The patient was not quite five years of age. Fortunately for me, however, the little boy was remarkably intelligent for his age, and assisted me in every possible way by his great patience, thus overcoming the objection that has been made to doing the operation at this age. In connection with this operation I wish to say that my knowledge of the procedure is due entirely to the excellent recollection of my friend, Dr. Parham. Shortly afterward I had an opportunity of seeing Dr. Martin's case, and the steps of the operation were simply the mere separation of the parts by Cantwell's procedure. I was impressed, first, by the expansibility of the tube, and second, I was impressed by the fact that it was free, so that it could easily be drawn up above the urethra after it had been placed in its position. I was further impressed by the absolute necessity of using a silk suture. Up to that time I had used chromicized catgut. I decided to use internal silk suture. The approximation was satisfactory, and for a few days the case did well, but shortly afterwards the parts began to swell, and there developed between the skin and the urethra a large abscess which subsequently required opening up of the skin, and breaking the abscess and allowing it to escape. Fortunately, however, the operation was not associated with any serious fistula in the new canal, and after a rather tedious convalescence, my little patient recovered, having a perfectly normal restoration of the anatomy, although I found that the meatus was placed a little too far back for the normal condition. I have not yet made up my mind how to unite that. I am convinced, however, if we could let the patients wait until they are 10 or 11 years of age, so that they can have control of the bladder, we could get much better results.

I have suggested this same procedure for hypospadias. Not long ago I had an opportunity of operating on a patient suffering from hypospadias. In this case, we concluded that we would leave out the buttonhole in the peritoneum. The patient left after the operation in a very much worse condition than before. Taking this case into consideration, as well as my case of epispadias, it would seem that the buttonhole in the peritoneum should not be omitted.

Dr. James B. Bullitt, Louisville—The speakers have testified that this operation gives fairly good results, and in some cases surprisingly good results. I would have liked to have heard from some of the other gentlemen who have employed other methods in regard to what they have been able to accomplish. I have only had two cases of this condition, and the first case was operated on by the method usually applicable to hypospadias, and the patient was not improved, and I have no doubt that there are others who have had the same experience. So it is especially gratifying to me to have accomplished the result I did in the second case. Outside of this small fistulous opening the patient was cured, and he got up inside of three weeks' time. I agree with Dr. Fenner that the drain-

age of the bladder through the perineum is always necessary. I believe also when you have a fistula it would be better to drain the bladder through the perineum.

What part of the operation is the most difficult? In the first place getting the mucous membrane clear to the end of the glans penis. It is nearly always impossible to find sufficient mucous membrane to reach to the end of the glans penis. While the urethra can be drawn out surprisingly, it also retracts afterward somewhat surprisingly. I am sure that Dr. Parham is entitled to great credit for the suggestions he has made. I believe in the case I operated on, if I had separated the corpora cavernosa further back, I would have had a better result, and this fistula would probably not have occurred. The third point is that the formation of the canal from the point where the abnormal meatus is situated is somewhat difficult. However, I believe from the success of this operation in my own particular case, and from these other operations that have been reported, that it is very much superior to any of the other operations that have been proposed.

TUBERCULOSIS OF THE MAMMARY GLAND.*

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Dr. Scudder,[1] in an exhaustive article on "Tuberculosis of the Mammary Gland," states that an examination of the literature showed only eighty cases reported up to that time, twenty-three of which were rejected on account of imperfect data. This list, however, does not include twelve cases reported by Albert in his work on surgery.

Tubercular infection is so frequently met in the various tissues and glands of the body that it seems unusual that only fifty-seven well authenticated cases of tuberculosis in the mammary gland should have been reported up to 1898. It is, of course, to be expected that not all cases diagnosed as tuberculosis of this gland were reported, but had they been, the number would still be small, and the cases reported since 1892 are so few that we are forced to believe that the disease often goes unrecognized.

It is conceded that tuberculosis of the mammary gland is most frequently found in young women between the ages of 20 and 35, or during the period when the gland is functionally most active. A few cases have been reported as occurring before and after menstrual life. Roswell Park reported a case in a girl 12 years of age, and Mr. Payne saw an infant with a tubercular abscess of the breast, following which there was general tuberculosis and death. Several other cases have been reported at ages under 20. Cases have also occurred in women after 50 years, and even after 60 years of age. The condition is occasionally observed in men. In Dr. Scudder's eighty cases six were males, and in forty cases reported by Mandry one was a male. It is said that more than one-half of the women affected have borne children, and that in a considerable number of these the process has originated during pregnancy.

It is held by the great majority of writers, and this I believe to be true, that the process is to be observed most frequently in spare, weakly, anemic individuals, in those who have inherited the so-called scrofulous diathesis or tubercular predisposition, and especially in such as have a parent or near relatives who have or are suffering from tuberculosis. Tubercular infection of the mammary gland may be primary or secondary. When primary it may occur through the milk ducts or through abrasions of the nipple or of the skin covering the breast. It is thought that the great majority of cases are secondary to a tubercular process in the lymphatic glands of the axilla or neck, or to one in an adjacent rib, pleura or lung. The focus, however, may be situated in distant bones, in the genito-urinary or intestinal tract, in the peritoneum or skin. When secondary and the foci are situated more or less remotely, infection may occur, and frequently does, through the arterial circulation. Infection undoubtedly takes place, however, in many of these cases through the lymphatic circulation by a retrograde process. Retrograde infection or infection carried against the lymph current is seen every day in cases of carcinoma. A case of epithelioma of the nipple came under my observation in which there were metastatic growths in the membranes of the brain, these having taken place through the lymphatic circulation. It is also of frequent occurrence in carcinoma of the mammary gland to observe enlargement of the lymphatic glands of the neck. Although it is held that the bacillus of tuberculosis is non-motile, it is probably true that these bacilli are often carried against the normal lymph current by cellular action or by reverse currents. Infection may also occur by contiguity of structure in cases where the submammary tissues, the adjacent ribs, or parietal pleura are implicated. If infection occurs through the milk ducts, the process must be situated primarily within the ducts or the acini. If the bacilli reach the breast through the circulation, lymphatic or arterial, they would naturally be arrested in the tissues directly surrounding the alveoli, as here the arteries which supply the gland break up into a network of capillaries, while the lymphatic radicles take origin within and about the lobules of the gland. When infection occurs through contiguity of structure the connective tissue of the gland will be primarily implicated.

THE ANATOMY.

It might be well in this connection to review briefly the anatomy of the lymphatics of the chest for the purpose of determining the possible channels of infection to the mammary gland through these vessels. It is generally held that the lymphatics in the mammary gland of the female are more highly developed than they are in any other gland in the body. They are generally divided into two groups, the superficial, which passes to the axilla, and the deep, which follows largely the branches of the internal mammary artery and goes to the anterior mediastinum. The axillary glands may be divided into three chains. The first, or superior, lies along the lower border of the pectoralis minor muscle, and is in relation with the long thoracic vessels.

It receives most of the lymphatics from the upper and outer portion of the mammary gland, the front of the chest and from the abdominal wall above the umbilicus. The second or middle chain is situated in the adipose tissue of the axilla and on the inside of the axillary vein. It receives the lymphatics largely from the upper extremity, and the efferent vessels from both the superior and posterior chains. The posterior group lies along the posterior border of the axilla in relation with the subscapular vessel. It receives the lymphatics from the scapular region of the back and from the inner and lower quadrant of the breast. The deep lymphatics of the gland anastomose freely with the superficial and with those from the pectoral fascia. Some of these vessels from the outer side go to the axilla, while others accompany the intercostal vessels and enter the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. Amer. Jour. Med. Sci., July, 1898.

right lymphatic or left thoracic duct. The deep lymphatics, which originate in the inner hemisphere of the breast and in the inner portion of the pectoral muscles, penetrate the second, third and fourth intercostal spaces and communicate with the glands, six or eight in number, which are situated along the internal mammary artery.

LYMPHATICS OF THE LUNGS.

There are two sets, the superficial and deep. The superficial is placed beneath the pleura as a minute plexus covering the outer surface of the lung, communicating freely with the pleural cavity, and invading the interlobular tissue. It terminates at the root of the lung in the bronchial glands. The deep set commences in the mucous lining of the bronchial tubes and accompanying the vessels terminates in the pulmonary lymphatic glands situated along the walls of the small bronchi and in the angles of their subdivisions. There are about forty glands in the right lung and thirty in the left. Efferent vessels from these pulmonary glands join with the superficial lymphatic vessels and end in the bronchial glands. The efferent vessels from the bronchial glands communicate with the mediastinal glands and traverse the tracheal and esophageal glands, terminating on the right side in the right lymphatic, and on the left in the thoracic duct. There may be, then, a direct circuit of lymph by retrograde action from the neck and axilla to the breast, and from the lungs, pleura and pulmonary and bronchial glands through the mediastinal glands and their lymphatics along the branches of the internal mammary artery to the breast. The arteries which supply the breast are from the thoracico-acromialis to the upper lobes, from the long thoracic and external mammary to the outer lobes, and from the anterior intercostal and perforating branches of the internal mammary to the inner lobes. Each gland consists of from fifteen to twenty tubo-racemose glands bound together by connective tissue and united into a hemispherical mass by adipose tissue. Each lobe has its own excretory duct. The acini, either sacular or in the form of tubules, are grouped together to constitute lobules. They are limited by a distinct membrane and lined by either columnar or polyhedral epithelial cells. The blood vessels run mostly in the superficial tissues radiating toward the areola, and from these vessels branches penetrate into the glandular mass and pass between the lobules, giving off twigs which break up into capillaries enclosing the alveoli. Naturally, then, if the bacilli are brought by the blood vessels to the gland they would become implanted on the alveoli or they might pass through their walls into the interior. The latter unquestionably may occur, and does during lactation. If the bacilli are arrested in the capillaries the tubercular process set up would be an interacinous one. If they pass into an acinus or duct and become arrested the infectious process would be within the acinus or duct. The lymphatics also run in the connective tissue stroma of the gland and commence as a network of capillaries within and around the lobules. Their radicles have practically the same distribution as have the capillary blood vessels. In consequence of a retrograde action in the lymph current the bacilli would also become implanted about the acinous wall, or possibly carried into its interior.

PATHOLOGY.

The bacilli being implanted within the tissues of the gland set up an irritation which is followed by the usual pathologic change. Round cell infiltration occurs with the formation of epithelioid and giant cells. The bacilli are often to be found in the exudate, while tubercles or tubercular masses with caseation or pus formation often occur. It is characteristic of those cases which remain for a long time as hard nodes for the microscope to show the formation of a large quantity of interacinous connective tissue. In a considerable number of my cases some of the hard nodes were made up largely of dense fibrous tissue situated between sparsely distributed acini. In these cases there will be areas of distinct caseation or those in which giant cells are to be found or the bacilli of tuberculosis and even in some in which these conditions are not demonstrated the axillary glands will show caseation and the bacilli of tuberculosis. In cases in which the infection is directly through the milk ducts or glandular structure, the process, aside from its situation, will be much the same as before with the exception that in a considerable number of these pus may be forced from the abscess cavity by pressure along the ducts and from the nipple.

SYMPTOMS AND COURSE.

The clinical picture presented by a tubercular process within the breast is a variable one. It will depend largely on the stage of the disease during which the examination is made, on the number of foci primarily infected, and also on the fact as to whether the process is primary or secondary. In many of these cases, as can be readily appreciated, the primary disease will be of such importance or severity that the condition of the breast, even if severe, will be of little or no moment. The patient's attention may first be called to the process by pain which is usually early experienced, pretty continuous and has a dull, heavy, aching or burning character. Not unfrequently, however, the pain is scarcely noticeable, and the patient's attention is first attracted to the breast in consequence of finding therein a node or nodes. These nodes, and there are usually more than one, are reasonably hard, not very sensitive and quite irregular. They can not be distinctly separated from the glandular structure, and ordinarily vary in size from that of a hazel nut to half an inch or an inch and a half in diameter. They are very seldom round, but are flat or have a very irregular contour. These nodes are often distinctly separated, but still lie in the same quadrant of the breast. The fact of their being multiple nodes is a characteristic of the disease. The gland as a rule is not enlarged, and on simple inspection nothing may be seen. The axillary glands during this early stage are enlarged and may be palpated. As the condition progresses the nodes increase in size, though very slowly, possibly coalesce, become more elastic, and finally impart a sense of fluctuation. They may become adherent to the skin and the contents of the abscess be discharged through a fistulous tract. Occasionally several fistulæ are formed in consequence of the breaking down of many nodes. While ordinarily the gland is not enlarged during the first stage of the disease, later, if pus in any considerable amount is formed, the breast becomes noticeably enlarged. If the process is situated near the posterior surface this may become attached to and quite immovable from the pectoral fascia. The nipple, in a goodly number of cases, is retracted.

DIAGNOSIS.

The diagnosis will depend on the antecedents and appearance of the patient, the history of the case and the physical examination. The antecedents will often show scrofula or tuberculosis. The appearance is often that of a thin, anemic, weakly woman of lessened resist-

ance, while the history may establish the probability of tubercular processes in other parts of the body. The examination will usually disclose, if made before the formation of an abscess, one, more frequently two or three, quite hard, very irregular, well defined, not specially sensitive nodes which are inseparable from the glandular structure. The axillary glands are enlarged—it is stated in two-thirds of the cases—and the nipple often retracted. When pus has formed the use of the hypodermic needle and the microscope will materially aid in establishing the diagnosis. When fistulæ have formed, the process being chronic, the diagnosis is easy. The process must be differentiated from scirrhus, actinomycosis, benign growths and from cysts due to chronic inflammatory processes. In scirrhus the patient is usually more than fifty years of age. The node is single and harder than in tuberculosis. The history of the cases and the cachexia are different. In actinomycosis the thickened, indurated, leathery skin, the yellow granules and the use of the microscope will establish the diagnosis. In benign growths, such as fibroids, the fact that they are usually single and distinctly encapsulated without enlargement of the axillary glands, will be sufficient to distinguish them. Multiple cysts, especially when of small size and due to a chronic inflammatory process, present the greatest difficulties perhaps in the way of diagnosis. Many of these small cysts are not to be differentiated by touch from solid nodes. In these cysts, however, the axillary glands are not usually enlarged, the history of the case is often different, and the use of the hypodermic needle will afford valuable assistance.

I have been able to find scarcely more than a dozen cases reported up to date in the United States, and believing that very many of the cases of chronic mastitis and most of those of chronic abscess of the breast are really tubercular, to say nothing of those cases in which there are distinct nodes running a chronic course, I am forced to the conclusion that in the past there has been in the great majority of cases of tuberculosis of the mammary gland a failure to make a diagnosis.

REPORT OF CASES.

Seven cases of tuberculosis of the mammary gland, all in females, have come under my observation during the past two years. Five of these patients were single. Of the two who were married but one had borne children. In three cases both breasts were affected.

CASE 1.—The first patient was 35 years of age and single. She had noticed for a year and a half an enlargement first in the right and then in the left breast. In placing the palm of the hand flat against the gland many small indurations could be felt. These seemed of considerable size when the breast was pinched up between the thumb and fingers. The nodes were hard, irregular and reasonably well defined, but seemed to be a part of the glandular structure. The axillary glands on both sides were implicated. The nipples were not retracted. The patient's condition, aside from this, was reasonably good.

Both breasts and axillary glands were removed. The breasts were found dotted with small circumscribed abscesses, which in some cases were directly connected with the ducts and in which the bacilli of tuberculosis were demonstrated to exist. Patient made a good recovery. In this case there was nothing in the patient's history or antecedents indicative of tuberculosis and there were no other foci anywhere in the body which could be detected.

CASE 2.—An unmarried woman, 30 years of age, with a predisposition to tuberculosis, noticed seven months previous to examination, a gradually increasing, hard swelling in the right axilla. Latterly the swelling had occasioned such extreme pain in the right arm that it was scarcely endurable. During the past two months several small, hard, well circumscribed indurations could be felt within the breast structure.

The breast was excised, and with it the major portion of the pectoral muscles. An abscess of considerable size situated in the axilla and adherent to the pectoral muscle was unavoidably broken into. A large number of axillary glands were so intimately adherent to the axillary vein that excision of a portion of the vein was necessary. This was done after double ligation with catgut. The glands and abscess were causing severe pressure on the brachial plexus, some of the smaller branches of which were excised with the abscess. The breast was found on multiple incision to contain a large number of small collections of pus, many of which were not larger than a pea. Some of these were in direct connection with the ducts. The patient had never complained of anything more than an occasional burning pain within the breast.

Patient's family history was as follows: Her father was drowned, mother died of pneumonia at an advanced age, an uncle and a cousin died of consumption. There were three children, all of whom are living. The glands of the axilla showed numerous tubercular bacilli as well as many points of caseation. The process in the breast in this case was evidently secondary to the infection of the axilla.

CASE 3.—Mrs. R., aged 40, mother of three children. Very spare in figure, anemic, presents the appearance of one having but slight physical resistance. In her family history a relative of her father was supposed to have died of tubercular peritonitis, while a brother had his leg amputated for tuberculosis of the bone. After the birth of her third child eight years previously she suffered from a mammary abscess, and has been since in poor physical condition. For the past few months the patient had noticed a small, hard lump in the left breast. At the time of the examination there were two very noticeable, quite hard, reasonably well-defined nodes which evidently were inseparable from the glandular structure. One was in the upper and the other in the lower quadrant of the left breast. In the right breast there were also two or three indurations. From one of these, when pressure was made, there was a discharge from the nipple. The nipples were not retracted. The glands in both axilla were enlarged.

The breasts and axillary glands were removed. The pathologic findings showed that the glands were tubercular. The patient, one year after the operation, shows indications of pulmonary disease.

CASE 4.—An unmarried woman, aged 31, had been for several years in delicate health in consequence of a chronic uterine and ovarian inflammation. She had worked hard as a nurse and was thin in flesh, debilitated and anemic. Her family history shows the father and mother to be living and well. There is no tuberculosis in the immediate family. A brother of the father and a sister of the mother, however, died of consumption. For four years patient has noticed a gradually-increasing enlargement in the right axilla. For a few months there has been some soreness and hardness in the right breast with slight fever. The axillary glands have caused the patient a good deal of pain. In the breast there is an illy-defined, not well circumscribed induration situated in the upper quadrant. If the breast is picked up between the thumb and fingers there is a marked induration.

The breast and axillary glands were removed. The breast, on incision, showed that the hardened area had undergone caseous degeneration. The axillary glands were found to extend along the vessels filling more or less the axillary space as far as the clavicle, making a section of the pectoral muscles necessary in order to remove them. Many of the axillary glands were in a state of caseous degeneration, and contained bacilli in large numbers. The patient, since the operation, has shown decided improvement, and although at times annoyed by a cough she has gained in flesh and strength.

CASE 5.—A single woman, aged 44. Father and mother lived to be old. No tuberculosis in family. Patient had a severe pulmonary hemorrhage twenty years ago and a second one year ago. Both from the right lung. In the right apex there is prolonged expiration with much rattling and a decided dull-

ness. There is considerable cough and some expectoration. The latter contains tubercle bacilli. During the last eight months there has appeared in the left breast, just above the nipple, a mass two inches long by half an inch in thickness. This area is quite hard, and from it several strands pass out to the border of the breast, while two or three run in toward the nipple. The axillary glands are enlarged. Patient, although having some continued fever, looks comparatively well.

Operation was not advised on account of the condition of the lung.

Case 6.—Female, aged 30, of spare figure, is anemic and not strong. Never, however, has suffered any serious illness. Family history good. For several months she has noticed hardened areas in both breasts. The condition has caused a good deal of anxiety and the patient has apparently lost flesh and strength. Has no cough. On examination there are several indistinct and separate hardened areas in each breast. Nipples not retracted. Glands in both axillæ enlarged.

Axillary glands and breasts removed. Sections show hardened areas in the breast and the axillary glands to contain caseous material in which the bacilli of tuberculosis are found.

Case 7.—Female, aged 36. Married nine years; never pregnant. Spare in figure, weak and anemic. Never has been ill. Family history good. She has noticed in the right breast more or less of pain for the past three months, also a swelling, which has gradually increased in size. At the time of examination there was a reasonably soft, fluctuating growth the size of a hen's egg situated in the upper and outer quadrant of the gland.

The mass was only mildly sensitive on examination. There were also several small indurations in the breast. The axillary glands were distinctly enlarged. Patient's temperature was not above 99. In the outer quadrant of the left breast there was also a soft, not well-defined and fluctuating mass as large as a small orange, while directly above the nipple were two hard and not well-defined indurations. Glands in both axillæ were enlarged.

The patient refused to have the breast entirely removed, consequently free excisions were made of the fluctuating masses, these excisions being made to include the indurated areas. In cutting across the ducts many of these were seen to be in intimate relation with the abscess cavities and to contain pus. The pus in both cavities was found on microscopic examination to contain the bacilli of tuberculosis.

Of these seven cases two were secondary to tuberculosis of the axillary glands, while one was secondary to tuberculosis of the lung. Of the six cases operated on five seem to have completely recovered.

TREATMENT.

This will depend largely on the general condition of the patient and the extent of the disease in the breast. If the process in the gland is secondary to a severe and non-curable condition situated elsewhere in the body nothing more than palliation should be practiced. If the infection in the gland is secondary and the primary focus not severe or amenable to treatment, then there should be an effort made to eradicate the infection in the gland. If there be but a single collection of pus without adjacent nodes, indicating but a single focus of infection, the abscess may be incised, washed out thoroughly, curetted and drained. This course has been successfully practiced, and is recommended by Warren. If multiple foci of infection exist, and they are confined to a single quadrant of the breast, this portion may be excised. It is, however, the better practice where dissemination has occurred to excise the entire breast. If the axillary glands are implicated, as they usually are, they should be removed.

CONCLUSIONS.

Tuberculosis of the mammary gland is not an unfrequent condition, but one which goes unrecognized. The process may remain for months, and even years, in the form of hard, irregular, reasonably well circumscribed nodes. Liquefaction and pus formation are secondary and later processes. Tuberculosis of the breast occurs with especial frequency during menstrual life. It occurs with greatest frequency in single women. The condition is more often primary than has been generally supposed. The tubercular infection often implicates both glands nearly simultaneously. Palliative treatment may be practiced when the process is circumscribed. When the processes are diffuse radical measures should be recommended.

DISCUSSION.

Dr. B. B. Davis, Omaha—A case under my observation had a very large tumor and the axillary glands were considerably involved. At one point in the breast there had been a perforation and fistula with a history of considerable material being discharged, which under microscopic examination was demonstrated to contain tubercle bacilli. In the other case, I think I should have erred had I not recently read a very able article by a German operator, in which he discussed in detail the operation. This was in a comparatively young woman, about 30 years of age, if I remember rightly. Although there seemed to be one nodule, it was separate and I found on examination that it consisted of three different nodules, agglutinated and in a state of degeneration. All I did was to excise that portion of the process containing the nodules. There was no enlargement of the axillary glands and the patient recovered. In the other case I did the same kind of an operation that I should have done if the case had been carcinoma of the breast.

Another point is in regard to the temperature. In these tubercular cases which have existed for any considerable length of time we nearly always have some rise of temperature in the evening, and frequently subnormal in the morning, and this was particularly characteristic in the first case I mentioned. I have been under the impression that a good many of these cases in which there is a hard nodule of the breast and the breast is removed, supposedly as a carcinomatous case, are in reality tubercular, and I believe tuberculosis of the mammary glands is a much more common condition than is generally supposed.

Dr. T. J. Sullivan, Chicago—There is no reason why tuberculosis should not be found in the mammary gland, just as it is found in every other portion of the body, and I believe that there is no tissue of the human body that is not liable to be infected. I think we can even go further and recall the statement of some of the authors that the tubercular germs in a greater or lesser number exist in all our bodies and that sooner or later we may, any of us, have it. That being true, we may find the tubercular germs in any portion of the body.

I had a case of this condition occurring in a woman, of average health, mother of ten children, who had always enjoyed good health, and had been compelled to work hard to maintain the family. She had had swelling in the breast, appearing about six months previously, after working hard. Previous to presenting herself to me for examination she had been examined by a physician, who informed her that she had carcinoma. The appearance would indicate that she was suffering from carcinoma. I placed my hand on the breast immediately over the tumor and detected a small, hard nodule. In presenting her to a class of medical men the following diagnosis was made: Retraction of the nipple; hard nodule; no axillary enlargement; healthy and well; no pain.

She was kept under observation for a couple of weeks, at the end of which time the nodule had enlarged slightly. I then was in considerable doubt as to the nature of the tumor and removed a small wedge under local anesthesia. Pathologic examination of this wedge revealed the fact that it was due to an inflammatory process. I then decided to remove the whole breast in a radical operation, including the axillary glands. I did so, and the appearance of the nodule presented to my mind the appearance of scirrhus of the breast,

and a good pathologist who was present at the observation said that undoubtedly it presented all the appearances of scirrhus. The operation was complete, however, without further attack on the axillary glands, and subsequent pathologic examination revealed marked tuberculosis, which healed rapidly.

It is time to call attention to this subject and give these patients the advantage of early operation.

DR. WILLIAM KNIGHT, Hartford, Conn.—Just a little criticism of one point in regard to abscess. Dr. Levings said you could open the tumor and drain thoroughly. The tendency in treatment of those cases is to prevent absorption. It seems to me that it is folly to interfere with it. It also seems to me much better to open it and drain thoroughly with plenty of absorbent cotton. I think we will get much better results by the treatment of abscess in this manner.

DR. ANDREW W. MORTON, San Francisco—I have had experience with only one case which puzzled us considerably. We used the tubercular serum to make the diagnosis, and got the characteristic reaction which we usually get in using this serum where there are tubercles. After the removal of the gland the microscopic examination showed the diagnosis to be correct.

DR. A. H. LEVINGS, Milwaukee—I may add that one additional case has come under my observation since this article was written. Of my cases of tuberculosis of the mammary gland one was secondary to a tubercular process of the lungs, while two were secondary to tubercular processes in the axilla. The others, so far as I was able to determine, were primary within the breast itself. In some of these I think the infection was through the milk ducts. In others the infection was through the circulation, arterial or lymphatic. I am very confident that we have been mistaking these cases for carcinoma because the two conditions may present practically the same symptoms, in that there is a hard nodule, retraction of the nipple and enlargement of the axillary glands.

In regard to the treatment of opening and curetting an abscess, I am of the opinion that in a case in which there is but a single abscess with no out-lying nodes, this treatment may be recommended, and probably will, if properly carried out, result in a large number of cures. This, in fact, is the treatment generally which we are accustomed to follow in cases of tubercular abscess.

ABSCESS OF THE SPLEEN.*

WALTER M. SPEAR, M.D.
ROCKLAND, ME.

Abscess of the spleen is rare, and when a case falls into our hands and is operated on successfully, it is worthy of record.

About the middle of May, 1901, I was called to see Mr. A., and obtained the following history:

History.—American, age 74 years, weight 211 lbs. Family history: Mother and one sister died of consumption. Father died of some brain trouble. Previous history: Has had two severe falls, the last one two years ago, from which he never fully recovered. Jan. 10, 1901, was seized with a severe attack of influenza, which completely prostrated him. At the end of three weeks the temperature and pulse were normal. He has never lived in a malarial district and has never suffered from typhoid or malarial fever. Since the beginning of his sickness he has constantly lost in weight.

Present Illness.—Patient in bed, anemic, covered with a cold perspiration, very nervous, anorexia, night sweats, slight constipation. Complains of numbness in legs and feet, slight though constant pain in left thorax just above lower border of ribs. At times he is pressed for breath, which appears to be due to his nervous condition.

Physical Examination.—Temperature normal, pulse 100, weight about 175 lbs., heart's action very feeble, slight tenderness on deep pressure under lower border of ribs on left side, reflexes normal. I thought that his condition was due to the severe attack of influenza which he experienced. Gave him strychnin and tonics. The improvement in his condition was marked, so much so that in a few days he was up and downstairs. I did not see him again until May 30, 1901. His physician then stated to me that the patient, while being carried upstairs on his son's back the night before, cried out that something had given way in his left side and that he was very faint. He was immediately put to bed and stimulants administered, to which he at once responded. I saw him the next morning and found his pulse 64, and temperature normal. He was very nervous, had a sallow cachectic look, and had lost a great deal of flesh. He complained of constipation, and of severe pain in left hypochondrium. Some edema of legs and ankles was present. His heart was much stronger. Hard tumor in left side extending above lower border of ribs, tender, no fluctuation, urine negative. I considered the tumor malignant, which diagnosis was coincided in by several physicians. Advised exploratory laparotomy.

Operation.—June 8, 1901. On examination under ether I found a hard, non-fluctuating tumor extending from above the lower border of the ribs downward to the crest of the ilium and inward to the linea alba, smooth, most prominent just below ribs. Incision made over most prominent part of the tumor. Found an enlarged spleen very dark in color, which was bound down by numerous adhesions. The anterior surface was comparatively free. Anterior wall of abscess thick, posterior wall very thin, indicating that it would have soon ruptured, allowing contents to escape into abdominal cavity. Because of the thinness of the wall and the numerous adhesions I considered an attempt at removal dangerous. Walled off with gauze and made an incision into the spleen through which was evacuated two quarts of creamy pus mixed with a little blood and cheesy-looking material. Cavity curetted, washed out and spleen sutured to abdominal wall with chromicized catgut, iodoform gauze drain. Convalescence rapid and uneventful and in five weeks he was up and dressed. On Aug. 2, 1901, he suddenly became unable to swallow. Aphasia and hemiplegia of the right side appeared, and after this he rapidly failed and died Aug. 4. 1901. Unfortunately an autopsy was not obtained.

Report of Dr. C. D. Smith, who made an examination of the pus: "I fail to find tubercle bacilli, yet the presence of calcareous material is strong evidence of that nature of the abscess. It contains a multitude of lymphoid cells, much pus, a few crystals of hematoidin showing that there has been a hemorrhagic area in the organ or an embolus, and a few bits of characteristic yellow elastic tissue and fragments of spleen tissue."

Several cases of abscess of the spleen have been reported in which the pus was sterile, and from the absence of any previous septic condition, and the constant normal temperature, I am inclined to think that it was sterile in this case.

I ought to have made a correct diagnosis, but was led astray by the absence of fever, the slight pain, the rapid emaciation and extreme constipation. A blood count would have been of great assistance. Bessel-Hagen thinks the considerable increase of leucocytes in the blood of the greatest diagnostic significance.

The condition in this case was probably due to an embolus lodging in the splenic vessels which, on account of the slowness of the blood-current in terminal arteries, are peculiarly susceptible to the lodgment of emboli.

SUMMARY OF THE LITERATURE.

In looking over the literature on this subject, I have collected 65 cases, 23 of which occurred after an attack of malaria or typhoid fever, 1 after yellow fever and 3 after appendectomy. The others were ascribed to various causes, such as trauma, disease of heart, sudden chilling of the body after excessive heat, tuberculosis, anthrax, alcoholism and exhaustion. Eight cases in which the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

etiology was doubtful were probably due to malaria, and in eleven the etiology was unknown. Metastatic abscesses have been reported following osteomyelitis, gunshot wound of the knee and amputations.

Grand-Mourcel reports 57 cases, 20 of which were due to malaria; 9 of them diagnosticated, with 8 recoveries, while 11 were recognized only at autopsy. From this it would seem that more cases occur than we are led to believe, which are not diagnosed either before or after death.

ETIOLOGY AND DIAGNOSIS.

The hyperemia of the spleen during malaria and typhoid renders it particularly susceptible to inflammation and abscess formation. All writers agree that the diagnosis is extremely difficult. The chief diagnostic symptoms are history of infectious disease, pain in left hypochondrium which may radiate to left shoulder, night sweats, anemia, loss of appetite and usually chills. Fever may or may not be present; if present, it is of little significance, as it may be due to the original disease. Occasionally extreme constipation is present, but more often diarrhea. Blood count shows increase of leucocytes (Bessel-Hagen). Tenderness on deep pressure usually present in the beginning of the attack. Fluctuation is of value as a diagnostic sign only in those cases which are palpable under the abdominal wall.

In such diseases as malaria and typhoid, in which there is commonly an increase in the size of the spleen, the increase alone is not symptomatic of abscess formation, but if the increase in dulness is progressive, and, added to this there are one or two or all of the above-named symptoms, it is at least very suggestive of abscess of the spleen.

If an embolus lodges in the spleen, it may be some time before any enlargement is apparent, and, in fact, I think that a small abscess may form in this way, become encapsulated, remain latent for a long time, and then either be absorbed or receive a severe blow or strain, which may cause a rupture of the capsule, after which a rapid increase in size of the spleen becomes apparent, or several abscesses may coalesce, forming one large abscess. I believe that this occurred in the case described above, and that the abscess ruptured into the substance of the spleen at the time he cried out, while his son was carrying him upstairs. From this time on the increase in size was remarkably rapid.

PROGNOSIS.

If recognized and operated on sufficiently early, the prognosis is fairly favorable. If not operated on, the abscess may rupture into a hollow viscus and the pus be evacuated by means of that organ. More often it will rupture into the peritoneal cavity and death ensue. Three cases among the sixty-five reported above recovered after rupture of the abscess, one opened into the cecum, one into the left lung, and one into the left lung and stomach.

Death of the patient can be attributed more often to the debility following such diseases as malaria, typhoid and tuberculosis than to the operation or the abscess itself.

TREATMENT.

This is purely a surgical disease. In a few cases splenectomy has been performed, but in order to do this operation successfully the diagnosis must be made very early in the course of the disease, before adhesions have formed. Bessel-Hagen states that splenectomy for splenic, perisplenic and parasplenic abscess was performed seven times, three up to 1890, four in 1891. The same author reports two cases of splenotomy in which the abscess was reached by resection of a portion of the ninth and tenth ribs. Lauenstein also reports one similar case. In the greater number of cases aspiration was first employed, then later incision through the abdominal wall. Splenectomy is the operation to be preferred, but it is limited to those cases in which adhesions have not formed, and to those in which there is no danger of infecting the peritoneal cavity. By this operation we remove the entire organ and its contents at once, thus giving a clean wound, and a much more rapid and satisfactory convalescence. Until we are able to make an early diagnosis, splenotomy is the operation of necessity, and it should be chosen in those cases in which there is great debility and in those in which the abscess wall is thin.

I do not believe that aspiration is necessary in the majority of cases, and its use should be condemned. We should be able to make the diagnosis without its aid, and it subjects the patient to one more chance of infection.

In the early stages of the disease, when the abscess cavity is small and the spleen has enlarged but little, if at all, it is very doubtful if the aspirating needle would throw any light on the diagnosis. Later, when the spleen has increased in size, and possibly fluctuation is present, its use is unnecessary and dangerous. If, after the exposure of the tumor, it is found to be very large, it is wise to aspirate before making a free incision into the spleen, thus diminishing the danger of infection.

CONCLUSIONS.

1. Abscess of the spleen is rare, but not as rare as we are led to believe.
2. It is most likely to occur after malarial or typhoid fever, because of the hyperemic condition of the spleen in these diseases.
3. Absence of fever does not preclude the possibility of an abscess.
4. Early diagnosis and operation are very essential, and give a fairly favorable prognosis.
5. Splenectomy is the operation of choice, but its application is limited.
6. Preliminary aspiration is an unnecessary procedure, and its use should be condemned.

ACUTE EPIPHYSITIS CAUSING A CONDITION SUBSEQUENTLY SIMULATING CONGENITAL HIP MISPLACEMENT.*

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OMAHA.

The writer uses the word misplacement, instead of dislocation, agreeing with Tubby, who says that dislocation can not properly be applied to a condition where the bone never was in place; the word misplacement seems to be better suited to describe the congenital condition. Epiphysitis does, however, result in a dislocation, and the condition might therefore be properly called pathologic dislocation of the hip, resulting from epiphysitis.

May 12, 1902, a female child of 2 years was referred to me by Dr. McClanahan. It was delicate, but well nourished. Appearances indicated congenital misplacement of the right hip. Indeed, all the conditions were typical of this condition.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

The history, however, disclosed information which placed such a diagnosis in doubt. At 16 months, when the child had essayed to walk, she was normal, as far as the parents knew. At this time she suffered a severe attack of lobar pneumonia, from which she was convalescing when she had an abscess over the hip, which was incised. Resolution was speedy, and no trace was left on examination save a small scar one line in width and two lines in length, situated 3 cm. below and 1 cm. internal to the anterior superior spine. This history following pneumonia indicated that the abscess was pneumococcic. The history elicited from the attending physicians gave evidence of so speedy a resolution that articular or epiphyseal disease could scarcely be credited, though it was suspected. A periarticular suppuration predisposed by a misplaced hip, excited by the pneumococcus, was thought to be a possibility. The history gave no certainty as to the diagnosis of either congenital hip misplacement nor acute epiphysitis. There was now no evidence of hip disease. The limb was freely movable in all directions save abduction, which was somewhat restricted.

As before stated, the deformity was typical of congenital hip misplacement. A radiograph did not give information which would enable the inexperienced observer to make a differential diagnosis, but the writer ventures this observation, based on comparisons with a number

of radiographs of congenitally misplaced hips, all of which show a lesser space between the upper extremity of the femur and the pelvis. In fact, it may be said that the head of the bone invariably lies in contact with the ilium. The radiograph of the pathologic dislocation shows unusual distance between the pelvis and the thigh bone. This condition indicates not only absence of the head and neck of the bone, but an amount of soft tissue between the bones, which may explain why our best efforts at reduction are thwarted, except in rare cases.

In an attempt at reduction in this case by the Lorenz bloodless method, nothing could be accomplished. The absence of the head seemed to be strikingly apparent. The bone could not be impigned against the pelvis, as it can in cases for which reduction is ordinarily attempted. I was not satisfied with this attempt, however, neither were the parents, who were solicitous that everything be done to remedy the deformity and the disability. Therefore, the Lorenz-Hoffa cutting operation was done. The incision passed directly through the scar of the old incision, which enabled us to demonstrate the true character of the original trouble, i. e., a healed funnel-shaped depression over the capsular ligament indicated the site of the former sinus through which the destroyed epiphysis had been discharged in the form of pus and débris. A dissection into the former capsule showed this to be a closed cavity, practically a dense ligamentous structure, which precluded an approximation of the trochanters and acetabulum. I use the word trochanters advisedly, because none of the head, and practically none of the neck of the femur was demonstrable. The operation, therefore, was a failure. Literature furnishes abundant information on the occurrence of this condition, but little or nothing on the treatment of the deformity and disability. With the evident advancement in the treatment of hip misplacement, the writer has sought information from some of those who would be likely to avail themselves of anything offering encouragement in the handling of these perplexing cases. Wisner R. Townsend writes:

I have seen a great many cases and believe they should be treated as excised hips. Where there is no adduction and the upper end of the femur does not slip too much, a high shoe will suffice. If adduction exists I overcome it under ether, and put the limb up in marked abduction.

I have not treated any by the so-called Lorenz method, but could only believe it might be of use providing the upper end of the femur could be kept in the acetabular cavity, or in front and below the anterior superior spine, and a new socket thus formed with upper end of femur taking the place of the head, which has disappeared.

That these cases, when seen long after recovery, are very rarely correctly diagnosed is a fact, and I have had a number sent to me on the supposition that they were congenital dislocations.

Royal Whitman says:

I have performed both the open and the Lorenz method in these cases. The aim is, of course, to fix the femur in, or about, the acetabulum, that is, anterior to it, and to hold the limb finally for a long time in abduction and extension. One hopes thus to attain security.

One can hardly report on final results until many years have elapsed. My cases are still under treatment. Perfect cures are, of course, out of the question.

A letter from Professor Lorenz (whose work I had witnessed two years previously) replying to my letter requesting information along these lines, is of especial interest in this connection, and is as follows:

The diagnosis can always be made; the treatment can be the same as in cases of congenital hip dislocation, but never a perfect cure can be obtained. An improvement, however, is nearly always possible. Generally the head of the femur is more or less destroyed, sometimes nearly wanting, so that the upper extremity of the femur ends like a broomstick.

The first who called attention to these cases was my late master, Professor Albert. Reduction, as a rule, is scarcely possible; only one time I succeeded. In the other cases (they are rather frequent, these cases of pathological luxation after osteomyelitis or other infectious diseases), I change only the position of the leg, the flexion and adduction of the thigh being changed in an habitual abduction (lyorrhesis abductionem) and hyperextension of the thigh. I call this treatment, which is available also in other cases *die Functions verbesserung defecter Huftgelenke*. The condition for weight bearing is improved, the endurance in walking is augmented, but the limping will never disappear, although it can be lessened, too.

With this additional testimony, the writer would now be disposed to undertake this treatment, indorsed by practically all three of the distinguished authorities quoted, yet he would have reasons to doubt its usefulness in a case such as the one herewith reported. The treatment would seem rather severe to inflict, where so small a prospect of benefit is promised. The limp and disability, always unilateral in the cases, are really not so great as to be a serious handicap. Some years of experience will probably be necessary before the profession can decide fully the merits of intervention.

While the writer, with his limited experience, which was characterized by failure, would not desire to pose as a pessimist, yet it appears to him that the very nature of the anatomico-pathologic conditions present would seem to effectually preclude the possibility of successful treatment in many of these cases. That cases without too much destruction of the femoral head and neck will be improved by the approximation of the bone to the acetabulum, or placing it anterior and maintaining the parts in this position for a long time, as in congenital misplacement, seems not unreasonable, and, in view of the fact that nothing better is offered, should be tried.

That cases of epiphysitis occurring in young infants where the head and neck of the bone are largely cartilaginous and in a condition favorable to be destroyed completely, will leave a condition unfavorable to successful treatment, except as recommended by Townsend, i. e., as excised hips, by an extension sole to lessen the limp, and the inevitable scoliosis resulting from a tilted pelvis, would appear to be about all that can be done in some of these unfortunate cases.

Discussion such as is hoped to be elicited will favor a better understanding, perhaps, and tend to crystallize ideas relating to what now seems to be little understood generally and rarely practiced, save in the practice of a very few orthopedists.

DISCUSSION.

Dr. John Ridlon, Chicago—Some weeks ago Dr. Lord asked me for facts concerning this condition, and I told him that I had no recollection of any case, and, so far as I could ascertain, I had no record of any case that appeared to resemble congenital dislocation of the hip. By one of those curious circumstances two such cases have since come to me; one of them I have operated on and the other is waiting to see the results of the first operation. Both of the cases were in children and were of sudden onset, accompanied with great pain. Neither had had any abscess that was ever recognized or opened, and there were no scars. I was inclined to believe that it was a pneumococcus infection, and I was somewhat surprised at Dr. Lord's statement that his case was one of pneumococcus infection, and that there was an abscess, because I was under the impression that one did not get abscess in the pneumococcus infection. Now in these two cases the edge of the acetabulum was ragged and the greater trochanter was one-half inch or more above the upper border of the acetabulum, and the line of junction to the shaft where the neck had been was ragged. In the first case, a colored child, I found what I thought possibly was the shell of the former head of the bone, it being somewhat of that size and shape. Under an anesthetic I ventured to pull the leg down, so that the greater trochanter would be in the neighborhood of the acetabulum, and force it into the acetabulum, thinking that I might renew the inflammatory condition, and more likely cause the formation of adhesions which might result in permanent fixation. As I did the operation I could hear a crash, as though some partly diseased portion of the bone was being crushed. I could not make out whether it was the acetabulum or the greater trochanter. The patient has not recovered fully from the operation, but there is no pain, sensitiveness or temperature, and the patient appears to be perfectly comfortable.

The other case resembled the first exactly, excepting that the shell of the head was wanting, and there was a transparent area below the greater trochanter, as if the bone had been partly destroyed. I suggested in the second case the same operation as in the first. It seems to me that the only chance of securing satisfactory results is in pulling the greater trochanter down and placing it in contact with the acetabulum, holding it in place by mechanical appliances for many months and then, if necessary, putting on a leather support to hold it in place for many years. I do not think one should fear the inciting of undue inflammation, as it would seem by this inflammation we would get a greater degree of fixation and better results.

Dr. Wisner R. Townsend, New York—This paper, it seems to me, is particularly opportune, for the reason that the country is being scoured for patients with supposed dislocation that some surgeon may reduce a la Lorenz. The first question to be considered is that of diagnosis. If the diagnosis is correctly made the subsequent treatment may be correct. If it is incorrect it is very uncertain what the treatment may do. One point that seems to me of especial importance after the diagnosis, is the future of the child. I have had the misfortune to be able to follow some of these cases for ten or fifteen years, and those which were neglected were far worse off than those which were cared for. To my mind the points of most importance are to keep the thigh abducted and prevent irritation. The cases should be kept under observation for many years. The thigh can be placed in a plaster-of-paris bandage or a leather support or splints, if desired, and much good result. As far as reducing the supposed dislocation by the Lorenz method is concerned, I do not believe that we can accomplish much except by putting the bone in an anterior position. I have never seen a case of congenital dislocation in which you could not feel the head of the bone; sometimes it is very distinct, although deformed. In acute epiphysitis the head is almost entirely absent, and if the history of the previous abscess is secured it is a rather easy diagnosis to make. Without the head of the bone, of course, we can never have as perfect motion as in the normal child, and no method of treatment can restore the head.

Dr. John P. Lord, Omaha—Just a word in regard to the pneumococcus. As I have said, this condition was only suspected because the child had pneumonia. It occurred after the child was convalescing and, of course, a mixed infection might have caused the suppuration and the discharge. The remark made by Dr. Ridlon that pneumococcus infections of the joints do not terminate in abscess would tend to confuse us, if we continued to depend on the presence of the scar for diagnosis. The writer felt somewhat backward about bringing before the Section a subject which was so rare and of so comparatively

little general interest, because I find that very few are informed outside of those working in special lines, and even these are undetermined. It is, therefore, very important, as Dr. Townsend suggests, that this matter be discussed at this time, in order that we may get our minds clear on this subject.

THE TREATMENT OF UNCINARIASIS.*

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The treatment of uncinariasis may be considered under three headings: First, the prophylactic treatment, or that directed toward the prevention of infection by the hook-worm; second, the means used to cause the expulsion of the parasite; third, the treatment of the anemia and debility resulting from the infection.

Prophylaxis is of very great importance, and is a subject which requires careful consideration. It seems probable that infection takes place chiefly through the mouth, either in infected water or food, or through contaminated hands, which carry the parasite to the mouth. Looss, however, has apparently proven that the larvæ may penetrate the skin. A possible entrance through the air passages has also been suggested, but does not seem probable.

A most important fact, and one which greatly simplifies the treatment of uncinariasis, is that there is no increase in the number of parasites in the intestinal tract of the victim. Each hook-worm is taken into the system in the larval state, and then develops into a mature parasite capable of producing eggs which must, however, be passed from the host before they can be hatched. Thus it seems probable that the removal of a sufferer from an infected locality to one free from infection would ultimately result in recovery, if the vitality had not been already too much taxed.

MODE OF INFECTION.

The eggs are deposited in the fecal evacuations, and are, under favorable circumstances, hatched in twenty-four to forty-eight hours. In the larval state they become scattered in water or soil, and are now ready to infect the host who swallows them, or whose skin they penetrate.

Since the primary infecting agents are to be found in the evacuations, the important question seems to be how best to insure their destruction before they become scattered in the surface soil.

Sandwith says "cleanliness alone is required," but this is not enough. Of course, washing the hands before eating would prevent a certain number of infections, but if we remember the possibilities of infection through the drinking water and in the use of raw vegetables, to say nothing of the theory which Looss has proven, of infection through the skin, it can readily be seen that washing the entire body several times a day would not suffice.

The first step, the all-important step, is toward the destruction of the eggs and larvæ. It is well known that the embryos can not live without air. In view of this fact, Sandwith[1] suggested that infected villages should be compelled to dig trench latrines outside the villages, to use the latrines alone, and to cover them daily with earth. Thus the larvæ, deprived of necessary air, would soon die and cease to be dangerous, and as a result the disease would in time be stamped out.

Sandwith would also insure the death of the embryos by exposing the latrines to the sun's heat, as they have been known to live in shaded earth contaminated by feces for more than six months. Giles (quoted by Sandwith) recommends ploughing the infected surroundings of villages, so as to bury the embryos.

Stiles[2] has advocated practically the same thing as has Sandwith for the localities in our southern states where uncinariasis is known to exist. He suggests the use of suitable water-tight receptacles for feces, which should be emptied frequently; that the people should be taught the necessity of making use of these receptacles at all times, instead of defecating at any convenient spot, where the eggs hatch and the larvæ become disseminated through the surface earth.

This education of the people can only be accomplished by the family physician. No matter what care is taken or efforts made to enforce such regulations, the stamping out of this serious disease is going to be a difficult and tedious problem, simply because its occurrence is almost exclusively among the most ignorant of our people. The discharges might be burned or disinfected by chemical agents, but these methods are not practical in the country districts where uncinariasis prevails. To me the use of trench latrines would seem to be the most practical method of disposing of the infected feces, as it would necessitate very little trouble and no expense, items which would naturally appeal strongly to the people.

THE MEANS USED TO CAUSE THE EXPULSION OF THE PARASITE.

As an anthelmintic in uncinariasis thymol has almost entirely displaced all other remedies. (The credit of discovering the cure of ankylostomiasis by thymol seems to be due to Bozzolo, in 1880.—Sandwith.) The most popular method of its administration is as follows: The patient is given a purgative the day before, and is placed on liquid diet. Thymol is then given in 15 to 30 grain doses (1 to 2 grams) for four doses, at intervals of two hours. If the bowels do not move spontaneously in twelve hours after the last dose, a purgative is given. If an alcoholic solution of thymol is used, the majority of the worms are passed in six to eight hours after the first dose. Therefore, the stools passed within this time are the most important to examine for the parasite. If alcohol is not used they are seldom seen earlier than twelve hours after the first dose.

Sandwith has found that 4 grams (3i) given in two doses of 2 grams (30 grains) each at 8 and 10 a. m. respectively, are quite as efficient as the use of 6 or 8 grams given in three or four doses at intervals of two hours, and are less likely to cause the symptoms of collapse. He also omits the primary purge as unnecessary and conducive to exhaustion, and gives a dose of sulphate of magnesia or castor oil two hours after the second half of the thymol. It has been found best not to repeat the treatment more frequently than once a week unless there should be some specially urgent reason for a rapid expulsion of the parasites. This method and dosage, I think, will be found most satisfactory.

The fact that thymol is poisonous must not be lost sight of, and the patient should be carefully watched. Some authors have cautioned against the use of alcohol, ether, turpentine, chloroform, oil, glycerin and certain

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

1. Observations on 400 Cases of Ankylostomiasis, 1894.

2. Report on the Prevalence and Geographical Destruction of Hookworm Disease in the United States, 1903.

alkaline solutions during the administration of thymol because of its solubility in these media, thereby increasing the danger of rapid absorption and consequent poisoning. Other writers, however, advise the use of alcoholic stimulants, on the ground that the depressing effect of thymol is best combated by this remedy. No less an authority than Sandwith says: "Warned by the death of at least one of my patients immediately after digesting the thymol, I have always administered to feeble men 25 grams of brandy with each 2 grams of thymol, with the happiest results."

Stiles and Pfender in 1902 performed a number of experiments on dogs with thymol in various forms. From these experiments Stiles concludes by saying: "I am afraid of the use of alcoholics per os during treatment, and in the case of weak patients I should be more inclined to use a stimulant hypodermically than run the risk of dissolving the thymol too rapidly, or in too great quantity at one time."

Since thymol is the accepted anthelmintic in the treatment of uncinariasis, and as there seemed to be some difference of opinion as to the safety of its use in alcoholic solution, I instituted a short study of its action on dogs. I regret to say that time did not allow of as complete an investigation as I would have wished before the presentation of our conclusions before this Association. I hope, however, that a few facts of value have been determined.

The work has been carried on by E. E. Butterfield, a fourth-year medical student in the Columbian University and pathologic interne at Garfield Hospital, to whom I wish to express my thanks.

EXPERIMENTAL WORK WITH THYMOL.

Thymol was administered in powder, in alcoholic solution, rendered bland by the solution of olive oil, and hypodermically. Space does not allow of a discussion of previous observations upon the physiologic action of thymol; it suffices to say that our results did not agree in all respects with those of other investigators.

Thymol given in dry powder in small doses (2 grams) caused salivation, and later slight diarrhea. No marked or constant effect upon the temperature, pulse or general condition. Large doses (5 to 20 grams) cause profuse salivation, later vomiting, anorexia, disinclination to move unless aroused, diarrhea and slight elevation of temperature (0.5 F. to 1.0 F.), the latter appearing six hours or longer after the dose and lasting from twenty-four to forty-eight hours. Prolonged feeding in ascending doses of 2, 3, 4, 5, 6, 7, 8, 9, 11, 14 and 20 grams during four weeks caused no loss of weight, the weight of the dog on which this experiment was tried having risen from 22 to 26 pounds during the course of treatment. Eleven grams of the dry thymol is, apparently, not a dangerous dose to dogs of 22 pounds or more, if given carefully and after a meal. Four dogs were used in these experiments without a death.

Thymol Given in Alcoholic Solution.—Alarming symptoms immediately following the administration of the alcoholic solution of thymol to dogs, seem to be almost always, if not invariably, due to aspiration of the irritating solution into the lungs. In seven dogs to which an alcoholic solution of from 2 to 10 grams was given an extensive consolidation of lung tissue was the only significant lesion.

If aspiration of the alcoholic solution of thymol occurs the symptoms are immediate. In a few seconds the dog staggers, seems unable to stand, and in a few minutes develops general convulsions with unconsciousness. The temperature falls 1 to 3 F., pulse and respiration become rapid, pupils are widely dilated, and respond sluggishly to light. Convulsions last from five to fifteen minutes after consciousness is regained, the temperature rises slowly, and in from six to twenty-four hours reaches a point 1 to 2 F. above the normal. This elevation persists for a number of days. A persistent cough develops, a fremitus may be felt over the lungs, and râles are heard. If recovery takes place the dog regains his appetite in one or two days, the cough gradually abates and the temperature falls to normal. This occurred in two out of seven cases. In some cases there is persistent cough, elevation of temperature, loss of appetite and emaciation which would probably end fatally if allowed to do so. Three out of seven presented these symptoms, but were killed on the third to the tenth day after dosage, extensive lung lesions being found at the autopsy. Of the remaining two, one died almost immediately, the bulk of the dose having entered the lungs, none being detected in the stomach (the stomach tube had accidentally entered the trachea). The other, though not very sick, was killed four hours later to ascertain the early changes in the gastrointestinal tract.

Of the seven dogs experimented on, two recovered, and at the end of three weeks were apparently well, save for a slight cough; three would probably have died; one died; the remaining dog would undoubtedly have recovered, as the lung lesions were not extreme.

In conclusion it may be said that doses of 2 grams or more in alcoholic solution are unsafe for dogs, owing to a tendency to aspiration pneumonia.

Thymol in Alcoholic Solution Rendered Bland by the Addition of Olive Oil.—To avoid the irritating effect of the alcoholic solution, the drug was dissolved in alcohol, and enough oil added to render the mixture non-irritating, as tested by taste. Four grams were then given successfully to dogs of 16 to 17 pounds, without depression or fall of temperature. Six grams were given to a 17-pound dog, with a resulting fall of 2 degrees of temperature four hours after the dose was given, and lasting for six days, with depression, anorexia, diarrhea with bloody stools, emaciation (8 pounds lost) and coldness of the surface and extremities.

The autopsy, performed six days after the dosage, showed extensive subacute gastrointestinal inflammation with only two pea-sized areas of congestion at the base of the left lung.

Conclusions: Doses of 2 to 4 grams of thymol in alcoholic solution rendered bland with oil are safe for dogs of 17 pounds or more.

Thymol Hypodermically.—One 16-pound dog was given an alcoholic solution hypodermically to determine whether any toxic symptoms would develop from this manner of administration.

Ten c. gm., 0.20 gm., 1.00 gm. and 1.00 gm. repeated were given at intervals of one or two days without any apparent effect, except inflammatory swelling at the site of injection. Autopsy was performed one week after the last dosage. No pathologic lesions were found, except congestion of the lungs, which may have been produced during the process of anesthetization, which, in this case, was attended with considerable difficulty.

Autopsies on Eight Dogs.—Microscopic examination of the viscera of eight of the dogs to which thymol had been administered showed no changes which were not attributable to the local irritative effect of the drug. The liver, spleen, kidneys and heart muscle were normal. The changes in the lungs varied from intra-alveolar hemorr-

hage to bronchopneumonia in cases where aspiration had occurred. The condition of the stomach and intestines varied from mild congestion to marked inflammation, most intense after the administration of the drug in alcohol and oil; least intense after the dry. The probable reason why the inflammation was not so marked after the administration of the simple alcoholic solution was that it was so irritating that much of it was drawn into the lungs by the violent coughing it caused. In no instance were albumin or casts found in the urine at autopsy.

CONCLUSIONS.

1. The alcoholic solution of thymol is dangerous to dogs, even in small doses, chiefly because of its tendency to produce inflammation of the lungs by aspiration.

2. The alcoholic solution, even when rendered bland by the addition of oil, is dangerous in doses of more than 4 grams to dogs of 16 or 17 pounds, because of its irritative effect upon the gastrointestinal mucous membrane.

3. In dry powder the drug may be given to dogs in large doses without serious results, no depression, no fall of temperature.

4. Gram doses given hypodermically cause only local inflammation.

5. There is probably no danger in giving 2 to 4 grams, followed by 1 to 2 tablespoonfuls of brandy, to an adult human being, if followed in a few hours by a purgative such as castor oil or magnesium sulphate.

6. It is probable that the alcoholic solution obtained in this way would be more efficacious against the parasites, as seems proven by their much earlier appearance in the stools after the use of the alcoholic solution.

THE NUMBER OF DOSES REQUIRED TO EFFECT A CURE.

As to the number of doses of thymol which are usually required to effect a cure, I can not do better than to again quote Sandwith, who says: "In 184 patients I was able to prove the absence of worms by giving at least two, and sometimes more, doses of thymol after the last appearance of the parasite in the stools. The average number of doses required proves to be 2.6. Forty-two men were cured after only one dose, fifty-eight after two, forty-two after three, twenty-five after four, nine after five, and four after six doses of thymol. Two cases required seven attacks, and two others eight."

In my own case, after giving thymol at least nine times in a period of nine weeks in two doses of 2 grams each, separated by two hours, and followed by a purgative, there were found at the autopsy twenty-nine worms in the small intestine. This serves as a warning that in some cases the parasites are extremely difficult to exterminate, and require a prolonged course of treatment. The stools should be examined weekly for eggs, and as long as they are present the thymol treatment should be continued.

As to the resulting anemia and debility, a general tonic treatment with iron and abundance of good food and fresh air are indicated.

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DISCUSSION

ON PAPERS OF DRS. STILES, SMITH AND CLAYTOR.*

DR. W. G. HARRISON, Talladega, Ala.—After hearing Dr. Osler speak on this subject in his wards I felt sure that I saw some cases that were affected with hook-worm disease. When I came home a physician called attention to some suspicious cases at the Deaf, Dumb and Blind School. Several cases were found at the time the state medical association met with us, when Dr. Stiles was our guest. He confirmed the diagnosis in one of the four cases. A microscopic study of the case was not made until the early part of the last week. It was my purpose to treat the case with thymol, but at the suggestion of Dr. Stiles we gave them one or two remedies before resorting to thymol. These children were all in the schools. The youngest was 7 and the oldest only 18 years old. All were extremely anemic. No blood counts were made. Hemoglobin in the lowest was 25 per cent., in the highest 43 per cent. We were careful to make an accurate temperature record. The temperature of each of these patients was not much elevated. In four it was over 100 F., in three between 99.7 and 100 F. In only one was I able to demonstrate the malarial organism, so they could not have been due to latent malaria. In all cases there was a heart murmur, in three a systolic, in four an aortic. In four out of seven cases there was a marked pulsation of the vessels of the neck. It is rather an interesting point that Dr. Stiles himself recognized the disease in whites, but said he was not sufficiently familiar with its characteristics in the negro to recognize it. It was stated that it was likely one of the pupils would be affected with the hook-worm, and many students were examined and hook-worm disease found. Subsequently, in one of the schools, being unable to pick out the likely subjects, I asked the superintendent if there were any who appeared to be especially lazy, or any pupils who would not play, who would not take exercise, or frolic, or run or jump. He answered: "Yes, I have two boys who are so lazy that I can not get them to do anything." I examined those two and found the eggs in both. Three out of the seven cases I examined were among the blind. I saw two cases among the mutes. The peculiarity about the eyes was noticed. I had heard Dr. Welsh speak of the "stare." As soon as we were inside I said: "Doctor, I guess you will find the stare." Subsequently we went through the carpet factory and found in three out of seven cases the stare.

The treatment of these seven cases was as follows: Two were given four grains of calomel every three hours for four doses, and after a couple of days Epsom salts were administered. Twenty-four hours later the worms could be found in the stools. Then, for each patient, for two days, thymol was given in 15-grain doses at intervals of three hours. On the following morning there were found in the stools from 40 to 50 worms. The above was the treatment given in two cases. The third case was given 10 grains of salol every four hours for four days. No worms were found in 24 hours. In two days 10 grains of thymol were administered, and this patient passed 28 worms during the next 24 hours. In case four calomel, grains four, and santonin, grain one, were given every three hours until four doses were given. No worm inside of 24 hours. The next day two doses of 15 grains of thymol were given, and then there were passed between 60 and 70 worms. Case five fasted two days by accident, and this patient passed two worms before any medicine was given. That patient was given 10 grains of salol and 4 grains of calomel and 1 grain of santonin every three hours until four doses were given. This patient then passed 10 or 12 worms. On the succeeding day this patient was given 3 grains of thymol every three hours until three doses were taken, and on the following morning there was found in the stool 27 worms. Case six was given 15 grains of thymol every three hours for two days, and this patient passed a large number of worms, over 250, and probably four times as many more. Case seven had an incomplete record. He passed many worms.

DR. E. D. BONDURANT, Mobile, Ala.—My attention was first directed to the subject under discussion by a fellow practitioner in Mobile, Dr. W. T. Henderson, who told me of three cases which he had seen, and which from the peculiar edema shown he believed to be uncinariasis. The feces from those cases were submitted to me for microscopic examination, and in all of them I found the ova of uncinaria. Since then I have succeeded in interesting a number of my students and other doctors in the study of the disease, and have had a large number of fecal specimens sent to me for diagnostic examination. In this way I have already diagnosed more than

* The paper of Dr. Stiles appeared in THE JOURNAL July 18. The paper of Dr. Smith has not been furnished for publication.

fifty cases of uncinariasis in Alabama, chiefly from the counties of Mobile, Monroe, Escambia, Covington and Crenshaw, the greatest prevalence seeming to be in the sandy pine hill country west of the city of Mobile. In south Alabama there can be no question that the disease is more common on the sandy land than in the black lands or on dry formations. Uncinariasis is surely a very common complaint in our part of the world. It is rather a significant fact that in every instance in which uncinariasis has been suspected and fecal matter submitted for microscopic examination, I have been able to demonstrate the presence of hook-worm ova.

Being a neurologic specialist I have not had very great opportunity of studying the symptomatology and treatment of this disease, but during the past four months I have had to deal with uncinariasis as a complication or possibly causative factor in sundry cases of nervous disease. These patients, six or seven in all, have shown the anemia, listlessness and general mental and bodily enfeeblement already dwelt on by the authors of the papers under consideration, and all of them have been treated with thymol. The usual dose has been 60 grains, given in six capsules within two hours' time, preceded by calomel and followed by a saline. The results have been favorable without exception, numbers of worms being expelled and subsequent rapid improvement shown in the general condition of the patient.

Attention should, however, be called to the possible dangers of these large doses of thymol. One of my former pupils wrote me that he gave an 8-year-old boy 60 grains and came near killing him, the child passing into a conditon of coma with spasmodic movements and seeming at the point of death for hours; he was cured of uncinariasis, however.

Regarding the number of worms present, I know of one case in which a patient passed 953, and another instance, reported to me by Dr. Parker of Crenshaw County, in which "over 1,700 worms were counted, and there were more beside."

I have made careful examination of the blood in four cases, and in each one found a great diminution in hemoglobin percentage, with comparatively slight reduction in the number of red blood cells.

Now that Dr. Stiles has overwhelmed us with evidence and shown us how anybody can diagnose uncinariasis, we should not forget that the disease was recognized by Dr. Allen J. Smith ten years ago, when no one knew much about it, and its frequency was unsuspected.

Dr. C. A. Mohr, Mobile, Ala.—Unless one has had a case of uncinariasis one can not appreciate the great work accomplished by Smith and Stiles. We in Alabama can fully appreciate it, because they have been so plentiful there. For a long time we were unacquainted with the disease and were treating for this, that and the other thing, and especially for malarial anemia. In fact, the poor little devils have taken iron enough to build battleships, and without any effect on the anemia whatever. Only when our attention was drawn to the true nature of the trouble did we get any good results. The first case in Mobile was recognized by Dr. Henderson, and he made a diagnosis from the clinical symptoms only. The pulsations in the carotids, the intense anemia, the lowered amount of hemoglobin, the systolic murmur, etc., are all such striking symptoms. How the anemia is accounted for I am at a loss to say; I do not know whether it is due to the loss of blood, or whether it is produced by the toxemia, or possibly the secretions of the worms themselves. It is hard for me to believe from the amount of the anemia which is so intense as in chlorosis and the loss of hemoglobin, etc., that it is due to anything so far attempted in the way of an explanation. But I am sure that many cases of so-called "idiopathic anemia" will be found to be due to some parasitic disease.

Dr. G. W. McCaskey, Fort Wayne, Ind.—My experience is limited to but three cases seen in northern Indiana, occurring over one year ago. Two cases were in Syrians, and therefore imported, while the other was an American.

I wish to emphasize the importance of a routine examination of the feces, not only in hospital cases, as advocated by Dr. Stiles, but in private practice as well. For several years I have been in the habit of making this routine examination of feces in practically all cases. A number of writers think that it would not be necessary to do this; Ewald, Einhorn and others think it is not necessary. In 1895 I read a paper advocating this routine examination of the feces, and I have been keeping up such examinations ever since. It is not especially unpleasant; less so than sputum examination. My principal object in getting up to-day is to plead for this routine examination of the feces in all cases of obscure chronic nutritional diseases, in which, among many other things, important parasitic ova may be found at any time.

Dr. Claude A. Smith, Atlanta, Ga.—This disease is not especially confined to the sand belt; it is also found in the mountain regions. Through observations that have been carried on in Atlanta and adjacent territory, and especially by examination of students in the Atlanta College of Physicians and Surgeons and the Southern Dental College, I have traced the disease from the Carolinas to Texas.

Almost every country practitioner in the South sees every year any number of cases of anemia, and many of them of the profound type, which are often classed as malarial cachexia, and they have been treating these cases with quinin, iron, arsenic, etc., with only slight temporary improvement, and I have found many such to be cases of uncinariasis, and the treatment with thymol has given positive results, which were sometimes remarkable.

Since we have recognized in the South that this disease is so very common, the point which concerns us most at the present time is by what means does it reach the intestines. During my early observations I was inclined to the common belief that it is taken into the body in the drinking water, but later observations led me to the conclusion that the larvæ gain entrance through the skin of the feet, as first pointed out by Bently, producing the ordinary "ground-itch," which is so common in the South in the summer after a period of rainy weather. In fact, I have found that it is possible to locate cases of uncinariasis that you would not otherwise suspect by simply getting the history of the patient in regard to attacks of ground-itch, and I have found that every person who has had an attack of ground-itch within a period of seven or eight years has the uncinaria in his intestines.

My first experience with this disease was in December, 1901, when, on making a postmortem examination on a case which had died at the Grady Hospital in Atlanta, I found over 300 of the uncinaria in the small intestine, and on looking up the history of the patient I found that he was from Florida and had never been out of the South. As this case was evidently contracted in the South I naturally concluded that it must be endemic, and through the kindness of Dr. S. H. Green I obtained the stools of twenty convicts who work in the damp clay in one of the large brickyards near Atlanta, and of these twenty I found two cases of uncinariasis. These cases were reported by me at the session of the American Medical Association at Saratoga last year in the Section on Pathology and Physiology. Since that time I have found the disease to be so common as not to be practicable to keep a record of all cases.

The reason the full extent of the disease was not recognized sooner was because it is a disease of the country and not of the city, and it abounds under unsanitary conditions.

In regard to the systematic examination of the stools of all patients, as mentioned by Dr. Stiles, since the first case appeared at the Grady Hospital I have made a systematic examination of the stools of all patients, and during this time have found only three cases in the hospital. The rules of the hospital require that all applicants for admission must reside in the city, and this accounts for the small number. As I have mentioned before, you can locate the cases with a fair degree of accuracy by securing a history of the patient with reference to attacks of ground-itch within seven or eight years.

Dr. James B. Herrick, Chicago—I wish to call attention to the fact that although this is a disease of the tropics, we in the North should keep our eyes open for imported cases. This last year Dr. Capps of Chicago observed and reported

a case that came from Panama, and who reached Chicago after a prolonged stay in the hospital in New Orleans. In this case it is interesting to note the occurrence of 13 per cent. eosinophilia with very marked anemia, the large number of eosinophiles calling attention to the possible existence of an intestinal animal parasite.

DR. WM. BRITT BURNS, Memphis, Tenn.—I would like to refer to two cases which did not show uncinaria. The first case was an engineer who had been in a logging camp, sometimes having occasion to drive teams through lakes of mud. I had examined him a number of times for the malarial parasite, which I found, and thought he had a malarial cachexia. The man came to me in Memphis three months ago. He had fainted and I restored him in my office. He was then placed in the hospital. He had a very marked anemia. He did not remain long enough for me to make a complete blood count. The blood was found to contain the malarial parasite. He had no temperature at that time. The stools did not show uncinaria or other intestinal parasite. This patient had marked symptoms of sleepiness; he slept every time he sat down. He was an engineer at that time and when it was time for him to pull the cord attached to the whistle, on one occasion he raised his hand to pull the cord and went to sleep, and passed the station. He had some diarrhea alternating with constipation, and his bowels would gurgle, as he expressed it. He had some colic. The stools were white. I wished to get him for further examination, but could not.

The second case was a soldier from the Philippines who came to me with diarrhea, and he said that he had had it for some time, possibly a year. He had been in the hospital for six months. Coming on to the pathologic service six weeks ago I made several examinations of his stools. There were no malarial parasites found in the blood. The parasites that I found in the stools were of this character: (Blackboard demonstration.)

I would like to know more regarding the character of the stools in these cases of uncinariasis and of other parasitic diseases of the bowels. I would also like to know the condition of the spleen and liver, the skin and sclera, and also something of the pathology of the mucous lining of the gut, whether there is ulceration or much involvement.

DR. CHARLES WARDELL STILES, Washington, D. C.—With regard to ground-itch, I may say that this is exceedingly common in people affected with uncinariasis; but so far as I understand at present it is also found in people who have no hook-worm disease. I am informed by physicians of Georgia and Florida that practically every inhabitant of these states, except persons living in cities, have had ground-itch at one time or another. Undoubtedly uncinariasis infection may take place through the skin, as has been demonstrated experimentally by Looss of Cairo, Egypt. As to infection through the drinking water, I think this is possible, but the chances are that such method of infection is not so common as might be supposed, for the reason that the larvæ of hook-worms sink in water. Infection through cotton, as was suggested in connection with one case, I consider practically excluded on account of the dryness of the cotton.

Length of life of parasite: I have two cases where the parasites have lived six years, and one case six years and seven months, after the patients entered an orphan asylum.

Disinfection: I consider chemical disinfection of premises impractical. Yards may, however, be disinfected with fire, either by spraying burning oil or by scattering straw around and setting it on fire.

Number of parasites present: Dr. Harrison's case, which passed over 1,700 worms, is interesting, and so far as I know now holds the world's record. Ashford sent me about 1,400 worms from one case in Porto Rico.

Classification of the parasite: Dr. Smith has spoken of the validity of the American species. My studies on the anatomy of hook-worms have been interrupted, but it is now easy to foresee that the old genus *Uncinaria* will have to be subdivided. Worms like *Anchylostoma duodenale* and *A. caninum* form a distinct group characterized by the presence of recurred hooks in the mouth; these parasites should be classified in the genus *Anchylostoma*. The worms without buccal hooks, but provided with buccal lips, belong at present in the genus *Uncinaria*, but these forms may be divided into several subgenera, at least, which may eventually be given the rank of genera. The typical subgenus is *Uncinaria*, with *U. vulpis* as a type. Species with non-symmetrical bursa and with prominent buccal tooth, like *Uncinaria radiata* of cattle and *U. trigonocephala* of sheep, may be placed in Railliet's (1902) *Bunostomum*. *Monodontus* (Molin), 1861, should be based on *M. semicircularis*, and apparently presents, according to Molin, a symmetrical bursa with dorso-median ray of the usual type. *Uncinaria americana* seems to take a very isolated position, with its buccal capsule more or less similar to that of *Bunostomum*, but with a symmetrical bursa in which the dorso-median ray is of a very aberrant type. I believe we are justified in recognizing for this species a distinct subgenus (for which I would suggest the name *Necator*—a murderer), which may eventually be raised to generic rank. *Uncinara lucasi* is still different in certain characters, notably of the anterior end, and will probably call for the erection of a new subgenus. *Agriostomum* and *Characostomum* (Railliet), 1902, will probably stand as distinct genera.

The anemia: I agree with the view that it is difficult to explain the severe anemia and the nervous symptoms by the mere extraction of blood. In all probability the cervical glands of the parasites produce a poison which could be readily absorbed by the wounded mucosa of the intestine.

Diagnosis: As to the unpleasantness of a fecal examination, I frankly admit that I would much rather examine the feces than the sputum of a tuberculous patient.

Topography: I do not recall ever having stated that hook-worm disease is confined to sandy soils. What I claim is, that it is pre-eminently a disease of sandy regions.

Color of stools: The color of hook-worm stools is frequently a peculiar reddish brown, a quite different shade from anything I recall in connection with feces I have examined in Washington. Still, this color is not constant even in very severe infections. Nor is the blotting-paper test constant; in fact, it should never be relied on to the exclusion of the microscopic examination, for the chance of error is too great. I suggest the test simply as a convenient confirmatory test in severe cases for physicians in the infected district who are unable to make the microscopic examination. Blood in the stools is by no means constant. It does, however, occur.

DR. ALLEN J. SMITH, Galveston, Texas—It should be kept in mind, in comparing the group of cases which I have presented with the types of cases which have been mentioned in this discussion, that these instances represented a mild form, presented but few symptoms and were found in the course of a routine examination of a large group of persons undertaken because in some one or more of these persons it was certain the parasite existed. In the first and second of these cases the presence of an eosinophilia, found when searching for the malarial hematozoön, suggested the investigation of the stools for the uncinaria known to be present somewhere in the general group of students; and naturally the success of the search in these two early cases led to the thought of the value of the symptom as at least of suggestive force. In those cases of which I have records of the differential leucocyte count the proportion of eosinophiles ranges from 6 to 23 per cent.

There can be little if any doubt of the fact that one mode of acquirement involves the penetration by the embryonic worms in dirty water or in the mud adhering to dirty objects through the skin and tissues to their ultimate place of abode in the alimentary canal; while it is quite probable, too, that in many cases the entrance to the intestine is direct from drinking unclean water or eating dirty vegetables moist with damp earth. I do not feel that Dr. Stiles' view of the improbability of their transference by cistern water has included conditions which commonly prevail in the frequent over-ground cisterns found in many southern localities. There is easy chance for entrance of the ova to such cisterns by their being blown with sand and dust to the house-tops, whence they may be washed

by succeeding rains into the cistern. Sinking to the bottom of such receptacle they usually find what seems to me to be a not unsuitable surrounding for their incubation, providing they have retained their vitality, in the layer of sand or mud, mixed as it often is with charcoal commonly introduced into cisterns with a view of purification of the water; and as the faucets of these cisterns are placed close to the bottom it seems possible that the embryonic worms may be drained with the water used for drinking purposes or otherwise.

I also wish to lay some stress on the relationship which I believe may exist between this parasite and malaria. In six of the eight cases which I have mentioned there is a history of malarial complication, temporarily influenced by quinin, but invariably recurring after longer or shorter intervals. In several of these cases the demonstration of the malarial organism was unquestionable, but invariably was made only after repeated search and with more or less difficulty. While these malarial outbreaks were temporarily restrained by the administration of quinin, during the period of prevalence of the hook-worm in the intestine the malarial recurrences persisted indefinitely, the use of the quinin producing no permanent effect. All this ceased after the parasites were removed from the intestine, subsequent administration of quinin being promptly and permanently followed by the disappearance of the malarial symptoms. It might be suggested that in an indirect way the intestinal parasites have an influence in bringing about a persistence of the malarial infection—probably by lowering the natural powers of the system of the host in reaction and antagonism to some small residuum of the malarial infection after partial destruction by quinin, so that subsequently that residuum more surely may increase to a degree capable of producing the recurrence noted in such cases. With the removal of the worms there would seem to return the natural resistive influence of the body, and this joined with the potency of the quinin leads to complete and permanent destruction of the malarial infection. Doubtless there are other explanations possible for what in my experience is a very real relation of the character mentioned; but the idea suggested does not seem improbable. In such cases of an apparently malarial infection, with few organisms ordinarily recognizable, and these often missed, and with an irregularly recurrent type persisting after the use of quinin (although the latter may have been temporarily beneficial), I would urge that investigation be made for a possible complication by uncinariasis. If the latter be recognized I am confident that the experience I have mentioned may be repeated, and that by first removing the intestinal parasites it will be found that a difficult and persistent malaria will become readily amenable to the ordinary administration of quinin. It adds but little difficulty to the labor of diagnosis. The hook-worm egg is one of the most easily detected of microscopic objects in the fecal material; there is no complicated technic required in the examination of the material, and probably five minutes' attention as an average will suffice for the added work.

The relation between hook-worm diseases in man and in the dog is an item in which I am satisfied that I have publicly expressed mistaken ideas. In the discussion of this matter in 1901 before the Texas State Medical Association, I commented on the similarity of our human uncinaria and the dog hook-worm, and I expressed some question as to a possibility of identity as well as a possibility of the dog being an agent in scattering the parasites where man might acquire them. From the work of others as well as from the clear differences I have since learned to recognize between these parasites I fully realize the mistake into which my ignorance then led me.

I am satisfied, too, of another mistaken suggestion I made at the same time, namely, of the possibility of incubation of the eggs in the intestine of an original host, and thus a chance of permitting a slight infection to increase to a serious degree and to make itself permanent. While I am unable as yet to entirely set this idea aside as an occasional possibility, there is no doubt in my mind that it is essentially always untrue. That it is not impossible I would infer from the fact that occasionally the ova in very fresh feces are found to contain well-formed embryonic worms; and that rarely even in the ova within a gravid female worm an embryo may be found. Of course, too, the segmentation seen in the ova ordinarily is evidence of some procedure of incubation; and should the egg happen to be retained unduly in some groove or in a mass of mucus adherent to the mucous membrane of the intestine, it might on rare occasions develop into the freed embryonic worm. It is impossible for me to indicate why this does not ordinarily take place. I have noted in the incubation of ova in the fecal material that the process has proceeded more quickly and certainly at the ordinary room temperature than in the incubator at body temperature; and although there are probably other factors than mere temperature at work in this connection, it may be one element in restraining incubation in the intestine.

Dr. Thomas A. Claytor, Washington, D. C.—Regarding the elevation of temperature in these cases, it has been claimed that fever is unusual. I think, however, that this depends on the degree of anemia. In intense anemia, no matter from what cause, moderate fever of an irregular type is frequently seen.

Several of the gentlemen have spoken of symptoms by which they could diagnose uncinariasis—such as paleness of the skin, hemic murmurs, pulsation of the vessels of the neck, etc., which mean nothing but anemia, and hence are only suggestive. Without examination of the stools I do not believe a positive diagnosis can be made. It is an easy matter today to have such examinations made.

Regarding the dose of thymol to be administered, it is from 30 to 60 grains (2 to 4 grams). Sandwith, who has had a very large experience in the use of this drug, gives 30 grains at 8 o'clock, 30 at 10 and after two hours a purgative. In weak individuals he gives an ounce of brandy for every 30 grains of thymol.

It has been said that the American hook-worm is more readily gotten rid of than the old-world variety, because of the absence of hooklets in the former. In a case which I have reported two months' treatment with thymol failed to entirely free the sufferer from the parasites, though they were of the American variety.

The weekly treatment with thymol should be continued until the eggs disappear from the evacuations.

The Danger of Corrosive Sublimate Solution as a Vaginal Douche.—It is strange that at the present time many medical men are found who continue to use corrosive solution for purposes of postpartum douching in spite of the clear demonstrations that have been made of its unsuitability and of its dangers, and in spite of the introduction of many safe and efficient substitutes. The use of this dangerous poison for postpartum douching is not alone confined to general practitioners, but it is used and recommended by many competent specialists. A case is recorded in an American contemporary in which a patient, aged 33, who had miscarried at the fourth month, was given a single vaginal douche consisting of a quart of 1 in 1,000 corrosive sublimate solution. The next day she exhibited all the characteristic symptoms of sublimate poisoning—gingivitis, salivation, and diarrhea, the symptoms became rapidly worse, and she died a fortnight later. Of course, an antiseptic can not be condemned because it is carelessly used with fatal consequences in a single case, and, if corrosive sublimate had anything to very strongly recommend it, it would be foolish to do so, but what are its recommendations? It destroys metal instruments; it is a most dangerous lotion to leave about a house; it is decomposed and rendered useless in the presence of much albumin; it roughens the hands of the operator, and constringes the mucous membrane of the vagina and vulva, and so tends to encourage the occurrence of lacerations of these parts; and, as the case to which we have called attention shows, and as many other reported cases show, its use is by no means free from danger. The obstetrician who uses it himself is courageous, but the obstetrician who recommends it for general use to others—nurses or students—is foolhardy.—*Medical Press.*

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SOLUBLE TOXIC SUBSTANCES IN AUTOLYTIC DISINTEGRATION PRODUCTS OF TYPHOID AND DYSENTERY BACILLI.

Up to the present time investigators have been able to isolate by filtration only toxins which go into solution in our liquid culture media. The best known examples of this are the diphtheria and the tetanus toxins. It has been to a degree disappointing that similar toxins could not be obtained from the typhoid, cholera and other organisms, as the possession of such toxins might make possible the preparation of antisera, to be used in the treatment of the diseases in question.

Recent work by Conradi, also by Neisser and Shiga, seems to indicate that some advance has been made in this direction. Conradi had previously observed that when certain organs (e. g., liver) undergo aseptic autolysis or self-digestion, through the agency of preformed intracellular ferments, substances were produced which hindered or prevented the clotting of blood *in vitro*. The same occurred in autolysis of yeast cells; and, furthermore, in both instances the end-product was bactericidal. These results led him and Drigalski to study the effects of autolysis of the dysentery bacillus cultivated from cases occurring among the German troops. The following method was used: An alkaline medium, consisting of 3 per cent. beef-water agar, to which 1 per cent. tropon was added, was solidified in large plates, and the surface inoculated with the bacillus. The plates were incubated for twenty hours at 37 C., the bacteria scraped off and put into tubes. A small amount of salt solution was then added and the tubes kept at 37.5 C. for twenty-four to forty-eight hours for autolysis to occur. The overlying slightly yellowish fluid was then drawn off after centrifugalization, five volumes of 0.85 per cent. salt solution added and then filtered through a Berkefeld candle. Subsequently, the filtrate was evaporated to one-tenth to one-fiftieth of the original volume. This constitutes a water-soluble toxin of which 0.1 c.c. kills a rabbit of two to three kilograms when injected intravenously. In the case of the dysentery toxin it is stated that at the autopsy the intestinal mucous membrane is congested and even ulcerated, showing a predilection of the toxin for this structure. A toxin of similar virulence was obtained from the typhoid bacillus by the same technic. It was found that prolonging the stage of autolysis to more than forty-eight hours gave a weaker toxin. The technic used by Neisser and Shiga was similar. They worked particularly with the typhoid bacillus. In addition to studying the toxicity of their product they directed their attention to its content of bacterial receptors. It developed that the filtrate had the power of binding agglutinin to a marked degree, and, furthermore, that by immunizing with it a serum was obtained which was highly agglutinating, and also bactericidal for the typhoid bacillus. A higher bactericidal power was obtained in this way than usually can be realized by immunization with the bacteria themselves. This proves satisfactorily that free receptors for agglutinin and the bactericidal antibody were present in the autolytic product.

The experiments of Neisser and Shiga, so far as reported, do not indicate that a true toxin was produced. The word toxin, as now applied to bacterial products, has a definite and exclusive meaning, referring to poisonous products of bacterial life, by immunization, with which a demonstrable antitoxin is formed. The antibody formed by immunization with the filtered autolytic product was a bacteriolytic one—an amboceptor, while antitoxin is a uniceptor. It does not appear from this work that a body corresponding in structure to other known bacterial toxins was found. Further study may show that such a toxin is present.

This work serves to emphasize the fact that bacterial life in the body may not be parallel with that in culture media. It is probable that bacterial disintegration goes on at a rapid rate, and continuously in the body in such diseases as typhoid and cholera, setting free large amounts of toxic substances, while under ordinary cultural conditions this takes place to a limited degree. In justice to the French, especially Metschnikoff and his followers, it may be stated that they have long claimed that strong, soluble toxic substances could be obtained from the cholera and to a less degree from the typhoid organism. There appears to be a distinct field for research in this direction.

IS HYDROPHOBIA A PROTOZOIC DISEASE?

The causative agent of hydrophobia has been sought for most thoroughly, but, so far, probably in vain. It was the fruitlessness of his search for the organism of hydrophobia that led Pasteur to suggest that it might be due to an organism too small to be seen, even with the highest and best microscopes. It is generally stated, however, that the cause of hydrophobia does not pass through ordinary bacteria-proof filters which permit the ultramicroscopic viruses of several other diseases of unknown etiology to go through. Whether the non-filterability of the virus of hydrophobia is due to the large size of the elements to form union with animal cells, or to other causes, can not now be stated.

In these days, when discoveries of protozoan organisms in diseases of unknown etiology are made with startling frequency; when, if everything claimed comes true, the causes of smallpox, of vaccinia, of yellow fever, and of dengue (to say nothing of cancer) have just been discovered, it is not at all surprising to read that a peculiar

"protozoan organism" has been found to occur constantly in the nervous system of hydrophobic animals, especially dogs and rabbits. This announcement is made by Negri,[1] an assistant to Golgi in the laboratory for general pathology and histology in the University of Pavia. The appearances on which Negri bases his claims are easily brought out by ordinary staining methods in material fixed according to current histologic procedures. Hence his results are easily controllable. The "parasites" occur in the protoplasm of the larger nerve cells: in Ammon's horn, the cerebellum, the cerebral cortex, etc. They are of varying size and form, the interior containing smaller bodies, sometimes to the number of twenty or thirty. Negri regards these latter appearances as the result of reproductive processes, and declares, without hesitation, that he is dealing with living, "organized" formations, the probable cause of hydrophobia. He finds these "organisms" in the central nervous system of rabic dogs and rabbits, no matter the exact mode of infection. In the rabbit the "organisms" are smaller than in the dog; they make their appearance in the cells about the thirteenth or fourteenth day after inoculation; that is, shortly before the manifestations of the earliest symptoms. He has found these bodies in one case of human rabies. The investigations, so far, seem to limit the occurrence of such bodies as he describes to hydrophobia.

Are the bodies described by Negri protozoa? This question can not be answered positively, but it is unquestionably possible for degenerative and other changes in cells to produce structures that morphologically resemble certain stages in the complicated development of protozoa. This being the case, which no one will deny, we must seek for other evidence of the protozoan nature of structures like those described here than is found in a more or less superficial resemblance to protozoa. But such evidence is not forthcoming. Anything like complete developmental cycles has not been described. It has not been shown that the bodies studied are really living, independent, multiplying organisms. They have not been cultivated artificially, and a vast amount of work remains to be done before any definite opinion is permissible. Let us hope that the general appeal now being made to protozoa to shoulder the responsibility for causing so many destructive diseases whose etiology, so far, has escaped search, may not prove altogether in vain.

1. Zeitschr. f. Hyg. u. Infektionskr., 1903, xliv, 507-528.

RESPONSIBILITIES AND DUTIES OF HOSPITAL PHYSICIANS AND SURGEONS.

The increase of smaller hospitals, strikingly shown by the number and variety of official connections still occasionally attached to the name of a more or less prominent physician or surgeon, has been commented on frequently in these columns. The layman of intelligence is rapidly acquiring a taste for the environment and order pervading a hospital. Birth of these smaller institutions is by no means confined to the large metropolis; individual or corporate enterprise has foreseen their need in many obscure but thriving communities. For the care of the ill and injured in this manner, resident and attending staffs have multiplied, considered in the aggregate, to an extent realized by few persons. One pleasing consequence of this is that post-graduate hospital training is accessible to many more than heretofore.

No uniformity of procedure or government of the medical forces of this great class of minor institutions exists, scattered as they are among divers religious denominations, mines, railroads and large manufactories, or organized with capital invested for direct or indirect profit. The responsibility to the public for their conduct is at times assumed by a single member of the profession; sometimes it is undertaken by a wealthy industry, or it may rest with some sectarian or educational organization. No doubt the average attending physician and surgeon feels that the essential duty of his hospital connection is the immediate amelioration of human suffering; another duty of great importance, but as yet only insufficiently fulfilled, is the training of younger men.

The service of internes in some hospitals is too long, the number receiving such training thereby being limited. In many hospitals the service is not a graduated one; in others the training is narrowed to certain branches of medicine. In a large number the amount of labor and the few to perform it precludes anything except sordid drudgery. It is well known that the responsibility for evils of this kind in hospital management and the power to amend them rest with the medical board or attending staff, yet the absence of any coordinate effort to correct these is as noticeable in numerous conspicuous instances as is the failure of conjoint action in other matters awaiting organized action. Commensurate with this failure is the absence of anything like general effort to properly instruct their subordinates and to form little centers for the diffusion of knowledge.

The mechanical nature of the duties of internes in some hospitals might excite the suspicion that the surgeons or physicians do not desire to transmit to others the facility of diagnosis and skillful technic to which they owe some eminence. The need of completing a large number of operations in a given period or of seeing many patients hurriedly not only excludes opportunity for instruction, but is conducive to an irascibility of temperament, rendering the labor of others purely perfunctory. The young graduate is left to acquire or "absorb" what knowledge he may; certain methods of address and mannerisms of dealing with the laity, serving poorly for the subsequent attainment of a lucrative practice, may be acquired as well.

It is emphatically an error to suppose that the entire duty to the recent graduate is discharged by affording him opportunities of contact and association with leaders in medicine. The obligations of instruction and precept, of delicate hint and question, and, best of all, of

example, are but poorly realized and inadequately met in many hospitals. The culpability of such defects is enhanced many times by the realization that conditions do not exist where medicine, in the broadest sense, can be taught as well as at the bedside and operating table. To such failures of attending-men as individuals are attributable the poorly constructed and incomplete records, and the entire absence in many hospitals of any progressive spirit of scientific inquiry in the "house staff." Clinical instruction in small classes is as acceptable to recent graduates as to undergraduates; its retroaction would be wholesome for many.

That some men have realized such opportunities is shown by the detailed examinations and careful clinical records; by the rapidity with which intelligence of their arrival is spread through the hospital; by the reverence for and retention of their teaching, and by the loyalty they enjoy from the constantly increasing number completing service under their enlightened supervision. It will be denied by no one that there is room for improvement in the directions indicated in the foregoing, improvement as applicable to the small as to the large institutions.

THE INFLUENCE OF THE DWELLING IN THE DEVELOPMENT OF TUBERCULOSIS.

While the rich are not immune, and do not escape its ravages, tuberculosis is, in a large measure, a disease of the poor, and this is so because with the rich there is generally intelligence and a knowledge of hygienic measures and the means to provide them, while with the poor the usual accompaniments are too often ignorance, indifference and neglect, together with all of the other disadvantages that attend poverty. This fact has been established statistically wherever it has been investigated, and the studies, particularly of Flick in Philadelphia and later of Biggs in New York, have shown conclusively that there are certain districts in large cities and certain houses in those districts in which tuberculosis occurs for many years with almost uninterrupted continuity. An interesting inquiry on similar lines has recently been conducted by Professor Romberg and Dr. Gaedicke for the city of Marburg, and the results are recorded in the *Deutsches Archiv für Klinische Medicin,* 76 B., 4 u. 5. H., p. 309. An analysis of the figure shows that while among the 18,000 inhabitants of the city 197 (1.1 per cent.) were victims of pulmonary tuberculosis, about four-fifths of the cases occurred in the poorest fifth of the population. The percentage of cases was 4.7 per cent. in the poorest fifth, as against 0.2 per cent. among the better class. The lesson to be learned from this fact is that measures for the eradication of the disease must be directed to the poorer class. It was further found that 34 per cent. of all of the cases occurred in 2.6 per cent. of the entire 1,503 dwellings in the city, while 59.2 per cent. of all of the cases among poor occurred in 33.6 per cent. of the houses occupied by them. No definite relation could be discovered to exist between the situation, mode of construction and number of occupants of the houses and the frequency of the disease. While filth alone was not responsible for the presence of the disease, the latter was not found in clean dwellings. Nothing could be established as to the individual predisposition of the occupants. The cases in children and a study of individual cases would seem to lead to the conclusion that in a large proportion the disease must be referred to infectious influences. It has been shown that a single inoculation with tuberculosis is often followed by no evidence of disease. Repeated inhalation of tubercle-bacilli, however, through association in a filthy dwelling with a person or with persons careless with respect to cough and expectoration, is a most important etiologic factor. For this reason pulmonary tuberculosis must be looked on as a house disease, especially among the poor, and accordingly the best results in prophylaxis are to be looked for as a result of measures directed to preventing the spread of the infection through this channel.

But it is not altogether architecture that is responsible for the greatly excessive incidence of the tuberculosis among the poor. There are other causes from which they suffer far more than do those who are above them in worldly means. Among these are alcoholism, ignorance of hygiene, as already intimated, as well as their inability to mend matters in their defective dwellings with their proletarian tendencies, even if they had the knowledge and the will.

We talk much about the housing of the poor, but it is a fact also that the housing of the moderately well to do needs a consideration that it does not adequately receive. Many of the moderately high-priced flat buildings in our crowded centers of population are structurally, so far as fresh air and light are concerned, positive temptations to disease. That they are not more fatal is due in part to the fact that children are to a large extent excluded in their tenantry, and they are, therefore, less crowded. In either way, however, they are direct factors in the present problem of race suicide.

CLASSICAL APHASIA.

One of the Emerson anecdotes that came out during the recent celebration of the hundredth anniversary of the Concord philosopher's birthday, seems to deserve a place in the memory of American medical men, because it is such a striking illustration of aphasia. Emerson, who had been the greatest master of words in his generation, lost the power of speech as the result of a brain lesion, though he retained much of his power to think with the vigor and distinction of earlier days. A contributor to the June *Atlantic* illustrates his aphasic condition by retelling the story Emerson told of a carriage ride during which it rained. "After a while the—the—the—the—How do you call what stores up water till it is suddenly—suddenly—what shall I say? Not squeezed out?" "A sponge?" his hearer suggested. "No, no," with the sweetest of smiles and a sweeping motion of the hand up to the sky. "The clouds, perhaps?" was the next suggestion. "Yes, the clouds began to roll up

and threaten rain. I had forgotten to take with me my—my—my—By the way, what is it that people always borrow and never return?" "Umbrella?" was suggested. "Yes, umbrella," and so on with other lacunæ in the conversation. The contributor notes: "While, as everybody recognizes, the inmost philosophical essence of the umbrella was thus intellectually grasped, the mere empirical designation of its silk, stick and whalebone would not turn up." The story illustrates very well the merely mechanical hindrance that aphasia is to the expression of thought, though in severe forms it may apparently deprive even a vigorously thinking mind of much of its capacity for properly expressing itself. It is this very feature which constitutes the essence of aphasia. Yet this is often supposed to indicate, even by the medical man, that there must be some impairment of the mental processes behind, not seldom to the perversion of justice in the making of wills and the regulation of business affairs.

IS MEDICINE ATTRACTIVE TO SCHOLARLY MEN?

Professor Thorndyke,[1] of Columbia University, New York, has traced the careers of 5,283 college graduates (1840-1900) who were elected to the Phi Beta Kappa, membership in which is a recognized mark of scholarship. The object in doing this was to learn whether any given profession is gaining or losing in attractiveness to the type of men represented by membership in this fraternity. In the first place Professor Thorndyke finds that there is a remarkable uniformity in the percentage of Phi Beta Kappa men entering the leading professions, namely, from 64 to 68 per cent. for 1840-1900. But the percentages entering the various professions have been far from constant; thus the number taking up law was nearly twice as large in 1890-1894 as in 1840-1860. There has been considerable variation, too, in the number that have taken up teaching as a profession. The Phi Beta Kappa man was "three times as likely to become a clergyman in the middle of the century as he is to-day." The ministry has lost steadily in its attractiveness to this kind of man, and this loss has been quite uniform throughout the country. It is interesting to note that Professor Thorndyke's statistics show that medicine has not been a popular profession with what he calls scholarly graduates. From 1840-1885 the percentage ran from 8 to 4; from 1885 to 1894 7.5 and 7 per cent. entered medicine. He suggests that the gain after 1885 is due to the advance of medicine to the dignity of a science, and to the introduction into the colleges of elective courses in science. Professor Thorndyke's forecast of the future is as follows: "The future will probably witness a steady gain in medicine, a slight gain in teaching, a rapid but unstable gain in law, and a continued decline in the ministry." At the present time law and teaching get the lion's share of the scholarship of the country, as represented by the careers chosen by the members of Phi Beta Kappa. We believe that the indications point to a steady increase in the number of scholarly men choosing medicine for the field of their life-work. The opportunities for research, specialization and beneficent activities certainly can not but draw to medicine increasing numbers of high-minded college students. The inherent attractiveness of medicine because of the altruistic nature of its functions will be reinforced markedly henceforth by the rapidly growing opportunities to study medicine under propitious conditions, and by the favorable attention it is now receiving at the hands of our best universities on the one side, and of our wealthy philanthropists on the other.

1. Century Magazine, May, 1903.

FURTHER OBSERVATIONS IN REGARD TO RADIUM.

The possibilities of such mysterious forces as those possessed by radium present an attractive field of speculation for the physician. May not the radiant energy emitted by radium possess pathogenic as well as curative, destructive as well as stimulating, powers on cells and cellular processes? Perchance, it may be forces of this kind that upset physiologic laws of cellular activity, and lead to abnormal proliferations of various kinds? But questions of this kind are not yet ripe for discussion. Actual experimental studies must furnish the necessary basis of facts from which it may be permitted to draw further deductions. Danysz[1] found that radium destroys the skin of guinea-pigs and rabbits, but subcutaneous and muscular tissue do not seem so sensitive as skin. The nervous tissue is also sensitive to its action. A sealed glass tube with salts of radium placed against the skin over the spine is followed by death in young animals. In older animals the osseous tissue seems to protect the spinal cord against the radiations. The effects of rays of radium on bacteria have not been studied extensively as yet, but both Danysz and Bohn show that various larvæ and embryos are profoundly modified in their growth, many being killed when subjected to the radiations; others developing into monstrosities because of unequal stimulation. Bohn further finds that radium exercises an especially intense action on tissues or cells in proliferation; non-fertilized eggs may undergo more or less parthenogenetic development and give rise to atypical formations. It has been found, too, that in animals whose skin was burned by the rays, the hair, in some cases, appeared to be forced into rapid growth. It seems that various effects are obtainable, depending on the tissue or cell exposed, as well as on the quantity and quality of the rays. Further experiments, no doubt, will yield even more interesting and conclusive results. We have commented on the announcement that in Vienna cancer has been cured by means of radium. In this particular direction much work will surely be done, and we may expect interesting developments.

THE VALUE OF EXPERIMENTAL STUDY OF TRANSPLANTABLE TUMORS.

The study of malignant tumors by the usual methods hitherto in vogue has not yielded many results of fundamental importance. A serious drawback to this study is encountered in the non-inoculability of human tumors in animals. The occurrence in certain animals of transplantable tumors furnishes the investigator with welcome opportunities to institute various lines of experimentation looking, for instance, to the production of immunizing and curative substances. Thus Jensen[2] of

1. Compt. rend. de l'Acad. des Sciences, 1903, cxxxvi, 461-4.
2. Centralbl. f. Bact., 1903, xxxiv, 28-34, 122-143.

Copenhagen was able to work with an inoculable, spontaneous tumor in a white mouse. He has carried the experimental inoculation through nineteen generations, and other experiments have been made with a view to producing active as well as passive immunity—at the same time as the tumor cells have been subjected to various procedures calculated to throw some light on their properties. This tumor occurred originally subcutaneously, and was in structure a carcinoma, which character it subsequently maintained. Subcutaneous injections of material rubbed up and suspended in salt solution were followed, as a rule, in fourteen days or so by the development of a small nodule at the site of injection, which slowly increases in size up to 15 to 20 grams. Metastases seem not to have occurred. During two and a half years successful transplantation has been made, as stated, through nineteen generations, about 50 per cent. of the animals used proved susceptible. As in the experiments of Leo Loeb, Herzog, Moran, it here also concerns a genuine transplantation, and not a true infection, because Jensen, who studied this point with the greatest care, found that simple crushing of the tumor cells before injection gave always negative results. Living cells must be transferred in order to secure success. These and the other experiments with transplantable tumors lend no direct support whatsoever to the parasite theory of tumors. In reality, successful transplantations in the same species are, so to speak, equivalent to the development of metastases in the individual. Jensen found that the tissue of the tumor he followed through so many animals remained alive for about eighteen days at a temperature of 1 to 3 C., at room temperature for about twelve days, but at bodily temperature only for twenty-four hours. The cells were killed by heating for five minutes to 47 C. and by exposure to —20 C. for twenty minutes. The tumor tissue was also killed readily by intense light, but the rays have the power to penetrate only for a small distance into the depths of the tissue. Here are examples of the procedures to which transplantable tumors may be subjected, with the view of laying bare some of the secrets of the tumor-producing forces: Carcinoma in mice appears to offer good starting points for valuable studies of this kind, and it is very desirable that examples of tumors in this and other animals be placed at the disposal of competent pathologic laboratories. Physicians who may come to know of tumors in mice, dogs, cats, etc., will render science a service by securing such animals for experimentation under the most favorable conditions.

Medical News.

CALIFORNIA.

Aged Physician Injured.—Dr. Malek A. Southworth, San Jose, while driving across a railway track at Wayne, was struck by a train and sustained severe scalp wounds and contusions, and the fracture of two ribs.

Dr. Landis Released.—The Supreme Court has decided that Dr. Amos J. Landis, Chico, convicted of forgery and sentenced to serve seven years in prison, was indicted by a biased and prejudiced grand jury, and given a partial trial; and, therefore, that the judgment of the lower court is reversed.

Bogus Inspector Convicted.—H. G. Myers, Stanford, who traveled around the country representing that he was commissioned by the State Board of Health to examine women, was sentenced to imprisonment in the county jail for ninety days and to pay a fine of $200, the limit allowed by law.

Personal.—Dr. Charles F. Taggart, Los Angeles, chief surgeon of the San Pedro, Los Angeles and Salt Lake Railroad, has gone to Salt Lake City to arrange a hospital service for the road. ——Dr. Albert C. Rogers, Los Angeles, has returned from Europe.——Dr. Charles B. Brigham, San Francisco, had a paralytic stroke, July 10, and is lying seriously ill at his country place near Lake Tahoe.——Dr. Norman H. Morrison, San Francisco, sailed, July 16, for a tour of the Hawaiian Islands.——Dr. Thomas M. Hayden has succeeded Dr. George H. Aiken as president of the Fresno Board of Health.——Dr. John H. Meyer, San Bernardino, has begun his official work as county physician and superintendent of the county hospital, vice Dr. Samuel G. Huff.——Dr. and Mrs. Hoell Tyler, Redlands, have gone to Europe.

COLORADO.

Personal.—Dr. Anders J. O. Lof, Aspen, returned, July 17, from Vienna.

Illegal Practitioner Flees.—"Dr." M. E. McGrath, who was arrested at Denver, charged with practicing medicine without a license, has fled from the city, forfeiting his bond of fifty dollars.

Denver's Deaths.—In May 198 deaths were reported in the city and county of Denver, equivalent to an annual death rate of 13.57 per 1,000. Of these 62 were due to tuberculosis; 18 to pneumonia, and 11 to valvular heart disease.

Hospital Changes Name.—Following the consolidation of the city and county governments, the name of the Arapahoe County Hospital has been changed to the Denver City and County Hospital. The management of the hospital is now under Health Commissioner Dr. Augustus A. Clough.

Hospital Incorporated.—Drs. Samuel T. Quick, Albert W. Killgore and E. Stuver have incorporated the Fort Collins Hospital Association, with a capital stock of $50,000. Nearly all the physicians of the city are identified with the enterprise as stockholders, and as all physicians are guaranteed complete professional control of all cases they may send to the hospital, the undertaking is looked on with great favor, both by the profession and citizens generally.

ILLINOIS.

Maternity and Orphan Asylum.—Contracts have been let for a two-story building for the St. Vincent Maternity and Infant Asylum, at Park Ridge, to cost $20,000.

National Guard Appointment.—Dr. Arthur F. Wilhelmy, Decatur, has been appointed assistant surgeon in the Illinois National Guard, with the rank of first lieutenant, and assigned to the Fifth Infantry.

Healers Jailed.—Two alleged magnetic healers, who fleeced many citizens of Peoria and then levanted, have been captured in Omaha, and will be returned to Peoria, where they will be prosecuted on a charge of obtaining money under false pretences.

No Typhoid in Illinois River Water.—The commissioners appointed to investigate the condition of the Illinois River in the case of the State of Missouri against the State of Illinois, for alleged pollution of the Mississippi River, have been unable to find a single typhoid germ in the Illinois River.

Births and Deaths.—Circulars have been mailed by Secretary James A. Egan of the State Board of Health, to the physicians of Illinois, calling their attention to the new certificates of deaths and births, which they are required by law to fill out and return to the county clerk, and in Chicago and Peoria, to the Commissioner of Health, in the cases of births, and in the cases of deaths to the State Board of Health, except in cities where burial permits are issued. He accompanied the circular with sample certificates and with a circular issued by the United States census office on "The Relation of Physicians to Mortality Statistics." The new law is being very generally complied with.

Chicago.

Licenses for Infant Nurseries.—Two licenses and permits to conduct infant nurseries have thus far been issued by the city clerk.

Bequests.—By the will of the late Horace P. Taylor, $9,400 each is bequested to St. Luke's Hospital and the Chicago Baptist Hospital, to be used for endowing free beds.

Physicians in Collisions.—During the past three weeks Drs. Arthur R. Edwards, Frank W. McNamara, Louis A. Greensfelder

and Jacob Frank have suffered physically or financially by the collision of carriages in which they were riding, with other vehicles.

Fights Fine.—Dr. Frederick L. Orsinger has secured an injunction restraining the State Board of Health, Justice Chott, and his constable from causing his imprisonment or enforcing a judgment for $100 and costs secured against him for alleged violation of the medical laws.

Summerers.—Dr. E. Fletcher Ingals has gone to Connecticut, where he expects to spend the next two months rusticating, and incidentally learning to play golf.——Dr. Frank Billings is at his cottage at Mackinac.——Dr. Henry Hooper is spending his vacation at the Huron Mountain Club, Lake Superior.

Low Death-Rate.—A phenomenally small proportion of deaths among the aged is mentioned by the Department of Health, as one of the noteworthy features of a remarkably low July death rate for the week ended July 25. There were only 55 deaths among those over sixty years of age reported out of the total 513 at all ages, while the rate for the total—14.19 per thousand—is the lowest ever recorded for any July week in Chicago. For the 25 days of the month the rate is 14.69 per thousand as against an average July rate for the previous ten years of 17.64 per thousand. This decrease of more than 16 per cent. is to be attributed chiefly to the low and equable temperature of the month.

INDIANA.

Proposed Medical College Merger.—There is a movement in progress to form a union of the faculties of the Medical College of Indiana and the Central College of Physicians and Surgeons with a possibility of its consummation. There would then be but one medical college in Indianapolis, and it may become a medical department of the Indiana University, which is located at Bloomington. With a view to consolidation, a committee from each institution has been appointed to outline an agreement satisfactory to each interest.

Deaths in June.—There were reported 2,265 deaths, an annual rate of 10.9 per 1,000; 306 were under 1; 147 were 1 to 5; 60 were 5 to 10; 45 were 10 to 15, and 589, or 27.9 per cent. of the total were 65 and over. The consumption deaths numbered 306, the city rate being 1.7 per 100, and the county rate 1.3. Deaths from certain important causes were: Pneumonia, 124; diarrheal diseases, 75; cancer, 96; typhoid fever, 42; diphtheria, 15; scarlet fever, 7; whooping cough, 24; puerperal fever, 8; violence, 133, and smallpox, 4.

Diseases in June.—The monthly bulletin of the State Board of Health, shows that rheumatism was the most prevalent disease and that tonsillitis and bronchitis were respectively second and third in prevalence. Typhoid fever was fourth, having stepped up from seventh place in the preceding month. Smallpox was sixth, having fallen from third place. Diarrhea, as was to be expected, increased in June over May, yet dysentery and inflammation of the bowels show no increase. Diphtheria, pneumonia and influenza were very much less in June than in May.

Personal.—Dr. John G. Wishard and family, Indianapolis, start early this month for Persia, where Dr. Wishard returns as medical director of the American Presbyterian Hospital, Teheran.——Dr. Charles E. Laughlin, Orleans, has been appointed superintendent of the Southern Indiana Hospital for the Insane, Evansville.——Dr. Charles M. Eisenbeiss, Elkhart, recently appointed a member of the State Board of Health, has resigned as coroner of Elkhart County, and Dr. Fred N. Dewey, Elkhart, has been chosen in his stead.——Dr. Jehu Z. Powell, Logansport, has been appointed physician at the National Soldiers' Home, Johnson City, Tenn.

IOWA.

Drake's Cornerstone Laid.—The cornerstone of the new medical building for Drake University, Des Moines, was laid, July 10. General Francis M. Drake delivered the address.

Explosion in Physician's Office.—Dr. W. P. Hombach, Council Bluffs, suffered severe contusions, and Mrs. Hombach a compound fracture of the leg in an explosion of illuminating gas which had accumulated under the new office building of Dr. Hombach. The building was completely wrecked.

New and Enlarged Hospitals.—Burlington Hospital is to have an addition and a nurses' home erected, to cost $35,000.——St. Thomas' Hospital, Marshalltown is now almost ready to receive patients. The formal dedicatory exercises will be held later.——Charles H. Keck has given to Washington, to be used for a hospital, the residence of his deceased father. The property is valued at $10,000.

Personal.—Dr. Albertus J. Burge, Iowa City, has been appointed assistant to the chair of surgery in the University of Iowa.——Drs. Alphonse L. Hageboeck and Edward F. Strohbehn, Davenport, have returned from Europe.——Dr. Donald McCrae, Jr., Council Bluffs, has been appointed surgeon-major in the Iowa National Guard, and assigned to the Fifty-sixth Infantry, vice Dr. Gilbert L. Pray, Lake City, resigned.——Dr. Albert S. Rider, Donnellson, has been elected professor of pathology and bacteriology in the Keokuk Medical College, College of Physicians and Surgeons.

KANSAS.

Fire at Sanitarium.—Four lives were lost at a fire which destroyed Bonner Springs Sanitarium on July 16. The financial loss is estimated at $20,000.

Medical Department for National Guard.—A medical department has been organized in the National Guard under the command of Surgeon-General Dr. Henry O'Donnell, Ellsworth.

Superintendent Assaulted.—Superintendent Thomas C. Biddle, M.D., of the Topeka State Hospital was assaulted by two attendants, who were afterward dishonorably discharged from the institution.

Meffert Appeals.—Dr. William M. Meffert, Emporia, whose license was revoked June 12 on account of gross immorality, has taken an appeal to the United States Supreme Court, and meanwhile continues to practice.

License Revoked.—The State Board of Medical Registration and Examination revoked the license of Dr. Robert E. Gray, Garden City, on the ground of immorality and unprofessional conduct in the case of Irma Brown, of whose murder Gray was acquitted in Chicago in 1902. Gray says that he will appeal to the Supreme Court.

KENTUCKY.

Dr. Bodine Out of Danger.—Dr. James M. Bodine, Louisville, on whom an operation was performed July 1, is now reported to be securely convalescent.

Commencements.—The medical department of Kentucky University conferred degrees on a class of 57, July 3.——Kentucky School of Medicine graduated a class of 56, July 8. The doctorate address was delivered by Dr. William H. Wathen.

Personal.—Notre Dame University, at its recent commencement, conferred the degree of LL.D. on Dr. Martin F. Coomes, Louisville, editor of the *American Practitioner and News*.——Dr. Cleon C. Owens, Frankfort, was painfully injured by a fall while climbing cliffs on the Kentucky River.——Dr. William S. Yazell has been elected health officer of Maysville.——Dr. John C. Cassidy, Eminence, has been elected secretary, and Dr. Pink H. Crutchfield, Bethlehem, president, of the Henry County Board of Health.——Dr. Rolla H. Alexander, assistant physician at the Eastern Kentucky Asylum for the Insane, Lexington, has resigned.

Requirements Must Be Enforced.—The requirements governing entrance to the different medical colleges of Kentucky are to be rigidly enforced, according to action taken at a meeting of the executive board of the State Board of Health in Louisville. The penalty of being refused recognition was provided, to compel all reputable institutions to adhere to the rules. This action resulted from a conference between the deans of the medical colleges and the members of the State Board of Health held May 22. It was alleged at that meeting that many medical schools in Kentucky have at various times admitted students in violation of published requirements and have offered them private inducements to take up the study of medicine. It is said that these allegations were confirmed.

MASSACHUSETTS.

Milford Hospital Dedicated.—Milford has a new hospital built through the generosity of Hon. Eben S. Draper, the manufacturer of Hopedale, at a cost of more than $60,000, which was dedicated by appropriate exercises, July 24, in the presence of more than 15,000 people.

State Mortality.—For the week ended July 11 40 cities and larger towns of Massachusetts reported a mortality of 675. Of these 254 were of children under 5 years; 187 were from infectious diseases; 51 from acute lung disease; 61 from phthisis; 5 from diphtheria; 7 from scarlet fever, and 95 from diarrheal diseases.

Floating Hospital Busy.—The Boston Floating Hospital is as busy as usual. The first ten days of its service showed 100

different patients cared for, 60 of whom were permanent patients. The number of ileocolitis cases has been much smaller than usual, while the number of marasmus cases has been larger than usual. Six or eight sick babies are refused each day on account of lack of accommodations.

Boston's Deaths.—The mortality record for the week ended June 25 shows a little gain, 188 deaths were reported, equivalent to an annual death rate of 16.25 per 1,000. Of these pneumonia caused 8; pertussis, 2; heart disease, 19; bronchitis, 2, and marasmus, 1. There were reported of diphtheria, 35 cases, with 4 deaths; of scarlet fever, 20 cases; of typhoid fever, 21 cases; of measles, 20 cases, with 2 deaths, and tuberculosis, 20 cases and 28 deaths.

NEW JERSEY.

Lacks Authorization.—It has been discovered that the bill appropriating $200,000 for a state tuberculosis sanitarium is not a law, because the act of authorization was overlooked, or purposely omitted.

Personal.—Dr. C. Radcliffe Johnson, Atlantic City, who recently accepted an appointment as medical missionary to the Philippines under the auspices of the Episcopal church, and is to be stationed at Manila, sailed from San Francisco June 11.

Isolation Hospital Burned.—The building erected in Orange as an isolation hospital for smallpox, in 1901, was burned July 2, with all its furniture and medical supplies. The loss is $2,000. It is believed to have been the work of an incendiary.

Examiners Elect.—At the annual meeting of the State Board of Medical Examiners, held in Long Branch, July 6, Dr. John W. Bennett, Long Branch, was elected president; Dr. E. L. B. Godfrey, Camden, secretary, and Dr. Armin Uebelacker, Morristown, treasurer.

OHIO.

Personal.—Dr. E. Marion Foster has returned after a year abroad and has located in Cincinnati.

Warning.—Dr. Walter H. Snyder, Toledo, warns physicians against R. N. Rumnis, an individual of medium height, reddish hair, slender, fair-skinned, freckled, who offers premiums for subscriptions to *Collier's Weekly*; collects for a year's subscription, giving discount; leaves the premium offered, which half an hour later he borrows or steals.

Uniform Course Favored.—The State Board of Medical Examination and Registration met with representatives of several of the medical colleges, July 8, to arrange for a uniform curriculum throughout the state. Those who addressed the board were Drs. B. L. Milliken, Western Reserve Medical College, Cleveland; G. J. Jones, Homeopathic Medical College, Cleveland; Park L. Myers, Toledo Medical College and C. E. Walton, Cincinnati Medical College. All were in favor of a standard course of study. Drs. Ravogli, Wilson, Baxter and Towers of the board were appointed a committee to confer with the faculties of the medical colleges and report at the meeting in October.

PENNSYLVANIA.

Typhoid Alarms.—For the week ended July 25, 112 new cases of typhoid fever were reported in Pittsburg. The health officials forecast an epidemic and unanimously attribute the disease to the impure water supply of the city.

Crozer Hospital Opened.—On the anniversary of the birth of the donor, July 17, the J. Lewis Crozer Hospital, Chester, was formally opened. The construction and equipment of the hospital, done in accordance with the will of the benefactor, were supervised by Mrs. Crozer.

Impure Molasses Prosecutions.—The State Dairy and Food Department have served warrants on 25 dealers in Philadelphia on the charge of selling as the pure article adulterated molasses, which the law required to be marked "compound." This fight, Commissioner Warren is quoted as saying, is made against the "molasses trust," which, he says, has kept up this illegal traffic in defiance of the law.

Philadelphia.

Tenth Tetanus Death.—The tenth victim of tetanus from the Fourth of July toy pistol died in the Philadelphia Hospital last week.

Personal.—Dr. Henry W. Stelwagon has been made an honorary member of the National Dermatological Society of France.

Anti-Spitting Ordinance Enforced.—Enforcement of the anti-spitting ordinance has begun in earnest. A considerable number of men and boys have been arrested for spitting on the sidewalks. Some have been fined $1 and costs, the penalty the ordinance provides for each offense; several have been held under bail for further hearing. One refused to pay his fine and was held under $300 bail to keep the peace.

High Infant Mortality.—The infant mortality for the week ended July 25 was high, cholera infantum being ascribed as the cause of 82 deaths. There were 15 new cases of smallpox, as against 24 for the previous week. Director of Health Martin is quoted as saying: "Smallpox in this city is bottled up at least, and we have it under control." Physicians of the Department of Health continue to vaccinate bodies of workingmen and factory employes, and hospitals are requested to vaccinate all dispensary and accident cases not so protected.

Water Conduit Completed.—The blasting and digging of the largest water conduit in the world has just been completed. This is a part of the filtration system of Philadelphia under construction, and is to carry the water from the Torresdale filter plant to Lardner's Point pumping station. The work was begun 18 months ago. Much of the tunneling was through solid rock 100 feet under ground. The conduit is 14,000 feet long, and will have a capacity of 300,000,000 gallons daily. The portion of the filtration system completed, the Roxborough plants now yield 27,000,000 gallons daily, and the output will soon be increased to 5,000,000 gallons.

Management Unsatisfactory.—Dr. Martin, director of the Department of Health, was not satisfied with the management of the Municipal Hospital when he assumed the duties of his office. He has made several visits of inspection, and as a result improvements are reported. In published interviews Dr. Martin is reported to have charged "gross negligence" to the management. There are said to be many "leaks" for contagion, the wages of employes are in arrears, the plumbing is unsanitary, and an efficient disinfecting plant is needed. Radical changes in the personnel of the hospital staff are said to be contemplated, and it is not improbable that Dr. William Welch, who has been physician in charge for twenty-five years, will be relieved by another physician under the title of chief resident physician. Dr. Welch may be made consulting physician to the institution. Dr. Jay F. Schamberg is now assistant to Dr. Welch.

Infant Prophylaxis.—The Bureau of Health has begun, through the city district physicians, a census of all babies of the city under one year. The canvass is for the purpose of improving the hygienic care, especially the feeding of infants. The inspectors, on cards provided for the purpose, are to take a brief history of each infant and note its environment. A circular, printed in different languages, giving rules for the care of infants, is to be given to each mother. The inspectors are directed also to give simple instructions to mothers, and to urge vaccination in cases of infants not already vaccinated. It is the plan of the department to give public talks to mothers on the preparation of food and the management of infants, by physicians, who will volunteer to do so. The babies' directory is to be the basis of a scheme to lower the infant morbidity and mortality, especially during the hot months. This work is to co-operate with that of the modified milk plant which is being installed, and which is to furnish infants' food at cost.

GENERAL.

Leper Colony in Good Condition.—The annual inspection of the leper settlement on Molokai was completed July 20. Everything was reported in a satisfactory condition. Ten persons were found free from the disease and were released. Confirmation of the diagnosis of leprosy was announced concerning a number who had protested that the diagnosis was erroneous.

FOREIGN.

The Swedish Medical Association has lately been reorganized on practically the same plan as the American Medical Association.

Hospital at Port Arthur.—The Russian government has appropriated over a quarter of a million dollars to construct a large hospital at this point, with a sanatorium for patients with lung troubles.

Projected Asylum for Orphans of Physicians and Druggists.—Dr. E. Buday, of Budapest, has organized a committee which is soliciting subscriptions and arousing interest in the foundation of an asylum and school for this purpose in Hungary.

American Mosquitoes Plague London.—It is alleged that the notable increase in the number of mosquitoes about London is due to the importation by ships of American and South African

varieties, which bred prolifically on the new soil. It is said that England already had twenty-two varieties of mosquitoes.

The Gera Contract Practice Trouble.—The latest phase is that the sickness insurance societies refuse to pay their whilom medical officers for the last quarter of the year for which they served, claiming that they should be made to pay for the expenses caused the society by their resignations. The physicians have appealed to the courts.

The Approaching Sanitary Conference at Paris.—Italy took the initiative in summoning the international sanitary conference which will meet at Paris, October 10. No program has as yet been announced, but it is understood that the aim is to propose modifications of international sanitary measures based on the results of the latest researches.

Accident Insurance in Berlin.—In the further working out of the industrial accident insurance in Germany, the edict has recently been passed that the family is entitled to an indemnity when the victim of an accident contracts a fatal infectious disease in the hospital to which he has been transported. The regulations assume that the danger of infection is greater in a hospital, and that the subject is less resistant on account of the traumatism, so that the latter is indirectly responsible for his death.

The Knoll Prize in Bohemia.—The Philipp Knoll prize of 2,000 crowns was awarded this year for the first time, and not strictly in accordance with the ideas of the founder. It should be attributed to some one of the younger German-Bohemian scientists for the best work done in the last three years. Instead of that, it was divided among Professor Bayer and Dr. J. Langer, for work on congenital hernia and the lymph glands and bee poison, both dating from several years ago, and A. Fischel and O. Bail for recent research.

Institute of Legal Medicine at Paris.—A decree dated June 22, provides for the establishment of an institute for legal medicine and psychiatry for the training of experts for forensic cases. It will be in charge of the dean of the medical faculty, and lectures and practical instruction are to be given by various professors and hospital physicians. The *Progrès Médical* comments that if the institute is to depend on the city morgue for its material and is not to be equipped with up-to-date laboratories and spacious dissecting rooms, it will fall lamentably short of the purpose for which it is intended.

Sequel to the Nardenkoetter Charlatan Case.—The charlatan Nardenkötter, who escaped to England and forfeited his large bail rather than face his sentence of three years' imprisonment and a heavy fine, we learn has been handed over to the Berlin police by the English authorities. THE JOURNAL related some of the particulars of the sensational case at the time. The family bath tub in which the charlatan compounded his medicines has been satirized in many ways since. The gullibility of the public has seldom been better evidenced, although an ad that has been appearing in a German paper from the Munich charlatan, Weselmann, seems to count on still greater credulity. The latter advertises that he can diagnose all diseases, past, present, and those still in the germ, by examining the eyes. One of our exchanges comments that this method of treatment is not so much of a mockery of the science of the twentieth century as it is an arraignment of the laws which permit such a method to be publicly exploited for gain.

Penalties for Charlatans' Advertising in Germany.—The editor of the advertising portion of the Breslau *General-Anzeiger* was warned by the authorities in regard to the fraudulent character of the ads of a certain charlatan named Malisius, who claimed to cure all diseases. He continued to print the ads and has recently been condemned by the Breslau courts to a fine of 3050 marks, about $765. The court stated that the editor in publishing the advertisement was more culpable than the charlatan, as if the papers did not aid the quack he would not become so well known. Malisius himself was condemned on 22 counts of accomplished and 9 of attempted fraud, to a fine of 1500 marks, or $375, and eighteen months' imprisonment. A woman at Eberfeld has also been fined $40 because she advertised that she treated gynecologic affections, kidney and bladder troubles, gout, etc., "according to the latest scientific methods and researches," but was compelled to confess that she had not the slightest knowledge of recent scientific research.

Contract Practice in Germany.—The *Deutsche Med. Wochft.* announces that the medical officers of the sickness insurance societies at Munich unanimously resigned their positions July 1, as anticipated, on account of the increased demand on them to be imposed by the new legislation previously mentioned in these columns, and the refusal of the societies to increase their remuneration to correspond. A committee had been appointed by the "county" medical society to obtain the moral support of the local profession for this step on the part of the "*Kassen*" physicians, and the committee reported June 18 that more than 99 per cent. of the physicians in the province had signed the circular. The editorial commends "the organization of the Munich physicians, their unanimity and energy, as a shining example for us all." Later reports from Munich state that whereas, before the resignation of the medical officers the *Kassen* would not listen to their appeals, since then they have already made overtures for a consideration of the matter, which the profession hails as a material victory, and hopes for a speedy, peaceful settlement of the question.

British Degeneracy.—The question which we mentioned as exciting the English press and people, whether or not the British race is deteriorating physically, is exciting as much discussion there as did the "race suicide" matter in the United States. By way of continuing the matter under discussion and broadening its scope to include the mental status, the lay press quote Dr. Ernest W. White, professor of psychologic medicine at King's College, as having said in his presidential address to the Medical Psychological Association that facts point to an accumulation of the chronic insane and that the number of cases of melancholia had vastly increased, frequently resulting in chronic insanity. During the last few years Dr. White had been struck by the large number of cases of evolutionary mental breakdowns occurring in patients of the upper and middle classes from eighteen to twenty years of age. This was the result of the strain of education and the worries of life on brains unequal to the stress under which Londoners lived. Late marriages were more frequent than they were fifty years ago, and that did not conduce to healthy stock. Late hours, unnatural excitements and the greater stress of life all had their effect on the increase of insanity, and he feared that the race generally was less robust mentally, as well as physically, than formerly.

Cancer Research.—The German committee for cancer research announces the foundation of a "*Zeitschrift für Krebsforschung*" to be published by G. Fischer at Jena in connection with the *Klinisches Jahrbuch*, although as a separate periodical. The editors are to be Professor v. Hansemann and G. Meyer of Berlin. At the meeting of the committee, February 28, it was announced that collective statistics are being gathered in Spain under the leadership of Hans Leyden, nephew of von Leyden of Berlin. Great interest is being manifested also in Russia where a model Institute for Cancer Research has been erected at Moscow as previously mentioned in these columns. The English committee recently sent a delegate to Germany to study the arrangements there. "Prophylaxis of Cancer of the Stomach" was the main subject discussed, the importance of careful chewing being emphasized by Katz. Ewald, on the other hand, stated that in his experience cancer subjects had always lived temperately and chewed slowly and well. The contradiction between the greater prevalence of cancer in the large cities and in the well-to-do classes in opposition to its lesser frequency among the poor and in the country, where the food is coarse and not carefully chewed, was also brought out by some speakers. It can scarcely be explained by stronger teeth among country people. Von Leyden also corroborated the increasing frequency of cancer of the stomach in the well-to-do classes. He reiterated his belief in the parasitic nature of cancer, remarking, "We live on hope and work for the future."

Fee-Splitting in the French Courts.—A certain family physician at Joigny charged $100 for his share in conducting a case which required an operation for which the surgeon's charges were $400. The affair was carried into the courts and the physician's right to remuneration in connection with the operation was conceded, but the court decided that he must not charge in proportion to the expense of the high-priced consulting surgeon, but must be content with $30 instead of $100, thus fixing a standard rate for the attending physician in such cases. The *Progrès Médical* comments that a fixed charge is incompatible with the sliding scale generally adopted by the profession in accordance with the patient's means, from zero upwards. It cites as a laudable attempt to solve the question the suggestion by certain medical syndicates that the family physician should receive one-fourth as much as the surgeon. If this rate were once accepted and incorporated in the medical relations with the public, the latter would know beforehand and could count on the expense of an operation

and the after-care, and there would be nothing to conceal nor any suspicion of indelicacy on the part of the medical corps. The editor of the *Gaz. Méd. Belge* commenting on the same affair, remarks that the family physician can not always count on the good will of the family in respect to his emoluments in such cases. He suggests as remuneration for the responsibility of the diagnosis, preparation, etc., by the attending physician, that the specialist surgeon should charge a lump sum for himself and his aids, and that the attending physician should be considered and remunerated as one of his aids in the operation, which, of course, in most cases would amount to "division of fee."

LONDON LETTER.

Tsetse Flies and Trypanosomiasis.

The study of mosquitoes in connection with malaria and other tropical diseases undertaken by Prof. Ray Lankester and his assistant, Mr. F. V. Theobald, at the Natural History Museum, has given rise to an important monograph which is published by the trustees of the British Museum. It has been so useful to medical men working on these diseases that a similar study of tsetse flies is in the course of preparation. The tsetse fly of South Africa kills horses and cattle by introducing into their blood the *Trypanosoma brucci*. Dr. Castellani, a member of the Royal Society commission sent to Uganda to investigate sleeping sickness, has found in 70 per cent. of the cases a trypanosoma in the cerebrospinal fluid. It is suggested that the parasite may here also have been introduced by the tsetse fly. Professor Lankester has just received from Uganda a box of biting flies, which Mr. Austin, the expert dipterist of the museum, found to contain 10 tsetse flies of the species *Glossina palpalis*—a West African species known from the Gambia to the Congo. Dr. J. E. Dutton and Dr. J. L. Todd, who formed the trypanosoma expedition of the Liverpool School of Tropical Medicine, have just returned to England from Senegal. The expedition left Liverpool on August 21 last and proceeded to Bathurst in the Gambia. After working in the Gambia they went to Senegal. They found that trypanosomiasis occurs in both Europeans and natives, and is distributed from the sea to the upper Gambia. In Senegal the expedition received valuable assistance from the French authorities, who gave them every facility, including a large and well-equipped laboratory at St. Louis. They report that the anti-mosquito campaign at Bathurst has caused marked reduction in malarial fevers, both in Europeans and natives.

The Journal of the Royal Army Medical Corps.

A new journal, designed for the use of army surgeons, has just appeared under the editorship of Major R. H. Firth, professor of hygiene in the Army Medical School. The first number indicates that the journal will be one of high standing. It contains a minute and well-illustrated description of the hospital arrangements on board transports and a most interesting report of the medical relief expeditions to Martinique and St. Vincent in aid of the sufferers from the volcanic eruptions of May, 1902.

The Plague.

In Cape Colony, for the week ending June 20, the following cases were reported: Port Elizabeth, 2, 1 European female and 1 native male (found dead). At the Plague Hospital 1 native male died and 1 European male and 3 native males were discharged, leaving 8 cases under treatment. Plague-infected rats continue to be found in the town. At the plague hospital in East London 1 European female was discharged, leaving 4 under treatment. At King William's town 1 European female was discharged, leaving 11 cases under treatment. At Hong Kong for the week ending June 27 there were 54 cases (3 Europeans) and 35 deaths. In the market 5 ducks, a chicken and a quail were discovered, all of which had died from plague. The birds had apparently been infected from the basement dwellings in the market, and these dwellings will no longer be allowed to be used. In this connection it may be pointed out that Dr. W. J. Simpson, during his recent visit to the colony, showed that monkeys, pigs, calves, sheep, hens, geese, ducks, turkeys, and pigeons contracted the disease by feeding on infected material. These facts have a bearing on the mode of infection in man, and the prevalent view that he acquires plague mainly by inoculation. The fact that such a variety of animals can acquire the disease from their food suggests that he may also be so infected. It is the custom of the Chinese to eat half-cooked fowls and to use the uncooked entrails as a delicacy with their rice.

Sciatica and Rheumatoid Arthritis of Hip-Joint.

At the Polyclinic Dr. W. Bruce of Strathpeffer, a health resort for arthritic patients, almost went the length of maintaining that there is no such malady as sciatica in the ordinary meaning of the word (neuritis of the sciatic nerve), but that the cases so diagnosed are examples of arthritis of the hip-joint. It might be chronic rheumatic arthritis or acute or subacute gout. The pains in the thigh and leg he explained as "referred pains." He urged that there was never any anesthesia of the skin or reaction of degeneration. Neglect of examination of the hip was the cause of the mistake in diagnosis. Three supposed cases of sciatica were produced for demonstration. The points of differential diagnosis were gone through, and it was shown that in two out of the three cases the joint, and not the nerve, was affected. But in the third case no indications of joint disease could be elicited. All movements were borne without complaint, but pressure over the nerve caused flinching.

Correspondence.

Sacrificed to Eddyism.

Kansas City, Mo., July 14, 1903.

To the Editor:—I presume my indignation over and antagonism to the body known as Christian Scientists is but that of other members of the medical profession who have come in contact with them in case of serious illness and death, where their great assurance of power, though ignorance in reality, and criminality are demonstrated.

How we, an organized medical profession, and a civilized people, can or do permit them to continue to treat disease and surgical conditions in spite of common and frequent deaths due to their ignorance and neglect, is beyond comprehension! Yet I realize it is due no less to my tolerance than to that of thousands of others, both of the profession and the laity. We profess to have left behind us the Middle Ages with its superstitions, its atrocities and cruelties, but daily that period is being re-enacted in the homes of our neighbors, guided by the spirit of an autocratic despot, whose power for evil is quite that of her influence to instill professed happiness into the hearts of her deluded followers.

Within the past week I was called in to see a woman 73 years of age, a beautiful character, of bright mind, and extremely well preserved, and hopeful of living for years. For three days she had been ill and under the care of Christian Science healers and their nurse. It was evident I was called in by the family because her life was despaired of. An examination revealed a right, irreducible femoral hernia, frequent emesis, absolute constipation of three or four days' duration, localized pain on and without pressure. Gentle taxis, manipulation and hot applications proved of no avail at this time, though it can not be assumed in what such means might have resulted if resorted to at onset of descent of hernia. An operation was advised without delay, since the already serious symptoms were not only persisting but increasing, but in spite of advice and the horrible fecal vomit and the patient's agony, she was demonstrated over by these people calling themselves Christians, Scientists, Healers. In consequence, she died after an awful week—a victim to a pseudo-science—and in spite of the fact that an operation would have saved her. Through the ignorance and false faith of a sect fast attaching itself as a powerful factor in social and religious circles, this life was sacrificed, in fact, murdered.

Kansas City, like other cities and towns of the United States, has, during the past few years, had many deaths among Christian Scientists, and investigation has often proved, beyond a doubt, that death was not inevitable if medical service had been rendered. It would naturally seem that such instances would awaken the followers of Mrs. Eddy to a sense of their delusion, if not criminal responsibility. But, of course, to convince such devotees as come under the spell of a master, though degenerate, mind as is possessed by an Eddy or a Dowie, is not possible. The solution must, in all probability, come through popular education along lines of health and disease, and a persistent fight by the medical profession, for the passage of laws to protect society, especially the deluded adults of such a faith as in

question, and the innocent, ignorant children who often fall victims to lack of a humanity which is Christian, and knowledge and skill which are truly scientific.

I wish to urge that the profession at large report every such case that may come to their knowledge, and that at the next meeting of the American Medical Association, proper and decisive steps be taken, seeking state and, if possible, national legislation which may limit and punish directly those responsible for such deaths. It is a sad reflection on the owners and editors of our daily press that we can not, through them, have started a propaganda against such sects; and, too, most popular magazines are loath to take a decided stand against them. Hence, as in the past, the medical profession has waged a successful fight against germ disease, it remains for it to continue with more determination than ever the struggle against a pandemic of mental degeneracy. Otherwise, we will have lost power to control and cure many diseases and surgical conditions over which we now have power, and which is giving us a yearly decreasing death rate.

Scott P. Child.

Weakness and Dilatation of the Heart in Chronic Nutritional Disease.

New York, July 11, 1903.

To the Editor:—With interest I read the paper of Dr. G. W. McCaskey with the above title in The Journal, July 11, 1903. My interest will be readily understood if I may be permitted to quote from my own writings a few practical points in regard to the relation of myocarditis or feeble heart in general to atonia gastrica, and one remark about my carbonic acid gas baths to take the place of Nauheim baths.

In the year 1895 Dr. M. Einhorn pointed out to me the frequency of the occurrences of splashing sound (that is, atonia gastrica) in cases of heart disease. We examined together a number of cases and I published the result of this investigation in a paper ("What is the Significance of the Splashing Sound of the Stomach," *N. Y. Medical Journal*, June 15, 1895). Later on I followed this subject independently from Dr. Einhorn, and called attention to the importance of this symptom of atonia gastrica in its different forms in numerous papers. Among others I had observed how it seemed to correspond in many instances with tachycardia.

In one of these papers ("Gastroptosia the Cause of Symptoms Erroneously Attributed to Nephroptosia," *N. Y. Med. Journal*, June 21, 1903) I referred to a case reported by Dr. Groddeck of Baden Baden as follows:

> An elderly gentleman is suffering for several years from attacks of vertigo and unconsciousness. Almost daily, sometimes hourly, and even at shorter intervals, the alarming symptoms appear. The frequency of the pulse is 27-31 beats in the minute; only every second contraction of the heart causes pulsation. All the physicians who saw the case diagnosticated, quite correctly, myocarditic affection and treated him accordingly, but without success. The enormously distended belly of the patient had not been taken into consideration until Dr. Groddeck paid attention to it. The reduction of the size of the belly, although it did not cure the diseased myocardium, was followed by cessation of the attacks of vertigo and unconsciousness. The size, the weight of the belly, having been reduced the work of the heart was materially relieved, relieved to such an extent that even the imperfect contractions were sufficient to fill the brain with the necessary quantum of blood. it is sometimes of more importance in cases of heart disease to examine the abdomen than to distinguish the fine points of the auscultatory symptoms.

In every case of heart disease in which I find atonia gastrica I make it a point to relieve the relaxation of the abdominal viscera by means of plaster strapping, a method which I have frequently described. I have had invariably the satisfaction to see the beneficial effect on circulation and nutrition.

The absorption of large amounts of carbonic acid gas by the skin has a remarkably beneficial effect on the circulation, whether it is introduced into the rectum or dry gas baths are taken. The capillaries and arteries become dilated, the amount of blood in both, as well as the blood pressure in the arteries, is increased. The diastole of the heart becomes more effective. These are matters of significance, for the heart and its work in so far as the intensity of the peripheral arterial circulation is augmented, and the drawing of the blood from the veins facilitated. The diastolic filling is improved, and the heart muscle is given more time for relief and for renewed energy.

The question is now, why should we use the Nauheim baths to obtain this effect pure and simple of carbonic acid gas? The Nauheim baths are complicated, accidents are at least possible by the inhalation of the gas floating on the water. The dry gas baths, as they are given in Franzensbad, are perfectly harmless, no accidents, at least when the arrangements are made as I have made them, are possible, and the patient can enter without undressing. Every physician can improvise such a bath in his office.

A. Rose.

An Indian Bath.

Philipsburg, Mont., July 7, 1903.

To the Editor:—I noticed lately an article on the improvised Russian baths of the North American aborigine. In Wyoming, Idaho, Montana, Washington and British Columbia they are erected on the banks of streams, rivers and lakes, and in close proximity to a deep pool. Sometimes the work is extremely crude, just a few willow boughs slightly interlaced and barely large enough to hold an adult in a crouching position, the hole in the center, a shallow depression, and no attempt at comfort for the victim. Accompanying this is a photograph of the best constructed one I ever saw. It was made by Flatheads, or as they call themselves, "Selish." The length was 95 inches on the ground, and the height 81 inches in the center. The willows from each side are deftly twisted and braided together in the middle, the ends are tied with bright red flannel, of which a piece is continued over the top like a ridge pole; the hole in the center is 19 inches square, and nearly 13 inches in depth, and where the bather lies is spread with deep grass, called sometimes wild rye. This one was possibly used for more than one bather at a time.

E. F. Conyngham.

American Research and German Reviewers.

New York, July 21, 1903.

To the Editor:—Anent your editorial under above title I wish to state that the *Biochemisches Centralblatt* has since its inception endeavored to furnish abstracts, and in many instances auto-abstracts of all publications pertaining to the special field, and that the American collaborators have been instructed to prepare abstracts of every important article and to report the original works executed in American laboratories.

Heinrich Stern,
American Editor *Biochemisches Centralblatt*.

Queries and Minor Notes.

MEDICAL ETHICS.

Albert, W. Va., July 14, 1903.

To the Editor:—1. Dr. A. is in attendance on a case of appendicitis and he decides that an operation is necessary. The family ask that Dr. B. be called in consultation. Dr. B. agrees with

Dr. A. The family then ask that Dr. B. do the operation. This is not satisfactory to Dr. A., who had expected to do the operation himself. What course should each physician pursue?

2. Recently Dr. Z., a noted surgeon, was called to a neighboring state to operate on a physician. The operation was not successful and the physician died. Dr. Z. charged the brother of the physician for his services. Was this not positively unethical? A. P. B.

ANS.—Dr. B. should perform the operation, since the family request it. The patient and the family have a perfect right to decide on who shall perform the operation, in spite of the fact that it might not be pleasant for Dr. A. in this case.

2. The Principles of Medical Ethics of the American Medical Association, Chapter II, Article 2, Section 3, says:

> When a physician is summoned from a distance to the bedside of a colleague in easy financial circumstances, a compensation, proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

One physician ought not expect another to render his services, pay traveling expenses, etc., without remuneration. The general principle is that if a physician can render services without very great inconvenience to himself, or too much expense, no charge should be made. If, however, as in this case, the physician must make a journey to a neighboring state to render these services, he should be compensated, but compensation under these circumstances should, of course, be the minimum which will pay him for his time and trouble.

RADIUM.

STANBERRY, MO., July 20, 1903.

To the Editor:—I notice an editorial on radium in the last issue of THE JOURNAL. Can you tell me where I can get a small quantity of the metal or its bromin salt? E. T. C.

ANS.—Radium is hardly yet a commercial product, and samples are obtained more by favor than otherwise. It is thus far more of a scientific curiosity than anything else.

State Boards of Registration.

Reciprocity in Oregon.—The Oregon medical practice act was amended by the last legislature so as to provide for reciprocity.

Suit to Oust California Examiners.—On the petition of Dr. David A. Hodghead, San Francisco, suit has been begun in the Superior Court to oust the members of the State Board of Medical Examiners. According to the newspapers, the complaint sets forth that the defendants hold their places by virtue of having been elected to represent on the board the Medical Society of California, the California State Homeopathic Medical Society and the Eclectic Medical Society of the State of California, and the petitioner holds that these are simply private organizations with no legal right to appoint anybody to public and salaried offices. The petitioner is dean of the College of Physicians and Surgeons of San Francisco, which had some trouble with the board last year.

Vermont Has Reciprocity.—The following amendment of Section 4633 of Chapter 190 of the Vermont statutes provides for reciprocity. The section as amended is as follows:

SECTION 4633. Each board of censors shall issue certificates to physicians and surgeons who personally present to such board a diploma from a medical college or university, and who also, by examination, satisfy said board of censors that they are qualified to practice the branches mentioned in said diploma; and to such physicians and surgeons, without examination, who shall personally appear and present a certified copy of certificate of registration or license, which has been issued to said applicant in another state of the Union, where the requirements for registration shall be deemed by said board to be equivalent to those of this state; provided, such state shall accord a like privilege to holders of certificates from a board of censors of this state.

The application fee is $5. The act is in effect since its passage.

Practice of Medicine Defined in North Carolina.—The following amendment defining the practice of medicine was passed by the general assembly of North Carolina and went into effect March 9, 1903:

SECTION 1. That Section 3122 of the code be amended by adding thereto the following words: For the purposes of this act the expression "practice of medicine or surgery" shall be construed to mean the management or treatment for fee or reward any case or disease, physical or mental, real or imaginary, with or without drugs, surgical operation, surgical or mechanical appliances, or by any other methods whatsoever.

Provided, that this act shall not apply to midwives nor to nurses.

Provided, further, that applicants not belonging to the regular school of medicine shall not be required to stand an examination except on the branches taught in their regular college, to-wit: the osteopaths shall be examined only on descriptive anatomy, general chemistry, histology, physiology, urinalysis and toxicology, hygiene, regional anatomy, pathology, neurology, surgery, applied anatomy, bacteriology, gynecology, obstetrics and physical diagnosis.

Provided, that this act shall not apply to any person who ministers to or cures the sick or suffering by prayer to Almighty God, without the use of any drug or material means.

Michigan Report.—Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the examination held at Lansing, June 9 to 12, as follows: Number of subjects examined in, 19; total number of questions, 190; percentage required to pass, 75; written examination; total number examined, 22; number passed, 18; number failed, 4.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Med. Dept., West. Univ., Lond., Ont.	1903	92.21
2	R.	Med. Dept., West. Univ., Lond., Ont.	1903	86.05
10	R.	Med. Dept., West. Univ., Lond., Ont.	1903	86.89
3	R.	Med. Dept., Trinity Univ., Toronto.	1903	92.84
4	R.	Med Dept., Trinity Univ., Toronto.	1903	92.15
5	R.	Med. Dept., Trinity Univ., Toronto.	1903	93.31
6	R.	Med. Dept., Victoria Univ., Toronto	1888	75.00
8	R.	Med. Dept. University of Vermont.	1896	77.57
7	R.	Miami Medical College, Cincinnati.	1887	82.21
9	R.	Cincinnati College of Med. and Surg.	1902	76.08
11	R.	Univ. Imperial Alexander, Finland.	1900	90.00
12	P.M.	College of Med. and Surg., Chicago.	1902	77.10
13	R.	Undergraduate and years of practice		*78.78
14	R.	Undergrad. and yrs. prac. lic. md. bd.		*76.52
15	R.	Undergrad. and yrs. prac. lic. md. bd.		†77.36
16	H.	Undergraduate, 4 years University of Michigan, Homeopathic Dept..		‖82.89
17	H.	Undergraduate, years of practice..		‡75.00
18	H.	Undergraduate, years of practice..		‡75.00

FAILED.

19	R.	Undergraduate		63.42
20	R.	Undergraduate		56.68
21	H.	Independent Med. College, Chicago (diploma mill).....	1897	2.05
22	R.	Dartmouth Medical College.....	1886	71.78

* Fourth examination. † Board examination. ‖ First examination. ‡ First examination, oral.

North Dakota Report.—Dr. H. M. Wheeler reports the written examination held at Grand Forks, N. D., July 7, 1903, at which 25 applicants passed, out of 29 examined, in 13 subjects. The percentage required to pass was 75.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
410	R.	Northwestern University, Chicago.....	1903	75
412	R.	Northwestern University, Chicago.....	1903	81
413	R.	Northwestern University, Chicago.....	1903	84
411	R.	University of Michigan.....	1903	90
438	R.	University of Michigan.....	1883	92
415	R.	University of Minnesota.....	1903	85
417	R.	University of Minnesota.....	1902	76
419	R.	University of Minnesota.....	1903	77
425	R.	University of Minnesota.....	1903	86
426	R.	University of Minnesota.....	1902	80
433	R.	University of Minnesota.....	1903	86
435	R.	University of Minnesota.....	1903	86
428	R.	University of Pennsylvania.....	1883	82
431	R.	University of Missouri.....	1902	81
414	R.	College of Phys. and Surgs., St. Louis..	1903	76
422	R.	College of Phys. and Surgeons. Chicago	1901	82
437	R.	College of Phys. and Surgeons, Chicago	1903	75
416	R.	Queen's University, Canada.....	1903	80
421	R.	Rush Medical College, Chicago.....	1901	77
434	R.	Rush Medical College, Chicago.....	1897	77
424	R.	Rush Medical College, Chicago.....	1903	91
423	R.	Hamline University, Minneapolis.....	1903	75
427	R.	Hamline University, Minneapolis.....	1900	89
429	R.	Hamline University, Minneapolis.....	1903	85
432	R.	Hamline University, Minneapolis.....	1903	77

FAILED.

418	R.	Coll. of Phys. and Surgs., Keokuk, Iowa	1897	66
420	R.	College of Phys. and Surgeons, Chicago	1900	73
439	R.	Bellevue Hospital Medical College.....	1903	72
436	R.	Marion-Sims Medical College, St. Louis.	1903	*

* Only wrote on six subjects.

Marriages.

JAMES F. DARNALL, M.D., to Mrs. Ora Waters, both of Obion, Tenn.

LEMUEL P. ADAMS, M.D., to Miss Elizabeth Leigh, both of Oakland, Cal.

DANIEL SIGLER, M.D., to Miss Mayme Bresler, both of Elwood, Ind., July 14.

JAMES H. FINCH, M.D., to Miss Helen M. Trevett, both of Champaign, Ill., June 10.

ROBIN W. C. FRANCIS, M.D., Cincinnati, to Miss May Edith Schellinger of Chicago, July 4.

WALTER BERNARD SCHWUCHOW, M.D., to Miss Jennie Isabel Gridley, both of Chicago, June 30.

Elmer Kline Avery, M.D., Chicago, to Miss May Francis Power of Escanaba, Mich., July 23.

Albert Mason Tyler, M.D., Oakdale, Mass., to Miss Alice Elizabeth Walker of West Boylston, Mass., July 15.

Eugene R. Hochstetter, M.D., Ridgedale, Tenn., to Miss Cleopatra Fleatsouth of Mission Ridge, Chattanooga, June 30.

Deaths.

Donald MacLean, M.D.

Dr. Donald MacLean, president of the American Medical Association in 1894, died from gastroenteritis, after an illness of two weeks, at his home in Detroit, Mich., July 24, aged 63.

He was born in Seymour, Ont., Dec. 4, 1839, of sturdy Scotch parentage. At the age of six he went to Edinburgh and attended school there for six years. He then returned to Canada and studied in Cobourg and Belleville schools; in 1855 he entered Queen's College, Kingston, where he remained two years. In 1858 he returned to Edinburgh for his medical studies, and

DONALD MACLEAN, M.D.

four years later received the degree of M.B., C.M., and licentiate of the Royal College of Surgeons, Edinburgh.

In January, 1863, he returned to America, and entered the Volunteer service as assistant surgeon, and remained for a year in the general hospitals at St. Louis, Harrisburg, Pa., Louisville, and New Albany, Ind.

In 1864 he accepted the chair of clinical surgery in the Royal College of Physicians and Surgeons, Kingston, and in the five years of his residence there acquired a large practice and gained a wide reputation as a teacher and writer. In 1869 he was obliged to resign on account of ill health, and spent three years in Edinburgh in rest and study.

He was made professor of surgery at the University of Michigan in 1872, and for seventeen years remained with that institution, resigning in 1889 on account of irreconcilable differences with the faculty, which opposed his plan of removing the clinical department from Ann Arbor to Detroit on account of the larger amount of clinical material in the latter city. He removed to Detroit and there built up a large practice.

In 1893 Queen's University conferred on him the honorary degree of LL.D., and a year later he was elected president of the American Medical Association. He was surgeon-in-chief for the Michigan Central and Grand Trunk railways and consulting surgeon at the Harper Hospital and Children's Free Hospital for twenty years.

He was a member of the Michigan State Medical Society, and its president in 1884; of the Detroit Medical and Library Association, and its president in 1887. He was also a member of the Royal College of Surgeons, London, and a Fellow of the Royal College of Physicians; and an honorary member of the state medical societies of Ohio and New York.

During the war with Spain he re-entered the service, and was commissioned major-surgeon, and assigned to duty at Old Point Comfort, Va.

He was a clear and forceful writer, and in addition to numerous contributions to the medical press, he was a collaborator with Mr. Symes in his great work on Surgery in 1884.

Dr. MacLean was a true Highlander, warm in his friendship and relentless in his hatred. He was a strong advocate of ethics and an uncompromising opponent of anything savoring of charlatanism, quackery or professional advertising. He was a stanch friend of the young practitioner, and his kindness to his patients and consideration for young practitioners won him hosts of friends.

He was at one time a bold and brilliant operator of the old school, but of late years his physical and mental condition had been such as to retire him almost completely from all kinds of labor.

Berthold Ernest Hadra, M.D. University of Berlin, Germany, 1866, surgeon in the Germany army in 1866; a resident of Texas since 1867; president of the Texas State Medical Association in 1901; one of the first regents of the University of Texas; and one of the founders of the medical department of the university at Galveston, died suddenly at his office in Dallas, July 12, from aneurism of the aorta, aged 58. At a meeting of the Dallas Medical and Surgical Society, July 14, committees on resolutions and floral tributes were appointed.

William J. Neilson, M.D. McGill University, Montreal, 1878, a member of the Manitoba Legislature; health officer of Winnipeg; one of the organizers of the Manitoba Medical College; gifted in his professional attainments, and highly esteemed in Winnipeg, died at the Winnipeg General Hospital, July 17, from lung disease of a year's standing, caused by a piece of gum, which lodged in the lung, for which an operation was performed without avail, aged 49.

Charles M. Galbraith, M.D. Barnes Medical College, St. Louis, Mo., 1897, assistant surgeon of the Fourth Illinois Infantry, U. S. V., in the Spanish-American War, and afterward captain and assistant surgeon of the Forty-Seventh U. S. Volunteer Infantry, died at his home in Carbondale, Ill., July 23, from tuberculosis contracted while in the Philippines, aged 31.

Herbert Mickle, M.D. Trinity Medical College, Toronto, 1881, of Buffalo, surgeon to the Emergency Hospital, demonstrator of anatomy in Niagara University and attending surgeon at the Sisters' Hospital, St. Francis Hospital, and the Church Home, died at Asheville, N. C., July 21, from tuberculosis, after an illness of two years, aged 42.

William Rittenhouse Hull, M.D. Pennsylvania Medical College, Philadelphia, 1858, died at his home in Williamsport, Pa., July 17, aged 66. He was an honorary member of his state and county medical societies. During the Civil War he was assistant surgeon of the 171st Pennsylvania Volunteer Infantry.

William H. Parish, M.D. Jefferson Medical College, Philadelphia, 1870, professor of anatomy in the Woman's Medical College of Pennsylvania, and chief medical director of St. Agnes' Hospital, Philadelphia, died from heart disease, after a long illness, July 19, at Bilsey Lodge in the Adirondacks, aged 58.

James N. Dickson, M.D. Berkshire Medical College, Pittsfield, Mass., 1866, died at the Mercy Hospital, Springfield, Mass., July 15, after an illness of two years, aged 60. He had practiced successively in Sheffield and Huntington, Mass., and for the last 20 years in Poquonock, Conn.

Samuel C. Hall, M.D. Eclectic Medical Institute, Cincinnati, 1869, St. Louis College of Physicians and Surgeons, 1892, an ex-member of the state legislature, a member of the American Medical Association, died at his home in Omaha, Ill., July 5, from pneumonia, aged 66.

Eugene Hodson, M.D. University of Maryland, Baltimore, 1856, died at Vienna, Md., July 10, from paralysis, aged 71. He was president of the Board of School Commissioners of

Dorchester County from 1872 to 1874, and in 1874 was elected to the house of delegates.

Simon C. Carver, M.D. Rush Medical College, Chicago, 1900, a member of the American Medical Association; for a time attending physician at the West Side Free Dispensary, Chicago, died from pneumonia, June 7, at his home in Chicago, after an illness of one week, aged 32.

Augustine Gattinger, M.D., one of the foremost botanists in the United States; surgeon in the Federal service during the Civil War; some-time state librarian of Tennessee, died at his home in Nashville, from pneumonia, July 18, aged 78.

J. B. Mitchell, M.D., surgeon of the Twelfth Tennessee Volunteer Infantry and the Fifth Kentucky Volunteer Cavalry during the Civil War, died at his home in Manhattan, Kan., July 2, from disease contracted during the war, aged 71.

Edward Vanderpoel Armstrong, M.D., passed assistant surgeon (lieutenant junior grade) U. S. Navy, retired, died at his home in Mount Vernon, N. Y., July 16, after a long illness from fever contracted in the tropics, aged 30.

William Gochrig, M.D. Philadelphia University of Medicine and Surgery, 1861, coroner of Lycoming County, Pa., surgeon of the Ninety-eighth Pennsylvania Infantry in the Civil War, died from acute gastritis, July 12, aged 71.

J. Ernestine Hills, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1893, physician at the Willard (N. Y.) State Hospital for the Insane, died suddenly at that institution from uremia, July 11, aged 41.

Charles A. Helvie, M.D. Rush Medical College, Chicago, 1894, died from the effects of chloroform self-administered, at his room in Los Angeles, Cal., July 10. He recently moved from Havelock, Neb., to California.

Harden E. Bozman, M.D. Dartmouth Medical College, Hanover, N. H., 1882, of New Alexandria, Ohio, died suddenly from apoplexy, July 6, while engaged in an obstetrical case, near Mingo, aged 45.

Isaac N. F. Beegle, M.D. Bellevue Hospital Medical College, 1870, a pioneer resident of Ocean Grove, N. J., died at his home in that place, from dropsy, July 20, after an illness of two years, aged 56.

Russell J. Collins, M.D. Berkshire Medical College, Pittsfield, Mass., 1850, a surgeon in the U. S. Army during the Civil War, died suddenly at his home in Georgetown, Colo., July 17, aged 75.

Francis Marion Perine, M.D. University of Buffalo, 1855, coroner of Livingston County, N. Y., for 21 years, died at his home in Dansville, July 12, after an illness of several months, aged 72.

H. H. McLellan, M.D. Medical College of Ohio, Cincinnati, 1880, formerly of St. Mary's, Kan., died at his home in Topeka, Kan., July 19, suddenly, from heart disease, aged about fifty.

F. A. Malick, M.D. Iowa College of Physicians and Surgeons, Des Moines, 1890, died at his home in Fullerton, Neb., July 17, from heart disease, after an illness of nearly a year, aged 36.

Gordon Herbert Race, M.D. Albany (N. Y.) Medical College, 1880, died at his home in Great Barrington, Mass., July 22, from heart disease, after a lingering illness, aged 50.

Andrew J. Clark, M.D. New York Homeopathic Medical College and Hospital, 1866, was fatally injured in a runaway accident at his home in Loveland, Colo., July 13, aged 74.

Alexander E. Jenner, M.D. Bellevue Hospital Medical College, New York, 1863, died at his home in Dayton, Ohio, July 12, after a long period of invalidism, aged 74.

William Preston Dowling, M.D., surgeon in the Confederate service during the Civil War, died at his home in Charleston, S. C., July 11, after a short illness, aged 70.

Alfred A. Gerish, M.D. New York Medical College, 1853, reputed to be the oldest practitioner in Indiana, died at his home in Lowell, Ind., July 17, aged 85.

James D. O'Keeffe, M.D. College of Physicians and Surgeons, Baltimore, 1873, of Tazewell, Va., died at Pulaski, Va., suddenly from heart disease, July 24.

Annie Lowe Geddes, M.D. New York Medical College and Hospital for Women, 1890, of Montclair, N. J., died from cancer, July 15, at Plainfield, N. J.

Richard R. Pettitt, M.D. University of Michigan, Ann Arbor, 1882, died at his home in Dayton, Ohio, July 9, from tuberculosis, after a long illness.

George Chappell Crawford, M.D. Long Island College Hospital, Brooklyn, 1894, died at his home in Brooklyn, July 13, after a brief illness, aged 34.

Henry A. Goodale, M.D., an old practitioner of Bay City and East Tawas, Mich., died at his home in the latter city, July 16, aged 81.

John E. Stanton, M.D. University of Pennsylvania, of Philadelphia, died at the Municipal Hospital in that city, July 11, from smallpox.

William Knight Adams, M.D. Hahnemann Medical College, Philadelphia, 1902, died at his home in Philadelphia, July 17, aged 23.

Thomas V. Loftus, M.D. University of Pennsylvania, Philadelphia, 1901, died at the Scranton Private Hospital, July 2, aged 26.

Olin G. Dyer, M.D. Castleton (Vt.) Medical College, 1844, died at his residence in Brandon, Vt., July 20, after a lingering illness.

Elias A. Howe, M.D., 1869, died at his home in Brancroft, Iowa, July 12, from Bright's disease, after a long illness.

Ebenezer E. Hyde, M.D. Castleton (Vt.) Medical College, died at his home in Belmont, N. Y., July 4, aged 84.

E. R. Dabney, M.D. New York University, 1845, died at the home of his son in Ringgold, Tenn., July 9, aged 78.

John Clarence Morgan, M.D. New York University, 1875, died recently at his home in Pompton Lakes, N. J.

Deaths Abroad.

Dr. Moritz Jacob Simon died of cerebral hemorrhage at his home at Gnesta, Sweden, June 27, aged 56 years, while making ready for a professional call. He had for many years been a member of the Board of the Association of the Provincial Physicians of Sweden, and at the same time its secretary. He was very much interested in public hygiene, an active worker for professional unity, and a faithful defender of the rights of the medical profession. Since 1898 he has been editor of *Eira*, a bi-monthly medical journal devoted largely to the interests of the country practitioners of Sweden and pro tempore also organ for Svenska Läkaresällskapet (the Swedish Medical Association).

Book Notices.

A TREATISE ON DISEASES OF THE ANUS, RECTUM AND PELVIC COLON. By James P. Tuttle, A.M., M.D., Professor of Rectal Surgery in the New York Polyclinic Medical School and Hospital. With 8 Colored Plates and 338 Illustrations in the Text. Cloth. Pp. 961. Price, $6.00. New York: D. Appleton & Co. 1902.

This volume of nearly 1,000 pages is the most comprehensive of the recent treatises that have appeared on this subject. The opening chapters are devoted to a consideration of the embryology, anatomy, physiology and malformations of the parts, to which nearly 100 pages are devoted. Methods of examination and diagnosis are then taken up, followed by a detailed description of the various pathologic conditions. A noticeable, at the same time excellent, feature of the work is the detail with which the author describes the treatment, whether operative, medicinal or hygienic. Nothing is left to be supposed, and no point which the author thinks may have a bearing on the case has been deemed too small to merit his attention. While this undoubtedly adds considerably to the size of the volume, it is a good fault, for success or failure often depends on some apparently unimportant detail of technic.

The general literature of the subject has been very well covered, and the methods of others receive proper consideration, but the author does not hesitate to say which particular method has given the best results in his own hands.

The illustrations are good and diagrammatic enough to give one a clear conception of the ideas intended to be conveyed. Most of them are new, yet occasionally one has perhaps been taken without due credit being given.

On the whole the book is a good one, and can be recommended to all who work in this line.

THE GEOGRAPHY OF DISEASE. By Frank G. Clemow, M.D. Edin., D.P.H. Camb., British Delegate to the Ottoman Board of Health. Cloth. Pp. 624. Price, $4.00. Cambridge: University Press. New York: The Macmillan Company. 1903.

This work, which is one of the Cambridge-Geographical Series, is an interesting and valuable little summary of the

geography of disease. It is based on reliable information from a vast number of sources, and the author has evidently gone over the literature thoroughly. So far as we are able to observe, his statements are generally correct. It is a curious thing to notice how many formerly serious and prevalent diseases have been of late years reduced in frequency and fatality in some civilized countries, while a few have evidently increased. The modern increase of pneumonia is not fully noticed, though from the date of the work we should think it would include this fact. The author's remarks that tetanus is not apparently common in the United States would seem to need some modification at the present time. The work is illustrated by maps showing the prevalence of certain diseases and their routes of transmission which are graphic and instructive. It is a valuable addition to what we might call semi-popular medical literature, which can not fail to also be of use to physicians.

Tuberculosis: Recast from Lectures Delivered at Rush Medical College, in Affiliation with the University of Chicago. By Norman Bridge, A.M., M.D., Emeritus Professor of Medicine in Rush Medical College. Cloth. Pp. 302. Price, $1.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

This volume contains the substance of the lectures delivered by the author in Rush Medical College during the past three years, and is a summary of his wide experience in the treatment and control of tuberculous patients. The lecture form style is retained. We have seen few treatises on this disease that are more interestingly placed before the reader than this. Dr. Bridge's ideas in some respects have been criticised, especially those on lung gymnastics, etc., but we see nothing in this volume that would call for unfavorable criticism. It is an excellent little handbook of tubercular disorders, and complete in its description.

Miscellany.

Tuberculosis Fakers.

On the subject of our editorial, July 18, we quote the following from the *Medical News:*

The following from the *Herald* is worthy of preservation in medical literature as illustrating the methods of many similar institutions:

When the prosecution is ready to act in suppressing the many so-called "Koch" cure establishments purporting to be affiliated with Prof. Robert Koch, the distinguished German tuberculosis expert, but which he has expressly repudiated no less than thirty times in letters sent to representative men in America, a mass of testimony will be ready. In addition to the data already prepared for the counsel of the County Medical Society, which has been investigating these so-called "Koch" lung cure concerns for nearly two years, it was learned last week that a former nurse at the West Twenty-second street establishment, who has also had experience at several other branches, has volunteered to tell some astonishing particulars about the manner of conducting business in these "consumption parlors."

This woman is now employed at a hospital in this city. She first entered the employ of the so-called Koch Lung Cure Company in Philadelphia, where a sort of training school for nurses is maintained by the parent office. Then she went to the Rochester establishment. Here is what she said when asked about her experience there:

"I had charge of the business department there. I received the patients when they first came to the office; I placed the advertisements, prepared the tuberculin and was the general supervisor of the office. I kept the books and banked the money most of the time."

"What was the treatment that was adopted in that office during the time you were there in charge?" she was asked.

"We got the tuberculin from the Koch Lung Cure office, No. 150 Nassau street, in little bottles containing about an ounce. This was used with six ounces of albolene. The albolene was colored for the consumption cases and bronchitis, and the tuberculin that was used for asthma was plain white. We used alkanet root for coloring."

"How many patients were cured at that place?"

"None."

"How many ever gave testimonials as to being benefited or cured?"

"I think we got three who said they had been benefited, but never any that were cured."

This nurse was then asked about a letter which she said she had written by the direction of Wallace Cleveland Clark, M.D., the head of this particular so-called Koch Lung Cure Company, running as follows:

"We are interested in your case and want you to get well. We are glad to say that, through the generosity of a wealthy lady, whom we have cured, certain money has been placed at our disposal to assist deserving cases to take our treatment. Call soon, as we are making this same offer to others, and it will be a case of first come first served. Respectfully,

"K. L. C."

"What does 'K. L. C.' stand for?"

"The Koch Lung Cure."

"Was that the way Dr. Clark directed you to write the letter?"

"Yes."

"Do you know whether or not a generous lady, or any lady, was cured by the Koch lung cure and had deposited a sum of money for the purpose of benefiting other sufferers, as stated in this letter?"

"I can say positively that I know no wealthy lady was cured in Rochester and that there was never a dollar deposited for any such charitable purpose."

"What would you say basing your statement upon your experience with the company while you were in its service, and from your observation, is the main object of the company in its advertisements?"

"To get money, to get rich, and absolutely nothing else."

"From what you know of your own knowledge concerning the company's mode of treatment and sale of medicine and general advertisements, would you state whether or not there is any virtue in its treatment and if it does humanity good or relieves the sick and suffering from consumption?"

"I would not take it myself."

"What do you say generally, based on your experience?"

"I do not believe that it is any good."

Besides the testimony of this nurse, who has been in consultation during the last few days with Mr. Champe S. Andrews, the counsel for the New York County Medical Society, the method of the spurious "Koch" companies in obtaining testimonials has been investigated.

Here are extracts from a letter sent to a woman in Washington, D. C., signed W. C. Clark, the president of the concern:

"Dear Madam: You are probably aware of the fact that your testimonial has been inserted in the papers, and we realize that you are put to considerable trouble in answering letters and inquiries that come to you about your cure.

"Should any one desire to have you call and see them at their home and you can spare the time, we would be very much pleased to have you do it. Of course, a dollar would be a very small fee for such a visit and we would be very glad to pay it. . . .

"Kindly instruct us to answer them (the letters) for you and we will simply state that your case was cured, as stated in the testimonial. I believe that is all that is necessary. Hoping that you will take this in the spirit in which it is sent and will allow us to at least give you the amount that you would otherwise earn for the same amount of time given, I mean, twenty cents per letter and twenty cents for each inquiry. I remain, very sincerely yours, W. C. Clark."

This adroit scheme to obtain many alleged testimonials is said to have had an odd sequel, which may be brought out in the crusade of the County Medical Society against these impersonators of the German tuberculosis investigator.

Medical Organization.

Van Buren County (Iowa) Medical Society.

The physicians of Van Buren County met at Keosauqua, July 9, and effected preliminary organization of a county medical society.

Page County (Iowa) Medical Society.

Physicians of Page County met at Coin, June 25, and organized a county medical society, with the following officers: Dr. John A. Gillespie, Coin, president; Dr. Robert J. C. Dodds, Blanchard, vice-president, and Dr. Charles F. Perkins, Shenandoah, secretary and treasurer.

St. Landry Parish (La.) Medical Society.

Physicians of St. Landry parish met at Opelousas, July 10, and organized a parish medical society with the following officers: Dr. Benjamin A. Littell, Opelousas, president; Dr. Ladis Lazarro, Washington, vice-president; Dr. William R. Lastrapes, Opelousas, secretary, and Dr. William R. Boudreau, Washington, treasurer.

Grand Forks County (N. D.) Medical Society.

Thirty physicians of Grand Forks County met at Grand Forks, July 8, and organized a county society with the following offices: Dr. John D. Taylor, Grand Forks, president; Dr. Herbert W. Matthews, Emerado, vice-president; Dr. Henry H. Healy, Grand Forks, secretary, and Dr. Robert D. Campbell, Grand Forks, treasurer.

Lafayette Parish (La.) Medical Society.

At a meeting for organization held at Lafayette, July 11, this society was formed; a constitution and by-laws on the lines suggested by the state and National associations adopted, and the following officers elected: Dr. Jean P. Francez, Carencro, president; Dr. John D. Trahan, Lafayette, vice-president, and Dr. Felix E. Girard, Lafayette, secretary and treasurer.

Jefferson County (Texas) Medical Society.

Pursuant to call, the physicians of Jefferson County met at Beaumont, July 19, and organized a county medical society, and adopted a constitution and by-laws in conformity with those of the state and National associations. Dr. William W. Cunningham was elected president; Dr. Louis Goldstein, vice-president; Dr. Guy H. Reed, secretary and treasurer, and Dr. Henry A. Barr, delegate to the state medical assocation.

New Hanover County (N. C.) Medical Society.

On July 6 Dr. Frank H. Russell, Wilmington, councilor for the Third District, met with the physicians of the county at Wilmington and completed the organization of the society. Dr. Thomas S. Burbank, Wilmington, was elected president; Dr. John T. Schonwald, Wilmington, vice-president, and Dr. E. J. Wood, secretary. Drs. William D. McMillan and Andrew H. Harriss, Wilmington, and S. E. Koonce, Polloksville, were elected censors.

Russell Springs (Ky.) Medical Society.

The president, Dr. James G. Carpenter, Stanford, councilor for the Seventh District, announces that this society will meet August 13 and 14; that at this time the Adair and Russell County Medical societies will be organized, and closes with the following invitation: "Let everybody come and bring his rifle and fishing tackle. Rattlesnakes are sufficiently numerous in this section of the country for each member to supply himself with the necessary antidotes before he leaves home."

Hunt County (Texas) Medical Society.

Dr. Charles E. Cantrell, Greenville, councilor for the North Texas District, met the physicians of the county at Greenville, July 7, and assisted in the organization of the county medical society under the jurisdiction of the state and National associations. Dr. Walter C. Welch, Caddo Mills, was elected president; Dr. Thomas J. Milner, Greenville, vice-president, and Dr. Milus L. Moody, Greenville, secretary-treasurer. Drs. Thomas E. Spaulding, Greenville, W. B. DeJernett, Commerce, and Garnett, were elected censors.

Monona County (Iowa) Medical Society.

Physicians of Monona County met at Onawa, July 1, and with the aid of Dr. Edward Hornibrook, Cherokee, councilor for the Eleventh District, organized a county medical society on the lines suggested by the state and National organizations. Dr. John W. Huff, Onawa, was elected president; Dr. Rueben Harmon, Onawa, vice-president; Dr. E. E. Fisher, Rodney, secretary, and Dr. Archillous A. West, Moorhead, treasurer. Drs. A. J. Moore, Onawa, W. W. Gingles, Castana, and John D. Kerlin, Whiting, were elected censors.

Dallas County (Texas) Medical Society.

Pursuant to call of Dr. Charles E. Cantrell, Greenville, councilor for the North Texas District, physicians of Dallas County met at Dallas, July 11, organized a county medical society, adopted the constitution and by-laws prepared by the American Medical Association, and elected the following officers: Dr. Vene P. Armstrong, Dallas, president; Dr. Alva W. Carnes, Hutchins, vice-president; Dr. Elbert Dunlap, Dallas, secretary; Dr. John C. Armstrong, Garland, treasurer, and Drs. W. W. Samuell, Frank J. Hall, and Jesse B. Titterington, Dallas, censors.

Societies.

Medical Society of the Missouri Valley.—The annual meeting will be held in Omaha, September 17.

Jasper County (Iowa) Medical Society.—At the annual meeting in Newton, July 16, Dr. Louis S. C. Turner, Colfax, was elected president; Dr. F. L. Smith, vice-president; and Dr. Harry P. Engle, Newton, secretary and treasurer.

Southwestern Minnesota District Medical Society.—At the thirtieth semi-annual meeting held in Windom, July 16, Jackson County was added to the jurisdiction of the society, which formerly included five counties—Rock, Pipestone, Murray, Nobles and Cottonwood.

Stephenson County (Ill.) Medical Society.—The following officers were elected at the annual meeting held in Freeport, July 9: Dr. Jeremia H. Stealy, Freeport, president; Dr. Daniel B. Bobb, Dakota, vice-president; and Dr. Robert J. Burns, Freeport, secretary and treasurer.

Henry County (Iowa) Medical Society.—At the annual meeting held in Mount Pleasant, July 14, Dr. James M. Evans, Salem, was elected president; Dr. Charles W. Gardner, Winfield, vice-president; and Dr. William S. Lessenger, Mount Pleasant, secretary and treasurer.

Denton County Medical Association.—At the annual meeting, July 7, held in Denton, the following officers were elected: President, Dr. Franklin U. Painter, Pilot Point; vice-presidents, Drs. Milton C. McBride, Denton; George G. Agerton, Argyle, and Curvier Lipscomb, Denton; secretary, Dr. Melvin L. Martin, Denton, and treasurer, Dr. James B. Honeycutt, Denton.

Association of Assistant Physicians in the Ohio State Hospitals.—At a meeting called at Columbus, July 16, this association was organized with a charter membership of 25. The following officers were elected: President, Dr. George T. Hardin, Jr., Columbus; vice-president, Dr. James F. Kelly, Cleveland; secretary, Dr. Isabel A. Bradley, Columbus, and treasurer, Dr. Nelson H. Young, Toledo.

Lehigh Valley Medical Association.—At the twenty-third annual meeting held in Stroudsburg, Pa., July 16, the following officers were elected: President, Dr. Frederic Corss, Kingston; vice-presidents, Drs. John T. Howell, Wilkesbarre, E. H. Deckinshied, Nathaniel C. Miller, Stroudsburg, and C. B. Smith; Dr. Charles McIntire, Easton, secretary; Dr. W. B. Walker, assistant secretary, and Dr. Abraham Stout, Bethlehem, treasurer. The next session will be held in Allentown in January, 1904.

Tri-State Medical Association of Western Maryland, West Virginia and Western Pennsylvania.—This society met at Cumberland, Md., July 16, and elected the following officers: President, Dr. Martin F. Wright, Burlington, W. Va.; vice-presidents, Drs. James O. Bullock, Lonaconing, Md.; A. B. White, Connellsville, Pa., and Edwin K. Wilson, Romney, W. Va.; recording secretary, Dr. Percival Lantz, Alaska, W. Va.; corresponding secretary, Dr. Frederick W. Fochtman, Cumberland, Md., and treasurer, Dr. Henry W. Hodgson, Cumberland, Md.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Thirteenth Annual Meeting, held at New Orleans, May 4, 1903.

(*Continued from page 275.*)

Report of Committee on Revision of Constitution as to the Standard of Admission.

DR. WM. H. WATHEN, Louisville, Ky., presented the following as a minority report:

MINORITY REPORT.

MINIMUM REQUIREMENTS FOR ADMISSION TO A MEDICAL COLLEGE.

In adopting a standard of minimum educational requirements for admission to the freshman year of a medical college, to govern the members of an Association representing the entire country, the college being a department of a university, or in affiliation with a university, or with no university connection, it is necessary that concessions be made, so as to agree on what is best in the interest of the greatest number of reputable medical colleges, and in obtaining the best results in the prevention and cure of disease. A standard too high may be as harmful as a standard too low, by excluding from the medical profession men of the best minds, who are deprived of the cultural training in a large and expensive university; hence, to adopt a universal requirement of a baccalaureate degree from a recognized college or university for admission to a professional school would alike be at this time an injustice and injury to the profession and the people. Therefore, we must philosophically consider the conditions that underlie and control the educational system in this country leading up to the admission to the university and professional school, for these conditions differ radically from what pertains in other civilized countries. In England, Germany, France and other European countries, the free public school system does not offer opportunities for an education higher than that obtained in the six or eight years of our best primary and intermediate schools, and the few who are permitted to pursue their studies in the secondary or so-called high schools, are confined to the wealthy and aristocratic class, or to the well-to-do people of the middle class who are able to pay fees. Our system offers to any one a continuous course averaging from ten to twelve years from entering the primary school to the college or university, while in Germany the peoples' schools are intended primarily for the low and middle classes, and have little connection with the high schools which prepare students for the university. In Italy the connection between the elementary and secondary school is apparently closer than in Germany, but practically the reverse is true, for 90 per cent. of the children never pass beyond the third year's course of the primary schools.

In France, because of the fees charged, and the difference in organization and purpose of the two classes of schools, the graduates from the primary schools (écoles primaires élémentaires) seldom enter the high schools (lysées and colleges). The same is practically true in Switzerland, and apparently the same reasons keep down the number of secondary schools. In Zurich, where the conditions of advancement are exceptionally good, of 1872 graduates of the primary school in 1899, only 482 entered the secondary school, and probably but few of these were able to complete the course. The board schools of England, which are for, and attended by, the masses, are entirely different in spirit and in purpose from the public and grammar schools which prepare students for the university. Stimulated doubtless by the privileges and results of our public system of education, England has organized higher grade elementary schools, which may have a course of four or five years longer than the lower schools; and Germany has similarly sought to supplement the work of the primary schools by establishing real schools and higher burgher schools, but in none of these schools is either Latin or Greek taught, and the courses do not lead up to the university; the same is true in results in the higher primary schools (écoles primaires supéreures) of France.

While our system in its inception may have been in a degree fashioned after foreign models, and the establishment of our system of elementary education influenced by the description of European schools, by Mann, Stowe and Barnard, the difference between the American and European schools in organization and methods is now so great that in many features we can not and should not resemble those schools. We may in the future, as we have in the past, gain much from foreign schools, and foreign literatures, but our highest ideals must result from indigenous influences, truly American, and not ideals or practices found elsewhere.

The success claimed in the fixed courses in the German high schools in large cities to show the unwisdom of our elective courses is not sustained by facts, for in each of those cities there are several high schools whose curricula differ as widely as the various courses in a high school with us. It must also be remembered that the lycée of France and the gymnasium of Germany are intended for the few who may obtain a liberal education, while our schools supply the needs of all.

It will thus be conceded that in European countries but few pupils can be properly educated for admission to professional schools except through colleges and universities, while in the United States they can be well prepared in our free public schools. But as the curricula in our primary, intermediate and secondary schools differ, not only in various states, but even in the different schools of each state, both in time and in amount and character of work required, we should, in accepting a high school diploma as a minimum qualification for admission, correctly understand and determine the time-requirement, and in a general sense the amount and character of education given—being liberal in the allowance of electives. In view of the fact that most of our states and cities in which the public school system is encouraged and fostered require attendance upon twelve years of not less than forty weeks each from the beginning of the primary to the completion of the secondary course, the Association should finally expressly provide that the diploma of no high school obtained in less time shall be accepted as a minimum requirement for admission to a medical school. The high school can never offer fixed, or even elective courses to especially prepare the pupils for the several professional schools, nor can this be completely done in our universities, unless those studies properly belonging to the academic and scientific department be subordinated to studies that have usually been included in the professional schools, and should be retained, if we are to have any unit of measure for the baccalaureate and professional degrees.

In this process of rapid evolution in education to meet modern demands, the regulator necessary for perfect results has not worked with entire precision, having permitted the destruction or injury of many cherished precedents that time must restore, and made innovations that time must destroy. This applies especially to our well-known universities in their desire to shorten the period of university residence, by the substitution of professional work for the time-honored purely academic work; the work of the senior year, and in the University of Chicago in the two years of the senior college, being mainly professional, the pupil receiving the baccalaureate degree and advancing the sophomore or junior year of the four years' professional school, thus obtaining the baccalaureate and professional degree within six or seven years, each degree indicating that it had been obtained after attendance on four years of academic or professional work. It is also possible for a pupil whose qualifications will admit him to the junior year of the university to obtain in five, and in the University of Chicago in four years, both the baccalaureate and professional degree. This is no captious criticism, but a desire to direct attention to a heterogeneous condition, inconsistent with all classical conceptions of a university proper, and which the philosophic deductions of our most distinguished teachers and scholars will eliminate. It is especially the province of the university to teach the science and art of education, its history and methods, and create a demand for more thorough professional training: It should produce a succession of scholars in philosophy and literature, but it is not required to supply practitioners in the professions; for if the university observes its purest ideals, the professions will take care of themselves.

The degree of perfection in the work in primary and secondary schools, academies and colleges, may be measured by the perfection of the classical work done in the university, for as the sun gilds the mountain tops before its light floods the plains, so must educational progress spread from the summits, for the secondary schools receive their inspiration from the classical university, and will be what the university makes them. With the proper stimulus and encouragement of the university, the secondary schools may finally complete the work of the freshman and sophomore years, thereby reducing the university residence to six years in obtaining the baccalaureate and professional degree—thus eliminating the combined academic-professional course, and giving a unit of measure to both degrees.

In our effort to adopt the best method of education preparatory to the study of the professions, we often confound culture with instruction, and wisdom with knowledge, forgetting that culture is to quicken, strengthen and enrich the mind, while instruction furnishes the mind with knowledge, which may be

abundant, but of little value unless utilized by wisdom to obtain the most perfect results which may redound to the greatest interest of humanity. Wisdom and knowledge are not identical, but related, and the latter can not be possessed without a degree of the former. Knowledge comes from without; wisdom lies within, but by cultivation may become comprehensive and powerful. Much knowledge may be worthless unless directed by the guiding-star of wisdom. Knowledge is the material out of which we construct the beautiful palace, but wisdom is the architect who combines this material in harmonious relation, resulting in architectural perfection. Then while in our preparatory education leading up to the study of the professions, let us educate the mind to think rightly and wisely. We should encourage the study of the classics—English, Mathematics and the Sciences—but we should teach the mind how to digest, assimilate and appropriate the accumulated facts; otherwise there may be much knowledge with little wisdom, and no useful results. Teach the student the various channels and mechanisms by which knowledge may be obtained, and the mental processes by which it may be directed and utilized to attain the greatest perfection and usefulness. Teach him philosophy—embracing psycology, logic and ethics—and in a general sense the history of phil- and usefulness. Teach him philosophy—embracing psychology, of Socrates, Plato and Aristotle, the Pagan philosophy of Rome, and finally through the various ages, to Abelard, Descartes, Kant and others equally worthy.

The study of too much mathematics, as also some of the collateral sciences, should be discouraged, and the time may better be consumed in a careful study of English, and Greek and Roman history, and in the life and growth of language, especially of the philology of the languages that may be traced to an Aryan or Indo-European origin.

Of all languages except our native tongue, the study of Latin is of greatest value, and excluding the commercialism of German and French, Greek should be next in order, for even an imperfect knowledge of these two languages will enable the student to easily understand the etymology of the many compound technical terms in the study of medicine, which a knowledge of no other language will do. German can never be of much value in the study of the rich scientific literature of that language, unless it can be read with ease and correctly translated, and this can not be done by the American student of four years' study of five hours a week in our high schools. Again, in the near future, all that France or Germany may discover or develop, if of real value, will be promptly given to us in a translation, by scholars educated in German or French, English and the sciences; and even to-day we find many such translations in libraries throughout the country. Far be it from me to discourage the value of German and French, and the great richness of their literatures, but to be of value to the student in medicine, the languages must be read with ease, otherwise the meaning may not be correctly understood, for the understanding of the text must be measured by the translation. The average student in German who graduates from our high schools may read German with comparative ease in the text-books in prose and poetry, but he can not read with ease books on technical and scientific subjects, and to do so at all, he must constantly refer to his lexicon and make slow progress. This is true of our high schools in Louisville, with teachers acknowledged to be equal to any in the country, the course being four years of ten months each, five hours a week. This is also true in the state of New York, as will be seen in the following extract from a recent letter from Prof. Charles R. Skinner, state superintendent of department of public instruction: "Graduates from our high schools do not, as a rule, read with ease the German and French languages."

My information from extensive correspondence indicates similar results in the various states. Of course pupils of German parentage, or of special excellence may read and write the German language with ease. It must also be remembered that German is a required study in but few of our high schools, and in many of them is taught but two years; therefore, in adopting a minimum requirement for admission to medical college, neither German or French should be demanded, but should be encouraged as electives. Then let us adopt but few fixed subjects in our examinations for admission to a medical college, but many electives from which selection may be made, requiring one-third, or about seven out of twenty-one. In accepting a baccalaureate degree for admission, we are forced to acknowledge that it is meaningless, has no significance, and indicates nothing if conferred by the majority of our so-called academies, colleges and universities, and who is to sit in judgment to separate the chaff from the wheat, the bad from the good, the sinner from the saint? as all claim equal virtue. Then if this be true in accepting a baccalaureate degree for admission, the evil will be far greater in giving advanced standing or time-credits for such degree. So let us urge on this Association to give no time-credits for work done, except in a recognized medical college, and to insist on a discontinuance of the combined academic and professional courses. If this can not be accomplished now, it will be in the very near future, for the evolution is rapid in that direction, as indicated in the subjoined letters from the officers of the academic and arts department, and the medical department of Harvard, Johns Hopkins, Yale, Cornell, Columbia, etc. None of these universities gives time-credits for a baccalaureate degree, and Harvard and Johns Hopkins have no combined academic and professional courses, and I am sure neither Columbia, Yale or Cornell will have after a few years, for they encourage their students to attend four years of purely medical college work. The combined course was the child of necessity, to meet the demands for a shorter university residence, the medical profession refusing to recede from the requirement of attendance on four years purely medical work. As it is hardly possible to increase the university residence, the academic and arts course must be finally reduced to three, and possibly to two years, which may be done without lowering the standard by requiring applicants for admission to have done the work that has previously been included in the freshman, or both freshman and sophomore years. The secondary schools will then teach more months and more hours, with a better system and more condensed work, eliminating all that a broader experience proves to be unnecessary. The student may then graduate in medicine when he is twenty-three, twenty-four or twenty-five years old; ten to twelve years in the primary, intermediate and secondary department, two to three years in the college, and four years in medicine.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Prophylaxis and Treatment of Baldness.

Dr. Albert Bernheim, in an article in *Amer. Med.*, states that the greatest hindrances in stopping the falling out of the hair are the indifference and impatience of the patient and the physician. In his opinion brain work is not a causative factor of baldness, as is the exclusion of light and air from the hair. He outlines his treatment as follows: 1. Time. 2. Patience. 3. Tar soap containing 40 per cent. of birchwood tar or beechwood tar to 60 per cent. of the soap mixture.

The scalp should be shampooed with this soap every day for at least eight weeks. The shampooing must occupy not less than ten minutes. The soap should then be washed off with warm water, the hair and scalp well dried by patting with tissue paper or paper napkin; it must not be rubbed dry.

4. The following should then be rubbed on the scalp:

℞. Sol. hydrarg. chloridi corros. (1 to 300) |
Glycerini |
Spts. cologne, āā.....ʒiiiss 100|

M. Ft. solutio. Sig.: Apply locally with soft woolen tissue and rub for five minutes.

After this application, rub the scalp dry with the following solution:

℞. Beta naphthol .....gr. xv 1|
Alcoholis (absolute) .....ʒvii 210|

M. Sig: Apply locally.

This should be followed by applying freely the following:

℞. Acidi salicylici .....ʒss 2|
Tinct. benzoin .....m. xlv 3|
Olei (neatsfoot) .....ʒiiiss 100|

M. Sig.: Rub the scalp thoroughly for five minutes.

The soap solution is employed to remove all dust which may adhere to the scalp. The sublimate stimulates the growth of

the hair. The naphthol mixture dries the scalp and removes the fatty substances and aids in absorption of the oil. The purified neatsfoot oil is supposed to be better absorbed than the vegetable oils. The author states that lanolin may be substituted if desired. Good results have been obtained in the treatment of alopecia areata in a similar manner.

In alopecia due to syphilis the following combination has been advised by Besnil:

℞. Olei cadini .....m. xlv 3
Sulphuris precip. .....gr. xv 1
Resorcin .....gr. ivss 30
Acidi salicylici .....gr. iiss 15
Adipis benzoinati .....ʒi 30
M. Ft. unguentum. Sig.: Apply locally.

Lyon, in *Progrès Méd.*, recommends the following in the treatment of baldness:

℞. Quininæ sulph. .....gr. xv 1
Olei theobrom.
Olei ricini, āā .....ʒiv 15
M. Ft. unguentum. Sig.: Apply locally; or:

℞. Tinct. cantharidis .....ʒiiss 10
Acidi acetici .....gtt. xv-xxx 1.-2
Pilocarpinæ hydrochlor. .....gr. viiss 50
Glycerini .....ʒvi 24
Eau de Cologne .....ʒvii 210
M. Ft. lotio. Sig.: Apply locally with thorough friction.

Diabetic Coma.

According to an abstract in *Medicine*, Arthur R. Elliott states that prophylaxis is of the first importance. According to the author there are signs, preceding by several days the development of coma, which may be developed by examination of the urine. Acetone is the first to appear, later diacetic and oxybutyric acids. These may be detected by adding a solution of ferric chlorid which produces a wine-red color. If this reaction is present, the patient should avoid cold and fatigue. Elimination should be promoted, and the patient instructed to drink water freely. Colonic flushings and laxatives should be given. Previous to development of coma, sodium bicarbonate should be given in large doses. If coma occurs the patient should be put to bed and stimulants administered and the bowels evacuated. Alkalies should then be administered, using sodium bicarbonate hypodermically with the normal saline solution, also given per rectum.

In very severe cases a solution made up as follows should be injected into the venous circuit:

℞. Sodii bicarb. .....ʒiiss 10
Sodii chloridi .....ʒiss 6
Aq. destil. .....Oii 900
M. Sig.: To be injected into the venous circuit or beneath the skin.

Lecithin in Tuberculosis.

Bernheim, according to *Merck's Archives*, recommends lecithin administered hypodermically and combined with guaiacol as follows:

℞. Lecithin
Guaiacol, āā .....gr. xv 1
Olei olivæ (washed in alcohol and sterilized) .....ʒiiss 10
M. Sig.: Inject 15 to 30 minims (1.-2.) every other day.

Ichthyol in Chronic Bronchitis.

De Brun, according to an abstract in *Ther. Gazette*, recommends the use of ichthyol internally in the treatmtent of chronic bronchitis. It is given in daily doses of fifteen grains, made up in pill form. He reports excellent results in diminishing the cough and giving the patient rest. The dyspnea rapidly disappears and the râles over the chest decrease in number. This preparation may be given in the liquid form combined as follows:

℞. Ichthyol .....gr. xxx 2
Glycerini
Syr. aurantii, āā .....ʒss 15
Aquæ q. s. ad .....ʒiii 90
M. Sig.: One half to one teaspoonful several times a day in water.

Chlorosis with Phlebitis.

Carriére, according to the *N. Y. and Phila. Med Jour.*, recommends, in the treatment of phlebitis complicating chlorosis, that the patient be put to bed and the affected limb immobilized, after wrapping it in cotton, for thirty days. Locally, along the course of the inflamed vein, the following is applied:

℞. Olei hyoscyami
Spts. chloroformi, āā .....ʒiiss 10
M. Sig.: Apply locally.

In the treatment of the chlorotic condition a rich diet is prescribed and the following combination given internally:

℞. Ferri oxylatis .....gr. ii 12
Magnes. carb.
Pulv. gentianæ, āā .....gr. iv 25
Pulv. rhei .....gr. iii 20
M. Ft. capsulæ No. ii. Sig.: Two such capsules at one dose and repeated twice daily before meals.

In order to hasten the absorption of the iron as it is absorbed in the form of the chlorid, the following is recommended:

℞. Acidi hydrochlor. dil. .....m. xlv 3
Aq. destil. q. s. ad .....ʒx 300
M. Sig.: One tablespoonful after each meal.

Salicylic Acid Externally in Rheumatism.

Timireff, in *Rev. de Ther.*, recommends the employment of salicylic acid by external application in the treatment of articular rheumatism. It may be combined as follows:

℞. Spts. terebinthinæ .....ʒss 2
Acidi salicylici .....ʒiiss 10
Adipis .....ʒiii 90
M. Ft. unguentum. Sig.: To be applied locally to the inflamed joint; or:

℞. Acidi salicylici
Olei terebinthinæ
Lanolini, āā .....ʒiiss 10
Adipis .....ʒiii 90
M. Sig.: Apply locally three or four times daily.

By this mode of medication, according to the author, rapid absorption takes place, any disturbance of the stomach is avoided and the pain is relieved. The oil of wintergreen may be substituted for the salicylic acid if preferred.

Disturbances in Gastric Secretion.

The following treatment is recommended by Rankin in *British Med. Jour.* where there is a deficient secretion of gastric juices:

℞. Acidi hydrochlor. dil. .....m. xv 1
Acidi carbolici .....gr. ii 12
Sol. strychninæ (1 per cent.) .....m. v 30
Tinct. zingiberis .....m. xv 1
Glycerini .....ʒss 2
M. Sig.: To be taken at one dose and repeated an hour after each meal, well diluted in water.

If the patient is anemic the following pill should be prescribed after each meal instead of the foregoing solution:

℞. Quin. sulph. .....gr. i 06
Ferri sulph. .....gr. ii 12
Acidi carbol. .....gr. iss 09
Strych. sulph. .....gr. 1/60 001
M. Ft. pillula No. i. Sig.: One such pill after each meal.

When the patient complains of hyperacidity the following is of value:

℞. Bismuthi carb. .....gr. xxx 2
Spts. ammon. arom. .....ʒss 2
Acidi carbol. .....gr. ii 12
Sol. strychninæ (1 per cent.) .....m. v 30
M. Ft. solutio. Sig.: Shake the mixture and take the entire amount at one dose and repeat it two hours after each meal.

In the nervous form of gastric disturbance the following:

℞. Zinci valerianatis .....gr. iii 20
Acidi carbol. .....gr. ii 12
Acidi arsenosi .....gr. 1/40 0015
Ext. cannabis ind. .....gr. 1/4 015
M. Ft. cap. No. i. Sig.: One capsule after each meal.

Headache.

Buchanan, in *Med. Summary*, recommends the treatment of the cause. If it is dependent on gastric acidity, the stomach should be emptied and the following given:

℞. Spts. ammon. arom. .....3ii 8|
Sodii bromidi .....3ii 8|
Aquæ q. s. ad .....℥iii 90|
M. Sig.: One tablespoonful every two or three hours.

If the headache is due to acute cerebral congestion, the feet should be soaked ten or fifteen minutes in very hot water, an ice bag placed on the head and the following given internally:

℞. Phenalgin .....3ss 2|
M. Ft. cap. No. iv. Sig.: One every two hours.

In rheumatic headache the following:

℞. Phenalgin .....gr. v |30
Sodii salicylatis .....gr. x |65
M. Ft. chart. No. i. Sig.: One such three times a day.

In uremic headache the diet should consist of milk; the bowels kept regular by salines and diuresis encouraged by digitalis, caffein or the vegetable salts of potassium, as follows:

℞. Potass. citratis .....3ii 8|
Spts. juniperis .....3vi 24|
Spts. etheris nitrosi .....3ii 8|
Inf. scoparii .....℥vi 180|
M. Sig.: One wineglassful three times a day.

In neuralgic headaches the following:

℞. Acetanilidi .....gr. iiss |15
Caffeinæ citratæ .....gr. ss |03
Sodii bicarb. .....gr. i |06
M. Ft. tablet No. i. Sig.: One such tablet every three hours.

Dysentery.

The following outline of treatment of dysentery in infants is recommended by J. F. Hay in *Med. World:* To an infant of eighteen months or older the following powder is given:

℞. Salol .....gr. xx 1|30
Bismuthi subnit. .....3iss 6|
Pulv. opii et ipecac. .....gr. vii |50
M. Ft. chartulæ No. xx. Sig.: One powder every four hours.

The mother is directed to give an enema of normal salt solution morning and evening, the amount given each time depending on the age of the child. The child must be kept on a light liquid diet.

If at the end of a week the stools contain mucus and blood, an enema containing grains 40 of silver nitrate to the quart of water is substituted for the normal saline solution.

Medicolegal.

Validity of License Tax on Healers.—The Supreme Court of Kansas holds valid, in the case of Steiner vs. Liggett, a city ordinance imposing a license tax of five dollars per day on magnetic, psychic or other healers, holding that there was statutory authority conferred on the city to require a license tax from any one engaged in the calling or profession of magnetic, psychic and natural healing.

Evidence of Physicians as to Testamentary Capacity.—The Supreme Court of Appeals of West Virginia holds, in the case of Ward vs. Brown, that evidence of physicians as to testamentary capacity is entitled to greater weight than that of non-professional persons, provided they have had personal observation and knowledge of the person whose mental capacity is in question; otherwise, it is not. Expert testimony, except under special circumstances, is entitled to only such weight as the jury may deem it entitled to when viewed in connection with all the evidence and circumstances; and it is error to instruct the jury that the evidence of physicians testifying as experts only, on the trial of an issue of whether there was a will or not, is entitled to great weight.

Department Superintendent Can Not Employ Physician.—According to the Supreme Judicial Court of Massachusetts, the case of King vs. the Forbes Lithograph Manufacturing Company was brought by a physician and surgeon to recover compensation for services rendered in caring for one of the company's employes, who was injured in the machinery at its factory, and was taken to a hospital, where the physician attended him. The only evidence relied on to show a contract of the company to pay the physician was testimony that a superintendent of the company's cartoon department, who was authorized to employ and discharge workmen, told the injured employe to go to the hospital to be treated, and said that all bills would be paid by the company. There was no evidence that this superintendent of a department was authorized to make such a contract as agent for the company, and the court says that it was very plain that his authority to hire and discharge employes did not give him a right to bind the company by a contract to pay for medical or surgical treatment of one of its employes. In those jurisdictions where railroad companies have been held liable for medical attendance procured for an employe by one of their agents, the liability has been limited to cases in which there was an extreme emergency calling for immediate medical or surgical attendance. In this case there was no evidence to warrant a finding that there was an implied contract on the part of the company to pay for such services, and it was not contended that the undertaking of the superintendent was ratified.

Power of Executive Officer to Employ Physician.—The Court of Appeals at St. Louis, Mo., says that the case of Hasler vs. The Ozark Land and Lumber Company was brought to recover a balance of $135 for professional services rendered in medical attendance on and treatment of two employes of the company, during their affliction with smallpox. But it holds that the case did not fall within the well-established rule sought to be invoked by the company, that unless such relation exists between the party requesting a physician to render professional services, and the patient, as raises a legal obligation on his part to call in a physician and pay for his services, the law will not create by implication a promise to pay the reasonable value of the services thereafter performed, and such relation can not be claimed to exist between employer and employe. The testimony in this case disclosed that the physician had declined attendance on the employes until the vice-president and general manager of their employer had directed him to render the services, and agreed to pay therefor. The evidence also showed that the physician had received $40, which he claimed was in part payment, but which the company claimed was a personal loan by the official advancing it, though it was conceded to have been paid from the company's funds, and without any acknowledgment or obligation therefor given back by the physician. The testimony of the physician, the court holds, entitled him to have submitted to the jury the issue of his employment by the company to render the services performed; and it affirms a judgment in his favor. It also holds that an instruction that the jury might presume that the executive officer of a business corporation, at once its vice-president and general manager, had authority to make the contract on behalf of the company to which the physician testified, under the conditions presented by the record, was proper. The case was one essentially for the determination of a jury.

Examination Under Policy—Negligence—Removing Cast.—The Supreme Court of Appeals of West Virginia holds, in the case of Tompkins vs. the Pacific Mutual Life Insurance Company, that only a right of examination as to an injured person entitled to a weekly indemnity under an accident insurance policy is conferred on the company issuing the policy, by the following clause contained therein: "Any medical adviser of the company shall be allowed to examine the person or body of the insured in respect to any injury or cause of death in such manner and at such times as he may require." The court says that also confines the authority of the company's agent (medical adviser) within the same limit. That right of examination, and the agent's authority, however, extend to the making of the examination "in such manner and at such times" as the agent may require. It confers no right to treat the injury, and the insured is not bound to submit himself to any course of treatment at the hands of any physician that the

company may indicate. If he had bound himself to that, the obligation would have carried with it his voluntary submission to the ordinary risk to which the law holds all persons who submit themselves to treatment at the hands of physicians, and he could make the company liable only on such grounds as would enable him to recover damages from a physician employed by him. In such case a physician is held to the exercise of such care, skill, and diligence as are ordinarily possessed by the average members of the profession in good standing in similar localities, regard also being had to the state of medical science at the time. This construction of the clause quoted, the court further holds, undoubtedly creates the relation of master and servant between the company and its medical adviser in the exercise of such right of examination, and the company must answer for injuries resulting from the negligence or misconduct of its agent in the premises. Though the insured is not bound to submit to such examination, and may refuse at the risk of loss of his indemnity, or of litigation on account of his refusal, he may submit to it without losing his right to exact care and skill in its exercise; and it is no defense to his action that he consented to examination in a particular manner, if he did so in pursuance of a request or demand that it be so made. Between the physician and the insured, in such case, the law governing the relations of physician and patient does not apply. Where the injury of the insured is a sprain of the foot, requiring a plaster cast or similar appliance to hold the injured ligaments in place until they heal or regain strength, and the agent, in making the examination, removes, and fails to replace, such appliance, and injury results therefrom, he is guilty of negligence for which his principal must answer in damages. Referring particularly to the case before it, the court says that, having the right to examine in such manner and at such times as it saw fit, the company did no unauthorized act in removing the plaster cast, if its removal was necessary or desirable in making the examination, and not injurious. As to this there was no controversy. Nor did it seem to be disputed that, in the absence of directions or assent to the contrary, on the part of the insured, it was the duty of the company's agent to replace the bandage. Clearly it was, for by leaving it off the status was changed, and no right to make such change was given by the contract. In a sense, that would have been going entirely beyond a mere examination, and performing a work in the nature of treatment of the wound.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

July 18.

1 The Struggle of Science with Old Age. J. Bandaline.
2 *The Clinical Importance of Albuminuria. Henry H. Schroeder.
3 *The Art of Increasing and Diminishing the Bodily Weight at Will. Max Einhorn.
4 *The Present Status of Subconjunctival Injections in Ophthalmic Therapeutics. Charles S. Bull.

2. **Albuminuria.**—Six cases of albuminuria are reported by Schroeder, who holds that it is impossible to determine whether albuminuria is a premonition of further trouble until the case has been kept under observation for some time. Transient albuminurias are not of serious import unless they recur too frequently. Persistent and even cyclic albuminurias should cause anxiety, and the physician should ascertain the cause and act accordingly. As a rule the earliest indications of Bright's disease will be found in the urine. Careful observation of these cases means frequent examination of twenty-four-hour specimens to find out the daily quantity, the amount of urea, the specific gravity and the presence of albumin and casts. The blood vessels and heart should receive attention. These observations may have to extend over a period of months or even years. The most frequent causes of albuminuria are excessive eating, over-indulgence in alcoholics, possibly tobacco, mental and physical stress and the gouty diathesis. The mortality among albuminuria cases is great, not only because of its association with chronic nephritis, but also on account of the poor resistance to other diseases.

3. **The Body Weight.**—Einhorn discusses the methods and indications for increasing or reducing the body weight. Physicians are frequently called on to treat emaciation and also the leanness of the healthy, which, if of too high degree, should be combated. Such persons have no reserve fat to fall back on. He holds that in 90 to 95 per cent. he has been successful in raising the body weight where he has tried it. We should inquire into the amount and quality of the food taken; how it is taken. If it is insufficient, it should be prescribed in larger quantities. If a beverage is taken at meals it should be more nutritious. In suitable cases two or three smaller meals, consisting of milk and buttered bread, may be given with advantage. It is advisable, he says, to prescribe the daily amount of butter that should be taken; he usually orders a quarter of a pound a day. The success of treatment is practically assured, if it is possible to take larger amounts of food. He thinks a glass of cold water during eating has a stimulating effect on the appetite. Outdoor life and moderate exercise are of great value. By the successful addition of food and exercise we have not only an increased formation of adipose, but also of muscular tissue and gain in strength. The body weight should be reduced as soon as there is a surplus of fat, which is displeasing to the eye or mars the harmony of the body. There are two ways: diminishing the amount of food or increasing the amount of work, or a combination of both. Practically, he says, we should proceed to determine exactly under what dietary an individual remains in a state of bodily equilibrium. If he has not gained, you may take the amount of food he has been taking as the standard, but if he has gained on it, it should be diminished. The weight of the patient should be controlled every two or three days. As soon as the amount of food necessary to keep a proper equilibrium has been determined, we must begin slowly to increase the muscular work, never allowing the patient to become exhausted. The accelerated heart action and respiration must return to the normal ten minutes after beginning to rest. If this is not the case, the work must be reduced. By the methods here employed the fat is distributed where it will not interfere with muscular action.

4. **Subconjunctival Injections.**—Bull's article is almost entirely a review of the work and the recommendations of others. From an examination of all the papers and cases reported, he concludes that the efficacy of the solution injected can not be ascribed to local acceleration of the lymph currents, the so-called leucocytosis, nor to the antiseptic action of the remedies employed, since the presence of such processes can not be demonstrated in the tissues of the eye after injection. The chief change seems to be in the composition of the aqueous humor and the explanation of the action of the subcutaneous injections is to be sought in their local irritating properties. A careful observation of his own cases has not convinced him that subconjunctival injections bring about any more rapid or favorable results than other methods of treatment, excepting in cases of orbital cellulitis of an infectious character where injections of a sublimate solution did have a favorable effect in hastening the suppurative stage and reducing the infiltration. He thinks all reports of the beneficial effects of subconjunctival injections should be carefully criticised and compared with the results obtained by other methods of treatment before accepting them as of any real value.

New York Medical Journal.

July 18.

5 *Artificial Immunity in Experimental Tuberculosis. E. L. Trudeau.
6 *A Statistical Report of Gastrotomies for Removal of Foreign Bodies from the Stomach. Julius Friedenwald and L. J. Rosenthal.
7 The Subcutaneous Use of Paraffin in Deformed Noses, with a Supplementary Report. Hal Foster.
8 A New Obturator for the Urethroscope. I. H. Jacob.
9 *Subconjunctival Medication, with Special Reference to the Use of Salt-sugar Solution in Acute Affections of the Anterior Portion of the Eye. Howard McI. Morton.
10 A Case of Black, Hairy Tongue. R. H. Johnston.
11 The Temperature in "Summer Complaint." William F. Waugh.

5. **Immunity in Tuberculosis.**—Trudeau reports his experiments which, like those of de Schweinitz, antedated those of Behring. He has used only small animals, guinea pigs and in these he has not obtained an absolute immunity that will protect overwhelming infections, but still they show that the latter condition is not comparable with ordinary exposure in every-day life. He thinks the principle has been established and that with a more thorough knowledge of it we may yet get considerable immunity. Behring has shown an absolute protection of calves and if we can only do as much for babies one of the greatest problems of the medical profession will be solved.

6. **Gastrotomies for Foreign Bodies.**—Friedenwald and Rosenthal analyze the published cases of gastrotomy for foreign bodies in the stomach, showing that it is best to remove them as early as possible by gastrotomy as delay may produce serious gastric disturbances and make further operative procedure more difficult and serious. They give a tabulated statement of some ninety cases from the literature.

9. **Subconjunctival Medication.**—Morton advocates the use of physiologic salt with 3 per cent. sugar solution added for subconjunctival injections. Its use thus far has been confined to cases of pneumococcus ulceration of the cornea, to forms of plastic iritis associated with rheumatic disease, traumatic infected ulcer of the cornea and dendritic ulceration. In all these classes of cases it has been his regular practice to use injections of 2 to 4 grams, or even 6 grams, of salt-sugar solution, using the ordinary hypodermic syringe with a capacity of 1 c.c. and filling the subconjunctival space about the corneal margin entirely. This necessitates the introduction of the syringe at several points just anterior to the insertion of the recti. In sthenic individuals with one eye alone involved, the injection of a large amount of fluid subconjunctivally is the best procedure, to be followed by slight pressure from Liebrich's pad, and the patient is directed to use hot fomentations for periods of five minutes with half-hour intervals. He has never yet seen an eye suffer from this operation. The injections were preceded by the instillation of a 4 per cent. solution into the cul-de-sac, thus causing but little or no pain. He thinks the use of subconjunctival injections is limited to the more severe and intractable cases. Ordinarily the office methods are sufficient for the common forms of disease involving the anterior ocular segment, but he does believe that this method of medication assists in promoting resolution more rapidly in certain intractable cases than the usual local measures.

Boston Medical and Surgical Journal.

July 16.

12 The Sources Favoring Conditions and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts. (To be continued.) Theobald Smith.
13 *Subparietal Injuries of the Kidney. (Concluded.) Francis S. Watson.

13. **Subparietal Injuries of the Kidney.**—In this conclusion of his paper Watson gives an account of 6 personal cases and discusses the treatment. He first calls attention to the high mortality with expectant treatment and the low mortality in the series operated on otherwise than by nephrectomy. Hemorrhage is the factor which needs the most attention, and the source of it should be at once sought for by laparotomy when it announces itself by the presence of free fluid in the peritoneal cavity or by other signs of progressing hemorrhage. The details of operative treatment are given rather fully. The first fundamental principle is to save the kidney, or as much of it as possible, and make only a partial nephrectomy if only a portion of the organ is damaged, closing the kidney wound by suture. If one has to choose whether the spleen or kidney is to be removed, let it be the spleen. In liver involvement the tampon and suture are appropriate and often successfully used. In uncomplicated cases, not presenting any evidence of progressive hemorrhage, a question as to expectant treatment may be raised. In the great majority, where the hematuria is of short duration, or slight if of long duration, and when it is not secondary, and when no signs of progressive hemorrhage are shown by the patient, expectant treatment may be employed. Otherwise, operative treatment should not be delayed. The conditions that call for prompt surgical treatment are sudden disappearance of blood from the urine if accompanied by pain and the appearance of tumor or increase in the size of an existing tumor, showing that the pelvis or ureter has become blocked; also retention of urine in the presence of clots as well as the signs already mentioned. In regard to the danger of infection, surgical intervention seems to be indicated, he thinks, when there is a tumor in the loin which does not subside within a reasonable time, say a fortnight; when the bladder is already infected or becoming so, or is liable to become so from the necessity of frequent catheterization, as in prostatic obstruction, and when there is retention due to blood clots; lastly, if there is any reason to suspect previous existence of such diseases of the kidney, as tumors, calculus, pyelitis or pyelonephritis. He finds but 7 cases in the literature where suture of the kidney has been performed, or 8 including the one here reported. He thinks that while his case and one other were unsuccessful, it is worth while to apply the suture in such cases as are amenable. As regards the lumbar and abdominal routes for nephrectomy, he finds the death rate only slightly higher in the latter, and when we leave out complicated cases the figures are even more favorable for the abdominal route. As regards the decrease in the death rate of the two operations during the past thirty years, it has been apparently much greater with the latter than the former.

American Medicine, Philadelphia.

July 13.

14 *On Diseases of the Gall Bladder and Bile Ducts. C. A. Ewald.
15 *Diseases of the Skin. George J. Bucknall.
16 *Tuberculous Ulceration of the Rectum and Anus. Lewis H. Adler.
17 *The Etiology of Leukemia. John Benjamin Nichols.
18 *Treatment of Eclampsia. William Krusen.
19 Scarlatinal Arthritis. E. Paller.
20 A Season of the Pioneer Resident Physician in the Yosemite Valley, 1901. Charles V. Cross.

14. **Diseases of the Gall Bladder and Bile Ducts.**—Ewald's article discusses the diagnosis, more particularly of the diseases of the gall bladder itself, noticing the symptoms of colic, icterus and tumor. In conclusion he remarks in regard to treatment, holding as regards operation that the circumstances are comparable to those of appendicitis, but in case of gall-bladder disease operations are much more difficult and more severe in their consequences than those of the appendix. During the acute inflammatory stage he advises treating the colic by the known means of relief and in addition washing out the stomach with hot water or with a solution of nitrate of silver (Ehrlich), or the drinking of large quantities of hot water. In severe acute infections immediate operation is advised. In patients with rapidly recurrent favorable attacks he prefers internal treatment; in unfavorable cases with recurrent attacks he advises operation. In cases of long standing obstruction or compression jaundice he advises operation according to the individual case. A positive diagnosis of compression jaundice indicates immediate operation. On the other hand, in cases of obstruction jaundice by stone he believes that if the patients can take care of themselves properly and use no extra exertion, operation may be delayed for some time. The fact that healing of the wound after operation has so many threatening circumstances, leads one to wish to spare the patient the ordeal as much as possible. In any case preventive means against recurrences should be employed.

15. **Diseases of the Skin.**—The importance of diet in relation to skin diseases is emphasized by Bucknall, who thinks that the quantity of the food, as well as its quality and method of giving and the time at which it is taken, may all be of importance. There is no universal table of diet in these cases. Carbohydrates in excess are injurious; pastry should be especially avoided. Alcohol is harmful even in small quantities in many skin diseases. Tea frequently does harm; coffee and coca are less injurious, but should be taken in moderation. He has no doubt as to the harmful effect of tobacco in certain cases. The climate and air also have their influence and too frequent washing, depriving the skin of its fat, may have some bad effect. The common notion that suppression of diseases of the skin is injurious has no definite facts for its

support. It is probably based on the observation that in some cases of eruptive fevers if the rash does not come out or recedes, the constitutional symptoms appear to be more severe. An accurate diagnosis is the very first essential. We must not imagine that when we know the cause the treatment that is most obvious is necessarily the best. As to external and internal treatment, one may be better in one case and another in another. He particularly speaks against the routine use of arsenic, which will always aggravate skin diseases of the acute type. It is of value only in cutaneous diseases of the scaly character, psoriasis, lepra, etc., and then requires careful watching to obviate the destruction of red blood cells. Baths are often of value. There is a risk of absorption by the skin of substances from the bath, therefore they should never contain anything that might be dangerous to absorb. Permanent baths are but little used in this country, though they are occasionally of great use. They are troublesome to manage, however, and of but limited application. In parasitic or fungoid diseases of the skin when baths are advised, he prefers for the medication the albuminate of mercury which if absorbed is not harmful. Ointments are most frequently prescribed, but they are uncleanly and may often be replaced by other applications. When there is a profuse secretion from the skin lotions and dusting powders are advisable. The author speaks of dymal (salicylate of didymium), recommended by Kopp, in certain forms of dermatoses, eczema, psoriasis, etc. He has seen it do excellent work in weeping eczema. As the skin disease varies from time to time it will be necessary to alter the local treatment and its application. It is better, he says, to have in mind the therapeutics of a few substances and the best means of using them than to be making hasty inconclusive trial of every new preparation or treatment that is devised.

16. **Anal Tuberculosis.**—The reason why there is not more intestinal or rectal tuberculosis is briefly discussed by Adler, who thinks it is possible that the gastric fluids may be destructive to the germs, and it is only when they are in excessive numbers that these parts are attacked. He suggests a treatment on this basis, that is, the use of essence of pepsin, acidulated with 2 drops to the ounce of a strong nitromuriatic acid applied directly to the ulceration either with the atomizer or on gauze left in contact with the parts. Systematic treatment by the use of some of the other remedies was also usually employed. His experience thus far with two cases has been sufficiently encouraging to warrant the mention of the matter, but he can not speak with authority as to the final outcome.

17. **Leukemia.**—From a general discussion of the subject, Nichols concludes that heredity, trauma and precedent disease conditions may have a causative influence, but are of only subsidiary etiologic moment in leukemia. Almost nothing is positively known as to the specific primary cause. A nervous origin has been suggested. Aside from this, the best explanation seems to be limited to: (*a*) That it is due to a vice in the internal processes of cell life and division that comes into generalized activity and results in exaggerated leucocytic hyperplasia; (*b*) that it is due to the action of toxic substances, autogenous or of parasitic origin; (*c*) that it is of infectious or parasitic origin, the parasites acting by the production of toxins or otherwise. Only the latter has been subjected to investigation and a considerable amount of bacteriolytic evidence been accumulated, but barring three or four doubtful exceptions is entirely negative as to the etiologic association of bacteria with leukemia, or as to the transmissibility of the disease.

18. **Eclampsia.**—On general lines the treatment advised by Krusen is, first, prophylactic; observation of the condition of the urine, especially the amount of urea excreted, keeping up a healthy action of the skin and elimination generally. He rather endorses the suggestion of Nicholson as to the relation of the thyroid gland to eclampsia and the use of thyroid in medication, and holds that on a thorough investigation of the relation between the thyroid gland and pregnancy depends much of our future success in the management of pregnancy and eclampsia. For the treatment of convulsions he holds that chloroform is one of the most reliable agents, and during the intervals venesection is one of the most important measures, though it has somewhat fallen into disfavor. Personally he thinks it is better than veratrum viride. When the pulse shows high tension and the face of the patient is suffused or almost cyanotic, bleeding should be employed. The depressing effect can be counteracted and the unknown toxins diluted by normal salt solution injections, intravenously, subcutaneously or by the rectum. There is no more valuable addition to our therapeutic resources in the last decade than normal salt solution. For purgation to aid elimination, croton oil, calomel, or a saline may be administered; to secure results a high enema of magnesium sulphate, glycerin and water should be given. He does not favor prolonged packs or baths. A brief warm bath may have a soothing effect. Morphia has a useful place and there is an undoubted tolerance which allows the use of large doses. It has great power and rapid action in preventing repeated convulsions in certain cases. In the majority of cases the convulsions cease soon after the uterus is emptied, and if eclampsia comes on when the child is viable, then extraction becomes advisable. He would not, however, advise cesarean section, as has been proposed. It is only justifiable when there is some reason for it. He thinks if the patient is actually in labor, in the second stage, the immediate emptying of the uterus is indicated. Mechanical dilatation of the cervix and deep cervical incisions are the best plan of treatment. The sooner it is begun and completed the better the chances of recovery. The eclamptic woman is especially liable to infection after delivery on account of the manual interference and traumatism undergone. Extraordinary care should be observed during the after-care of eclampsia, along the ordinary lines, but with more rest and quietude and with more vigilant attention to all the excretory organs.

Medical News, New York.

July 18.

21 *Presidential Address on the Care of Epileptics. Frederick Peterson.
22 *Nature, Frequency and Possible Significance of the Various Forms of Epileptic Aura. William P. Spratling.
23 *The Daily Rhythm of Epilepsy and Its Interpretation. L. Pierce Clark.
24 *On the Pathology of Epilepsy. Adolf Meyer.
25 The Legal and Social Standing of the Epileptic. Edgar J. Spratling.
26 *Therapeutic Suggestions in Diphtheria. Louis Fischer.
27 A Report of a Case of Spina Bifida; Operation; Death. Charles Greene Cumston.

21. **The Care of Epileptics.**—Peterson reviews the history of the methods of care of the epileptic before the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.

22. **Epileptic Aura.**—Spratling's article is detailed and lengthy, giving a large number of the principal symptoms that may precede the epileptic attack, both psychic and physical. His experience leads him to believe that the more sudden, severe and complete the attacks the less likely is it to be preceded by an aura. The further the convulsion departs from the classic type the more common and distinct the aura. The symptoms of aura justify close and analytic study as contributing possible guides to the seat of the disease.

23. **The Daily Rhythm of Epilepsy.**—From the study of 150,000 seizures, Clark finds that there is a more or less definite daily rhythm in the epilepsies, in the early evening, the noontime and early morning, roughly dividing the twenty-four hours of the day into eight-hour periods. There are also smaller or secondary rhythms. The interpretation of the rhythm is explained on the basis of cerebral fatigue and the accumulation of waste products at these periods which produce autointoxication, and which in turn exhibits itself in seizures during light sleep and during the day when the loss of cerebral inhibition is greatest. Secondary and contributing factors are manner of living, diet, exercise, occupation, sedatives and the character of the epilepsy.

24. **Pathology of Epilepsy.**—Meyer criticises the methods of study and finds that the anatomic ideas of epilepsy have not as yet any very decided support by reliable data. There have been certain researches, however, in the last five years which

are fundamental, such as that of Prus, who shows that cocainization of the cortex makes fits by electrical stimulation impossible, thus indicating that stimulation of the sensory elements of the cortex is essential to start any fit. He also points to many irregularities in the irradiation of the discharge over the cortex, and shows that not only the pyramidal tracts, but the segmental motor paths are the carriers of the impulses from the cortex to the segmental nerve-complexes. Bier has also refuted Kocher's idea that intracranial pressure is the cause of the fits, as he did not produce them by sudden increase of the pressure by temporary strangulation, even in epileptics. The second line of research of importance is that of the relation of metabolism to fits, and here we have much confusion in experiments and their results. Meyer thinks, however, it would be fair to say that with attacks of epilepsy go expressions of an abnormal state of equilibrium, evidenced by malaise and abnormal metabolism. Autointoxication is not demonstrated. The explanation of the occasional toxicity of the urine and blood for animals is still wanting. He does not as yet place any too much value on the ideas of Bra or Ceni, whose brilliant experiments with epileptic serum have been noted. He calls attention in this connection to the important psychic factor in all the new methods of treatment of epilepsy. He thinks there is at present a large material of safe empirical facts which has led to improvement in the condition of epileptics and their management. There are still good chances for a better utilization of what we know. The pathology of scientific medicine has added little, and it does not seem to give much immediate promise. He concludes as follows:

1. The frequency of nervous lesions in epileptics is difficult to establish. The ordinary examination is too open to oversights, and must be very systematic in order to justify the verdict of negative findings. The great variation in the number of sclerosed cornu ammonis, diffused gliosis, small foci of softening quoted by various authors, is certainly, to a large extent, an expression of variable attention, a picture of the psychology of investigators rather than of the distribution of facts.

2. Concerning the chemical investigations, the same psychologic factor of personal interest is even more deleterious to a fair comprehension of the facts. The truism that observation of the rules of hygiene in every direction is a great factor in the management of epilepsy, is decomposed into innumerable currents of interests. Nothing short of unprejudiced and complete series of investigation will help us here, and also a much greater conservatism with complicated methods, such as the tests of toxicity, the results of therapeutics, etc.

3. All these conditions are difficult to attain except in sufficiently equipped institutions, for which funds should be made available by the state, and by scientific corporations, so that they may work free of the need of sensational results, create a sound basis in clinical work and systematize the investigation according to methods which can be admitted as safe and fruitful.

To what extent this had best be carried is a question requiring much judgment. The one thing is certain—and every move in this direction should receive credit and encouragement—that institutions should be given a chance and should even be put under the obligation of doing justice to medical observation, of promoting the medical interests of its physicians and of laying a good foundation of experience, such as the isolated practitioner can never get for himself. On such ground more delicate investigations will find a healthy soil.

26. **Diphtheria.**—The specific treatment of diphtheria consists in giving the required dose of antitoxin, which depends on the severity of the affection; in mild cases 1,500 units in a child from 1 to 5 years. It should be repeated if the effects are not noticed within twelve to twenty-four hours. A child 5 to 10 years old should be given 2,000 units when it is first injected, with the same repetition if required. With severe toxemia and marked general depression and large pseudomembranes in the throat at least 3,000 units should be injected in the beginning. Two or three injections may be required at twenty-four-hour intervals, depending on the pulse, temperature, condition of the swollen glands and microscopic condition of the throat. In laryngeal stenosis it is also well to give fully 3,000 units, repeating with 1,500 in twelve hours if the stenosis does not disappear within that time. In many cases the pure Klebs-Loeffler bacillus is not the only infection and streptococcic antitoxin serum will be required. In a few he thinks the bacteriologic findings will be a guide to treatment, based on scientific data. The ordinary shortcomings that are most frequently encountered consist of placing too much reliance on the specific nature of the antitoxin regardless of other vital necessities. The indication next to antitoxin is for restorative treatment; proper feeding is essential. When it is difficult to feed by the mouth, it is a good plan to let the stomach have a rest and depend on rectal feeding. It is always advisable to remove putrid mucus from the nose and throat and catarrhal discharges to prevent their poisoning the system. It is surprising to see what good results are apparent, he says, after cleaning the nose and pharynx. As regards the solvent action of local remedies, he has not been able to see its value, though 2 per cent. sulphurous acid has been used by him to advantage, and is better than peroxid of hydrogen. He has used inunctions of unguentum Credé into the cervical glands. Fresh air in the sick-room is important and oxygen is indicated when there is cyanosis. The best antipyretic measures consist in sponging with evaporating lotions such as alcohol and water or acetic ether, locally. Cold packs and flushing the bowel are serviceable in some cases. If there is pneumonia, nephritis or other complication it should be treated as though the disease existed independent of the diphtheria. He advises an examination of the ears, as otitis media will sometimes keep up a high fever until the drum is ruptured. Ten to 20 drops of sweet spirits of niter are valuable, given several times a day, and calomel in 1/10 to ½ grain doses, repeated several times a day, is a useful adjuvant. Stimulants should be begun early, strychnin 1/100 of a grain for children one year old, repeated four times a day and gradually and cautiously increased. Children tolerate large doses. He also advises Tokay wine, caffein and champagne to support the heart's action.

Cincinnati Lancet-Clinic.

July 18.

28 Adenoids—Their Symptoms; Relations They Sustain to Acquired Deaf-mutism, and Treatment. Benjamin L. W. Floyd.
29 The Kentucky State Medical Society, 1903. George J. Monroe.
30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

Louisville Monthly Journal of Medicine and Surgery.

July.

31 President's Address, Medico-Chirurgical Society. B. A. Allan.
32 *Cancer of the Rectum. F. W. Samuel.
33 X-Rays; the Action on the Physical Organization. Jacob Glahn.
34 Some Experiences with the X-Rays as a Therapeutic Agent: Report of the Cure of a Case of Alveolar Melanotic Sarcoma. Edwin Walker.
35 *Surgery of the Hand in Factory Practice. L. P. Spears.
36 The Early History of Transylvania University. Francis M. Greene.

32. **Cancer of the Rectum.**—The progress that has been made in the treatment of cancer of the rectum and the various operations suggested are first noticed by Samuel, who remarks on the insidiousness of the onset and the lack of characteristic symptoms. His own experience leads him to regard as one of the earliest symptoms a sense of fulness in the rectum accompanied by a mucous discharge, first noticed by the patient as simply a liquid discharge, with occasionally a slight amount of blood. Stenosis may be the first sign which forces the patient to seek relief. Bloody discharges may precede it. Pain is a marked feature in the later stages. The prognosis is a gloomy one, hence the advisability of early examination of all irritating conditions of the rectum. He notices the operative methods which, in his opinion, give the best results. The operative cases are where the obstruction is not marked and the infiltration has not progressed beyond the rectal walls. Much will depend on the location of the growth. He thinks the greatest advance in the future will be based on the fact that in most cases operators will entirely obliterate all the bowel below the site of the excised portion, and abandon the idea of establishing a continuity of the rectum by bringing down the upper part of the gut and suturing it to the intact sphincter. He advises the following steps as essential: That an artificial anus be made or anticipated by doing a preliminary colostomy in preference to the more radical operation. This will permit better disinfection by irrigation, which improves the patient's condition. With the growth high up in the rectum he would be influenced by the late teachings of Quénu, Abbe and others, and select the abdominal route, extending the usefulness of the operative procedure in that it could be made more radical in attacking lymphatic involvement, and that the ends of the bowel, if possible, might be brought out at the time

of operation or an artificial anus established at once. In obliterating the distal portion we get rid of the danger of infection by offensive discharges and incomplete operation. With preliminary colostomy fecal defilement is gotten rid of. He has had no experience with the combined abdominal and sacral route, but is encouraged by the results of Quénu and Abbe. Two cases are reported.

35. **Surgery of the Hand.**—Spears advises in factory practice with injuries of the hand to use conservatism to the utmost. Let the preliminary dressing consist of sterile gauze and the blood present if the man has been working in iron. If a woodworker, it is advisable to wash out the fine dust. Gasoline or benzine is best for cleaning the surrounding area. The use of bichlorid should be done away with and suture material should be abandoned in injuries of the fingers. A sterile wet dressing is to be used where suppuration has taken place.

Medicine, Detroit.

July.

37 *Septic Sinus Thrombosis Due to Ear Infection. B. Alex Randall.
38 *Laparotomy Convalescence, with Reports of Twenty Illustrative Cases. Robert Wallace Hardon.
39 *Management of Crossed Eyes in Children. Willis O. Nance.
40 The Clinical Aspect of Diarrheas in Infancy, with Treatment. James W. Van der Slice.
41 Three Cases of Atrophic Rhinitis Successfully Treated with Benzoylacetyl-Peroxide (Acetozone); a Preliminary Report. James M. Brown.
42 *The Effects on Streptococci of Blood Serum from Cases of Scarlatina. George H. Weaver and G. F. Ruediger.
43 Serum Therapy. John G. Cecil.
44 The Diplococcus Scarlatinæ. W. J. Class.
45 The Etiology of Acute and Chronic Cystitis. C. B. Van Arsdall.
46 *Euphthalmin as a Mydriatic for the General Practitioner. Albert B. Hale.

37. **Septic Sinus Thrombosis Due to Ear Infection.**—Randall reports two cases of sinus thrombosis from otitis, one fatal, and argues for early operative intervention in these cases.

38. **Laparotomy Convalescence.**—The question as to how soon patients should get up after abdominal operation is discussed by Hardon and his experience in twenty cases of laparotomy where the patient was up within from one to four or five days is detailed. His conclusions are that early getting out of bed tends toward greater comfort to the patient, shortens the stay in the hospital, there is earlier general convalescence, less danger of adhesions, diminished expense to the patient or charitable institution, while it avoids muscular atrophy from disuse and facilitates nursing.

39. **Strabismus.**—According to Nance, the ideal treatment in strabismus includes the establishment of binocular vision, which can usually be brought about by early treatment and, in a large proportion of cases, only by persistent and painstaking efforts on the part of the physician and parents. Delay in treatment renders less probable a perfect cosmetic result and endangers the probability of normal vision. The use of atropin is indicated early and glasses in most of the cases as soon as the patient is old enough. The monocular occlusion pad and various orthoptic exercises are valuable adjuncts to successful management. A thorough skiascopic and ophthalmoscopic examination by a competent ophthalmologist should precede the use of glasses. All astigmatism, as well as hyperopia or myopia, must be fully corrected and the correction ordered for constant use. Operative interference is justifiable and indicated after other measures have proven of no value, or in certain instances where the deviation is so extreme as to render inefficient ordinary orthoptic exercises.

42. **Streptococci in Scarlatina Serum.**—From experimental results with blood serum from scarlatina cases controlled by others with serum from normal individuals, Weaver and Ruediger conclude that neither normal nor scarlatinal blood serum possesses *in vitro* any appreciable bacteriolytic effect on the streptococci, and since normal blood serum exhibits no destructive action on streptococci it is illogical to ascribe terminal and other streptococcemias to any reduction in such action. The results obtained by using the colon and typhoid bacilli alone as indicators for the bacteriolytic complement serum can not be applied to other forms of bacteria, but each form must be tested separately.

46.—See abstract in The Journal, xl, p. 1305.

Buffalo Medical Journal.

July.

47 Local Conditions of Geography and Population as Bearing on the Water Supply and Sewerage of Buffalo. A. L. Benedict.
48 *Why Minor Gynecologic Operations Fail to Give Anticipated Results. Sigmund Goldberg.
49 Clinical Memoranda on Cough. Leopold F. W. Haas and G. A. de Santos Saxe.
50 Some Thoughts on Modern Medicine. A. W. Bayliss.
51 St. Louis and the Exposition of 1904. Nelson W. Wilson.
52 Multiple Abscess of the Liver. E. L. Ruffner.

48. **Minor Gynecologic Operations.**—Goldberg summarizes his paper in substance as follows: All so-called minor operations, to be of permanent use, must be performed within at least one year from the time of beginning of the original lesion. After one year either the Alexander operation, trachelorrhaphy or curettage, or all combined, will be insufficient to restore the patient to perfect health. The reason for such failure in most cases is the involvement of the adnexa. The best course would be some operative intra-abdominal procedure, not by the internal inguinal ring method of Goldspohn, but by free incision, so that the exact conditions can be learned and properly treated.

Chicago Medical Recorder.

July 15.

53 *Ovarian Transplantation and Reconstruction of Fallopian Tubes. Franklin H. Martin.
54 *Report of Thirty Cases of Perineal Prostatectomy. John B. Murphy.
55 *Report of a Case of Elephantiasis Due to the Filaria Sanguinas Hominis Nocturnis. Mary M. S. Johnstone.
56 Pancreatic Cyst; Carcinoma of the Stomach. A. E. Halstead.
57 *Hysterical Affections of the Eye. H. Gradle.
58 *Iodo-Nucleoid; a New Organic Iodin. W. L. Baum.
59 Uremia: Shortcomings of Certain Urinary Tests. Merlin Z. Albro.
59½ Hygiene in Summer Complaints. William F. Waugh.

53. **Ovarian Transplantation.**—Martin reports two interesting cases where patients that had suffered from the loss of their ovaries came to him asking to have them restored. In each case he had the patient take a lodging near the hospital at which he was engaged, waiting for an opportunity to obtain fresh ovaries from some other subject. The operations were performed by transplanting portions of the ovaries which he had removed from other patients, into the broad ligament outside the horn of the uterus on either side. In both patients there was perfect recovery from the operation and signs of menstrual molimen, though no complete menstruation as yet. In both cases the ovaries had been removed long enough so that an artificial menopause had been thoroughly established and atrophy of the uterus had taken place. The preliminary operation had also destroyed the tubes or oviducts, making it necessary to reconstruct the oviducts from the atrophied remaining portions of amputated tubes and the horns of the uterus. The operation was unique in some ways in both cases, but he believes when sufficient time has elapsed for the atrophied uterus to recover its function, normal menstruation may occur. In both these cases there has evidently been a revivifying effect on the pelvic organs. Aside from the case reported by Glass, these are the only attempts that have been made to perform heteroplastic transplantation so long a time after removal of the organs. From his personal experience and a review of the literature he concludes as follows:

1. The operation of homo- or hetero-plastic transplantation of the ovaries in women or lower animals is no more dangerous if accomplished aseptically than any other small plastic operation on the appendages. (Morris, Dudley, Fish, Griegorioff, Frank, Arendt, Ribbert, Rubinstein, Glass, Mauclaire, Amico-Roxar, Monprofit, Foa, Knauer.)
2. Homotransplantation of ovaries in women or lower animals will prevent the atrophy of the genitalia which usually follows castration. (Morris, Dudley, Fish, Griegorioff, Knauer, Lukaschewitsch, Foa, McCone, Mauclaire.)
3. Heterotransplantation of ovaries in women or lower animals will prevent the atrophy of the genitalia which usually follows castration. (Glass, McCone, Mauclaire, Schultz.)
4. Transplantation of ovaries from one species into another may result in preventing the ordinary changes in the genitalia resulting from castration. (McCone, Lukaschewitsch, Schultz.)
5. Menstruation will continue in women and monkeys after homoplastic transplantation of ovaries. (Morris, Glass, Dudley, Frank, Mauclaire, Martin, Halban, in monkeys.)
6. Conception has followed homotransplantation in animals. (Griegorioff, McCone, Amico-Roxar, Mauclaire.)
7. Conception has followed heterotransplantation in animals. (McCone, Mauclaire.)

8. Conception has followed heterotransplantation of the ovaries in women. (Morris, Frank.)
9. Transplanted ovaries in other localities than the normal will maintain their vitality, functionate and prevent the ordinary sequelæ of castration.

54. **Perineal Prostatectomy.**—The operation and its variations for the enlarged prostate are reviewed by Murphy, who concludes that the perineal route gives the best ultimate results and is accompanied with less danger than the suprapubic or Bottini operations. As regards hemorrhage, sepsis, injury to the neighboring parts and danger to life, this operation is the best. The drainage is excellent and it favors rapid restoration of the bladder, while the period of wound repair is much shorter than by the suprapubic route. All his cases had primary union down to the drainage tube. The vesical control is almost uniformly good, and while the sexual power is destroyed, the relief of vesical irritation is great and the frequency of micturition is reduced to about normal.

55. **Elephantiasis.**—Johnstone reports the case of a patient with elephantiasis due to the *Filaria sanguinis hominis* as shown by blood examinations, though the patient had never lived in any region where this parasite is supposed to abound. The disease, she considers, had been acquired from a person suffering from filariasis who lived near her or from some mosquito infected with the bacilli brought from tropical regions in fruit. The inflammation and pain were relieved in this case by Lugol's solution, five drops three times a day.

57. **Hysterical Eye Affections.**—Gradle reviews the various forms of hysterical eye disorders, absolute blindness of one or both eyes being rarest, only about fifty cases being reported, either bi-lateral or mono-lateral. Both of his own cases promptly yielded to suggestion when observed in their incipiency. Hysterical exaggeration of visual imperfections is much more common, and he notices a singular phenomenon, named by Greef "tubular field of vision," in which when there is a contraction of the field of vision the absolute area of the field is the same, no matter at what distance. A double sight of one eye, not accounted for otherwise, is very suggestive of hysteria. Unless there is unequal refraction through different parts of the lens as determined by examination, monocular double sight may be always referred to hysteria. Other hysterical symptoms are pain and disagreeable sensations referred to the eyes, and most frequent of all is persistent winking. It is a mistake to call it chorea. He thinks it is generally a hysterical manifestation. The irregular action of the ciliary muscle is occasionally a troublesome symptom, but its frequency has been overrated. It is more common than true ciliary spasm.

58. **Iodonucleoid.**—Baum describes a new preparation of iodin made by Wesener, that he calls iodonucleoid. It is a reddish-brown granular powder, containing 9.5 per cent. of iodin in organic combination with nuclein, and he reports experience with its use. He has never seen any untoward effects in the 50 cases in which he has employed it, excepting occasionally a slight iodin acne. He thinks the good effects he has observed are due to the retention of iodin in organic combination in the system. It is non-toxic, 488 grains having been given in twenty-four hours, and twice as much iodin is retained and only one-fourth as much given as compared with potassium iodid, as shown by a study of its elimination made in connection with Dr. Wesener. Baum believes that this new organic iodid powder will enable us to give iodin in many cases where other preparations are not tolerated. It will accomplish all that has been claimed for potassium iodid without disordering the stomach or interfering with the general nutrition.

Denver Medical Times.

July.

60 *The Prevention or Amelioration of Vomiting During the Administration of Chloroform. E. Stuver.
61 Homicide Committed While in the Amnesic State. S. D. Hopkins.
62 *The Essential Features of a Practical Medical Registration Law. S. D. Van Meter.
63 Dr. F. J. Baucroft. Edmond J. A. Rogers.

60. **Chloroform Administration.**—Stuver finds that painting the nasal mucous membrane with cocain solution before chloroformization does away with the complication of vomiting which is sometimes so troublesome. He uses a 2 per cent. solution applied on a cotton-wrapped probe ten or fifteen minutes before beginning to give the anesthetic. He thinks it will be equally effective with ether.

62. **Medical Registration Laws.**—Van Meter gives an interesting discussion of the subject of medical registration boards and laws. First the composition of medical boards is considered. He holds that they should be made up of reputable practicing physicians, irrespective of school or pathy, nominated by medical societies and appointed by the governor. The most important of their powers would be the revocation of licenses for other reasons than ignorance or incompetency. As regards examination, he thinks the greatest injustice is done by requiring men eminent in the profession to be examined. He holds that there are points of weakness in the plan and is inclined to think recognition of the medical diploma from a good institution better than examinations. The adoption of a high minimum standard of education for the colleges by the licensing board would be a great improvement. Too little attention is paid to the moral side of the applicant's qualifications; an investigation of former records should be instituted in every case. If laws are to accomplish anything they should be enforcible; there should be no politics in the boards. In conclusion, he emphasizes the importance of a proper wording of the law, especially as regards the definition of the practice of medicine.

Medical Standard, Chicago.

July.

64 Tubercular Laryngitis. Homer M. Thomas.
65 *Treatment of the Secondary Infection of Pulmonary Tuberculosis. John W. Foss.
66 Sunstroke. William F. Waugh.
67 What Constitutes a Cure in Epilepsy? T. C. Wilson.
68 Pain and Its Indications. E. C. Hill.

65. **Tuberculosis.**—Foss finds Hubbert's antistreptococcic serum of the greatest value in combating the secondary effects of pulmonary tuberculosis, and he thinks it is indicated in all forms of streptococcic infection. That it does its work thoroughly, he says, is a fact. In administering the serum he injects 20 c.c. subcutaneously between the shoulders, following daily with 10 c.c. and examines the sputum for streptococci at least every three days, continuing the serum until the streptococci are eliminated, usually after 60 to 120 c.c. have been administered. There is a reaction, sometimes a simple urticaria with itching, sometimes pain and swelling of the joints and nervous phenomena, varying with the amount of toxemia. In acute cases there is little or no reaction, but cases that have been infected for years show greater effects. He would not hesitate to use this serum in much larger quantities if necessary and recommends his confrères to give the substance a thorough trial.

Kansas City Medical Index-Lancet.

July.

69 *A Gigantic Medical Fraud Detected and Exposed. John Punton.
70 Impressions Abroad During a Two Weeks' Sojourn in Spain. J. D. Griffith.
71 *Remedial Faults in the Editorial Work of the Journal. T. D. Crothers.
72 On the Early Use of Solid Food in Artificially-Fed Infants. John W. Kyger.

69. **Malingering.**—Punton reports an interesting case of malingering in a young man 22 years of age who claimed to have been knocked down by the falling door of a freight car and to have become practically idiotic. The case was tried twice and a number of physicians testified as to their belief in regard to his disability. On the second trial, a few months ago, a verdict of $35,000 damages was given by the jury. Dr. Punton was called into the case, and with the chief surgeon of the road, Dr. Cale, alone maintained the opinion that the individual was simulating the disorder. Dr. Punton's opinion was based on the lack of physical evidence of paralysis, loss of sensibility, the condition of the reflexes, etc., which did not agree with the claims made, and he also did not believe in his assumed mental condition. After the second trial a prominent lawyer gave testimony that before the alleged accident the young man and his mother had consulted him as to

the possibilities of getting up such a case, and asked his professional aid. He had refused this to them, but kept the matter to himself until he saw that the case had progressed so far that it did not seem advisable to him to keep silent longer. The judge set aside the verdict and ordered a new trial, turning the patient over to the physicians for further investigation. He was kept in a sanatorium under observation, and his friends were not allowed to see him. On the pretense that he was to undergo a surgical operation for examination of his brain, he was etherized, and in the stage of excitement talked freely. A second experiment was also performed similar to the first, and he finally made a full confession, and is now with his mother under heavy bonds after indictment for attempt to defraud. The outcome of the case thoroughly vindicated Dr. Punton's opinion expressed from the first, and testified to in the trial. The case is of interest, as having aroused considerable attention in the state where it occurred, the amount of damages obtained in the second trial, and especially on account of the success of the impostor in keeping up his imposition so as to deceive so many skilled physicians for so long a time.

71. **Editorial Faults.**—Dr. Crother's paper refers to editorial laxities, etc., in medical journalism generally.

Merck's Archives, New York.

July.

73 *The Treatment of Chorea. (Concluded.) L. Harrison Mettler.
74 Rhus Toxicodendron and Rhus Poisoning. J. M. French.
75 *Summer Diarrhea in Children and Its Treatment. Leo Ratner.
76 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.

73. **Chorea.**—Mettler finds that arsenic is a standby in chorea, understanding by this the true Sydenham's chorea, not the multiple affections that have been occasionally described under this name.

75. **Summer Diarrhea of Children.**—The principal points of Ratner's paper are summarized in substance by him as follows: Summer diarrhea is not a difficult disease if common sense is used. The best substitute for mother's milk is properly modified cow's milk. When the stomach is very irritable all food should be withheld for from twelve to thirty-six hours. The first step in medical treatment is to empty the stomach and bowels thoroughly. For this castor oil, plain or in emulsion, is best. The most harmless intestinal astringent for children he holds is tannalbin, and the best antifermentative is ichthalbin, which two drugs are valuable additions to our materia medica. After the bowel has been thoroughly emptied, opium in small, carefully regulated doses is frequently of the highest value. For antipyresis, sponging with cold or lukewarm water should be preferred to any internal medication.

Atlanta Journal-Record of Medicine.

July.

77 *On the Treatment of Internal Strabismus. Dunbar Roy.
78 *Our House and Our Servant. H. McHatton.
79 X-Ray Treatment of Acne. Henry R. Slack.
80 Abdominal Surgery in the Private Residence. Marcus F. Carson.
81 A Nephrectomy, with Remarks. J. G. Earnest.
82 X-Rays in Treatment of Malignant Growths. Marcus F. Carson.

77. **Strabismus.**—Roy's ideas in regard to the treatment of strabismus are orthodox. He believes in operation only as a last resort after other methods, such as glasses, atropia, etc., have been employed. Whatever operative procedure is used should be done with the same care as in any other major surgical operation.

78. **Our House and Our Servant.**—The subject of infection and sanitation of houses is first noticed by McHatton, who gives points from his own experience. The next question which he considers is the servant question, which in the South is a serious one. The deteriorating influences which have acted on the blacks of late years and their habits of life are remarked on. They usually live independent of their masters and mistresses, who, after their work is done, have no control over them. The dangers of communicable diseases are serious. The only escape he sees would be to encourage the servant's remaining in his former relations, living on the premises and allowing an inspection of his physical condition and material welfare. The other alternative would be to make a physician's certificate essential to his employment, having it renewed from time to time.

American Practitioner and News, Louisville, Ky.

June 1 and 15.

83 Marasmus. Philip F. Barbour.
84 Lithemia. Charles Moir.
85 Intestinal Indigestion and Nephritis. H. H. Roberts.

Medical Age, Detroit.

July 10.

86 A Plea for a Broader Interpretation of Specialism. A. Thuner.
87 Neuroparalytic Keratitis. Thomas F. Keller.
88 A Case of Mental Disease Due to Fracture of the Skull, with Paralysis of the Right Facial Nerve, or to Syphilis, or to Both. M. L. Graves.

Northwestern Lancet, Minneapolis.

July 15.

89 The Present Status of Surgery of the Stomach. William J. Mayo.
90 The Circulation of the Internal Genitals Containing Myomata. Byron Robinson.
91 A Review of the Work Done for the Correction of Deformity of the Nose by the Subcutaneous Injection of Paraffin, with a Report of a Case of the Author's. H. McI. Morton.
92 Obstruction of the Bowel Relieved by Inguinal Colostomy. James E. Moore.

Journal of Medicine and Science, Portland, Me.

July.

93 X-Rays in the Treatment of Cancer. E. T. Nealey.

New Yorker Medicinische Monatschrift.

May.

94 Rückblicke auf den 14 Internationalen Medicinischen Congress. W. Freudenthal.
95 *Neue Bestrebungen in der Therapie. Professor Bouchard.

95.—See abstract in THE JOURNAL, xl, p. 545.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

June.

96 Pulmonary Tuberculosis; Early Diagnosis and Treatment. W. L. Harris.
97 The Sequelæ of Malaria. H. B. Mahood.
98 Preparation of the Woman for Confinement. Lewis Holladay.

Medical and Surgical Monitor, Indianapolis.

July 15.

99 Duodenitis. Simon P. Scherer.
100 Exophthalmic Goiter; Questions and Answers Pertaining to Disease. John E. Lockridge.
101 Rheumatism. I. B. Washburn.
102 Clinical Diagnosis of Cancer of Uterine Cervix. Thomas B. Eastman.
103 A New Treatment for Papilloma. Alfred S. Jaeger.

Colorado Medical Journal, Denver.

April.

104 Colorado Laws Relating to Criminal Abortion. A. B. Seaman.
105 The Attitude of the Profession Toward Abortion. Edmund J. A. Rogers.
106 Remedies for Criminal Abortion. H. G. Wetherill.
107 The Practical Working of the Law Against Criminal Abortion. H. N. Hawkins.
108 Suggested Amendments to the Law Concerning Abortion. Charles R. Brock.

Mobile Medical and Surgical Journal.

June.

109 Our Duty to the Pregnant Woman. E. B. Ward.
110 Some Pathologic Conditions of the Period of Gestation. T. H. Frazer.
111 The Proper Management of Cases of Labor. W. H. Bell.
112 Puerperal Infection. M. S. Davie, Jr.
113 Cystitis in the Female. J. P. Borden.

American Medical Compend, Toledo.

July.

114 The Malpractice Laws of Ohio. W. J. Gillette.
115 Pelvic Hematocele; Cause and Treatment. Joseph F. Fox.
116 The Milk Supply of Toledo, with Demonstrations of Simple Forms of Milk Analysis. L. Marsh Dolloway and Albert Steinfeld.

Vermont Medical Monthly, Burlington.

June 25.

117 The Manic Depressive Psychosis and Some of Its Etiologic and Pathologic Phases. Walter D. Berry.

Journal of Advanced Therapeutics, New York.

July.

118 Some Obstacles to the Progress of Electro-Therapeutics. Charles O. Files.
119 The X-Ray as a Therapeutic Agent. John W. Daniel.
120 The Therapeutic Use of Electrical Currents of High Potential and Frequency. (Continued.) J. Holcomb Burch.
121 The Treatment of Habitual Constipation by Exercise. Watson L. Savage.
122 Undeveloped Psychic Powers. Adelaide R. Kirshner.

The Post-Graduate, New York.

July.

123 Medicine and Surgery in the Philippines. Walter D. Webb.
124 A Review of the Para-typhoid Infections. George E. McLaughlin.
125 A Case of Puerperal Sepsis, Treated with Intravenous Injections of Formalin. George L. Brodhead.
126 On the Use of the Eustachian Catheter. D. B. St. John Roosa.
127 The Need of Better Type in Books for Children to Learn to Read By. Lyle Pickering.

Pacific Medical Journal, San Francisco.

July.

128 Clinical Lecture (Delayed Union of the Upper Third of Femur, etc.). A. W. Morton.

Nash Journal of Medicine and Surgery.

June.

129 Pain as a Diagnostic Factor. John S. Cain.

Detroit Medical Journal.

July.

130 Sixty-seven Years of General Practice, with Some Reminiscences of Giants of the Profession Half a Century Ago. G. B. Russel.
131 Medical Conditions in the Early Forties. Morse Stewart.
132 A Half Century of Professional History. Herman Kiefer.
133 Comments and Additions. Drs. Donald MacLean, Samuel P. Duffield, James Samson, Theodore A. McGraw and G. B. Russel.

Medical Fortnightly, St. Louis.

July 10.

134 Location of a Bullet in the Knee by the X-Ray, and Its Removal. Edwin Walker.
135 Influenza. M. P. Overholser.
136 Extrauterine Gestation: Report of Three Cases. C. E. Ruth.
137 Briefs on Mental Diseases. F. Savary Pearce.
138 Report of a Case of Thoracic Aneurism of Unusual Size. Walter C. G. Kirchner.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 11.

1 The Scottish Medical Corporations and the Public Weal: How They Might Develop a Health Conscience. T. S. Clouston.
2 *An Account of Eight Cases of "Pressure Pouch" of the Esophagus Removed by Operation. Henry T. Butlin.
3 *The Nature of the Symptoms in Appendicitis. James Mackenzie.
4 *On the Occurrence of Vomiting During Rectal Alimentation. H. D. Rolleston and A. J. Jex-Blake.
5 A Case of Hernia of the Bladder Associated with an Inguinal Hernia. H. J. Curtis.
6 *The Necessity of Shortening Large Nerves When Amputating. Walter G. Spencer.
7 Brachial Neuralgia. Robert M. Simon.
8 History of a Case of Cerebral Tumor Eight and a Half Years After Removal. Thomas Oliver.
9 *The Value of Lumbar Puncture in General Practice. Herbert Rhodes.
10 A New Method of Counting the Corpuscles of the Blood. W. Mersh Strong and C. G. Seligmann.
11 *The Iodoform Treatment of Tuberculous Disease. Middleton Connon.

2. The Pressure Pouch of the Esophagus.—Butlin reports eight cases which indicate to him that this anomaly is by no means so rare as he at first thought. He reviews the symptoms characterizing the condition as published in a former article in 1898, namely, the return of fragments of undigested food at varying periods, even to a day or two after eating; the gurgling up of gas from the throat, particularly when pressure is made on the left side of the neck low down, which is especially distressing to the patient. There may also be a distinct bulging in this situation when food is taken, though this is not a constant symptom. A bougie is arrested about nine inches from the teeth, and if this is of curved metal, it can sometimes be felt through the skin at the posterior triangle of the neck, almost always on the left side. Other symptoms may be present, such as wasting, cough, etc. The operation is not more dangerous to life than a cure will justify. The method was described in his former article. He offers here the following suggestions:

1. In order to be sure that there is no stricture of the esophagus below the opening of the pouch, a bougie should be passed into the stomach from the mouth at the time of operation. If this can not be done before the wound is made in the neck, the pouch should be exposed, separated from the surrounding tissue, and drawn upward out of the wound. Then, with a little manipulation, a bougie can be passed over its mouth.
2. If the pouch is of long standing and of large size, a soft tube should be passed into the mouth and stomach and retained as long as necessary for feeding. If this is impracticable on account of the patient's resistance or otherwise, it should be passed over a guide every time food is taken. Otherwise the food will pass out of the wound in the neck. If this still can not be done, then the tube should be introduced into the stomach through the wound and retained there until healing has nearly finished.
3. The less the tissues below the pouch are disturbed the better, to avoid septic inflammation and so on.
4. No attempt should be made to close the external wound, however carefully the neck of the pouch has been stitched up. It should be drained by means of a soft rubber tube. On the other hand, it is very desirable to close the opening into the esophagus for, although the stitches always give way in three or four days, the surrounding tissues are by this time sufficiently recovered to render spreading septic infection much less probable.

The operation seems to produce a speedy, complete and permanent cure of the disease.

3. Appendicitis.—Mackenzie describes and explains the symptoms of appendicitis according to the distribution of nerves, etc., hyperesthesia, visceral muscle reflex, bladder symptoms, colic, etc. He points out that it may be difficult to differentiate appendicitis from other complaints. The commencing attack has been mistaken for lumbago, rheumatism and other visceral affections.

4. Vomiting During Rectal Feeding.—Rolleston and Jex-Blake report cases which have been observed where vomiting occurred during rectal feeding, and speculate as to its cause. They find a certain proportion, say about 27 per cent., of patients with gastric ulcer vomit when on an exclusive rectal diet. They think in some instances this may be due to oral infection, and in others may possibly be the reflex result of rectal injections.

6. Shortening the Large Nerves in Amputations.—Spencer points out from his notes of cases in the Westminster Hospital that where the practice of drawing out the large nerves and cutting off a piece has been omitted there has been an indefinite delay in the patient's recovery. Continuous pain in the stump prevents the patient from wearing an artificial limb and finally resection of the affected parts is necessary. The whole chronic trouble is connected with the nerves which are left too much exposed.

9. Lumbar Puncture.—The following conditions are enumerated by Rhodes as those in which lumbar puncture may be useful for the patient and practitioner. Each is illustrated by cases. 1. The relief of pain and headache, illustrated by a case of gliosarcoma, where the head pain was unrelieved by drugs. Removal of a couple of ounces of spinal fluid gave complete relief. 2. Coma is diminished. Consciousness may return after coma has been established by the increase of intracerebral pressure. A lumbar puncture may indicate the necessity or otherwise for operation. In several cases of post-basal meningitis, a child apparently dying has been tided over and ultimately recovered when lumbar puncture has been systematically employed, reducing the intracranial pressure. If properly used it may be of value in aiding in the diagnosis. It obviates the necessity of nasal feeding and other tedious nursing procedures. In cases of comatous conditions its relieves the brain symptoms.

11. Iodoform in Tuberculosis.—Connon reports two cases of tuberculous disease of the joints cured by injections of iodoform emulsion, according to Squire's formula. About a dram of emulsion was injected every other day into the joint affected, through the sinus, with an ordinary glass syringe. By keeping the nozzle of the syringe firmly against the sinus opening the emulsion was allowed to act on the joint for three to five minutes. The sinus was subsequently covered with a pad of dry double cyanid gauze, and left untouched until the next injection, two days later. In both cases there was a surprising and immediate lessening of the discharge and improvement of the general health. The pain caused at first was only temporary, and the patients have remained well.

The Lancet, London.

July 11.

12 *The Causes, Prevalence and Control of Pulmonary Tuberculosis. H. Timbrell Bulstrode.
13 The Scottish Medical Corporations and the Public Weal: How They Might Develop a Health Conscience. T. S. Clouston.
14 Observations on Mastication. (To be continued.) Harry Campbell.
15 *The Treatment of Aneurism by Subcutaneous Injection of Gelatin. Guthrie Rankin.

16 A Case of Richter's Hernia. James W. Fraser.
17 *The Relation of the Dental Profession to Public Health. Arthur Newsholme.
18 A Case of Laryngeal Diphtheria; Tracheotomy; Death Six Weeks Later from Pressure of an Abscess Surrounding the Trachea. William Mair.
19 The Uses of Sodium Salicylate in the Treatment of Malarial Fever. A. D. E. Kennard.
20 Smallpox in the Fetus. Allan Warner.
21 Retention of a Bullet in the Thigh for Two and a Half Years. Seymour F. Gibbs.
22 Arsenical Idiosyncrasy. John Phillips.

12. **Tuberculosis.**—Bulstrode notices the theories of infection and the exaggerated popular ideas in regard to it. He considers tuberculosis only slightly communicable, and quotes sanitarium experiences. The frequent non-recognition of tuberculosis is also noted. He says, think of the revelation of the general application of the tuberculin tests. Statistics are given showing the relation of poverty to tuberculosis and the comparative slight incidence among the well-to-do. The relation of alcohol to the disorder is considered at some length; that there is an association would seem from the evidence conclusive. He thinks, however, that many of the alcoholic tuberculous cases are primarily predisposed by constitution. In insanity a very large proportion of the patients die from tuberculosis, particularly those within institutions. He thinks more attention should be paid to increase resistance and improve the condition.

15. **Gelatin in Aneurism.**—Four cases are reported by Rankin. He says that while the experience of so small a number is not enough for drawing conclusions, it shows that gelatin injections may with proper precautions be given subcutaneously with safety. They produce a marked and speedy decrease in all of the subjective and some of the objective symptoms of internal aneurism. This relief is only explainable on the theory of diminution of pressure effects by shrinkage in the aneurismal sac. This diminution in size accompanied with marked increase in the resistance of the tumor wall could be distinctly determined in three of the cases treated. The after histories of the patients so far as they can be obtained show that the beneficial results are permanent.

17. **Dental Hygiene.**—The importance of dental health to the community is shown by Newsholme, who gives figures showing the increased number of rejected recruits in England on account of defective teeth, also the statistics as regards the prevalence of dental caries in the different races at different periods. It is evidently much more common in civilized than in uncivilized states. While he questions and reserves opinion in regard to many of the alleged causes, he says the most important preventive measures are: 1. The teaching of hygiene should be compulsory in the senior classes of all elementary schools and the hygiene of the mouth be an important part of the subject. 2. The enforcement of daily cleansing of the teeth should be organized in all residential schools. 3. The medical profession can stimulate dental reform by examining the teeth of all children attended by them and inculcate the importance of regular cleansing and early attention to caries. 4. Every industrial and other school authority should employ a dentist to treat the teeth of children and organize methods of dental hygiene.

The Practitioner, London.

July.

23 *Introductory Essay. T. Clifford Allbutt.
24 *The Occurrence of Gout in the United States. Thomas B. Futcher.
25 *Gout in the Tropics. Alexander Crombie.
26 *Gout as It Occurs Among the Poor. F. S. Toogood.
27 *On the Relation of Gout to Granular Kidney and to Lead Poisoning. Samuel West.
28 *The Causation, Prevention and Treatment of Gout. Alexander Haig.
29 *Metabolism in Gout, and the Need for Combined Investigation. I. Walker Hall.
30 *Notes Respecting the Dietary for Goutily-Disposed Persons. Dyce Duckworth.
31 *The Treatment of Gout in Its Various Forms. Arthur P. Luff.
32 *Balneologic Treatment of Gout, with Special Reference to Bath. Gilbert A. Bannatyne.

23 *et seq.* **Gout.**—This issue of the *Practitioner* is devoted to a symposium on gout, which is introduced by an essay by Dr. Allbutt, who summarizes in a general way the papers that follow.

24.—Futcher gives his views as to the occurrence of gout in the United States, where he thinks it is often unrecognized.

25.—Crombie points out the lessened occurrence of gout in the tropics, which he explains by a lowered tissue metabolism required to raise the temperature of the body to a smaller number of degrees and in natives to the less nutritious nature of their diet.

26.—Gout as it occurs among the poor is treated of by Toogood, who attributes it principally to beer drinking.

27.—The relation of gout to granular kidney is discussed by West, who thinks that, like lead, it may produce chronic changes in the kidney, but does not cause interstitial nephritis. The presence of a granular kidney, however, greatly increases the liability of the patient to gout on the one hand and lead poisoning on the other, or both together; likewise greatly increasing the gravity and risk.

28.—Haig reiterates his views as to the importance of diet in gout, which he considers is but a symptom of poisoning by flesh and tea.

29.—Hall's paper is on the metabolism of gout. He believes in repeated purin determinations in each case and holds that if the exogenous or endogenous purins are delayed or retained in the system, their dilution in the tissues by large quantities of water or harmless fluids offers the best assistance to the renal cells for effective excretion.

30.—The diet in gout is treated of by Duckworth, who considers it a matter of individual study in every case. Slight causes of any kind will excite the disease in those predisposed to it.

31 and 32.—Luff and Bannatyne end the series with articles on the treatment of gout and its balneologic management.

Journal of Tropical Medicine, London.

July 1.

33 *Sleeping Sickness in the Light of Recent Knowledge. Louis W. Sambon.
34 *The Dengue: A Study of Its Pathology and Mode of Propagation. H. Graham.

33. **Sleeping Sickness.**—Sambon notes the spread of sleeping sickness and its possible extension into other races than the negro. He notes its symptoms and reviews the theories of its origin, including the later discovery of Castellani of the trypanosoma, the causative theory of which he thinks is somewhat favored by facts.

34. **Dengue.**—See editorial in THE JOURNAL, July 25, p. 264.

Annales de Dermatologie et de Syph., Paris.

Last indexed XL, page 1403.

35 (IV. 4.) Contribution à l'étude de l'hydrocystome (avec une note sur la granulose rubra nasi). A. Lebet (Jadassohn's clinic, Berne).
36 Summer Desquamation of the Palms. A. Carayon (Bordeaux).—Desquamation estivale en aires des mains.
37 (No. 5.) Dyskératoses congénitales et leurs associations morbides. E. Lenglet.
38 Cheloide du lobule de l'oreille. Son origine infectieuse. Récidive apres ablation cirurgicale. Guérison par l'électrolyse bipolaire. L. Perrin.
39 (No. 6.) Etude clinique et histologique sur 6 cas de syphilides miliaires peripilaires simulant le lichen scrofulosorum et la kératose pilaire. G. Jonitescu. Colored plates.
40 De l'association du lichen chronique circonscrit et du lichen simplex aigu disseminé. C. Audry.

Archives de Neurologie, Paris.

Last indexed XL, page 1175.

41 (XIV. April.) Sur quelques particularités cliniques de la névralgie faciale et son traitement par l'electricité. A. Zimmern. (Commenced in March number.)
42 Fibromatose et paralysie générale. A. Cullerre.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

43 (XXIX. 22.) *Pseudo-Hemisystolie und postmortale Hemisystolie. H. E. Hering (Prague).
44 Ueber ein für menschliche Placenta spezifisches Serum. W. Liepmann.
45 *Combined Tuberculin Treatment of Tuberculosis. J. Mitulesco (Bucharest).—Die Vortheile der combinirten Behandlung bei der chronischen Tub. (Commenced in No. 21.)
46 *Giant Growth. J. Wieting.—Zur Frage des allgemeinen Riesenwuchs. (Commenced in No. 21.)
47 New Vaccine Holder. Grimm (Tirschtiegel).—Neuer Lymphbehälter.
48 (No. 23.) *Ueber Tumoren und Pseudotumoren in der Adduktor-Gegend. V. Czerny (Heidelberg).
49 *Resection of Lower Jaw. Tilmann (Greifswald).—Ueber Unterkieferresektionen.

50 Zur Pathologie des Wurmfortsatzes (appendix). H. Ribbert (Göttingen).
51 Zur Frage vom Mechanismus der Darm-Strangulation. J. Kertesz (Budapest).
52 *Unblutige Behandlung der Dupuytren'sche Finger-Contractur. P. Lengemann.
53 Negative Tests of Tincture of Soap and Certain Other Disinfectants. Schumburg.—Bemerkungen zu der Wirkung des Seifenspiritus als Desinficienz medizinischer Instrumente.
54 *Eye Operations in Ancient Babylonia. H. Magnus (Breslau).—Zur Kenntniss der im Gesetzbuche des Hammurabi erwähnten Augenoperationen.
55 (No. 24.) *Human Sweat. L. Brieger.—Untersuchungen über den menschlichen Schweiss. II, Schwitzen bei verschiedenen Schwitz-Proceduren.
56 *Latest Methods of Operating on Incurable Vesicovaginal Fistulæ. E. Rose (Berlin).—Die neueste Op.-Methoden unheilbarer Blasenscheidenfistein.
57 Differential Diagnosis of Affections of Esophagus and Stomach. H. Eisner (Boas' clinic, Berlin).—Kasuistischer Beitrag zur Diff.-Diagnose von Erkrankungen der Speiseröhre und des Magens.
58 Advantages of Anesthol for Making Frozen Sections. R. Katz (Abel's clinic, Berlin).—Die Anfertigung von Gefrierschnitten zur mikroskopischen Diagnose mit Anästhol.
59 Zur Aetiologie der Spalthand (split hand). M. David.
60 *The New Service for Cancer Research.—Die neue Abtheilung für Krebsforschung der I. medizinischen Klinik in der Charité zu Berlin.

43. **Pseudo-Hemisystolia and Post-Mortal Hemisystolia.**—Hering presents arguments to prove that hemisystolia is a disturbance in the heart action which occurs only during dissolution and is absolutely incompatible with life. Two forms of hemisystolia may be observed in studying the hearts of animals, one ventricle continues to pulsate while the other has stopped beating; or one ventricle beats less frequently than the other. The first form is a phenomenon of commencing death, and is only observed in such circumstances. The other has never been observed by direct inspection except in the dying heart, and both the anatomy and physiology of the heart are against its occurrence except as an agonal phenomenon. He emphasizes the words "by direct inspection," as graphic tracings are unreliable in this respect, as has been proven in his Institute for Experimental Pathology. On the other hand, he claims that the bigeminal beat (Herzbigeminie), frequently deceptively simulates hemisystolia, and the clinical cases in which the latter has been assumed were in fact cases of Herzbigeminie. They might be classed as a pseudo-hemisystolia, but the terms hemisystolia and systolia alternans should be discarded from clinical terminology. The former is not a clinical phenomenon, and the latter has no existence in fact. He adds that the results of experimental research on the heart can be applied without hesitancy to man, as the anatomy and physiology of this organ is essentially the same in all mammals.

45. **Combined Tuberculin Treatment of Tuberculosis.**—Mitelescu lauds the advantages of combining hygienic and dietetic measures with the use of tuberculin, and shows by study of the metabolism that much more satisfactory gains are made with the latter than without it. He warns against febrile reactions, and insists on the necessity for small, but long-continued doses. He believes that as the tuberculin is a powerful stimulant for the cells it is indicated only in cases in which the cells are still capable of responding to a stimulus, therefore, only in the early stages of tuberculosis. By stimulating the cells to produce the specific substance and giving them abundant nourishment, they gain the upper hand in the struggle, which can be recognized by the retention of nitrogen. If too much tuberculin is given or if the cells have too little vitality to respond to the stimulus, the tuberculin merely aggravates the morbid condition of the cells, which likewise can be recognized by increased disassimilation. He tabulates the findings in several cases to illustrate his views, and cites statistics to confirm the efficacy of this combined treatment.

46. **Giant Growth.**—Wieting suggests that the connection between the testicles and the bone growth may be indirect. When the organism comes to maturity, the bone growth is arrested. If the sexual apparatus does not attain its normal maturity at the proper time, the bone growth continues unregulated until it dies out from exhaustion. This would explain the persistence of the epiphyses in eunuchs and the non-arrest of their skeleton development at the age corresponding to puberty in normal individuals. This would also explain a case of giant growth which Wieting reports in detail in a young Asia Minor giant of syphilitic heredity. The latter was probably responsible for the atrophy of the testicles observed, and the lack of the regulating influence from the testicles was possibly responsible for the excessive growth which commenced at about the age of puberty. The man stood 215 cm. tall, but, being somewhat stooped, he measured 225 cm. long (almost 9 feet).

48. **Tumors in Adductor Region.**—As an aid in differentiating these tumors Czerny describes the case of a forester who had articular rheumatism of the toes, extending to hip on same side and followed by a tumor in the adductor region which proved to be tuberculous osteomyelitis of the pubis with infiltration of the vicinity. The participation of the neighboring joint simulated a coxitis. Adolph has recently reported a similar case only with staphylococci instead of tubercle bacilli as the causal agents.

49. **Resection of Jaw.**—Tilmann extols the advantages of the Schroder Stoppany method of handling cases in which resection of the jaw is needed. A model of the jaw is made out of sheet aluminum, and, when the jaw is resected, the corresponding part of the model is resected and inserted in the place of the missing bone. This enables the wounds to heal without shrinking of the parts, and this temporary prothesis can be substituted by the permanent hard rubber prothesis at any time. Tilmann has thus operated on two cases and recommends that models of the jaw in three sizes should be kept constantly on hand.

52. **Bloodless Treatment of Dupuytren's Contraction.**—Lengemann reports from Mikulicz's clinic three cases cured or improved by daily local injections of 1 c.c. of a solution of 2 gm. thiosinamin in 4 gm. glycerin and 14 gm. distilled water. After the twentieth day the injections were continued once a week until 28 had been given in one case. The action of the thiosinamin was reinforced by warm baths, massage and passive movements.

54. **Babylonian Eye Operations.**—THE JOURNAL for May 30, page 1545, in a description of the Hammurabi code of laws, which date from Abraham's day, reproduced the cut of the surgeon's seal found in the excavations in Babylonia. The seal bears a representation of the instrument used in the operations on the eye to which the code refers. The abstract referred to above was of an article by Oefele, who is a student of the cuneiform language. Winckler translates the cuneiform text somewhat differently in his recently published work on the "Laws of Hammurabi" in *Der alte Orient*, 1903, 4. The word which Oefele translates cataract he calls tumor, cavity, fissure, and the instrument which Oefele entitles "scorpion awl" he translates "operating knife." Professor Magnus of Breslau has been studying the subject from the standpoint of comparative philology as well as of ophthalmology, and concludes that the operation in question was merely the ancient paracentesis first described by Celsus in the first century after Christ. In the same way as the Ancient Greek and Roman operators, the Babylonian surgeon unwittingly pushed the opaque lens to one side in operating to evacuate a supposed pathologic effusion. Oefele was therefore correct in calling the operation the removal of a cataract. It was in fact a depressio or reclinatio lentis, but none of the ancient operators were aware of this. The Assyrian-Babylonians, the Greeks and the Romans, and later the Arabians and others down to the close of the sixteenth century, all supposed that what they accomplished by their operation was merely the evacuation of a pathologic product. The severe penalty imposed by the Hammurabi code for loss of the eye, as mentioned on page 1545, must have caused the surgeons of those days to refrain from performing the operation very often. The code does not describe the technic or after-treatment, but Oefele has discovered a letter from a surgeon of the time of Sardanapalus, named Aradnana, which mentions that a wound in the cornea will heal under a plaster bandage in seven or eight days. We may assume, therefore, that the Babylonian surgeons conducted the after-treatment of these operations along this line. The excavations at Susa have demonstrated that the Greeks and Romans owed their knowledge of humoral pathology to the Assyrian Babylonians, and that it did not originate with Celsus as heretofore supposed.

55. **Study of the Sweat During Diaphoresis.**—Brieger tabulates the results of determination of the freezing-point of the sweat during different sweating procedures.

56. **Treatment of Incurable Vesicovaginal Fistulae.**—Rose sutures the vulva, closing it entirely, and diverts the urine and menstrual discharge through a large opening from the vagina into the rectum above the sphincter internus. The vagina tolerates the urine and the bladder the admixture of the menstrual discharge without trouble. His first patient, after complete recovery and with the rectal urethra working well, died with symptoms of uremia and lesions of tuberculosis were found in lungs and kidneys. The patient in his second case also died, not long after the successful operation, from extension of the carcinomatous lesions on account of which it had been undertaken. His third patient had been subjected to various operations during several years for a vesicovaginal fistula consecutive to rupture of the bladder, and was finally dismissed by the surgeons as incurable before she came under his care. He established the rectal urethra in four operations, and the patient for nineteen years since has been in good health, serving as maid of all work, the rectal urethra functioning perfectly. She writes that she has never had pains in the sacral region nor swelling of the feet. She urinates usually twice in the night, and menstruation never caused any disturbance. During all these years she has been perfectly well, except for a transient gastrointestinal catarrh at one time and tonsillitis at another. The rectal urethra functioned perfectly in all these three cases and constipation was the rule, never diarrhea. The autopsy in two cases also showed that the rectum was apparently normal, no ulcerations either in the rectum or bladder and merely a slaty discoloration of the rectal walls. He criticises Howard Kelly's method of operating on these fistulæ as a more serious operation. In regard to the abolishment of the sexual life by his method, he states that his three patients were glad to be freed from the danger of possible conception in their condition. He asserts that in America the tendency seems to be to still further perfect the technic of vesicovaginal operations, while in Germany the tendency is rather to perfect obstetric methods so that rupture of the bladder and fistulæ will no longer occur. He remarks that it is a peculiar feature of these operations in America that they are so often undertaken after gynecologic operations, especially after hysterectomy on account of carcinoma. When the uterus has been completely removed, the possibility of the loss of sexual intercourse is of much less importance. He explicitly warns against coitus for a year at least after any operation for even the simplest vesicovaginal fistula. He has witnessed a perforation that occurred in the course of a digital exploration by a professor of obstetrics in a recently-healed case of a fistula of this kind.

60. **Cancer Research.**—For ten years von Leyden has been conducting researches on cancer, and the authorities have now provided him with increased facilities for the work by erecting three "barracks" on the ground of the Charité Hospital, supplementary to the first medical clinic of which he has charge. One of the buildings is arranged for a laboratory and the others are wards with accommodations for twenty patients, but only such will be admitted as are past surgical aid. Von Leyden has long been a partisan of the parasitic nature of cancer, accepting the "cell inclusions" as the parasites. Richet and Héricourt, in 1895, were the first to announce that they had had encouraging results from treatment of cancer patients with the blood of dogs, asses and horses previously injected with an aqueous extract of cancer tissue. Jensen in 1901 reported that he had succeeded in curing cancer in mice by injection of blood from rabbits previously injected with cancer extract. He also succeeded in cultivating cancer by reinoculation through eight generations of mice. Similar experiments had been undertaken by von Leyden and Blumenthal on dogs with positive results, and they had applied the same curative measures to man. Several goats were treated for months with injections of carcinoma from the uterus, liver, mamma, etc., each animal receiving only one variety of cancer. After months of this preliminary treatment, the blood of the uterus-carcinoma goat was used for the treatment of a case of uterine cancer, and of the mammary-cancer goat for treatment of mammary cancer, and so on. These experiences of Jensen and von Leyden were duly chronicled in THE JOURNAL at the time they were published. The results were not conclusive but encouraging. The experiments of the latter were the first systematic attempts to differentiate the various kinds of carcinoma and to apply in treatment the laws of cytolysis and autolysis. Jensen also emphasized the necessity of differentiating the variety of tumor, although his researches were conducted with only one kind, adenocarcinoma, and only on mice. Von Leyden and Blumenthal have also been experimenting with crushed tumor cells on the principle of the tuberculin treatment of tuberculosis, always carefully differentiating the variety of the tumor. They believe that the still unaffected parts of the organism elaborate specific substances in response to the stimulus of the tumor substance, which on the one hand check the growth of the carcinomatous degenerated pavement and columnar epithelium, and on the other hand, produce substances which are able to dissolve the carcinoma cells. Control experiments with intact pavement and columnar epithelium from non-cancerous organs have not displayed any positive therapeutic influence to date. There is thus a marked difference between the results attained by injection with crushed tumor cells and injection of the corresponding intact, non-carcinomatous crushed epithelial cells. A third line of cancer research has been conducted in the clinic, the purely chemical study of the metabolism of cancer subjects. The results up to last year were published by Blumenthal in the *Klinisches Jahrbuch*. All this research is being actively prosecuted now on a larger scale.

Wiener Klin. Wochenschrift, Vienna.

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61 (XVI, 17.) *Ueber hereditären Ikterus. A. Pick.
62 Fall von Kopf-Tetanus mit Hypoglossus-Parese geheilt nach Dural-Infusion von Behring'schem Antitoxin. A. Holub.
63 (No. 18.) *Die Syphilis der Mütter und Neonatorum. Beitrag zur Lehre der hereditären Syphilis. F. Mracek.
64 *Zur Theorie der paroxysmalen Hemoglobinurie. R. Kretz.
65 Ueber Spontan-Fraktur der Blasensteine (urinary calculi). G. Kapsammer.
66 (No. 19.) Influence of Digitalis on Respiration in Heart Disease. L. Hofbauer.—Einfluss der Digitalis auf die Respiration des Herzkranken.
67 Transformations in Modern Surgery. von Eiselsberg.—Wandlungen in der modernen Chirurgie.
68 *Beitrag zur Lehre von der "Anemia perniciosa progressiva idiopathica." A. Krokiewicz.
69 (No. 20.) Intertransmissibility of Tuberculosis for Various Animals. E. Wiener.—Zur Uebertragbarkeit der Tub. auf verschiedene Tierarten.
70 *Tests of Smoke of Drugs Used in Treatment of Asthma. F. Netolitzky.—Rauchversuche mit einigen Asthmamitteln.
71 Zur Pathogeneität des Bacillus proteus vulgaris (Hauser). E. Haim.
72 Zur Klinik der Nieren-Tumoren, speziell der malignen Hypernephrome. E. Bohler (Neusser's clinic, Vienna).
73 Description of Institute for Experimental Medicine at St. Petersburg. C. J. Rothberger.—Das Institut, etc.
74 (No. 21.) Herpes tonsurans. M. Schein (Budapest).—Ueber die Etiologie der Glatze.
75 Das Lepra-Asyl Matunga in Bombay. M. Oppenheim (Neumann's clinic, Vienna).
76 Cholelithiasis mit Glykosurie. F. Ehler (Brünn).
77 Phimosen-Dilatator. R. Matzenauer (Vienna).
78 (No. 22.) Obituary of Karl Langer von Edenberg.
79 Zur Physiologie der willkürlichen Bewegungen (voluntary movements). E. Zuckerkandl and S. Erben.—Study of Knee Movements.
80 *Zur operativen Therapie bedrohlicher Blutungen (of threatening hemorrhage) nach Tonsillotomie. O. Burkardt.
81 *Physostigmin gegen gefahrdrohenden Meteorism (namentlich nach Operationen). L. Moszkowicz.
82 (No. 23.) *Results of Serum Treatment of Scarlet Fever. T. Escherich.—Die Erfolge der Serumbehandlung des Scharlach an der Universitäts-Kinderklinik in Wien.
83 *Hitherto Disregarded Sign of Rachitis. R. Neurath.—Ueber ein bisher nicht gewürdigtes Symptom der Rhachitis.
84 (No. 24.) The Conception: "Albuminoids." T. Panzer.—Der Begriff: "Eiweisskörper."
85 Influencing of Agglutinins by Specific Absorptions. A. Posselt and R. R. v. Sagasser (Innsbruck).—Ueber Beeinflussung der Agglutinine durch spec. Absorptionen, nebst Bemerkungen über den Werth der Serodiagnostik bei Typhus und Dysenterie.
86 *Cell Division Under X-Rays. G. Schwarz.—Zelltheilung und Rontgenstrahlen.
87 Ueber Dr. Bullings Inhalations-Verfahren. von Schrötter.
88 *Ueber Yohimbin (Spiegel) als Anestheticum. A. Strubell (Dresden).
89 (No. 25.) Regurgitation of Bladder Content. H. Marcus.—Experimentelle Untersuchungen über das Rückströmen von Harnblaseninhalt.
90 *Zur Roentgen Behandlung von Tumoren. A. Exner (Gussenbauer's clinic, Vienna).
91 Zur Aetiologie des "schnellenden Fingers" (trigger finger). E. Payr (Graz).

92 *Phosphorescence-Producing Properties of Radium. G. Holzknecht and G. Schwarz.—Ueber Radiumstrahlen.
93 (No. 26.) *Zur Theorie der Inkubations-Zeit. Clemens v. Pirquet and B. Schick.
94 Zur Meningitis cerebrospinalis suppurativa. J. Donath (Budapest).
95 Ueber Bakterien-Befunde in der normalen männlichen Urethra und den "Syphilis-Bacillus" Max Josephs. H. Pfeiffer.
96 Yeast and Formalin in Gynecology. M. Popescui.—Ueber einige neuere Heilmittel in der Gynaekologie.
97 Forceps at the Chrobak Obstetric Clinic. R. Sachs.—Bericht über die Zangen-Operationen der Klinik Chrobak in den letzten 10 Jahren. (Commenced in No. 25.)
98 (No. 27.) Zu Riedel and Kehrs Ansichten über Pathologie und Therapie des Gallensteinleidens (of biliary lithiasis). F. Fink (Carlsbad).
99 Gruber-Widal Serum-Reaktion bei Ikterus. L. Langstein.
100 Neue Früchte der Ehrlich'schen Toxin-Lehre. M. Gruber.
101 *Radium Treatment of Malignant Tumors and of Cutaneous Affections. A. A. Exner.—Radiumstrahlung.
102 *Radium Treatment of Cutaneous Affections. G. Holzknecht.—Wirkung der Radiumstrahlung auf Hautkrankheiten.
104 *Blastomycosis. Brandweiner.

61. **Hereditary Icterus.**—Pick describes a family in which the mother and three of the children exhibited icterus. He attributes it to some congenital communication between the lymphatic and biliary passages or to some congenital insufficiency of the liver cells, entailing paracholia. In conclusion, he reviews the German and English literature on the subject.

63. **Syphilis in the Mothers and Newborn.**—Mracek analyzes his experience with syphilis in the newborn with a profusion of details. He has become convinced that the earlier the fetus is infected the more serious the results. Neither the age nor the form of the maternal syphilis allows any positive dictum as to the outcome of the pregnancy. In 11 cases of non-proven syphilis on the part of the mother (and thus possibly paternal infection), the placenta was found pathologic in 9 instances. This fact is not a decisive argument in regard to the mode of paternal transmission, but is certainly worthy of attention. The protracted infecting power of the mother and its deleterious influence on the offspring impose energetic treatment of every pregnant woman, even when the syphilis is latent. He urges for collection of data in regard to cases of syphilitic mothers who have borne healthy children and also in regard to early abortions. The article is a valuable contribution to the pathologic anatomy and the clinic of hereditary syphilis, for which Mracek has been collecting material for twenty years. In 11 of the cases with early abortion or maceration of the fetus, not a trace of syphilis could be detected in the mother. In 22 others with syphilis probable but not certain, not a single child survived to term, as was also the case in 24 instances in which infection and conception occurred simultaneously, and likewise in 22 in which infection occurred shortly before conception. He tabulates these and various other groups, and discusses the alternating births of syphilitic mothers, the heredity of inveterate syphilis, and numerous other questions. His experience establishes that the virulence does not become attenuated with time, and that even in the latest gummatous stage the mothers may bear children virulently infected.

64. **Paroxysmal Hemoglobinuria.**—Kretz explains this condition on the principle of amboceptors and complements in the blood. The attack of hemoglobinuria, he suggests, may be due to an accumulation of the complement under certain influences in an individual already unduly loaded with amboceptors. The result is hemolysis with consecutive hemoglobinuria.

68. **Idiopathic Pernicious Anemia.**—In the case reported the patient, a man of 32, had been healthy until a gastrointestinal affection developed, followed in three months by signs of progressive and speedily fatal anemia. At the autopsy nothing pathologic could be found except in the alimentary canal. Krokiewicz ascribes the disease in this case to constant absorption of enterotoxins, first taken up in the portal vein and passing thence into the general circulation. He does not attempt to decide whether the destruction of the erythrocytes was due to the direct action of the absorbed intestinal toxins on the blood cells or whether there might not have been some special affinity between the toxins and the potash in the cells. During the fifty days in the hospital the blood never exhibited the picture of essential progressive pernicious anemia, no normoblasts nor megaloblasts, but only moderate poikylocytosis, modification of the stainability of the red corpuscles and a low proportion of hemoglobin corresponding to the diminishing numbers of reds which were at first 460,000 with 25 per cent. hemoglobin, and towards the last 240,000 with 9 per cent. hemoglobin. The leucocytes numbered 6,000 to 1,600, but behaved normally in every respect. Only Quincke and Grawitz have reported smaller proportions of red corpuscles, 142,000 and 200,000.

70. **Tests of Smoke of Asthma Remedies.**—Netolitzky has been experimenting with and analyzing the smoke of belladonna, hyoscyamus, *Datura stramonium* and *Lobelia inflata*, as remedies for asthma, in the form of cigars, cigarettes or smoked in a pipe. He was able to demonstrate both chemically and still more positively by directing a stream of the smoke on the eyes of rabbits, that the essential principle does pass into the smoke. The results were only faintly positive with the *Hyoscyamus niger*, and were puzzling with belladonna, but with the stramonium and the lobelia the effect on the rabbits' eyes was unmistakable.

80. **Operative Treatment of Hemorrhage After Tonsillotomy.**—Burkard cites the various methods of arresting threatening hemorrhage in these circumstances and describes in detail that practiced by the late Professor Nicoladoni. In the rare cases in which all other measures proved ineffectual he made an incision in the neck, commencing about 1 cm. below the ear and proceeding as if to remove a neoplasm in the tonsil, the lower jaw drawn up and the stump of the tonsil presented in the incision by pressure through the mouth. The tonsillar vessels are ligated, but the large vessels behind need not be touched. The styloglossus must be drawn up out of the way or severed. The tonsil lies directly in front of the insertion of the fibers of the stylopharyngeus in the swallowing musculature. The bleeding is carefully staunched, the pharynx opened, the stump of the tonsil extirpated and the pharynx closed immediately by suturing together the pillars of the fauces either through the incision or through the mouth. This intervention is more tedious and complicated than ligature of the carotid, but by observing the directions in detail, it can be rapidly done and is a much less serious operation than ligating the carotid, while it ensures arrest of the hemorrhage with much greater certainty.

81. **Physostigmin in Post-Operative Meteorism.**—Moszkowicz has found this drug magical in the relief of post-operative paralytic ileus. His experience includes five cases. He expatiates on the dangers of this pseudo-ileus which is one cause of death after laparotomies, and has also been observed after herniotomy and vaginal operations. The autopsy discloses that the peritoneum is intact and that the trouble is evidently the result of a vicious circle, venous hyperemia, edema of the intestinal wall, paralysis of the intestinal musculature, meteorism and disturbances in absorption. This vicious circle can be broken up by physostigmin. In his experience a subcutaneous injection of .001 gm. of the physostigmin salicylate was well tolerated by 3 extremely debilitated patients. In the 2 other cases this amount was given in two doses. The extreme distension of the intestines was promptly relieved, and in 2 of the cases the measure was life saving. No disagreeable by-effects were noted in any organs. The blood pressure was distinctly increased, the drug acting on the heart action like camphor.

82. **Serum Treatment of Scarlet Fever.**—This communication was presented at the Madrid Congress and the nine diagrams give an oversight of the effects of the treatment in the 112 cases in which it was applied. None of the children died that were injected on the first and second day of the disease, although there were 8 very severe cases in the 24 injected the second day. Only 17.4 per cent. died of the 23 injected the fourth day, and 30 per cent. of those injected the fifth day, after which the mortality rose to 50 per cent. of the 4 not injected until the ninth day, the latter all very severe cases. A single, large injection the first or second day affords the best results.

83. **Sign of Rachitis.**—Neurath gives a photograph of a chubby hand in which the fingers show marked deformity of

the bones, the phalanges appearing to be swollen, giving the fingers a spindle-shaped appearance between the joints. He has observed it only in rachitic children, and usually in those under a year old. When noted in older children the rachitis is always in a severe form. He was never able to discover the lesion in non-rachitic children or in those only slightly affected. It was always accompanied by enlargement of the epiphyses and ends of the ribs. He found that he could diagnose rachitis in children before examining them elsewhere, by merely feeling for the spindle-shaped enlargement of the phalanges. It subsided under "phosphorus cod-liver oil" in conjunction with the other symptoms of the rachitis.

86. **Cell-Division Under the Roentgen Rays.**—G. Schwarz of Vienna reported at the local medical society that he had been studying the influence of the *x*-rays on living sea urchin's eggs. In no instance was it possible to detect any inhibiting action on the part of the rays on the normal cell division. These and similar researches on other animal tissue have convinced him that the inhibiting influence of the rays which Lopriores has established in respect to plant cells, does not exist in respect to animal cells. The influence of the rays on tumors, therefore, can not be explained on this assumption. He thinks the action of the rays may possibly be explained by assuming that they render certain substances, especially albumin, insoluble. The phenomena observed with the *x*-rays, Finsen light treatment and exposure to the sun for hours on a glaring snow field, may all be of the same nature, i. e., the rendering insoluble of certain metabolic products in the cells whose further elaboration and elimination are thus hindered. This stoppage gives rise to the chronic affection following a period of incubation which we designate as solar erythem and Finsen and Roentgen dermatitis. The sea urchin's eggs were exposed to *x*-rays which blackened a photographic plate under the same conditions in less than a minute.

88. **Yohimbin as an Anesthetic.**—A recent death at Vienna after the use of cocain causes surgeons to be specially interested in the newly-discovered anesthetic properties of yohimbin. Strubell found that the local application of a 1 per cent. solution induced undoubted hypesthesia to anesthesia in the upper air passages, amply sufficient for operations that did not go very deep into the tissues. This application is absolutely harmless and does not blanch the tissues, but induces a moderate hyperemia without contraction of the tissues or severe primary hemorrhage at the time or later. He suggests that its combination with adrenalin might prove especially advantageous for rhino-laryngologic work.

90. **Roentgen Treatment of Tumors.**—Exner reports 3 cases of inoperable mammary cancer unmistakably benefited by the *x*-rays. In one case the lesion apparently healed. In a case of melano-sarcoma the cutaneous metastases were treated by the *x*-rays and many of them subsided under their influence.

92. **Phosphorescent Power of Radium Rays.**—It has been asserted that totally blind persons are able to see the radium light. They not only perceived the phosphorescent radium screen, but were able to distinguish the silhouettes of coins, keys, etc., placed on the screen, the same as a seeing person. Holzknecht and Schwarz think these facts can be explained in two ways: Either the radium rays passing through the tissues reach and irritate the optic nerve and stimulate the relics of vision left in it—in which case the sound eye would also experience the same tendency, and the blind person, after a little practice, might be able to perceive any dark object on a bright background. Tests in this direction have already been made, and Heller reported two years ago that it is possible to save some degree of vision by exercises of this nature. The same results can be attained with any light, and the radium has nothing specific to do with the phenomenon. It was observed with the Roentgen rays and interpreted in the same erroneous manner at first. The other, and the correct explanation, they believe, is that the phenomenon is due to the transformation of the energy of the radium rays into objective phosphorescence. This power of inducing phosphorescence in other bodies is possessed by the radium rays to a remarkable extent. No screen nor chemical is required; any animal tissue whatever, hairs, bone, muscle, a drop of water, a scrap of sugar, but especially the human epidermis, are rendered more or less vividly phosphorescent under the action of the radium rays. They believe that no one else has called attention to this property of radium. This explanation of the vision induced in the blind by radium is confirmed by the localization of the phenomenon. When the radium is applied to the right, the visual sensation is on the right side, applied to the left, above or below, it is respectively on the left or above or below to correspond. The radium rays evidently render the sclerotic phosphorescent, and this phosphorescence is seen by the point of the retina opposite to it. When a visual sensation is experienced from compression of the eyeball, the source of the light is referred to the point opposite that from which the light compression proceeds. This is directly the reverse of what is experienced from the radium.

93. **Theory of the Period of Incubation.**—Pirquet and Schick relate clinical and experimental researches which demonstrate that an organism reacts more promptly to a renewed infection or intoxication than it did the first or previous times. That is to say, the incubation period is shorter. They theorize from this fact that the pathogenic substance has *per se* no power to induce the consecutive sickness. This follows when the organism has had time to elaborate certain products under the influence of the pathogenic substance, which in turn modify the latter. When this modification has reached a certain degree the symptoms begin to appear.

101. **Radium Treatment of Carcinoma.**—Exner exhibited from the late Professor Gussenbauer's clinic a case of carcinoma of the mouth and two of melano-sarcomata, at the meeting of the local medical society, June 26. (See editorial, The Journal, July 11.) Each had been treated with the radium rays, applying the radium in a capsule fastened to the spot with adhesive plaster. One melano-sarcoma had been removed three years before, but numerous small metastases had been noticed for eight months, shimmering black through the skin. These nodules were treated once each with the radium for five to twenty-five minutes. A dermatitis followed, the redness first perceptible after two to forty-eight hours. None of the nodules showed much change that had been treated for only fifteen minutes or less, but all the others grew perceptibly smaller, and some of them retrogressed completely. The nodules disappeared before the superficial tissues exhibited the necrosis from the action of the rays. In one case an epithelioma at the corner of the mouth recurred after three operations three and six years apart. The outer surface formed a protruding ulcer about the size of a quarter, that could be palpated as a hard tumor the size of a hazel nut, not definitely circumscribed. A second tumor was also observed in the neck. The capsule containing the radium bromid was protected from moisture by a rubber cot, and the patient applied it himself to the lesion on the mouth for fifteen to twenty minutes. The applications were made six times in less than a month. In seventeen days the tumor had perceptibly diminished in size and the ulcer began to heal over. No further visible reaction was observed at any time. The tumor rapidly subsided after this, and by the end of the month had apparently vanished. In the third case treated with the radium the same retrogression of the malignant tumor was realized.

102. **Radium Treatment of Cutaneous Affections.**—Holzknecht also exhibited at the same meeting several cases of cutaneous affections treated with the radium rays, one application each. One was a case of psoriasis gyrata of the entire body, which had been nearly cured with the *x*-rays and the cure was completed by the application of the radium. Very slight and brief application of the *x*-rays (2 H) are enough to cure psoriasis. The patches heal, while the sound skin is not affected by the applications. The same is true of the radium. A minute's application was amply sufficient. Recurrences will probably follow as after every method of treating psoriasis. In a case of lupus hypertrophicus one patch was cured with the *x*-rays and one with the radium. The latter was applied to the spot twice, at a month's interval, for seven minutes at a time.

The similarity of the action of the two kinds of rays was here striking, and the radium was superior, if anything, and can be applied to the mucous membranes. An epithelioma on the cheek also rapidly subsided till only a trace of infiltration around the edge still persists after three applications of the radium capsule for five minutes each. The most remarkable of all his cases was an extensive flat telangiectasia covering the entire left arm. He comments on the differences between the Becquerel and the Roentgen rays, laying special stress on the histologic studies of ray dermatitis which the Neisser school has published, Scholz's thesis in particular. The latter is a complete monograph on the histology of Roentgen dermatitis in man and animals. He has shown that the Roentgen rays cause degenerative processes in the cells of the intima of the blood vessels. The action of the radium rays seems to be identical, only much more intense. As a consequence of the degeneration there ensues a rapid dilation of the capillary and precapillary vessels. In the case of telangiectasia described, the radium capsule was applied for ten minutes each at eight various points on the nevus, while the parts between received only the small quantity of the rays that passed through the sides of the capsule. When exhibited, at these eight points there were corresponding small patches, .5 cm. in diameter, of perfectly normal, tender, white skin in the midst of the nevus vasculosus. Applications of the Roentgen rays had no such effect, but merely slightly blanched the points.

104. Blastomycosis.—Brandweiner exhibited at the same meeting a case of what he believed to be blastomycosis "in the sense of the Americans," and two others were reported by himself and Oppenheim. The latter stated that only 45 such cases have been published, and all but 2 in America, but he is convinced that many cases diagnosed as lupus verrucosus, epithelioma or syphilis must have been in reality cases of blastomycosis. Differentiation is important as potassium iodid is an energetic and certain specific against this affection.

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105 (XIX, 12.) Relations Between Recurring Epidemics of Malaria. G. B. Mariotti-Bianchi.—Sulla malaria nella guarnigione di Roma dal gennaio al luglio 1902, etc.
106 (No. 13.) Reduplication of Second Sound. U. Gabbi.—Lo sdoppiamento del secondo tono nella stenosi mitralica.
107 *Contributo allo studio della setticemia da micrococco tetragono nell' uomo (in man). L. Fornaca (Turin). (Commenced in No. 12.)
108 (No. 14.) Compensation in Experimental Heart Defects. L. Ferrannini.—Il compenso nei vizii cardiaci acuti sperimentali.
109 Azione simultanea delle sostanze proteiche del bacillo tifogeno e della tossina difterica. F. Stinelli.
110 *Action of Suprarenal Extract in Gastrointestinal Atony. U. Baccarani and A. Plessi.—Ricerche cliniche sull'azione dell' estratto di sostanza midollare delle capsule surrenali (paraganglina Vassale) nell' atonia gastroint.
111 (No. 15.) *Hemostasis in Resection of Spleen. L. Girolamo.—Emostasi nelle resezioni della milza.
112 *Richerche sperimentali e cliniche sopra 2 casi di emoglobinuria parossistica. G. Mattirolo and E. Tedeschi. (Commenced in No. 13.)
113 Note di anatomia topografica per l'innesto della vena porta con la cava ascendente (for anastomosis of venæ porta and cava). G. Russo-Travali.
114 (No. 16.) Emigration of Elements of Blood in Leukemia. F. Schupfer.—Sulla emigrazione degli elementi del sangue nei trasudati ed essudati dei leucemici. (Commenced in No. 15.)
115 *Tonic Treatment of Epileptics. U. Alessi (Pisa).—Contributo alla cura dell'epilessia.
116 Alcune considerazioni sulla patogenesi della corea del Sydenham. A. B. Gianasso.
117 (No. 17.) Contributo allo studio della nevrasthenia infantile. L. Cappelletti.
118 L'acido picrico nell' uretrite blenorragica. F. Re.
119 (No. 18.) Experimental Lead Poisoning. G. Fasoli.—Sulle alterazioni anatomiche nell' avvelenamento sperimentale da piombo. (Commenced in No. 17.)
120 Sopra 2 casi di psicosi da ileo-tifo. M. Foa.

107. Septicemia from Micrococcus Tetragonus.—Fornaca describes the case of a man of 45 who for three months exhibited chills and remittent fever of a pyemic type with much emaciation, a hemorrhagic pleural effusion and hypertrophy of the liver and spleen. Repeated exploratory puncture was negative, but a parasite supposed to be the white tetragonus was found constantly in the blood, in the pleural effusion and in the urine. The cultures on the most varied media were always white until the infection began to decline, when they became yellowish. The red corpuscles were somewhat altered, the hemoglobin low, and the whites numbered a third more than normal. The treatment instituted was endovenous injections of sublimate, and under their influence the proliferation of the bacteria in the blood was arrested, and they finally disappeared, while the blood rapidly regenerated, the number of whites subsided to normal, and the liver resumed its normal size. Before resorting to the sublimate, various other measures had been tried, but with no effect. The endovenous injections of 2 to 4 mg. of corrosive sublimate were repeated every day from April 22 to May 3, with marked influence on the temperature curve. The first four days there was a chill and fever to 40 and 40.5 C., but the temperature gradually subsided, and after the eleventh day there was almost complete apyrexia, but the symptoms still continued to simulate an abscess in the liver, to such an extent that the abdomen was opened and explored twice, but with negative results. After remaining in the neighborhood of normal for several days the temperature again rose and the sublimate injections were resumed and continued for nearly a month. They seemed to be perfectly tolerated and progressive improvement followed, the patient leaving the hospital, July 6, apparently cured. His first symptoms had been noted in December, and he entered the hospital in March.

110. Suprarenal Extract in Gastrointestinal Atony.—Baccarani reports from Galvagni's clinic at Modena very favorable results from the use of Vassale's extract of the medullary substance of the suprarenal capsules in 14 cases of atony of the stomach. Experimental and clinical tests demonstrated its marked influence on the motor function of the stomach, perceptible even from the outside. The effects in the clinic also suggested that the active principle secreted in the medullary substance of the suprarenal gland raises the tone of the cardiovascular apparatus and the metabolism in general. The benefits derived also suggest that certain cases of gastrointestinal atony with general asthenia, headache, insomnia, etc., may be due to simple functional insufficiency of the suprarenal capsules, transient or relative.

111. Hemostasis in Resection of Spleen.—Girolamo calls his method intralienal suture; it has been thoroughly tested on dogs. A silk suture is passed through the sound part of the spleen from within outward, about one centimeter below the free margin of the organ and eight millimeters from the line of the projected incision. Another needle on the same thread is then passed in the same way from the concave surface outward, about one centimeter beyond the first needle. A third and a fourth needle on the same thread are then inserted in the same way. The entire margin of the parenchyma of the spleen is thus included in the threads, which are tied in loops, after being cut at the eye of each needle. A single needle and several threads can be used instead of the single one if wished.

112. Paroxysmal Hemoglobinuria.—The authors suggest as a hypothesis from the findings in Case 1 that the hemoglobinuria was due to loss of balance between the resistance of the red corpuscles and the toxic action of the serum. The balance may be upset by cold, congestion, trauma or other cause. The resulting hemolysis is followed by a defensive reaction on the part of the organism and an antihemotoxin is elaborated which arrests the hemotoxic process. The red corpuscles are thereafter more resistant than normal, as was observed in the blood of this patient. There was no hemoglobinemia after the attack was once established. The other case was one of hemoglobinuria without hemoglobinemia. The serum had merely slight agglutinating power and the hemoglobinuria was probably to be ascribed to some morbid condition of the kidneys as symptoms of nephritis were noted.

115. Tonic Treatment of Epileptics.—Alessi calls attention to the great benefit he has derived in a number of cases of epilepsy from general tonic treatment. He has found very useful a combination of sodium arseniate 1 mg.; zinc phosphite 5 mg.; calcium phosphate 8 cg.; sodium benzoate and pancreatin, each 20 cg. Twenty such doses are given in all, one to three a day before meals. The zinc phosphite is both tonic and sedative. Sabbatani has established that lime reduces the excitability of the cortex, and the pancreatin has a favorable influence on

digestive processes. Alessi supplements it with a little rhubarb. In conclusion he reports four cases in detail treated on this principle, showing the improvement in cases in which the morbid process has not already induced irreparable anatomic changes. He emphasizes in conclusion that the physician should aim to cure the epileptic, not the epilepsy; the greater includes the less.

Russky Vratch, St. Petersburg.

Last indexed XL, page 813.

121 (I, 42.) 1,100 Cataract Operations. Madame A. G. Arkhangelskoi (government medical officer in country district). —O 1,100 ezvletchenii katarakt.
122 Gangrena spontanea s. senilis. A. V. Beketoff. Ten cases; endarteris obliterans constant.
123 *Electric Wet Packs. P. Rutkovsky.—Obshtchie sogryevayushtchie elektritcheskie kompressy.
124 (No. 43.) Massage Treatment of Affections of Testicles and Adnexa. J. V. Zabludowsky.—K lyetcheniyu yaitchek, etc.
125 Preventive Plague Vaccination. A. M. Besredka.—O predokhraniteinya privivkakh pri tchumye.
126 Tetany in Children. 71 Cases with Autopsy in 6. R. A. Peters.—71 slutchai dyetskoi tetanii s 6 pat.-anat. ezsiyedovaniyami.
127 O Chorion-Epithelioma. L. R. Krever. (Concluded.)
128 Personal Test of Transmission of Malaria by Anopheles. V. V. Favre.—Opyty zarazheniya bolotnoi likhoradkoi, etc.
129 Vaginal Ovariotomy. A. A. Anufrieff.—K voprosu ob udalenie kozhevikov yaitchnika tcherez vlagalishtche. (Commenced in No. 40.)
130 (No. 44.) *Late Recurrences of Cancer. V. N. Heynatz.—O pozdnikh vozvratakh raka.
131 Athletics at Universities. G. I. Turner.—Sport i physitcheskiya, etc.
132 Evolution of the Leucocytes. G. R. Rubinstein.—K voprosu evoiutzii byelova krovyanova sharika.
133 *Connection Between the Female Genital Organs and Nasal Affections. B. A. Liboff.—O svyazi zabolyevanii zhenskikh polovykh organov s zabolyevaniyami nosa.
134 (No. 45.) Hernia processus vaginalis encystica. K. I. Susloff. (Commenced in No. 44.)
135 Polymorphism of Plague Bacillus. V. V. Favre.—O polimorphismye tchumnoi palotchki.
136 *Secreting Functions of Stomach Glands, Especially in the Insane. A. I. Yushtchenko.—O zheludotchnom pishtchevarenii, etc.
137 Distribution of Rabies Virus in the Organism. A. M. Tcherevkoff.—O raspredyelenii dlya vodoboyazni, etc.
138 (No. 46.) Relations Between Chorea and Athetosis. M. J. Breitmann.—O patogenezye Vittovoi plyaski i atetoza i o rodstvye mezhdu etimi 2-mya formami.
139 *Study of Alkalinity of Blood. V. F. Orlovsky.—Novia dannlya v utchenii o shtchelotchnosti krovi.
140 (No. 47.) Traumatism of Cervical Vertebræ. L. M. Pussep. —O traum. povrezhdeniyakh sheinoi tchasti pozvonotchnika.
141 Rat Disease Due to Acid-proof Bacilli. V. K. Stephansky.—Zabolyevaniya u krys, vyzvannya kislotoupornoi palotchkoi.

123. **Electric Wet Packs in Nervous and Mental Diseases.**—Rutkovsky has been advocating for some time local wet packs through which electricity is conducted, and now describes two cases in which the entire body was packed with these "electric compresses." Both were women, one a physician addicted to morphin, the other a case of neurasthenia, anemia, insomnia, etc. Marked benefit was derived in both. The patient is wrapped in a sheet wrung out of hot water, all but the head and one hand being thus covered. The cathode is applied to the feet and the anode, about 100 sq. cm. in size, is placed on the palm of the exposed hand. The current is turned on to the strength of 2 to 5 milliamperes for twenty to thirty minutes, reducing the strength whenever tingling is felt in the hand. The electric compress was applied twice at an interval of five days in the first case, and then several times later, and the patient said that she had never felt so well in her life; appetite and sleep have returned, and morphin has been abandoned. In the other case the neurasthenia inclined to melancholia with tendency to suicide, and the electric packs were supplemented by massage and suggestion. This treatment was successful after failure of all other measures during months of trial.

130. **Late Recurrences of Cancer.**—Heynatz has observed a number of cases in which cancer recurred after ablation more than three years previously. The late recurrences do not differ in any respect from those that appear in the first three years, and must be due to relics of the original tumor which have lain latent in the interim, even as long as twenty years in some instances. He, therefore, suggests that our acceptance of three years as the limit for a cure of cancer needs revision to conform to the clinical facts observed. In his own experience of 122 cases of recurrence, it was observed during the first year in 56; during the second in 46; during the third in 18, and after the third year in the same number. In one case, which he believes is unique, a recurrence the size of a pea was found in three months after ablation of a cancer on the tongue, but the patient has been in perfect health during the eight years since the recurrence was removed. The point which he wishes to specially emphasize is that recurrence at any date should be treated by prompt excision, and that the second operation may completely eradicate the malignant disease. His percentage of late recurrences is larger than those of Labhardt's statistics, and a much larger proportion were operable.

133. **Connection Between Affections of Female Genital Organs and the Nose.**—Liboff's experience confirms that of other authors who have reported great benefit in certain gynecologic affections from cocainization of the genital points in the nose. The results were surprisingly effective in nervous dysmenorrhea, that is cases in which nothing pathologic could be discovered in the genital organs to explain the painful menstruation. The measure is especially beneficial in the case of young girls or unmarried women, and cocainization of other points besides those described by Fliess as the genital points, may prove similarly effectual. The explanation of these results is probably that many gynecologic affections are traceable to some neurosis.

136. **Gastric Secretory Function, Especially in the Insane.**—There is a natural secretion of gastric juice as food is being taken and is passing through the natural passages, and this factor in digestion is lacking when the subject is being fed through a stomach tube. Consequently articles for this form of feeding should be selected with a view to compensate this lack. Yushtchenko has found that milk, as a natural stimulant for the nervous and glandular apparatus, is the best of all foods for artificial feeding, especially for patients with little if any appetite. He has also found that besides milk, bouillon and the meat powder sold in Russia, all act as stimulants for the secretory gastric functions, and are, therefore, best suited for gavage of the insane. They may be effectively supplemented by eggs and the bread powder which is another Russian article. The use of these stimulating foods supplies the nervous and glandular apparatus with the stimulus naturally afforded by exercise and appetite.

139. **Study of Alkalinity of Blood.**—In tests on dogs, rabbits and in the clinic, Orlovsky found that the degree of leucocytosis had no influence on the alkalinity of the blood, even when a hyperleucocytosis up to 75 per cent. existed. On the other hand, he is convinced that the alkalinity of the blood, that is, of its plasma, is an important factor in the biologic life of the organism, and that the degree of alkalinity is dependent on the number of red corpuscles, as the alkaline elements are contained in the latter as well as in the plasma. The fluctuations in the number of reds in various pathologic processes in the individual as also in the same process in different individuals, amply explain the variations in the alkalinity of the blood.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Microscopical Examination of Foods and Drugs. A Practical Introduction to the Methods Adopted in the Microscopical Examination of Foods and Drugs, in the Entire, Crushed and Powdered States. By Henry George Greenish, F.I.C., F.L.S., Professor of Pharmaceutics to the Pharmaceutical Society of Great Britain. With 168 Illustrations. Cloth. Pp. 316. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

Brewer's Surgery. A Text-Book of Surgery for Students and Practitioners. By George E. Brewer, A.M., M.D., Lecturer on Clinical Surgery at the College of Physicians and Surgeons (Medical Department of Columbia University), New York. With 280 Engravings and 7 Plates in Colors and Monochrome. Cloth. Pp. 712. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1903.

Studies from Institute for Medical Research. An Inquiry Into the Etiology and Pathology of Beri-beri. By Hamilton Wright, M.D. (McGill), Director of the Institute for Medical Research, Federated Malay States. Printed by Authority of the Resident General, F.M.S. Vol. II, No. 1. Paper. Pp. 93. Price, 3s net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1902.

An English Handbook of the Paris Medical School. By A. A. Warden, M.D., Visiting Physician to the Hertford British

Hospital, Paris. With Prefatory Letters by Lord Lister and Prof. W. W. Keen. Paper. Pp. 72. Price, 2s. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

A COURSE OF LECTURES ON MEDICINE TO NURSES. By Herbert E. Cuff, M.D., F.R.C.S., Medical Superintendent Northeastern Fever Hospital, Tottenham, London. Fourth Edition. Cloth. Pp. 270. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co. 1903.

REPORT OF THE BUREAU OF VITAL STATISTICS of the State of New Jersey for the Year Ending Dec. 31, 1901. Pasteboard. Pp. 382. Trenton, N. J.: J. L. Murphy Publishing Company. 1903.

New Patents.

Patents of interest to physicians, granted July 7 and 14:

733120. Sanitary napkin holder. Frederick M. Baldwin, Winter Park, Fla.
733124. Hernial truss. Townsend Beckwith, Big Flats, N. Y.
733152. Empyema drainage device. Murdoch Chisholm, Halifax, Canada.
732732. Making lithophone and Glauber salt. William D. Gilman, Baltimore.
733026 and 733027. Inhaler. Sydney O. Goldan, New York.
732855. Pessary. Edgar M. Hewish, Philadelphia.
733049. Massage machine. Alva D. Jones, Louisville, Ky.
733228. Beverage dispenser. George A. Logan, Chicago.
732897. Apparatus for massaging. Graziano Sartori, Berlin, Germany.
732801. Machine for polishing atomizer tubes. Charles L. Turner, Winthrop, Mass.
732975 and 733358. Tachometer. Curtis H. Veeder, Hartford, Conn.
733364. Nebulizer. Robert L. Benson, Chicago.
733536. Case for clinical or other therometers. Frank J. Berberich, Jr., Brooklyn.
733899. Water bottle funnel neck. Robert D. Bradley, Canton, Ohio.
733472. Artificial limb. Erick H. Erickson, Minneapolis.
733398. Massage instrument. Benjamin E. Joseph, Chicago.
733402. Obstetrical forceps. Henry E. Koch, Hartington, Neb.
733729. Making cellulose esters. George W. Miles, Belmont, Mass.
733504. Medicated plaster. Frederic J. Nash, Brooklyn.
733879. Hernial truss. John B. Sheehan, Atchison, Kan.
733604. Apparatus for pasteurizing milk. Lee Sturges, Elmhurst, Ill.
733784. Massaging implement. Charles S. Whitney, Springfield, Ill.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended July 18:

Surgeon H. L. Law, retired, ordered to additional duty at Marine Recruiting Station, Providence, R. I.

Asst.-Surgeon H. L. Brown, appointed asst.-surgeon, with rank of lieutenant, junior grade, from June 29, 1903.

Asst.-Surgeon J. C. Thompson, detached from the *Columbia* and ordered home to wait orders.

Asst.-Surgeon C. H. DeLancy, detached from the Navy Yard, Norfolk, Va., and ordered to the *Columbia*.

A. A. Surgeon G. R. Plummer, ordered to Naval Station, Key West, Fla.

Surgeon C. H. T. Lowndes, detached from the Naval Station, San Juan, P. R., and ordered home to wait orders.

Surgeon G. Pickrell, ordered to Naval Station, San Juan, Porto Rico.

Surgeon H. N. T. Harris, orders of July 8 modified; detached from *Glacier* and ordered to Navy Yard, Pensacola, Fla.

P. A. Surgeon W. H. Bucher, detached from Navy Yard, Pensacola, Fla., and ordered to Washington, D. C., July 21, for examination for promotion, and thence to San Francisco to take passage on S. S. *Siberia*, sailing August 8 for Asiatic Station, for duty at Navy Yard, Cavite, P. I.

Asst.-Surgeon J. C. Thompson, orders of July 14 modified; detached from *Columbia* and ordered to *Chesapeake*.

Asst.-Surgeon A. J. Geiger, detached from Naval Hospital, Navy Yard, Norfolk, Va., and ordered to Washington, D. C., for duty as recorder of naval and medical examining board now in session at Naval Museum of Hygiene and Medical School.

A. A. Surgeon R. B. Chapman, ordered to duty with Recruiting Party No. 6.

A. A. Surgeon L. H. Schwerin, detached from duty with Recruiting Party No. 6 and ordered to the *Southery*.

A. A. Surgeon F. W. Tyree, ordered to the Naval Station, Port Royal, S. C.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended July 16, 1903:

P. A. Surgeon J. C. Perry, granted leave of absence for one month from July 14.

P. A. Surgeon M. J. Rosenau, to proceed to Boston, Philadelphia, Marietta and Swiftwater, Pa.; Detroit, St. Louis, Milwaukee, Wis.; Chicago and Baltimore for special temporary duty.

P. A. Surgeon H. W. Wickes, granted leave of absence for one day, July 17.

P. A. Surgeon T. Clark, granted leave of absence for seven days from July 13, 1903, under paragraph 191 of the Regulations.

Asst.-Surgeon T. B. McClintic, to proceed to Atlantic City, Point Pleasant and Tuckerton, N. J., for the purpose of making physical examinations of keepers and surfmen of the Life-Saving Service.

Asst.-Surgeon F. E. Trotter, granted seven days' extension of leave of absence from July 13.

Asst.-Surgeon C. W. Wille, to proceed to Ocean City, Md.; Chincoteague Island and Onley, Va., to make physical examinations of keepers and surfmen of the Life-Saving Service.

A. A. Surgeon P. N. Barnesby, granted leave of absence for two weeks, on account of sickness, from July 2.

A. A. Surgeon W. R. Hicks, granted leave of absence for three days from July 14.

A. A. Surgeon C. B. Sweeting, granted leave of absence for thirty days, on account of sickness, from July 10.

A. A. Surgeon Jay Tuttle, department letter granting leave of absence for thirty days amended so as to be effective July 3.

A. A. Surgeon W. A. Weldon, granted leave of absence for fifteen days from July 11.

BOARDS CONVENED.

Board convened at the Marine Hospital, Port Townsend, Wash., July 17, 1903, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon J. H. Oakley, chairman; P. A. Surgeon M. H. Foster, recorder.

Board convened at the Marine Hospital, Chelsea, Mass., July 21, 1903, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 18, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, July 4-11, 2 cases.
California: San Francisco, June 28-July 5, 3 cases.
Georgia: Atlanta, July 1-8, 1 case.
Illinois: Chicago, July 4-11, 4 cases.
Indiana: Kokomo, July 4-11, 2 cases.
Louisiana: New Orleans, July 4-11, 2 cases.
Maine: Fort Kent and vicinity, July 10-14, 24 cases.
Massachusetts: Fall River, July 4-11, 15 cases; New Bedford, July 4-11, 2 cases; Taunton, July 4-11, 2 cases.
Michigan: Detroit, July 4-11, 11 cases; Port Huron, July 4-11, 3 cases.
New Jersey: Camden, July 4-11, 1 case.
New Hampshire: Manchester, July 4-11, 3 cases.
New York: New York, July 4-11, 1 case.
Ohio: Cincinnati, July 3-10, 2 cases; Cleveland, July 4-11, 1 case; East Liverpool, June 1-30, 6 cases; Hamilton, July 4-11, 4 cases, 2 deaths; Toledo, July 4-11, 2 cases.
Pennsylvania: McKeesport, July 4-11, 1 death; Philadelphia, July 4-11, 54 cases, 11 deaths; Pittsburg, July 4-11, 47 cases, 2 deaths.
South Carolina: Charleston, July 4-11, 4 cases.
Tennessee: Memphis, July 4-11, 2 cases; Nashville, July 4-11, 3 cases.
Utah: Salt Lake City, June 27-July 11, 8 cases, 1 case imported.
Wisconsin: Milwaukee, June 27-July 4, 6 cases.

SMALLPOX—FOREIGN.

Austria: Prague, June 13-20, 6 cases.
Belgium: Brussels, June 20-27, 5 deaths.
Brazil: Pernambuco, May 8-31, 11 cases.
Canary Islands: Las Palmas, June 13-27, 10 cases.
Colombia: Bocas del Toro, June 23-30, 8 cases, 1 death.
Ecuador: Guayaquil, June 20-27, 1 death.
France: Marseilles, May 1-June 30, 19 cases, 32 deaths; Rouen, May 1-31, 3 deaths.
Great Britain: Birmingham, June 20-27, 4 cases; Dublin, June 20-27, 9 cases, 2 deaths; Dundee, June 13-20, 2 cases; Leeds, June 27-July 4, 4 cases; Liverpool, to July 4, 28 cases, 4 deaths; Manchester, June 20-27, 10 cases; Newcastle-on-Tyne, June 13-27, 9 cases; Nottingham, June 20-27, 4 cases; Sheffield, June 13-20, 1 case; Southampton, June 13-20, 1 case from S. S. *Paul*, from New York.
India: Bombay, June 9-16, 27 deaths; Calcutta, June 6-13, 2 deaths.
Mexico: City of Mexico, June 14-27, 29 cases, 20 deaths.
Russia: St. Petersburg, June 20-27, 11 cases, 3 deaths; Warsaw, June 6-13, 2 cases.
Spain: Barcelona, June 13-20, 7 deaths.
Turkey: Constantinople, June 21-28, 1 death.

YELLOW FEVER.

Colombia: Panama, June 20-July 6, 6 cases, 2 deaths.
Costa Rica: Limon, June 24-July 2, 7 cases, 1 death.
Cuba: Havana, July 14, 1 death, patient taken from S. S. *Vigilancia* from Progreso.
Mexico: Progreso, June 21-July 5, 2 cases; Tampico, June 27-July 4, 28 cases.

PLAGUE—INSULAR.

Hawaii: Honolulu, July 3, 1 death.

PLAGUE—FOREIGN.

Australia: Queensland, Brisbane, May 9-30, 2 cases, 2 deaths; Bundaberg, May 16-23, 1 case, 1 death.
Western Australia: Freemantle, June 10, 1 case.
Egypt: Alexandria, June 6-13, 4 cases, 2 deaths; Beni Mazar, June 6-13, 2 cases; Port Said, June 6-13, 1 case, 1 death; Tukh, June 6-13, 8 cases, 2 deaths; Samalut, June 6-13, 2 cases, 2 deaths.
India: Bombay, June 9-16, 186 deaths; Calcutta, June 6-13, 15 deaths; Karachi, June 7-14, 15 cases, 13 deaths; Mauritius, June 4-11, 2 deaths.
Japan: Nagasaki, May 27, 1 death; Yokohama, June 6-13, 3 cases, 2 deaths.

CHOLERA.

India: Calcutta, June 9-16, 45 deaths; Madras, June 6-12, 1 case, 1 death.
Straits Settlements: Singapore, May 16-30, 20 deaths.

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Address.

THE ESSENTIAL PRINCIPLES OF INFANT FEEDING AND THE MODERN METHODS OF APPLYING THEM.*

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The question of infant feeding is a very broad one; too broad, in fact, to be covered in one evening, or in one address.

Although we usually consider that human beings are infants during the first two years of life, yet, so far as their feeding is concerned, it is the first twelve months of their existence in which the greatest difficulties arise in the proper adaptation of their food to their individual digestion, and to the requirements of their individual nutrition.

An address on infant feeding, therefore, should naturally be devoted to the feeding of the first twelve months of life. It has for many years been an accepted fact the world over that the mortality of infants who are fed on good human milk, obtained from their mothers or other healthy women, is lower than that achieved by any other method of feeding. It should, however, at once be insisted on that experience has also shown that it is good human breast milk, and good according to the modern sense of the word, which has produced these results. Poor milk from human beings, poor because they contain inadequate percentages of the various elements of the milk, such as the fat, sugar and proteids, or because of the improper combination of these elements, can, as it has often been proved, produce diseases, especially those which are connected closely with nutrition. The most common of these diseases are rhachitis, infantile atrophy, infantile scorbutus and the various gastro-enteric disturbances, which not only lead to malnutrition, but also render the infant vulnerable to specific diseases caused by specific organisms.

Since there are many causes and reasons through which the human infant may at any time, and in any place, be deprived of its natural food obtained from the human breast, it is evident that some other food must be substituted in order that the infant should live. It is well, therefore, when any food is to be substituted, excepting that which Nature has provided in the human breast, that we should speak of it as a substitute food. We should, however, admit that the great majority of cases of substitute feeding merely represents failures of breast feeding either because the mother will not or can not nurse her infant. Whatever the cause, the great majority of these failures of breast feeding could have been avoided and the infant fed on a substitute food successfully if the modern methods, representing the principles of percentage feeding, could have been early instituted and intelligently followed.

The substitute feeding of infants is not one of choice, but of necessity. The question, then, which must continually arise is: What materials and what methods have been found by the latest practical and scientific investigations to be best adapted to the infant when good breast milk can not be obtained?

Allowing that good human breast milk is the best food for infants in the first year of life, what I am about to say is directed to the subject of substitute feeding, a subject which must be met and dealt with as any other life-saving question.

In studying the methods of human breast feeding and the materials of which the human breast milk is composed, we have arrived at the following conclusions, which should be distinctly and concisely stated before taking up the question of the methods and materials for substitute feeding.

HUMAN BREAST MILK.

Human breast milk is practically sterile as it enters the infant's mouth, and is obtained by suction; it is either amphoteric or slightly alkaline in its reaction; it has a temperature of about 98 to 100 F. (36.7-37.7 C.) when it enters the infant's mouth. While it is recognized that various salts are present in solution in human milk, our modern investigations have not yet been carried so far as to obtain any practical clinical advantage in attempting to deal precisely with these salts when the milk of another mammal is used as a substitute for human milk. The three broad representatives of foodstuffs, the fats, the sugar and the proteids which occur in human milk, are the ones which we must practically deal with in making a substitute food. These three essential elements, forming the material to be used for the nutrition of the infant, do not always occur in the same percentages in the product of the mammary gland of healthy women. We must, therefore, accept the fact, which has now been established by the best chemists all over the world, that human breast milk is a food varying in its percentages, but that normally its percentages usually appear to be within certain limits. Thus, the food may safely vary from 3 to 4 per cent. in fat; the sugar, which is less varying than any of the other constituents of milk, may vary from 6 to 7 per cent., and the proteids from 1 to 2 per cent. This, however, does not mean that a somewhat higher percentage of fat than 4 must necessarily be unfit for the infant, nor that a decidedly higher percentage of the proteids than 2 must necessarily be undigestible, nor that the infant can not thrive on less

* An address delivered by request of the Ohio State Pediatric Society at Dayton, Ohio.

than 3 per cent. of fat, or 6 per cent. of sugar. It does, however, show that human milk is a varying quantity, and that it is, therefore, not adapted to the digestion and nutrition of all infants, but that, on the contrary, a given percentage and combination of percentages may or may not be suited to the individual digestion and absorption of the infant. This explains why when one infant may be thriving on the milk of a healthy woman, this same milk from the same source may cause serious digestive disturbances in another infant.

It is very evident that the successful feeding of infants, whether it be by means of human or substitute food, is essentially an adaption of special percentages of the different elements of the milk, and of special combinations of these percentages to the individual infant. We should also always bear in mind that in addition to the composition of the milk equal attention should be paid to the temperature, to the sterility of the food, to its freshness, and to the quantity at each feeding, adapted, according to the age and weight of the infant, to the size of its stomach. The question of the capacity of the infant's stomach must especially be taken into consideration, for experience has shown that, while it is very seldom that disturbances of digestion and nutrition arise from the infant being allowed to take as much of the milk from the human breast as it wishes, this same infant will take more from a bottle than its stomach can accommodate. In this way it may suffer from mechanical dilatation of the stomach, and from lessening of the elasticity of its walls, with a resulting interference with its functions.

The following table represents analyses of good human breast milk, made by our most competent chemist, Dr. Charles Harrington, of Harvard University. The table shows the varying percentages and combination of percentages which may arise in the milk of equally healthy women whose infants were thriving. They were all cases which occurred in my practice, and were, therefore, under my own observation.

TABLE ONE—HUMAN BREAST MILK ANALYSES (HARRINGTON).[1]

Fat.—In regard to the composition of milk, it will be well to speak first of the quality of the fats which occur in the human milk. This fat consists chiefly of palmatin, stearin and olein, only about 2 per cent. of the total fat consisting of the glycerides of butyric, caproic, caprylic and myristic acids. The production of animal heat is so very important a part of the infant's well-being that it is not surprising that we should find so large a percentage of fat as 4 per cent. in the food which is provided for it, and it is very evident that this fat is put there not only for the purpose of nutrition, but also as a means of maintaining bodily heat. This latter function of the food can not with impunity be trifled with, for it is essential for the active metabolism, the importance of which we are forced to recognize when we are attempting to provide a substitute food. A proper amount of fat is also probably of great aid in the regulation of the fecal discharges, and for this purpose probably varies in the individual infant according to its individual idiosyncrasies. It is presumable also that the percentage of fat in the individual cases should be proportionate to the proteids, and this proportion is of great aid in the proper digestion of the proteids. We should, therefore, naturally expect that unless the standard percentage of fat, or at least a near approach to it, is present in the mother's milk, trouble will be likely to arise with her infant, and this has been my experience. I have found clinically that with the fat much lessened the nutrition suffered, the digestion was not good, and that there was a tendency to constipation, while when its percentage was decidedly above the standard the digestion was weak, there was a tendency to diarrhea, and in consequence a disturbance of nutrition.

These clinical observations at once suggest that in the management of infant feeding we must recognize the existence of two important conditions. One of these is the digestion of the infant, and the other is its nutrition. These two requirements are essential for a successful lactation. Milk may be easily digested but not nutritious, and it may be highly nutritious but difficult to digest, so that it is the equilibrium of these two conditions which produces a perfect infantile development. Although it is admitted that a large percentage of surplus fat is frequently found in the feces of infants whose digestion and nutrition are normal, and whose food is human milk, yet we have no more right to conclude from this that a smaller percentage of fat is sufficient for nutrition, or that a surplus eliminated by the feces is unnecessary, than we have to assume that there is too much oxygen in the blood because we find a certain surplus of oxygen in arterial blood which is returned to the lungs in the pulmonary veins. In fact, it is far more probable that Nature introduces a certain percentage of fat in human milk with a purpose which can be accomplished only by that percentage, so that it is an error to change this percentage beyond the variation which commonly occurs in average human milk, unless we find from direct clinical evidence in the special case that such a variation is demanded. There are, for example, many cases, especially in premature babies, and in babies with especially weak fat digestions in which greater variations than normally occur in human milk are called for, and for whom very low percentages of fat may be necessary.

Sugar.—The form of sugar which is found in human milk is called milk sugar, or lactose. It is more digestible than fat, but does not have so much potential energy, that is, so much heat-producing power in a given weight. The potential energy of the fat is to that of the sugar as 2.4 to 1. The conversion of sugar into lactic acid gives rise to many of the changes occurring in milk; for instance, the fermentation of the lactose with the production of lactic acid and the subsequent coagulation of the caseinogen by the lactic acid is one of the most common changes which milk undergoes. This process is the ordinary souring of milk. It is due to Hueppe's

TABLE 1.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
Fat	5.16	4.88	4.84	4.37	4.11	3.82	3.80	3.76	3.30	3.16	2.96	2.36	2.09	2.02
Milk sugar	5.68	6.20	6.10	6.30	5.90	5.70	6.15	6.95	7.30	7.20	5.78	7.10	6.70	6.55
Proteids	4.14	3.71	4.17	3.27	3.71	1.08	3.53	2.04	3.07	1.65	1.91	2.20	1.38	2.12
Mineral matter	0.17	0.19	0.19	0.16	0.21	0.20	0.20	0.14	0.12	0.21	0.21	0.16	0.15	0.15
Total solids	15.15	14.98	15.30	14.10	13.93	10.80	13.68	12.89	13.79	12.22	10.77	11.82	10.32	10.84
Water	84.85	85.02	84.70	85.90	86.07	89.20	86.32	87.11	86.21	87.78	89.23	88.18	89.68	89.16
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1. Mothers healthy, and infants all digesting well and gaining in weight.

"bacillus of lactic acid," which seems always to be present. Over one hundred other kinds of bacteria appear to have this same property. The *Bacillus lactis aerogenes,* described by Escherich, is closely allied to Hueppe's bacillus, and also to the *Bacillus coli communis,* which has the same property of producing lactic acid fermentation. These bacilli are easily killed at a low temperature, and their growth is checked when lactic acid has been formed to the extent of 1 per cent. The formation of lactic acid by the *Bacillus lactis aerogenes* prevents fermentation in the stomach and intestines. The *Bacillus lactis aerogenes* is present in normal digestion, and acts on the milk sugar to produce an organic acid which drives out the more noxious forms of bacteria which by their presence interfere with normal digestion. This may be given as one of the chief among the many reasons why milk sugar should be used in milk modifications, instead of cane sugar, when we are preparing a substitute food.

Proteids.—The nitrogenous constituents of milk consist of two distinct elements, caseinogen and the proteids of whey; the latter consist chiefly of lactalbumin and lactoglobulin, and of these the former is greatly in excess. It has been found more convenient and practical to use the word whey-proteids as a general name to include lactalbumin, lactoglobulin and the nitrogenous extractives of whey. The caseinogen and whey-proteids make up approximately the total per cent. of the nitrogenous matter in both human and cow's milk, but their relative proportions to each other varies greatly in the two milks. Thus, according to König, as shown in Table 2, the caseinogen in human milk is represented by 0.59 per cent., while in cow's milk it is represented by 2.88 per cent.; the whey-proteids in human milk are 1.23, while in cow's milk they are only 0.53 per cent. Although these figures are not accepted by all chemists, there is undoubtedly a much greater proportion of the whey-proteids in human than in cow's milk, and a much greater proportion of caseinogen in cow's milk than in human milk.

Table 2.

	Woman's Milk.	Cow's Milk.
Caseinogen	0.59	2.88
Whey proteids	1.25	0.53
	1.82	3.41

Caseinogen is the part of milk which gives rise to curds; it is precipitated by acids by the rennin ferment, and by gastric juice. It is the most indigestible part of milk, and unquestionably its very large proportion in cow's milk is one of the principal reasons why cow's milk has given so much trouble in infant feeding, as compared with human milk. Whey, on the other hand, is the most digestible part of cow's milk, and its proteids remain in solution, and are not precipitated by either acids or rennin or gastric juice, but are readily converted into the albumoses and peptones, and so are easily absorbed. The whey-proteids are partially coagulable by temperatures above 161 F. (72 C.).

There is much about the proteids of milk which is still undetermined, but it is important to recognize these differences in the relative proportions of caseinogen and whey-proteids, and in their chemical properties, for we may now so modify cow's milk that by using whey as a diluent in place of water, we can make the whey-proteid element relatively greater than the caseinogen, and by so doing approach more closely the composition of human milk.

Assuming the necessity of a substitute feeding, we must first make a choice of the best materials to use in the making of a substitute food. If again the product of the human mammary gland in its composition is taken as a standard for a substitute food for the human infant, we must at once acknowledge that the milk of no other mammal approaches the human sufficiently close to permit of its being given in a purely undiluted form.

Comparative analyses of mammal's milk.

The following figures, which show the comparative analyses of the milk of the goat, ass and cow, animals whose milk is most readily obtained for an infant's food all over the world, illustrate this statement.

Table 3.

Comparative analyses of goat's, ass' and cow's milk.

	Fat.	Sugar.	Proteids.	Mineral Matter.	Total Solids.
Goat (low in sugar and high in proteids)	4.3	4.0	4.6	0.6	13.5
Ass (low in fat)	1.6	6.1	2.2	0.5	10.4
Cow (low in sugar and high in proteids)	4.00	4.50	3.5	0.7	13.0

It is self-evident that if any of these milks are to be adapted to our standard they must be in some way modified, that is, their three principal constituents, the fat, the milk-sugar and the proteids must be changed in order to make them at all similar to the percentage composition of human milk.

It is important to remember that the simple dilution of milk with water, or the addition of lime-water or of sugar, is in fact a modification of milk. Modification of milk, therefore, in a substitute infant food is a *sine qua non,* and must be done in all cases except in those very rare exceptions in which the infant is able to digest undiluted milk.

As one milk has to be modified as well as another, and as none of the milks of the animals which I have just enumerated contains any inherent quality which would lead to its being used without some form of modification, physicians have found it most convenient to use the milk of the cow, and it is the milk of the cow which I shall consider to-night in speaking of the modification of milk. The important question in discussion should be, then, how far shall the modification of milk be carried out, and how scientifically and accurately can it be done?

Breeds of cows.

Supposing that the cow is the animal from which we decide to feed the infant, a few words concerning the cow will be practical at this part of the discussion. It has been found that the percentages of the fat, sugar and proteids vary in the different breeds of cows. It is, therefore, necessary to know which breed of cows provide the most stable percentages in its milk, and is therefore the one best adapted for infant feeding. The higher grades of cattle have been found not to give the best milk for a substitute feeding. The fat in the milk of the cows originating from the Channel Islands, that is, the Jerseys and Guernseys, differs considerably from that of other breeds, and also from that of human milk, and it has been found from long clinical experience that the milk of these breeds is much less digestible than that from less highly bred cows, such as the Holstein and Ayrshire.

The breed of cow should then be chosen according to the quarter of the world in which we are feeding the infant, and, in making this choice, we should recognize that the percentages of the elements of the milk are not the same, not only in the different breeds, but in different herds of the same breed, and we should, in attempting

to obtain precise percentages from these milks, understand that these differences exist, and that they must be taken into account in our calculations. It is also a fact that there is a marked difference in cow's milk at different seasons.

The following Table 4 shows the analyses of the milks of different breeds of cows:

TABLE 4.

	Durham or Shorthorn.	Devon.	Ayrshire.	Holstein.	Brown Swiss.	Jersey.	Common Native.	American Grade.
Fats	4.04	4.09	3.89	2.88	4.00	5.21	3.69	4.01
Sugar	4.34	4.32	4.41	4.33	4.30	4.52	4.35	4.36
Proteids	4.17	4.04	4.01	3.99	4.00	3.99	4.09	4.06
Mineral matter	0.73	0.76	0.73	0.74	0.76	0.71	0.73	0.74
Total solids	13.28	13.21	13.04	11.94	13.06	14.43	12.86	13.17
Water	86.72	86.79	86.96	88.06	86.94	85.57	84.14	86.83
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Daily quantity	large	moderately large		very large	mod. large	mod. small	large	mod. large

It is to be noted that the percentage of fat in the herds of Holsteins on the Walker-Gordon farms average from 3 to 4 per cent., as contradistinguished from the average Holstein of 2.88, as shown in the table.

In comparing Jersey milk with other milks we find that human milk contains only a small proportion of the glycerids of the fatty acids, such as butyric, caproic and caprylic; also that the milk of the Holstein has a much larger proportion of the stable fats, such as olein, stearin and margarin, than does that of the Jersey, which contains a much larger proportion of volatile glycerids. These volatile glycerids do not exist in the mammæ, but are formed in the milk soon after milking, and this change takes place more quickly in some breeds than in others, and notably so in the milk of the Jerseys and Guernseys. In the emulsion of milk from Jersey cows the corpuscles are much larger than in the Holstein, while the Holstein emulsion when broken down is much more easily restored, that is, it emulsifies better and resists better a destruction of its emulsion, such as occurs when cream is produced, than do the milk of the Jerseys and Guernseys. The emulsion of the fat in the milk of the latter breeds is easily broken up, is more apt to produce oil drops on the top of the bottle, and when disturbed is not so easily restored. This latter fact is one of considerable importance when we are dealing with the rather difficult question of transporting modified milk.

ACTION OF HEAT.

A few words as to the action of heat on milk and its modifications will be of practical value to the physician when in writing a prescription for a food he has to determine either the degree of heat needed for the special transportation or for the gastro-enteric disturbance with which he is dealing: 1. Most pathogenic organisms are destroyed at from 140 F. (60 C.) to 147 F. (64 C.). 2. Certain spores are not destroyed by a single pasteurization. 3. All spores are destroyed in a heat of 248 F. (120 C.). 4. All germs are destroyed at 154 F. (68 C.). 5. The tubercle bacillus has lived in a heat of 149 F. (65 C.) with one hour's exposure. 6. Lactalbumin, the principal of the whey-proteids, begins to coagulate at 158 F. (70 C.). 7. The rennin enzyme is destroyed at 140 F. (60 C.). (The last two points are of practical importance when whey is used in a modification of milk.) 8. A temperature of 155 F. (68 C.) is the temperature now used for pasteurization, as it is sufficiently high to kill practically all pathogenic germs found in milk, without coagulating the lactalbumin, or producing any change which can be detected by taste or by the appearance of the milk. 9. If a modified milk which contains a high percentage of sugar and of lime-water higher than 10 per cent. is heated as high as 212 F. (100 C.) and sometimes even at lower temperatures, the mixture becomes brown, seemingly from the combined action of the heat, the milk-sugar, and the lime-water producing a caramel.

When milk is heated to 158 F. (70 C.) a certain amount of the lactalbumin and lactoglobulin is coagulated, but the major part of the lactalbumin is converted into a form which is precipitated by acids, magnesium sulphate, and by other precipitants of casein which do not act upon the lactalbumin in its natural state. At 177 F. (80 C.) certain organized principles undergo a change, the nature of which is not known, but the evidence of which is found in certain chemical reactions. At 212 F. (100 C.) calcium citrate is deposited, some oxidation of the sugar occurs, and a deposition of certain salts and albumin on the fat globules occurs, causing the latter to rise and coalesce. At temperatures exceeding 140 F. (60 C.) a skin is formed if the milk is exposed to the air, consisting probably of an oxidized product of casein, together with calcium salts and some fat. When heated above 158 F. (70 C.) the taste and smell of milk are altered.

COMPOSITIONS OF MILKS.

It will now be easily understood why if a modification of milk for a substitute feeding is necessary, it should be accurate, must be expressed in the percentages of the constituents of the milk, namely, the fat, sugar and proteids, and that the alkalinity and the temperature should be stated. In order to accomplish this, the matter is greatly simplified by thinking and speaking in percentages, and in order to obtain definite percentages we must, of course, know the composition of the materials used, and we must also devise methods by which we can calculate how much of these different materials must be used in order to get the different percentage combinations of the fat, sugar and proteids. The following table compares the elements of human and of cow's milk:

TABLE 5.

	Human Milk.	Cow's Milk.
Reaction	Slightly alkaline.	Slightly acid.
Specific gravities	1028 to 1034	1032
Water	87 to 88 per cent.	86 to87 per cent.
Total solids	12 to 13	13 to 14
Fat	3 to 4	4.00
Milk sugar	6 to 7	4.50
Total proteids	1 to 2	3 50
Whey proteids	1.23	0 53
Caseinogen	0 59	2.88
Mineral matter	0.1 to 0.2	0.70

It can be easily seen by referring to the above table that simple dilution with water will not make cow's milk similar to human milk, for, although we may by such dilution reduce the proteids to the same percentage which occurs in human milk, yet at the same time we have so reduced the fat and the sugar that the food would in few cases prove to be nutritious. Moreover, if the total proteids in cow's milk are reduced by means of dilution until we obtain a proper percentage of caseinogen by so doing

the whey-proteids will be diminished far below their relative proportion in human milk, since by referring to Table 5 it will be seen that the whey-proteids in cow's milk are already in much smaller proportion to the caseinogen than they are in human milk.

COMPOSITIONS OF CREAMS.

In like manner if we dilute different creams we shall find that the same objections hold for them as for the simple dilution of milk. For instance, an analysis of a 16 per cent. cream shows fat 16 per cent., sugar 4.05 per cent., proteid 3.20 per cent. In this case simple dilution with water sufficient to reduce the fat to 4 per cent. would reduce the sugar to 1.01 per cent., and the proteids to 0.80 per cent. It is therefore evident that still further modification must be carried out in order to raise the sugar and proteid percentages to make them equivalent to those of human milk.

It will now be understood that in order to obtain mixtures containing varying percentages of fat, sugar and proteids we shall have not only to dilute cream in order to obtain our fat percentage, but must add milk-sugar, either in a solution of definite percentage or in a dry form, in order to raise the sugar percentage, and some material such as fat-free milk, by which we can obtain the desired percentage of proteids.

Cream is evidently the most natural and practical material to use. It is also evident that the cream must have a definite percentage of fat in order that we should be able to calculate and obtain the percentage of fat desired in the mixture. Moreover, we must make use of creams of different strengths in order to make it possible to obtain certain combinations of proteids with a given percentage of fat.

The following Table 6 will illustrate the limitations in the percentage of proteids dependent on the use of creams of different strengths:

TABLE 6.

	Per cent. Fat.	Lowest possible proteids of.
10 per cent. cream gives with	1	0.38
10 per cent. cream gives with	2	0.67
10 per cent. cream gives with	3	1.00
10 per cent. cream gives with	4	1.34
12 per cent. cream gives with	1	0.27
12 per cent. cream gives with	2	0.54
12 per cent. cream gives with	3	0.82
12 per cent. cream gives with	4	1.08
16 per cent. cream gives with	1	0.20
16 per cent. cream gives with	2	0.40
16 per cent. cream gives with	3	0.60
16 per cent. cream gives with	4	0.80
20 per cent. cream gives with	1	0.15
20 per cent. cream gives with	2	0.31
20 per cent. cream gives with	3	0.46
20 per cent. cream gives with	4	0.62

You will thus appreciate that unless the physician knows not only the percentage of the fat in the cream which he uses, but also what limits of proteids he can obtain by the use of such a cream, he can not prescribe exactly the proteid percentage. He also must realize the risk which arises from not knowing whether he is dealing with an infant who may or may not be especially susceptible to variations in the percentages and combinations of the fat and the proteids in its food. Just as an exact and proper modification of milk may accomplish very favorable results, so an improper modification of milk may be unsafe for the patient, and in fact may lead to symptoms worse than indigestion, such as infantile atrophy, rhachitis and scorbutus.

VARIATIONS OF DIGESTION.

There is not much question, from my somewhat extended experience in the feeding of infants whose digestions are normal and also of those in whom it is abnormal, that infants show pronounced variations in their function of digestion. Although a number of normal infants may readily digest a combination of percentages which corresponds to the composition of average human milk, yet there is no doubt that many normal infants show decided idiosyncrasies of digestion, and that we, therefore, can not be satisfied in giving such infants a milk which simply duplicates the percentages of average human milk. We must, on the contrary, be prepared at any time to meet such idiosyncrasies, and when we take into consideration the variations in digestion which must necessarily occur under conditions corresponding to varied ages and abnormal digestions, there is no doubt logically but that methods for obtaining a great variety of percentages and combinations of percentages are essential for the successful feeding of large numbers of infants.

An instance which has come under my notice illustrates what I have just said. Let us suppose that you are called on to prepare a substitute food for a premature infant whose function of digestion is very weak and undeveloped. If to such an infant a substitute food corresponding in its percentage combination to good average human milk, that is, fat 4 per cent., sugar 7 per cent., proteid 1.40 per cent., is given (as happened in one case which I have recently seen), disastrous results might occur, and it did in the case just referred to. Convulsions and symptoms of serious indigestion appeared and the infant died. If, on the other hand, this infant had been fed with an accurately prepared food of fat 1.50 per cent., sugar 4 per cent., total proteid .50 per cent., or preferably by a split proteid calling for caseinogen 0.25 and whey-proteid 0.25 it might have lived. It has also been pretty well proved that infants throughout the early months of life, and often during the first year, seem to have an idiosyncrasy which either allows them to digest or prevents them from digesting a low or high percentage of one of the elements of milk as well as of two or three. While certain infants may digest and thrive on the average percentage of sugar and proteids, they may be unable to digest even a very low percentage of fat. In like manner they may have a weak sugar digestion, and, as is so often found, a weak proteid digestion. It has also seemed to me in my studies that certain infants have an idiosyncrasy which prevents them from digesting the average percentage of caseinogen; and in some cases we shall probably find that a similar idiosyncrasy exists in reference to the ability of an infant to digest the percentage of whey-proteids which would be easily tolerated by an average normal infant.

PATENT AND PROPRIETARY FOODS.

A word here will probably be useful in regard to the patent and proprietary foods. They are all pretty much of one class, and in most cases contain a considerable amount of starch. The analyses of these foods show that without exception some of the principal three elements, especially the fat or proteids, are so low in their percentages that they must be modified in order to be nutritious. Without the addition of milk in some form they are undoubtedly not nutritious, and are practically useless. If, on the other hand, milk be added to them in order to make them nutritious, the question at once becomes one of the modification of milk, and in that case it is much more simple at once to modify good pure cow's milk. These foods, however, do much more harm than that which is connected with their lack of nutritious ele-

ments. One point is that they almost always contain some element which is not in human milk, such as starch, which in very young babies may seriously disturb digestion. Another harm that I refer to is that they encourage carelessness of the selection of the milk supply which is used in connection with them, in that the parents are led to believe that the chief virtue of the food lies in the food itself, and not in the milk which is added to it. Mothers and nurses are therefore very apt to use a poor milk supply, and are indifferent to the fundamental principles of scientific feeding, since they believe that the important point is the selection of some particular brand of patent or proprietary food. It would be just as sensible to attribute the entire success of an infant that is thriving on a substitute food to the milk-sugar which happens to be used in an ordinary modification.

If the physician wishes, for a definite purpose, or as he naturally would, during the tenth, eleventh and twelfth months of life to use starch in his substitute food, the starch should be presented in definite percentages. Thus cereal solutions can be added in place of the boiled water in any combination without altering the percentage of fats and proteids, and the percentage of starch thus added may be accurately determined if the percentage strength of the cereal solution is known. For instance, if fourteen ounces of a 1 per cent. solution of barley water is added in place of the boiled water, to a twenty-ounce mixture, the percentage of starch in the mixture is:

$$\frac{14 \times 1}{20} \text{ or } 0.70 \text{ starch.}$$

It is well here to state my views concerning the use of starch in any form in the early weeks and months of life. The amylolytic function of the infant is but very little developed at birth. It gradually increases as the infant grows older and has attained the stage of development by the tenth, eleventh or twelfth month which warrants its being used at that time for the conversion of starch into sugar. If it is used in the early months of life, we are taxing an undeveloped function, and we are liable to have results as deleterious to the infant's welfare as we should were we to tax the function of walking and standing at too early a period. It is quite as illogical and detrimental to the infant's welfare to tax an undeveloped function as it is not to make use of such function when the time for using it has arrived. Thus we should make use of the amylolytic function in the latter part of the first year, since at that time it is ready for use, just as we allow the child to stand at the same period.

The advantage which used to be claimed for the use of starch in a substitute infant's food was that it broke up the caseinogen in the milk, and thus made a finer coagulum, and one more similar to that which occurs in human milk. This action of the starch on the coagulum is, however, required in comparatively few cases, as we have learned to deal with the coagulum in a different way since we have instituted a method by which the caseinogen which forms the coagulum can be reduced to a very small percentage, while the whey-proteids, which are almost as nutritious as the caseinogen, can be used in quite a large percentage. By this method we can obtain a toal proteid percentage as high as 1.15 per cent., of which 0.90 per cent. is whey-proteids, and 0.25 per cent. is caseinogen.

The following Table 7 shows the combinations possible in these whey-cream mixtures, when prescribing from the milk laboratories:

TABLE 7.

Whey proteids, per cent.	Caseinogen, per cent.
0.25	0.25
0.50	0.25
0.75	0.25
0.90	0.25
0.90	0.50
0.75	0.50
0.90	0.60
0.90	0.75
0.90	1.00

Any percentage of sugar from 4 to 7 can be combined with these percentages.

If we thoroughly grasp the sense of what has just been said in connection with human breast milk, and the milk of animals, especially that of the cow, which seems to be the animal whose product is most adapted to substitute feeding, we shall at once see that the main question regarding substitute feeding is how to obtain the best milk, how to treat it, and how to modify it accurately. The importance of the milk supply is, however, great, and there is no doubt but that the breed of the cow, the care of the cow, of the stables and of the milkers on the farms especially used for the purpose of obtaining a proper milk supply for substitute feeding, is the keynote to success.

(*To be continued.*)

Original Articles.

ALBUMINURIA IN DIABETES MELLITUS.

ITS IMPORTANCE AS A FACTOR IN THE CAUSATION OF DIABETIC COMA.*

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Among the secondary tissue degenerations which result from diabetes none is so frequent as lesional changes in the kidneys. No extensive autopsy reports are at hand to establish the relative frequency of renal changes in diabetes, but such as are forthcoming demonstrate in a striking manner the association. Thus out of Griesinger's 64 autopsies, renal alterations were found in 32. In the main, the changes were degenerative in character, either fatty or hyperplasic. Seegen found such changes in 20 out of 30 cases brought to autopsy, and Dickinson in 25 out of 27. No special form of renal defect in diabetes can as yet be looked on as typical, the changes being variable in kind and degree, although almost always present. The form which they assume will depend on the duration and intensity of the irritation, to which the renal gland structure is subjected. As the toxemia differs very greatly in character and degree in the different forms—mild and severe—of diabetes, so we find the secondary changes in the kidneys differing widely in their essence and microscopic character.

The most interesting histologic feature of the diabetic kidney is the hyaline degeneration of the tubular epithelium first described by Armanni, and now generally known as the cellular necrosis of Ebstein. This condition of the tubular epithelium is encountered only in severe toxic forms of diabetes. Dreschfeld found these necrotic changes in 6 out of 10 cases of diabetic coma. Other renal alterations occasionally met with in severe

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forms of the disease are hypertrophy and the so-called lesion of Ehrlich, which, according to Frerichs and Ehrlich, consists in glycogen degeneration of Henle's loop and the straight tubes. All these renal changes may be ascribed to the action of toxic bodies of highly irritating character, such as acetone, diacetic and oxybutyric acids, etc., which are present in the blood and urine of such cases.

In the mild long-continued form of diabetes the renal changes which develop are usually those of chronic nephritis. The development of chronic nephritis under these circumstances may be explained by prolonged hyperfunction, combined with persistent but low-grade irritation of the renal structure by the saccharin urine, which lead first to hyperemia, and if long enough continued, finally to inflammation of the parenchyma and overgrowth of the interstitial tissue. In this type of the disease the renal gland changes are nutritional and degenerative, whereas in the more rapidly progressive and toxic form of the malady they are inflammatory or necrotic. In the majority of cases presenting chronic organic processes in the kidneys the nephritis is probably of the mixed type, presenting both parenchymatous changes and interstitial hyperplasia. In aged diabetes arteriosclerotic renal atrophy is frequent.

Whatever form the renal alterations may assume, they sooner or later give rise to the presence of albumin in the urine. The frequent association of albuminuria with diabetes has received considerable attention, and much statistical evidence is available.

Pollatchek	found albumin in	37	per cent.	of	cases.
Von Schmitz	"	"	63.4	"	"	"
Lecorché	"	"	50	"	"	"
Bouchardat	"	"	45	"	"	"
Von Noorden	"	"	23.5	"	"	"
Grube	"	"	40.4	"	"	"
Stokvis	"	"	40	"	"	"
Bouchard	"	"	43	"	"	"
Von Dusch	"	"	28.5	"	"	"
Rokitansky	"	"	66	"	"	"

These statistics represent an average of 43.68 per cent in which albuminuria was present in diabetes.

Attempts have been made to classify the albuminuria of diabetes. Goudard distinguishes two nosologic varieties, which he names functional and lesional, the former associated with renal fatigue with phosphaturia or with organic disassimilation, whereas the lesional is produced by some form of renal lesion. Jacobson, on similar grounds, separates albuminuria of diabetes into benign and severe.

Grube divides diabetic albuminuria into five varieties, viz.: 1, terminal albuminuria associated with diabetic coma; 2, cardiac albuminuria met with in connection with myocardial weakness; 3, senile albuminuria of arteriosclerotic origin; 4, functional albuminuria due to irritation of kidneys by the saccharin urine; 5, albuminuria associated with organic renal changes. Salles recommends an equally complicated classification.

It seems to the writer unnecessary and confusing to adopt any elaborate classification for this condition. With the exception of the rare cases of albuminuria produced by circulatory failure in patients of asthenic type, the albuminuria of diabetes may, for general clinical purposes, be placed in one of two categories.

I. TOXIC ALBUMINURIA.

To the class known as toxic albuminuria belong the cases of the severe form of diabetes which are entering the terminal stage of the disease and in which the highly irritating acid toxins of endogenous formation have produced hyaline changes of the tubular epithelium—the so-called cellular necrosis of Ebstein, already referred to. This albuminuria is never absent in the stage of organic disassimilation and in diabetic coma, although it may fail to make its appearance until the terminal stage is entered on and toxinuria becomes established. This albuminuria is never of severe grade, seldom amounting to more than a mere trace, or at most, 1 to 1,000. It usually shows some increase just before death, and sooner or later becomes associated with large numbers of hyaline tube casts. After it makes its appearance, this form of albuminuria seldom disappears again completely. As a rule the albuminuria and glycosuria bear no direct relation to each other, and in occasional cases may even stand in inverse proportion to one another. It will usually be found, however, that a direct relationship exists between the toxinuria and the albuminuria, the latter increasing or diminishing with increase or dimunition of acetone and acid toxins in the urine.

This form of albuminuria constitutes what has been sometimes known as the acute albuminuria of McGuire. Universal clinical experience associates this form of albuminuria with the advent of coma, which gives it a grave prognostic significance.

II. DEGENERATIVE ALBUMINURIA.

The second class of albuminuria in diabetes includes the vast majority of cases of this condition, for notwithstanding the greater proportional frequency of the first variety to the class of cases in which it arises, the severe type of diabetes, these constitute but a small per cent. of the great bulk of diabetes. This form of albuminuria is also the product of renal irritation, but irritation of an entirely different nature and severity. In this class of cases the sugar in the urine is the offending agent. Its potency in this respect is much less than that possessed by the acid toxins of the severe grades of the disease, but its continuous action over long periods of time, combined with renal hyperfunction, which attends the associated polyuria, in the end inevitably initiate changes in the kidney which, in their full development, constitute nephritis. In proportion as the renal epithelium is affected, albumin appears in the urine, and as parenchymatous changes are usually a first result of the hyperemia following irritation, albuminuria is a pretty regular attendant on the renal change. In many cases for considerable periods this albuminuria is not attended by any very demonstrable evidence of nephritis, and consequently it has been misnamed functional, to distinguish it from albuminuria, associated with definite and clinically recognizable renal lesions. It has been considered a development of little importance and in the presence of conflicting therapeutic indications, as between the glycosuria and albuminuria, the latter is usually neglected. After a time, however, this at first apparently accidental albuminuria is found to merge imperceptibly into a true lesional albuminuria, with impaired renal function and secondary cardiovascular developments. Hyperfunction and persistent irritation have done their work, and a nephritis of a mixed type becomes established and adds to the difficulties of the case.

It will be seen from the foregoing brief considerations regarding albuminuria in diabetes that fully a third or more of all cases of the disease manifest this symptom at some time during their course. Although by no means of itself always a sign of established renal mischief, it is never devoid of importance. It may appear so frequently without accompanying disturbance that many writers falsely regard it as a harmless

sign. As pointed out, it may occasionally arise as the apparent product of irritation of the kidneys by the saccharin urine, but should the glycosuria continue, definite renal and secondary systemic changes eventually result. In aged diabetes with arteriosclerosis albuminuria may be present from atrophic changes in the kidneys of sclerotic origin. In the late stages of diabetes, of whatever form, albumin may appear in the urine as the result of venous stasis from cardiac asthenia.

The conclusion forced on us by these considerations is that the development of this symptom is always a significant event, indicative in the mild, long-continued form of the disease of developing nephritis, and in the severe toxemic stages of diabetes we are warranted by experience in regarding it as one of the terminal developments.

A matter of great interest in connection with the albuminuria of diabetes is the frequency with which the glycosuria is observed to diminish as the albuminuria becomes more pronounced. In exceptional cases the glycosuria may even entirely disappear, thus constituting the substitutive albuminuria of Salles. Maragliano is skeptical of a true substitutive process, and explains the fact on the theory that albuminuria appears on improvement of the diabetes under treatment, because the polyuria lessens *pari passu* with diminution of the glycosuria and albumin already present but masked by the previous dilution of the urine is revealed. This view can not be seriously accepted as an explanation, because in most cases diminution of the glycosuria does not precede the advent of albuminuria, but follows it, and albuminuria is, moreover, not usually the result of treatment. A diminution in the glycosuria, even its entire disappearance, has been observed to occur as the apparent result of the hyponutrition of such complications, as pulmonary tuberculosis, etc., when they arise during the course of a diabetes. This can not be considered a similar process to that under consideration, for in the great majority of substitutive albuminurias the nutrition is not materially depressed. Naunyn's contention that this peculiar conduct of the glycosuria is analogous to the behavior of that symptom in the presence of cachexia and marasmus, from whatever cause they may arise in diabetes, is stoutly opposed by Kleen, who observes that he has repeatedly seen cases in which nephritis, though advanced, has left a fairly good state of health, with no marasmus or cachexia, but with marked diminution of glycosuria. Such cases are within the experience of most observers.

A number of very suggestive experimental observations are at hand which have some bearing on this question of the diminution of the glycosuria in the presence of albuminuria.

Achard has suggested that in carrying out the test for alimentary glycosuria we must not forget that the failure of sugar to appear after large amounts of glucose have been swallowed, may be due not solely to the vigor of the sugar-converting power as has been supposed, but wholly or partly to renal impermeability. In confirmation of this idea he reports a case of apoplexy with a small amount of sugar in the urine but a very large amount in the blood (5.1 grams per liter). This hyperglycemia he attributes to a lack of renal permeability, which was shown to be present in this case by the methylene blue test. McGuire declares himself inclined to ascribe the diminution of the glycosuria to inefficiency of the kidneys, and he suggests that the albuminuria and its accompanying renal changes may be concerned in the production of coma.

Schupfer observed in cases of combined albuminuria and glycosuria experimentally produced that more sugar was excreted by the kidney which eliminated the least amount of albumin, the excretion of urea corresponding to that of sugar. When the kidney lesion was one-sided, the injured kidney excreted albumin and much less sugar than the uninjured one.

Ellinger and Seelig demonstrated that dogs from which the excretion of sugar was constant, after injection of cantharides showed a diminution in the output of sugar, the excretion falling in one case from 7.6 to 2 per cent. At the same time they were able to establish that the sugar content of the blood was markedly increased. They think that their results prove that the kidney lesion caused by the cantharides led to a diminution in the glycosuria, while the glycemia still existed. Along the same line as the foregoing are the experiments of Richter, who, after previously damaging the kidneys, produced glycosuria by means of phloridzin and observed that the excretion of sugar almost constantly began later than in control animals, and did not reach so high a point.

In an attempt to solve the question of the existence of a renal form of diabetes Klemperer administered as much as 10 grams of phloridzin to each of ten subjects having granular kidneys, and there was no reaction in seven. That three of his patients developed glycosuria he thought might be due to portions of the kidneys having been still unaffected by the morbid process. Klemperer gave phloridzin by the mouth. Pugnat and Ravilliod administered phloridzin subcutaneously to twenty-one cases of renal disease, and in no case was the excretion of sugar normal in amount, and they conclude that with renal disease phloridzin glycosuria is either diminished in amount or entirely absent. In thirteen of the cases a marked diminution was observed, and in eight cases it failed entirely to appear. The experiments of Achard and Delamarre, performed in the same manner as the above, gave somewhat similar results. In five cases of interstitial nephritis four showed a marked hypoglycosuria, and in one case no glycosuria resulted. In four cases of acute tubal nephritis three showed hypoglycosuria, and in one case no glycosuria resulted. Of nine cases of chronic tubal nephritis five were hypoglycosuric, and four non-glycosuric.

From these collected observations the inference seems clearly justifiable that increased tolerance for carbohydrates and diminution of glycosuria in the presence of albuminuria is due to lesion of the kidney, which operates to cause diminished permeability of the renal secreting structure, not alone to sugar, but also to urea and other extractives, with accumulation of these bodies in the blood.

In the light of this deduction, an entirely new importance becomes attached to albuminuria and its associated renal changes in diabetes. The development of albuminuria in diabetes at once assumes a new and greater prognostic significance, especially in grave cases of the disease, where it may be of importance in the production of coma, by causing a heaping up of sugar and toxins in the blood. We have seen that there are constantly present in fatal cases of diabetic coma inflammatory and necrotic changes in the renal gland structure, comprising most frequently the epithelial necrosis of Ebstein, and less frequently hypertrophy with hyperemia and the degenerative lesion of Ehrlich. That these changes are not merely accidental is attested

by the constancy of their occurrence, some form being almost invariably present. We have also seen that albuminuria invariably develops before the advent of coma. Grube, Williamson, Stokvis, Kleen and others regard its occurrence at this stage as constant, and their opinion is verified by practical experience. Personally, I have never seen coma develop without albumin being present in the urine, usually associated with casts. Kuelz first pointed out the frequent association of renal casts with diabetic coma, and they are now regarded as a sign of decided significance. We may regard the albuminuria and casts, under these circumstances, as the visible outward evidence of the renal gland changes. The results of experimentation already detailed point to the fact that the kidney lesions are inimical to the glycosuria, and frequently interfere completely with transudation of the sugar. Equal proof exists that urea, and presumably other organic extractives, suffer a diminution in the urine. It is a matter of common observation that immediately preceding the development of coma, a marked fall in renal efficiency takes place. Not only does the sugar diminish in quantity, but the quantity of urine, the urea and other urinary solids suffer a decided and material reduction. Dreschfeld has observed in two cases that at the outset of coma acetone and the ferric chlorid reaction entirely disappeared from the urine. No corroborative evidence is at hand regarding this interesting observation. Certain it is, however, that preceding coma we invariably have renal conditions established with albuminuria and casts, and with decided reduction in renal permeability. To the writer abundant proof exists in these associated renal changes and clinical developments for the belief that the kidney alterations are an invariable antecedent of diabetic coma, and frequently its determining factor, by causing a sudden and marked diminution in renal permeability and a heaping up in the blood of the diabetic toxins. This view of the etiology of diabetic coma does not substitute a uremic for a purely diabetic origin, for the coma is certainly not uremic, although uremia may be a secondary contributing factor. It is frequently observed in grave diabetes that acetone and diacetic acid may be present for long periods of time without the incidence of coma, and not until the evidence of renal alterations make their appearance, does the patient develop profound evidence of coma. Experimental evidence regarding the toxicity of these bodies demonstrates that acetone, diacetic and oxybutyric acids can not be said to be toxic in the ordinary sense of the words, and that all of them can be taken by a healthy person in comparatively large amount without ill effects. It is shown, however, that if they are introduced into the blood of animals in large enough quantities they will produce symptoms closely resembling those of diabetic coma, and that they possess the power of producing albuminuria. It has been observed that acetone, diacetic and oxybutyric acids occurring in certain other states than diabetes occasionally give rise to all the graver symptoms of the coma of diabetes. It can not be doubted that these toxins are the cause of coma in diabetes, but it is the renal impermeability produced as a result of the irritation of these bodies in the blood and urine which is the final determining factor, by so increasing the toxemia through accumulation of these bodies in the blood as to initiate the coma:

CONCLUSIONS.

The following conclusions seem warrantable in the light of the facts here collected:

1. Albuminuria is a frequent development during the progress of diabetes, over one-third of all cases manifesting this symptom at some time during their course.

2. Albuminuria in diabetes may, for clinical purposes, be divided into two varieties, toxic and degenerative.

3. Toxic albuminuria is generally of acute onset, arising during the later stages of the severe forms of the disease, as the result of irritation of the tubular epithelium, producing hyaline degeneration thereof, and due to the presence of acid toxins in the blood and urine.

4. Toxic albuminuria is an invariable precedent and accompaniment of coma, and may be regarded as of the gravest prognostic significance.

5. Toxic albuminuria with its associated renal changes, is the final determining cause of coma diabeticum, by producing a heaping up of sugar and toxins in the blood, through diminished permeability of the renal secreting structure.

6. Degenerative albuminuria occurs with great frequency during the progress of the mild type of the disease, and is of renal origin and produced by a gradually developing nephritis, which arises from prolonged hyperfunction and impairment of renal nutrition.

7. The appearance of albumin under these circumstances, while of little immediate significance, is of the greatest eventual importance, as indicating the intrusion of chronic nephritis into the already manifold clinical difficulties.

8. A few cases of albuminuria in diabetes may be produced by venous stasis due to cardiac asthenia, and under such circumstances will be associated with other evidence of heart failure.

9. Albuminuria in diabetes is never devoid of importance. It may be of the gravest significance, as we have seen, and is always of sufficient import to receive the earnest attention of the clinician.

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DISCUSSION.

Dr. William Krauss, Memphis, Tenn.—The percentage of cases of diabetes with albuminuria is perhaps greater than stated by the essayist, at least this has been my limited experience. I recall a case that no longer eliminated sugar on account of lost permeability, only albumin and casts. He had a horror of Bright's disease, and so I assured him that he was suffering from secondary nephritis, and under proper regimen he did fairly well. A student one unfortunate day told him nephritis and Bright's disease were one and the same thing. This depressed him so that he took to his bed and never recovered.

Dr. F. R. Weber, Milwaukee, Wis.—There is one point of great importance in this connection, the great influence of intercurrent febrile affections in cases of diabetes. Symptoms of intercurrent febrile affections, lasting three or four days, have a wonderful influence on these patients. I recall an instance

occurring in a young girl of eight years, who had diabetes in childhood, which was not a typical case at all. One evening the child was stricken with tonsillitis and died within twenty-four hours. In this case a physiologic albuminuria rapidly developed into a pathologic albuminuria, coma appearing before death.

DR. ARTHUR R. ELLIOTT, Chicago—My purpose in presenting the paper was to draw attention to the importance of albuminuria in diabetes; the association of the two having never been regarded hithertofore as having any special prognostic significance. I believe albuminuria occurring in diabetes is never without significance. In acute cases it ought to be interpreted as a sign of approaching danger, and it should under all circumstances receive the earnest attention of the practitioner. The association of albuminuria with developing diabetic coma is too invariable to be mere coincidence. The conclusions of this communication, if they be correct, make the development of albuminuria one of the most important incidents of the diabetic state.

FRACTURE OF THE UPPER THIRD OF THE FEMUR SUCCESSFULLY TREATED WITH PLASTER OF PARIS WITHOUT EXTENSION.*

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Fractures of the shaft of the femur are very common accidents, despite the strength of the bone. The lower end of the bone is more frequently broken than the upper. Fractures of the upper third are usually due to indirect violence, and of the lower third to direct injury. The course of the fracture is usually oblique. Marked angular, rotary and longitudinal displacements usually attend these fractures. The lower fragment is usually drawn to the inner side and behind the upper; this tendency to deformity is greatest when the fracture occurs in the upper third.

Every kind and variety of fracture is liable to occur to the femur. On account of the large muscular attachments to the bone, displacements are nearly always present in fractures of the femur, and this is especially true in relation to fractures of the upper third, when the bone is tilted forward by the action of the psoas, and abducted and turned out by the gluteus maximus and external rotators of the thigh, at the same time the lower end is drawn upward and to the inner side by the hamstring and adductor muscles. The weight of the foot assists these adductors in the eversion of the foot, which is a symptom of this fracture. The proper appliances for treatment of fracture of the femur has caused wide and varied discussions with many diversified views; there are perhaps more special apparatus invented and discarded for the treatment of these fractures of the femur than for any other bone of the body, but the one point of extension is agreed on by all.

Recumbent position, a suitable bed with foot elevated, a hair mattress, not too soft, and immobilized retention of the fragments are indispensable to success.

The nates are prevented from sinking into the mattress by placing boards between the mattress and springs of the bed. Extension is usually obtained by cord and weight applied to the leg over a pulley attached to the foot of the bed. The foot of the bed is often raised six inches and the extension weight increased up to ten pounds in order to overcome the muscular contraction so that the fragments can be brought down together.

Many surgeons have called attention to the difficulty in approximating the fractured ends, especially when they occur in the upper third of the femur, and in maintaining them in apposition after they have once been reduced. A casual glance through our different museums will prove that this is the seat of permanent deformities and usual shortening of the fractured limb, which has caused so many suits for damages and brought out so many cork-sole shoes and criticisms on surgeons.

Dr. Allis even considered this shortening and displacement so serious that he advised immediately cutting down on the fracture and wiring the bones together. In the case of a transverse fracture with lateral displacement and overlapping more than an ordinary extension apparatus to hold it in place is required. Direct lateral and anterior pressure is absolutely essential for the proper union and keeping in place of broken fragments. Under a general anesthetic, with the patient placed on a hard table and by making firm pressure on the upper fragment of the bone, while an assistant makes strong extension and counter-extension by pulling directly on the foot and body, the fragments can usually be approximated.

Owing to the mass of fleshy muscles which encompass the bone it is rather hard to say exactly when these fragments are in apposition. Good, all-around anterior lateral support for these fractured ends is best obtained by a plaster-of-paris dressing, after the bones have once been properly adjusted and swelling has abated. Owing to the thick muscular attachments of the bone, too much padding is not indicated at this point, provided the fracture is of the simple variety. The adipose tissue and muscles soon yield to the plaster dressing, which if at first seems rather tight, is soon loosened by the atrophy of the muscles and adipose tissue under rest and continued pressure, hence moderate support as can best be had by a plaster-of-paris dressing applied all around the limb, as a rule, gives better results than the long side splint, extension and sand bag and various other appliances in use. In the treatment of these cases the double inclined plane has been practically abandoned. Buck's extension by weight and pulley is still used by many surgeons. Dr. Hamilton's preference is for a long-sided splint extending from the foot to the axilla, much after the pattern of Liston's long extension splint. Valkman's sliding foot-rest is of great assistance in treatment of this fracture in many cases.

In a recent case of fracture of the upper third in a little boy 8 years old, with marked elevation of the upper fragment accompanied by eversion of the foot and drawing up of the lower fragment, I had a most successful result by the following simple method of one plaster-of-paris dressing which was not disturbed from the time of its application a few hours after the fracture until its removal four weeks after the accident, in which we found perfect union without any shortening. The little patient in pushing a swing that in its rebound came within six inches of the ground was caught under the swing-box seat, in which five or six other children were seated, the fracture being produced by direct violence, with some, though not very great, contusion of the soft parts.

The little patient was placed on a hard table with pelvic rest, the leg being held in extension; he was thoroughly relaxed with chloroform and the fracture reduced by extension, counter-extension and manipulation. While in this position a 2-inch Z. O. plaster was applied on both sides of the leg above the knee with a loop around the heel to provide for extension in the event of shortening; several roller bandages of padded cotton were ap-

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plied around the limb thoroughly protecting the heels, condyles and trochanter and iliac spine; this batting was applied rather thin around the fleshy thigh proper, was extended around the pelvis, and up as high as the stomach, being thickly applied over the abdomen. With two assistants maintaining extension and counter-extension, plaster-of-paris bandages were applied from the ball of the great toe on around the fractured limb across the pelvis and up to the stomach. These bandages were interspersed with plaster-of-paris muck, not too wet, giving additional support between each layer.

With the pelvic rest it was not hard to apply the dressing, so that it came well up in the groin, which had been previously padded, sufficient space being left posterially for the use of the bed-pan. We were careful to sufficiently pad the abdomen to accommodate gaseous extensions likely to occur after dinner, and were particular to carry the bandage up around the body as high as the stomach, so that the point of fracture was in reality at the middle of the plaster cast. In applying the first plaster bandage the upper end of the fragment was depressed by firm pressure, and, as said before, the bandages were reinforced by the additional plaster at the point of the break. When the plaster had set, we found that the length of the two limbs were exactly the same; which relative position remained until a cure had been accomplished, so that at no time was it necessary to add any weights to our adhesive straps which had been applied for extension in the event of any shortening.

The patient while confined to the recumbent position could move around on his hard mattress with comparative ease, the dressings did not become soiled from any source during the month's treatment, there were no bed or pressure sores in the case; only two or three casual visits were made during the treatment, and the result, as seen by the patient before you, was all that could be expected.

This case has been reported to show the extended use of plaster of paris in treatment of fractures of the femur, especially in children; its advantages are: its cheapness, the ease with which it is applied, its perfect adaptability to the shape of the limb, combining the good effects of an all-around splint, its cleanliness; it is a one-dressing treatment with nothing to get out of place, and the splendid results which follow its perfect application should commend it to surgeons in suitable cases in preference to the numerous complicated appliances recommended for the treatment of fracture of the femur, especially in children.

The second case brought before you is an engineer with fracture of the lower third, but treated with the plaster dressing without any extension, and, as you see, with no shortening, and with complete recovery within seven weeks' time.

I will show you another patient treated without any extension method. He was an engineer on the Illinois Central Railroad, and in a collision jumped from his engine into a pile of cross-ties, the result being a backward dislocation of the knee-joint and fracture of the lower third of the femur.

I dressed the wound in plaster of paris, as in the first case. We did not have quite enough padding on the first dressing, and we had to remove the bandage and put on a second plaster-of-paris dressing on account of the swelling.

The ankylosis observed in the knee is not the result of the fracture, but is caused by the extreme backward dislocation of the joint. It has only been about seven weeks since the accident occurred, but there is not a particle of shortening, as you can observe by examination, and by the use of the tape measure. The halt in walking is a result of the dislocation, and not of the fracture. Considering the double damage of the fracture and the dislocation, the patient certainly was fortunate in the termination of this case, as he soon expects to be riding on his engine, doing his regular duties as engineer.

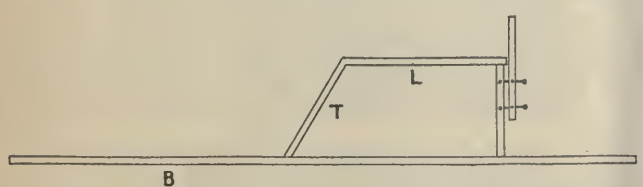
DISCUSSION.

Dr. John P. Lord, Omaha—I think the more expert we become in the use of plaster of paris the more constantly do we find an increasing field for it. While I am not prepared to say that all cases of fracture of the femur should be treated by plaster, yet I think you can perhaps treat the greater number of them in this way. Fractures just below the trochanters, for instance, I would not think of treating by the use of the plaster cast, because the extreme upward displacement of the proximal fragments would preclude the possibility of a good result in at least many of the cases. It has been my experience that the so-called intracapsular fractures are best treated by the plaster. Extension can also be used in addition to the plaster, if necessary, which I think is an excellent idea, and is too often neglected in the cases in which plaster is used. I think we can do with the plaster all that is required. I consider fracture of the femur in children comparatively easy to treat. I think this principle should govern our actions in the treatment of these cases. We should first reduce the fracture to as near a perfect position as possible, and then put on such a dressing as will maintain absolutely the proper position of the fragments, a dressing, indeed, that will continue to maintain this position of the fragments. The old-fashioned method of using sandbags and other splints relatively insecure, I think, at the best is poor practice. You can not depend on such things. We have all seen our preceptors adjust sandbags and rearrange the dressings every day. If there is anything that will encourage non-union it is that sort of thing. I think plaster does accomplish the result in a more definite and perfect manner than any other method.

Dr. W. W. Grant, Denver—The essayist referred to Dr Allis' declaration as to the difficulty of maintaining the apposition of the fragments and the necessity of cutting down and wiring the ends. In an article which he published several years ago, Lane of London stated that it was not so much muscular action that caused the displacement as it was the inflammatory conditions and blood about the ends of the fragments. In consequence of this Dr. Lane advised the cutting down and wiring the fragments—of course, under the most perfect aseptic conditions. I believe this practice often desirable in fractures of the elbow joint. However much truth there may be in his declaration that it is due chiefly to blood clot and to inflammatory conditions, we do know that the best results so far obtained have been by some form of extension with fixed apparatus around the limb. The old Buck method is today not improved on in the ordinary treatment of fractures of the shaft of the femur, coupled with the application of such splints as we may see fit to use. I would hesitate to use plaster immediately in most fractures of the femur. I believe it to be a better surgical procedure to wait until the inflammation has subsided. We know that swelling results immediately after the accident and after four or five days it has usually subsided. There will be no union during this time, and it is best to wait until the swelling has subsided before applying the plaster. It is particularly important during this time that you should see the condition of the limb every day. Legs have had to be amputated because of the failure or inability to see the patient often after the application of the plaster. Therefore, one loses nothing by delaying the application of the plaster cast for this length of time. I believe in these cases there is a better dressing than plaster—silicate of potash. It can be applied just as easily, but it does not dry so quickly, and will require several hours to harden perfectly. When the silicate of potash is dry it is very light and is just as efficient, and if you prefer the ambulatory treatment there

is no comparison. It is so much lighter, cleaner, much neater and more easily and quickly removed.

DR. JOHN W. BRANDAU, Clarksville, Tenn.—The method which I will describe I have found very efficient in three cases of fracture of the femur in children. I exhibited a model of this splint two years ago before the State Medical Association of Tennesseee. In the first place I make a board splint out of some light wood, about three-quarters of an inch thick, as wide as and a little longer than the patient's body, so as to give rest to the head and extend a little below the patient's foot with sound limb extended. The next thing is to make a thigh splint, which is firmly attached to the body splint at such an angle as will hold the fragments best in apposition, and on the side corresponding to injury. Then a leg splint running parallel to the body splint, with proximal end attached to thigh piece, with a support at the lower or distal end of the leg splint which rests on and is fastened to the body splint, thus forming an irregular arch. The splint should be made by measuring the sound leg and thigh and may be made longer or shorter, according to the amount of extension one wants to apply. The extension of thigh is also regulated by the padding one puts on the leg piece. If necessary, one can apply a foot splint adjusted so as to make extension on the leg, if that is also fractured, as per drawing below. The whole splint is then padded in order to make it as soft as possible for the patient's body and padding secured by roller bandages. The patient is then placed on the splint on his back, and the body firmly fastened to the base splint by a roller bandage in such a manner as to immobilize the trunk, which I think is important in the treatment of fractures of the femur in children. The entire limb is next secured to the splint by a roller bandage. In addition to this splint one should use short



B.—Body or base splint. T.—Thigh splint. L.—Leg splint.

coaptation splints to the thigh anteriorly and laterally, so as to hold the fragments more securely in position. To secure these splints in position either a roller bandage, as above suggested, or adhesive strips may be used, and I find the latter convenient because they will not slip. The sound limb should be fixed to the body splint by strips which can be readily untied to allow the limb to be flexed in order to cleanse the child, etc. The splint can be easily made, nothing being required but a hatchet, nails, some light boards, cotton and bandages. The little child with this splint can be applied to the breast, carried out in the open air, and can be placed on either side in order to prevent hypostatic congestion of the lungs. I have had no trouble with the circulation in using this apparatus. The part on which the patient's buttocks rest may be covered by ruber cloth, or a fenestrum may be made in the cases of older children. The end of the apparatus on which the head rests should be kept a little more elevated than the foot, in order to prevent the dejecta from running back under the patient's body. The apparatus is very light when made of white pine or poplar wood.

DR. J. W. ANDREWS, Mankato, Minn.—I don't think that anything has come before this convention of greater importance than this subject of the treatment of fractures, and it just occurred to me, as Dr. Grant was speaking, that if every surgeon would follow his plan and have less to do with the side splint and complicated apparatus, the results would be far better. It is not an easy matter to get good results in fractures of the femur. It is probably not very difficult to give the patient a fairly useful limb, but to get results without shortening and without deformity is not so easy to do. And while a quarter of a century ago a physician could very well be content with some shortening, a surgeon who gets much shortening to-day is not inculpable. I well remember hearing the late Moses Gunn of Chicago, after some one had read a paper before a meeting of the American Medical Association, in which he reported having gotten a perfect result; Dr. Gunn rose from his seat and said he wished to place himself on record as saying that no man could get a perfect result in fracture of the femur. That day is past, and at the present time, where we have a fairly useful limb, but there is some deformity, we do not consider that we have gotten a perfect result. As Dr. Grant has said, it is most important to keep the limb so that it can be seen for the first few days until the inflammation, if any, has subsided, during which time the old methods of extension can be applied, after which time the extension should be continued and the limb placed in plaster of paris. I believe that if that method is carried out, the results produced by it will be as good as can be produced by any other method of treatment. In reference to the objections made by Dr. Grant as to the weight of the cast and the untidiness of the plaster-of-paris dressing, little need be said for it is a small objection, and so far as having an apparatus that our patients can walk around with, or the ambulatory treatment, I do not believe that many surgeons care to have their patients with a fracture of the femur walk around much during the first three or four weeks at least.

DR. J. D. MAURY, New York—I was very much interested in the description given by Dr. Brandau of the splint which he applies in these cases, because it suggests to my mind the straight angle chair used by Sayre to relieve adult patients who have been in bed and are suffering from hypostatic pneumonia. In the City Hospital, New York, we simply used an old rocking chair, with a hole cut in the seat for the movement of the patient's bowels. The patient is then placed in it, being sure that the seat of the chair is longer than from the legs to the region of the lower back, and the patient is then arranged in such position as will give him comfort. Gravity is sufficient in these cases to give all the extension necessary. In regard to the plaster of paris, we have been using a modification of this method in New York, which seems much superior to the "glass" bandages. About a year ago I learned from a wall decorator that they used dextrin in making the cornices of the modern buildings and it occurred to me to incorporate some of this in the plaster of paris. We have used it in 10 per cent. strength by volume, simply mixing it dry and making bandages of crinoline in the usual manner. It is a very useful addition and in a measure does away with the weight of the plaster of paris. I found that it was not an original idea and that it had been used a good many years ago by Velpeau, but I learned that Dr. Weir and others in New York were not familiar with its use, and I thought probably the members of this section might not be. In the treatment of those forms of injury to the lower extremity in which the patient may be allowed to walk without crutches it is invaluable. It is also applicable for the making of spondylitis jackets. Put on the ordinary plaster of paris and then dry it. We have been drying it by one of those torches used by painters to clean off paint, we then put on about one thickness 10 per cent. dextrin crinoline bandages. This gives the plaster a yellowish hue and makes it as hard as adamant. It is not quite so porous as the plaster alone. At the Columbia Laboratory there are some experiments being made to determine the relative porosity of the two substances. Clinically we find that it does not make the cast hot enough to interfere with the comfort of the patient, and if such should be the case, fenestræ may be placed at such frequent intervals as to more than compensate for any such limitation. The cast, although very hard and tough, cuts very readily with a sharp pruning knife if the line of section be thoroughly wet with water.

DR. D. W. CROUSE, Waterloo, Iowa—I had a new experience the last year in a case of ununited fracture of the femur that had non-union after a varied treatment of three months. The fracture was close to the condyles and was comminuted. The patient was 18 years of age at the time of the accident

and in vigorous health. The attending surgeon placed the leg in plaster cast from the first, for six weeks. When the cast was removed it was found to be ununited; a new fixed dressing was applied and the patient put on crutches and treatment continued for six weeks, with the patient walking about, with the same unsuccessful result. He was again placed in bed with pulley extension for six weeks more when he was brought to the hospital for the purpose of cutting down and wiring the ends together. The ends were found separated by muscular tissue and fascia a full inch. The ends of the bones were uneven and some pieces of bone loose from the shaft entirely—the ends of the bones were sawed off and approximated and wired. He did well for 10 days when he suddenly developed a hemorrhage and lost a large amount of blood before the case was under control, and in great danger of his life. A forced amputation was made in the middle third of the femur and transfusion of saline solution made at the same time and although nearly pulseless in the beginning, he was put to bed in rather a better condition than when the operation was commenced. Examination of limb amputated disclosed what was already known that the popliteal artery had beaten against the irregular crest of the fractured bone and had worn the coat of the artery through and nothing but amputation was left to be done. The lesson taught is that the posterior fragments should present no projection, the bone is to be lined with the posterior aspect of limb in adjusting a fracture near the condyles of the femur.

Dr. Luther Sexton, New Orleans—A liquid glass dressing is out of the question in a hot climate like this where it would soon become moistened by perspiration. I do not know how it would do in a cold climate, or how it might be with the dextrin, but I have never seen a liquid glass dressing applied to the fracture of the femur as a permanent dressing. The doctor's conception in regard to the patients walking around with fracture of the femur, I think, is remarkable and must apply to the convalescing period. We usually confine our patients in bed for at least one month, during which time we expect absolute quiet. After this walking and the upright position is encouraged. In regard to plaster fixation I claim that the mistake made in applying the dressing in many of these cases is that they do not carry the support up high enough. In these cases the plaster of paris was carried as high up as the stomach, the stomach, of course being well padded. We put on about as much plaster above the fracture point as we did below. I am not claiming that this is the proper dressing in all cases. I applied the Z.O. plaster in order to produce extension, if I need it. The little boy is as nimble as ever, and though the fracture was in the upper third of the bone there is no deformity or shortening. In the application of this plaster dressing, I believe it is absolutely necessary to have an assistant hold the fractured bones in position until the plaster-of-paris dressing is firmly applied. One of the points that I would like to emphasize is that you should have more of the plaster of paris above the fracture; do not have the dressing all below the fracture. In the case of the little boy, the point of fracture was actually in the middle of the plaster-of-paris cast. Now, in regard to the cast becoming soiled and not being hard enough, I have usually found it hard enough when it comes to take it off. If you wish to make it harder and render it so that it will not soil, you can paint it over with shellac. I have the cast preserved which was on the little boy, and the only soiling it got was from the money he put into it. He used it as a savings bank, for he got a dollar a day for keeping quiet, which was a great help in the treatment.

Aid to Catheterization.—Schroen found that he was able to introduce the catheter in a rebellious case in which an operation seemed the only resource, by connecting the catheter with a fountain syringe. Raising the bag so that the pressure was strong as the tip of the catheter reached the constriction, the force of the water distended the walls of the urethra and allowed the ready passage of the catheter, as he describes in the *Allg. Med. Ct.-Ztg.*, lxxi, p. 659.

SUBTROPICAL TRACHOMA,

WITH SPECIAL RELATION TO A NEW REMEDY IN ITS TREATMENT.*

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Discussion of the nature of trachoma with its relation to follicular conjunctivitis or gonorrheal ophthalmia does not lie within the limits of these remarks. Where great authorities differ so widely as to etiology facts yet unknown must be discovered before a consonance of opinion prevails. Trachoma, chiefly in its clinical aspect, occupies the substance of my paper.

Consideration of the disease is based on the following hypotheses:

1. Trachoma is a distinct disease, characterized by a granular and hypertrophic condition of the palpebral conjunctiva and its transition folds, usually with signs of ulceration.

2. It tends to progress in a fixed manner, varying only in degree.

3. Certain complications and sequelæ mark its course and termination.

4. Trachoma is contagious. It is a separate and distinct disease from follicular conjunctivitis.

5. It is capable of being beneficially modified, even cured, by appropriate early treatment.

After seeing the clinical aspect of trachoma in its strongholds abroad, observing its ravages and extent among the rural classes of northern and southern Germany; remarking its sinister results among the inhabitants of the metropolitan slums, such people as form the majority seeking aid in Vienna's great eye clinics, I then turn to a six years' experience in southern Alabama, and am forced to the conclusion that the type of the disease, in this latter locality, is milder in form, less frequent in the more serious complications and less disastrous in its final results than in the older countries.

Only in rare instances, chiefly among foreigners, among what might be called our Polish Jew contingent, have I seen cases of such severity as I formerly regarded as common types in European clinics.

Regarding the question of racial immunity, my evidence is entirely negative. I can only say that in spite of handling many colored patients I have never yet seen a case of true trachoma among negroes.

Some three weeks ago I saw a negro boy, aged 5 years, who exhibited extensive, exuberant granulations of both lids. Close inquiry elicited the fact that the lids had never entirely recovered from what had probably been an attack of ophthalmia neonatorum. This is the nearest approach to a suspicion of trachoma that has come under my observation in the negro race.

My colleague, Dr. William H. Sanders of Mobile, now state health officer of Alabama, tells me that in an experience of about thirty years he can not recall a single instance of a well-defined case of trachoma in a negro.

While considering our form of trachoma as less severe than in many other localities, no evidence is present to cause doubt of its ready contagion. Usually more than one member of a family is affected.

While in the northern and eastern cities much has already been accomplished to curtail the ravages of trachoma, I have yet to hear of a southern municipality whose boards of health have inaugurated any system of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

inspection at all adequate for its recognition, much less its exclusion from their public schools.

The disease is becoming more prevalent. For, although my percentage of patients handled has not been appreciably greater, I have seen more cases of trachoma among school children within the past eight months than during the preceding two years.

In view of the fact that the laws of the United States recognize trachoma as a contagious disease, denying the right of admission to immigrants suffering from it; that health authorities of New York city exclude children suffering from trachoma from the public schools, it is quite time that all of our health boards should take cognizance of its existence in their midst, and should inaugurate the necessary steps to control its further spread.

The number of therapeutic agents whose proven efficiency in combating eye diseases renders their use almost universal, is infinitely limited. Twenty familiar names would fill the list ordinarily used by the ophthalmologist. New remedies, promising much, fulfilling but little, are constantly coming under notice.

We can be well satisfied if one in twenty, even one in fifty, of these new agents finds a useful, permanent place in our therapeutic armamentarium.

Before the final acceptance of a new remedy it must pass the critical judgment of more than one competent observer. It is well that physicians, from the nature of their studies and environment, possess in unusual degree the analytical or critical faculty. They are loathe to accept evidence save where it is substantiated by either a wide or their own experience. Thus a safeguard exists against the too ready acceptance of new remedies. But when a recently proposed drug or agent proves beneficial they are ready to receive it gladly, so that after a longer experience it assumes its proper sphere of usefulness, and receives the esteem of a trusted and valued friend.

Cocain was once an untried drug. Which of us could practice without it? Eucain more recently has been gladly welcomed. A sense of loss would follow were adrenalin eliminated from our list.

It is unnecessary to recapitulate the well-tried remedies that are universally recognized as aids in combating trachoma. Few of us probably do not place the salts of silver, copper and alum at the head of our list. Zinc and lead, even, with their derivatives, lend us frequent aid. Used correctly in proper proportion at the right time, they all have their places. But every one of them possesses certain defects, certain limitations.

In the selection of a remedy, particularly in private practice, something more than results must be regarded. It seems to me that chief among these is the active, willing co-operation of the patients and of their families. The treatment of trachoma is, at best, long and tedious. Few patients can, with convenience, visit the physician for daily applications. Home treatment is, as a rule, submitted to badly, unwillingly and irregularly; for the applications are painful and the patient naturally reluctant to apply them.

In the new remedy which I bring before your attention I do not claim a panacea for trachoma, not even that it is in every way superior to all of our other remedies. Nor do I claim originality in its use. But, so far as my knowledge goes, I am the first man in America to give it a trial. This belief is tenable because in July, 1902, Merck informed me that he would have to import it, and I did not receive it until nearly three months later. Having used it now for seven months, its results seem to justify placing it side by side with our best remedies.

I speak of copper citrate. The points claimed for it, if I can establish them, are worthy of attention.

1. It produces absorption and disappearance of granulations and hypertrophied papillæ quite as rapidly as other applications.

2. It produces less irritation in the lids; less pain and discomfort to the patient.

3. Important, and a corollary to its almost painlessness, patients will use it regularly in home-treatment. Even a nervous mother will apply it in the eyes of her spoiled darling. What greater encomium can be pronounced on a treatment of trachoma! For we all recognize the vital importance of systematic daily applications in the eradication of this treacherous disorder.

Now let me give proper credit to Dr. F. R. Von Arlt, the originator of the copper citrate treatment. He published a short paper on the subject in the *Centralblatt für Practische Augenheilkunde,* March, 1902. Of this paper I made an English abstract, which was published in the *Mobile Medical Journal,* June, 1902. Dr. Von Arlt uses by preference silver citrate, instead of silver nitrate in cases of ophthalmia neonatorum trachoma with secretion, and other allied conditions. He was led to the trial of copper citrate on account of the analogy between copper and silver salts. His description of the salt is as follows: "Copper citrate is a light, finely divided green powder, containing 35.2 per cent. of copper. It is sparingly soluble in either cool or hot water, about 1-9,143, slightly more soluble in 1 per cent. sodium chlorid solution, i. e., about 1-7,700. It was first prepared by Guy Lussac in 1832, and so far as the author knows, its therapeutic properties have never before been utilized. At first the powder was mixed with milk-sugar (1-20 to 1-10. Later used ointment form with, as a vehicle, the ointment of glycerin with starch. He has found it specially useful in trachomatous pannus and ophthalmia neonatorum. Profuse secretions, in all cases, must first be removed by silver citrate, silver nitrate or some other similar preparation commonly used for this purpose. Contraindications are afforded by corneal ulcers and by internal or external treatment with the iodin preparations." The following statement he places in italics. With it I thoroughly agree: *"It does not cure trachoma more quickly than other non-operative methods."*

I have used the copper citrate, chiefly in early uncomplicated cases of trachoma, in the form of an ointment, the strength varying from 3 per cent. to 10 per cent., with white vaselin as a base. The results have been excellent, as the following statement of cases will show.

Of course, the period of trial (seven months) is too short to admit of a final verdict as to its curative powers. Of the cases treated only nine have been discharged as cured, while six are still under treatment, progressing quite as favorably, and with far greater personal comfort than under former methods.

During the months of September and October, 1902, I began with five cases, early in November with three, late in November with one case. These cases were all in children ranging from 5 to 14 years of age. Eight of these cases were early, simple forms of trachoma, without serious complications. One was a severe case, complicated with pannus. The eight simple cases have been discharged for a period of from four to eight weeks. At present writing seven of these cases show no sign of remaining granulations, and no scarring. In one case where the granulations were extremely large and plentiful, expression with Knapp's roller forceps preceded the applications. Here some slight scarring is noticeable.

The case of pannus had been treated for six weeks before beginning with copper citrate ointment. The clearing of the cornea was more rapid after beginning its use. For more than three months now the opacities have almost disappeared, but a slight cloudiness remains, which will doubtless be permanent.

While the patients can open their eyes and bear the light, going about their usual duties or pleasures a few minutes after the ointment has been rubbed into the conjunctival sac, I have found that the best plan for home-treatment is to apply the remedy at bedtime, letting it remain in the eyes during the night. Only a few cases find this too irritating. The majority of patients will tolerate the application twice a day. An intercurrent coryza or febrile state necessitates the discontinuance of the ointment for a few days at least. While usually beginning with the 5 per cent. ointment, for I have practically abandoned the 3 per cent. strength, except in very nervous children where it is first necessary to obtain their confidence, I believe that the majority of patients will readily tolerate the 10 per cent. strength from the inception, just so soon as excessive secretion has been allayed by one of the silver salts.

I trust that those of you who take interest in the subject, who possess the facility of large clinical material, will ere our next meeting give copper citrate a trial in trachoma.

DISCUSSION.

Dr. James W. Dunn, Cairo, Ill.—After making the statement that I have seen two cases of genuine trachoma in what I considered to be pure blooded negroes, I would like to take up the subject of treatment of this disease. It is this that appeals to us most forcibly as practitioners, and is the feature on which we will all probably differ from the one who has just read the paper and on which you will likely differ from me.

The treatment may be divided into that used before the appearance of the granulations and that applied afterward. We can not diagnose this trouble with certainty, of course, before the granulations appear, but there is certainly an antegranulation period which lies between the beginning of the irritation produced by the cause of trachoma and the appearance of the granulations, during which we certainly have a chance to abort the disease by the application of germicidal remedies, as nitrate of silver, etc., else all of our theories that the disease depends on a germ are exploded. Indeed, I think it safe to say that all of us, many times in our practice, have aborted cases of trachoma in this stage when we simply suspected granular trouble, by the application of suitable solutions of strong germicidal agents.

After the appearance of the hyaline granulations there is nothing that remedies this morbid process with the facility and safety of the roller forceps. With this I am sure the profession generally will agree. However, I go a step further in saying that the advantage gained by the expression of the granules is not the only one. By the judicious use of this instrument we can so disturb the elements entering into the tissue organization causing the hypertrophy as to bring about the absorption of these elements themselves. It matters not whether we consider that the hypertrophy is due to the formation of new tissue from new cells, or to the conversion of one class of cells into another, certain it is that the hypertrophy and subsequent contraction can be removed and avoided in the proportion that we are able to bring about the absorption of the elements deposited in or under the conjunctiva. The roller forceps, firmly and steadily applied, can certainly assist very materially in this.

Then I may say further, that this is not the only good produced by the use of the roller forceps. In the old chronic cases their application is followed by an acute inflammatory reaction that has practically all the advantages of a jequirity inflammation without any of its disadvantages. So I almost always apply the roller forceps in trachoma. If it is an acute case, the application is made chiefly to express the contents of the hyaline granules; if it is a chronic case, the greatest desideratum may be the removal of the hypertrophy for which they are then used; but in most cases, however, both indications will obtain.

After the application of the forceps, it is not a question of choice of remedies. Any application that has a tendency to reduce inflammation will do good. Ichthargon, protargol, the milder boric acid, or the preparation the Doctor has mentioned in his paper will suffice. In conclusion, I desire to commend this method for those old chronic cases in which every kind of application seems to irritate and make matters worse—the very class of cases in which the profession at large is accustomed not to use it. The application, as I have said, is followed by an acute inflammatory process which results in less hypertrophy, and, consequently, much less contraction of tissue than would otherwise follow. So, to sum up, my method of treating trachoma is the roller forceps almost invariably, first, to express the contents of the hyaline granules and, second, to bring about absorption of the hypertrophy by producing an acute inflammatory reaction and by the mechanical disturbance of the elements undergoing the process of tissue formation in the hypertrophies.

Dr. Adolph O. Pfingst, Louisville—As to the clinical features of the case I would like to say a word about the differential diagnosis, because I think there is much obscurity in this respect. In my first observations of this disease cases were spoken of as trachoma which, according to my present ideas, were not trachoma at all. I got my first teachings in Berlin and in New York, and I believe now that the cases that were called trachoma in Berlin were not trachoma. To my mind the slight granular appearance and cell accumulation in the conjunctiva were not the follicles of true trachoma. I differ with the author as to its occurrence in Berlin. My experience was that there was very little trachoma there; mostly such cases as strayed in from Russia and Egypt. I was told there that the cases were rare and that there was doubt whether the proper diagnosis was always made. You have all seen cases where the entire lower fold of conjunctiva was filled with sago-like swellings and where the upper lid was not affected. I have seen cases of this kind called trachoma. The ready response of these cases to treatment is evidence that they are not trachoma. I have seen, with Dr. Ray, a case of true trachoma in a negro.

I congratulate the Doctor on his success with his new treatment. While the number of cases so treated is as yet small, the results are encouraging, as it is difficult to get patients to use these remedies at home which are usually employed in the treatment of trachoma. I believe that the greatest advantage of the essayist's treatment is the ease of its application.

Dr. Herbert Harlan, Baltimore—I had a very unique experience with a remedy that could not be applied in most cases. Three Russian immigrants were detained by the authorities because of the trachomatous condition of their eyes. On the second day after admission to the hospital two of them, children aged 3 and 5, broke out with measles and the disease had a most remarkable effect on the trachoma without any other treatment and in three or four weeks they were allowed to proceed to their homes. The father, however, who had had measles before, had to go through a long course of treatment. There is no doubt in my mind that the measles had a remarkable curative effect on the trachoma.

Dr. S. L. Ledbetter, Birmingham, Ala.—I see a great many cases of old cicatrization occurring as a result of trachoma that is evidently the same type we see elsewhere, but in the recent cases treated according to modern methods they get well without these bad results. The cases appear to be rarer than we are taught to believe, but I think that perhaps it is due to the treatment. I am of the opinion that trachoma is trachoma whether occurring in the North or South.

Dr. Ruffin Wright, Mobile, Ala.—I did not mean to speak of subtropical trachoma as a distinct disease, but only to imply that the type with us in the South was of a milder

form than what is seen in other localities. Regarding its prevalence in Germany, in one village where I spent the night the landlord and his whole family had the disease, and they said they did not believe there was a family in the town that had not had it.

As to the matter of its treatment in the incubation period, it is difficult to prove what a case would have been if you aborted it. I do not think much of aborting remedies; it is like aborting a case of pneumonia or typhoid fever.

As to the expression of the granulations with the roller forceps, it is only occasionally necessary, always results in more or less scarring, and unless the granulations are very large we gain nothing except to hasten the healing process.

I do not claim that copper citrate brings about more rapid absorption than the old treatment where the latter is applied daily, but I claim that it is a remedy that the patient will apply daily. There are less than 10 per cent. of cases that will come for daily treatment, and therein lies the benefit of this method of treatment.

CONTROL OF SUPPURATION IN THE ANTERIOR SEGMENT OF THE EYE.

BY THE INSERTION OF IODOFORM INTO THE ANTERIOR CHAMBER.*

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MEMPHIS, TENN.

In 1897 Ostwalt introduced a method of combating purulent inflammation of the anterior segment of the eye by inserting iodoform into the anterior chamber, and he also showed that when this was done on a normal eye it was not followed by any bad effects. The method has been occasionally referred to, but in the available literature only three allusions to it could be found. Ostwalt[1] again experimented with it in 1901 by placing rods of iodoform in the anterior chamber of a rabbit's eye, and "some time later" injecting a culture of staphylococcus or streptococcus. Purulent inflammation was prevented, but not having the original paper at hand, the facts as quoted from the abstract are vague to the point of uselessness. Romer[2] reports the use of it in three cases. In two cases of staphylococcus infection of the anterior chamber its use was followed by a cure of the condition, but in a case of cataract extraction infected by a "peculiar bacillus," it did no good. In five cases Goldzieher[3] controlled suppuration by this means, but again an abstract is my authority, and there are no details. In the hope of learning something definite of this method and its limitations, the experiments which I will recite were undertaken.

The almost uniform failure of our efforts to control the progress of infection after cataract extraction is well known, and it was particularly in the management of these cases that I hoped to get some help. As the infection in these cases comes, as a rule, from without, that is, from the conjunctiva, it seemed best to try to produce experimental infection in the same way. Repeated attempts to do this by making a corneal incision and rubbing over it a culture of staphylococcus, gave but one positive result out of a dozen attempts, and the method was then abandoned. Introduction of a portion of a culture of staphylococcus by means of a platinum wire loop passed through a corneal incision gave but little better results, and was discarded for the method of injecting into the anterior chamber with a syringe either a small particle of an agar culture, rubbed up with distilled water, or a few drops of a bouillon culture. It was astonishing to note the difficulty with which a successful inoculation was achieved. Staphylococci seemed to be hardly pyogenic in rabbits, so little reaction did they usually cause. In only two eyes did they produce sufficient reaction to be of use for the purpose of this study. Injections of streptococci were more successful, but by no means uniformly so.

The iodoform rods used in these experiments were made of gelatin containing 50 per cent. of iodoform. These substances are mixed hot and poured on a clean tin plate to harden. The resulting film is then cut into the required sizes. The procedures on the eyes were carried out under local anesthesia, and with the usual antiseptic precautions.

Experiment 1.—A single iodoform rod was introduced into the normal eye of a rabbit through a puncture in the cornea near the limbus. In two minutes the gelatin had dissolved and the liberated iodoform had settled to the lower part of the chamber. On the second day it was still to be seen surrounded by a bead of clear lymph. On the third day this exudation had lessened in size, but not till the fourth day was any absorption of the iodoform apparent. On the thirteenth day it had entirely disappeared. The pupil was active and the eye entirely normal.

Experiment 2.—A pure culture of streptococcus was injected into the anterior chamber of a rabbit. The next day a mild, plastic iritis was present, but this had subsided by the fourth day, when the injection was repeated. Four days later only a slight reaction with some exudation near the corneal wound having been produced, a third injection was made. A prompt reaction followed, iritis with abundant exudation and roughness of the cornea being noted on the second day after the third injection. The cornea regained its luster and then became covered by a vascular layer like a pannus, extending from the periphery toward the center. This did not appear until the sixth day after the successful inoculation, and took ten days to completely cover the cornea. The exudation in the anterior chamber finally almost filled the chamber, leaving a little clear portion in front and behind, but touching the cornea. While in this condition on the eighteenth day after the successful inoculation the animal was killed by rats and the eye destroyed. There was no conjunctival chemosis or swelling of the lids such as we see in panophthalmitis, though the rabbit lost flesh and seemed to suffer from systemic infection.

Experiment 3.—After two unsuccessful attempts to infect with a culture of staphylococcus a drop of a culture of *Streptococcus erysipelatis* was injected into the anterior chamber. In five hours iritis with exudation was noted. On the fourth day the exudate had collected to some extent in the lower angle of the anterior chamber (hypopyon), though the aqueous was never very clear. On the fifth day the pannus began to show at the corneal periphery. On the seventh day two iodoform rods were introduced into the anterior chamber through an incision near the limbus. These were invisible after 24 hours. No material change being noted in the eye, two more rods were introduced on the ninth day. The pannus continued to advance and the exudation in the anterior chamber to increase. On the nineteenth day the cornea was covered by the pannus and was bulging from the pressure of the exudation. On the twenty-first day the cornea sloughed, the slough separating on the twenty-second day, exposing a white, pasty mass in the anterior chamber, a culture of which showed streptococci in a state of division. The eye cicatrized and healed, a large scar occupying the site of the cornea. There was never the clinical picture of panophthalmitis as we see it in the human eye. The rabbit emaciated considerably and died. A culture of the blood made during life showed streptococci.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Zeitsch. f. Augenheilk., vi, 194. Abst. in Archives of Ophth., xxxi, 300.
2. German Ophth. Soc., 1901. Arch. Ophth., xxxi, 44.
3. Centralbl. f. Augenheilk., xxv, 71. Arch. Ophth., xxx, 685.

Experiment 4.—Inoculation by injecting a few drops of a culture of *Streptococcus pyogenes* into the anterior chamber. Iritis appeared on the second day, with cloudiness of the aqueous and the appearance on the fourth day of a mass of exudation in the anterior chamber near the wound of inoculation, together with a hypopyon in the lower angle of the chamber. On the fifth day the pannus before mentioned began to spread over the cornea, and on this day two iodoform rods were put into the anterior chamber. Tenth day, no change noted till to-day, when an additional yellowish mass of exudate was seen on the iris below the pupil, while above the pupil was a larger clear mass like the exudate seen in spongy iritis. The cornea and aqueous seemed clearer. Three more rods were put into the chamber. The next day (eleventh day) eight or ten small yellow nodules were seen on the iris, aqueous clearer. The vascularity on the cornea had advanced. On the thirteenth day, no further change being apparent, four more rods were put into the chamber; fifteenth day, no change except the pannus was much less dense. On the nineteenth day a decided clearing of the cornea had taken place, and the exudation was somewhat hour-glass shaped, with the smallest part in front of the pupil. Twenty-first day, cornea about clear, pupil occluded and the exudate was an oval yellowish body. Twenty-third day, except for a small central mass about as long as the diameter of the normal pupil, the anterior chamber was clear. Twenty-seventh day, the rabbit died. A section of the eye is shown. A culture of the blood on the twentieth day showed streptococci. There was emaciation and evidence of systemic infection.

Experiment 5.—Three injections of a culture of streptococcus were made before more than a slight irritation was produced. The reaction appeared on the third day after the successful inoculation, whereas it had, in other experiments, appeared on the first or second day. The reaction was marked on that day, with an abundant diffuse exudation into the chamber. Four iodoform rods were introduced. Fourth day, the exudation was thicker and settling as an hypopyon below and forming a mass above near the wound of inoculation. Put in two more rods. Fifth day, some of the iodoform put in on the preceding day was still visible. No change in the condition of the eye. Put in two more rods. Eighth day, the iodoform put in the eye on the fourth day was absorbed, but that put in on the fifth day was not entirely absorbed. The pannus had advanced but very little on the cornea and the exudation masses were decidedly less in quantity and less dense. Ninth day, the eye looked clearer, the exudation showing only as a slender oval mass in the center of the chamber. Tenth day, the mass of exudate was but one-half as large as on the preceding day. It was rounded and about the size of the normal pupil. The rabbit was killed by rats that night and the eyes destroyed. Systemic infection had apparently occurred from a previous experiment (No. 2), but for the last week of his life the animal was livelier, ate better and seemed likely to live.

Experiment 6.—Inoculation by means of a platinum loop with a culture of *Staphylococcus albus*. There was prompt reaction on the second day, with iritis and exudation into the anterior chamber, which soon collected into masses above and below the pupil. On the eighth day some of this exudation was removed with forceps through a peripheral corneal incision and an attempt made to wash out the chamber, without much success, owing to the thick, tenacious character of the exudation. This produced no change in the eye, and on the eleventh day two iodoform rods were introduced into the chamber. The pannus already referred to had appeared on the seventh day. The iodoform was not visible after 24 hours, and no change in the eye being noted, two more rods were put in on the fourteenth day. Nineteenth day, pannus covered the whole cornea, but had become less dense. No other change. Twenty-second day, cornea much clearer. The exudation in the chamber was a central mass the shape of the crystalline lens and about two-thirds as large. Twenty-fifth day, exudation mass had settled a little towards the lower angle and pressed against the cornea, which bulged slightly. Forty-fourth day, exudation still shrinking. Seventy-seventh day, the cornea was diffusely cloudy. The exudation had become a little smaller, being then about 2 mm. in diameter. A few vessels ran in the cornea from above to the spot where the exudate touched the cornea. No fundus reflex.

Experiment 7.—Injection of a culture of staphylococcus producing but slight reaction, it was repeated on the following day with a positive result on the second day after the second injection. Two rods put in the eye on the eighth day. Tenth day, the exudation masses were smaller. Twelfth day, put two more rods in the eye. Seventeenth day, pannus completely covered the eye. The exudation masses in the anterior chamber appeared to be changed into connective tissue. They changed color from yellow to white, and small radiating bands appeared around them. Thirty-eighth day, the cornea was diffusely opaque and on its posterior surface and in the chamber elsewhere were a few small, white masses. The pupil is occluded, but the rabbit sees and is fat and well.

SUMMARY OF RESULTS.

Iodoform used in three cases of streptococcus infection. One failure, two successes.

Iodoform used in two cases of staphylococcus infection. Two successes.

One case of streptococcus infection not treated. The animal was destroyed at a time when sloughing of the cornea appeared imminent.

In addition to these experimental cases, I wish to record one clinical case in this connection:

Case 1.—H. D., a negro man, 58 years old, but who looked at least ten years older, was seen in February, 1902. He had a double cataract, mature in both eyes. The left eye had failed first, in 1897, the right in 1901. There was a very marked arcus senilis in both eyes, and in the left additional rounded opacities in the cornea down and in and down and out from the center. The eyes were otherwise normal; urine normal. The operation of extraction with iridectomy was done on the left eye on February 13 in the ward of a general hospital. The corneal section lay in the arcus. The operation was normal in every way and healing was prompt.

February 21 the right eye was operated on in the same way. The only difference in the two operations was that in the last eye (right) there was more soft cortical substance brushed off the lens in its delivery. On the morning of the third day the wound was closed and a slight mucopurulent conjunctivitis was present, but as this had also appeared in the other eye after the operation and did no harm, no special thought was given it. At 5:30 that afternoon I went to the hospital and found that, it being Sunday, the nurse had two wards to look after and had been detained in the other ward. My patient had removed the dressings from the eye and had rolled over on the pillow with the eye underneath. There was an increase in the amount of secretion from the eye and the wound showed marked infiltration of its edges. Iodoform was dusted into the eye and the organ was directed to be bathed in an antiseptic solution frequently. The next morning the discharge was more profuse, the edges of the wound were quite yellow and the anterior chamber near the wound contained a yellow exudation. Aqueous very cloudy and whole cornea slightly hazy. A culture showed *Staphylococcus albus*. At 2 p. m. the wound was reopened and an attempt made to introduce some iodoform powder into the chamber, no rods being available. The manipulation was very difficult, and only after prolonged efforts was an appreciable amount of the powder gotten into the eye. It did no good whatever, and was not repeated. The cornea became infiltrated and sloughed, the eye subsequently undergoing atrophy, and was enucleated a few months later.

This case occurred before I had undertaken these experiments. I now know with how much more ease the iodoform can be handled in the shape of the rods, and also the necessity of its early and repeated use.

In regard to the technic of the introduction of these rods into the eye, it presents no difficulties at all. A peripheral incision in the cornea is made and the rod caught at one end with any fine forceps and pushed into

the eye. It should enter the eye completely, leaving no part protruding. The gelatin softens very quickly on exposure to moisture, necessitating quick handling of it.

While the value of this procedure as a therapeutic measure does not seem to be brilliant, judging from the results of these experiments, we must not, in forming an opinion, lose sight of the almost hopeless nature of these cases under any other form of treatment. It appears to me to have a very distinct field of usefulness, and apparently has no possibilities for harm. To be of any value, it must be used early, probably on the first, certainly not later than the second day after infection, and should be repeated daily until positive improvement is manifest, or until its failure to control the condition is apparent. With small rods the dose should be three or four rods. It would be best to use at the same time such local antiseptic and general supporting measures as our experience has shown to possess some value.

DISCUSSION.

Dr. E. A. Shumway, Philadelphia—The subject of the treatment of infected wounds of the eyeballs is of very great importance, especially to those who live in manufacturing districts, where the number of accidents is large, and any method which will help us save such infected eyes and make the prognosis less grave should be welcomed as a step in advance in ophthalmic surgery. The use of iodoform within the eyeballs seems to have established itself firmly as a recognized mode of procedure. Ostwalt's experiments in 1897 showed that not only was iodoform well borne in the anterior chamber, but that it had a very decided action in checking the infectious process, especially when the lens was uninjured. Since then many favorable cases have been reported by Haab, Mayweg, Wüsterfeld and Goldzieher, from the introduction of the rods into the anterior chamber; and following the results of Ollendorff good results have been achieved by Schmidt, Wokenius, Haab and Römer by the use of the rods in the vitreous.

In this connection I would like to place on record two cases which were seen at the University Hospital in Philadelphia, this winter, in the service of Dr. Geo. E. de Schweinitz, to whose courtesy I am indebted for the privilege of reporting them.

Case 1.—J. B., aged 55, was sent to the hospital Oct. 10, 1902, for injury to the left eyeball, produced by a piece of flying metal, which struck the eye while he was working in a blacksmith shop, on the day previous. Examination showed a linear wound of the cornea, and commencing cataract. Under cocain anesthesia Sweet's magnet was applied to the eye, and almost immediately the lens was seen to bulge, and a piece of steel emerged from it into the anterior chamber. On enlarging the wound in the cornea, the foreign body was withdrawn from the eye without difficulty. Atropin was instilled, the eye bandaged and ice cold compresses were applied to the eye through the bandage. Calomel was given in doses of 1/6 gr. every hour. During the following night the pain was severe, and required hypodermics of morphia. Examination on the next day showed decided chemosis of the conjunctiva, injection of the eyeball, and bulging of the lens into the anterior chamber. The corneal wound was again opened, and following Randolph's advice, the opaque lens matter was evacuated, as far as possible, the chemotic conjunctiva freely incised, and the conjunctival sac dusted with powdered iodoform. On the following day (the fourth day after the accident) three sterilized iodoform rods were inserted by means of forceps into the anterior chamber. These rods were made by Shinn and Baer, local druggists, and measured 6 mm. in length, by 2 mm. by 1 mm. They were composed of 70 per cent. iodoform and 30 per cent. gelatin. The iced compresses were continued and atropin instilled regularly. The pain lessened at once after the evacuation of the lens, but three days later, as there was still considerable injection, two more rods were inserted. The eye then gradually quieted down, so that the man could be sent to his home October 28, eighteen days after admission, with a slightly flushed eye, which was beginning to shrink. He was seen at the hospital about four weeks later, and at this time the eye was commencing to assume a quadrate form, but was entirely quiet and caused no pain. With the strict injunction to report immediately to his doctor, if the fellow eye began to fail in any way, he was allowed to return home, with a sightless, somewhat shrunken eye.

Case 2.—B. B., aged 24, was struck in the right eye by a flying fragment of stone, which was chipped off by a chisel that he was using. The accident had occurred five days before, and in the interval he had been treated by his physician with iced compresses and instillations of atropin. The eye was decidedly injected, the cornea showed a yellowish infiltration of its lower one-half, and the anterior chamber was partly filled with a yellowish exudate. No details of the lens or iris could be made out. The magnet was applied to the eye, but no metallic foreign body could be detected. Iodoform was dusted into the conjunctival sac, atropin instilled and iced compresses were applied. As in Case 1, calomel was given every hour, and subsequently sodium salicylate, a dram daily, in divided doses. March 5, three days after admission, and eight days after the accident, there was still intense injection of the eyeball, infiltration of the cornea and anterior chamber with exudate, and bulging forward of the cataractous lens. The corneal wound was accordingly reopened at the clinic, the opaque lens matter and viscid exudate removed, so far as possible, and two rods of iodoform introduced into the anterior chamber. On the two succeeding nights the pain was very intense, necessitating the use of codeia and morphia, and the question of enucleation, or evisceration, was debated. But under the persistent use of iced compresses, atropin and salicylate of soda, the cyclitis gradually subsided. March 16, two weeks after admission, the inflammatory exudate had been absorbed except in the pupillary area slight cyclitis was still present, but there was no pain. The infectious process had been checked, and the patient was discharged eight days later, March 24. Since then he has been under observation at the clinic. The eyeball shows a decided flattening of its anterior portion, and a slight remaining ciliary flush. Vision is zero.

In other words, we had two badly infected wounds of the anterior part of the eyeball, in which the lens was injured, which, according to Ostwalt's experiments, is always a serious complication, as the swollen cortex seems to act as a good culture medium for the growth of the infectious organisms, in which the infectious process was checked, and the eye gradually quieted. The patients, workmen, were able to retain the eyeballs, which, although somewhat distorted and sightless, were painless, free from danger to the fellow eye, and better for them than a glass eye. It is, of course, difficult to say how much credit should be given to the iodoform, and we are too prone to ascribe all good results to some new method of treatment, but so many favorable reports have been made that I think we are justified in giving the method further trial.

Of the other methods which have been tried, subconjunctival injections of various drugs have proved of little value, experimentally at least. On the other hand, the use of intraocular galvano-cauterization, introduced by von Millingen in 1899, has, by virtue of the success reported by von Millingen, Roscher, Baumler and Zentmayer, established its claim of being of very great service in checking the infection by destroying the organisms in the lips of the wounds and along the back of the infiltrating process, and as there is no reason to prevent the use of both methods in the same patient, it seems to me we would secure the best results by cauterizing the wound and the infiltrated areas by means of the actual cautery, and then introducing the iodoform. The best way of introducing the iodoform is by means of the rods. It is almost impossible to prevent the powdered drug from being washed out of the anterior chamber, as the instrument used for this purpose is withdrawn. Pure compressed rods of iodoform would be best, but it is apparently impossible to make them without the use of some agglutinating material. It is of great importance, also, to evacuate the opaque lens cortex if the lens is injured,

and vigorous internal medication should not be neglected. Salicylate of sodium has proved of great value in large doses, and the recent remarkable results of Schirmer, who was able to show 60 per cent. of recoveries in cases of uveitis fibrinosa and 65 per cent. for uveitis purulenta by means of large doses of mercury, prove the remarkable efficacy of this line of treatment.

Dr. Frank Allport, Chicago—I have found considerable difficulty in securing the discs or rods. Professor Haab left me a bottle of them, which I have used, and I have been unable to have them properly made. I tried the Parke, Davis people and one or two other houses, but the results were always unsatisfactory. I am glad to have heard Dr. Shumway's discussion of this subject and his method of using the iodoform and gelatin.

Another difficulty that I have had is how to make these rods aseptic. As I understand it iodoform in itself is not necessarily aseptic and I have endeavored to render the discs and rods so in various ways, but have not been very successful, because the efforts to sterilize them has always resulted in making them difficult to handle. For instance, if you attempt to sterilize them in the sterilizer by means of heat, or more certainly if by steam, they become so limp that you can not handle them. So I have simply used them as I got them out of the bottle and have not noticed any ill effects; in fact, I have used them a number of times and have obtained very good results. Whether it was really due to the iodoform or not I could not say. In the cases where the iodoform discs seemed applicable I also, as a matter of precaution, followed the teachings of Dr. Gifford in giving heavy doses of salicylate of sodium, 1 gr. to every pound of weight, and I have had good results in the treatment of the cases where the iodoform seemed applicable, but as I say, whether due to the use of the iodoform or the salicylate of soda, or other treatment, I can not say. At all events my results have been good. I use the iodoform discs as a routine practice where I extract steel from the eye with the Haab magnet, which is the one I always use, whether there seems to be indication for it or not. After removing the steel I insert one of the iodoform discs and put the patient on heavy doses of salicylate of soda, and while I, of course, do not always get useful eyes (I sometimes get atrophied ones), I seldom have panophthalmitis, and I am inclined to attribute it to the iodoform or the salicylate of soda. I believe the iodoform to be a good method of treatment, but I have not confined myself altogether to the use of the discs; I have also used an emulsion of iodoform, injecting it by means of the Pannus syringe, and I think I have secured as good results with it as with the discs.

Dr. G. E. de Schweinitz, Philadelphia—The iodoform rods referred to by Dr. Shumway were made by Mr. Baer, a pharmacist of distinction in Philadelphia. Sterilization of the iodoform may be secured by washing the drug in a solution of bichlorid of mercury and subsequently drying it, but it does not make a great deal of difference when used in a highly infected eye whether the iodoform is sterilized in this or other manner.

My experience is too limited to give an opinion as to the value of this treatment, but I would like to emphasize Dr. Shumway's remarks as to the intense pain that was produced the night following their introduction. Whether this was due to some fault in my technic, or in the manufacture of the rods, I do not know, but the pain was certainly severe. The eyeballs thus treated gave evidence of approaching panophthalmitis. This dreaded result was averted; one resulting in partial phthisis bulbi, and the other in an adherent leucoma. Both patients were highly content at not having to submit to an enucleation.

Dr. J. H. Claiborne, Jr., New York—I take it that the purpose of these experiments was to combat any inflammation that might result after cataract extraction, or injury to the anterior part of the eye. In this connection I would like to make a preliminary report on some experiments which Dr. E. B. Coburn and myself have been conducting.

Following the recent instance, with which we are all familiar, of a gynecologic patient suffering with severe streptococcic infection, being treated with formalin, we made some experiments on the eyeballs of rabbits infected with streptococci. We injected a pure culture into the posterior chamber and conducted three experiments. In the first rabbit we injected, subsequently to the infection, formalin 1 to 5,000 into the vitreous humor; in the second the same solution into the capsule of Tenon; in the third no injection. The rabbit not treated recovered from the infection we had given it. The one injected in the capsule of Tenon recovered, while the one with injection in the vitreous chamber went straight to destruction. We then passed the streptococci through another growth, it being a well-known fact that the second growth is much more virulent than the first. All the eyes subsequently injected went straight to destruction. One thing proved was this, that streptococci can sometimes be introduced into the eye permanently without any bad effect, which fact accounts for the independent recovery of some of the infected cases we see.

In order that our experiments might be in the line of infections following operations, we took an infected rusty nail and thrust it into the anterior chamber and ciliary body. These cases all went to destruction at once. We then tried injections of formalin 1 to 500, but with no effect.

These experiments, it seems to me, are most commendable because if there is one bugbear for ophthalmologists it is the secondary inflammations following cataract extractions. I never perform a cataract extraction that I do not have cold chills for a day or two following. So, if any light can be thrown on the subject it is to be commended. The results shown in these reports are not very brilliant, but they are in the line of investigation. I think that some other agent should be tried, and would suggest the use of formalin 1 to 500, or 250, as soon as the symptoms of suppuration commence.

Dr. Albert B. Hale, Chicago—One remark was made that I do not like to see go unchallenged; that is, that it would be well to combine the use of the galvano-cautery with the insertion of the iodoform rods. The idea in using the rods is to preserve the eyeball, while the result of the cautery is destruction absolutely. We know how completely it destroys tissue and what a scar results. If we use the cautery we destroy a large part of the area which we want to heal normally. If we can get success with the rods the cornea is normal and clear.

I am not quite convinced myself of the good results obtained when vision is nothing. It is only a surgical experiment that has resulted with surgical success, but leaves the patient no better off, and time would have been gained by enucleating the eyeball at once. Of course it may go on for some years without causing trouble, but I am in favor of removing the ball when it is of no use to the individual.

Dr. E. C. Ellett, Memphis—The rods I made use of were 50 per cent. iodoform in gelatin. That strength, of course, was arbitrary; I had no special reason for making them that way, but it makes an easy rod to handle. The attempts at sterilization were by heat. The mixture of iodoform and gelatin was heated to a sufficient degree to sterilize, and then poured out on sterile tin plates, and when cool cut and the rods made. These were put into sterile containers and used without further preparation.

CONDITION OF THE ENDOMETRIUM IN CASES OF UTERINE MYOMATA.*

THOMAS S. CULLEN, M.B.
BALTIMORE.

CERVIX.

As a rule the cervical mucosa shows no change. Occasionally, however, cervical polypi are present or the cervical glands may be moderately or markedly dilated. In rare instances true cervical erosion, in other words an ulceration of the cervix, exists, and now and then squamous-cell carcinoma or adenocarcinoma of the cervix

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

may be associated with myomata. Where the cervix is much lengthened out the glands are often unraveled. We then note the squamous epithelium of the cervix alternating with that of the unfolded glands.

BODY.

Endometritis is occasionally found; when present it is almost invariably associated with inflammatory changes in the adnexa.

Tuberculosis is not uncommon, but while sometimes occurring independently, is usually associated with similar processes in the fallopian tubes.

Finger-like or dome-like projections from the mucosa have been seen from time to time, and also other pictures more or less suggestive of a malignant change.

Adenocarcinoma of the body of the uterus is quite frequently associated with myomata, as we have noted elsewhere. In the majority of cases it was not suspected.

While any of the foregoing conditions may exist, yet in nearly all instances the changes present are entirely mechanical. If myomata are subperitoneal or intraligamentary, the mucosa is usually normal, provided the tubes are unaltered. When a nodule impinges on the cavity the mucosa over the most prominent part becomes stretched and thinned out. This progresses until eventually there is nothing but the surface epithelium covering the nodule. While this atrophy is increasing the mucosa in the depressions at the sides remains unaltered or becomes thicker. This thickening is occasionally due to simple gland hypertrophy. Portions of the mucosa are often mechanically forced out into the cavity, producing polypi. With the distortion of the mucosa the glands sometimes become blocked, producing small cystic dilatations. The glands of the mucosa are sometimes much dilated, and not infrequently there is considerable edema. When the myoma becomes entirely submucous it is usually covered by a thin layer of mucosa, but in a few instances we have seen a sloughing cavity in the myoma opening directly into the uterine cavity. Now and then a submucous myoma from the posterior wall will blend with the similar nodule in the anterior wall, obliterating the mucosa entirely over a given area.

From an examination of a great many specimens we can lay down the general rule that where the fallopian tubes are normal and where no sloughing submucous myoma is present, that the uterine mucosa will be perfectly normal or show simple mechanical changes. The import to the surgeon is that where such favorable conditions are present he can do a myomectomy, opening, if necessary, a large part of the uterine cavity with little danger of infection. On the other hand, if the tubes be adherent, or a sloughing submucous myoma be present, complete removal of the uterus is indicated, the sloughing submucous nodule, of course, being removed some time prior to performing the hysterectomy.

These results are based on the gross or histologic examination of nearly one thousand cases.

Properties of Hydrogen Peroxid.—A good make of hydrogen dioxid is an efficient disinfectant and the best deodorant known. It will even banish the odor of putrid standing urine. It also arrests parenchymatous hemorrhage, and its efficacy in cleaning out wounds and loosening adherent dressings is bringing it more and more into use. It bleaches hairs, banishes freckles and is the only effective antidote known for hydrocyanic acid. It is also an excellent cleansing material for instruments, checking bacterial development.—*Allg. Med. Ct.-Ztg.*, lxxii, p. 195.

THE ILL-HEALTH OF RICHARD WAGNER.

GEORGE M. GOULD, M.D.
PHILADELPHIA.

(*Concluded from p. 297.*)

By no means is he out of the wood with his nerves, for he has to send apologies through Uhlig to another correspondent next day for not answering at once: "That sort of letter always takes a deal out of me." Not a word about the poem; nor in that to Liszt on the morrow, October 13.

"Nothing further to-day. Used up as I am, it would only be lame. . . . Your old tormentor, Richard Wagner." On the 14th, just three days after the "forced pause" has been made in his poem, the migraine seems to have renewed its attack: "I wanted to work, but felt so ill that I had to pass the whole forenoon on the divan, half asleep, half awake. There'll have to be an alteration in me."

That I have been unable to work to-day has terribly depressed me! How I should have liked a couple of days' outing—but the weather is too vile—regular 2d December!"

So Rheingold is half finished, apparently by October 10. That half has taken something like four weeks to versify, or as long as the whole of die Walküre last June, owing to its author's wretched health compelling him to work in snippets. And it must have been followed by another acute relapse, since not a line stands written to any of his correspondents between the 14th of October and the end of that month. November 1 we again hear of the poem at last, in terms that suggest its having been resumed about a week previously: "You'll get but a half a dozen lines to-day, dear friend (U.). After some interruption (through being unwell) I have arrived at devoting all my power of application exclusively to the completion of 'Rheingold,' and shall not stop myself to write long letters before I'm through with it. That, however, will be during the course of this week, at the end of which I therefore promise you a proper letter." November, 1852, began with Monday; by the 3d or 4th, then, "Das Rheingold" was finished as to its verses; for Uhlig is told on the 10th, "The middle of last week I completed my work, very much exhausted." Scarcely more than ten days can this second half of Rheingold have taken him, so that he must have doubled his "little hour" of late. As a matter of fact, the next letter to Uhlig will satisfy our minutest curiosity even on that point: "The postman comes at 11 every morning; I usually work from 9 o'clock until that hour, and therefore am already somewhat tired and in need of rest when my letters arrive. This places me in the alternative of either not answering at all or doing it as briefly as possible. If I put it off it's precisely the same next day, unless I stop my work entirely for one morning as happens when I mean to write a longish letter. From noon till bedtime I never write another line, except in the most pressing emergency."

When the poems of "Young Siegfried" and the "Walküre" were finished we found their author giving vent to the utmost joy; there is nothing of the kind to celebrate the consummation of the Rheingold poem. Partly due to the fateful lesson of the work itself, the greater share of this lack of elation must be assigned to the same cause that had impeded the poem's progress: excessive nerve fatigue. The letter that announces the event to Uhlig—and a very long letter it is, as a rest is being taken—for the most part consists of reflection on death and diet: "Let us be reasonable, dear friend, and recognize in utmost calm that every one of us bears within himself the genetic seeds of his own death, and that the only question is how to stave off that specific death as long as possible. With myself, e. g., everything tends to death through nerve consumption. . . . So long as I still have an object in life I wish to keep death from my throat, and for that reason adopt all feasible expedients to preserve myself. I purposely avoid all over-exertion, step out of the way of all over-excitement as much as possible, try to regulate my feeding and digestion, and aim above all at the utmost comfort, repose, agreeable impressions—so far as I can. I'm assured by many that I still may jog along awhile if I strictly observe this diet, and

analogies are making it credible even to myself. . . . Simple foodstuffs are not for such as you and me; we need the complex substances that offer the utmost nourishment with the smallest demand on the power of digestion. Our rule should be to eat often, little and good, at the same time to avoid all great exertion, even in bodily movements, but be careful for comfort and agreeable rest." It is the valetudinarian's gospel; but, when the invalid happens to have such an "object in life" before him as the composition of a "Ring des Nibelungen," it becomes his absolute duty to take care of himself for sake of the world.

The announcement of the previous day to Liszt (November 9) is more plainly despondent in tone, shadowed as it is by the failure of the Berlin scheme for Tannhäuser, the history of which precedes it in this letter. "With myself things are going from bad to worse each day; 'tis an indescribably good-for-nothing life I'm living! Of actual enjoyment of life I know absolutely nothing; to me the 'pleasure of life, of love' is purely a matter of imagination, not of experience. So my heart has had to pass into my brain, and my life to become a mere artificial one; only as 'artist' can I still live; into the artist has my whole 'man' been resolved.

"If I take account of my wretched state now normal to me, I can not but deem my nerves ruined; strange to say, however, these nerves do me the most wonderful service when put to it when sufficiently fine incentives come to me; then I have a clearness of vision, a sense of pleasure in perceiving and creating such as I never knew before. Ought I to call my nerves ruined then? I can not. Only, I see that—in the way my nature has developed—its normal state is exaltation, whereas the ordinary calm is abnormal to it."[2] 1852.

The same complaint of nerve fatigue that formed a running accompaniment to the Rheingold poem ushers in the revision of the two Siegfrieds: "I must stop; my head's getting bad." November, 1852.

Uninterrupted work has again strongly affected me, and the nerves of my brain are so overwrought that even these few lines put me in a state of violent excitement, wherefore I must ask you not to be angry if I make them very short. June, 1852.

I feel that I am still capable of doing good things, but only by keeping very strict diet, and especially by frequently interrupting my work and entirely diverting my thoughts before going on again. *Do.*

The "Valkyrie," the poem of which I finished on July 1, I wrote in four weeks; if I had spent eight weeks over it I should now feel better. In future I must adopt this course. *Do.*

Unfortunately, I can not reply to your letter as I should like to do; the nerves of my brain are once more in a state of great suffering, and for some time I ought to give up all reading and writing, I might say, all mental existence. Even the shortest letter wearies me terribly. . . . I only wish to explain to you why it is that to-day I must limit my communication to stating briefly what is absolutely necessary. . . . The work has been a perfect torture to me. This eternal communication by letter and print is terrible to me. September, 1852.

My nerves are not in the best condition, but I have begun again to work at my poem for an hour or so every day. October, 1852.

I am going from bad to worse every day, and lead an indescribably worthless life. . . . Perhaps you will soon be rid of me. November, 1852.

My terrible melancholy. January, 1853.

In case I should die during the work. February, 1853.

How long I shall endure this terrible joylessness I can not tell. About the middle of last month I was on the point of succumbing, and thought that I should soon have to follow my poor Uhlig. I was persuaded to call in a doctor, and he, a careful, considerate and conscientious man, takes much trouble with me. He visits me nearly every other day, and I can not but approve of his treatment. Certain it is that if I do not recover it will not be his fault. . . . For me there is no salvation but *death*. Would that it found me in a storm at sea, not on a sick bed. February 11, 1853.

I can only live in extremes—great activity and excitement and—most perfect calm. March 4, 1853.

My nights are mostly sleepless. March, 1853.

Whether the cure has been of any use to me the future must show, but on the whole I am not inclined to repeat it. At St. Moritz, July, 1853.

The foolish man wants to hear something from me about his book, but as soon as I bend my head a little towards theory the nerves of my brain begin to ache violently and I feel quite ill. *Do.*

Truly writing is a misery, and men of our sort should not write at all. Aug. 7, 1853.

I am in a miserable condition, and have great difficulty in persuading myself that it must go on like this, and that would it not really be more moral to put an end to this disgraceful kind of life. . . . To cure my sick brain the doctor has prevailed on me to give up taking snuff altogether; for the last six days I have not taken a single pinch, which only he can appreciate who is himself as passionate a snuff-taker as I was. Only now I begin to perceive that snuff was the solitary real enjoyment that I had occasionally, and now I give that up, too. August, 1853.

I am back again in Zurich, unwell, low-spirited, ready to die. . . . At Genoa I became ill, etc. September, 1853.

I have many things to tell you, but my head is burning. There is something wrong with me; and sometimes with lightning-like rapidity the thought flashes through me that it would be better after all if I died. December, 1853.

The Rheingold is done, but I also am done for. January, 1854.

I went to this music (Rheingold) with so much faith, so much joy; and with a true fury of despair I continued, and have at last finished it. *Do.*

With my terrible care my violent nervous disorder has also returned. *Do.*

. . this having to make a clean copy kills me. . . . the continual writing tires me to such an extent that I feel quite ill and lose the inclination for real work. March, 1854.

This dislike of work (composition) is the worst feature of all. I feel as if with it eternal night were closing around me. May, 1855.

My frequent nervous headaches. Letter to Wesedonck from London, 1855.

My mental disharmony is indescribable; sometimes I stare at my paper for days together,[3] without remembrance, or thought, or liking for my work. Letter to Liszt, July, 1855.

After much trouble the first half of the Valkyrie, including a clean copy, has been finished. . . . For the last week indisposition has prevented me from doing anything, and if this goes on I almost doubt whether I shall be able to finish this work from the sketches. *Do.*

I am making a tentative effort to rise from the sick bed on which I have lain again exactly three weeks . . . I have suffered from continual attacks of erysipelas of the face. December, 1855.

I am again, or rather still, unwell and incapable of anything. January, 1856.

I am continually at war with my health and fear a relapse at any time. *Do.*

I am waiting to see what my health will do; my doctor wants to send me to some watering-place, but to this I will not and can not agree. During 1856.

Again on a sick bed. To-day I am scarcely recovered, and fear another relapse. . . If I could only be well again! . . Another attack of erysipelas. . . This abominable illness has brought me very low. . . The slightest disorder of my stomach immediately affects my complaint. *Do.*

In that terrible month of May I was able only to look at your scores with a tired eye, and as through dark clouds. *Do.*

2. Compare this with the experience of Carlyle (v, p. 70, *Biographic Clinics*), who in the same way and from the same reason had to work "in a red-hot element," "with his heart's blood in a state of fevered tension," etc.

3. Compare similar expression by Carlyle.

My only care now is the perfect recovery of my health. *Do.*

God knows I castigate my flesh by this cure . . . placed myself under Dr. Vaillant who conducts a hydropathic establishment here. . . . I feel sure of being completely cured of my ailment, which, after all, was caused by nervousness. July, 1856.

During my cure I must not think of doing any work. *Do.*

My catarrh has developed so that I may hope it will rid me of my usual winter illness. My health, too, is once more so bad that for ten days after I had finished the sketch for the first act of Siegfried I was literally not able to write a single bar without being driven away from my work by a most alarming headache. Every morning I sit down, stare at the paper, and am glad enough when I get as far as reading Walter Scott. The fact is I have once more overtaxed myself, and how am I to recover my strength? With Rheingold I got on well enough but the Valkyrie caused me much pain. At present my nervous system resembles a pianoforte very much out of tune. January, 1857.

Imagine that for a week and a half I have not been able to move from my chair. This illness was just what was required to finish me up. I had just resumed my work a little after a gastric and nervous indisposition, when I was obliged to give in again. December, 1858.

The weather is bad; I am absolutely alone, and seldom in the right mood for work. So I drag on amidst mists and moods. 1858.

My health still gives me much trouble. 1859.

My health is ruined for want of life and action. *Do.*

The last act of this child of sorrow (Tristan) is now on the verge of "to be or not to be"; a slight pressure of some spring of the vulgar fate, at whose mercy I am, might kill this child at the very moment of its birth. Everything with me depends now upon the turning of a hand; there may be a way, and there may be a stoppage, for I, my Franz, am in a bad way. . . . How miserably weak I feel as a musician. I know in my heart that I am an absolute blunderer. You ought to watch me when I am at it; now thinking "it must do after all," then going to the piano to puzzle out some wretched rubbish, and giving it up in a state of idiocy. 1859.

I feel as if I should break down in sight of the goal. Once at least every day I look at my book (Tristan) with a right good will, but my head is waste, my heart empty, and I stare at the mist and the rain clouds which, ever since I have been here, have debarred me even from the chance of shaking up my stagnant blood by pleasant exertions. . . work alone is to help me, but who is to help me to the possibility of work? 1859.

I have been severely ill these four weeks and my recovery is scarcely noticeable. I am still extremely weak. . . . I begin to perspire, and can write no more. *Do.*

I cannot write at greater length . . because I must absolutely conclude these lines. *Do.*

I am very slowly regaining my strength. What impedes my recovery, and indeed makes it impossible for the present, are the extraordinary exertions and excitements to which I have to expose my health, which is gradually coming back to me. . . . The proofs of Rheingold, which Messrs. Schott would have liked so much to have published at Christmas, have been lying on my table for seven weeks without my being able to make any progress with them. Letter to Liszt, 1860.

I seek rest and happiness no longer, but only breathing space for new labors, from which I reap the least enjoyment. 1860. Letters to M. v. M.

His exertions brought on a serious illness which threatened to develop into brain fever. Ellis, 1860.

I am doing my best, at the doctor's orders, with all kinds of strengthening diet. 1860. Letters to Wesedonck.

Through my weeks of illness. *Do.*

A night slept through from 1 to 8 a. m., is an ideal happiness to me which I only taste as an utter rarity. 1861. *Do.*

. . . traveled to the south of France by his doctor's advice. 1865. *Do.*

A doctor, whom I have consulted, recommends me Cannes. 1864. Letters to E. W.

I was hindered by terrible sickness from continuing my journey that day. *Do.* 1864.

"People often call me irascible, when I am simply ill," he used to say. (Fink.)

From 1866 to 1872 at Triebschen, Wagner displayed a creative activity which was simply incredible. (Chamberlain.)

Happiness has no history. The six years at Triebschen were the happiest of his whole life. *Do.*

Truly all our politics, diplomacy, ambition, feebleness, science—unfortunately, too, all our modern art—all these parasitic growths upon our life have no other soil upon which they flourish than our ruined stomachs. Letter to Liszt. (He seems to have thought vegetarianism "the keystone of regeneration.") We must abstain from meat and alcoholic drinks. Only adopted late in life.

I shall devote next summer to nothing but the possible recruiting of my health—for which on account of the wearing and increasing pains in my abdomen, I think of taking a very protracted course of waters at Marienbad and so on. If I find myself restored to health, etc. . . . In one of my perpetually sleepless nights I have tried to gain a little ease, etc. Letters to Heckel, 1876 (p. 99).

In 1878 a medical examination showed amyloid degeneration of the liver, spleen and kidneys. (Ellis.)

I am at the commencement of a course of waters, which may be very prolonged, etc. He had "a serious illness" in 1880. (Serious organic diseases at this time set in.) *Do.* p. 118, 1879.

Only to-day do I write you, as this mournful business had to be postponed because my health is such that my dear wife was afraid even to impart to me the news of the sudden death of your father. *Do.* p. 127, 1882.

During the last few months there was much dyspnea, especially after meals, but he was also busy writing several hours every morning. (Ellis.)

He died February 13, 1882.

The necropsy showed a much dilated stomach, internal inguinal hernia, much dilated heart, with fatty degeneration. Death occurred directly from rupture of the right ventricle.[4]

Headache, "sick headache," "dyspepsia," "nervousness," melancholy, insomnia, indescribable suffering—these were some of the more prominent symptoms that, in various mixtures, rendered so miserable the lives of DeQuincey, Carlyle, Darwin, Huxley, Browning, Whittier, Spencer and Parkman. Some had some of the symptoms all of the time, some had all of them some of the time. Wagner had all of them all of the time. All of them found these symptoms exactly proportioned to the amount of reading and writing that was attempted, and when the eyes were driven to their unphysiologic function the symptoms increased in intensity until life itself was threatened either by the disease or by the despair of the patient. Darwin and Wagner kept up the sad belief in the therapeutic uses of hydropathy all their lives. Carlyle and Parkman tried it, but soon perceived the folly of it. Every one of the eight learned that the

4. The letters to Pusinelli, published in the Bayreuther Blätter in 1902, have been kindly sent me by Mr. Ellis. They bear dates from 1843 to 1878. They begin with "I have headache," and continue with complaints of bad weather and bad health; of growing old and loss of joy (aged 33); of increase of illness; working at composition with consequent frightful suffering; with prayer for peace, peace; moans at the uselessness of life; regrets at inability to get a good photograph; sleeplessness. Baths and douches drive him nearly crazy. There is longing for his natural joyfulness; reiteration of physical and mental exhaustion; the thought of suicide; emphasis of his irritability, and of his inability to write another line, etc.

An illuminative and instructive excerpt is this: "As regards my health, I appear to those who should know as an instance of a peculiar order of men destined to a long life of work. I am very sensitive and irritable, quickly becoming feverish and perspiring, but never really ill and recovering from indisposition so soon that I seem ridiculous."

This was in 1870, when presbyopia and the release from the use of his eyes brought happiness and peace. Thenceforth there is no complaint of functional disease.

only cure or relief to be found consisted in stopping reading and writing, i. e., in non-use of the eyes at near range, and in out-of-door exercise.[5] In addition to all the affections mentioned, Wagner had the mercuric artistic temperament, endured the bitterest mental anguish from non-recognition and hate of his musical work, and he was poor. He also suffered all his life from an intercurrent affection, erysipelas, which is a disease dependent on denutrition. There can be nothing in medicine more certain than that eye-strain causes denutrition; and nothing more certain than that Wagner had terrible eye-strain.

It should be noted that Wagner was a "delicate boy," "a pale, slim little chap," needing to "pick up strength," not profiting by instruction, liking others to read to him, "preferred rambling," "roaming about the country," an excitable and fitful sleeper, shouting and talking in his sleep, etc. But the intellectual and keen mind soon realized the sense of responsibility, and the boy picks up his school work equal to the best from 9 to 14, but at 25 his features have "the look of wanness and suffering." All of which is an excellent description of eye-strain in children, and can be duplicated from oculists' case records many times.

At about 30 years of age an excess of writing work overtaxes his nerves so much that he has "often sat down and wept for a quarter of an hour at a stretch," and he is a constant victim of a feeble stomach. At this time an extreme amount of work with his pen brought on the idea of sudden death which under the same circumstances reappeared many times during his life, and seemed to drive him to suicide. The doctors warned him against work, said, "determination of blood to the head," ordered leaves of absence for three months, etc.[6]

With each increment of added accommodation-failure things go from bad to worse every year until at the age of 35 he feels "too old" for undertaking his greatest art-work. Depression and suffering, "brokendownness," always follow near-work, and especially so in winter, his "mortal enemy," when vitality was always lowered, because there was more confinement in the house, and hence more reading and writing. A hundred statements grow ever clearer and clearer that writing and reading are becoming more and more impossible, produce greater and greater suffering, and that after each opera, poem, or literary work the ill-health is more tragical. He can not even undertake "to make a copy," music-writing is "natural and easy," and yet at the very beginning of such labor he is warned that he will undermine his health. Finally "the nerves of his brain are so overwrought that the writing is reduced to two hours a day, instead of five or six as formerly, and the writing of a few lines of a letter "sets him in violent commotion." As all good oculists instruct their patients, so Wagner found by experience he had often frequently to interrupt even his two hours a day of eye-work. Every job of composition or writing "takes much out of him," and he has "to rest it off." Headache, sleeplessness, the "working by spurts," "with long interruptions," a hundred such expressions occur, and the fear of death, the longing for it, or the resolve to seek it, is constantly appearing. One could gather hundreds of such expressions as the following: "If my head were but better"; "I shall go mad"; "the sharp knife cutting into the nerve of my brain"; "feverishly tired in all my limbs"; "even this letter almost knocks me down"; "I *mustn't* write, because I can't"; "my head is nigh bursting"; "every letter knocks me terribly up"; "the nerves of my brain are so racked that I have had to give up all writing and reading for a while"; "I even work a *little* hour a day now"; "a short hour a day now off and on"; "I shall shortly go crazy"; "letter writing I am now convinced, once for all, severely taxes me, and you, therefore, may flatter yourself if I manage to fill even this sheet of paper"; "completed my work very much exhausted"; "from noon till bedtime I never wrote another line"; writing a "longish letter prevents all other work that day"; "I must stop, my head's getting bad"; "even these few lines put me in a state of violent excitement"; "I ought to give up all reading and writing"; "even the shortest letter wearies me terribly"; "my work has been a perfect torture to me"; "this eternal communication by letter and print is terrible to me"; "my terrible melancholy"; "my nights are mostly sleepless"; "as soon as I bend my head toward theory the nerves of my brain begin to ache violently, and I feel quite ill"; "truly, writing is misery, and men of our sort should not write at all"; "the Rheingold is done, but I am also done for"; "this having to make a clear copy kills me"; " I begin to perspire and can write no more"; "the proofs are lying on my table for seven weeks"; "farewell, I must stretch myself full length on the divan and close my eyes." One may excuse this poor patient for not recognizing the simplest conclusion that the eyes were at the bottom of all this suffering. One may with difficulty excuse the medical men of his day. But there is no excuse for the most cruel of crimes—the brutal obstinacy which to-day makes a few ultra-conservative physicians, and even some careless oculists, deny that such symptoms in thousands of patients are due to eye-strain, and are daily cured by its correction.

Even to-day men are wet-packed, as Wagner and Darwin were all their lives, for astigmatism. The silly superstition that there is any mysterious virtue in cold water has been, and is still, filling quacks' pockets and exhausting the vitality of numberless patients. Let one with open mind read the hydropathic histories of Darwin and Wagner, and not have his gorge rise with indig-

5. The alert-minded reader will find in his biographic reading constant proofs of the rôle of eyestrain which have hitherto escaped notice. For instance, of Adolph, the nephew of Richard Wagner, a man devoted to literary work, I find the following suggestive paragraph: "His bodily strength now commencing to fail, with the advent of maladies brought on by the sedentariness of his occupation, Adolf resumed his favorite exercise of old, long walks, which he did not abandon until a year or so before his death." "For a year and a half or more I suffered from excruciating headaches; neither the allopathic nor the homeopathic doctors, for all their promises, helped me in the slightest. Spring came; I tore myself from my work, said good-bye to thinking and trudged for several miles a day—and still am doing it in November, whenever the weather is not wet or boggy."

Perhaps a more striking case is that of Beethoven. At the age of 53, when presbyopic strain is usually at its height, says Mr. Ellis: From April to mid-August, 1823, the period in which the Ninth Symphony was actually written, Beethoven was a martyr to (neuralgic?) pain in his eyes, for the only time in his life. Nor was that all. August 16 he gives his nephew a catalogue of his various ailments, which are such that he fears "they will soon cut short the thread of life, or wear it gradually away." A few days afterwards he writes his Archduke Rudolf, from Baden, "I came here on the 13th, very ill, but am better now. I had recently been attacked again with my catarrhal affection; besides that my bowels are in the most wretched condition, and then also the trouble with my eyes; in brief, my organization was entirely shattered" (see Die Musik, 1902, pp. 1155-60). Save for the special symptom of the eyes, one might have mistaken it for Wagner writing to Uhlig.

6. As I write this a patient comes in bright and happy and healthy who two months ago was the absolute reverse of these things, and whose life had been made as miserable as that of Wagner, and from the same cause. In his melancholy and suffering his greatest danger had been suicide. Great nerve specialists had drugged him to stupor, or had "rested" him nearly to death. Luckily he escaped the hydropathist and Christian Scientists. On this same day I also receive bitter criticism from a great ophthalmic surgeon that I am an exaggerator and hobby-rider. A great rest-cure man does not even acknowledge the receipt of a complimentary copy of "Biographic Clinics." And so on.

nation! The sole good done by this nonsense to offset the enormous evil was that while shivering in dripping sheets the poor eyes and brain could not be doing reading and writing. Hence the little seeming good, the raised hopes—and the succeeding despair—when ocular strain was again resumed.

Wagner's clearest symptom was "sick headache"; migraine, megrim, hemicrania, nervous headache, or bilious headache are other names for this terrible affection. It causes a large number of other symptoms, and is itself of an infinitely varied type, according to the kind of near-work required, and the kind of organism of the patient. I have had thousands of patients with this disease, and 99 out of 100 were cured by spectacles alone. That sick headaches often disappear at the age of 50 to 60 is due solely to the fact that presbyopia makes eye-strain impossible. That the wrecked nervous system may sometimes go on exhibiting the symptoms after the exciting and direct cause has ceased, is a truism not only of medicine, but of common sense. "From 1871 onward he had an immense amount of business to transact," writes Mr. Ellis to me, "in connection with the building of the Bayreuth theater, etc., but of specific complaint of headache I nowhere find a trace in the later years." All the symptoms of Wagner's functional diseases ended with the establishment of presbyopia. The sick headaches, melancholy, fear of death, resolve to commit suicide, nervousness, insomnia, etc., and then, not because the King of Bavaria came to the rescue of this greatest of musical geniuses, not because the bad wife went and the good one came, not because success and popularity arrived; but it was because, his wife acting as an amanuensis, etc., he was not driven to the maddening eye-labor, and because presbyopia prevented the suffering which was the result of the least of such labor. One eye at last went out of function, and this helped also to establish some relief.

In Wagner's passport he is described as "wearing glasses." Outside of that simple statement no one ever seems to have seen him doing so, or spoken of the fact.[7] Mr Ellis has proof that seems to him pretty good that he did not wear them. It is of no consequence whatever. Any spectacles he could get would have neutralized his eye-strain. Were he living to-day he would in all probability not find any oculist or physician in Germany that would help him or care to help him in the one possible and effective way. There are a hundred oculists, nerve specialists and general physicians, even in the United States, who would smile scornfully at the idea that a patient having Wagner's symptoms could be cured by the correction of his ametropia. Fortunately there are hundreds of others who know the truth, and better, who practice it.

All through the latter part of Wagner's life he had one symptom, one of those which physicians call "objective," one that is alluded to, so far as I know, by no written word. In speaking to a great musician who knew Wagner, I mentioned this symptom, when he broke in with, "Of course! I had often observed the fact, but thought nothing of it." This symptom, which all of his physicians also ignored, comes out in most of the later photographs and the portraits, especially in those of Lenbach, the realistic painter. The left eye is turned out and up. Consult the portraits herewith reproduced. Some American oculists call this defect "hyperexophoria." In the effort to drag the eyelid away from and above the pupil of this eye the forehead is arched and wrinkled in concentric curves—an appearance noticed in many such patients. In the pictures in early life this combination of heterophoria and strabismus is not shown—because it did not exist. It had been overcome by strain, if it existed, and the strain had produced its effect.[8] Some of the later photographs do not show the outward and upward turning of the eye, a fact that demonstrates the temporary ability to overcome it by intense effort of fixation or concentration of the attention. This turning of the left eye upward and outward is, as oculists know, a result of ametropia, and especially of astigmatism and anisometropia. It was a relief of eye-strain, an effect rather than a cause of it—a fact that the "graduated tenotomists," the cutters and snippers of eye-muscles, forget.

A bungling newspaper headline of a review was "The Eye of Genius"—as if geniuses had a peculiar sort of eye-defect. The geniuses are few, the slaves of civilization millions. Even Wagner and Carlyle and DeQuincey, as poor as they were, could stop near-range ocular work when they were compelled to do so, or limit it to "a little hour" a day. Sewing women, typewriters, clerks, many students, teachers, all poor handicraftsmen and women can not do so. They must work eight or ten hours every day, and all days, with the same ocular defects as the "geniuses." The tragedies to them are therefore greater than to the geniuses. There is no greater cruelty, no greater crime against humanity, than this of non-recognition and scorn of eye-strain.

This evidence presented by the portrait painter and the photographer of Wagner would not be needed by the expert oculist to prove the fact of the cause of his lifetime of awful misery. It adds the demonstration needed to convince general physicians and intelligent laymen. Many thousands of such non-medical persons who have been cured of appalling sufferings like those endured by Wagner would not need such a proof. The mere reading of the list of quotations I have gathered would make them shudder to think of their own past experience. Multitudes of others still await the finger of a divine science on their eyes. But that touch must first come to the eyes of the physicians, too many of them still blind by prejudice and tradition.

7. What Wagner thought of spectacles may be gathered from a sentence in a letter to Friederic Nietsche, written in 1874: "Overbeck delights me, because so far he has been able to do without glasses." Of course, his contempt was justifiable, and would be so to-day were he living in Germany.

7. Even in the later photographs the ocular defect is not always shown, chiefly probably because he was able by intense effort to overcome it and secure "binocular fixation." In a letter to Dr. Pusinelli Wagner says that the constraint and mechanical preparation for being photographed rendered it very difficult to procure a faithful likeness of his "so changeable expression." Whether "fixing" with both eyes or with but one would make a great difference in the expression. The vertical wrinkles between the eyes are also proof of eyestrain.

Implantation of Adipose Tissue After Evisceration of the Eye.—M. Uribe Troncoso of Medico, editor in chief of the *Anales de Oftalmologia*, publishes in No. 11, Vol. IV, his application of the method of autoprothesis after evisceration suggested in 1901 by Barraquer of Barcelona, Spain. The latter reported a single case thus treated, but has not published the remote results. After evisceration he introduced into the cavity left a piece of adipose tissue slightly smaller than the missing eyeball. Troncoso performed the same operation on a nine-months' babe whose purulent ophthalmia neonatorum had been neglected. The piece of adipose tissue was taken from the buttocks and had healed into place without diminishing materially in size when the child was last seen, nearly two months later. He much prefers this autoprothesis to the use of paraffin or any other foreign body. Less suturing is required to hold it in place than a glass prothesis.

Clinical Reports.

A CASE OF OSTEOMALACIA (?).

JAMES R. MONTGOMERY, M.D.
BUCKHORN, PA.

Mrs. A. N. was a large, well-developed woman with good family history. Both parents died of old age. There is no specific history nor any reason to suspect any. She has never borne any children. I have been her physician since 1882 and she had no serious illness in that time until 1888, when she suffered from a severe attack of sciatica which lasted about six months.

Ten years later, in 1898, she fell on an icy walk, fracturing the right femur and the left humerus. Both bones united in the usual time and with good results. At this time I noticed that she was becoming decidedly stooped, but attached little importance to it.

Nine months later, while walking across the room she either tripped, or her leg gave away, and a fracture resulted at the site of the former one. This was set in the same manner as the previous one, but for three months the bones did not unite. At this time, suspecting softening, I put her on powdered bone and in six weeks firm union had taken place, though with considerable shortening, but owing to the weakness, the pain

on motion, and above all, the apathetic mental condition of the patient, she remained bedridden.

Soon after this the family removed to Bloomsburg and I lost sight of her.

Three years later, in March, 1902, I was requested to see her. At this time I found much emaciation of the upper part of the body and of the arms and a great increase in the size of the abdomen, pelvis and especially of both thighs. The left thigh was somewhat shortened and very painful. There was apparently total absence of the shaft of the femur in this limb. The mental deterioration was very marked. I prescribed acetanilid for the relief of the pain.

Several weeks ago Drs. W. M. Rebu and F. W. Redeker and I examined her. Her condition was pitiable. Her mental condition was one of extreme dementia. There was great emaciation of the upper half of the body. Her voice had that peculiar tone sometimes noticed in syphilis of the nose and throat. The bodies of the last three or four cervical, and nearly all the dorsal, vertebræ are apparently gone, seemingly, causing that part of the spinal column to arch back in a huge shapeless tumor. The abdomen is much enlarged and this, in connection with the emaciated upper half of the body, vividly recalls the pictures, so common a few years ago, of the poor famine victims of India. The pelvis is a shapeless mass and it is impossible to locate any of the usual landmarks. Both thighbones, as such, are absent and the thighs are drawn up and curved in a way that would be ludicrous were it not so pathetic. Her height, which in health was sixty-four inches, is now but forty-two, measuring from the left heel, while from the right one it is several inches less. The legs below the knees seem now to be undergoing the morbid process. The accompanying photograph, kindly taken by Dr. Redeker, will show her appearance.

The arms are partially paralyzed, probably from pressure on the spinal nerves. The bowels and kidneys are performing their functions in a normal manner. She suffers severely at times, but the pain is rendered bearable by the acetanilid. By my advice they have never given her opiates.

PAPILLOMA OF THE LIMBUS CONJUNCTIVÆ.

GEORGE H. HEILMULLER, A.B., M.D.
Ophthalmic Surgeon to Washington Asylum for the Blind.
WASHINGTON, D. C.

I was consulted by an optician about the case here illustrated and as I could not see the patient until three days later a collyrium containing boric acid and suprarenalin was ordered. The suprarenalin constricted the blood vessels of the wart, producing the intense white appearance. The larger vessels were not contracted to the same extent and hence appear more prominently on the photograph.

The patient had no warts on other parts of the body. It first appeared in October, 1902, and was then the size of a pin head.

The photograph being life size, the tumor needs no description, it being a simple cauliflower-like wart. The tumor is on the patient's right side, the white irregular spots on the left being the image of the photographer's screens.

It is interesting on account of the extreme rarity of its appearance in the limbus. Usually tumors of this region are malignant. It is the first case of the kind that I have seen in a service of one and one-half years as clinical assistant at the Royal London Ophthalmic Hospital, one and one-half years' study in the clinics of Germany and France, and five years' private practice. Papillomas are seen now and then in the region of the caruncle, from which they seem to grow.

The growth was removed by excision, the conjunctiva was not stitched, the bare surface being covered in 48 hours by proliferation of conjunctival epithelium. Microscopic examination showed a typical wart structure, i. e., vascular papillæ covered by epithelium and no tendency to infiltration of underlying parts by epithelial cells.

These warts must be thoroughly removed as they are prone to recur and also because they cause some disturbance of vision.

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SATURDAY, AUGUST 8, 1903.

THE RECENT ADVANCES IN OUR KNOWLEDGE OF AGGLUTINATION.

The agglutination or specific-serum test for typhoid fever has for some years held a deservedly high place as a practical aid to diagnosis, and it is now evident that the same test is becoming practically indispensable for the identification and differentiation of the numerous varieties of the typhoid bacillus, the dysentery bacillus, the members of the *B. enteritidis* group and allied forms. Every careful experimenter, however, has recognized the existence of manifold sources of error in the ordinary methods of application of this test, and will warmly welcome the recent advances in our knowledge which seem to lay bare the inner meaning of the phenomenon. It is, perhaps, more true of the agglutinins than it is of any other member of that remarkable group of bodies, brought to our knowledge by the researches of Ehrlich and his coadjutors, that immediate practical conclusions can be drawn from the somewhat abstrusely reasoned experiments.

Within the last twelve months the obscurity in which the real nature of the agglutinins has been shrouded has been illuminated by a series of remarkable investigations. It has been convincingly shown by Bail,[1] Joos,[2] Eisenberg and Volk,[3] and others that the agglutinins are bodies of complex constitution containing a combining (haptophore) and a functional (agglutinophore) group. When, for example, the serum of an animal that has been inoculated with a culture of the typhoid bacillus is heated to 65 C. or subjected to the action of weak acids, the functional group of the agglutinating substance is so altered that the heated or acidified serum is no longer able to produce clumping of the specific bacillus. The haptophore, or combining group of the agglutinins, however, in spite of this treatment, remains intact, as is shown by the observation that when the heated serum is added to a culture of the appropriate organism the bacilli, while not agglutinated, are so affected that they can no longer be clumped by the addition of unheated active serum. In other words, combination between the haptophore group of the heated agglutinins and the corresponding receptors in the bacilli has taken place, and when active serum is added to the bacilli, it finds the receptors already occupied, and is unable to manifest its agglutinating power. In a strictly homologous fashion, typhoid and cholera bacteria, when treated by heat or dilute acid, lose the power to be agglutinated, but remain still able to bind the agglutinin. The agglutinable moiety of the bacterial substance is destroyed by heat, but the combining portion persists. These researches of Eisenberg and Volk have been entirely confirmed by Wassermann.[4] We must, accordingly, assume the existence of two substances in agglutinable bacterial cells, namely, a stable, combining substance and a labile, functional substance, the integrity of the latter being essential to the production of visible agglutination. Corresponding to these two constituents of the agglutinable substance present in bacteria we must assume two similar groups in the agglutinating substance of the serum. Here again, one of these, the combining element, is stable while the functional is readily destroyed or altered by various agencies.

Wassermann[4] has sought to discover the relation that the agglutinins bear to the other substances present in immune sera, such as the precipitins and the amboceptors. The observation that the complete precipitation of an immune serum with a sterile bacterial filtrate destroys also the agglutinative power is taken to indicate that the agglutinin is one of the substances thrown down in the precipitate. That the agglutinin constitutes one of the elements of the precipitate produced by adding an excess of bacterial filtrate can, in the light of Wassermann's researches, hardly be doubted. On the other hand, this author concludes that the agglutinin and immune body (amboceptor), at least in the case of *Bacillus pyocyaneus,* are two completely independent substances. The agglutination test (Gruber-Widal reaction) and the immunity test (Pfeiffer's phenomenon) are, therefore, to be regarded as two separate and unconnected reactions, as, indeed, has been inferred on other grounds by a number of previous workers.

Wassermann's researches on the partial agglutinins led to the conclusion also already reached by some other observers, that biologically distinct varieties of bacteria may possess common receptors, so that differentiation on the basis of agglutinating properties is in many cases difficult, in some impossible. In differentiation tests investigators should adopt the rule that the extreme agglutinating value of the serum for the specific bacillus be used as a basis rather than any arbitrarily selected dilution standard. Thus a serum, the limit of whose agglutinating power is 1/20,000, can not be legitimately used for species differentiation in so low a dilution as a serum whose agglutinating power is only 1/500, since in similar dilutions the former would be much more liable to contain partial agglutinins for other species than the latter. It is further evident from the researches of Smith[5] and others that the reasons for the presence or absence of common receptors in biologically related species are by no means clearly understood.

Joos[6] has recently published investigations on the different agglutinins of typhoid serum, which demon-

1. Archiv f. Hyg., xlii, 1902, Heft. 4.
2. Zeitschr. f. Hyg., xxxvi, 1901, p. 422; xl, 1902, p. 203.
3. Zeitschr. f. Hyg., xi, 1902, p. 155.
4. Zeitschr. f. Hyg., xlii, 1903, p. 267.
5. Journal of Medical Research, ix, 1903, p. 270.
6. Centralbl. f. Bakt., xxxiii, 1903, p. 762.

strate with particular vividness how serious are some of the difficulties to the successful study of these substances, and how many pitfalls beset the steps of the unwary. This author has shown in a series of carefully planned experiments that living typhoid bacilli contain two different agglutinable substances which may be distinguished from one another by their different resistance to heat; one (the α-agglutinogen) is quickly destroyed at 60 to 62 degrees; the other (β-agglutinogen) can resist the action of this temperature for at least several hours. The inference from even this brief statement is obvious. Much work that has been done by previous students of the agglutinins is without sufficient regard to uniformity in the use of heated or unheated cultures, and it is evident that if Joos' statements are confirmed a fruitful source of error is here uncovered.

At least one important practical conclusion to be put to immediate use can be drawn from the results of all these researches, whatever value one may attach to the more or less theoretical interpretations by which they are accompanied. This is the need for extraordinary precaution in the whole technic of the agglutination test, whether the test be employed for diagnosing disease or for differentiating allied species of pathogenic microbes. It must be recognized that the agglutination phenomenon is a remarkably complicated process, and that apparently justified conclusions may be wholly vitiated by inattention to seemingly trivial details, such as the age, character and condition of the culture used for immunization, the ages of the serum as possibly influencing the formation of agglutinoids, the nature of the fluid chosen for diluting the serum, the degree of serum dilution, the age of the culture on which the serum is tested, alkalinity of the nutrient medium on which the culture is grown, the difference in the agglutinability of various bacterial stocks and many other factors. It is inevitable, if, from the purely human standpoint, perhaps somewhat unfortunate, that the whole tendency of advancing science should be to show that the apparently simple is in reality endlessly complex.

THE POINT OF ATTACK IN PULMONARY TUBERCULOSIS.

If one critically considers the number of points in medical science that are positively established he may be surprised at finding how very few they really are. There are not many topics, however hackneyed they may seem, that do not offer plenty of opportunity for fruitful investigation, for there are always new methods that can be tried, and new positions from which to view the facts. This absence of finished study does not, however, reflect on medical science, as might seem at the first thought. Every other branch of science is in the same condition, more or less according to its age and nature. It is told of a scientist who once made the remark in the presence of a number of his fellows that there was no subject that was not still open for fruitful research. The statement was questioned, with the result that the speaker agreed to undertake research in any topic that might be selected by his challengers. After some consideration "water" was chosen as being a substance that had been pretty thoroughly investigated. A long period of labor was followed by a monumental publication on this subject, in which were produced many new and important observations that added greatly to chemical and physical knowledge.

It might seem that the subject of pulmonary tuberculosis should by this time have been worked out to completion, in view of our familiarity with the disease and its cause, the enormous material it offers for study, together with the ease of its experimental production. However, the manner of production of the initial lesion, among other things, is still a matter of discussion, dispute, and study. For a long time we have been content with believing that the process started in some bronchiole or air sac, into which a bacillus had been inhaled, and where it happened to find proper conditions for multiplication instead of meeting the more common fate of being swept out by the cilia, or devoured by a phagocyte. However, there were always those who contended that the bacillus reached the lung by some other route than the bronchi; that is, by either blood or lymph, but they were in the minority. So recently as 1899 the question seemed settled by the elaborate research of Birch-Hirschfeld. In an enormous autopsy material he found a small number of cases, thirty-two in all, that offered proper conditions for the study, namely, a single active focus of the disease. Twenty-eight of these foci were located in the mucosa of a middle-sized bronchus, most often the one going to the posterior part of the apex, where, of its entire extent, the lung has the least respiratory movement. There were but three of the series that showed what appeared to be a primary interstitial lesion that might suggest origin in the blood or lymph vessels. The conclusions drawn from this study were that the prevailing idea was correct; that the bacilli that caused the disease had been drawn into the bronchioles, where, in the part of the lung least capable of removing them by coughing, they lodged, multiplied, and produced a tuberculous lesion. With an abundant material and acknowledged ability, this research of Birch-Hirschfeld seemed conclusive. Not so to all, however. Aufrecht,[1] soon after, published his reasons for believing that pulmonary tubercles usually arise from vascular lodgment of the bacilli, and he has urged this view consistently since.[2] The bacteria enter the blood, he believes, through the tonsils, or cervical, mediastinal or mesenteric glands, particularly the tonsils. They lodge in small branches of the pulmonary artery, where they produce an infarcted area, which soon becomes cheesy, constituting a tubercle. A miliary tubercle, according to Aufrecht, is a thrombosed vessel with thickened walls. In support of Aufrecht's views, we may call attention to the fact that numerous recent studies have indicated that tubercle bacilli do quite readily enter

1. Berliner klin. Wochenschr., June 25 and July 2, 1900.
2. See article in the Journal of Tuberculosis, April, 1903.

the blood stream without evident local lesion, notably through the intestinal mucosa into the thoracic duct. However, to most physicians the bronchogenic invasion will still seem the more probable.

And now comes a Russian, Abrikossoff,[3] who, pursuing the method of Birch-Hirschfeld of collecting suitable primary lesions, studied them in serial sections, with the aid of the elastic tissue stain. This stain rendered it possible to recognize structural landmarks too far altered to be recognized by other methods, and disclosed the fact that the center of the tubercle was really in a bronchiole, although the involvement of the vessels described by Aufrecht was readily seen. He believes that the process begins in the bronchial wall, and that the involvement of the vessels is secondary, although he was able to demonstrate that it is possible to produce foci of tuberculosis in the lung by injecting bacilli into the ear veins of rabbits; and these foci were in structure quite similar to the foci of bronchopneumonia observed in his human cases. His work, then, on the whole, agrees with the idea that primary bronchial location of the lesion is the rule, although indicating that it is possible to have quite similar lesions produced by bacilli reaching the lungs through the blood stream.

In this connection Grober's[4] experiments are of interest. He found that if suspensions of india ink were injected into the trachea of dogs, within six hours the particles could be found free in the pleural cavity. This, of course, indicates the possibility that primary tuberculosis of the pleura can be produced in a similar way by inhaled bacilli. If the ink were injected into the tonsils the pigment entered the cervical glands, and from there passed to the pleura, particularly that over the apex, but also some reached the pericardium and diaphragm. Thus another suspected route of invasion is proven to be possible.

NEW INVESTIGATIONS CONCERNING THE FIXATION OF TETANUS TOXIN BY CEREBRAL TISSUE.

When cerebral tissue is mixed with tetanus toxin, there occurs some form of union between the two which has been spoken of as a neutralization of tetanotoxin, due to its combining with the lateral chains or receptors of the nerve cells. This phenomenon was studied especially by Wassermann and Takaki, and by them and others marshalled into line as one of the strongest supports of Ehrlich's side-chain theory of cytolysis and immunity. Some recent experiments by Besredka and others are of interest in connection with the study of toxins. Besredka[1] finds that washed tetanized cerebral tissue (large quantity of tetanus toxin is added to the cerebral tissue of guinea-pigs, and after from six hours to three days the tissue is washed until the wash-water is wholly harmless when injected) produces fatal tetanus in mice in doses of one or two drops. This experiment certainly shows that more tetanotoxin is fixed by the cerebral substance than is neutralized. Besredka further shows that tetanus antitoxin has the power to abstract from tetanized cerebral tissue all the toxin it has fixed, thus leaving the tissue free to attach to itself again just as much toxin as before.

Dmitrievsky[2] endeavored to determine the relative amounts of antitetanotoxin in brain tissue and blood of immunized animals. He reasoned that if the overproduction of receptors in the nerve cells constitutes the source of the antitoxin, then the brain of immunized animals, at least at certain periods of immunization, would be richer in antitoxin than normal brains and than the blood of immunized animals' brains. He found that the blood of animals thoroughly immunized always contains more antitoxin than brain tissue, while this tissue in animals only partially immunized does not differ in its antitetanic power from normal brain substance. Whatever increase in antitetanic power—and it was always found to be only slight—there is in the brains of thoroughly immunized animals, Dmitrievsky ascribes to an increased amount of antitoxic blood retained in the hyperemic cerebral capillaries. The conclusion that the French investigators urge especially is that cerebral substance contains some principle that fixes tetanus toxin, but this principle is not the same as the antitetanin of antitoxic serum, and, consequently, the phenomenon of fixation of tetanotoxin by brain tissue can not be urged in support of Ehrlich's theory. It is not intended to do much more than merely to give the trend of these interesting studies. It may be pointed out, however, that, while cerebral tissue in the test-tube of Besredka's experiments failed to neutralize the tetanotoxin, it must be very doubtful, indeed, whether one is allowed to assume that brain tissue acts exactly in the same way when in the living body. At all events, the somewhat disturbing conclusions of the keen French investigators will be sure to stimulate the defenders of Ehrlich's theory to renewed inquiry.

3. Cent. f. Allg. Pathol., 1903, xiv, 369.
4. Deut. Arch. f. Klin. Med., lxviii, 296.
1. Ann. de l'Institut Pasteur, 1903, xvii, 138-147.
2. Ibid., 148-160.

A RADIUM CALCULATION.

A correspondent of the English periodical, *Nature,* has been calculating the amount of radium that would be required in the sun's composition to maintain its outgo of energy in the form of light and heat. Taking the most reliable figures as to the radiation of radium and of the sun, he finds that three and six-tenths grams in each cubic meter of the sun's bulk would be all that is required, excluding the possible, and, indeed, probable, conditions of the solar surface that would make even a smaller amount effective. These figures are rather startling, and aside from their general upsetting of accepted theories of the sources of solar energy, are formidable from another point of view. It is, perhaps, a fortunate thing that this new element, or whatever it is, is so scarce and hard to get. An ounce, or even a gram of radium might be an awkward thing to handle, and the isolation of a larger quantity be a positive danger to the community. In quantity, it might realize

the destructive powers of the "heat ray" used by the Martians in H. G. Wells' fiction, "The War of the Worlds." At present, the material has been studied just enough to excite the imagination, and its capabilities in that way seem limitless.

CHLOROFORM AND ITS DANGER.

The report of the special chloroform committee of the British Medical Association, published as a supplement to the *British Medical Journal* of July 18, especially that portion by Drs. Sherrington and Sowton, has a particular interest in view of the fact that, in spite of its known dangers, chloroform still holds its own as a popular anesthetic in surgery. The conclusions are, practically, that chloroform is a paralysant to the heart muscle; that it is rapidly taken up by the tissue, and that its paralyzing action is dependent in degree on the solution's percentage in the heart. They figure that 300 cubic centimeters of a 2 per cent. admixture of air and chloroform vapor in the arteries of a heart of an adult man would practically annul cardiac action. The practical application of this fact, however, requires further data as to the quantity reaching the cardiac arteries, the tension of the vapor in the mixture inhaled, etc. While a percentage of 2 per cent., or lower, of chloroform in the vapor inhaled is estimated to be within the limits of safety with moderate quantities inhaled, and a certain immunity is produced in the prolonged administration, the danger elements are not all eliminated. There still remains the possibility of idiosyncrasy which Sherrington and Sowton think existed in their experiments on cats, and which may in the more complex human organism be a still more serious probability. It is the unexpected that happens in accidents from anesthesia, and in chloroform we know that we have a direct cardiac poison, the absolute manageability of which under all conditions is by no means thoroughly established by this investigation. We can not fully indorse the view of the *British Medical Journal* that with inhalers supplying definite percentages, the probability of perfect safety in the use of this powerful agent is assured in the near future.

RESEARCH AND TEACHING IN CONNECTION WITH STATE INSTITUTIONS.

It is significant of the trend of the time to note that in several states active agitation in favor of the establishment of state pathologic institutes is going on. In New York the step has been definitely taken, and the Pathologic Institute of the New York state hospitals, as now reorganized and directed, promises to fulfill the expectations of its founders. Michigan has quietly advanced to the stage in which a separate building for the institute has been provided, equipment and salary assured, and it now remains to secure a director of this, a clinical and pathologic laboratory connected with the state university and a part of the state hospital's system of Michigan. The subject of a central laboratory has been brought to the notice of the board of control of the Iowa state hospitals. In Ohio the project was revived at the last meeting of the Ohio State Medical Association. Resolutions were adopted favoring the plan proposed by Ohlmacher in his paper[1] before the general session, and a committee appointed to advance the movement. The Ohio plan of having the initiative taken by the State Medical Association seems especially good, since this should tend to keep the control of the central laboratory in the hands of the medical profession of the state. As it is now organized, the medical profession of Ohio is in a position to secure favorable attention from the officials representing the people of the state, and with active work on the part of the committee the prospects for favorable results are bright. The day has passed when the various medical institutions of the states shall have fulfilled their duty to society by attending to administrative details alone. The medical profession and the intelligent public demand that these great hospitals with their thousands of patients and millions for maintenance shall be more than immense public hotels. Their vast material should be turned to the use of science. A small portion of the money set apart for their maintenance should be used toward investigating the nature, cause, treatment and prevention of the diseases for the care of which they are established. In the East, especially in Massachusetts and New York, a scientific spirit animates the medical staff of the state hospitals, several well-conducted laboratories are in flourishing condition, and contributions of scientific value have been produced. The movement is coming westward, as indicated by the facts above outlined, and it only remains for our state medical associations to vigorously bend their energies toward the realization of a scheme vastly important in its scientific and humanitarian promises.

Medical News.

ILLINOIS.

Swindlers Arrested.—Chester Parker and W. Fletcher Hall, so-called "magnetic physicians," who swindled many people of Peoria out of sums varying from $25 to $100 and decamped to Omaha, have been arrested there and will be brought back to Peoria for trial.

Quarantine To Be Raised.—Carterville, Marion and Murphysboro, which have been maintaining a quarantine against Herron, Williamson County, where there have been several cases of smallpox and ten deaths, have been requested to remove the embargo, as the situation has so improved as to render quarantine unnecessary.

Reforms at Dunning.—Superintendent Podstata of the Cook County Institutions at Dunning, announces that he will open a training school for nurses this winter. He has had on trial an attendant charged with having used violence to a patient, has found him guilty and discharged him, and has in hand an investigation of a charge of cruelty against a female attendant.

State Society Incorporated.—Incorporation papers of the Illinois State Medical Society were filed at Springfield, July 23. The object of the society is to promote the science and art of medicine. The incorporators are Dr. David W. Graham, Chicago; Otho B. Will, Peoria; William O. Ensign, Rutland; Henry C. Mitchell, Carbondale; L. J. Harvey, Griggsville; J. F. Percy, Galesburg; Carl E. Black, Jacksonville, and Edgar P. Cook, Mendota.

Chicago.

Held up and Robbed.—Dr. Charles M. Oughton was recently held up in front of his residence and robbed of a pocketbook containing $60.

Personal.—Dr. and Mrs. G. E. Fosberg sailed on the *Oceanic* for Liverpool, July 29.

1. The laboratory movement in Ohio's state hospitals.

Absurd Charge.—A constable who had left an umbrella in the office of Dr. T. Bassett Keyes, arraigned Dr. Keyes before a justice of the peace on the charge of larceny. Although the defendant's attorney made the plea that umbrellas were common property, the physician was acquitted.

Low Mortality.—Notwithstanding—or because of—the unusual character of the weather during the month just ended, says the Chicago Department of Health, the July death rate, 14.92 per 1,000 per annum, is more than 16 per cent. lower than the average of the ten previous Julys, which was 17.84. The highest July rate of the decade 1893-1902 was 24.43 in 1894; the average rate of the first five years was 21.15, and of the second, 15.12. This shows a decrease of nearly 30 per cent. in the two periods, and is evidence of the increasing healthfulness of Chicago. Had the death rate of the first half of the last decade still obtained there would have been 3,092 deaths last month instead of the 2,390 which actually occurred.

MARYLAND.

Baltimore.

Deaths.—There were 220 deaths for the week ended July 25, a rate of 20.97 per 1,000 per annum, that for whites being 17.06 and for colored persons 42.49; 100 were of children under 5; 42 new cases of typhoid fever were reported.

Summerers.—Dr. William Osler is summering at St. Martin's, Guernsey, England.——Dr. William E. Moseley sailed for Liverpool, July 24.——Dr. Harry Friedenwald sailed for Bremen, July 21.——Dr. J. Williams Lord will spend the next two months near Salem, Mass.——Dr. G. Frank Jones is at White Sulphur Springs, Va.——Dr. J. W. Smith is making a tour of Colorado.——Dr. Andrew H. Whitridge is in London. ——Dr. James A. Bond of Westminster, Md., is in Paris.——Dr. John G. Jay sailed for Europe, August 1.——Dr. John N. Mackenzie is spending August at Narragansett Pier.——Dr. B. Merrill Hopkinson is at Prout's Neck, Maine.

The Bahama Expedition Returns.—The expedition of investigation sent to the Bahama Islands, June 1, by the Baltimore Geographical Society and Johns Hopkins University, returned July 30. Many valuable data were obtained. Dr. Penrose, in charge of the medical department, examined 1,100 sick persons. Owing to the poor living and small fees of physicians, the natives have but little medical treatment. Leprosy and other skin diseases were very prevalent, and were closely studied. On several occasions the pilots and provision vendors were found to have leprosy. The degenerates of Abaco, descendants of the Torys, who intermarried closely, were studied. No yellow fever was found, and only two cases of malaria. Many species of mosquito were found and brought back to be studied by Dr. Howard, government entomologist.

NEW YORK.

Personal.—Drs. Charles Cary and A. L. Benedict, Buffalo, have returned from Europe.

Hospital Enlarged.—The trustees of the Buffalo General Hospital have added eighteen private rooms and nine semi-private rooms to the hospital.

Crippled Children Have Outing.—The little patients of the New York State Hospital for Crippled Children were the guests of the "Robins' Nest" at Tarrytown, a branch of the New York Hospital for Ruptured and Crippled, and had a very enjoyable outing.

Saratoga Spring Water.—The United States Government has sent Prof. F. B. Weeks of the Geological Survey to Saratoga to examine and prepare a report on the mineral springs of that section of the state. This report, containing scientific and reliable data, is to form a part of the novel mineral springs exhibit to be included in the World's Fair at St. Louis.

New York City.

Personal.—Dr. R. Husted Bell has assumed editorial charge of the *Medical Mirror*, as successor to the late Dr. I. N. Love. ——Dr. Henry L. Shively has been appointed a visiting physician to St. Joseph's Hospital.

False Death Certificate.—Dr. Frank A Bigelow, the physician in charge of the New York branch of the Koch Lung Cure, was held by Magistrate Hogan for trial in the Court of Special Sessions on the charge of making a false death certificate.

City Hospital for Consumptives.—The commissioner of charities has applied to the Board of Estimate for an appropriation sufficient to permit the erection of a new out-of-town hospital for consumptives. It is recommended that accommodations be provided for 500 patients, and that cheap wooden buildings be erected for dormitory purposes. It is urged, however, that the hospital grounds should cover 250 to 400 acres. It is estimated that the land will cost from $100 to $250 per acre, and that the annual cost of maintenance will be about $182,500.

Suit Against Hospital.—The death from burns of a patient who was being prepared for operation in the General Memorial Hospital has already been noted in these columns. The woman's husband has now begun an action in the Supreme Court against the hospital to recover $100,000 damages, alleging that the death of his wife was due to the carelessness and inexperience of the nurse who, instead of making use of the electric light, placed a lighted candle in a tumbler on the bed, and thus caused the ignition of the alcohol and ether which she was using. It is said that this suit involves certain novel points.

Office Thief and Crank.—Brooklyn and the upper west side of Manhattan have been "worked" by a young man of 22, calling himself variously Frank Edwardson, Edwards and Henderson, and giving an address as 2008 or 2274 Eighth Avenue. He is five feet six inches in height, weighs 130 pounds, has a clean shaven face, hollow cheeks and bad teeth, and dresses in a dark gray suit and dark gray felt hat. He gives his occupation variously as electrician and piano tuner, and complains of sudden attacks of choking due to spasm of the esophagus. He comes in with such an attack, but on engaging him in conversation it is noticed that his difficulty gradually subsides, and he impresses one as a nervous crank. His visits in a number of instances have been immediately followed by robberies.

PENNSYLVANIA.

Typhoid Epidemic.—An epidemic of typhoid fever is reported at Lancaster; the infection has been traced to the pollution of a well by a cesspool.

Investigation of Milk.—Two deaths at Johnstown, traceable to the use of drugs to preserve milk, are said to have prompted State Dairy and Food Commissioner Warren to undertake an investigation of the milk in the market. One thousand samples were obtained throughout the state. Of these, 75 per cent. contained formaldehyd or other preservative fluid. Many suits against dealers are likely to be instituted. A crusade has also been begun against the manufacture and sale of deleterious flavoring and coloring extracts used in beverages. Some of the manufacturers have been arrested and held in bail. The attorney-general has notified Commissioner Warren that he has ample grounds for prosecuting managers of almshouses and penal and charitable institutions of the state who furnish oleomargarine to the people under their charge.

Philadelphia.

New Hospital.—A new hospital, to be known as the Union Mission Hospital, is to be built by the John B. Stetson Company, on Fourth Street, below Montgomery Avenue. The hospital is to be a three-story fireproof brick structure, 65 by 102 feet. A roof garden will surmount the building.

After Toy Pistol Dealers.—Acting on the advice of District Attorney Bell, in a communication sent by him to Director of Public Safety Smyth, the latter has detailed detectives to investigate the sale of toy pistols from which resulted the recent deaths from tetanus. The district attorney will co-operate in the investigation.

Disclaimer.—In regard to criticism of the conduct of the Municipal Hospital, Director Martin positively disclaims any intention to criticise Dr. William M. Welch, for twenty-five years physician in charge. Dr. Martin is quoted as saying: "The feeling of the department is that the best and most efficient administration of the Municipal Hospital could be accomplished by a resident physician, but there is no intention of dispensing with Dr. Welch's services, since in the medical work of the city, in both ability and experience, he is invaluable." Dr. Welch's management of the institution was recently strongly endorsed in resolutions passed by the Medico-legal Society.

Polyglot Talks to Mothers.—The department of health has arranged to give a series of plain talks to mothers on the care of babies. Representatives of church guilds, day nurseries, college settlements and other charitable organizations arrange for the time and place of meeting. The following physicians have volunteered to give these lectures: H. C. Carpenter, W. S. Cornell, Frederick Fraley, Jr., Henry Golden, W. G. B.

Harland, Wilmer Krusen, W. W. Naylor, Francis Patterson, Robert N. Willson, and S. Doskow, D.D.S. Some of the talks have already been given, and part of them are to be given in foreign languages.

RHODE ISLAND.

To Suppress Smallpox.—Woonsocket has appropriated $1,600 in addition to sums previously appropriated for the purpose of suppressing the smallpox epidemic in that city.

Smallpox at Valley Falls.—On July 17, nine cases of smallpox were reported to the health officer, some of the patients being operatives in mills at Valley Falls, Central Falls and Lonsdale.

Fiske Prize Awarded.—The Caleb Fiske Prize of $250 for the best essay on "Auto-intoxication as a Cause and Complication of Disease" was awarded to Dr. W. Lewis Chapman, Providence. The subject for the prize essay next year is "The Action of Light as a Therapeutic Agent."

Free Camp for Consumptives.—The free camp for consumptives, prepared at Foster, under the direction of Dr. William H. Peters, Providence, was ready to receive patients, July 9. Out of 28 applicants for the open-air treatment, 21 have been accepted as cases in which the disease can be arrested.

TEXAS.

In Hadra's Memory.—The Dallas County Medical Society held a special meeting July 13 to take suitable action on the death of Dr. Berthold E. Hadra.

Texas Sanitarium.—The Texas Sanitarium, recently incorporated, has purchased 40 acres of land and buildings near Leona, and will complete and equip the buildings as a sanitarium.

Personal.—Dr. J. Shelton Horsley, El Paso, has accepted the chair of principles of surgery at the Medical College of Virginia, Richmond. He has also been elected to one of the positions of attending surgeon to the Memorial Hospital. He expects to leave El Paso on July 6, and after a vacation will locate in Richmond by the middle of August. Dr. Horsley has turned over interests in St. Luke's Hospital to Dr. C. B. Hanson.——Dr. John O. McReynolds, Dallas, has had conferred on him the degree of LL.D. by the Kentucky University.

UTAH.

Smallpox.—In Salt Lake City, on July 19, there were 10 cases of smallpox, and at Huntsville, where there are more than 15 cases, the citizens claim that quarantine laws are absolutely ignored.

Physician Acquitted.—Dr. Edward S. Payne, Salt Lake City, on trial for murder in the second degree for the death of Miss Anna D. Hill, who it was alleged died in his office after a criminal operation, in December last, has been acquitted.

Site for Isolation Hospital.—An eighty-acre tract of land near Terrace Heights has been selected as the site for the new isolation hospital for Salt Lake City, and bids were asked for the construction of a building to accommodate 75 patients.

Personal.—Dr. Haymond J. Powers, Ogden, who recently took aconite, mistaking it for other medicine, and was very ill for a time, has recovered.——Dr. Andrew J. Hosmer, Salt Lake City, has been appointed surgeon of the Salt Lake division of the San Pedro, Los Angeles and Salt Lake Railroad.

WASHINGTON.

Hoquam Hospital.—Hoquam is to have a new hospital, to cost about $10,000, with 35 ward beds and 16 private rooms. The building is to be completed October 1.

New Hospital for Spokane.—Ground has been broken for the new St. Luke's Hospital, Spokane, to cost about $26,000, all but $8,000 of which has already been subscribed.

Personal.—Dr. Thomas B. Curran, Tacoma, has been appointed county physician, vice Dr. Fred C. Miller, deceased.——Dr. H. W. Allen has been appointed health officer of Spokane, succeeding Dr. De Witt C. Newman, resigned.

Physicians Fined.—The Supreme Court has sustained the lower court in the case of Drs. James G. Stewart and Oscar V. Lawson, Seattle, convicted of conspiracy to obtain possession of the examination questions used by the State Board of Medical Examiners at its session in January. A fine of $500 was imposed in each case, and this fine, the Supreme Court holds, must be paid.

State Board of Medical Examiners.—On July 9 the State Board of Medical Examiners elected Dr. Frantz H. Coe, Seattle, president; Dr. H. A. Wright, Wilbur, vice-president; Dr. Philip B. Swearingen, Tacoma, secretary, and Dr. J. M. P. Chalmers, Vancouver, treasurer.——Dr. Caspar W. Sharpless, Seattle, has been appointed a member of the board, vice Dr. William C. Cox, Everett, term expired.

WISCONSIN.

Damages Awarded.—In the suit of Peter Hay against Dr. John Baird, Superior, for alleged malpractice, the jury awarded the plaintiff damages of $4,624.50.

Insanity on the Increase.—The report of the State Board of Control for the fiscal year ended June 30 shows an increase of 197 cases of insanity in the state, or nearly four per cent.

State Board Changes.—The item regarding Dr. L. E. Spencer, Wausau, in THE JOURNAL of June 20, was incorrect in this particular, that he succeeded Dr. J. Henry McNeal, Fond du Lac, term expired, as member of the State Board of Health, and not Dr. George W. Harrison, Ashland, who is still a member of the board.

Medical Examiners.—At its meeting in Madison, July 16, the board elected Dr. John R. Currens, Two Rivers, president, and Dr. Filip A. Forsbeck, Milwaukee, secretary and treasurer. These officers, and Dr. John V. Stevens, Jefferson, were chosen to represent the board in regard to interstate reciprocity of license.——Drs. Adellon P. Andrus, Ashland, and Frank P. Klahr, Horicon, have been appointed members of the board, succeeding Drs. Harvey B. Dale, Oshkosh, and Charles E. Quigg, Tomah. Dr. Wilbur T. Sarles, Sparta, and Louis F. Bennett, Beloit, have also been appointed members of the board.

GENERAL.

Opium Investigation.—The Philippine commission has appointed a committee to co-operate in an investigation of the use of opium in Japan, China, Singapore and Burmah. Major and Surgeon E. C. Carter, commissioner of public health in the Philippines, Bishop Brent of the Episcopal Church, and Dr. Albert are the federal members of the committee.

CANADA.

Montreal May Build a Hospital For Consumptives.—The medical men of Montreal are presenting to the city council at its next regular meeting an important petition. This is backed by the provincial board of health, and will call on the city to vote a generous sum for the erection of a hospital in Montreal for the treatment of tuberculosis.

Annual Report of British Columbia Board of Health.—Dr. C. J. Fagan, secretary of the British Columbia Board of Health, has issued his annual report. He states that the scheme for the establishing of a sanitarium for tuberculosis has now so far developed as to be capable of being put into practical operation within a short space of time. A site has been selected near Kamloops.

Vaccination in Montreal.—Over three thousand children left the Montreal schools this year refusing to be vaccinated. Last year the number debarred totaled 4,917. Dr. Laberge states that there is a steady growth among the citizens in favor of vaccination. That vaccination is beneficial has been abundantly proven in Montreal by the fact that of the last three hundred cases in that city, but one had been properly vaccinated. It is proposed to so amend the vaccination law as to leave pupils no option in the matter.

Smallpox in Cape Breton.—The spread of smallpox in the town of Sydney Mines, C.B., continues unabated, despite the efforts of the health authorities to check it. There are at present thirty cases in the hospital, and some fifty cases under quarantine. The people are averse to carrying out the instructions of the health authorities, hence the failure in the attempts to check the spread of the disease. General vaccination has been ordered, and four or five medical officers are conducting these operations. The disease has been prevalent in the town since May, since which time there have been upward of 100 cases. The town is isolated from outside intercourse as far as possible.

A Handsome Bequest to McGill Medical Faculty.—By the will of the late Mr. James Cooper of Montreal, the medical faculty of McGill University receives $60,000. The benefaction takes the form of an endowment to establish and maintain a chair of internal medicine, on lines to be determined by the medical faculty themselves. The fund is to be known as the Cooper Endowment Fund, and is to be payable two years after the date of death. A sum of $25,000 payable at the same time as above, is also left to the hospital for crippled children now

being organized by Dr. A. McKenzie Forbes, to be known as the Children's Memorial Hospital to Our Late Queen Victoria. Drs. T. G. Roddick, M.P., and Charles F. Martin are two of the executors of the will, and the residue of the estate is to be disposed of as the executors see fit within the next twenty years among the following institutions: The Montreal General Hospital, the Brewery Mission, the Salvation Army, and the Y. M. C. A.

FOREIGN.

The Journal of the Royal Army Medical Corps.—The first number of this journal, the official organ of the British military medical service, has just appeared. The first number contains interesting papers on hospital arrangements on transports, reports of surgical cases, and an account of the medical relief expedition to Martinique and St. Vincent last year. These, with other matters of interest especially selected for the class of readers whose patronage is expected, make a very creditable number. The journal is being issued monthly under the editorial management of Major R. H. Firth. Its appearance and general make up is excellent.

Hospital Training Required of German Students.—The medical students of the University of Berlin protest against the new regulation which requires that all who have not finished their course and taken their state examination before Oct. 1, 1903, will have to pass through the practical hospital year. This regulation affects those students who, during their studies, have exhausted their financial resources. There are many who have acted as assistants in the different departments, but this will not be credited to them as an equivalent. The students of Halle and Heidelberg have also protested to the chancellor of the empire against the new regulation.

The plague in Sydney reappeared June 20, only one case being reported, and no more occurring up to June 29. It is interesting to note that 115 rats infected with the plague had been found among those examined since March 12. A bounty of a sixpence a rat is now paid at Sydney. The destruction of rats has been continued ever since the epidemic that ended June 12, 1902, but with poor success in certain quarters of the city, where private parties failed to avail themselves of the means of extermination. Other cases of plague occurred May 24 and 25 in Brisbane and Perth, one each. A suspected case was isolated, June 25, in Auckland, N. Z.

Quacks in Germany.—Inquiry recently instituted as to the increase of quacks in German towns, brought out some interesting facts, though the replies to the inquiries were not as general and complete as was desired. In the province of Breslau, there were reported 228 quacks and 98 cases of malpractice, with 17 deaths at their hands; of these, 44 occurred in the town of Breslau, with two deaths. Of the 228 quacks, 141—113 men and 28 women—throve in the town of Breslau, and 70 who were not resident there treated Breslau patients, and visited occasionally. In the Rhine province, the inquiry brought out the result that from the 2,351 resident physicians in 539 communities, there were received 86 reports from 71 localities, which gave account of 288 quacks in 198 towns. Of these 288 quacks, 132 were reported from the province of Dusseldorf.

Smallpox in Tasmania appeared at Launceston in June, and a dozen or more cases occurred in that month. Rigid quarantine was established, the running schedules of steamships were modified and business interfered with. Houses and streets were put under guard, the general hospital closed, all outgoing mail fumigated and vaccination was general. New South Wales declared Tasmania an infected island, and took measures to keep smallpox out. The *Sydney Herald* remarks that there is perhaps no disease of which their people stand more in dread than smallpox. Australia has been free from it for many years. Partly because of supposed security by water isolation and partly because of trust in sanitary officers at the ports of entrance, vaccination has not been very general, and smallpox, it is thought, would deal severely with the people if an epidemic were once started.

Successful Mosquito Campaign at Suez.—According to a letter received by Major Ronald Ross from the secretary-general of the Canal Company of Suez at Paris, it appears that the measures taken by the local health authorities at Ismailia have almost completely eradicated the mosquito pest in that place. A permanent department has been created for oiling cisterns and pits, suppressing marshes and pools of water, and he thinks the number of cases of fever is very sensibly diminished in comparison with corresponding periods of former years. While the anopheles has not been completely exterminated, the recently-captured insects do not appear to be contaminated, while the culex mosquitoes, including, as Dr. Ross seems to think, the stegomyia, have almost disappeared. There is every reason to hope that the efforts will end in the complete extinction of malaria in the town of Ismailia.

Sanitary Problems in the Transvaal.—It is said that the South African medical authorities, especially in the Transvaal, are decidedly sluggish in sanitary matters, and the prospects of new outbreaks of plague are not just what might be desired. The local authorities seem to fail to appreciate the needs of sanitation, and in one case that is mentioned in the correspondence of the *British Medical Journal* they are directly interested in slum property and correspondingly opposed to measures that would tend to its sanitary amendment. The character of the obstinate persistency of the plague in Port Elizabeth has been alleged by the colonial secretary to be directly due to the opposition of the local authorities to the recommendations of the colonial health office.——A new rat-infested center has lately been discovered in Cape Colony, and it is possible that there may be a serious epidemic to follow. From the character of the population in the district the outlook in case such occurs is not hopeful.

Correspondence.

Reciprocity.

BURLINGTON, IOWA, Aug. 1, 1903.

To the Editor:—About a year ago you did me the honor of publishing my views about "the one simple and practical way of getting reciprocity in the practice of medicine," namely: amendment to that effect in the medical laws of all the states. I see in the current issue of THE JOURNAL that Vermont and Oregon have just such amendments, and while I am not vain enough to suppose that my views above referred to were in any way responsible for such action, I am none the less pleased to see that other people are as little visionary about this matter as I am.

H. B. YOUNG.

Surgical Treatment of Nephritis.

SAN FRANCISCO, July 24, 1903.

To the Editor:—I notice in THE JOURNAL, July 4, an article by Dr. A. H. Ferguson on the above subject, in which he refers to my experimental work on decapsulation of the kidney (*Annals of Surgery*, April, 1903). I wish to call attention to two points in which he is in error in his criticism of my paper. He says:

> It must be observed that in these experiments the kidneys of the dogs were normal and did not require additional blood channels for physiologic purposes, and also the organs were returned within the fatty capsule, which is but sparsely supplied with blood vessels.

It is true that the kidneys were normal, but it is also true that in two experiments, Nos. 4 and 6, an additional supply of blood was demanded; in the first instance by the renal artery of one kidney after decapsulation of the other; in the second instance by removing one kidney and leaving the other undisturbed. In meeting the demand for increase of function made on both the normal kidney and the decapsulated kidney, the perirenal circulation played no part. It was fulfilled by the enlargement of the renal artery and vein in both instances. In the latter part of the sentence, quoted from the article of Dr. Ferguson, he objects to my not having removed the fatty capsule, "which is but sparsely supplied with blood vessels." In reply to this objection to the validity of these experiments I would state that, in the dog, the peritoneum is closely adherent to the greater part of the surface of the true capsule, that there is no fatty capsule, and that, therefore, it can not be removed.

HAROLD A. JOHNSON.

Vaselin as a Menstruum.

OAKLAND, CAL., July 29, 1903.

To the Editor:—In the discussion on the paper "Treatment of Scarlet Fever, Its Complications and Sequelæ," by Dr. H. M. McClanahan, July 4, Dr. G. A. Hermann refers to the method of

preparing a 10 per cent. ointment of carbolic acid in vaselin, while the Doctor does not state that he uses this strength in the ointment. One would infer that he does, or why does he mention it at all?

I wish to emphasize the absolute pharmaceutic incompatibility of a 10 per cent. ointment of vaselin, a 5 per cent. or even a 3 per cent. ointment of this hydrocarbon, which is altogether devoid of oxygen; 2 per cent. carbolic acid is all it will take up; 3 per cent. can be made by mixing equal parts of carbolic acid and camphor and then adding the vaselin. Even a 2 per cent. must be most thoroughly macerated, and any fraction over this amount will cause the crystals to precipitate.

The tendency of carbolic acid crystals in any menstruum is always to coalesce, and this is the cause of the frequent carbolic acid burns we so often witness—not the 2 per cent., but the precipitated crystals in excess of this amount.

Highly oxidized oils, as lard or lanolin, will take up 25 per-cent. of carbolic acid or more; so will olive oil or cotton seed oil take up a considerable amount, but never petrolatum. The oxidized oils or fats are readily absorbed into the system. The non-oxidized or hydrocarbons never. Therefore govern your strength accordingly. I do not write this as a correction, but want to emphasize what the Doctor suggests and give a reason for it. Carbolated vaselin is a good external application in scarlatina, as it will, in a sense, prevent the absorption of the acid, but lard, lanolin and vaselin should never be considered under the same heading as a base for active poisons.

Again, the profession almost universally prescribe vaselin a proprietary article, the exclusive monopoly of one firm. If we would be more just to American manufacturing chemists, if we would be more technical in our scientific language, and more considerate of the price of prescriptions to our patients we would call it petrolatum.

M. Lewis Emerson, M.D.

Marriages.

W. T. McCarty, M.D., Bison, Okla., to Miss B. L. Folsom of Chicago.

Lawrence Newton Wheeler, M.D., Monrovia, Cal., to Miss Helen Grace French of Berkeley, Cal.

William B. Mantle, M.D., Albion, Iowa, to Miss Hattie Leah Sawyer of Mount Vernon, Iowa, July 15.

Arthur Tenney Holbrook, M.D., Milwaukee, Wis., to Miss Bertha Matson Andrews of Lombard, Ill., July 29.

G. E. Leavitt, M.D., Mason Valley, Nev., to Miss Mary Cecilia Johns of Georgetown, Cal., at Smith, Nev., July 1.

Deaths.

Louis D. Kastenbine, M.D. Bellevue Hospital Medical College, New York, whose reputation as a chemist was widespread, died from Bright's disease at his home in Louisville, Ky., July 29. He was born in Louisville, Jan. 1, 1839, and was educated in the public schools, graduating in 1858. While attending the high school he took a course in chemistry in the medical department of the University of Louisville, under Dr. James Lawrence Smith. He began the study of medicine at the University of Louisville in 1860, with Dr. Erasmus D. Force and A. B. Cook as his preceptors. When the Civil War broke out he attached himself to the Federal Army as an acting medical cadet, being assigned to the duty in Louisville at Military Hospital No. 4. After his graduation Dr. Kastenbine remained in New York some time, returning to Louisville and associated himself with Dr. E. D. Force. He was selected as the first demonstrator of anatomy of the Kentucky School of Medicine in 1865. Later he was made associate professor of chemistry in the University of Louisville. In 1878 he took the chair of chemistry and toxicology in the Louisville Medical College. A few years ago he resigned and accepted the chair of chemistry in the Louisville College of Pharmacy, in connection with which he became renowned as an analytical chemist. He was special examiner of drugs of the port of Louisville for the United States government.

Thomas Moore Rochester, M.D. University of Buffalo, 1878, of Brooklyn, for three years president of the staff of and later consulting surgeon and gynecologist for the Brooklyn Central Dispensary, attending surgeon to St. John's Hospital, special lecturer in physiology at the Long Island College Hospital, vice-president and for two years president of the King's County Medical Association, charter member of the New York State Medical Association, died from consumption, July 12, at the home of his mother in Rochester, N. Y., after an illness of three years, aged 48.

Edwin J. Miller, M.D. Jefferson Medical College, Philadelphia, 1896, of Intercourse, Pa., was thrown from his carriage in a runaway accident near Mount Airy, July 24, and sustained a fracture of the skull, from which he died two hours later, aged 35. He was a member of the Lancaster City and County Medical Society, the Pennsylvania State Medical Association and the American Medical Association.

John Phillips, M.D. Rush Medical College, Chicago, 1853, a member of the American Medical Association; for more than 50 years a resident of Stevens Point, Wis., who served both in the senate and assembly of his state, died at his home in Stevens Point, July 28, from heart disease following influenza, after an illness of several months, aged 79.

George W. Nash, M.D. Central College of Physicians and Surgeons, Indianapolis, 1888, a coroner of Marion County, Ind., from 1898 to 1900, died at his home in Indianapolis, July 26, from paralysis, aged 68.

Lawrence Stewart Edwards, M.D. Bellevue Hospital Medical College, New York, 1876, who served for two terms as coroner of Suffolk County, N. Y., died suddenly at his home in Patchogue, Long Island, July 25, from apoplexy, aged 48.

Clarence B. Le Van, M.D. Niagara University, Buffalo, 1888, died, July 26, at his residence in Buffalo, aged 39. He was a member of the Buffalo Academy of Medicine, Erie County Medical Society, and the Esculapian Club.

A. E. Rodgers, M.D. Medical College of Ohio, Cincinnati, steward at the Bonner Springs (Kan.) Sanitarium, was burned to death, July 16, while endeavoring to save the life of an aged and infirm patient, aged 33.

Charles A. Ring, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1872, professor of obstetrics in the Medical School of Maine, died at his home in Portland, July 8, after a long illness, aged 58.

Thomas C. Walton, M.D. University of Pennsylvania, Philadelphia, 1878, died at his home in Stroudsburg, Pa., July 10, from dropsy, after an illness of fifteen weeks, aged 49.

James Morgan Woodall, M.D. Vanderbilt University, Nashville, Tenn., 1889, died at his home in Estill Springs, Tenn., July 18, after an illness of two days, aged 36.

John Evans Walker, M.D. New York University, 1886, died at his home in Columbus, Ga., July 23, from cerebral hemorrhage, after an illness of only a few hours.

Edmund Brink, M.D. Berkshire Medical College, Pittsfield, Mass., 1856, died at his home in Saugerties, N. Y., July 21, after a prolonged period of ill health.

Arthur E. Graham, M.D. Vanderbilt University, Nashville, Tenn., 1885, died at his home in Handley, Texas, July 23, after a long-continued illness, aged 46.

Horace B. Van Norman, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1864, died at his home in Cleveland, July 9, after a short illness, aged 69.

James W. Blount, M.D. University of Pennsylvania, Philadelphia, 1845, died at his home in Kenansville, N. C., July 15, from heart disease, aged 80.

John M. Wilson, M.D. Medical College of Ohio, Cincinnati, 1851, died at his home in Williamstown, Ky., July 20, after a lingering illness, aged 71.

Abraham O. Scott, M.D. University of Pennsylvania, Philadelphia, 1853, died at his home in Fairfield, Pa., July 7, from senile debility, aged 78.

Pierre Forstall Choppin, M.D. Tulane University, New Orleans, 1884, of St. Patrick's, La., died at Covington, La., from la grippe, July 15.

I. C. Wait, M.D. Rush Medical College, Chicago, 1858, died suddenly from heart disease at his home in Juliaetta, Idaho, July 15, aged 70.

Charles A. Morin, M.D. Laval University, Quebec, 1890, died suddenly at his home in Thedford Mines, Que., July 24, aged 37.

Rachel H. Allyn, M.D. New England Female Medical College, Boston, formerly of Lowell, Mass., died at East Charleston, Vt., July 22, aged 93.

Boswell Ward, M.D. Rush Medical College, Chicago, 1860, of Indianapolis, died at Winona Lake, July 9, after a prolonged illness, aged 73.

Sardis B. Taylor, M.D. Starling Medical College, Columbus, Ohio, 1875, died suddenly at his home in Fremont, Ohio, July 15, aged 60.

Frederick William Payne, M.D. Harvard Medical School, Boston, 1866, died recently at his home near Boston, after a long illness.

Joseph J. Cox, M.D. Jefferson Medical College, Philadelphia, mayor of High Point, N. C., died at his home in that place July 19.

Walton H. Yager, M.D. University of Louisville, 1891, died at his home near Worthville, Ky., July 13, after a short illness.

A. V. Roberts, M.D. University of Pennsylvania, Philadelphia, 1848, died at his home in Mansfield, La., July 8, aged 78.

E. Barnes, M.D. University of Louisville, 1875, died at his home in Tulia, Texas, July 16, after a brief illness.

H. N. Sherrill, M.D., of Union City, Tenn., died at his home in that place from heart disease, July 18.

Book Notices.

THE AUTOBIOGRAPHY OF A THIEF. Recorded by Hutchins Hapgood. Cloth. Pp. 349. Price, $1.25 net. New York: Fox, Duffield & Co. 1903.

This work purports to be a true statement of a reformed criminal, evidently edited by a more accomplished literary man, probably a newspaper man. It is an entertaining work in its way, giving certain views of low life from the standpoint of the criminal, and it does not create a very exalted impression of the police arrangements or the politics of the City of New York and other places. In fact, it bears out to a very large extent the allegations in Josiah Flint's work on the subject of the grafter in politics. The author, or rather the individual whose autobiography is here given, claims to be reformed, and his editor seems to have faith in his reformation. It is evidently not based on a moral conviction of sin, but rather on a utilitarian realization of the unprofitableness of crime as a means of support. The individual evidently has had considerable experience since he has had three state prison sentences and wound up in an asylum for the criminal insane, to which last place he gives a decidedly bad name. This is a little ungrateful since it seems to have been the principal means of his reform in breaking off the opium habit, etc. It is highly probable that his mental condition was such as thoroughly justified detention in such an institution, and he brings away the impressions based on his disordered mentality at the time. On the whole the work is a contribution to the sociologic literature of the day which has a certain tendency toward this kind of realism. We do not see any very great moral lesson to be derived from it, yet it is not directly bad in its tendencies, like the biographies of the James brothers and of other noted criminals that have so large and injurious a circulation. It is well to know something about the defects of the social organization and about the parasites that live on it. The subject of the autobiography evidently has a keen sense of humor and has done considerable reading in his prison detentions with the facilities there afforded. He does not, however, give us a high idea of discipline in our penal institutions. The book is suggestive of many reforms, and it may serve a useful purpose in this way.

HANDBOOK OF CLIMATOLOGY. By Dr. Julius Hann, Professor of Cosmical Physics in the University of Vienna. Part I—General Climatology. Translated, with the Author's Permission, from the Second Revised and Enlarged German Edition, with Additional References and Notes, by Robert DeCourcy Ward, Assistant Professor of Climatology in Harvard University. Cloth. Pp. 437. Price, $3.00 net. New York: The Macmillan Company, 1903.

This work, which is the first or general volume of a still larger one in the original German, is a valuable addition to our literature, not exactly medical, but scientific. Climatology, however, has many important medical bearings, and its value to the medical man, therefore, ought not to be underrated. The editor has added very largely to the references with the author's consent and has brought the work generally up to date. In fact, while the original work, as we take it, must have been much like the usual German works, deficient in matters more particularly connected with this country, the present volume is very complete in its American references and facts. It is, in fact, much better than the original, and the editor deserves the highest credit for this, though, as he modestly says, he has been careful to obtain Professor Hann's consent to every change that has been made. The work is not only full of information, but the information is in readable form. The remarks on mountain climate are full and complete, and only require a little common sense adaptation to have their value fully recognized from a medical point of view. The work contains a series of tables for the reduction of the metric and other scales to the ones originally used in this country as the metric system is used throughout in the text. The work should be a part of every physician's library.

HYGIENE AND PUBLIC HEALTH. By Louis Parkes, M.D., D.P.H., Lond. Univ., Fellow of the Sanitary Institute, and Henry Kenwood, M.B., D.P.H., F.C.S., Fellow of the Sanitary Institute. With Illustrations. Cloth. Pp. 763. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

This is the second edition of a compendium of hygiene, of which the first was based on an earlier work which ran through some eight or ten editions. The fact that a second edition has been required within a year shows that the book is appreciated. It has been well brought up to date and gives in condensed form the principal points which the student and general practitioner may require.

Miscellany.

Collodium in Treatment of Carbuncle.—Dr. Hauffe of Eilenburg calls attention to the far more rapid healing of a carbuncle when the immediate environment is painted with collodium. The hairs must be carefully shaved off and the center of the lesion treated with sublimate or otherwise as needed. The layer of collodium protects the sound tissues and exerts a gentle pressure, both of which favor rapid repair.—*Allg. Med. Ct.-Ztg.*, lxxii, p. 317.

The fifty-fourth annual session has passed into history. Yes, and with a success and eclat far beyond the most optimistic views of its most sanguine adherents and admirers. From the golden slopes trending toward the Pacific, from Maine, all along the Canada borders, and from the shores of the great lakes, from the extreme Northwest and Southwest, from the great metropoli of the east, Boston, New York and Philadelphia, with swarms from the central and southern states, did come the mighty leaders of the profession with many humbler followers of the healing art, who hope with a commendable pride to be leaders some day, all imbued with one dominant idea—to help, aid and assist their suffering fellow man by adding to, or attaining new ideas, new views, new methods for the relief of suffering humanity. On Thursday morning, between the hours of 10 and 11, in reply to an inquiry, the very efficient and courteous Chairman of the Committee on Registration, Dr. Rudolph Matas, replied, "We have just summed up and find that exactly 2,000 have registered—and here is another," he interpolated, as a registration card, with its accompaniment of $5, was handed over our shoulder. To which we heard an enthusiast near by exclaim, "Johnny on the Spot." That the registration went beyond the 2,000 mark, there were other late comers, and those who had been too busy or negligent to register up to this time, as is always the case, is most gratifying indeed.

This session being held so close to the warm season, on the very edge of the country, in a city, it is true, of over 300,000, yet bounded on one side for many miles by a sparsely inhabited section of our country, as contrasted with other cities in which the Association had met, and on the other by the Gulf—we can but consider the attendance most remarkable, and as a strong

and striking evidence that the method of organization is now on the right road.—*Southern Practitioner.*

State Boards of Registration.

Ohio Report.—Dr. Frank Winders, secretary of the Ohio State Board of Medical Registration and Examination, reports the examination held at Columbus, June 23 to 25, 1903, as follows: Number of subjects examined in, 9; total questions, 90; percentage required to pass, 75; written examination; total number examined, 91; number passed, 83; number failed, 8.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
170	R.	Ohio Medical University, Columbus.	1903	92 4-9
171	R.	Ohio Medical University, Columbus.	1903	88 2-9
173	R.	Ohio Medical University, Columbus.	1903	88
174	R.	Ohio Medical University, Columbus.	1903	89 6-9
175	R.	Ohio Medical University, Columbus.	1903	77 8-9
211	R.	Ohio Medical University, Columbus.	1903	92 8-9
216	R.	Cleveland Univ. of Med. and Surgery	1897	75
192	H.	Cleveland Homeopathic Med. College	1903	80 4-9
193	H.	Cleveland Homeopathic Med. College	1903	76 3-9
221	H.	Cleveland Homeopathic Med. College	1903	84 2-9
238	H.	Cleveland Homeopathic Med. College	1903	81 2-9
239	H.	Cleveland Homeopathic Med. College	1903	90 3-9
189	R.	Cleveland Coll. of Phys. and Surgs.		91 4-9
236	R.	Cleveland Coll. of Phys. and Surgs.		89 2-9
178	R.	Northwestern University Women's Medical College, Chicago.....	1895	83 3-9
184	R.	Northwestern University, Chicago..	1903	95 1-9
179	R.	Jefferson Med. College, Philadelphia	1900	84 4-9
188	R.	Jefferson Med. College, Philadelphia	1903	94 2-9
194	R.	Jefferson Med. College, Philadelphia	1903	95 6-9
195	R.	Jefferson Med. College, Philadelphia	1903	95 8-9
227	R.	Jefferson Med. College, Philadelphia	1903	87
180	R.	University and Bellevue Hospital Medical College, New York City..	1903	93 3-9
186	R.	Medical College of Ohio, Cincinnati.	1897	92
190	R.	Medical College of Ohio, Cincinnati.	1903	96 4-9
191	R.	Medical College of Ohio, Cincinnati.	1903	82 6-9
209	R.	Medical College of Ohio, Cincinnati.	1903	89 6-9
210	R.	Medical College of Ohio, Cincinnati.	1903	91 1-9
212	R.	Medical College of Ohio, Cincinnati.	1903	91 6-9
246	R.	Medical College of Ohio, Cincinnati.	1903	94 5-9
182	R.	Illinois Medical College, Chicago...	1902	84 8-9
183	R.	Columbian University Med. School, Washington, D. C.....		91
185	R.	Georgetown Univ., Washington, D. C.	1894	94 1-9
187	R.	Johns Hopkins Med. Schl., Baltimore	1903	94 1-9
196	E.	Eclectic Med. Institute, Cincinnati.	1903	89 2-9
197	R.	Starling Medical College, Columbus.	1903	84 3-9
199	R.	Starling Medical College, Columbus.	1903	94 3-9
213	R.	Starling Medical College, Columbus.	1903	84 3-9
214	R.	Starling Medical College, Columbus.	1903	89 5-9
215	R.	Starling Medical College, Columbus.	1903	89 6-9
219	R.	Starling Medical College, Columbus.	1903	86 8-9
237	R.	Starling Medical College, Columbus.	1903	85 2-9
198	R.	Rush Medical College, Chicago.....	1901	92 3-9
228	R.	Rush Medical College, Chicago.....	1903	94 2-9
229	R.	Rush Medical College, Chicago.....	1903	92 4-9
241	R.	Rush Medical College, Chicago.....	1901	85 3-9
200	R.	College of Phys. and Surgs., Chicago	1903	93 1-9
201	R.	College of Phys. and Surgs., Chicago	1903	87 6-9
203	R.	University of Michigan, Ann Arbor.	1903	93 5-9
204	R.	University of Michigan, Ann Arbor.	1903	92 3-9
205	R.	University of Michigan, Ann Arbor.	1903	92 5-9
240	R.	University of Michigan, Ann Arbor.	1901	96 1-9
206	H.	Univ. of Michigan, Hom. Med. Dept.	1903	92 8-9
207	R.	Univ. of Pennsylvania, Philadelphia	1903	91 3-9
244	R.	Univ. of Pennsylvania, Philadelphia	1899	98 3-9
267	R.	Univ. of Pennsylvania, Philadelphia	1903	91 5-9
224	R.	Miami Medical College, Cincinnati..	1903	96
247	R.	Miami Medical College, Cincinnati..	1903	91 1-9
266	R.	Miami Medical College, Cincinnati..	1903	93 7-9
218	H.	Chicago Homeopathic Med. College.	1903	88 4-9
220	R.	West. Penn. Med. College, Pittsburg	1903	91 7-9
222	R.	Detroit College of Medicine.....	1903	82 4-9
223	R.	Detroit College of Medicine.....	1903	81
225	R.	Detroit College of Medicine.....	1903	83 5-9
226	R.	Michigan College of Medicine and Surgery, Detroit	1903	89
230	R.	Baltimore Medical College.....	1903	82 6-9
233	R.	Baltimore Medical College.....	1902	97
243	R.	Baltimore Medical College.....	1903	93 5-9
231	R.	Western Reserve Univ., Cleveland..	1903	91
232	R.	Western Reserve Univ., Cleveland..	1903	91 7-9
234	R.	Western Reserve Univ., Cleveland..	1903	94 5-9
235	R.	Western Reserve Univ., Cleveland..	1903	85 7-9
242	R.	Medico-Chir. College, Philadelphia..	1903	96 4-9
245	R.	Women's Medical College of Pennsylvania, Philadelphia	1903	80 8-9
248	H.	Hahnemann Med. Coll., Philadelphia	1903	89
251	H.	Hahnemann Med. Coll., Philadelphia	1903	87
250	R.	University of Maryland, Baltimore.	1903	94 6-9
255	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	84
256	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	87 1-2
257	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	90 3-4
259	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	89 3-4
258	O.	Still Coll. of Osteo., Des Moines, Ia.	1903	90
260	O.	American College of Osteopathy, Medicine and Surgery, Chicago..	1902	82
261	O.	Southern School of Osteopathy, Franklin, Ky.	1903	91 3-4

FAILED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
172	R.	Columbus Med. College, Columbus, O.	1878	65 5-9
176	H.	Cleveland Univ. of Med. and Surgery	1894	63 1-9
177	H.	Homeo. Hosp. Med. Coll., Cleveland	1883	43
181	R.	Medical College of Ohio, Cincinnati	1879	68
202	R.	University of Naples, Naples, Italy.	1900	*
208	R.	Miami Medical College, Cincinnati..	1870	61 7-9
217	H.	Homeo. Med. Coll., Kansas City, Mo.	1889	†
252	R.	Kentucky School of Med., Louisville	1877	*

* Withdrew. † Dismissed from class.

Association News.

New Members.

New members for the month of July, 1903:

ALABAMA.

Williams, M. J., White Plains.

ARKANSAS.

Baker, Elwood, Dermott.
Grady, N. H., Monette.
Smith, Morgan, El Dorado.
Stephenson, C. C., Little Rock.

CALIFORNIA.

Hibbard, W. Edward, Pasadena.
Harris, Henry, San Francisco.
Voorsanger, Wm. C., San Francisco.
Clark, W. R. P., San Francisco.
Brady, G. T., San Francisco.

COLORADO.

Dyer, Harry Cheney, Segunda.
Beshoar, Ben. B., Trinidad.

CONNECTICUT.

Hazen, Robt., Thomaston.

FLORIDA.

MacDiarmid, John, DeLand.
Ryals, Chas. Howell, Dellwood.
McSwain, Daniel L., Arcadia.

GEORGIA.

Middlebrooks, James D., Powder Springs.
Barnett, Jas. Miller, Pretoria.

ILLINOIS.

Greenbaum, Edw. C., Chicago.
Lespinasse, Victor D., Chicago.
Dunn, Elizabeth Hopkins, Chicago.
Albright, J. L., Chicago.
Sage, Annie White, Chicago.
Brown, Josiah Scott, Chicago.
Hurlburt, S. R., Chicago.
Sonnenschein, Robert, Chicago.
Krout, Jacob B., Chicago.
Warner, Augustus S., Chicago.
Maclay, Otis Hardy, Chicago.
Baumann, Fred, Chicago.
Reichmann, Max, Chicago.
Quick, John Joseph, Chicago.
Kohn, Alfred D., Chicago.
Wolfe, Jos. G., Chicago.
Stillians, A. W., Chicago.
Nagel, John S., Chicago.
Bemis, Jos. G., Chicago.
Wylie, J. S. Matheson, Chicago.
Hunter, Mary P., Chicago.
Nelson, Engelbrecht, Chicago.
Doepp, William L., Chicago.
Bachelle, C. V., Chicago.
Abele, Ludwig H., Chicago.
Parks, Albert L., Leland.
Wernham, Jas. Ingersoll, Marengo.
Parker, Charles E., Sterling.
Mershon, G. E., Mt. Carroll.
Barbour, E. E., Magnolia.
Mitchell, James M., Pontiac.
Liesen, Anna M., Quincy.
Landauer, Seward L., Danville.
Rainwater, J. H., New Canton.
Carriel, H. B., Jacksonville.

INDIANA.

Glock, C. Marion, Coesse.
Yockey, D. H., Blountsville.
Fisher, Erastus Scott, Markle.
Schillinger, D. R., Richmond.
Sisson, E. R., Maxwell.
Ewing, U. B. G., Richmond.
Bartholomew, Alfred C., Logansport.

KANSAS.

McKay, W. T., Arkansas City.
Coffey, Hugh B., Pittsburg.
Powell, Lewis M., Topeka.
McCurdy, William C., Larned.
Kisecker, David Edgar, Caldwell.

KENTUCKY.

Taylor, Septimus Theodore, Bevier.
Smith, C. M., Dixon.

LOUISIANA.

Barnett, James Z., Bon Aml.
Simmons, Richard Oliver, Alexandria.
Clark, C. D., Mer Rouge.
Abshire, J. T., LeRoy.

MARYLAND.

Whaley, C. C., Baltimore.

MASSACHUSETTS.

McLaughlin, Henry V., Brookline.
Sullivan, Florence A., Haverhill.
Hannum, James W., Ludlow.
Roberts, Oscar S., Pittsfield.
Squier, Angelo O., Springfield.

MICHIGAN.

Dulitz, Paul C., Detroit.
Pedden, John, Petoskey.
Maddox, William H., Tecumseh.
Rigterink, John W., Freeport.

MISSISSIPPI.

Miller, John D., Brunswick.
Harris, William T., Rich.
Hayden, E. Forrest, Shaw.

MISSOURI.

Landaker, Chester L., Collins.
Craven, Y. D., Lawson.
Nulton, Ida M., Columbia.
McMichael, Austin, Rock Port.
Rothwell, Clarence A., Mexico.
Anderson, H. Claude, Kansas City.
Rohlfing, L. C., St. Louis.
Bradley, W. E., Ethel.
Shole, H. G., Paris.

NEBRASKA.

Tanner, Edward, Battle Creek.
Christensen, C. J., Hampton.
Wightman, William C., Wayne.

NEW HAMPSHIRE.

Berry, John J., Portsmouth.

NEW JERSEY.

Cossitt, Harry A., Morris Plains.

NEW YORK.

Daniels, John H., Buffalo.
Church, Thos. C., Valley Falls.
Nelson, Stuart W., Old Forge.
Goss, Alfred, Adams.
Satterlee, Albert R., Buffalo.
Weiss, George C., Mt. Vernon.

NORTH CAROLINA.

Johnson, Thos. Clarence, Tomahawk.
Anderson, Albert, Wilson.
Poole, C. M., Craven.

OHIO.

McClellan, James S., Bellaire.
Chamberlain, Robert C., Tiffin.
Johns, John, Martins Ferry.
Holland, Arthur B., Wellsville.
Beall, J. T., Coshocton.

OKLAHOMA TERRITORY.

Rosenberger, Francis E., Lawton.

PENNSYLVANIA.

McCormick, Louis P., Connellsville.
Douville, Jeffrey C., North East.
Heard, James Louis, North East.
Fogleman, A. P., Munhall.
Tracy, Stephen E., Philadelphia.

SOUTH CAROLINA.

Geiger, Chas. B., Manning.
Horlbeck, Henry, Columbia.

SOUTH DAKOTA.

Clemons, E. Jay, Aberdeen.

TENNESSEE.

Howlett, Kirby Smith, Franklin.
Goltman, M., Memphis.
Miller, J. Preston, Nashville.
McClain, Wm. Ashbury, Sweetwater.
Howell, J. J., Greenville.

TEXAS.
Dyer, J. O., Galveston.
Knolle, Otto J., Industry.
Perkey, Adrian Benton, El Paso.
Bennett, Thos. Joshua, Austin.
Johnson, Callerider L., Dallas.
Baldinger, Wm. H., Galveston.
Chambers, Rufus, Fort Worth.
Pettway, Thos. R., Austin.
Moore, John Hamilton, San Antonio.
Hogsett, Chas. Young, Dallas.
Wolf, W. M., San Antonio.
Rape, Wesley A., Victoria.

UTAH.
Freece, Margaret A., Salina.

WASHINGTON.
Gosnell, John C., Whatcom.
Harbough, Chas. C., Sedro Woolley.

WEST VIRGINIA.
McGuire, Thos. Jos., Parkersburg.
Rose, L. O., Hinton.
Dye, Victor Hugo, Sistersville.
O'Grady, Chas., Charleston.

WISCONSIN.
Edwards, Sherman, Oakfield.

Medical Organization.

Lavaca County (Texas) Medical Association.

This association held a meeting at Hallettsville, July 13. The next meeting will be held in Yoakum in August, when an effort will be made to organize the counties of Lavaca, De Witt and Gonzales into an organization.

Galveston County (Texas) Medical Society.

This society has been organized with quite a large membership. The following officers were elected: Dr. Charles W. Trueheart, president; Dr. Oscar C. Pabst, vice-president, and Dr. Joseph C. Ralston, secretary-treasurer, all of Galveston.

Leon County (Texas) Medical Association.

Physicians of Leon County met at Marquez, July 22, and organized a county association, with an initial membership of 19. Dr. Sam R. Burroughs, Buffalo, was elected president; Dr. William T. Evans, Jewett, vice-president, and Dr. J. H. Joyce, Buffalo, secretary and treasurer.

Yazoo County (Miss.) Medical Society.

Pursuant to a call from Dr. J. Augustus Crisler, councilor for the Fifth District, a number of physicians met at Yazoo City, July 23, and organized a county medical society. The following officers were elected: President, Dr. James P. Moore, Jr., Yazoo City; vice-president, Dr. John Darrington, Yazoo City; secretary and treasurer, Dr. John McCormick, Yazoo City.

Kaufman County (Texas) Medical Association.

This association met at Kaufman, July 14, and organized under the regulations of the state and National associations, with the following officers: Dr. William H. Monday, Terrell, president; Dr. Burrel J. Hubbard, Kaufman, vice-president; Dr. Willis J. Pollard, Kaufman, secretary, and Dr. Delana P. Hicks, Kaufman, treasurer. The next session will be held in Terrell October 13.

Moniteau County (Mo.) Medical Society.

At a regular meeting of the John McDowell (district) Medical Society, which has existed for twenty-five years, held at California, it was decided to disband. After adjournment *sine die*, twelve physicians of Moniteau County met and organized a county medical society, with Dr. John B. Stewart, Clarksburg, president; Dr. Philip Stephens, California, secretary, and Dr. Hugo C. Klueper, California, treasurer. The society will meet August 20 to perfect organization.

Wabasha County (Minn.) Medical Society.

At the thirty-fifth annual meeting, held in Elgin, July 9, it was voted to reorganize the society in conformity with the plan suggested by the American Medical Association. The following offices were elected: Dr. William T. Adams, Elgin, president; Dr. John C. Adams, Lake City, vice-president; Dr. William F. Wilson, Lake City, secretary; Dr. Emery H. Bayley, Lake City, treasurer; Drs. Joseph F. Bond, Wabasha, Jesse A. Slocumb, Plainview, and H. T. McGuigan, Millville, censors, and Dr. William F. Wilson, Lake City, delegate.

Travis County (Texas) Medical Society.

Pursuant to call from Dr. Thomas J. Bennett, Austin, councilor for the Seventh (Austin) District, 36 physicians of Travis County met at Austin, July 18, and organized a county medical society on the plan suggested by the American Medical Association and adopted by the Texas State Medical Association at its last meeting. The following officers were elected: Dr. Benjamin M. Worsham, Austin, president; Dr. Frank a Maxwell, Del Valle, vice-president; Dr. Matthew M. Smith, Austin, secretary-treasurer, and Drs. William T. Richmond, Manor, S. E. Hudson, Austin, and Thomas R. Pettway, Austin, censors.

Grant County (Wis.) Medical Society.

Of the 48 physicians of Grant County who had invitation to a dinner given by Lancaster physicians, July 23, 22 attended, and after dinner the Grant County Medical Society was organized. An informal meeting was held first, of which Dr. James Oettiker, Platteville, was made chairman, and Dr. John A. Gault, Lancaster, secretary. The following officers of the permanent organization were elected: President, Dr. Joseph Godfrey, Lancaster; vice-president, Dr. James Oettiker, Platteville; secretary and treasurer, Dr. Peter L. Scanlan, Lancaster; delegate, Dr. Jonathan C. Betz, Boscobel, and censors, Drs. James M. Lewis, Bloomington, John F. Metcalf, Fennimore, and Guerdon Buck, Platteville. The constitution and by-laws as suggested by the American Medical Association were adopted. The next meeting will be held at Lancaster September 10, when a literary program will be carried out. The place of meeting is to be decided at each meeting, but the time for meetings is the second Thursday of May, September and December of each year.

Societies.

Winnebago County (Iowa) Medical Society.—The annual meeting was held at Forest City, July 22. Dr. Harry R. Irish, Forest City, was elected president; Dr. Ferdinand A. Christensen, Lake Mills, vice-president; Dr. Luther Wall, Thompson, secretary, and Dr. Gissle M. Lee, Thompson, treasurer. The next meeting will be held at Buffalo Center.

Upper Peninsula (Mich.) Medical Society.—The ninth annual meeting was held at Sault Ste. Marie, July 15 and 16. The following officers were elected: Dr. Emil H. Webster, Sault Ste. Marie, president; Drs. Thomas M. Cunningham, Marquette, and C. Frithiof Larson, Crystal Falls, and Dr. S. Edwin Cruse, Iron Mountain, secretary and treasurer. The society will meet next year in Marquette.

Connecticut Members American Medical Association.—The second annual reunion will be held at Savin Rock, August 24. Members are requested to bring their families, and also any eligible candidate for membership in our organization. In order to facilitate the necessary arrangements for the dinner it will be desirable for all who propose to attend to send word before August 18 to the secretary, Dr. James M. Keniston, Middletown, Conn.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Thirteenth Annual Meeting, held at New Orleans, May 4, 1903.

(*Continued from page 330.*)

Revision of Constitution.

Dr. D. A. Thompson, Indianapolis, moved that the majority report be received and that the amendments as suggested be laid on the table. Seconded by Dr. P. Richard Taylor. Motion lost.

Dr. Randolph Winslow, Baltimore, moved that the proposed changes, if adopted, go into effect Jan. 1, 1906. Seconded by Dr. Geo. F. Jenkins.

Dr. A. R. Baker, Cleveland, offered as an amendment to this motion that the time be changed to July 1, 1905. The amendment was accepted by Dr. Winslow and his second and carried.

On motion of Dr. Walker the new Article III as amended by the committee preparing it, was taken up section by section before its final disposition.

Section 1 was read as amended.

Dr. Seneca Egbert, Philadelphia, amended this section by adding after the list of studies:

That certificates from reputable instructors recognized by the superintendents to be hereinafter mentioned may be accepted in lieu of any part of this examination.

On motion of Dr. Walker the section was adopted as amended.

Sections 2, 3, and 4 were then read and adopted as read.

Section 5 was then read. Dr. P. Richard Taylor, Louisville, moved to amend this section as follows: "That at least twelve months shall intervene between the beginning of any course and the beginning of the preceding course" be stricken out. Seconded by Dr. W. A. Evans, Chicago. Motion was lost. (Nays, 21; yeas, 11.)

On motion Section 5 was adopted as originally read.

Section 6 was read.

Dr. Randolph Winslow, Baltimore, moved to strike out:

Credit for full year of time may be given students holding the degree of A.B., B.S. or other equivalent from a reputable university or literary college.

Seconded by Dr. David Streett.

Dr. H. B. Ward, Lincoln, Neb., offered the following amendment to the amendment:

To add to Section 6, "Provided such degree represents not less than 900 hours of definite premedical work in laboratory science."

Seconded. The amendment was lost. (Nays, 22; yeas, 9.)

Dr. J. M. Dodson, Chicago, offered the following amendment to this section:

Credit may be given to the holder of a bachelor's degree from a reputable college or university for any work in the medical branches which he has successfully completed in his college course, and that is the full equivalent of corresponding work in the medical curriculum. Such student may be allowed to complete the course for the medical degree in not less than thirty-one (31) months, provided he completes the remainder of the medical curriculum in that time.

Seconded and carried.

On motion Section 6 was adopted as amended.

Section 7 was read and adopted as read.

On motion of Dr. Dodson Article III was adopted in its entirety.

The chair appointed the following nominating committee: Drs. Wm. J. Means, R. Winslow and T. J. Hawkins.

On motion, the Association adjourned until 8 p. m.

Evening Session.

The Association reassembled at 8 p. m., and was called to order by the president.

The report of the secretary-treasurer was called for and read, and, on motion of Dr. Wathen, was accepted as read.

Report of Judicial Council.

Dr. Wm. J. Means, chairman of the judicial council, reported as follows:

Mr. President, Members and Delegates of the Association of American Medical Colleges:

The report of the judicial council for the last year will necessarily be brief. Aside from the correspondence of the chairman and the disposition of applications for membership in the Association from a number of colleges, only one important matter came before the committee for adjustment.

Communications were received from a number of colleges of the Association and from other sources asking information on the eligibility of students to certain standing and for a construction of particular paragraphs of the constitution and by-laws. The chairman assumed the responsibility of replying to these communications without submission to the other members of the council. His opinion seemed to be satisfactory in every instance, therefore further submission of the inquiries was unnecessary.

There were a few complaints of irregularities against colleges of the Association, but inasmuch as they were not filed regularly they were not considered.

The year as a whole has been a very satisfactory one. Judging from the tenor of the communications from the officials of the different colleges, it is the opinion of the chairman that an honest effort is being made to comply with the rules of the Association and that commendable work is being done toward a higher standard in medical education

Entrance qualifications and time requirements are matters that come to the judicial council more than any others for adjudication. Fortunately for the Association a number of states by legal enactment have fixed the academic qualification for students and also the time requirements for a medical course. In a few of these states the right to examine applicants as to their literary qualifications for entering a medical college has been taken away from the college faculties and placed in the hands of examiners appointed by the state board. This is a step in the right direction. It will do more to raise the standard of preparatory education than anything else.

Through the efforts of the National Confederation of State Medical Examining Boards and the profession at large, every year adds other states to this list. With the present tendency it looks as though the day was not far distant when there will be uniform standards and reciprocity among the various states in the Union. Then the purpose of the College Association will be as it should be, purely educational, and the work of the judicial council perfunctory. Under the present conditions the Association is in an anomalous position. Owing to the low standard of entrance requirements and short terms, the diplomas of a large number of colleges, members of the Association, are not recognized in several states. It is, therefore, impossible for the medical colleges in these states to recognize the credentials of their fellow members. This condition of affairs should not obtain.

The charges preferred against the Milwaukee Medical College at the last session of the Association were taken up, and by mutual consent of the parties interested, Dr. R. O. Beard, secretary of the faculty of the University of Minnesota, was selected to make the examination. His expenses were paid by the accused college.

He made a thorough investigation and submitted the testimony in detail, and his finding thereon to the chairman of the judicial council. The testimony and Dr. Beard's report were submitted to Drs. Ritchie, Dodson, Griffith, Hawkins and Means. Dr. Welch, elected a member of the judicial council at the meeting in Saratoga, refused to serve. The proceedings were not sent to Dr. Keen of Philadelphia. The five members above mentioned, after examining the testimony, voted unanimously to sustain the findings of Dr. Beard. Said report is herewith submitted for your consideration.

REPORT OF SPECIALLY APPOINTED COMMISSION.—R. O. BEARD.

"The undersigned begs to report (1) that at the instance of your body he conducted at Milwaukee, Wis., on July 15, 16 and 17, 1902, an investigation into the charges preferred by the Milwaukee County Medical Society against the Milwaukee Medical College.

(2) That these charges were revised at the opening of the investigation; that by request of the preferrer the charge respecting the conduct of unwarrantable obstetrical demonstrations was withdrawn; that by the decision of your investigator, the charges covered by specifications 4 and 5, as originally stated, were ruled out, on the ground that they did not involve any issue pertinent to the rules of the Association, unless it could be shown that the Milwaukee Medical College was prejudiced educationally by its financial ownership and control; and that if it were so prejudiced educationally, that fact would in itself disqualify its membership in the Association without reference to its financial status.

The charges, as revised, by consent of both parties to the investigation, are as follows:

CHARGE I.

The Milwaukee Medical College does not require sufficient preliminary education of applicants, as a requirement for admission to its courses.

It admits students without preliminary training, thus violating the standard laid down by the statutes of the State of Wisconsin and the National Association of American Medical Colleges.

The institution gives credit so as to entitle students to advanced standing without presenting the necessary educational credentials for such credit.

CHARGE II.

The Milwaukee Medical College has violated the medical laws of this state in that it does not give the required courses of study as far as time devoted thereto is concerned.

The catalogue of the College advertises two or more courses of fourteen weeks each in one year, and states that credit is given for one year's work on completing two terms, thus enabling students to complete a course of four years in less than three.

The college advertises courses of lectures by professors who are not and were not connected with the institution, and did not give the lectures advertised.

The college allowed one man to fill four or five chairs, thus not having a complete faculty as advertised.

The Milwaukee Medical College during the past year has had no adequate course in anatomy.

The college is not giving the educational examinations on entrance to the course of study.

CHARGE III.

The Milwaukee Medical College has granted diplomas to persons unfit both from an educational and moral standpoint to practice medicine.

The college has granted diplomas to students who failed to pass the requisite examinations.

The Milwaukee Medical College allowed men to practice medicine before completing their course and receiving their diplomas.

(3) That exception was taken by the defendant college to the charges, on the score of their alleged non-specific character. Your investigator ruled in favor of the adequacy of the charges, provided they were specifically sustained by evidence.

That your representative ruled that evidence tending merely to show infraction of the laws of the state of Wisconsin was incompetent, since the rules of the Association are not coincident with or dependent on the statutes of any state; that such evidence could only possess a secondary value as corroborative of proof that the defendant was in violation of the Association rules.

That he further excluded all evidence tending simply to show personal bias or local prejudice in either party and required that evidence to be acceptable should deal only with questions of fact, or of professional opinion of the facts based on sufficient experience in the premises.

(4) That the following are his findings on the several charges, based, in his judgment, on the evidence submitted and the records of the Milwaukee Medical College:

(I) The charge that the Milwaukee Medical College has admitted students to its courses without the preliminary education required by the rules of the Association is sustained:

(A) In that the college has accepted inadequate credentials in proof of such education.

(B) In that it has admitted students unpossessed of such credentials without submitting them to the examination required by the rules of the Association.

The further charge that it has admitted students to advanced standing whose credentials did not entitle them to the same, is sustained.

(II) The charge that the Milwaukee Medical College has not required its students to fulfill the four years' course of study, each year to represent a period of not less than six months, no two of which periods shall be taken in the same year, is sustained by the evidence and by the published announcement of the college, 1901-02, page 16.

The charge that the college has advertised the employment of professors who were not connected with the institution is technically sustained, but is traceable to circumstances which the college could not at the time control.

The charge that the college allowed one man to fill several chairs at one time is sustained by the facts; this course being, however, in the judgment of your investigator, an unwise method of filling certain vacancies in the faculty for which the college was not initially responsible.

The charge that the college has had during the past year incomplete and deficient facilities for the study of anatomy is sustained, at least so far as a part of the year is concerned.

The charge that thorough or adequate examinations are not given by the college on entrance to a course of study, is sustained so far as entrance examinations are concerned, but rests on hearsay and contradictory evidence, and is not, in the judgment of your investigator, proven so far as its professional examinations are concerned.

(III) The charge that the Milwaukee Medical College has granted its diploma to persons notoriously unfit, both from an educational and moral standpoint, is sustained on the question of educational unfitness. There is no evidence to show that the college was aware of any moral unfitness in its graduates, although it does not appear to have concerned itself to ascertain their moral status.

The charge that the college has given its diploma to students who failed to pass the requisite examinations is sustained in the fact that it has permitted certain students to substitute for otherwise unremoved conditions, altogether inadequate courses of study. Its rating for the passing of students in all branches has been unfortunately low.

The charge that the college has allowed students to practice medicine before completing their course and receiving their diploma is not sustained since the college has the power neither to permit nor to prevent such illegal practice. It has undoubtedly permitted students to leave the college and abandon study before they had completed the course required by the rules of the Association, although the evidence shows that the college sought to correct this error during the last term of 1902 by its recalling its students.

Your investigator does not deem it any part of his duty in the premises to recommend any action on this report, either by the Association or its judicial council. Respectfully submitted,

[Signed.] R. O. BEARD, M.D.

Minneapolis.

NOTE.—The evidence given at the investigation of the Milwaukee Medical College by the Wisconsin State Board of Medical Examiners was made by consent the basis of this investigation and the testimony therein given by each witness was read and substantiated or amended by him and used as a foundation for further examination. This previous evidence is therefore embodied in this report.

By personal request of Dr. W. H. Earles of the Milwaukee Medical College, affidavits are introduced in counteraction of evidence given regarding his attitude toward the Wisconsin Medical Practice Act, although such evidence is not regarded by your investigator as pertinent or relevant to this issue."

Application for membership was made by the College of Physicians and Surgeons at Kansas City, Kans. A thorough and impartial examination was made of the facilities of the college, its curriculum and requirements. The former were found quite limited, and judging from information derived from various sources, its requirements are below those of the Association. The council, therefore, recommended the rejection of the application.

Application for membership was made by the University of Missouri situated at Columbia, Mo. The council recommends recognition of the medical department of said university for the first and second years of a medical course, but inasmuch as the clinical facilities must necessarily be limited in a city of the size of Columbia, it is thought best to withhold recognition and membership for the third and fourth years until the college can demonstrate ample clinical facilities for these years.

Application for membership was made by the medical department of the University of Tennessee situated at Jackson. The council recommends that action be deferred until the college can be investigated, and that the investigation be referred to Dr. Means.

Application for membership was received from the Memphis Medical College, but was later withdrawn.

Application from the University of West Virginia at Morgantown for recognition and membership of the first two years of a medical course was received and the council advises that action be deferred until an investigation can be made. The matter was referred to Dr. Dodson for investigation.

Application of Bucknell University of Pennsylvania made at the last annual meeting, referred to Dr. Keen of Philadelphia, was withdrawn.

Application for membership was received from the Dallas Medical College, Dallas, Texas. The council advises that action be deferred until the next annual meeting, and that Dr. J. D. Griffith of Kansas City, Mo., be requested to investigate the college.

Application was received for membership from Wake Forest College, at Wake Forest, North Carolina. The council advises that action be deferred and that Dr. Winslow of Baltimore be requested to examine into the merits of the college.

An application for membership was received from the University of Mississippi located at Jackson. The council asks for further time to investigate the college, and has referred the application to Dr. Means.

This concludes the report of the judicial council. We thank the official members of the Association for their kindly assistance in the work brought before them.

[Signed.] W. J. MEANS, Chairman.
J. M. DODSON,
H. B. WARD,
R. WINSLOW,
T. H. HAWKINS.

Dr. W. A. Evans, Chicago, moved that the report of the judicial council be accepted and that the Milwaukee Medical College be censured. Seconded by Dr. A. H. Levings.

Carried.

Dr. W. H. Earles, dean of the Milwaukee Medical College, expressed his thanks on behalf of his college for the leniency of the Association.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Medicinal Treatment of Hyperchlorhydria.

A. A. Jones, in the *Internat. Med. Magazine,* states that in considering the treatment of hyperchlorhydria the following conditions must be corrected: 1. The excessive acidity. 2. Constipation. 3. The pain which comes on at the height of digestion. He states that in the majority of the cases of hyperchlorhydria the following powder gives prompt relief:

℞.	Cerii oxalatis	3i	4
	Bismuthi subcarb.	3ii	8
	Magnes. carb. levis.	3iv	16

M. Sig.: From one-quarter to a heaping teaspoonful stirred in a quarter of a glass of water, to be taken two hours after each meal.

If pain and constipation persist extra doses should be administered. He advises against the administration of alkalies before meals, unless there is co-existing atony. In his experience a combination of potassium bicarbonate, sodium bicarbonate, and sodium and potassium tartrate are very effectual in the treatment of hyperchlorhydria, especially when there is constipation present, accompanied by drowsiness and headache. These preparations may be combined in the following proportions:

℞.	Potass. bicarb.	3ii	8
	Sodii bicarb.	3iv	16
	Sod. et potass. tartratis	℥i	30

M. Sig.: One even teaspoonful dissolved in water at 10 a. m., 4 p. m., and 9 p. m.

The alkaline and saline waters are of service, such as the Vichy and Carlsbad waters.

The bromids, given in 10-gr. (.60) doses after meals, diminish the secretion of the hydrochloric acid through their influence on the nervous system.

Locally silver nitrate produces the best effects, administered in the form of a douche or intragastric spray in the strength of 1 to 1,000. Chloretone is also mentioned by the author as of service in allaying the burning distress and pain, given in 5-gr. (.30) doses night and morning. As an adjuvant treatment, to relieve the pain, the following combination is recommended:

℞.	Cocainæ muriatis	gr. ss	03
	Acidi hydrocyanici dil.	gtt. v	30
	Aquæ laurocerosi	3ss	2

M. Sig.: At one dose, to be repeated if necessary to relieve the pain.

Ringworm.

In the treatment of ringworm appearing on the body, the following, according to *Merck's Archives,* is of service:

℞.	Naphthol (resublim.)	3ss	2
	Olei picis liquidæ	3ss	2
	Sulphuris	3i	4
	Lanolini	3v	20

M. Ft. unguentum. Sig.: Apply locally night and morning; or:

℞.	Chrysarobin	gr. xl	2 65
	Ichthyol	3i	4
	Acidi salicylici	gr. xv	1
	Ol. petrolati	℥ss	15
	Lanolini	℥i	30

M Ft. unguentum. Sig.: Apply locally twice daily.

The iodin preparations are frequently employed to destroy the parasite. They may be combined as follows:

℞.	Iodi	5ss	2
	Potassii iodidi	gr. xv	1
	Alcoholis	3ii	8
	Aquæ	℥ss	15

M. Sig.: Apply locally twice daily by means of a brush.

J. Nevins Hyde recommends some of the simpler remedies as serviceable in the treatment of ringworm of the body:

℞.	Lac. sulphur.	3iiss	10
	Spts. saponis viridis		
	Tinct. lavendulæ, āā	3vi	24
	Glycerini	3ss	2

M. Sig.: To be applied locally; or:

℞.	Iodi (pure)	℥i	30
	Olei picis liq. (sp. gr. .853)	℥ss	15

M. (These preparations should be mixed with care gradually.) Sig.: Apply locally; or:

℞.	Creosoti	m. xx	1 30
	Olei codini	3iii	12
	Sulphuris precip.	3iii	12
	Potassii bicarb.	3i	4
	Adipis	℥i	30

M. Sig.: To be used locally in obstinate cases of ringworm of the adult.

Night-sweats.

Ladisl, according to an abstract in *Amer. Med.,* considers gua-camphol the best remedy in checking night-sweats. It should be given in 3 to 5 gr. doses (.20-.30) and continued over a period of two weeks. This preparation is insoluble in an acid medium, but breaks up into guaiacol and camphoric acid when reaching an alkaline medium in the intestine.

Acute Articular Rheumatism.

The *N. Y. Med. Times* recommends the following outline of treatment in acute rheumatism:

℞.	Sodii iodidi	3ii	8
	Sodii salicylatis	3iii	12
	Syr. sarsap. comp.	℥iii	90

M. Sig.: One teaspoonful after each meal in water.

Locally the following:

℞.	Olei gaultheriæ	℥ss	15
	Linimenti chloroformi	℥iss	45

M. Ft. linimentum. Sig.: To be applied locally night and morning.

As a combined alkaline and salicylate mixture the following may be given, which is according to the formula of Whitla:

℞.	Sodii salicylatis	3iv	15
	Potassii bicarb.	3v	20
	Liq. morphinæ hydrochloridi (1 per cent.)	3i	4
	Aquæ camphoræ q. s. ad	℥viii	240

M. Sig.: One tablespoonful four times a day in one-half a glass of water.

Furuncles.

M. Cohn, in *Monat. Pract. Dermat.,* recommends the following combination as a very efficient local remedy in the treatment of boils:

℞.	Ichthargin	3i-iiss	4.-10
	Aq. destil.	3i	4
	Glycerini	3iiss	10
	Ol. petrolati	℥i	30
	Lani	℥iss	45

M. Ft. unguentum. Sig.: Apply locally around the boil and over it.

The inflammation, according to the author, subsides in a short time, when the ointment may be replaced by a 1 per cent. ichthyol ointment.

To abort furuncles, pure carbolic acid introduced into the center of the inflamed area is of value. It may be applied in this way by simply dipping a sharp toothpick made of hard wood into the pure solution, and by rotating it and applying gentle pressure it will penetrate the skin without any pain, as the carbolic acid will act as a local anesthetic.

The following combination applied topically has been employed to abort furuncles:

℞.	Europhen	3i	4
	Olei olivæ	3ii	8
	Lanolini		
	Ol. petrolati, āā	3v	20

M. Sig.: Apply locally and cover the area with sterilized gauze.

Sodium Cacodylate.

The following combinations containing sodium cacodylate are recommended by *Bul. Gen. de Ther.* Where it is necessary to prevent disturbance of the digestive tract the following may be administered hypodermically:

℞. Sodii cacodylatis .....gr. c 6 | 65
Liq. acidi carbolici .....gtt. x | 65
Aquæ destil. .....ʒiiiss 105

M. Sig.: Fifteen drops to be injected once or twice daily.

As a rectal injection the following solution may be employed:

℞. Sodii cacodylatis .....gr. iii-vi | 20-.40
Aquæ destil .....ʒvi 180

M. Sig.: At one dose introduced per rectum and retained. Two injections may be given daily for six days, three daily for ten days. The remedy should be stopped then for three days and repeated as before.

In the treatment of skin diseases it is of value given internally in the pill form:

℞. Sodii cacodylatis .....gr. iss | 09
Extracti gentianæ .....gr. i | 06

M. Ft. pilula No. i. Sig.: One such three times a day after each meal; or in the form of a mixture as follows:

℞. Sodii cacodylatis 3ss 2
Spts. frumenti 3vss 22
Syr. simplicis 3iv 15
Ol. menth. pip. .....gtt. ii | 12
Aquæ destil. .....ʒii 60

M. Sig.: One teaspoonful in water after each meal.

Summer Diarrheas in Children.

Leo Ratner, in *Merck's Archives*, states that the treatment of summer diarrheas, as of all gastrointestinal trouble, may be divided into hygienic, dietetic and medicinal. He quotes several formulæ, recommended by Winter, for the home modification of bottled milk. Beginning with a formula suited to an infant one week old this formula is changed to suit the age and needs of the infant until the ninth month.

As to the medicinal treatment, he recommends the usual employment of small doses of calomel as the initial medication followed by intestinal astringents. He is averse to the employment of toxic preparations such as resorcin and naphthalin as they tend to lower the vitality of the infant.

He favors the use of tannalbin and ichthalbin as follows:

℞. Tannalbin 3ii 8
Ichthalbin 3i 4
Pulv. cinnamomi .....gr. vi | 40

M. Ft. chart. No. xxiv. Sig.: One or two powders at one dose, according to the age, and repeated three to six times a day; or:

℞. Tannalbin 3i 4
Bismuthi subnit. 3i 4
Magnesiæ (calcined) 3ss 2

M. Ft. chartulæ No. xii. Sig.: One powder every three hours; or:

℞. Tannalbin 3ii 8
Bismuthi subnit. 3ii 8
Mist. cretæ .....ʒiii 90

M. Sig.: Shake the bottle. One teaspoonful every three to six hours; or:

℞. Tannalbin
Ichthalbin
Bismuthi subnit., āā.....3i 4
Tinct. opii camph. 3iv 15
Syr. rubi ideai .....ʒi 30
Aquæ q. s. ad.....ʒiii 90

M. Sig.: Shake. One teaspoonful every one or two hours; or:

℞. Tannalbini .....gr. xx 1 | 30
Ichthalbini .....gr. x | 65
Tinct. opii .....m. ii | 12
Aquæ amyli .....ʒii 60

M. Sig.: Shake. At one dose per rectum. The author, as noted in the foregoing, uses opium in some of the combinations, which is, in his opinion, of great value, after thoroughly emptying the bowel, but he condemns its use before the putrid contents are removed.

Ointment of Adrenalin.

M. Mignon, in *Scm. Méd.*, recommends an ointment of adrenalin rather than the aqueous solution in relieving the congestion and swelling of the turbinated bodies. He employs the following combination for local application:

℞. Adrenalin .....gr. ss | 03
Olei geranii .....gtt. iii | 20
Olei petrolati 3iii 12
Lanolini 3iv 15

M. Ft. unguentum. Sig.: To be applied freely to the nares with an applicator.

Although this ointment is slower in its action than the 1:1000 aqueous solution, the effects last much longer. He recommends it in acute congestions of the nasal mucous membranes and to prevent secondary congestions after cauterizations.

Medicolegal.

Delirium Resulting from Illness.—The Court of Appeals of Kentucky holds, in Supreme Lodge Knights of Honor vs. Lapp's Administratrix, that where a person was suffering from violent pains in the head, which had continued for some time, and seemed to be wandering and distrait, there was at least ground for the conclusion that he was suffering from delirium resulting from illness. And there being no other reason shown for his committing suicide, it holds that the question of whether he committed it in delirium resulting from illness was properly left to the jury, under a benefit certificate which provided that the order would not pay the benefits of those members who committed suicide, whether sane or insane, except it be committed in a delirium resulting from illness, etc. It would be an extension of contract, the court holds, to say the word "illness" referred only to such a sickness as confined the insured in bed.

Asking About Views of Others—Cross-Examination.—The Supreme Judicial Court of Massachusetts holds, in the personal injury case of Root vs. the Boston Elevated Railway Company, that a medical witness was not called on to say what the views of other surgeons might be, or as an expert to determine whether medical men would not differ in opinion when asked about the effect on the health of the individual of certain physical conditions. It appearing that the party suing did not call as a witness a physician, who, previously to the trial, at her request, made an examination of her physical condition, and that the company then called him, the court says that it might be inferred that his testimony was not wholly favorable to her contention as to the extent of her injuries, and that it was proper to ask him on cross-examination as to how far he required from a patient a full disclosure of symptoms and history of the case. This, it says, would be necessary to furnish data on which to base an opinion. And it holds that it could not be said that the further question as to whether he disclosed the information thus obtained to other persons was outside the limits of a reasonable cross-examination.

Responsibility of Patient in Personal Injury Case.—The Supreme Court of Missouri, Division No. 2, says in the personal injury case of Elliott vs. Kansas City that the question with which it was confronted was whether a person who has been injured by the negligence of another and who employs a reputable physician to treat him for the injury, is responsible for the mistakes and errors of judgment of the physician, and also, if he is told by his physician that no futher treatment is necessary, is he responsible if he could have been benefited by medical treatment? In its answer it says that it seems, both on reason and authority, that when a person is injured by the negligence of another he is bound to use ordinary care to the end of his restoration or cure, and is not responsible for the mistakes of an attending physician, and when he acts in good faith under the direction of such physician any mistake of the latter in the treatment will not absolve the party whose negligence caused the injury from liability in damages therefor. And it holds that, while the party suing in this case was not entitled to recover damages for such conditions as were entirely due to her previous injury or disease, if any such state

of facts existed, she was entitled to have considered by the jury, in estimating her damages, any injury that may have been caused by improper medical treatment.

Evidence and Award in Compound Fracture Malpractice Case.—The Supreme Court of Nebraska holds, on the appeal of Leisenring vs. La Croix, that, in an action against a physician and surgeon for alleged negligent treatment of a compound fracture of the bone, it is permissible to show by another surgeon what would be the proper treatment for a simple fracture, and that the treatment for a compound fracture would not be materially different. In such an action it is proper to submit evidence relating to the condition of the patient's health at the time the treatment began, and also the length of time he was treated by others after the physician sued ceased to attend him, the jury being cautioned to compensate him only for such injury and damage as may have been caused by reason of the negligence of the physician sued. Where there was evidence that under proper treatment the fractured bone should have united within six weeks, and that the patient was confined under the physician's treatment for a period of fourteen weeks, most of the time in great pain, it was proper to submit to the jury the question whether the pain and suffering was caused by the physician's negligence, and to authorize a recovery therefor. A verdict for $1,140 in such a case, where the compound fracture was of the tibia and fibula of the right leg about three inches above the ankle, is upheld, when corrected by a remission of an item of interest erroneously allowed between the date of the injury and that of the judgment.

Liability of Hospital Patient for Medical Treatment.—The Supreme Court of Michigan says, in the case of Crumrine vs. Austin, that the latter being ill, his physician advised his brother that he had better go to a hospital. At the suggestion of the patient or his broher, the physician had a conversation with some one at the hospital by telephone, and was told by him that it would cost $15 a week for a private ward, and that would include room, board, nursing, and medical attendance, and that he communicated this to the patient. On cross-examination, however, the physician qualified the above statement, made on his direct examination, by stating that he was told over the telephone that the price included the attendance of a house physician and nursing, and that nothing was said about an operation. Nothing in the testimony indicated that the nature of the illness was mentioned in the conversation by telephone. The patient was removed to the hospital, where he remained several weeks. He was operated on by the physician bringing this action, who was called by the house physician, and who rendered him daily service by dressing his wound for a time. When the house physician did so on one occasion, the patient objected, and expressed a preference that the physician suing should continue to dress his wound, and a willingness to pay extra if he would, and the physician suing performed that service thereafter. The patient paid the hospital the sum of $15 per week in advance, but was surprised to receive a bill from the physician suing of $200 for the operation, and a total of $167 for other attention. The physician testified that the price charged was reasonable, unless it be considered qualified by the statement that the charge in such cases depends on the ability to pay, and his conversation with the patient, from which it might be inferred that physicians "regulate their fees by the financial standing of their patients," and that "persons who have political jobs are made to pay for cases where doctors work for nothing," which the patient stated that the physician suing told him, and the physician denied. The case was left to the jury, and a verdict was found of $99 for the physician, who thereafter appealed. The Supreme Court says that the verdict indicated that the jury must have found that the contract was as claimed by the patient, namely, to include the cost of the operation in the price given of $15 per week. The physician who telephoned for him was his agent, and neither the hospital nor the physician suing was bound by any misapprehension on the part of the physician who telephoned, or misunderstanding growing out of his inaccurate report to the patient of the terms offered. We must conclude from the undisputed testimony that the attendance of a house surgeon only was offered, and that neither party spoke of an operation. There was nothing to indicate that the hospital authority who talked with the telephoning physician had any reason to suppose an operation was contemplated, and, if that physician had one in contemplation, it was not mentioned. He asked for the house surgeon, and it was reasonable to suppose he knew the duties of such an officer; also that his patient would be expected to enter the hospital subject to its rules, whatever they were, except as they might be modified or affected by the conversation. A by-law introduced showed that the house surgeon was not given charge of patients. The trial court could properly have said that the contract was not proved as claimed by the patient. He would then be liable for the reasonable value of the services rendered. The physician suing was injured by an instruction which permitted the jury to exclude the value of the operation and early attention from the sum allowed. On the other hand, the reasonable value of the services was a question for the jury.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

July 23.

1 The Shattuck Lecture Before the Massachusetts Medical Society, June 9, 1903: The Sources, Favoring Conditions and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts. Theobald Smith.
2 *Studies on the Action of Alcohol in Disease, Especially on the Circulation. Richard C. Cabot.

2. **Alcohol.**—Cabot studies the effects of alcohol in disease, taking special care to be unaffected by any prejudices he may have had in his method of study. He reviews the known facts of the effects of alcoholism on tissue change, digestion, absorption, diuresis, diaphoresis, respiration, circulation, blood pressure, etc. He notices also the tolerance of febrile patients for alcohol, and the psychic effects, both on the patient and the physician. He summarizes his conclusions in the following:

1. In 41 patients, mostly cases of typhoid fever, 1,105 measurements of the blood pressure were made before, during and after the administration of alcohol in therapeutic doses. Neither the maximum nor the minimum blood pressure showed any variations that could reasonably be referred to the action of the alcohol. So far as was determined by the methods and in the cases used in this research, the action of alcohol on the circulation was nil. 2. The same neutrality and apparent inertness of therapeutic doses of alcohol in relation to the temperature, pulse rate, respiration rate, appetite, sleep, delirium and secretions (renal and cutaneous) of 309 patients suffering from a great variety of diseases was the total impression derived from 2,160 observations in these cases. 3. These observations are not interpreted as proving that alcohol is useless or useful in disease. As a narcotic and vaso-dilator it may have an important place in therapeutics. 4. More important probably than any of the questions investigated so far is the problem of the effect of alcohol on the power of the sick man's blood to protect him against infection and other harmful influences. The studies of Abbott and of Mircoli have begun to clear a path in this direction, and we have a certain amount of evidence relative to a similar problem in the lower animals. But as the results of studies regarding the action of alcohol on animals or on healthy men can not be used as evidence of its action in sick men, there is a good field for experimental work in this direction along the lines of Ehrlich's newer methods.

American Medicine, Philadelphia.

July 25.

3 *Mycotic Enzymes. B. H. Buxton.
4 *Some Practical Considerations of the Tumefactions of the Climacteric Breast. Theodore A. McGraw.
5 *The Pathology of Latent Malarial Infection as Observed at Autopsy. Charles F. Craig.
6 *Fowler's Position in Abdominal Surgery. Van Buren Knott.
7 *The Diagnosis and Treatment of Inflammation of the Accessory Nasal Sinuses. Joseph S. Gibb.

3. **Mycotic Enzymes.**—Buxton's article elaborately details the physiologic action of ferments. He gives tables at the end of the bacteriologic species producing enzymes hydrating carbohydrates, and of the corresponding proteolytic enzymes digesting milk, gelatin, fibrin, etc.

4. **Tumors of the Breast.**—McGraw notices the different forms of breast tumors, and considers that many cases are not necessarily malignant. The benign swellings even in the climacteric period are much more common than is usually supposed. He

notices the different forms of milk cyst, the fibrous tumors, and the serous cysts. He identifies the latter largely by the use of the exploring needle, and would feel lost without the aid it gives. He notices, however, some diagnostic mistakes in his own experience. When the evacuation of the cyst contents does not cause an entire disappearance of the swelling but leaves behind a hardened lump, the pathologic condition may give considerable anxiety and trouble. He considers it then the proper time for an exploratory incision. He says in conclusion:

No breast ought to be adjudged cancerous without the most thorough examination by all possible methods, but when the surgeon, using his best judgment after full investigation, has come to the conclusion that he has to deal with a tumor of dangerous tendencies he should then operate on it so thoroughly as to destroy if possible every secondary growth, whether in fascia or muscle, skin or gland. He should assume that the skin above it, the fascia and muscle below and all of the neighboring lymphatic vessels and glands are already infected and should make the operation wide enough and deep enough to take in all of the suspected territory.

We can not as yet say that we can in this way cure all patients with the disease, nor even a majority of them, but we may truthfully claim to have had a success in a very large minority—which our predecessors in surgery never achieved.

I have now many patients who are living without recurrences after three, five, and ten years, and feel justified therefore, in spite of many discouraging failures, in recommending the operation as the only treatment which as yet has shown a fair measure of success.

Above all things, we should try to keep our patients out of the hands of the charlatans, who inflict on them indescribable tortures which in the very nature of things can not possibly be of service.

5.—See THE JOURNAL, July 11, p. 125.

6.—Ibid., Jan. 10, 1903, p. 118.

7. **Nasal Sinuses.**—Gibbs finds from his experience that in the acute form of nasal sinusitis, the ethmoid is most frequently involved, the next in frequency being the frontal. Acute sinusitis varies in intensity in great degree, and is usually unilateral, therefore the presence of a one-sided purulent discharge from the nose should excite suspicion. It is in the acute form that early recognition and prompt treatment are most important, and the object should be to obtain free drainage. It is usually a self-limiting process and if we keep the natural outlets free, it will greatly aid. In the use of vasoconstrictor drugs, we can do much to reduce the size of the cavernous tissue and keep open the various natural outlets. Some of the more severe cases may resist this plan, and may require a prompt and thorough evacuation of the pus contents. Of the chronic forms of sinusitis, the antral is most common, next, the frontal, and here a careful diagnosis is the first essential. He details the diagnostic points at length of the antral sinus inflammation. Transillumination is not infallible; amount of discharge and pain are only assistants to diagnosis. Failing to get at the diagnosis by other methods, we have a measure always to be left to the last, but which may combine both diagnostic and therapeutic values; that is, puncture of the antrum through the inferior meatus. The treatment is entirely surgical, but this puncture alone may, in many cases, be all that is required. He remarks, however, as to the use of more radical methods, especially that of Jensen, of opening through the canine fossa and making a flap of the nasal wall of the sinus, which is turned up and subsequently adjusted. Ethmoid sinusitis is noted also at some length. According to his personal experience the chief things in treatment are free drainage and thorough irrigation, and the operations of opening the sinus both by the open and closed method are described. Ethmoid sinusitis, if uncomplicated, is more amenable to treatment than either of the other varieties; but it is seldom altogether uncomplicated. The symptoms are much the same as those of the other types, only the obstruction and pain are usually more prominent and pronounced. There is a form of ethmoiditis occasionally met with, in which the inflammation is largely confined to the middle turbinate. It is a question whether it belongs to the type of disease under discussion, or is only a local expression of a constitutional condition, such as syphilis, tuberculosis, etc. The treatment consists simply in removing the hypertrophied turbinate by a cold wire snare, and treating antiseptically. Sphenoid sinusitis is the more difficult to treat, and requires more care in the operative management, on account of the important parts closely contiguous, but his remarks on this subject are comparatively brief.

Medical News, New York.

July 25.

8 Studies on the Action of Alcohol in Disease, Especially on the Circulation. Richard C. Cabot.
9 *Malignant Tumors of the Testis. William B. Coley.
10 *Alcoholism in Women. Agnes Sparks.
11 *Alcoholic Toxemia; Its Pathology and Treatment. Thomas D. Crothers.
12 Infant Feeding. A Science and Art. John F. Connors.
13 A Case of Panophthalmitis in Typhoid Fever. W. Whitehead Gilfillan.

9. **Malignant Tumors of the Testis.**—These, according to Coley, are much more likely to be sarcoma than carcinoma. They also, contrary to Butlin, are not infrequent in young adult life, between 20 and 30. As a cause, trauma plays a very prominent part. The diagnosis is not usually difficult, tuberculosis of the organ most closely simulating the condition. In sarcoma the tumor is of a uniform consistence, the reverse of which is the case in tuberculosis, the epididymis being harder than the testis proper. Coley does not agree with Kober as to the favorable outcome of these cases, but admits that most of those he has seen were not in the early stages where treatment might be expected to be most effective. The rapid course of the disease is somewhat notable, sarcoma being more early fatal here than in other parts, as a rule. The treatment, he holds, consists in the complete removal of the testis and cord as high up as the internal ring, as soon as the diagnosis is made. In addition, he would advise treatment with mixed toxin serums. The prognosis of teratoma is good, though recurrences and metastases do sometimes occur. He reports a number of cases illustrating the types.

10. **Alcoholism in Women.**—The danger of prescribing alcohol to women, and of secret drinking on their part, are noticed by Sparks, who reports a case. The risk, she says, of prescribing even beer, is large.

11. **Alcoholic Toxemia.**—Crothers notices the action of alcohol, and discusses the treatment of alcoholism. In delirium tremens, he believes in the early and complete cutting off of all stimulants, and the use of the absolute essentials—sharp purgation, and sweating. The best results follow the elimination by this double process. In addition, he speaks well of chloretone for the drug treatment. He has not noticed any cumulative action, and its hypnotic effect is rapid; nor does it seem to cause any disturbance of digestion, nor have any bad effect following its use. After-treatment should be salines and baths, the latter daily, together with bitter tonics. Arsenic is a valuable remedy, and also some preparations of phosphoric acid.

Medical Record, New York.

July 25.

14 *Some Cases Treated by the X-Ray. William James Morton.
15 *Congenital Laryngeal Stridor. James E. Newcomb.
16 *Perichondritis of the Larynx, with a Report of a Case. Emil Mayer.
17 Gouty Phlebitis. A. A. Getman and R. W. Amidon.
18 *Hybrid Malaria. J. Lindsay Porteous.
19 *Authority and Facts. J. R. Clemens.

14. **X-Ray Treatment.**—Morton gives the results of *x*-ray treatment in a variety of affections, including facial cancer, carbuncle, cheloid, acne, alopecia areata, sychosis, fibroid tumor, psoriasis and lupus. He has had good results in the latter affection from the use of a method with a lead shield arranged so as to expose one-half an inch of normal skin around the edges of the lupus, and treating with the *x*-ray three times a week until the sound skin presented an angry purplish red *x*-ray dermatitis, while the lupus itself began to appear swollen, angry, red, exuding serum, and elevated. Using the normal skin as a control and a guide, he has found that the lupus after stoppage of treatment at the stage mentioned, went on to a complete cure by itself; and the skin previously occupied with the disease is now natural. He now treats all cases of lupus with this plan of using the sound skin as a control, and finds it more successful than either milder or more excessive methods.

15. **Congenital Laryngeal Stridor.**—This condition Newcomb describes and states that it predominates in male babies, though

the reason for this is not given. He points out the diagnostic points and discusses the theories. He thinks it a temporary deformity, due to a change of relations between the throat muscles and those of the larynx with a possible added factor of nerve disturbance. It is furthered by a backward development and irritable weakness of the central breathing mechanism. There is in it a factor of developmental neurosis. On the basis of this theory, a general tonic treatment is all that is required.

16. **Perichondritis of the Larynx.**—The rarity of this condition in this country is noted by Mayer, especially as compared with continental Europe. He explains its pathology as first congestion, then inflammatory edema ending in ulceration and breaking down. Other views have been expressed, however, and the question as to whether the changes are specific is denied by the author. He discusses the authorities as to the germs present, and reports a case in conclusion, reviewing other cases of laryngeal stenosis that may be compared with his. He thinks that his own case is of interest on account of the early development of laryngeal symptoms, the enormous submucous infiltration both before and after tracheotomy, the success that followed dilatation, making intubation easy under anesthetics, and the consequent easy deglutition with the tube in place. He thinks that this is the first case thus successfully treated.

18. **Hybrid Malaria.**—Porteous describes a form of this disorder which has occurred in many cases in his region, in Yonkers, N. Y., which, for want of a better name, he designates as above. It may be defined as a remittent fever with or without rose spots, appearing at times solitary and at other times in groups, both on the abdomen and sides. The invasion is not so insidious as in typhoid nor so sudden as in malaria. There is no distinct chill, but a chilly sensation is felt. The bowels are usually constipated, abdomen slightly tympanitic, urine often high-colored and offensive, some drowsiness, relieved by exercise and purgation. In the second stage there is a rise of temperature to about 99½ in the morning and 100½ in the evening, with pain in back and limbs, gradually increasing. The temperature later rises to 102 in the morning and 104, and even more, in the evening; insomnia. Rose-colored spots generally appear about the fourth day. At times there is considerable tympanitis. Sometimes there is a muttering delirium resembling that of delirium tremens. The Widal test is negative in all cases. The duration is one to four weeks. The failure of the Widal test was against the diagnosis of typhoid, as was also the rapid onset, the absence of iliac pain or gurgling, the eruption coming early and disappearing gradually, and the sudden subsidence of the fever, and rapid recovery. Malaria can be distinguished from it by the absence of intermittent febrile conditions, by the rash and the absence of a regular chill. The most successful treatment of this hybrid malaria is large doses of Warburg's tincture. If the diarrhea is obstinate acetozone seems to overcome it.

19. **Authority and Facts.**—Clemens takes exceptions to three statements, which he says have acquired a certain authority: 1. That early albuminuria in cases of sore throat is suggestive of diphtheria as against scarlet fever; 2, that of the absolute constipation in acute intestinal obstruction; and 3, the alleged lowering of arterial tension by drugs in chronic renal headache cases. These assertions tend, he says, to a routine practice, which is distinctly dangerous.

New York Medical Journal.

July 25.

20 *Removal of the Internal Jugular Vein and Carotid Arteries in Order to Remove a Tumor in the Left Side of the Neck. Neil MacPhatter.
21 *The Irritability of the Facial Muscles: A Study of Its Physiological Causes and Clinical Significance. Charles L. Dana.
22 *The Correction of Deformity at the Hip, the Result of Disease; a Study of the Best Methods and Best Positions. Virgil P. Gibney.
23 *Retrodisplacements of the Uterus and Their Treatment. J. M. Baldy.
24 *Edema of the Glottis. J. C. Gittings, with notes by John H. Jopson.
25 Gastroptosis. Joseph N. Le Conte.
26 *The Fever of Dentition. Eugene R. Corson.
27 An Experience with the X-Ray in Kraurosis Vulvæ G. H. Stover.

20. **Extensive Operation on the Neck.**—The title of McPhatter's article explains its contents, but he reports the case in detail together with the discussion of the anatomic conditions, and gives illustrations. The results were waited for with some anxiety on account of the extensive interference with the cerebral circulation, but, contrary to the fears, there were no bad effects whatever. The pulse, temperature and respiration were practically normal, and the wound healed by first intention. In a few days the patient was out of bed, and in two weeks was able to return home. She has since been in good health. The illustrations show the success of the operation.

21. **The Irritability of the Facial Muscles.**—Dana reviews the normal and pathologic facial reactions to irritants, and finds that the face has normally only one true reflex, the supraorbital described by McCarthy and confirmed by Sailer. There is another apparent reflex that is really only a part of this, and there is still another one found occasionally in children, namely, the nasomental. This latter has also been found in abnormal conditions, as Graves' disease, melancholia, paresis, cerebrospinal lues, progressive muscular atrophy, and paralysis agitans. There are a number of other abnormal reflexes that are enumerated, but he sums up what he has sought to show as follows:

1. A list of normal facial responses.
2. A list of responses found in pathological conditions.
3. A demonstration that most of these responses are direct or indirect muscular reactions, not myotatic, and not reflex.
4. That the only normal reflexes of the face are the supraorbital and frontoorbital.
5. The description of a new reflex rarely found in normal faces, the nasomental.
6. The occasional presence of a frontal skin reflex.
7. Some clinical observations as to the significance of the abnormal responses.

22. **The Correction of Hip-Joint Deformity.**—In cases of deformity of the hip following diseases, the forcible methods of restoration that have been advocated are discussed by Gibney, and he reports a case where bad results followed. When sinuses lead to the joint, no matter of how long standing, it is unsafe to use forcible correction. He rather favors the use of subcutaneous methods, though they have been condemned by many surgeons.

23. **Retrodisplacements of the Uterus.**—Baldy discusses the subject of retrouterine displacements, which, he holds, are secondary as a rule to other conditions, ovarian trouble, adhesions, etc. He thinks that in a little while many of the operations now in vogue, such as Alexander's operation, hysterorrhaphy and ventrosuspension, will be obsolete and intra-abdominal operations on the round ligaments will take their place.

24. **Edema of the Glottis.**—Gittings and Jopson report a case and discuss the literature. They give the following conclusions as a résumé of the data discussed, with a pretty full bibliography:

1. Simple edema of the larynx usually occurs in cachectic diseases, especially of the heart and kidneys. In these there may be no apparent exciting cause, and the inflammatory symptoms are conspicuous by their absence.

2. Inflammatory edema of the larynx results from contiguity to other inflamed structures; as a local complication of the acute infections of erysipelas, variola, measles, scarlatina, influenza, etc.; or as a result of severe grades of inflammation in simple acute laryngitis. Bacteriological investigation will probably find that a streptococcus is the most frequent exciting cause.

3. Traumatism to the laryngeal structures may result in edema, depending on the degree of "insult" to the tissues or to a possible predisposition.

4. Among rare causes of edema of the larynx are angeioneurotic disorders and the blood dyscrasiæ, such as scurvy, purpura, etc.

5. The diagnosis rests on the evidence of palpation and, if possible, visual examination, as well as on the signs of laryngeal obstruction. Membranous laryngitis can not always be at once excluded.

6. Prognosis is unfavorable in all cases occurring in the course of chronic cachectic diseases and in severe types of the acute infectious diseases. In no case can it be other than guardedly favorable.

7. Treatment by intubation rarely affords relief unless the obstruction is infraglottic. Tracheotomy is absolutely demanded in extreme cases. The continuous inhalation of medicated steam is always to be employed; scarification and external depletion by leeches may be tried; cold and heat should be used externally and internally—cold as a prophylactic and heat as a stimulant and absorbent. General stimulating and supportive measures are necessary in all cases.

With the occurrence of edema of the larynx the time of election for the use of antistreptococcic serum has probably passed. As the infection is usually a mixed one, serum therapy does not

at the present time offer much prospect of relief, and its use must be empirical unless there is opportunity for bacteriological diagnosis from cover-glass preparations.

26. **Dentition.**—Corson criticises the recourse to the gum-lancet, holding that we should look elsewhere for the fever of dentition than in the mouth, and that it will be found, as a rule, in the digestive tract. Interference with the gums is, therefore, of secondary importance, if not absolutely harmful. A little use of calomel and castor oil is more often all that is required.

St. Louis Medical Review.

July 25.

28 *Pathologic Findings in a Case of Grip Peritonitis. Carl Fisch.

28. **Grip Peritonitis.**—Fisch reports the findings at the autopsy of a woman, aged 35, who died after an acute attack of grip, toward the close of which symptoms of peritonitis appeared. The conditions found were those of an acute purulent peritonitis, without any apparent point of origin, with an otherwise absolutely normal condition of the body, except a bronchitis, and the presence of a pure growth of Pfeiffer's bacilli in the inflammatory products and in the bronchi.

Cincinnati Lancet-Clinic.

July 25.

29 *Nitrous Oxid with Oxygen as an Anesthetic in Throat Work. II. Nitrous Oxid as a Preliminary to Ether Anesthetics. Samuel Iglauer.
30 Polypharmacy—The Evil of the Day. Charles P. King.
31 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

29. **Nitrous Oxid.**—The following conclusions are deduced by Iglauer from his studies and observations as regards the use of nitrous oxid in nose and throat work:

1. Nitrous oxid with oxygen (or air) is by far the safest and most agreeable of all anesthetics.
2. The anesthesia is sufficient for a majority of cases.
3. When necessary the anesthetic can be repeated, either immediately or after an interval of several days.
4. For prolonged operations in the throat the nitrous oxid ether sequence is indicated (Bennet and Casselberry).

He thinks the drug has a much wider field of usefulness than to be used merely in dental practice. He also notices the combined use of nitrous oxid and ether, and its advantages in rapid anesthesia, and comparative safety and convenience.

Annals of Surgery, Philadelphia.

July.

32 *Surgery of the Pancreas. Prof. von Mikulicz-Radeckl.
33 *A Review of 303 Operations on the Stomach and First Portion of the Duodenum. William J. Mayo.
34 *An Improved Filigree for the Repair of Large Defects in the Abdominal Wall. Willard Bartlett.
35 *Three Successful Laparotomies for Intestinal Perforation in Typhoid Fever. Richard H. Harte.
36 *The Surgical Features of Perforation of the Intestine in Typhoid Fever in Children. Charles A. Elsberg.
37 *Dislocation of the Carpal Scaphoid. Leonard W. Ely.

32.—See abstract in THE JOURNAL, xl, p. 1524.

33.—Ibid., p. 1600.

34. **An Improved Filigree for Large Defects in the Abdominal Wall.**—Bartlett has devised a special form of wire filigree for strengthening extensive defects in the abdominal wall. He has observed that scars spread laterally, but not longitudinally to any great extent, and it seemed to him illogical to strengthen the scar with a great number of needless wires parallel to the axis of the incision, which could only stiffen the abdominal wall and prevent perfect mobility. His filigree, therefore, consists of a series of transverse extensions along a central axis or a row of long, narrow loops, extending each side. Experience teaches, he says, that it makes no difference whether the muscles and fascia be or be not completely drawn together as long as a suitable wire filigree extending sufficiently far out between healthy layers is promptly implanted and healed in. He gives the history of this method of using wire to strengthen the abdominal wall, and remarks that he has been able to observe his seven cases after operation for periods varying from two years down to eleven days, and has in no case had to remove the filigree or seen any disturbance that might be taken to indicate that such a contrivance might not rest indefinitely in its new bed. The logic of the operation is simple. No dependence is placed on preformed tissues. Faith is pinned on the new scar, which is prevented from stretching in extension by unyielding silver wires distributed through it in the proper directions. Of all the various forms of nettings that have been used, the simple one of flattened wire loops appeared to him as being the only one free from the evident disadvantages inherent to any sort of plate, as that is what a stiff filigree really is—one made up of wires which are of equal distance apart and running in both directions.

35. **Intestinal Perforation.**—The three successful cases out of the 13 operated on are reported by Harte. In one, perforation occurred during the middle of the disease, with the patient in good condition. It was immediately recognized and operation advised, but the patient's family's consent was not obtained immediately, necessitating a delay. The second was of the ambulatory character, coming on suddenly in a patient not much exhausted and presenting many of the characteristics of appendicitis with perforation. These are the most favorable cases for operation. The third case occurred when the vital energies were exhausted as the result of prolonged and exhausting disease, and shows that success can be obtained in some instances even then. The keynote in dealing with typhoid perforation is early recognition of the lesion, and to make an accurate diagnosis in the early stage, the medical assistant must be thoroughly conversant with the condition of the abdomen and be alert for the first symptom of muscular rigidity. Cases with hemorrhage are most perplexing, for they occur together. He thinks the ideal method would be for the surgeon to see all cases of typhoid fever day by day with the physician. Other signs are later in appearance and of less value. Shock is an important sign, but it takes time, and no time should be wasted. Immediate operation should be urged even in the presence of profound shock. He advises incision on the right side, starting with the cecum and appendix, examining the last three or four feet of the ileum, and as much of the colon as can be exposed. If no sign of peritoneal involvement is found, a mistake has been made in the diagnosis, and further operation should be discontinued. If signs of peritonitis are apparent and the cause not detected, a median incision should be made so that the entire length of the colon and the remaining small bowel can be carefully examined. Perforation can be easily hidden by lymph, therefore all portions of the bowel that are indurated or covered with lymph should be carefully examined. In 95 per cent. of cases a lateral incision will be most satisfactory. Of the 330 cases which he has analyzed, in 96 a median incision was made with a mortality of 78.12 per cent.; with the right lateral incision there were 123 cases, with a mortality of 68.37. In the other cases the site of the incision was not mentioned. The perforation should be closed with a silk suture in the direction that makes the least narrowing of the gut. No time should be wasted on attempts to cut or freshen the edge. The best stitch is the so-called mattress suture, as the running Lembert is likely to cut or tear out. Frequently the openings are multiple, and a careful examination should be made. Occasionally an opening may be too large for sewing up, and there are four procedures offered: 1. A plug of omentum may be fashioned and stitched against the perforation to form a patch; 2, resection of the bowel and an end-to-end anastomosis; 3, formation of an artificial anus, and 4, cutting off the damaged area or bowel from the general peritoneal cavity by carefully placing pieces of gauze between the folds of the bowel. Cleansing of the peritoneum and drainage are the most important procedures. The best results follow thorough flushings with salt solution, then with equal parts of salt solution and hydrogen peroxid, and finally with normal salt solution. This is best done by carrying a large tube down into the pelvis, and with vigorous flushing all foreign matter can be much more easily removed than by dry sponging. After the intestines are carefully replaced, a number of large gauze wicks are carried down to the bottom of the pelvis and the different parts of the abdomen between the coils to secure good free drainage. The abdominal wound should be left open, excepting when it is very large, when a couple of sutures at the upper angle can be introduced. It should have a liberal dressing of gauze over it, which is soon saturated, but should not be removed for three or four days, after which time it can be re-

moved by thoroughly saturating it with salt solution or hydrogen peroxid. The two important factors to be carefully considered in these cases are, he says, the early recognition of the lesion and dealing with it as rapidly as possible, and planning the operation so that not a moment is wasted, using the simplest technic, as every moment of delay will increase the mortality.

36. **Surgical Features of Typhoid in Children.**—See abstract in The Journal, xl, p. 1392.

37. **Dislocation of the Carpal Scaphoid.**—Ely reports a case of this rare injury, which he thinks may occur without recognition. In his case it was only recognized by the use of an anesthetic, when the muscles were completely relaxed. It may be sometimes responsible for some of the bad effects in so-called Colles' fracture.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

June 30.

38 *Remarks on the Treatment of Paralysis Agitans (Parkinson's Disease). J. Madison Taylor.
39 *The Significance of Urinalysis in Pregnancy; with Special Reference to Eclampsia. Robert N. Willson.
40 A Case of Malignant Ovarian Cyst. Mordecai Price.
41 A Case of Dermoid Cyst. Ibid.

38. **Paralysis Agitans.**—The special feature of treatment recommended by Taylor in paralysis agitans is a series of carefully-directed movements, passive and active, by which contractures are overcome, the joints loosened up and flexibility compelled, and next, education in voluntary movements, almost solely of the extensors in the arms and flexors in the legs, not neglecting other muscles that are used. These must be instituted gradually on account of the sensitiveness of the tissues. As the practice is continued great soreness is manifest, much more than follows freeing of contractures of the cerebral and other forms of paralysis, on account of the breaking up of sclerosed tissues. The physician should himself outline the treatment and watch the progress, the most careful personal observation being needed. The movements are carried out, as all educated masseurs should know, while the patient is lying prone on the back and then on the face. The legs are raised and the knees pressed down to be held in full extension and finally rotated and pulled similarly to the treatment for sciatica. Much attention should be given the hands and feet. Weir Mitchell observed long ago that forced extension of the fingers and toes would overcome tremor for a few moments, though he has never used this fact therapeutically. After the limbs and extremities have been thoroughly treated and moved passively in the normal directions, the patient is seated on a level, preferably the floor, and the operator seizing the head, pushes it forward on the chest by gradual extensions and relaxations, increased day by day until the stiffened back muscles relax sufficiently to thrust the forehead almost to the knees. This causes much pain and subsequent temporary soreness. The trunk is rotated on itself until normal excursus is secured. Movements, passive and active, of the neck and upper torso and shoulders are of the greatest value, as here the scleroses are most manifest. The hardened tissues affect the adjacent and contained blood vessels and affect their caliber, impairing nutrition beyond. It has been Taylor's experience that in treating the neck stiffness of senility, when the structures become once loosened and elastic, the special sense organs, the eye and ear were notably improved, and the throat and voice showed improvement. The blood supply to the brain is increased with resulting mental improvement. He also emphasizes the value of dry cupping of the region of the erector spinæ muscles, thus affecting the spinal vasomotor centers governing the circulation in the cord. This procedure seems to improve the elasticity of the ligaments, etc. He also emphasizes the importance of giving careful attention to the structures about the loins and hips. To sum up, he says:

> The indications in Parkinson's disease are to overcome the growing apathy; to induce systematized return to normal activities; to use all gentle and yet forceful means to secure elasticity to the tissues, and finally to stimulate the circulation in the spinal cord by graduated pressure on the spinal areas through which reflexly many of the fibers in the cord can be restored to function and others improved. Above all, care and patience and persistence must be forthcoming on the part of the physician, and intelligent cooperation demanded in the patient. Whether a cure can ever be attained is only to be learned by increasing experience, but the profound improvement obtained in some exceedingly severe cases warrants the hope, and expectation, if moderate, can be at times exceeded. In so hopeless a condition these rational measures are certainly well worth a fair trial, and in the earlier stages of the disease they promise to secure abundant rewards.

39. **Urinalysis in Pregnancy.**—In answer to the question whether eclampsia can be foreseen and prevented, Willson offers the following as reasonable conclusions:

> 1. Careful urinalyses should be carried out in all cases of pregnancy at frequent intervals and with increased frequency as term is approached. 2. The most dependable indications of impaired renal function and of probable eclampsia, have been shown by general experience to be the presence of decided quantities of serum albumin, the diminution of the eliminated urea and the presence of a microscopic renal sediment (casts, renal epithelium, blood, etc.). The character of the latter, when accompanied by the well-known clinical signs of nephritis, always constitutes a working basis for an estimate of the probability of imminent danger. 3. Even if the urine appear perfectly normal the possibility of eclampsia must be considered, especially in young women. Eclampsia in such cases is of equal severity with that of cases in which the urine has given due warning of impaired renal functions. 4. When eclampsia supervenes on labor in a subject with previously (apparently) healthy kidneys, the tendency subsequently is toward a return to normal renal functions if the patient survives. This circumstance would seem to indicate still more strongly that the kidneys may actually have been normal up to the time of a temporary embarrassment and suspension of function. 5. Although we fail to find in urinalysis an unerring indication of the behavior of the case, it is a safeguard we can ill afford to neglect. Until the nature and pathogenesis of uremia and eclampsia are more thoroughly understood it would appear to be our best guide to safe treatment and accurate prognosis. 6. The prognosis seems to be vastly improved if eclampsia be combated by generous bleeding, followed by venous transfusion with normal salt solution. These measures reduce and dilute the poison in the circulation and relieve the cardiac distress. Free diaphoresis and purging are, of course, indicated.

New York State Journal of Medicine, New York.

July.

42 *Some Reflections Relative to the Time and Method of Operating for Appendicitis. E. D. Ferguson.
43 The Family Physician. Chauncey P. Biggs.
44 *Morphology of Anopheles Mosquito—Habits—Modes of Destruction. Wm. N. Berkeley.
45 *The Concurrence of the Anopheles Mosquito and Malaria. Henry C. Weeks.
46 *Laboratory Diagnosis and Life Cycle of the Parasite of Malaria. Wm. T. Klein.
47 Results in Fifty Cases of Cancer Treated with the Aid of the Roentgen Rays. Charles W. Allen.
48 The Roentgen Ray; Its Mechanics; Physics, Physiology, and Pathology. Eden V. Delphey.
49 The Roentgen Ray in Gynecology. Eden V. Delphey.
50 *A Study of the Indications for Nephropexy. Augustin H. Goelet.
51 *Septicemia and Death Following X-Ray Burns. Howard B. Besemer.

42. **Appendicitis.**—Ferguson would operate in all cases on patients who will submit within a few hours of the attack, but after that somewhat vague period has elapsed and the disease becomes localized, he would wait for the subsidence of symptoms and the formation of an abscess, treating the patient medicinally so as to avoid any spreading of septic matter into the abdominal cavity or interfering with the protective adhesion of the contiguous peritoneal surfaces. All the cases, however, should ultimately be subjected to operation.

44.—See abstract in The Journal of July 11, p. 125.

45.—Ibid.

46.—Ibid.

50.—Ibid., xxxix, p. 1204.

51. **Fatal X-Ray Burns.**—Besemer reports in detail a case of fatal septicemia following an *x*-ray burn. He says he finds three hypotheses for its cause: 1. Sepsis due to septic infection of the wound at operation, followed by absorption. He hopes this was not the case. 2. Did the chlorin sterilization practiced destroy enough epidermis or rather put enough tissues into condition of good culture medium for streptococci to multiply beyond all reason and overwhelm the system, or 3, was it the severe *x*-ray burning that furnished the culture medium? He has never seen chlorin do this before. If it was the cause, he was not able to show how the condition occurred. Inasmuch as the diagnosis of sepsis was only established at postmortem he is unable to guess when it began.

Oklahoma Medical News-Journal, Oklahoma City.

July.

52 The Mechanical Treatment of Hernia. J. R. Phelan.
53 *A Study of a Case of Dual Personality. S. Grover Burnett.

54 Impaired Digestion of Infants—Particularly Bottle-fed Babies. F. H. Monroe.

53. **Double Personality.**—The case reported by Burnett is an interesting one, evidently epileptic in its character. A peculiar feature of the case is that the subject was aware of his defect and managed to conduct business by taking careful notes in each state to which he could refer in the condition of amnesia that followed. He learned to think as two men, one taking up matters where the other left off, as recorded in his book. The case also has important medicolegal bearings, as he was decidedly dangerous in some conditions.

Pediatrics, New York.

July.

55 *Fresh Air in the Treatment of Children's Diseases. Robert W. Hastings.
56 *Four Deciduous Teeth Extracted by an Injury, Replaced and Retained in a Healthy Condition. Samuel E. Earp.
57 Mongolian Imbecility. C. R. Spicer.
58 *Marasmus. Philip F. Barbour.
59 Pott's Disease of the Spine in Children. Its Complications. James H. Tebbetts.
60 Foreign Bodies in the Intestines. L. T. Royster.

55. **Fresh Air in Children's Diseases.**—Hastings remarks on the necessity of fresh air, the difficulty of obtaining it, and the methods adopted in the Boston Floating Hospital.

56. **Teeth Replacement.**—Earp reports a case where four lower incisors were knocked out by an accident, with laceration of the gums and only slight attachment of tissue on the anterior surface. The injured parts and the mouth were treated with an antiseptic solution mainly of boric acid, the teeth replaced, and after firm pressure for five minutes were kept in place by a pledget of cotton saturated with the same solution. Sedatives were given to produce quiet and a liquid diet instituted. After a few weeks the teeth were firm and later became uniform and normal and healthy. He thinks nature will show a tendency to assist when there is ample vitality as in childhood, and that the preservation of the teeth in this instance prevented depression, which, during the four to six succeeding years—the child being only sixteen months old—would have changed the expression of the features. The cutting edges not being in apposition would have made mastication imperfect and impaired digestion. The successful re-establishment probably prevented a destruction of the germs of the permanent teeth and avoided deformity and malposition.

58. **Marasmus.**—This condition is much more common among the dispensary class than in private practice. It may occur in well-to-do children that have undergone severe and prolonged illness. The pathology is not uniform. The cause is often very obscure, and though there is no difficulty in recognizing the atrophied child it seems to be due to vice of absorption, as Rotch says. Barbour, acting on this theory, has been trying copper arsenite in the treatment, in small doses, the more insoluble salt of arsenic being employed for the local stimulating action on the cells and mucous membrane of the stomach. Its effects, however, are not confined to the gastric membrane. It is carried into the bowel and that which is absorbed is carried to the liver, where it is again eliminated in the bile. This circular process seems to be stimulating to the atrophied intestinal mucosa, renewing its activity and bettering the absorption and assimilation. He has administered it three times a day after feeding in 3/100 of a grain doses dissolved in water acidulated with hydrochloric acid. While his experience has not been large with this method, it seems to indicate its use. He thinks the administration of cod-liver oil would probably be contraindicated. He has more good from its use externally than internally. The prognosis, he thinks, should be guarded in any case; the chances of tuberculosis are to be considered.

Bulletin of the Johns Hopkins Hospital, Baltimore.

July.

61 On Obliteration of the Superior Vena Cava. William Osler.
62 *A New Method of Hemo-alkalimetry and a New Hemo-alkalimeter. Arthur Dare.
63 John Collins Warren. J. G. Mumford.
64 *The Etiology of Serofibrinous Pleurisy with Reference to Cytological Diagnosis. C. H. Bunting.
65 A Case of Peptic Ulcer in the Jejunum of a Dog Following Gastroenterostomy, with a Review of the Cases Reported in Man. S. H. Watts.
66 The Advantages of the Sims Posture in Cystoscopic Examinations. John A. Sampson.

62. **Hemo-Alkalimetry.**—The new instrument and method here described are dependent on spectroscopic examination of the blood and fading away of the absorption point of oxyhemoglobin with neutralization. The details are too elaborate for abstracting. Dare tabulates 75 cases of blood examinations, and the tables, he says, seem sufficiently interesting to merit a close study of the relation of alkalinity to physiologic and pathologic alterations of the blood. In enteric fever a marked decrease of alkalinity was the rule. In 23 cases where this diagnosis was made, the alkalinity was normal or below normal in 20. A decrease in alkalinity is also observed in tubercular disease with glandular involvement, while in tubercular meningitis or peritonitis the alkalinity shows an increase or falls late in the course of the affections. In gastric ulcer there is a fall in the alkalinity below the color index, while cancer shows an alkalinity above this. In malignant conditions generally the alkalinity was found to be normal or somewhat increased. The anemias showed a decided fall in alkalinity, while in chlorotic subjects the alkalinity followed closely the normal color index. In the latter disease attempts were made to increase the alkalinity by giving excessive amounts of sodium bicarbonate, but while the erythrocytes increased and the urine became alkaline, the hemoglobin failed to respond. In splenomedullary leukemia, the alkalinity suffers a marked decrease, while in splenic anemia and cholemia it shows an apparent rise. Catarrhal jaundice and amyloid liver both raise the alkalinity of the blood, and cholelithiasis showed an evident decrease. Croupous pneumonia, phthisis, influenza, rheumatic fever, rubeola, appendicitis, even in the presence of a frank leucocytosis, showed an increased alkalinity, while in malaria the results seemed contradictory. In chronic malaria it was subnormal, while in recent tertian malaria it was increased. The relation that the alkalinity bears to the excretion of urea needs investigation. These studies, imperfect as they are, he says, tend to show that in those diseases which present a marked decrease in the alkalinity, they at the same time show a marked increase in the quantity of urea eliminated as the amount of nitrogenous food is diminished.

64. **Pleurisy.**—Bunting has followed Widal and Ravaut's suggestion as regards the cytologic determination of the tuberculous nature of pleurisy. He studied a number of pleural exudates, particularly those from idiopathic pleurisy at the Johns Hopkins Hospital. He finds a decided fall in the number of polymorphonuclears in the second week, the exudate being almost entirely mononuclear, agreeing in this with Widal and Ravaut as regards idiopathic pleurisies and their tubercular character. He does not pretend to claim that all idiopathic pleurisies are tubercular, but they have an exudate remarkably uniform in cellular content and general characters which may be assumed to indicate a uniformity in the nature and etiology of the process. This uniform cellular formula, as others seem to have shown, is the formula of tuberculous pleurisy.

Medical Bulletin, Philadelphia.

July.

67 Congenital Dislocation of the Hip-joint, Infantile Paralysis of the Lower Extremity, and Tuberculous Hip-joint Disease. James P. Mann.
68 *The Prostatic Electrolyzer in Its Time- and Trouble-saving and Curative Aspects. John V. Shoemaker.
69 *Hope in Medicine. F. Savary Pearce.
70 Improved Diuretics. William R. D. Blackwood.

68. **The Prostatic Electrolyzer.**—Shoemaker describes the method of using this instrument which is simple and has been described elsewhere. He finds with galvanic electricity it is of decided value in cases of enlarged prostate, spermatorrhea, constipation, etc., and reports cases.

69. **Hope in Medicine.**—Pearce maintains that the encouragement of hope is of main importance in many cases.

Annals of Gynecology and Pediatry, Boston.

July.

71 *A Report of 100 Cases of Diphtheria of the Larynx, Intubated, and Treated with the Diphtheria Antitoxin. Edwin Rosenthal.

72 *Two Cases of Normal Pregnancy Following Operations for Extrauterine Pregnancy. Francis D. Donoghue.
73 *Some Curiosities of Cesarean Section. Ernest B. Young.

71. **Diphtheria.**—Rosenthal has not been able to reduce his mortality record to so low a percentage as to make him a believer in the "possible specific efficacy" of the serum. He suggests or intimates that there may be a decided difference in the quality of the serum, and that it is sometimes less effective in the same quantity as formerly, though he admits the reduction of mortality that has followed its use in the severer types. He now combines the serum with his old treatment. No case is so mild or treatment begun so early as to induce him to depend alone on antitoxin.

72. **Ectopic Pregnancy.**—Donoghue concludes that it would be well to carefully watch the post-operative course of ectopic pregnancy, as an increasing number of reported results show that normal pregnancy is many more times apt to occur than a repetition of an extrauterine. He thinks we would probably be doing right to conserve the pelvic organs, but careful watch should be kept for slight deviations from normal menstruation after operation. If the patient should elect not to be exposed to the danger of repeated extrauterine pregnancy, he asks will we not be obliged to concede that she may demand relief from any child-bearing?

73. **Cesarean Section.**—Young describes a number of curious cases taken from the literature of cesarean section performed in the crudest possible way, even by the patients themselves. Examples are given where goring by a cow was followed by the extraction of a dead or living child and the mother surviving, or both mother and child surviving. A case has been reported where a woman was cut in two by a cannon ball and a living child saved.

Providence Medical Journal.

July.

74 Recent Medical Progress with Special Reference to the Studies of Immunity. Frank T. Fulton.
75 Myopia and Its Relation to School Life. F. T. Rogers.
76 *Treatment of Fracture of the Neck of the Femur. Frank E. Peckham.
77 The Causes and Prognosis of Sudden Blindness. George W. Van Benschoten.

76. **Fracture of the Neck of the Femur.**—Peckham reports two cases of fracture of the neck of the femur, one treated by a bone peg, the fragment being placed in apparently perfect apposition and union restored in each case, though in each case there was a shortening of the leg. He accounts for this by the non-preservation of the proper lines or angle of the head to the shaft of the femur, and shows how this ought to be preserved by placing the wounded limb in an abduction splint. While this idea was original with him, it was also brought out by Dr. Royal Whitman, simply operating on the leg so as to restore the angle which the neck should form with the shaft. This can only be accomplished by markedly abducting the leg, therefore the leg should be placed in a strongly abducted position and fixed in plaster in this angle. He also calls attention to the Ridlon method of using the Thomas hip splint in case of this fracture in the aged.

The Laryngoscope, St. Louis.

July.

78 *The Principles of Rhinologic Practice. Edwin Pynchon.
79 *The Pathology of Ethmoiditis Reconsidered. Edward Woakes.
80 *The Use and Abuse of the Eustachian Bougie. M. A. Goldstein.
81 *The Possibilities and Limitations of the Electrolytic Bougie in the Treatment of Chronic Catarrhal Otitis. Arthur B. Duel.
82 Some Cases of Asthma Treated by Removal of the Middle Turbinate. T. W. Moore.

78. **The Principles of Rhinologic Practice.**—Pynchon offers the following conclusions from his review of the general principles of rhinologic work: "1. In the normal nose the nostrils should be of equal caliber and should jointly have a sufficient capacity to at all times supply the requirements of easy nasal respiration. 2. In the ideal nose the walls of the septum are practically plane, and are at no time or place touched by the tissues of the outer wall in either passage, and, furthermore, no points of contact exist elsewhere therein, so as to interfere with either ventilation or drainage, or prevent the normal evaporation of nasal moisture. 3. While in an ideal nose the septum is vertical and nearly plane, a moderate irregularity thereof will not impair the nasal respiratory functions, providing there are no points of contact or abrupt elevations therein, and the lumen at all points is sufficient. 4. Abnormal redness of the nasal mucous membrane is an unfailing sign of irritation, the cause of which is generally of a structural nature, and, therefore, amenable to surgical treatment. 5. The indications for operative interference depend on both the subjective and objective symptoms. A noticeable inadequacy of either nasal passage, the presence of excessive or retained secretions, or an abnormal redness of the mucous membrane at any point, are all evidences of abnormality, which, if coupled with inconvenience to the patient, invite corrective attention. 6. In the treatment of chronic hypertrophic nasal troubles, the indication is to remove all obstructive, redundant or pathologic tissues, and at all times the chief indication is to cause the defective nose to conform as nearly as practical to the contour and character of the ideal standard."

79. **Ethmoiditis.**—Woakes discusses the pathology of ethmoiditis, which he attributes to progressive fibrosis, and compares it to the conditions that occur in the kidney and possibly in the sclerosis of the nervous system and elsewhere.

80. **The Eustachian Bougie.**—Goldstein describes a method of using the eustachian bougie, which he considers a very valuable therapeutic measure in cases of obstruction or narrowing of the canal. It is often efficient when pneumomassage, catheterization and flation of the tympanic cavity have failed to produce good results. Its effect, he thinks, is mainly mechanical. As regards the electrical bougie he believes the addition of a mild galvanic current with its simple stimulating effect on the mucous membrane, nerves and muscles of the eustachian tube, enhances the value of the bougie, but as to its mechanical and electrolytic effects he expresses doubt. He thinks they may aggravate conditions. With the slightest cauterization or erosion of the surface, further narrowing of the tube of the lumen can not be prevented.

81. **The Electrolytic Bougie.**—Duel is an advocate of the electrolytic bougie. He gives the experience of a large number with whom he has corresponded in regard to it. The cases where he has found it of greatest value have been those in which he has used it only a few times at considerable intervals. Others' experience agrees with him. Even one passage has been sufficient. A small bougie, small current strength, considerable time and a great deal of patience are the best precepts to follow.

The Medical Times and Register, Philadelphia and Boston.

June.

83 Shock Produced by General Anesthesia with Relation to Disturbances of the Blood and Gastrointestinal Tract. Fenton B. Turck.
84 The Treatment of Rheumatism. J. T. Fotheringham.
85 The Modern Therapy of Septic Puerperal and Surgical Infections. Roswell Park.

Virginia Medical Semi-Monthly, Richmond.

July 10.

86 Infection of the Parotid Gland. W. A. Bryan.
87 Round-celled Sarcoma of the Prostate; Removal; Recovery. Granville MacGowan.
88 Puerperal Eclampsia. E. T. W. Hall.
89 A Few Practical Therapeutic Facts. Chas. A. Labenberg.
90 The Use and Abuse of the Nitrites. A. B. Greiner.
91 The Mineral, Animal, Vegetable and Spiritual Kingdoms of Food. Ephraim Cutter.
92 Anesthesia and Anesthetics. Thomas Dowling.
93 Hygiene in Public Schools. J. D. Bennett.

July 24.

94 Some Remarks About Accessory Sinus Disease. Joseph A. White.
95 Injuries of the Eye and Their Complications. E. Oliver Belt.
96 Case of Fracture of Skull. Wade A. Atkinson.
97 The Physician and the Public in Relation to the Common Communicable Diseases. J. C. Irons.
98 Diagnosis of Renal Tuberculosis. John D. Thomas.
99 Arteritis in Typhoid Fever. W. T. Thayer.
100 Medical Expert Evidence. Fred J. Mayer.

American Practitioner and News, Louisville.

July 1.

101 Cheerfulness in the Sick-room. T. Atchinson Frazer.
102 Phlyctenular Keratitis. M. F. Coomes.

103 The Treatment of Drug Addiction. J. H. Kellogg.
104 Exophthalmic Goiter. J. J. Rodman.
105 Cretinism, with Report of Case. Frank M. Beard.

Texas Medical News, Austin.

June.

106 The Visit of Dr. Adolph Lorenz to Texas. Editor.

Ophthalmic Record, Chicago.

July.

107 The Retinal Image. Chas. D. Jones.
108 Sarcoma of the Choroid in a Child. William Evans Bruner.
109 Double Hand Skiascope. J. E. Jennings.
110 A Prism Sequence for Measuring Heterophoria. Walter L. Pyle.
111 Slight Modifications of the Van Milligan and of the Hotz-Anagnostakis Operations for Entroplum. Harold Gifford.
112 A Case of Syphilitic Orbital Periostitis and Optic Neuritis in which Vision was Almost Extinguished, but Completely Restored. F. C. Hotz.
113 Tuberculosis of the Iris, with Presentation of Microscopic Specimens. Wm. H. Wilder.
114 Operative Treatment of Posterior Synechia. J. F. Fulton.

Medical Sentinel, Portland, Oregon.

July.

115 The Human Face in Health and Disease. H. S. Rowe.
116 Treatment of Chorea. Henry Waldo Coe.
116¼ Morphin and Ptomaine Poisoning. I. C. Twitchell.
116½ The Etiology of Pneumonia. E. A. Pierce.

Physician and Surgeon, Detroit and Ann Arbor.

April.

117 A Daily Study of Foods Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. Ephraim Cutter.
118 Adenoids. Calvin R. Elwood.
119 History of the Washtenaw County (Ann Arbor) Medical Society. William F. Breakey.
120 The Relation the Physician Sustains to the Law. Rollin H. Person.
121 A Case of Cholesteatoma of the Middle Ear, with Radical Operation. Emil Amberg.

International Medical Magazine, New York.

July.

122 On the Development of the Faculty of Speech. G. Hudson Makuen.
123 The Relation of Manual Therapy to the Vasomotor Mechanism. John P. Arnold.

Medical Mirror, St. Louis.

July.

124 Infusion. J. W. Wainwright.
125 Claude Nicolas Le Cat, a French Surgeon. Frank Webster Jay.
126 The Treatment of the Stump in Appendectomy. Edward Wallace Lee.

New England Medical Monthly, Danbury, Conn.

July.

127 Erysipelas and Erysipeloid Conditions; Their Causes and Their Treatment. Thomas H. Manley.
128 Serious Penetrating Wounds of the Eye and Sympathetic Ophthalmia. Edward Swasey.
129 In the Progress of Preventive Medicine. Franklin Staples.
130 Further Investigations Concerning Streptococci. Hans Aronson.

Medical Dial, Minneapolis.

July 1.

131 Steps Upward in Modern Surgery. Franklin Staples.
132 Influenza. T. J. Catlin.
133 Practical Experiments in the Treatment of Anemic Conditions. Fritz Euler-Rolle.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 18.

1 *An Address on Erythemata as Indicators of Disease. James Galloway.
2 *Impressions of the Efficiency of Professor Dunbar's Antitoxin in Hay Fever. Sir Felix Semon.
3 *On the Desirability of Operating for, and the Mortality from, Chronic Pancreatitis. H. Hale White.
4 *The Problems of Cancer. E. F. Bashford.
5 *An Experimental Examination of Mesenteric Glands, Tonsils and Adenoids, with Reference to the Presence of Virulent Tubercle Bacilli. Allen MacFadyen and Alfred MacConkey.
6 Note on Antihemolytic (Hemosozic) Serum. Armand Ruffer and Milton Crendiropoulo.
7 A Case of Acromegaly. Simeon Snell.
8 A Note on the Treatment of Chorea by Ergot of Rye. Eustace Smith.

1. **Erythemata as Indicators of Disease.**—Galloway divides these affections into a group of simple erythemata, the result of hyperemia, transient in character, as a rule, and producing no permanent changes, and one of the exudative erythemata, resulting from hyperemia, transudation and exudation as well as actual inflammation, causing changes that may be of some duration, or even permanent. The simple erythemata are results of action of the nerve centers, the dilatation of the skin arterioles, and in certain cases they may be of serious import as indicating constitutional conditions. It is very common to find that persons liable to these suffer from lack of resistance to infections, and irregular circulation. He reports a case showing that such a condition may develop into nodular and necrosing lesions in certain cases and be of the most serious prognostic significance. These conditions may also develop into the exudative erythemata, of which latter type he refers to certain parasitic disorders, as the erythemas of malaria due to the presence of hemameba in the blood, and trypanosomiasis. Probably the most common causes of exudative erythemata, which give rise to exudative lesions of the type of erythema multiforme, are the toxins produced in the digestive tract as a result of improper food, etc. A few cases have been recorded of erythema multiforme in connection with renal disease. In conclusion he remarks in regard to lupus erythematosus. He considers it a toxemia arising from various sources, and not essentially a tubercular affection.

2. **Hay Fever Antitoxin.**—Semon has utilized Dunbar's hay fever antitoxin in eight cases, several of which he here reports. His impressions from these are that it is a palliative rather than a directly curative measure. It is not to be expected that any single application will permanently ward off the disease, but it has given relief to some and has acted beneficially in postponing the attack in others. According to the spontaneous statement of at least two of his patients, it has rendered the actual hay fever attack much more tolerable than on former occasions. The main applicability of the serum lies in the direction of its postponing the occurrence of the regular attack. If further experience will show that prolonged and frequent application does not produce tolerance diminishing its efficiency or unpleasant by-effects, it will have added much to our therapeutics resources in this disease. After more extensive experience he may have to further modify his opinions.

3. **The Desirability of Operating Generally in Chronic Pancreatitis** is questioned by White, who reports a case showing that operation may not be necessary. He also questions the general fatality of the disorder, analyzing the statistics of Guy's Hospital in evidence of this. He thinks it is very rarely a fatal disease, probably not being responsible for more than one or two out of nineteen thousand deaths, and certainly not responsible for more than four.

4. **Cancer.**—The importance and value of the study of cancer in the lower animals, Bashford thinks, would enable us to orientate ourselves to an extent in the investigation, not possible by any other means. He thinks that the present pessimistic views of the hopelessness of investigating cancer are not justified in the face of what still remains to be done.

5. **Glandular Tubercles.**—MacFadyen and MacConkey have studied the postmortems of children to ascertain the presence of tubercle bacilli in the mesenteric glands. Only a few of the twenty-eight cases examined—eight altogether— were diagnosed as tuberculous. The remaining twenty were considered non-tuberculous; the examination, however, showed virulent tubercle bacilli, indicating, therefore, that this is much more frequent than ordinary examinations would lead one to suppose. One point of interest was the finding of tubercle bacilli in the mesenteric glands of a still-born child. They were also able to obtain material from the examination of 44 cases of adenoids and 34 cases of tonsils. The results, however, were entirely negative. They conclude that the tubercle bacilli are not usually found in these organs.

The Lancet, London.

July 18.

9 Diseases of the Ascending Aorta. (The Cavendish Lecture.) T. Clifford Allbutt.
10 *Gastric Ulcer and Its Surgery. Albert Carless.
11 A Case of Intestinal Obstruction Presenting Unusual Features. Gilbert James Arnold.
12 Observations on Mastication. Harry Campbell.
13 *The Selection of Cases Suitable for the Nauheim Treatment of Chronic Affections of the Heart. Leslie C. Thorne.

14 The Chloroform Habit Acquired by a Hysterical Woman Resulting in Death. E. Percy Court.
15 *The Incidence and Mortality of Croupous Pneumonia in Infancy. Clive Riviere.
16 A Case of Chloroma, with Clinical History and Account of Postmortem Appearances. Edgar Trevithick.
17 Note on a Case of Spurious Hydrophobia (Lyssophobia). W. S. Harrison.

10. **Gastric Ulcer and Its Surgery.**—Our knowledge of the etiology of gastric ulcer is still defective. Carless reviews the conditions in which the surgeon is most likely to be interested, those especially warranting surgical interference. One of these is recurrence or persistence without obvious complications as sufficient warrant for surgical interference, because it means chronic invalidism and may develop malignant disease; hemorrhage may also require operative treatment, especially when persistent or recurrent or threatening life. Perforation is one of the most formidable complications, and while the statistics vary, certainly is the cause of death in a considerable proportion of cases, 28 per cent. according to Fenwick and also Browicz, though Leube found it only 2 per cent., and the Massachusetts Hospital statistics give it only a little more, 3.2 per cent. The actual perforation is due to traumatism in many cases, though the injury may be very slight. Carless goes into details as to the operative treatment. A fourth complication demanding surgical treatment is one to which the stomach, like every part of the digestive tract, is liable and may occur whenever a chronic ulcerative lesion exists, viz.: localized abscess and, by extension of the infection, even a basal empyema may be produced. Finally complications necessitating surgical treatment arise as a result of the contraction which is always associated with the cicatrization of ulcers. Here the most marked trouble arises from the narrowing of the pylorus, but it may occur elsewhere and cause serious modifications of the shape of the stomach, such as the hour-glass stomach, etc. Sometimes the stomach may be divided into two equal pouches, and it may be possible to unite them by means of a Murphy button or a total excision of the stricture may be feasible. If gastroenterostomy is resorted to, it will have to be double to drain the two parts. When pyloric obstruction exists, the treatment may be either by pyloroplasty, pylorectomy or gastroenterostomy. Pyloroplasty is a simple procedure and should be successful. Immediate results are often excellent. The death rate, however, is about 10 per cent., and it can only be undertaken in the absence of adhesions. It is difficult also to open out and to suture up a very thick and indurated pylorus, and if the stomach is much dilated, and sags down, the contents are likely to stagnate in the pouch and no improvement follow. Where motor power is diminished it is of no use; and it must not be forgotten that duodenal ulcers may co-exist and produce stricture further down. Pylorectomy is sometimes useful, as is also gastroplication, but where all these procedures are contraindicated, gastroenterostomy must be relied on, and the results will probably be beneficial.

13. **Nauheim Treatment.**—The cases cured or greatly benefited by the Nauheim treatment, are, according to Thorne, those of dilated, enfeebled, irritable heart, a sequel of influenza, also cases of cardiac enfeeblement from excessive smoking and prolonged illnesses, such as typhoid, etc. Those that can be greatly benefited but not cured, include cases of rheumatic and of gouty origin where the valves have been permanently injured and there are signs of commencing cardiac failure. Among doubtful cases should be classed a large number of the more advanced forms of valvular affections in which the recuperative powers have been undermined by climatic effects, intemperance, or illness, and the patient is losing ground. The treatment may be tried in some of these cases when others have proved ineffectual, but it should be applied by one who is thoroughly conversant with it, and who can watch the smallest details, as a very slight variation in the bath temperature or the duration of the bath may have the most serious effects. The unsuitable cases are, according to Thorne, those who have been and are heavy drinkers, those who suffer from syphilitic heart affections, those with marked degeneration of the vessel walls, and those exhibiting symptoms of aortic regurgitation, and also very old people. In conclusion he says that a fortnight's or three weeks' change of air after the baths materially increases the benefit obtained, but the selection of place depends on the individual and his personal idiosyncrasies. Cases are reported.

15. **Croupous Pneumonia in Infancy.**—After the study of the statistics of the East London Hospital, and his personal observations, Riviere sums up the results as follows:

1. Croupous pneumonia occurs in infants below the age of two years as frequently as, and probably more frequently than, in older children.
2. In infants a diagnosis between croupous pneumonia and bronchopneumonia is often impossible, many cases of bronchopneumonia with lobar consolidation appearing in the postmortem room with a diagnosis of croupous pneumonia.
3. On account of this difficulty statistics based on diagnosis alone are quite untrustworthy.
4. This error can be largely eliminated after the manner described above. [An analysis of statistics giving about 25 per cent. of all cases under 2 years and nearly all above that age as croupous pneumonia.—Ed.]
5. The mortality in croupous pneumonia is largest in the first year of life (25 per cent.), is considerable below the age of two years (15.4 per cent.), but for children above this age is comparatively small (2.3 per cent.).

Bulletin de l'Academie de Medecine, Paris.

Last indexed page 64.

18 (Year LXVII, No. 21.) *Prophylaxis du paludisme par la quinine. J. Michon.
19 (No. 23.) De l'actinomycose humaine en France et à l'étranger 1897-1902. A. Poncet and L. Thevenot.
20 (No. 24.) Rupture of Spleen from Horse's Kick. Recovery After Splenectomy the Eighth Hour. A. Le Dentu.—Rupture de la rate, etc.
21 *Etude sur l'association de l'appendicite et de la cholecystite avec ou sans péritonite. G. Dieulafoy.
22 (No. 25.) X-Ray Treatment of Tumors. R. Vigouroux.—Traitement des tumeurs du sein par les rayons X. (See also No. 23.)
23 Le système quarantenaire dans la mediterranée. J. Teissier et al. (Commenced in No. 21.)
24 (No. 26.) Paralysies traumatiques des muscles de l'oeil d'origine orbitaire. De Lapersonne.
25 *Sur le mode de préparation des solutions chloruro-sodiques gélatinées injectables. Report of committee.
26 Note sur un trypanosome du dromedaire au Soudan français. Cazalbou.
27 *La médication hypotensive. (Présclérose et cardiopathies artérielles.) H. Huchard.

18. **Quinin in Prophylaxis of Malaria.**—Michon's practice, with which he has been very successful in Corsica, is to administer quinin hydrochlorate in the dose of 70 to 80 centigrams of quinin hydrochlorate every third day. Laveran in discussing his communication mentioned that the Italian tests of protection against mosquitoes with wire screening have resulted in reducing the proportion of persons affected with malaria from 40, 60, or 96 per cent. in the controls, to 1.9 per cent. of primary infection in 4,363 persons completely protected; 3.3 per cent. in 5,165 more or less protected, and to 10.9 per cent. in 802 persons only partially protected. Michon prefers quinin prophylaxis to "putting people in cages."

21. **Association of Appendicitis and Cholecystitis.**—Dieulafoy confirms by 2 cases personally observed Becker's recent statistics of 30 in which appendicitis coincided with a suppurative cholecystitis with or without peritonitis. He is convinced that the appendix is secondarily involved and its inflammation due to descending infection and therefore insists upon the importance of inquiring for gallstone antecedents and examining the gall bladder in every operation on the appendix. He cites in detail as an extreme case the one published by Grant in The Journal of April 18.

25. **Gelatin Solutions for Subcutaneous Injection.**—The committee charged with the task of reporting on the measures to be adopted to prevent accidents from this source, personally prefer that the solutions should be officially standardized, but as this is not practicable under the present regulations, they recommend that the solution should be 1 to 2 per cent. of gelatin in a 7 per cent. solution of sodium chlorid. It should be sterilized in quantities not over 150 c.c. in the autoclave with steam at a pressure of 115 degrees and for thirty minutes. They affirm that these precautions, strictly observed, will render tetanigenic infection impossible.

27. **Treatment of Arterial Hypertension.**—Huchard reiterates that the study of the arterial tension is the key to the pathology of many affections. The clinic has demonstrated that the peripheral heart sometimes takes the lead in morbid processes which commence in the arteries and finally involve

the left heart, with ischemia in the organs entailing numerous toxic accidents due to the early insufficiency of the liver and kidney. Arteriosclerosis, he states, is preceded for weeks to years by vascular hypertension due to various causes; the "maladie de fonction" precedes the "maladie de l'organe." It may be diagnosed by the sphygmomanometer, the stability of the pulse and its inverse type, and the diastolic reverberation of the aorta at the base of the heart and to the right of the sternum. When this latter reverberation is "clangorous" it indicates chronic aortitis and dilatation of the aorta, but when it is near the pulmonary artery, to the left of the sternum, it signifies hypertension in the lesser circulation. By "stability of the pulse" he means the lack of the usual difference between the pulse when the subject changes from the reclining to the erect position, or that the pulse is slower when standing. This inverse pulse is a sign of arterial hypertension. In treatment of this stage of presclerosis, the diet is of great importance, as the abuse of meat tends to pour into the blood more and more vaso-constricting poisons. Hearty eaters are more inclined to arteriosclerosis, he thinks, than hard drinkers. Meats should be abandoned for vegetables and milk, and diuresis promoted, the peripheral circulation favored by massage and muscular exercises, and by thermal baths. He warns against carbonated baths as directly enhancing the arterial hypertension, and relates 3 cases in which patients of this category had found their condition aggravated by a course of carbonated baths at Nauheim and returned to Paris to die. Presclerosis and all arterial cardiopathies characterized by hypertension of the blood formally contraindicate carbonated baths. A sharp distinction should be made between the "valvular hypotensive cardiopathies," he remarks, and the "arterial hypertensive," even when the latter exhibit a souffle at the orifice which is liable to cause them to be mistaken for the former. Blondel's new lacto-serum promises to be a valuable aid in combating arterial hypertension. [Robin has noticed that with the tonometer it was possible to determine a marked drop in the capillary tension after subcutaneous injection of even 1 to 5 c.c. of the lacto-serum. This is a serum obtained from animals previously injected with small repeated doses of milk.—ED.] Organ therapy may be useful in certain cases, especially in the arterial hypertension sometimes noted in the menopause and which frequently terminates in arteriosclerosis. Ovarian therapy in these circumstances is better than drugs. He considers veratrum viride unreliable or dubious, and rejects also the iodids, theocin and theophyllin, theobromin and ethyl nitrite. He prefers trinitrin (nitrate or trinitrate of glycerin, nitro-glycerin) in progressive doses, two or three drops at a time, three to six or eight times a day until a bearable headache is induced. Tetranitrol (erythrol tetranitrate) in tablets of 1, 2 or 5 mgm. or 1 cg. several times a day until a mild headache is likewise induced. At this moment the dose should be slightly reduced. The vaso-dilating action is nil until the slight headache stage is reached. Given with these precautions there is no fear of toxic accidents, and they can be continued for weeks and months, on condition of suspending them for eight to ten days during the month.

Revue de Gynecologie, Paris.

Last indexed XL, page 1614.

28 (VII, 3.) *Le fibro-myome du vagin. G. Potel (Lille).
29 *Combined Intra- and Extra-uterine Twin Pregnancy. H. Bichat (Nancy).—Grossesse gémellaire intra- et extra-uterine combinée.
30 L'opothérapie ovarienne. F. Jayle.
31 *De la perigastrite adhésive. Vautrin (Nancy).
32 Detailed Reports of Sections on Gynecology and Obstetrics at Madrid Congress, General Surgery and Urology.
33 *Indications de l'hystérectomie dans l'infection puerpérale aigue. Pinard (Paris). Address.
34 *Ibid. J. Cortiguera (Santander).
35 Pathogénie et traitement des inflammations chroniques celluliaires et péritoneales de la cavité pelvienne. Doléris (Paris). Address.
36 Ibid. Martin Gil (Malaga).
37 *Chirurgie conservatrice des lesions annexielles. Hector Treub (Amsterdam). Address.
38 *Ibid. Fargas (Barcelona).
39 *Ibid. Gutierrez (Madrid).
40 Des opérations conservatrices dans les ovarites sclérokystiques. A. Boursier (Bordeaux).
41 Surgery of Stomach. Cardenal (Barcelona).—Les indications de l'intervention chirurgicale dans les maladies de l'estomac. Address.
42 Ibid. A. Ceccherelli (Parma).
43 Ibid. H. Hartmann (Paris).
44 Resultats eloignés de la nephrectomie dans les neoplasmes du rein. J. Albarran (Paris). Address.
45 L'intervention chir. dans les néphrites médicales chroniques. Pousson (Bordeaux).
46 Functional Kidney Tests to Date. A. Hogge (Liège).—Valeur comparative des moyens actuellement à notre disposition pour apprécier l'état fonctionnel du rein. Address.
47 Ibid. J. Albarran.
48 *Résultats cliniques des injections epidurales en urologie. F. Cathelin (Paris).

28. **Fibromyoma of Vagina.**—Potel has observed 2 cases and collected 160 that have been published. They demonstrate that a fibrous tumor in the vagina, if left to itself, almost inevitably proceeds to ulceration and necrosis with possible serious infection. Death in the fatal cases was due to infection from this cause or hemorrhage.

29. **Twin Pregnancy Combined Intra- and Extra-Uterine.**—Bichat became interested in this subject from a case of this kind personally observed, and found 49 similar ones in the literature. In only one of the entire number did the mother and both children survive. In 2 others both children survived, but the mother succumbed. In 7 instances, after delivery from a supposed simple pregnancy, a tumor in which movements and a pulse could be observed was discovered in the abdomen, but no attempt was made to open it and the movements and pulse ceased in the course of a few hours to ten days. In the total of 50 cases, 12 came to term; in only 17 was the uterine fetus delivered alive; and the "ectoper" in only 3, as mentioned above. The mother survived in 27, but in the 20 cases of later date than 1880 there were 14 recoveries. The death of the mother was generally due to rupture of the ectopic pregnancy; in 12 the hemorrhage was fulminating before intervention could be attempted; in 7 the mothers succumbed notwithstanding operative treatment—in 4 from hemorrhage and in 3 from septicemia. He reviews the various cases in detail and concludes that treatment should be the same as for a simple ectopic pregnancy, that is, immediate intervention unless near the term. The danger of uterine abortion should not deter from prompt operation. But when first diagnosed near to term, and there are no alarming symptoms, it may be postponed under the closest supervision, with the hope of preserving alive the mother and both fetuses. The mortality for operative treatment has been 30.44 per cent. in 23 cases, while with expectant treatment it was 62.5 per cent. in 24 cases.

31. **Perigastritis with Adhesions.**—Vautrin's experience and that of others in the 29 cases he has found recorded, indicates that small, partial adhesions accompanying an insignificant gastric lesion may be detached with complete and definite cure. In case they are more numerous and compact, it may be wise to terminate by peritonization of the raw surfaces and resection of the gastric ulcer if one exists. But when the perigastritis has surrounded the stomach with a mass of adhesions and part of the stomach itself is much altered or the pylorus is compressed, or the parts have grown together, gastroenterostomy should be preferred. Whatever method of treatment is followed, the post-operative cure may not be immediate. All surgeons agree in this. After removal of the adhesions some time may elapse before the functions of the stomach are restored to normal. The vomiting may continue for several weeks, but gradually the symptoms subside to complete disappearance in time. The diet should be regulated to restore the chemistry of the stomach to normal.

33-34. **Indications for Hysterectomy in Acute Puerperal Infection.**—Pinard has performed this operation in 2 cases which were apparently favorable for it, but both patients succumbed. In one an unsuspected streptococcus left pleurisy was discovered and in the other, suppurative phlebitis of the right utero-ovarian veins. He affirms that neither the clinic, bacteriology nor pathologic anatomy are as yet able to afford any reliable indications for hysterectomy in acute puerperal infection.

Cortiguera has found 141 cases on record in which the uterus was removed for this cause. In 68 the patients recovered, in 73 they died. He believes that vigilant prophylaxis will

prevent puerperal infection and that vigorous intrauterine treatment at the proper moment will cure almost every case, but in the few exceptional cases in which these measures prove inadequate, hysterectomy may be done. The cases suggesting this treatment are those in which the infection is localized in the uterus, adnexa or pelvic peritoneum, but peritonitis or generalized infection are not absolute contraindications. Before operating it must be determined that the infection does not originate in the perineum or vagina, that it is not hematogenic with the uterus merely a subsidiary factor, and that the defensive glands, liver and kidney, are intact. Collapse or extreme weakness likewise contraindicate hysterectomy in such cases.

37-39. **Conservative Surgery of the Adnexa.**—Treub's address has been already abstracted. See ¶52, p. 133.

Fargas remarked in the course of his address that preservation of the tubes, without the ovaries, does not respond to any known indications.

Gutierrez regards as incurable the cases of chronic peritoneal and cellular inflammation with sclerosis and a purulent, inaccessible focus or one discharging into the upper portion of the rectum. In cases of recent inflammatory exudate without sclerosis or suppuration, good results may be obtained by promoting absorption, especially by Pincus' method of compression by the weight of a colpeurynter bag filled with mercury or lead, the patient slanting. (Pincus' colpeurynter for this purpose was described in THE JOURNAL of Oct. 4, 1902, p. 868, ¶57.) Thermal baths are also useful. When the exudate displays a tendency to sclerosis and causes constriction of the rectum, with or without a fistula, with serious gastrointestinal disturbances, the subcutaneous or submucous injection of thiosinamin according to Juliuberg's directions for treatment of cheloids and scleroderma, may be advisable.

48. **Epidural Injections in Urology.**—Cathelin's technic has been described recently in these columns, p. 286, ¶38. He now announces that he has cured with it 75 per cent. of all his cases of incontinence and has successfully applied it in all kinds of neuropathies affecting the urinary apparatus, such as night pollutions, impotence, psychopathic pollakiuria, false urethritis, false prostatitis and false cystitis—the "false urinary subjects." The dynamogenic effect has been established beyond question, confirming Cathelin's early assumption in regard to spinal inhibition by nervous traumatisms and shock affecting the roots and spinal cord centers in what he calls the "cone."

Semaine Medicale, Paris.

49 (XXIII, No. 25.) La scarlatine latente et son importance épidémiologique. P. Caziot.
50 Sponge Fishers' Disease. S. Zervos (Athens).—La maladie des pêcheurs d'éponges.
51 (No. 26.) De la dégénérescence cancéreuse de l'ulcère simple de l'estomac. Oettinger.
52 *L'exagération des réflexes tendineux dans l'insuffisance antitoxique. J. Grasset (Montpellier).
53 (No. 37.) L'identité de la lipomatose symétrique douloureuse avec la maladie de Dercum. L. Chelnisse (Montpellier).
54 Le syndrome urinaire dans la scarlatine et la diphthérie. R. Labbé.
55 Dacryoadénite blennorrhagique. Etiévant.
56 La compression publo-manuelle de l'utérus comme moyen de traitement des hémorrhagies après la délivrance. Fochier.
57 (No. 28.) Faut-il écrire Hallex ou Hallus et non Hallux? Dupin.
58 *Fasciculus of Türck. P. Marie and G. Guillain.—Le faisceau de Türck.
59 Le sérum de Trunecek comme moyen de traitement du rheumatisme blennorrhagique. L. Lévi.
60 Un procédé rapide d'extraction de la filaire. Roquemaure.

52. **Exaggeration of Tendon Reflexes in Autointoxication.**—In 12 subjects examined in Grasset's service the exaggeration of the tendon reflexes accompanied unmistakable signs of general intoxication. The number included 2 cases of pregnancy autointoxication, 2 of chlorosis, 3 of Bright's disease, 1 of chronic sclerous nephritis, 1 of subacute nephritis, 1 of biliary lithiasis, one of Laennec's cirrhosis and 1 of typhoid fever. The "antitoxic insufficiency" was evidenced by various symptoms on the part of the nervous system, or of the digestion (vomiting, diarrhea), circulation (hypertension), respiration (dyspnea), kidneys (pollakiuria, albuminuria, edema) or liver (icterus, pruritus). The tendon reflexes were exaggerated in all, sometimes in every limb, sometimes only in the arms. In some this exaggeration of the reflexes paralleled the intoxication in its rise and fall. Grasset attributes it to the contact of the toxic blood with the nerve centers—an exaggeration of the excito-motor power of the nerve centers of autotoxic origin.

58. **Fasciculus of Turck.**—Marie presents numerous arguments, with 21 cuts, to sustain his view that the fasciculus of Türck is what he calls a temporo-protuberantial fasciculus. The most important contingent of fibers is derived from the third temporal convolution. Although he considers that we now have quite correct notions as to its anatomy, its physiology is still a blank.

Archiv f. Allg. Pathologie, Etc. (Virchow's), Berlin.

Last indexed page 138.

61 (CLXXII, 2.) Pus. U. Deganello.—Ueber die Struktur und Granulierung der Zellen des akuten und chronischen Eiters des Menschen.
62 Ueber Lipaemie und Cholesteraemie, sowie über Veränderungen des Pankreas und der Leber bei Diabetes mellitus. B. Fischer (Bonn).
63 *Zur Aetiologie und Biologie der Geschwülste (of tumors). O. Israel.
64 Fall von multiplen Endotheliom der Lymph-Drüsen und Lymph-Bahnen. J. Gallina (Strassburg).
65 *Ein primarer karzinomatoider Tumor (Mesothelioma) der Nebennieren mit sarkomatösen Metastasen. P. G. Woolley (Montreal).
66 *Spinal Angioma. A. Muthmann.—Fall von Gefässgeschwulst der Wirbelsäule.
67 (No. 3.) Ueber Transplantation von Tumoren. Leo Loeb (Montreal).
68 Lymph Channels in Thymus. A. Schambacher (Strasburg).—Ueber die Persistenz von Drüsenkanälen in der Thymus und ihre Beziehung zur Entstehung der Hassallschen Körperchen.
69 Adenomatous Proliferation of Mucosa. R. Meyer.—Ueber adenomatöse Schleimhautwucherungen in der Uterus- und Tuben-Wand, und ihre path.-anat. Bedeutung.
70 *Lymphosarcoma on Mediastinal Portion of the Pleura, Extending into Spinal Canal. L. Bregman (Warsaw).—Lymphosarkom des Mittelfells mit Uebergang in den Rückgratskanal.
71 Spinal Cord Tumor with Spaces. R. Hadlich.—Fall von Tumor cavernosum des Rückenmarks mit bes. Berücksichtigung der neueren Theorien über die Genese des Cavernoms.
72 Ueber Lymphangiome. K. Sick (Berne).
73 Ciliated Epithelium Cysts in Suprarenal Capsule and in a Pelvic Lymph Gland. Ibid.—Flimmerepitheicysten in der Nebennierenkapsel und in einer Beckenlymphdrüse.
74 Ueber eine Degenerations-Cyste der Nebenniere mit kompensatorischer Hypertrophie. G. Marchetto (Turin).
75 *Shriveling of Suprarenals in Addison's Disease. M. Simmonds.—Ueber Nebennierenschrumpfung bei Morbus Addison.
76 Zur Pathologie des Pankreas bei Diabetes. C. Gutmann (Berlin).
77 Ueber idiopathische Hypertrophie der Esophagus-Muskulatur. Ellesen.
78 Stain for Elastin. B. Fischer (Bonn).—Weiteres zur Technik der Elastinfärbung.
79 Ueber das Wort "Influenza" und seine medicinische Bedeutung. W. Ebstein.

63. **Etiology and Biology of Tumors.**—In this address at the Madrid Congress Israel discussed the parasitism of tumors and the increase of cell proliferation in tumor formation. He combats the parasitic theory and explains the destructiveness of sarcoma by the great proliferating power of the cells, while in carcinoma the loss of the vitality of the base is the principal factor in the malignant spreading of the neoplasm.

65. **Mesothelioma Malignum Carcinomatoides.**—This is the term coined by Woolley to describe tumors of mesothelial origin. He reports a case, a primary carcinoma of the suprarenals, in a man of 43, accompanied by metastases in right lung, brain and retroperitoneal glands. He adds a review of 21 cases of cancer of the suprarenals of which he has learned.

66. **Spinal Angioma.**—The first symptoms had been noted about two years before death, pains and coldness of the extremities, progressing to paralysis of the legs by the end of the year. The autopsy revealed an angioma at the sixth dorsal vertebra, extending into the spinal canal and below the costal pleura.

70. **Lymphosarcoma on Pleura Extending Into Spinal Canal.**—The tumor was observed on a young woman, and is the third case of the kind on record in which a tumor in the mediastinum had invaded the spinal canal.

75. **Shriveling of Suprarenals in Addison's Disease.**—Besides the 2 cases described by Simmonds, there have been 24 published. Simmonds is inclined to regard this bilateral contraction of the suprarenals as an idiopathic atrophy or the result

of some inflammatory process. He queries whether syphilis may not be incriminated in the etiology.

Berliner Klin. Wochenschrift.

Last indexed XL, page 1791.

80 (No. 22.) Operative Cure of Spinal Paralysis from Compression. J. Israel (Berlin).—Rückenmarkslähmung durch ein Chondro-Sarkom des VI Brustwirbelkörpers. Op. Heilung.
81 Löwit's Corpuscles. P. Reckzeh.—Ueber die Löwit'schen Körperchen in den Lymphocytenkernen und bei der Myelämie.
82 *Treatment of Chronic Catarrh of Large Intestine. J. Boas.—Zur Behandlung chronischer Dickdarmcatarrhe.
83 Hat die Glykogen-Reaktion der Leukocyten Bedeutung für die Metschnikoff'sche Theorie. S. Kaminer.
84 Diagnosis of Kidney Functions. H. Senator (Berlin).—Die Diagnostik der Krankheiten und der Leistungsfähigkeit der Nieren. (Commenced in No. 21.)
85 (No. 23.) Relations Between Accidents and Neuropathology. P. Schuster.—Unfallheilkunde und Neuropathologie in ihren Wechselbeziehungen.
86 (No. 23.) *Physiologic and Pathologic Significance of Becquerel Rays. E. S. London (Berlin).—Zur Lehre von den Becquerelstrahlen und ihren phys.-path. Bedeutungen.
87 (No. 24.) Metabolism of Uric Acid and Indican in Gout. J. Grossmann (of Senator's clinic).—Zur Kenntniss des Harnsäurestoffwechsels und des Indicans bei Gichtkranken.
88 *Ueber die Behandlung der Prostata-Hypertrophie. L. Casper (Berlin).
89 *Zur Behandlung der Lungen-Tuberkulose. L. Danelius und T. Sommerfeld (Berlin). (Commenced in No. 23.)
90 (No. 25.) *Four Cases of Lysol Poisoning. K. Liepelt.—4 Fälle von Inn. Lysolvergiftungen.
91 *Cancer in Cold-blooded Animals. L. Pick and H. Poll.—Ueber einige bemerkenswerthe Tumorbildungen aus der Thierpathologie, insbes. über gutartige und krebsige Neubildungen bei Kaltblütern.
92 (No. 26.) Mutual Relations in Pathology. Laache (Christiania).—Ueber Wechselbeziehungen in der Pathologie. Address at Madrid Congress.
93 Influence of Ems Waters on Elimination of Uric Acid. W. Laqueur (Ems).—Einfluss der Emser Quellen auf die Harnsäurcausscheidung des Menschen.
94 *New Method of Preparing Albuminous Foods. W. Weissbein.—Ueber ein neues Verfahren in der Herstellung von Nahrungsmitteln.
95 *Die Loslausche Lungenheilstätte. F. Aufrecht (Magdeburg).
96 Hay Fever. Dunbar (Hamburg).—See abstract on page 139.
97 *Tryptophan-Reaktion und Magen-Carcinom. K. Glaessner (Berlin).
98 (No. 27.) *The Case of Plague at Berlin. W. Dönitz.—Ueber die im Institut für Infektions-Krankheiten erfolgte Ansteckung mit Pest.
99 Ueber die Beziehungen zwischen cong. Coxa vara und cong. Femur-Defect. M. Reiner.

82. Treatment of Intestinal Catarrh.—Boas criticises von Aldor's communication on this subject, the principal points of which were given in THE JOURNAL of June 27, p. 1791. He thinks that the long tube may simply roll up in the rectum instead of entering the large intestine its entire length, also that injection of as much as three quarts of water may be a dangerous procedure in such conditions. He also wonders why the measure is equally effective in the opposite conditions of constipation and diarrhea, stimulating peristalsis in one case and inhibiting it in the other. He thinks the unmistakable benefit derived must be due to the high temperature of the injections, and this principle has been proclaimed for years by others. Boas places supreme reliance on dietetic measures as a means of curing chronic catarrh of the large intestine, but the "obstipation diet" must be kept up for months to years or recurrence is liable. Aldor, on the other hand, releases his patients from dietary restrictions as he mentions in a reply to Boas in a later number. The latter has established that fluid injected into the rectum with a short tube, the subject reclining, soon finds its way into the cecum and emerges if there is a fistula at this point, consequently a long tube is not needed to flush the bowel.

86. Research with Radium Rays.—London used for all his tests 30 mg. of radium bromid in a rubber and metal box with a mica cover. He found that radium rays are able to kill mice without direct contact. Twenty-one grown mice and 6 controls were placed in glass vessels, 3 or 4 in each, and the box of radium was laid on the cover of the vessels for one to three days. The controls were lively at the end of the fifth day, but the other animals were all dead by this time. The symptoms noticeable about the third day indicated depression of the cerebral nervous system at first, followed by arrest of the functions of the cerebrospinal system in four to nine hours. The most profound anatomic alterations were in the skin and cerebral cortex. He further refers to the fact that if a stick of sealing wax is rubbed with flannel, scraps of tissue paper will cling to it, but he found that if the wax were passed over the radium box after being rubbed the tissue paper was not attracted to it. On the human skin the rays induced a so-called "cold gangrene" in tests on himself and his assistant. The lesions were so peculiar and characteristic that they must be designated as dermatitis radiogenes. He also states that arterial blood became dark colored under the influence of the rays. In his tests on blind subjects he found that they perceived a visual sensation when the radium was applied to their eyes, but this occurred only in those subjects who still retained a certain perception of light. The blind who had never experienced the sensation of light afforded negative or contradictory results. Blind subjects still able to distinguish between light and darkness were able to see in outline dark objects held against the fluorescent screen lighted by the radium rays. Two lads blind from atrophy of the optic nerve were thus able to learn by the silhouettes all the letters of the Russian alphabet and make out entire words. He also states that he found certain persons who were able to tell—by the visual sensation experienced—when the radium was brought close to the back of their heads, but only when approached to a certain point. He suggests that this may possibly be the result of excitation of the visual center at this point by the rays. The visual impression is perceived from the radium rays even when the eyes are closed, bandaged and covered with three or four superposed hands. His concluding statement is to the effect that it is possible to examine articles through the microscope in a dark room with merely the light from a good screen under the influence of the radium rays. His research was conducted at the Institute for Experimental Medicine at Berlin.

88. Treatment of Hypertrophied Prostate.—Casper reviews his experience with 131 patients with enlarged prostates. Four out of 61 cases not operated on were cured; 38 improved; 8 not benefited; 4 grew worse and 7 died. He emphasizes the importance of slow and gradual evacuation of extreme distension of an insufficient bladder. The fluctuation in tension is the most serious factor in the development of cystitis, he believes. Caution is pre-eminently needed in the absence of cystitis. He never resorts to catheterization in such cases unless there is as much as 300 to 400 c.c. of residual urine with a capacity of 500 c.c. He determines the capacity by injecting sterile water followed by 100 to 200 c.c. of silver solution. Of the 51 cases of considerable residual urine 2 were cured; 34 materially improved; 8 not benefited; 4 grew worse and 3 died. The cases of what he calls "prostatismus" were more difficult to treat. He did not use the catheter but applied hot sitz baths, thermophore compresses, soothing or narcotic remedies. Only 2 out of 10 were cured in this category. The effects of prostatectomy through a sectio alta were very serious; 2 died, and although the 2 others recovered, their lives hung by a thread for a time. Threatening heart weakness was observed in all and he regards this operation as too severe for any but younger men with vigorous constitutions. He has had no experience with the perineal operation.

89. New Inhalation Method of Treating Tuberculosis.—Dr. R. Schneider when traveling in Australia was impressed by the benefit derived by the natives in pulmonary affections from the use of a decoction of eucalyptus leaves. A powder has been prepared on this basis and put on the market under the name of Sanosin. It contains the pulverized leaves and oil of the Australian *Eucalyptus citriodora maculata*, flowers of sulphur and charcoal. The powder is burned on an earthenware plate over a small alcohol lamp for twelve to twenty minutes in an ordinary sized room. Danelius has been experimenting with this remedy for six months in private and dispensary practice and has found that tuberculous subjects who remain for one to three hours or all night in a room impregnated with the fumes of the burned powder are very much benefited. The relief in respect to the cough, expectoration, night sweats and appetite is pronounced and has been permanent to date. The fumes do not affect well persons unfavorably and his experience has convinced him that for old chronic bronchial catarrh there is no other treatment able to afford

such services. None of his patients can be considered cured of their tuberculosis to date but all have been immeasurably relieved. The patients sleep so well afterward that one inquired whether the powder did not contain some narcotic.

90. **Lysol Poisoning.**—One of Liepelt's patients had taken 100 gm. an hour before reaching the physician, and another 50 gm. two hours before. Beside his 4 cases he has found 41 in the literature. Four died out of the 11 in which the poisoning was from external application, and 13 out of the 30 who had taken the lysol internally. Only 3 of the latter 13 fatal cases had been treated by rinsing out the stomach. All the patients who recovered had been treated by rinsing out the stomach and with this he saved also the 2 severe cases first mentioned. He used 22 to 25 quarts of water for the rinsing, continuing it until the escaping fluid no longer smelt of the drug, and supplementing it with large doses of camphor. Consciousness was not regained for four to twelve hours in these cases. In 10 of the fatal cases the lysol had been taken by mistake for some other medicine; in 3 with suicidal intent.

91. **Cancer on Cold-Blooded Animals.**—Pick remarks that malignant tumors, especially carcinomata, have been found on horses, hogs, sheep, cattle, dogs, cats, goats, rats and mice, but he believes that he is the first to publish in a medical journal cases of cancer on cold-blooded animals. He has found a cystoma testis with carcinomatous inclusions on a Japanese giant salamander (*Kryptobranchus japonicus*); a large medullary carcinoma involving the thyroid on the neck of a Brazilian turtle, and gives illustrations of adenomata found on salmon and trout by Miss Plehn and published in a fishery journal. The analogy between the histologic structure of these neoplasms on these cold-blooded creatures and those on man is striking. The localization also corresponds to that on man. He adds cuts of some ulcerative pseudo-tumors found in the stomach of a dog in which specimens of *Spiroptera sanguinolanta* were ensconced. Grassi has found that this round worm completes its life cycle in the cockroach. The latter eats the embryos in dogs' dejecta, and the dog then eats the cockroach. Pick thinks that the ulcerative processes in this case suggest a more intimate connection between intestinal parasites and the mucosa than has been heretofore recognized. His researches to discover malignant neoplasms on birds and fowls have hitherto been fruitless, and he is inclined to believe that the cases reported have been erroneously diagnosed and were in fact tuberculous processes.

94. **New Method of Preparing Albuminous Foods.**—This article refers to a process which allows the complete separation of starch from the albuminous substances. The latter can thus be used separately as a by-product and afford an inexpensive and easily digested food which is being put on the market in the form of flour, macaroni, etc., absolutely free from starch by the most searching tests.

95. **Suggestion for Improved Construction of Hospital Wards.**—Aufrecht has had the sanatorium at Loslau constructed according to his designs and regards the result as a distinct advance. His aim was to secure private rooms for the patients, perfect ventilation and the minimum of expense. This he accomplished by having a large ward partitioned off into a corridor down the center opening into small rooms each side, the partitions reaching only two-thirds of the height of the room. Each of the small rooms has a bed and window, but the ventilation is usually from end to end of the corridor down the center. He has found it perfect. For hospitals he suggests the construction of wards on the same principle, only in the shape of a semicircle with a wide corridor for the base. The partitions should extend from the outer wall part way toward the center, like the spokes of a wheel, thus forming a semicircle of small compartments with a bed against the wall on each side and a window in the middle. The attendant, seated in the semicircular open space, could see every bed in the ward while each two patients would have the privacy of a separate room. In case one of the inmates of a compartment is dying, the other one could be moved out if desired. The ventilation from end to end of the long corridor at the base of the semicircle would be ample to keep the air pure while the patients would not be exposed to any draft. The open semicircular space would also prove a convenient gathering hall for the inmates able to be up.

97. **Protein Chromogen Reaction with Gastric Cancer.**—Glaessner announces that if a scrap of cancer tissue be placed in normal gastric juice the albuminoids are decomposed and the tryptophan (proteino-chromogen) reaction is constant. This does not occur with non-cancerous tissue.

98. **The Case of Laboratory Plague at Berlin.**—In the discussion at the local medical society of Dönitz's report on this subject, Dr. Plehn remarked that his extensive experience in plague countries warranted him in the assertion that the danger of contagion of bubonic plague is very slight. The Europeans in India scarcely ever contract the disease notwithstanding their almost complete lack of care. He thinks there need be no fear of the spread of the plague into an epidemic from isolated cases in Europe. He added that he had never witnessed any conclusive results from serum treatment or prophylaxis. In editorial comment the *Wochenschrift* urges that persons engaged in such laboratory work should be ordered to report daily that their health may be known, and they should always be regarded as "suspects."

Centralblätt f. Bakteriologie u. Inf.-Kr., Jena.

Last indexed page 290.

100 (No. 6.) Ueber ein neues zur Gruppe des Influenza-Bacillus gehöriges hemoglobinophiles Bakterium. E. Friedberger.
101 Ueber ein beim Thier gefundenen Influenza-ähnlichen Bacillus. A. Wolff.
102 Investigation of Water Courses in China. G. Mayer.—Untersuchungen von Wasserläufen in China.
103 Bacteriologic Study of Sweepings of Warships. C. M. Belli (Padua).—Bakt. Untersuchungen über das Kehricht der Kriegsschiffe.
104 Ueber eine Fisch-Epidemie bei Bukarest. V. Babes and P. Riegler.
105 Remarks on Discovery of Parasite of Texas Fever, etc. Ibid. Bemerkungen über die Entdeckung des Parasiten der seuchenhaften Hemoglobinurie des Rindes (Texas Fieber, tristeza, etc.), und des "Carceag" des Schafes.
106 Zur Frage des Ueberganges der Typhus-Agglutinine von der Mutter auf den Fetus. C. Stäubli.
107 Wasser-Untersuchungen und Typhus-Bacillus. H. Bonhoff (Marburg).
108 Die Deykesche Pepsin-Trypsin-Agar ein Nährboden für Diphtherie-Bacillen. B. Bosse.
109 Metal Stopper for Reagent Glasses. F. Gloge (Hamburg).—Ein Metallverschluss für Reagensgläser.

Deutsches Archiv f. Klin. Medizin, Leipsic.

Last indexed page 215.

110 (LXXVI, 4-5.) *Influence of the House on Susceptibility to Tuberculosis. Romberg and G. Haedicke (Marburg).—Einfluss der Wohnung auf die Erkrankung an Tub.
111 Zur Kenntnis der hematogenen Miliar-Tuberkulose der Lungen. K. Sawada (Marburg).
112 *Study of Blood After Splenectomy. R. Staehelin (Basle).—Blutuntersuchungen bei einem Fall von Milzexstirpation.
113 Experimental Research on Phenomena Induced by Rise in Pressure in the Sheath of the Spinal Cord. R. Finkelnburg.—Exp. Untersuchungen über Drucksteigerungen im Rückenmarkssack.
114 *Origin of Spleen Tumor. J. A. Grober (Jena).—Die Entstehung des Milztumors: Hyperplasie oder Hyperemie?
115 Beobachtungen über Amöben-Enteritis. A. Gross (Kiel).
116 *Physikalischen Untersuchungen bei der Anwendung des Magenschlauches (application of stomach tube). P. Schlippe (Heidelberg).
117 Ueber eine in der Universitäts-Klinik entstandene Malaria Haus-Endemie. N. Jancso (Kolozsvar. See editorial page 39.
118 Iron Test. A. Jolles (Vienna).—Zur colorimetrischen Eisenbestimmung.

110. **Influence of the Dwelling on Susceptibility to Tuberculosis.**—See editorial in JOURNAL, Aug. 1, p. 23.

112. **Study of the Blood After Splenectomy.**—The results of careful research in the case described fail to demonstrate any participation of the spleen in the formation of red corpuscles or that it shares to any extent in the production of most of the leucocytes, although it may coöperate in the production of lymphocytes. On the whole, extirpation of a healthy spleen does not seem to affect the blood production or suggest any participation of this organ in the process.

114. **Enlargement of Spleen in Infectious Diseases.**—Grober states that in acute sepsis in mice and in acute miliary tuberculosis in guinea-pigs the enlarged spleen was found to contain much more water than normally. All the inflamed tissues contained an abnormally large proportion of water. He therefore

attributes the enlargement of the spleen in infectious diseases to hyperemia of the organ.

116. **Atmospheric Pressure in Esophagus and Stomach.**—Schlippe states that during inspiration in ordinary conditions the pressure in the esophagus is negative while in the stomach it is positive. In both it is under the influence of the respiration. He found that the lumen of the cervical portion closes during inspiration, and that the cardia sometimes closes but not always.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

119 (XXIX, 25.) Destructive Metabolism of Albuminoids in Hunger. F. Binmenthal (von Leyden's clinic, Berlin).—Zum Abbau der Eiweisskörper im Hunger.
120 Weitere Untersuchungen über Streptococcen. H. Aronson (Charlottenburg).
121 *"Kidney Death," Kidney Insufficiency and Functional Kidney Tests. L. Casper.—Nierentod, Niereninsuffizienz und funktionelle Nierenuntersuchung.
122 60 Cases of Tendon Grafting. Reichard (Magdeburg).—60 Schnenverpflanzungen.
123 *Affections of Lateral Columns and Spastic Paralysis. M. Rothmann (Berlin).—Seitenstrangerkrankungen und spastische Spinalparalyse. (Commenced in No. 24.)
124 Comment on Report of New York Committee. A. Eulenburg.—"Das soziale Uebel" (evil).
125 (No. 26.) *Experimentelle Beiträge zur Frage der Typhus-Verbreitung durch Butter. Carl Bruck.
126 *Ueber die Symbiose des Influenza-Bacillus. M. Neisser (Frankfurt a. M.).
127 Bacillus of Turtle Tuberculosis. F. T. Friedmann (Berlin).—Der Schildkrötentuberkelbacillus, seine Züchtung, Biologie und Pathogenität.
128 Successful Inoculations of Monkeys with Agent of Ulcus Molle.—E. Tomaszewski.—Impfungen an Affen mit dem Erreger des Ulcus molle.
129 *Tuberkulose und Carcinoma in derselben Familie. E. Aronsohn.
130 (No. 27.) *Prophylaxis of the Plague at Berlin. M. Kirchner.—Die sanitäts-polizeiliche Bekämpfung der Pest. (Commenced in No. 26.)
131 Ueber eine akut aufgetretene trophoneurotische Erkrankung einer ganzen unteren Extremität. E. Grawitz.
132 Ueber die Diagnose der Pentosurie mit dem von mir angegebenen Reagens. M. Bial (Kissingen).
133 Ueber die chirurgische Behandlung des Ascites bei Lebercirrhose. D. G. Zesas (Kiel). One case; successful.
134 Epiphyseolyse mit subkutaner Periosteotomie zur Behandlung des Genu valgum infantum. M. Reiner (Lorenz's ambulatorium, Vienna).

121. **Functional Kidney Tests.**—Casper states that the phloridzin functional test of the kidney allows an exact diagnosis of the location of a kidney affection; it affords information in regard to the composition and functioning capacity of the other kidney not to be obtained in any other way, and makes it possible to avoid the preventable "kidney deaths," and thus materially diminish the mortality from kidney operations. Israel has been denying the reliability of the phloridzin test, and announces that without it he has been successful in all but 5 of his last series of 80 operations on the kidney. These assertions roused Casper to analyze Israel's cases published before this last series, and he unhesitatingly declares that many of the fatalities might have been prevented if the phloridzin test had been known at the time and applied. Out of the 9 "kidney deaths," 4 at least were directly due to the removal of the kidney when the remaining kidney was already fatally compromised. Even in his last series of 80, he had 5 deaths while none occurred in Casper's series of 72 cases operated on after he had determined the functions of the remaining kidney. His record to date is 88 cases operated on by various surgeons and the findings of the tests were confirmed by the operation in every instance. The kidney stated to be diseased by the test was found diseased, and the kidney proclaimed by the test to be sound was found sound, when intervention was undertaken contrary to the findings of the test. Nine of the 88 patients died and the findings confirmed the results of the test in the 7 autopsies that were allowed. None of them could by any possibility be called a "kidney death." In 3 other cases the test showed partial or complete absence of function in the second kidney, and the autopsy later showed contracted kidney in one, amyloid degeneration in one and in the third the absence of a second kidney.

123. **Affections of Lateral Columns and Spastic Paralysis.**—Rothmann comments that nothing hinders more the progress of science than clinging to certain theories when the facts observed no longer sustain them. Such a theory is the acceptance of spastic paralysis as a symptom of an affection of the crossed pyramidal fasciculus or of the posterior or lateral tracts in general. His observations on man and experiments on monkeys have convinced him of the contrary. The cases of true spastic paralysis are so rare that they can scarcely serve as a basis for a definite morbid entity, but if this is accepted, then the affection should be known as "Erb's spastic pseudoparalysis," and the conception of spastic paralysis should be reserved for the spastic, paretic symptom-complex observed in cases of actual paralysis of the legs. The exaggeration of the tendon reflexes and the slight weakness of the extremities are due to the degeneration of the pyramidal tracts. The spastic condition is the consequence of some irritating action on the cells of the anterior cornua, the cause of which has not yet been anatomically established and may be manifold. The degeneration of the pyramidal tracts can at most only afford a predisposition.

125. **Experimental Tests of Dissemination of Typhoid by Butter.**—The experiments reported by Bruck from the Institute for Infectious Diseases demonstrate conclusively that the transmission of typhoid fever may easily occur by means of butter. In some of the tests water in which a cloth slightly soiled with typhoid stool had been washed was used to rinse out the vessels in which the cream was kept. Butter made from the cream developed colonies the first day. The typhoid stool used for the purpose contained only about 16 colonies to a plate. Although not absolutely certain, Bruck believes that the bacilli are liable to be more numerous in the butter than in a corresponding amount of cream or buttermilk. Living bacilli were found in the butter as late as the twenty-seventh day. They seemed to increase in number during the first few days.

126. **Symbiosis of Influenza Bacillus.**—Neisser reports that he has succeeded in cultivating through twenty generations some influenza bacilli, derived from a case of measles conjunctivitis and found associated with xerosis bacilli. The influenza bacilli died out except when this symbiosis with the xerosis bacillus was maintained. He suggests that the latter may modify the medium in some way (blood agar) to render it more favorable for the influenza colonies. He found that the diptheria bacillus will also serve as "nurse," as he calls it, for the influenza germ in this way. but not so successfully as the xerosis bacillus. It is possible, he adds, that symbiosis with certain invisible bacilli may be an important factor in the flourishing of the influenza germ.

129. **Tuberculosis and Cancer in Same Family.**—Aronsohn adds 3 more to his previously published list of 11 families in which cancer and tuberculosis had both occurred, and reports another in which the daughter died from tuberculosis after a course at a sanatorium and the mother exhibited a cancer of the uterus soon after. The father and another child now show symptoms of tuberculosis and one other has hematemesis which suggests malignant disease. Croner's statistics taken from the records of the Victoria Life Insurance Company show tuberculosis in 13.9 per cent. of the families in which cancer has occurred, and tuberculosis in the parents in 22.7 per cent. of the policyholders that have died from cancer. Aronsohn cites these facts as testimony in favor of his assumption that cancer, lupus and tuberculosis all belong to the same family.

130. **The Plague Case at Berlin.**—Kirchner ascribes Dr. Sachs' infection to the following circumstances: The latter was always extremely careful in observing the precautions imposed in the Institute to prevent infection, but one day he aspirated with a Pravaz syringe some of the glandular juice from a bubo on a guinea-pig that exhibited a typical case of experimental plague. He then expelled the juice from the syringe on a plate of agar according to the usual technic, but for some reason the fluid did not issue as usual in a fine stream, but in the form of a spray. The authorities ascribe the infection to inhalation of some of the droplets of this spray, as the incubation from this date corresponded to the accepted period of plague incubation—five days. During the great epidemics of plague in history the physicians kept at a distance from the patients and indicated their orders by a long wand, as the profession afforded many victims until this precaution was observed. Laboratory experiments show that the plague ba-

cilli die in water in less than two days, and also in the cadaver very early. The danger lies in the patient himself, his linen, dejecta, etc., and the disinfection of the residence afterward is of much less moment than systematic and repeated disinfection at the bedside.

Janus, Amsterdam.

Last indexed XXXIX, page 1647.

135 (VII, 12.) A Great Practitioner of the Sixteenth Century, Petrus Forestus. L. Meunier.—Le hollandais Pierre van Foreest, 1522-1595. (Concluded).
136 Ancient Theory of Nutrition. W. Basler (Tübingen).—Die Theorie der Ernährung nach Ansicht der Alten.
137 History of American Pediatrics Before 1800. A. Jacobi (New York). (Concluded.)
138 *De la névrite retro-bulbaire alcoolique dans l'antiquité. Deneffe.
139 Brief Sketch of History of Medicine in Russia. M. Lachtin. —Kurzer Abriss über die Geschichte der Medicin in Russland.
140 The Cradle and First Ages of Pharmacy. L. Borlani (Bologna).—Le berceau et les premiers ages de la pharmacie.
141 La dernière maladie du comte de Neyperg, 1829. Carbonelli (Turin).
142 (VII, 1.) *Some American Contributions to Development of Modern Therapeutics. S. Baruch (New York).—Einige am. Beiträge zur Entwicklung der modernen Therapie. (Concluded.)
143 The Holmes-Semmelweis Priority Claim. T. v. Györy (Budapest).—Zur Prioritätsfrage Holmes-Semmelweis.
144 *Previous History of Two Physiologic Problems. M. Neuburger.—Zur Vorgeschichte 2 physiol. Probleme.
145 Teaching of History of Medicine in Spain. R. Ulecia.—L'enseignement de l'historie de la médecine en Espagne.
146 (No. 2.) *Plague in Turkey, 1897-1902. C. Stékoulis (Constantinople).—Esquisse sur la peste buhonique en Turquie pendant les cinq dernières années.
147 History of Appearance of Syphilis in Germany. P. Richter. —Beitrag zur Geschichte des Auftretens der Syphilis in Deutschland.
148 (No. 3.) *School of Maritime and Colonial Health at Naples. F. Rho (Naples).—L'enseignement à l'école de santé maritime et coloniale dans l'université de Naples.
149 *Linnæus as Physician. W. Ebstein (Göttingen).—Carl v. Linné als Arzt.
150 Jean F. X. Pugnet (medical officer under Napoleon). H. Gros.
151 Side Lights on Florentine Academy and the Anatomic Drawings of Vesalius. R. v. Töply (Vienna).—Aus der Renaissance-Zeit, etc.
152 Experimenta Magistri Gilliberti, Cancellarii Montispessulani. P. Pansier. (Published for first time from manuscript.) (Concluded.)
153 History of the Evolution of the Theory of Gases. F. Strunz.—Beitrag zur Klarstellung der Naturwissenschaft des Johann Baptist van Helmont, 1577-1644. (Concluded.)

138. **Alcoholic Retrobulbar Neuritis in Antiquity.**—Deneffe cites one of Martial's epigrams (No. 78, Sixth Book) to show that the deleterious action of alcohol on the eyes was known at that date, 54 to 98 A. D. Phryx, a hard drinker, warned by his physician that he would lose the sight of his one eye if he continued to drink, exclaimed: "Farewell, eye," and continued his alcoholic excesses. "Phryx drank the wine and his eye the poison, with the result that he became totally blind."

142. **American Contributions to Development of Modern Therapeutics.**—Baruch quotes, among other interesting matter, Oliver Wendell Holmes' writing in 1843 in regard to the infectiousness of child-bed fever, and compares his statements with those of Semmelweis who proclaimed the same idea in Germany in 1847, independently of the American. Both met with ridicule and opposition from their contemporaries at first, but conviction soon followed, and energetic antiseptic measures were then adopted. Baruch himself was the first to denounce the latter which were being enthusiastically advocated by Gaillard Thomas at that time, 1884. Fordyce Barker supported him and at a symposium on the subject, summoned by the latter, Thomas receded from his position and this change of views banished strong antiseptic vaginal douches from obstetric practice.

144. **Early History of Two Physiologic Problems.**—The relations between the nervous system and nutrition, and the internal secretions of the organs, are the two problems referred to. Each was discussed in scientific gatherings as early as the seventeenth century, and Neuburger relates some of the curious ideas advanced on the subject and recorded in the transactions.

146. **Plague in Turkey.**—Stékoulis states that the plague has existed in Assyria but strictly localized, since 1826, but Turkey has been free except for a small epidemic in 1885 near Bagdad. In 1897 it appeared at Djeddah and since then occasional cases have occurred at various points, including Constantinople, but the number of cases has not surpassed 471 with 338 deaths. All but 101 occurred at Djeddah or Yambo. With the exception of the old localized endemic in Assyria, the plague cases never caused wide contagion, and although the disease clinically is the same as in the days of the "black plague," yet epidemiologically it has nothing in common with it. If it were not for its traditional name, he concludes, the populace would be less alarmed at the progress of the plague and sanitary measures might be modified in accordance with the teachings of modern science.

148. **Maritime and Colonial Medical School at Naples.**—Rho states that over four millions of Italians live outside of Italy. A million and a half are settled in Brazil and half of these pursue agricultural occupations. Emigration has been constantly increasing during the last thirty years, and now surpasses that from any other country. During the first half of 1902, 354,000 emigrants left Italy, 148,000 permanently. The majority, however, go from one country to another in search of work and frequently return to Italy, so that the temporary emigration is always larger than the permanent, and the population of the country still keeps on increasing. A law has been in force for about a year which regulates the emigration and guards the poorer emigrants both morally and physically. The emigrant ships are obliged to carry a naval medical officer as a government medical official, and if the emigrants number more than 700, a civilian physician accompanies him. The naval medical officers are trained in climatology and tropical pathology, naval hygiene and the pathology of the ports to which the ships are destined. Chairs of tropical pathology and naval hygiene have been founded at Naples and placed in charge of Rho and Pasquale, both upper medical officers in the royal navy. A special school for tropical diseases has also been founded, in charge of Giaxa and four other professors, and a hospital for returning emigrants. The school has already 37 young physicians as students who are fitting themselves for this maritime service, or its branches in the seaports.

149. **Linnaeus as a Physician.**—Ebstein refers to Hektoen's article on this subject in THE JOURNAL of Sept. 13, 1902, but has had access to other sources of information and supplies some further details. Two portraits of the great botanist accompany the article.

Books Received.

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MICROSCOPY AND BACTERIOLOGY. A Manual for Students and Practitioners. By P. E. Archinard, A.M., M.D., Demonstrator of Microscopy and Bacteriology, Tulane University of Louisiana, Medical Department. Series Edited by V. C. Pedersen, A.M., M.D.,

Instructor in Surgery and Assistant Anesthetist at the New York Polyclinic Medical School and Hospital. Illustrated with 74 Engravings. Cloth. Pp. 210. Philadelphia and New York: Lea Brothers & Co.

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FIRST PRINCIPLES OF OTOLOGY. A Text-Book for Medical Students. By Albert H. Buck, M.D., New York City, Clinical Professor of the Diseases of the Ear, College of Physicians and Surgeons. Second Edition. Cloth. Pp. 216. Price, $1.50 net. New York: Wm. Wood & Co. 1903.

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REPORT OF WORKING PARTY No. 1, YELLOW FEVER INSTITUTE. A Study of the Etiology of Yellow Fever. By Herman B. Parker, George E. Beyer and O. L. Pothier. March, 1903. Paper. Washinton: Government Printing Office. 1903.

MY CHILD AND I. In Sickness and Health from Pre-natal Life Until Sixteen. By Mrs. F. L. S. Aldrich, M.D., Member of the American Medical Association. Cloth. Pp. 429. Price, $1.50. Philadelphia: P. W. Ziegler & Co. 1903.

THE ANNUAL REPORT OF THE DEPARTMENT OF THE INSANE OF THE PENNSYLVANIA HOSPITAL, for the Year Ending April 23, 1903. Paper. Pp. 37. Philadelphia. 1903.

HYGIENIC LABORATORY BULLETIN No. 9. Presence of Tetanus in Commercial Gelatin. By John F. Anderson. Paper. Pp. 6. Washington: Government Printing Office. 1902.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, July 18, 1903:

Bushnell, George E., major-surgeon, is relieved from duty at Fort Logan, and will proceed to Fort Bayard and report at the U. S. General Hospital at that place for duty.

Crosby, William D., major-surgeon, is granted leave for one month.

Parkham, Wallace E., contract surgeon, granted leave until June 2, is granted an extension for one month.

Ten Eyck, Benjamin L., major-surgeon, is directed to report to Major-General John C. Bates, president of the Army Retiring Board, at Chicago, Ill., for examination by the board. On the completion of his examination, Major Ten Eyck will return to his proper station.

Trenholtz, Clarence A., contract surgeon, is relieved from further duty in the Department of the Columbia and, on the expiration of his present leave, will proceed to Fort Apache for duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended July 25, 1903:

Medical Director J. C. Boyd, commissioned medical director, with rank of captain, from June 20, 1903.

Surgeon E. O. Huntington, detached from the *Maine* and ordered to the Naval Hospital, Navy Yard, New York, for treatment.

Surgeons R. K. Smith, A. W. Dunbar, A. Farenholt, C. P. Bagg, E. J. Grow, M. S. Elliott, commissioned surgeons, with the rank of lieutenant-commander, from March 3, 1903.

P. A. Surgeon R. W. Plummer, ordered to the *Maine*.

Asst.-Surgeons C. E. Ryder and J. A. Randall, appointed asst.-surgeons, with rank of lieutenant, junior grade, from June 26, 1903.

Surgeon C. P. Kindleberger, ordered to the *Independence*.

Asst.-Surgeon A. Stuart, granted sick leave for two months.

Surgeon G. P. Lumsden, detached from the Naval Station, Port Royal, S. C., August 1, and ordered to the Torpedo Station, Newport, R. I.

Surgeon R. M. Kennedy, detached from the Torpedo Station, Newport, R. I., and ordered to the *Dixie*.

A. A. Surgeons A. H. Wise and C. T. Grayson, appointed acting asst.-surgeons, with rank of lieutenant, junior grade, from July 14, 1903.

A. A. Surgeon P. L. Cocke, detached from the *Chesapeake* and ordered to the Naval Hospital, New York, for treatment.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended July 23, 1903:

Assistant Surgeon-General A. H. Glennan, to proceed to Reedy Island quarantine for special temporary duty.

Assistant Surgeon-General L. D. Williams, granted leave of absence for seven days from July 18.

Surgeon J. H. White, granted extension of leave of absence for one month from August 2.

P. A. Surgeon E. K. Sprague, granted leave of absence for ten days from July 22.

P. A. Surgeon Taliaferro Clark, granted extension of leave of absence for fourteen days from July 20.

P. A. Surgeon H. B. Parker, to report to Assistant Surgeon-General H. D. Geddings for temporary duty.

A. A. Surgeon B. F. Duke, granted leave of absence for two days.

A. A. Surgeon S. C. Leonhardt, granted leave of absence for thirty days from September 1.

Pharmacist C. W. Stephenson, granted leave of absence for twenty-three days from August 3.

Pharmacist G. W. Iitis, granted leave of absence for seven days from July 15, 1903, under paragraph 191 of the Regulations.

RESIGNATION.

A. A. Surgeon S. C. Leonhardt, resigned, to take effect Oct. 1, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 24, 1903:

SMALLPOX—UNITED STATES.

Colorado: Denver, June 18-July 11, 15 cases.

Illinois: Chicago, July 11-18, 1 case; Danville, July 11-18, 1 case.

Indiana: Indianapolis, July 11-18, 1 case.

Louisiana: New Orleans, July 11-18, 3 cases.

Massachusetts: Fall River, July 11-18, 9 cases.

Michigan: Detroit, July 11-18, 3 cases; Port Huron, July 11-18, 2 cases.

Mississippi: Natchez, July 4-11, 1 case.

Missouri: St. Louis, July 4-11, 6 cases.

Nebraska: South Omaha, June 1-30, 6 cases.

New Hampshire: Manchester, July 11-18, 2 cases.

Pennsylvania: Carbondale, July 14-21, 1 case; Philadelphia, July 11-18, 24 cases, 14 deaths; Pittsburg, July 11-18, 29 cases, 8 deaths; Norristown, July 11-18, 1 case.

Ohio: Cincinnati, July 10-17, 4 cases; Cleveland, July 11-18, 1 case.

South Carolina: Charleston, July 11-18, 6 cases, 2 deaths.

Wisconsin: Milwaukee, July 11-18, 2 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, June 20-July 4, 5 cases.

Belgium: Antwerp, June 27-July 4, 7 cases, 4 deaths; Brussels, June 27-July 4, 5 deaths; Ghent, June 20-July 4, 3 deaths.

Canada: Winnipeg, July 11-18, 1 case.

China: Hongkong, May 23-30, 1 death; Shanghai, June 6-13, 1 death.

Colombia: Bocas del Toro, June 30-July 7, 2 cases, 1 death.

Great Britain: Birmingham, July 4-11, 1 case; Dublin, June 27-July 4, 9 cases, 1 death; Leeds, July 4-11, 7 cases, 1 death; Liverpool, to July 11, 44 cases, 3 deaths; London, July 4-11, 4 cases; Manchester, June 27-July 4, 9 cases; Newcastle-on-Tyne, June 27-July 4, 1 case; Nottingham, June 27-July 4, 2 cases.

India: Bombay, June 16-23, 21 deaths; Calcutta, July 13-20, 4 deaths; Madras, July 13-19, 1 death.

Japan: Formosa, April 1-May 31, 7 cases.

Mexico: City of Mexico, June 28-July 5, 7 cases, 3 deaths.

Russia: Moscow, June 20-27, 3 cases; Riga, April 1-30, 28 deaths; St. Petersburg, June 27-July 4, 18 cases, 1 death; Warsaw, June 13-27, 6 deaths.

Spain: Barcelona, June 20-July 4, 4 deaths.

Turkey: Smyrna, May 24-June 14, 3 deaths.

SMALLPOX—INSULAR.

Philippines: Manila, May 16-June 13, 13 cases, 9 deaths.

YELLOW FEVER.

Colombia: Panama, July 6-13, 3 cases, 1 death.

Costa Rica: Limon, July 2-9, 3 cases, 2 deaths.

Mexico: Cardenas, July 10, 1 death, imported from Tampico; Coatzacoalcos, June 27-July 4, 2 cases, 4 deaths; Merida, July 12, present; Progreso, July 12, present; Tampico, June 27-July 11, 61 deaths; Vera Cruz, June 27-July 11, 64 cases, 21 deaths.

CHOLERA—INSULAR.

Philippines: Manila, May 16-June 13, 127 cases, 112 deaths; Provinces, May 16-June 13, 2,463 cases, 1,718 deaths.

CHOLERA—FOREIGN.

India: Calcutta, June 13-20, 34 deaths, sporadic.

Straits Settlements: Singapore, May 30-June 6, 1 death.

Turkey in Asia: Beytarie, June 6-13, 26 cases, 23 deaths; Kara, June 8-14, 13 cases.

PLAGUE—INSULAR.

Hawaii: Honolulu, June 24-25, 2 deaths.

Philippines: Manila, May 16-June 13, 19 cases, 19 deaths.

PLAGUE—FOREIGN.

Africa: Cape Colony, May 17-30, 19 cases; Natal, May 10-16, 5 cases.

China: Amoy, May 8-June 13, 525 cases.

India: Bombay, June 16-23, 92 deaths; Calcutta, June 13-20, 31 deaths; Mauritius, June 11-18, 2 cases.

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Original Articles.

RECENT INVESTIGATIONS BEARING ON INFECTIOUS DISEASES OF UNKNOWN ETIOLOGY.

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There is a number of transmissible diseases, both human and animal, some of them exquisitely contagious, the causes of which are still unknown, notwithstanding the most careful search. Of the human diseases belonging to this group I would mention especially scarlet fever, measles, chicken-pox, yellow fever, typhus fever and hydrophobia. Smallpox and vaccinia may also be left here for the present. Of the animal diseases of this group the most important are foot and mouth diseases, peripneumonia, bovine pest, sheep-pox (clavelée), chicken-typhus or chicken-pest, "horse sickness" and epithelioma contagiosum of fowls. The "mosaic disease" of the tobacco plant ("Mosaik oder Fleckenkrankheit des Tabaks") may be given as an example of a contagious plant disease of unknown etiology.

THE INFECTIOUS NATURE OF THE DISEASES DISCUSSED.

In discussing the probable nature of diseases of this kind perhaps the first question to arise will be, "What evidence is there that they are caused by living, infectious organisms?"

In the first place, the demonstration that many of the diseases mentioned may be inoculated successively from animal to animal indicates that it concerns living virus capable of reproduction, and that the diseases in question are true infections, and not intoxications. There are few known poisons, indeed, of such virulency that intoxication is produced by transferring small quantities of the organs or fluids of a poisoned animal to a healthy animal. White mice may be inoculated with tetanus by injecting into the peritoneal cavity a small quantity of the blood of a horse or of a human being suffering with tetanus, but it is not possible to produce tetanus in a progressive series by inoculating other mice with the blood or tissue of mouse No. 1. Now, the toxin of tetanus is one of the most powerful yet known. In 1893 Nicolas[1] reported the production of human tetanus by the accidental inoculation of a small quantity of tetanus toxin. This occurred on a much larger scale in St. Louis, and Bolton, Fisch and Malden[2] found that the serum of a horse in the period of incubation preceding tetanus may contain enough tetano-toxin to produce fatal tetanus in children when injected in the quantities contained in curative antidiphtheria serum. Bolton and Fisch[3] found no free tetano-toxin, however, in the blood, spinal fluid and other tissues of the children so infected with tetanus. They also showed that in horses the development of tetanic symptoms coincides with the disappearance of toxin from the blood. There is no evidence whatever that a purely toxic disease like this can spread directly from patient to patient in the manner characteristic of most of the diseases just mentioned.

Perhaps the most striking experiment showing the inoculability of an infectious disease of unknown etiology is that of Loeffler and Frosch[4] with the filtered contents of the vesicles in foot and mouth disease of cattle: .02 c.cm. of this fluid, freed from visible bacteria and cells by filtration, were injected into animal No. 1, which became sick in a typical manner; the same quantity of similar material similarly treated was transferred from animal No. 1 to animal No. 2, in which there was again produced the same disease; this was carried on successively from animal to animal through a series of six members. Loeffler and Frosch estimate that the sixth animal received less than a two-billionth part of the original quantity of lymph. Inasmuch as .000002 c.cm. of the fresh lymph is not infectious, the only explanation that can be offered in this case is that the virus or cause of foot and mouth disease is a living one capable of proliferation.

Similar experiments, but on a smaller scale, by König indicate that the "mosaic disease" of the tobacco plant is caused by a living, reproducing, infectious agent.

The facts observed in connection with variolation and vaccination, and the spontaneous communicability of smallpox, leave little room for the conception of any other etiologic agent than a living one capable, under favorable conditions, of rapid multiplication. The fact that the quantity of pus was of no import in securing the development of good pustules in smallpox inoculation was used by Linnæus in the middle of the eighteenth century as evidence in favor of his theory that contagious diseases are caused by "animalcula infinite parva." Wasielewsky secured active vaccine material after successive inoculations from cornea to cornea of no less than forty-six rabbits—a result that certainly indicates multiplication of the virus at the points of inoculation.

In the case of scarlet fever, measles, syphilis, typhus fever and yellow fever, peculiar difficulties present themselves to experimental investigation because of the lack of susceptible animals, but the pronounced contagiousness of nearly every one of these diseases leaves no room to doubt their infectious nature. And in the case of yellow fever the epochal investigations of Reed, Carroll

1. Compt. rend de la Soc. de Biol., 1893, v, 844-846.
2. St. Louis Med. Review, Nov. 23, 1901.
3. Trans. Am. Asso. of Phys., 1902, xvii, 462-467.
4. Centralbl. f. Bakt., 1898, xxiii, 371-391.

and Agramonte have shown that the cause of the disease occurs in the blood, whence it is conveyed to susceptible persons by the blood-sucking mosquito, *Stegomyia fasciata.*

Is there any evidence that transmissible diseases are caused by enzymes? Now it has been suggested that some of these diseases may be caused by enzymes that act catalytically, and not by virtue of any toxicity of their own. We can understand how enzymes might cause epidemic-like diseases after the manner of certain intoxications of exotic origin, and further, that enzymes may play an essential rôle in the pathogenesis of the diseases, but there is, after all, no evidence at hand that enzymes alone, entirely independently of living organisms as their source, can cause transmissible diseases, like measles, foot and mouth disease and yellow fever.*

As yet we are hardly prepared to receive the hypothesis that certain contagious and communicable diseases are caused by enzymes or other substances that are not directly traceable to living matter—the theory of the contagium vivum has proven itself too heuristic to be abandoned lightly in favor of another hypothesis without analogy and so far insusceptible of demonstration. After all, the continuous metabolism and the power of reproduction characteristic of living matter explain most satisfactorily at present the nature of the causes of the transmissible diseases like these now discussed.

WHAT, THEN, MAY BE SOME OF THE REASONS THAT THE ORGANISMS OF THESE DISEASES HAVE NOT BEEN DISCOVERED?

1. *Incultivability.*—Perhaps the most generally accepted explanation offered of the failure to secure artificial cultures of the organisms that we may suppose cause the diseases in question is that they are of protozoan causation, because of the failures until very recently to grow protozoa. But there are numerous bacteria that refuse to grow on any of the various culture media now available. The bacillus of leprosy, the spirillum of Obermeyer, and leptothrix may be cited as examples of bacteria of well-known morphology that refuse to grow on our media. And then Novy, before the Section of Pathology and Bacteriology of the New Orleans meeting of the Association, demonstrated successful cultures of rat trypanosoma on agar and defibrinated rabbit's blood, so that it is now clearly shown for the first time that it is possible to cultivate pathogenic protozoa. Hence the failure of artificial culture experiments does not mean much as regards either the nature of a given virus, or as to its absence or presence in a given material. The peculiarities in regard to cultural substratum and other conditions necessary for the growth of the bacillus of tuberculosis, the gonococcus, and the bacillus of influenza serve as illustrations of the ingenuity required in order to meet the wants of many pathogenic bacteria. Now it may be that the microbes of measles and the other diseases mentioned are obligate parasites in the strictest sense, and that cultures are obtainable only by natural growth in the fluids and tissues of infected persons and animals. Thus it was by a combination of natural and artificial conditions that Nocard and Roux[5] first obtained evidences of actual growth of the organism of infectious peripneumonia of cattle, namely, by the use of collodion sacs filled with bouillon and serum, and inserted after being inoculated with infectious peripneumonic lymph into the abdomen of rabbits and cows. These cultures *in vivo,* thus surrounded by a diffusible membrane that permitted a ready molecular exchange between the enclosed and the surrounding fluids, soon gave evidence of growth by the increased infectiousness and clouding of the medium, microscopic examination of which showed forms so minute that with the highest obtainable magnification no definite idea as to their exact morphology could be obtained. This organism, therefore, is considered as on the border line between the visible and invisible. Eventually Nocard and Roux obtained subcultures in Martin's peptone bouillon mixed with a small quantity of rabbit's or cow's serum (1-20), and on agar mixed with this bouillon-serum.

Again, in the case of diseases that only affect man it is not without range of possibility that the failure of our artificial cultures made with infectious material is apparent, and not real. Growth may occur invisibly, but in the absence of susceptible animals even this perhaps somewhat remote possibility can not be settled by means of inoculations. On the other hand, it may be urged that if unknown viruses actually grow on culture media the resulting growth or colonies ought to be visible, as in the case of the virus of peripneumonia, even if the individual organisms are too small to be seen, or invisible for other reasons. In liquid media turbidity or other recognizable evidence of growth would be expected did growth actually occur.

The occurrence of diseases of this character among animals and in plants is of the greatest advantage to the experimental study of the many difficult problems that here confront the investigator. This makes it possible to subject infectious material containing the essential cause to various experimental procedures and then to test the result by means of carefully controlled inoculations of animals.

It remains to be seen whether any of the unknown viruses possess sufficient reducing power to enable one to detect their presence in certain mixtures by means of the bioscopic test devised by Neisser and Wechsberg, and of similar methods. Neisser and Wechsberg's bioscopy is based on the reducing power of living matter by virtue of which it secures the oxygen necessary for its metabolic activities. The test as recommended by them is made by adding sufficient methylene blue to distinctly color a suitable mixture containing cells or bacteria and then excluding the air by means of paraffin. Reduction is marked by decolorization of the fluid, the methylene blue on losing oxygen being changed into leucomethylene blue, which has no color. I have found that a convenient method of making this reaction with liquid cultures and other mixtures is to use glass pipettes drawn out thin on each side of a larger oblong chamber. These are easily sterilized, the fluids are readily drawn in by means of suction, after which the glass may be sealed off on each side of the chamber by applying heat to the thin portions. The tubes are then placed in the incubator. Joest[6] reports that

* The idea that ferments may cause contagious diseases is, of course, not of recent date. In 1878 Henry M. Lyman (Chicago Medical Journal and Examiner, 1878, xxxvii, 689), for instance, suggested that in ferments the molecules are in such rapid action as to modify the modes of motion in organized bodies or the products thereof, and that deviations from the normal furnish the ferments of hydrophobia, glanders, vaccinia, smallpox, measles, etc. Variations in the stability of molecular equilibrium would explain, he says, the variable intensity of infection in typhoid fever and other diseases as well as the fatal persistence with which an obstetrician may carry infection with him by virtue of fermentation in his own person.

5. Ann. de l'Institut Pasteur, 1898, xii, 240-262 and 785-798.

6. Centralbl. f. Bact., 1902, xxxi, 375.

his tests of the reduction properties of the virus of foot and mouth disease by the bioscopic method gave negative results. Further experiments are warranted, and by suitable controls the influence of reducing chemical substances may be excluded, at least in many cases. It is possible that in this way some clew might be obtained as to the presence of living substances that hitherto have eluded search. Numerous reduction experiments with the blood and blood serum of scarlet fever patients have so far not yielded any positive results in my hands.

2. *Mixed or Symbiotic Infections.*—The possibility that some of these diseases may be the result of mixed infection is another conceivable reason for the failures to isolate the specific cause, the search for which so far has been conducted, for the most part at least, on the theory that it concerns single organisms. It is conceivable that two organisms may so influence each other by symbiosis as to change materially the nature of the metabolic products from that characteristic of the organisms when growing alone. In this way non-pathogenic organisms might produce toxic substances with definite pathogenic properties, or the qualities of an originally pathogenic organism might be radically changed. The recent application by Welch of Ehrlich's lateral chain theory to bacteria, with a view to a better explanation of the production of bacteriogenous cytotoxins in infections, may prove helpful also in this case. This conception enables one to understand how it can be possible for an organism under the influence of stimuli from the body in which it has become lodged to produce by its receptor mechanism intermediary bodies that when attached to the cells of the host and complemented, would produce most serious symptoms and lesions. Particularly difficult of detection would be organisms that are pathogenic only in man. Even artificial culture would not necessarily solve the problem. From the facts at hand in regard to smallpox and scarlet fever it seems safe to conclude that in the majority of fatal cases death is not due to the original disease, but to secondary, mixed general infections with streptococci which are demonstrable in large numbers in the blood and in the internal organs of almost every fatal instance of these two diseases. In measles secondary local and general infections also play a most important part in the severe and fatal cases. Nothing definite is known in regard to mechanism whereby these secondary and dangerous infections are established.

It is possible, too, that the hiding place of the pathogenic agent may not have been detected. It may remain localized in some part of the infected body, where it manufactures the toxic substances that cause the outbreak of the general symptoms by which the disease is recognized.

3. *Unstainability.*—It has been pointed out, too, that perhaps some of these infectious agents are unstainable by our present methods. There may be no chemical affinity between the stains used and the protoplasm, or it may be physically impossible for the molecules of the stains to make their way in the interstices of the cytoplasm of the organisms.

4. *Ultramicroscopic Size.*—Furthermore, there is the possibility that certain organisms, whatever their nature, are too minute to be seen. Pasteur, in 1881, suggested that the virus of hydrophobia is too small to be seen. Now there is a definite limit to visibility. Helmholtz showed that because of dispersion of light at the margins of minute objects, those of a diameter less than 0.2 mikron can not be rendered visible in the usual sense. The influenza bacillus is generally mentioned as one of the smallest of bacteria. The diameters are given as about 0.4 mikron broad by 0.8 to 1.2 mikrons long. If it were four to five times smaller it could not be seen. The organism of peripneumonia is so small that it is just visible under the best microscopes, and it may be spoken of as on the border line between the visible and invisible. This leads us to discussion of the question of the existence of ultramicroscopic pathogenic agents, which until a few years ago were objects only of theoretic interest, but which now are receiving much study.

FILTRATION EXPERIMENTS.

For some time various forms of mineral filters—porcelain, infusorial earth, etc.—have been found useful in securing filtrates free from bacteria and other organisms; indeed, filtration is one of the classical methods of sterilization, and recent experiments with the filtration of infectious material from diseases of unknown etiology have given some very interesting and valuable results. A brief review of some of the recent work in this field is, therefore, in order.

1. *Smallpox and Vaccinia.*—So long ago as 1868 Chauveau[7] made the first experiments to demonstrate the corpuscular nature of vaccine virus. His efforts at filtration did not succeed in separating any pathogenic elements from the serum probably because of the imperfect form of filters used, but by carefully devised diffusion experiments he found that the active part of the virus settled at the bottom of his mixtures. In 1891 Schulz and Weil separated by filtration the active parts of vaccine virus from the fluid portion, and since then several other investigators, among them Gorini and Wasielewsky, have confirmed this demonstration. The latest experiments in the filtration of vaccine and smallpox virus are those of W. H. Park.[8] In order to destroy the epithelial cells which might contain the virus and hinder it from passing through the filter, he first crushed the material with fine sand under a pressure of twenty pounds to the square inch, but even now vaccine and smallpox virus failed to pass through Chamberland and Berkefeld filters. The process in itself did not destroy vaccine virus. Hence it may be regarded as definitely settled that the virus of vaccinia and variola is not filterable, as that word is now understood.

Wasielewsky[9] has showed that Guarnieri's intracellular vaccine bodies (*Cytoryctes vaccinæ*), the formation of which can be followed in the corneal cells of the rabbit after the introduction of vaccine virus, do not develop when filtrates of vaccine virus are used. As stated, Wasielewsky successfully inoculated vaccine virus from cornea to cornea through forty-six generations, a fact that virtually proves proliferation of the virus at the site of inoculation when one considers the minute quantity originally introduced. Active vaccine for children and calves was obtained from the last animal in the series. Somewhat similar bodies occur in the skin lesions of variola and vaccinia; and so far it is claimed that it has not been possible to induce such bodies to appear within the cells under any other conditions than vaccinia and variola. Any one reading carefully Wasielewsky's article can not but acknowledge that he builds a strong chain of evidence in favor of the etiologic rôle of the vaccine bodies of Guarnieri in vaccinia, but it should be remembered that Hückel,[10] in an elaborate study, reaches the conclusion that these bodies are the result

7. Comp. rend. de l'Acad. des Sc., 1868, lxvi, 289, 317, 359.
8. Trans. Asso. Am. Physicians, 1902, xvii, 220-221.
9. Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxviii, 212-318.
10. Ziegler's Beitrage, Supplementheft, ii, 1898.

of a special form of cell degeneration caused by vaccine virus only.

But this is not the proper place to discuss fully all recent work on the cause of smallpox and vaccinia. The announcement by Councilman, Brinkerhoff and Magrath, and by Tyzzer, of the presence of certain bodies interpreted by them as development cycles of a protozoan organism, in the lesions of smallpox and vaccinia, represents the latest effort toward the demonstration of the cause of these diseases. The failure of the virus of smallpox and of vaccinia to pass through filters is in harmony with the interpretation that the various bodies described in the lesions of these diseases represent their causative agent.

2. *Hydrophobia.*—The failure to demonstrate the cause of hydrophobia led Pasteur to suggest that it might be too small to be seen. It is currently stated that the virus of hydrophobia does not pass through mineral filters, but Remlinger and Riffat-Bey[11] claim to have passed it through Berkefeld filter 5. Further observations are necessary.

3. *Bovine Peripneumonia.*—This disease is characterized by the accumulation of serous fluid in the interstitial tissues of the lungs. The injection of some of the fluid under the skin is followed by an enormous edematous infiltration and death of the animal. The fluid of such infiltrations is clear, free from distinctly visible corpuscular elements, and bacteriologically sterile when inoculated on the ordinary media. As stated, Nocard and Roux succeeded in demonstrating the presence of an organism by means of intra-abdominal sacs. They found, further, that by diluting the serous fluid with twenty to thirty times its volume of water it becomes possible to secure virulent filtrates by passing through Berkefeld or Chamberland filters. The microbe of peripneumonia does not pass through Chamberland B cylinders. Smears of the cultures obtainable in serum-bouillon and serum-bouillon-agar show forms so minute and indistinct that this microbe marks the border line between the visible and the ultramicroscopic. Its cultures in bouillon are characterized by slight cloudiness, and on agar exceedingly minute colonies develop.

4. *Foot and Mouth Disease.*—The infectious fluid of the aphthous vesicles of foot and mouth disease is limpid and free from visibly formed elements other than cells. Loeffler and Frosch found that this fluid diluted with water remained virulent after passing through Berkefeld filters that refused to pass *B. fluorescens.* These filtrates were bacteriologically sterile and free from recognizable corpuscles. But Kitasato filters, which have smaller pores, did not allow the virus to pass into the filtrate.

5. *Yellow Fever.*—So far as I know the only human disease up to the present time shown by actual experiment to be caused by a virus capable of passing through a filter that generally delivers bacteria-free filtrates in the ordinary sense, is yellow fever. The investigations of Reed, Carroll and Agramonte[12] show "that yellow fever may be produced in non-immune persons either by the bite of the mosquito (genus stegomyia) that has previously been permitted to fill itself with the blood of a patient suffering from yellow fever during the first three days of the attack, or by the subcutaneous injection of a small quantity of blood (0.5 to 2 c.c.) from the general circulation of such a patient during the active stage of this disease." Microscopic search, however, for the specific agent in the blood of patients and in infected mosquitoes in which the micro-organism no doubt undergoes an evolution thus far had been entirely negative.* Carroll then produced yellow fever in two persons by the bite of infected mosquitoes, and with the blood of one of them, withdrawn at the beginning of the third day of illness, the following experiments were made: A quantity of serum, diluted one-half with sterile-distilled water, was passed through a sterile Berkefeld filter, which, on special test, was found to hold back ordinary bacteria; 3 c.c. of this filtrate was injected subcutaneously in three American soldiers, two of whom developed typical attacks of yellow fever, the result in the third being negative. Subcutaneous injection of 1.5 c.c. of blood from one of the cases of yellow fever thus produced gave rise to a typical attack in the soldier who remained well after the injection of 3 c.c. of filtered, dilute serum eight days previously. A subcutaneous injection of 0.75 c.c. of unheated, partially defibrinated blood (the same that furnished the serum for filtration) produced yellow fever in a Spaniard, but in three cases the injection of 1.5 c.c. of the partially defibrinated blood, heated for ten minutes to 55 C., failed to have any pathogenic effect. From these interesting and important results Reed and Carroll drew the conclusions that yellow fever is caused by an agent so minute that it passes readily through the pores of a Berkefeld filter, and that this agent, which they regard as ultramicroscopic, is rendered harmless by heating to 55 C. for ten minutes. Against the view that the yellow fever in these cases was caused by toxin, they urge especially the production of the disease in a third individual, since it would be difficult to understand how so great dilution of toxin would be capable of causing an attack.

6. *Exudative Typhus of Chickens, or Chicken-Pest.*—In certain parts of Italy, especially the northern, in Tyrol and also elsewhere, there occurs a devastating disease among chickens which has been recognized as a distinct disease for about ten years, and which recently has been studied more definitely by Centanni,[13] Maggiora and Valenti,[14] and Lode and Gruber.[15] In order to distinguish the disease from chicken cholera—rabbits are susceptible to chicken cholera, but refractory to this disease—and to give it a non-committal name, Centanni proposes to call it birdpest (Vogelpest), while Maggiora and Valenti, for historical reasons, favor the term "exudative typhus." The clinical and anatomical picture is not unlike that of ordinary chicken cholera and other virulent general infections. It is a disease from which recovery does not seem to take place. The sick animals become quiet; soporose, the comb generally violet in color. (Hence the name Kyanolophiea suggested by Lode and Gruber.) In severe cases the disease may be hemorrhagic. There may be exudative pericarditis,

11. Compt. rend. de la Soc. de Biol., 1903, lv, 730-731.

12. Reed, Carroll and Agramonte: Etiology of Yellow Fever, Jour. Amer. Med. Association, Feb. 16, 1901; Experimental Yellow Fever, Trans. Asso. Am. Physicians, 1901, xvi, 45-71; Reed and Carroll: The Etiology of Yellow Fever, American Medicine, Feb. 22, 1902.

* While this article is passing through the press there has come to hand the report by Parker, Beyer and Pothier of the United States Public Health and Marine-Hospital Service (Yellow Fever Bulletin No. 13), in which the discovery is announced of the development of a sporozoan organism—*Myxococcidium stegomyiæ*—in mosquitoes (stegomyia) that have filled themselves with the blood of yellow fever patients. The importance of this discovery, if confirmed, as regards the causation of yellow fever is apparent at once, and it may be that the results of the filtration experiments of Reed and his colleagues will be explained by the presence in the blood of yellow fever patients of some ultramicroscopic developmental stage of *Myxococcidia stegomyiæ.*

13. Centralbl. f. Bact., 1902, xxxi, 145-152 and 182-201. (Here again references to earlier publications by Centanni.)

14. Zeitschr. f. Hyg. u. Infektionskr., 1903, xlii, 185-244.

15. Centralbl. f. Bakt., 1901, xxx, 593-604. See also Lode, Ibid., 447-451.

pleuritis and peritonitis, often of a gelatinous character, but the anatomical picture is exceedingly variable. Microscopically, there is an intense myocarditis, exudations in the lungs, marked degeneration in the liver and kidneys, and more or less enteritis, all being changes that indicate an acute, violent, general infection.

(To be continued.)

REQUIREMENTS FOR ADMISSION TO MEDICAL SCHOOLS.

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During the last decade no question has excited more discussion among medical teachers than what should be the requirements for admission to college. These requirements have been steadily advanced, but as yet there is no settled conviction as to how far they shall be advanced. In other words, it has not been determined what are the ideal entrance requirements.

In this country the existing requirements vary from what must be studied to complete the eighth grade of the grammar school to what is embraced in the complete curriculum of a college of arts or sciences. At least, the mean between these extremes is reached by all of the best schools of the country. It will not be long before a satisfactory completion of the subjects of a four-year high school course will be demanded for admission to all medical colleges, because the laws of many states under which physicians are licensed to practice now demand this amount of general education. Schools which do not meet the standard set by these laws are not in good standing, and their graduates can practice their profession only in a limited portion of the country.

Entrance requirements are needed (1) to make sure that medical students and graduates shall have enough general education to enable them to mingle with the best people of the land on an intellectual level; (2) to make sure that such subjects have been thoroughly learned as are essential to an understanding of what is taught in a medical curriculum.

It may be said at once that to meet the first of these needs a full college course in arts or science or its equivalent should be taken, but it must not be forgotten that four years devoted to the study of medicine is as liberalizing and as sure to give mental culture as the same amount of time in a school of science, provided the same preliminary education has been had. This fact seems to have been forgotten or overlooked by many who have recently discussed the subject.

In regard to the second need, it may be urged that many of our medical leaders had only a grammar school course, and had no difficulty in understanding the subjects of a medical curriculum and of keeping *au courant* with the advances made in their profession. It must not be forgotten, however, that conditions have changed; that the medical curriculum contained few subjects fifty, nay even thirty, years ago, and that their literature was small, for of them comparatively little was known. Moreover, a kind of preparation is required for the laboratory methods by which medicine is taught to-day that was not formerly. For instance, a boy who has never worked in a laboratory, who has not been taught to reason from what he sees, or even to use his eyes accurately, can not get from the work of the first year of a medical course, as it is now taught, what he should, for much time will be lost in teaching him how to do these things.

It is also necessary that certain subjects be required of those about to study medicine, because many of the more recent discoveries in the fundamental subjects of a medical course have been made possible by earlier but recent discoveries in ancillary sciences. These sciences, therefore, must be studied before medicine is.

I believe that graduates of our best high schools and preparatories have as much general education as need be demanded. They should be capable of expressing themselves clearly and correctly in their mother tongue; should have mastered the tools by which an education is to be acquired; should have powers of mental concentration and enough varied information to be appreciative of all kinds of knowledge. However, only the courses offered by colleges of arts or sciences furnish the kind and grade of instruction which is requisite for an understanding of portions of a modern medical curriculum; therefore, at least a part of a college course must be required for entrance to the medical college. President Hadley has said that just such subjects as are necessary to understand medicine as it is now being taught, and no more or less, should be required. This is pedagogically correct. Therefore, I do not feel in full sympathy with those schools which have nominated as their entrance requirement an A.B. or B.S. degree, or a certificate of having completed one or two years of a course leading to such degree. A bachelor's degree or a fixed period of time in college does not necessitate a proper preparation for the study of medicine, for a student to-day may graduate from any of the leading colleges of arts without having taken chemistry, physics or any biologic course. Such a graduate is no better prepared for medicine than when he entered the college of arts, except that he is more mature and better trained to do hard mental work.

Moreover, the degrees of B.S. and A.B. mean very different things, according as they are obtained from one of the small and inadequately equipped degree conferring institutions or from one of the great universities of our land. For these reasons the indefinite requirement of so many years in a college of arts or science is not satisfactory.

The following subjects are the ones of college grade which it is most important for students and graduates of medicine to know: Inorganic chemistry and qualitative analysis; mechanics, light, heat and electricity; general biology; some comparative anatomy, particularly of vertebrates; German and French, and such botany as will acquaint them with the more important groups of plants; experimental psychology and logic.

These subjects are not all equally important, and if medical schools which now require four years of high school work for entrance are to gradually increase their requirements, the most important should be added first.

A medical curriculum can not be properly graded until chemistry and physics are demanded of those who undertake it, for they are so essential to an understanding of physiology and physiologic chemistry. Therefore, they should be among the first required college courses.

Harvard demands of those entering the medical school a complete course in a college of arts or science, but specifies that they must have studied chemistry. Johns Hopkins goes further in requiring physics, some biology, and German and French. Other medical colleges which have required a part of a bachelor's course have not specified these or other subjects.

General biology is almost as important as chemistry and physics. However, the information which this study insures one is not of so much use as is the

training in a biologic laboratory, for this furnishes the student of anatomy and physiology with such skill as will enable him at once to get the most that is possible out of these subjects as they are taught in the best university medical schools. A knowledge of comparative anatomy will make human anatomy easier and more interesting. It is not, however, as essential for the beginner in medicine as the subjects just mentioned. For the graduate, French and German are essential, in order to keep abreast of professional progress; therefore, they should be acquired preparatory to medicine. Botany, psychology and logic, like comparative anatomy, make the acquirement of other medical subjects easier and increase the pleasure and interest of the student in them.

If four of the most important of these subjects are added to existing entrance requirements, they will rarely be acquired by students in less than two years in colleges of arts or sciences, for, although in themselves they do not make more than a year's work, the schedules of colleges are so planned that they can not be taken simultaneously; and if all the subjects named were required, a college residence of at least three years would be needed. Almost without exception, therefore, other and less technical subjects will be studied as well.

A change in the entrance requirements of medical colleges which is needed, and which will do more to improve the quality of the student body than almost anything else, is to stop admitting on certificates, and to require of all who enter thorough examinations in a few required subjects.

The ideal course for medical students is a combined one of six years, leading to both the degrees of B.S. or A.B. and M.D., which such universities as Michigan, Northwestern and Chicago have been offering. Three years are spent in Michigan and Northwestern in the college of arts, during which time almost or quite all of the freshman course in medicine is completed. Three years more are spent in the medical school. At Chicago University two years are spent in the arts department and four in the medical. Harvard and Cornell make a seven-year combined course. It is so usual for all the best graduates in medicine to spend eighteen months or two years in post-graduate work that these combined courses should be made no longer than is absolutely necessary, for it is as much a detriment to the beginning practitioner to be too old as to be too young. A combined course should be completed, if possible, when the student is 24 or 25 years old. For many years a longer period of education has been required of students of medicine than for those preparing for other professions, although the emoluments of practitioners are no greater, nor as great, as those which the practice of law makes possible. Therefore, neither preparation for the study of medicine nor the arrangement of subjects in the medical curriculum should be allowed to too greatly prolong the student's period of academic and college work.

Method of Arresting Epistaxis.—Matthews is quoted by the *Journal Méd. de Paris* as advocating a condom for arresting hemorrhage from the nose. (This has been mentioned before.) The condom is oiled and inserted in the nose on the end of a catheter. The latter is then partly withdrawn, and through it the condom is inflated. The outer end is then tied around the catheter, and thus forms a "balloon tampon," which can be easily removed at any time without disturbing the clots, by allowing the air to escape first.

CO-OPERATIVE METHODS FOR IMPROVING THE USEFULNESS OF STATISTICAL CLASSIFICATIONS OF CAUSES OF DEATH.*

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One of the most important matters involved in the administration of a registration office is the selection and proper use of a statistical classification of causes of death. The mortality from various diseases must be known in order that the value of methods adopted by sanitary officers for their prevention and restriction may be appreciated, and it is important for many reasons that accurate and fully comparable statistics of causes of death be published. This presupposes the use of some classification of causes of death.

It may be said that the use of a formal classification is unnecessary, as the causes returned by physicians might be stated in alphabetical order. This would be possible for only the smallest areas of registration, and for short periods of time. For a large city, a state, or for the country as a whole, the number of different terms returned as causes of death would be so numerous that it would not be feasible to give each one a separate line in statistical tables. Even where it has been attempted to make use of the alphabetical arrangement numerous terms have usually been condensed under single titles, so that a method of classification was actually in use. Where this is not the case the statistics may be very misleading, and may give rise to annoying blunders on the part of those consulting them unless they first complete the work of proper statistical compilation that was left unfinished by the registration office. As an amusing instance, I may quote the following from a recent issue of The Journal of the American Medical Association, under the heading, "Clippings From Lay Exchanges":

> Tuberculosis of the lungs carried off twenty-five of the victims of disease last month. Seven others died of tuberculosis and four of phthisis.

It may be well at this point to call attention to the limited sense in which the word "classification" is now employed in this connection. It does not refer to a broad and comprehensive philosophical arrangement of diseases, based on general principles and intended to show the natural or scientific relations of the diseases or causes of death. If this were the object of a statistical classification of causes of death at the present time, it would be necessary to acknowledge failure from the start. No ideal classification fully exhibiting the natural relations of diseases and meeting the demands of all classes of scientific workers is yet possible. The tendency is strongly in the direction of doing away with all so-called "groups" or "classes" of diseases and of placing stress chiefly on the definite meaning and inclusion of the individual titles. "Classification," said Dr. Farr, "is another name for generalization." Our object at the present time in statistical classification of causes of death is to do away with generalization as far as possible. The old statistical groups of "zymotic diseases," "constitutional diseases," "diathetic diseases," and the like, have disappeared, or remain only as belated relics of a former nomenclature. Even the distinction between "general

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

diseases" and "local diseases" can not be considered of any special importance to-day. The boundary is elastic, and a so-called "local" disease of to-day is placed by the advanced pathology of to-morrow among the general infections.

By the adoption of a statistical classification of causes of death, therefore, we mean nothing more than the use of a certain number of titles of diseases, each with a definite inclusion of terms as returned by physicians on certificates of death. For convenience a certain general arrangement is usually followed, as in the International Classification, now in general use in this country. The titles of this system and the detailed list of terms included under each title are given in the Manual of the International Classification, published last year by the United States Census Office.

This classification was reported by Dr. Jacques Bertillon, as chairman of a committee of the International Statistical Institute at the session held in Chicago in 1893. It was the result of a movement for uniformity in statistics of causes of death that had engaged the attention of registration officials and users of mortality statistics for half a century. The Conference of State and Provincial Boards of Health indorsed it at Detroit in 1897, and the American Public Health Association recommended its general use at Ottawa in 1898, and reported a plan for its regular decennial revision by an international commission to meet at Paris in 1900. This recommendation was indorsed by the International Statistical Institute at Christiania in 1899, and the international commission for the first revision of the classification met at Paris, August 18-21, 1900, by invitation of the French government, representatives from twenty-six countries taking part in the sessions. This Section of the American Medical Association adopted a resolution in its favor at Atlantic City in 1900, and it has since been accepted by every registration state, most of the leading cities, the United States Census Office, United States Department of Labor, etc. It has been adopted by Canada, Mexico and by the countries of Central and South America, and has no rival as an international classification.

Its imperfections have never been ignored by the strongest advocates of its general adoption. It is faulty, as are all other systems. The reason for its use lies not in any perfection of the system, but because it was possible by adopting it to unite on a general basis of uniformity. This we have done, and we are now ready, by coöperative work, to amend and improve it, and make it, by means of the periodical revisions that all classifications require, more definite, more practical, more useful in every sense of the term to all who have occasion to employ statistics of causes of death.

How shall this be done? Only by enlisting the aid of all users of mortality statistics, and ascertaining in just what respects the system requires alteration to best serve their wishes.

Here it may be necessary to explain in fuller detail just what are the relations of vital statisticians to the matter of classification of causes of death generally.

The source of information in regard to causes of death is the medical profession. The individual physician who makes a statement on the medical certificate of cause of death in regard to a case that has occurred in his practice makes the first contribution to that mass of data from which come the mortality statistics. The certificate signed by the physician goes into the local registration office and is there recorded. Possibly, if in a city, it may be compiled there, and the mortality statistics accompanying the annual report of the city board of health be derived therefrom. In our state, as in some other registration states, the certificate is next sent to the central registration office at the capital, and is there permanently preserved. It is again compiled, first, for the Monthly Bulletin of Vital Statistics, and, second, after all delayed returns and corrections have been received, for the annual registration report. Lastly, a transcript of this certificate goes to the United States Census Office at Washington, where it is not recorded, but where the information is transferred to the cards employed in the electric tabulating machinery, and it is again compiled—this time for the annual report on mortality now required by law to be prepared by the permanent Census Office. This is the final statistical report, but all alike—the national, state and local compilations—agree in the fact that the original certificate of death signed by the attending physician is the source of all information. The validity of the statistics can not rise above the authority of their source, and, if the original statements of causes of death as made by the physicians are vague, indefinite and full of error, then the statistics must be defective and unsatisfactory to precisely the same degree.

Compilation is that process by which statistics are derived from the mass of individual records, and, for our special purpose, may be limited to the production of the finished tables of causes of death showing their various relations by locality, date of occurrence, age, sex, color, nativity, etc. It should be a colorless medium by which all of the important features of the original returns may be preserved, in condensed form, and nothing should be added to or subtracted from the significance of the original statements.

Here we may note two leading difficulties of compilation. These are, first, the condensation of the extensive list of terms reported by physicians to fit the comparatively short list of titles alone feasible in statistical reports, and second, the selection of the proper title for compilation when two or more causes have been assigned by the physician. These difficulties increase with the mass of returns to be handled, and are more pressing in the larger offices, where the vast mass of causes and complications renders some uniform system of procedure indispensably necessary.

Some idea of the large number of causes reported by physicians may be gained from examination of the Census Manual of the International Classification. Each one of these terms, with the exception of a few translated from the report of the French commission, has been actually returned on a certificate of death by some physician in the United States. And, moreover, any two or three of these terms may occur on a single certificate, and in any combination. If there were only 5,000 different terms, and there are many more than that, then there would be 25,000,000 different binary combinations of those terms possible, or, disregarding the order of the terms, which is seldom important, there would be 12,500,000 combinations of different terms. Practically, such combinations are endless in variety, and yet in the process of compilation all of these 5,000 terms and 12,500,000 possible combinations must be reduced to the exact number of titles in the system selected. In the International Classification there are only 179 titles in the detailed form, and no classification much exceeds this number.

This process of condensation of medical terms under synonymous titles, or the selection of the true cause of death from several causes assigned by the physician, constitutes a large part of the practical work of a regis-

tration office in the treatment of causes of death. To be of value it must be under medical supervision, and yet, from the considerable amount of clerical labor involved, it is rare to find that a qualified medical statistician passes on each individual certificate of death. As a rule, certain principles and methods of procedure are established, and only exceptional cases are referred to expert judgment. Even if competent medical statisticians gave their personal attention to the assignment of each certificate of death compiled in the various offices, there would be numerous differences of practice, and consequent variations in the resulting statistics, unless a comprehensive system of treatment were adopted in all alike.

The adoption of such a system of assignment of individual single terms is the characteristic feature of the International Classification, which renders it superior for general adoption and the promotion of uniformity to any other system now in use. It gives the title to which each individual term is to be assigned. The question of assignment to one title or another, or the formation of new titles, is a proper subject for settlement at the regular decennial revisions, but between the revisions each term has a definite place in the classification, and all offices using the classification put it there. For the use of other systems there is no authoritative guide. A registration office in this country that undertook to employ the English registrar-general's classification might do so, so far as outward form was concerned, but there would be no assurance that the terms received from physicians' certificates were assigned as the registrar-general would assign them. Each office would be a law unto itself, just as in the old days before the adoption of uniform methods under the international classification.

For the treatment of jointly-returned causes of death no systematic method applicable to all classes of returns has as yet been introduced. It is usual in statistical offices to keep a book of practice showing decisions in such cases, and in time precedents may be collected showing the assignments of the most common causes when returned together. Attention was called to the importance of the subject by Würzburger at the session of the International Commission at Paris, and a tabular arrangement showing the preferences to be given individual titles of the classification was appended to the report of the Commission by Dr. Bertillon. This method, however, deals only with the definite titles, not with the numerous terms of varying degrees of accuracy included under the titles, and the judgment of the statistician would often be required as to whether the relative assignments of certain titles should govern the assignments of certain terms included. Many cases, moreover, including some of the most difficult, and practically all of the terms embraced under general or residual titles, are left to unguided individual decision.

Consideration of the difficulties attending this class of decisions and analysis of the process by which a final judgment was usually arrived at have suggested another plan for the systematic treatment of jointly-returned causes, and one which, in addition, seems adapted to the thorough revision of the international classification so that it will most fully meet the wishes of all of its users. This plan is set forth in a circular[1] of the Committee of the American Public Health Association on Demography and Statistics in Their Sanitary Relations.

When a death is returned from two causes, e. g., typhoid fever and valvular disease of the heart, one of these terms must be selected. The death can not be compiled under both typhoid fever and organic heart disease—at least it can not in any present system of classification. Which shall be chosen? Which title will best represent this case in the compiled statistical tables? Which will best serve the purposes of the users of the statistics?

When the terms, as in the example above, are exactly the same as, or fully equivalent to, the titles of the classification, then the question resolves itself into: "Which title is more important?" Different answers may be given to such a question. The sanitarian, regarding typhoid fever as a dangerous communicable disease, and interested in its prevention, wants to know the exact number of deaths from this disease. He cares nothing about organic heart disease, relatively, but says at once: "Put it under typhoid fever." The actuary or medical director of a life insurance company, dealing with such a return, might consider the statement of heart disease the more important. As a matter of fact, the individual might not have succumbed from typhoid fever if the heart had not been affected, and might have lived for many years with the heart affection but for the intercurrent attack of typhoid fever. The clinician, the pathologist, the sanitarian, the actuary—each may have a different opinion. It is the duty of the vital statistician to endeavor to satisfy the wishes of all, as far as possible, and for that purpose it is necessary to ask for the opinion of each class of users of mortality statistics. Such opinions to be available for use must be comparable, and the most obvious way of attaining this object was to ask for numerical answers. "What would you rate the importance of each title on a definite scale, say from 0 to 10?" Then the more important title, as numerically rated for general purposes, should be preferred, no data as to relative duration, primary or secondary occurrence, etc., being available to modify such judgment.

In a similar case, suppose the return to have been "continued fever" and valvular heart disease. Now, "continued fever," stated alone, is compiled under typhoid fever, but there is some uncertainty about it. It can not be considered as fully equivalent to this title. The registrar in estimating its value as compared with the other cause assigned, necessarily considers this fact, and may decide that a doubtful statement of typhoid fever is less satisfactory for compilation than a positive one of organic heart disease. In other words, we consider two factors in deciding every case of independent joint causes, first, the relative importance of the titles to which the terms would be assigned, and second, the validity of the terms as more or less certainly belonging under the titles selected.

Both of these factors are capable of numerical rating on the decimal or other scale. Having rated the importance of each title, and also the validity of each term as related to its title assigned, then the product of these numbers will give a general weighting number or combining number for each term returned on a certificate of death, by means of which the preference to be given in classification, i. e., assignment to titles, is definitely indicated. Provision would necessarily be made for equal rates, but a very large proportion of cases would be decided directly by the combining numbers.

A very practical advantage of such a system is that the combining numbers or weights could be readily in-

1. The circular was presented in connection with this paper, together with some preliminary ratings of titles of the International Classification obtained under it, which showed the usefulness and entire practicability of the system proposed. For copy of the circular, the special blank, with instructions, prepared for rating the titles of the classification and other information inquiry should be addressed to Mr. W. A. King, Chief Statistician of the U. S. Census, Washington, D. C., who is chairman of the American Public Health Association's committee.

serted in an ordinary index of causes, as in that of the Census Manual, without increasing its length by a single page, and that the decisions between any two out of, say 5,000 terms, could be instantly found. Many millions of separate decisions would be thus condensed, which, expressed in any other way, would require many pages to record, and would be a vast, perhaps insuperable labor to frame. And the principle of each individual decision, as made between two independent terms coming before the registrar, would be precisely the same as that derived from his previously recorded numerical judgment, as expressed in a rating.

It is not my intention to urge that the classification of causes of death shall be an entirely mechanical process. To accomplish the best results it must necessarily be conducted under medical direction, and first-hand examination of the original certificates will often disclose valuable suggestions as to the true place of the return in classification. Nevertheless, the most accomplished medical statistician will find cases where his judgment is uncertain, or where, at different times, he may make contrary decisions. A series of rating numbers would then be most useful, and would tend to unify practice. For many offices, however, where the compilation of data is left more or less entirely to clerks who do not possess medical qualifications, the plain and explicit directions available by means of the ratings would be invaluable.

The advantages of such a system for the criticism and revision of the classification are obvious. With each title and each constituent term assigned a definite value in the opinions of the chief users of statistics, it would be merely necessary to lop off titles of little consequence, and to exclude terms of very uncertain validity under the titles to greatly improve the precision and usefulness of the system. In some cases titles of slight precision would have to be retained on account of the large number of returns received under them, but their low value would be forcibly called to attention, and, in time, the physicians might be brought to avoid them. Indefinite terms that now vitiate the statistics of certain causes would be thrown out by this process of sifting, and a thoroughly revised and renovated classification would be the result. It is physically impossible for a commission to consider all of the points that require attention in an ordinary session of a few days, but with the concrete opinion of registrars, clinicians, pathologists, sanitarians and other classes of users of mortality statistics, definitely expressed in advance and capable of numerical analysis, the work of revision should be most complete and satisfactory.

At present all classifications are lumbered to some extent with useless titles. These are titles of little precision, of rare occurrence, or divided more minutely than the accuracy of returns will warrant. On the other hand, some diseases of great importance are lumped together without reference to the very important clinical, pathologic and etiologic distinctions that should be observed. It might be possible, by eliminating titles of small consequence, to obtain statistics of the causes of death of first importance, in all their necessary details, and also to add a selected list of the most important combinations of causes, without exceeding the usual limit of registration reports.

What is needed at the present time is a full expression of opinion on the practical matters relating to the statistical presentation of causes of death from the entire medical profession. The public health workers have begun the task, because the collection and publication of vital statistics is usually a part of the duties devolving upon sanitary administrations, and the preliminary announcement from the committee of the American Public Health Association, indorsed by the committee of the Conference of State and Provincial Boards of Health of North America, shows how the matter has been gone about. Sanitarians and vital statisticians alone can not make this movement a complete success. The interest and help of the entire profession are necessary adjuncts. The clinician, whether practicing in city or country, whether a teacher in a medical school or a private observer, should render aid. The pathologist should consider the questions involved from his point of view. Men devoted to special branches of medicine, as pediatrics, gynecology, surgery, obstetrics, etc., should give the benefit of their experience. The aid of the various special societies should be obtained, and also, through the coöperation of the state societies, with their constituent county organizations, the friendly feeling and interest of the entire medical profession of the country should be secured for this movement to improve the accuracy and usefulness of mortality statistics. Naturally, with this object in view, we come to the American Medical Association, and one of the purposes of the presentation of this paper is to ask the practical coöperation of the Association, by means of a special committee on vital statistics, with the corresponding committees already organized by the American Public Health Association and by the Conference of State and Provincial Boards of Health.

Many years ago a very able committee was appointed by this Association charged with the duty of "preparing a uniform plan for registration reports of births, marriages and deaths; including a nomenclature and classification of causes of death." Members of this committee were Drs. Edward Jarvis, W. L. Sutton, Wilson Jewell, Edwin M. Snow and R. W. Gibbes, and very able reports were presented to the Association at the sessions of 1858 and 1859. The intervention of the Civil War prevented the continuance of their work, and we are just beginning to be ready to-day, after over forty years, to carry out the principles of uniform and effective registration laws and uniform and comparable presentation of statistical data, especially relative to causes of death, that these pioneers of registration work so zealously advocated at that time. We now have the immense advantage of a permanently organized Census Office representing the Federal Government, and prepared to coöperate, and now effectively coöperating with the state and municipal registration offices and with the committees of those organizations that have undertaken to aid in this work. We now have the great additional advantage of a more thoroughly organized and united medical profession, and by its aid, under the auspices of the American Medical Association, these desirable reforms can be rapidly brought to accomplishment. It is time that a committee was again organized by the Association for this purpose, and I trust that your recommendation will be heartily given for this purpose.

DISCUSSION.

Dr. J. S. Fulton, Baltimore—The situation in America was never more hopeful than it is at the present time. We have a Census Bureau, which is a permanent organization. We have an energetic and (I think I may say) an enthusiastic committee working along these lines; and it certainly seems reasonable to hope that we shall, in the course of a few years, reach the individual contributors to the statistics, the physicians who make out the certificates on which the statistics are based.

It is a great pity that our classification must be mechanical. The mathematics of the subject, as Dr. Wilbur says, very clearly show that we can only have a certain number of places for distribution of the causes of death. That necessitates the absolute loss, from certain columns of mortality, of an indefinite number of causes leading to death, and perhaps introduces inevitable error, since we who are the statisticians compiling these data are rather impressed with our own side of the question of assigning position to certificates of death. It was an excellent idea in the Census Bureau to address inquiries to a great many men in the leading specialties in medicine, asking them to express opinions or give definitions of the various titles in the international classification. I think in that way we can eliminate our own particular bias; or, if we can not eliminate it, we can minimize its error so as to make it of little practical importance.

I received one of these inquiry sheets, of which this is a printed copy, is it not, Dr. Wilbur?

DR. WILBUR—No; that is an average rating from a study of a number of those sheets, representing the average opinion of a certain number of statisticians and sanitarians; merely a preliminary study for the purposes of this meeting.

DR. FULTON—I received such a sheet, asking me to give a rating to each of the titles. I went into it with care, as a man interested in the subject and as a specialist. After I was done I found my mind in exactly the condition in which Dr. Wilbur tells us the minds of so many medical men of the country are. After going over the entire list and reviewing it I found much in my own notes to criticise. Desiring to satisfy myself, I drew a second column, and put down an alternate series of ratings, and I found that in all important titles —the very definite diseases—I had no inclination to change the rating at all. There were a number of titles as to which I was inclined to very slightly increase or diminish my first rating. There were a considerable number of rather indefinite titles to which, on second consideration, I gave a rating very different from that which I had given at first. I was greatly interested in hearing Dr. Wilbur say that such was about the state of mind of other men.

I confess that I don't understand how Dr. Wilbur is going to make this mathematical basis of assignment available for clerks. I am inclined to believe that he will work it out in some practical way, although at present, as I say, I don't understand it. What I do understand very clearly, however, is that this work is going to be available for a successful revision of our classification every ten years. Such careful study year after year will enable us to take very definite and complete data to the next decennial revision. For this purpose I feel assured that the great practical utility is coming out of this part of the work; for the other I am hopeful, though I confess I don't understand it at present.

DR. G. T. SWARTS, Providence, R. I.—My feelings are precisely those stated by Dr. Fulton. When I commenced to express my opinion in figures in regard to the comparative valuation of these different diseases, I found myself somewhat in a quandary. After making my rating the question was whether it was satisfactory to me. I think the result will be that we will have to take the average, as was done in this acceptance of nomenclature classification. I am not satisfied with the classification at all. There are a great many subjects of importance left out, and a great many causes I don't agree with. Nevertheless, I am willing to let my personal opinion go, so that when the statistician finds some reports from one state and some from another, he will know that they are all classified from the same standpoint.

I am willing to submit my figures to what the Census Bureau finds is a proper average. Whether it will prove satisfactory or not, seems ambiguous to me at present, but surely, in the course of ten years, we ought to get to some point where we can understand the subject. It must be, however, thoroughly threshed out in the meanwhile.

Salt and Molasses for Cancer.—Salt as a cure for cancer is announced from India in the lay press, and an Australian physician has found molasses to be a sure cure. Salt and molasses have, at least, the valuable points of cheapness and simplicity.

THE PROPER PERINEAL PROSTATECTOMY INCISION.

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CHICAGO.

Prostatectomy is the operation which is now attracting much attention among surgeons here and abroad. The more general adoption of this operation is comparatively of recent date. The necessity of the removal of the enlarged prostate gland, the most frequent cause of urinary obstruction in men advanced in years, has been recognized for a long time, but it was not until recently that the technic of the operation has been perfected to a degree that rendered it sufficiently safe to bring it within the scope of feasible and advisable surgical procedures. The literature on this subject is growing with astonishing rapidity. Individual and collective experiences are being published in the medical press at short intervals in bringing to the notice of the profession the different operative procedures which are being devised and practiced. The question as to the most feasible route by which to attach the diseased prostate has not been definitely settled. The suprapubic method has many weighty advocates, and for a time was deemed the easiest, most efficient and safest. The perineal route has, however, been given a more extended trial, and a very large experience appears to have decided in its favor. From an anatomic standpoint the perineal operation is certainly the most rational of the two, and will undoubtedly survive the test of time. The removal of the enlarged prostate does not always meet all the indications in the case operated on. Few cases come to the surgeon in which the bladder is intact in consequence of the mechanical obstruction or infection, hence in the majority of cases it becomes necessary to establish free drainage after the removal of the prostate for the purpose of initiating a successful treatment for the coexisting complications. In making the external incision the surgeon must therefore have in view the exposure of the prostate to sight and touch as freely as can be done with safety, and to provide for free drainage of the bladder and the perineal wound. The semilunar incision of Zuckerkandl and the triangular incision of Kocher accomplish neither of these objects to the fullest extent. I have given both of them a fair test and have become familiar with their shortcomings in securing the necessary room and the difficulty encountered in establishing free and efficient drainage for the bladder and perineal wound. The triangular incision of Kocher circumscribes a long wedge-shaped flap, the apex of which is liable to slough, and the curved incision of Zuckerkandl does not procure the necessary amount of room through which the prostate, in difficult cases, can be removed with the requisite degree of precision and safety, and both incisions leave a wound difficult to drain efficiently. The median incision so much praised by some surgeons is altogether inadequate in difficult cases. Every surgeon who has had an extensive experience in perineal prostatectomy has learned that not all enlarged prostates can be removed by enucleation. There are cases in which the diseased organ must be removed by morcellement. It is a rule in surgery which it is always well to bear in mind, and that is to operate as little as possible in the dark in important anatomic localities, and this rule applies with special force to perineal prostatectomy. In obese subjects and in cases of very large prostates it is often exceedingly difficult to bring the parts to be removed within

reach of the index finger. It is under these trying circumstances that the operator will appreciate the advantages of an incision that will expose the prostate freely and bring it within easy reach of the finger or the instruments required for its removal. Very little is gained by attempts to render the prostate more accessible by intravesical instrumental pressure, and such efforts are by no means always harmless. The danger from

Fig. 1.—Median perineal incision.

hemorrhage and accidental wounding of the peritoneum is reduced to a minimum by resorting to an incision that will expose the prostate in the freest possible manner to sight and touch. I have attempted to do this by combining the median incision with two lateral incisions representing in outline an inverted capital Y. The median incision is made in the usual way, laying bare the membranous portion of the urethra. The lateral in-

Fig. 2.—Zuckerkandl's incision.

cisions are carried from the lower angle of the median to a point half way between the anal margin and the tuberosity of the ischium, cutting through about the same structures as are involved in the lateral operation for stone in the bladder. The wound is next deepened largely by the use of blunt instruments and all hemorrhage arrested as it occurs, maintaining throughout the

Fig. 3.—Kocher's incision.

entire operation practically a bloodless field. This will give the operator an opportunity to recognize and identify the tissues as he proceeds with the dissection. In this comparatively bloodless way the rectum is detached until the membranous portion of the urethra and the lower segment of the prostate can be distinctly seen and felt in the apex of the deep triangular wound. By using narrow flat deep retractors the rectum is pushed backward and the wound margins are retracted laterally, thus exposing freely the parts concerned in the next step of the operation. I then proceed as follows: On a grooved staff which is now inserted into the bladder the membranous portion of the urethra is incised and the grooved director of Wheelhouse inserted into the bladder. Withdrawing the staff and using the director as

Fig. 4.—Author's incision.

a guide the prostatic part of the urethra is dilated with the left index finger which, after it enters the bladder, serves as a blunt hook with which the prostate is drawn gently downward and forward into the wound. The capsule of the gland is next incised transversely and with the opposite index finger enucleation of the left lobe is commenced. This part of the operation is usually easy,

Fig. 5.—Prostate and membranous portion of urethra seen on retraction of wound margins.

sometimes difficult and not infrequently impossible. Recklessness and undue violence are to be carefully

Fig. 6.—Operation completed.

avoided. Enucleation is often facilitated by grasping the lower part of the prostate with my bullet forceps or some other grasping instrument on which traction is made during the process of enucleation. I seldom attempt to remove the prostate in its entirety. Occasionally this can be done, but usually it will be found much easier to remove only one lobe at a time. After the

removal of the left lobe the right index finger is inserted into the bladder and the right lobe enucleated with the left. If it is found impracticable to remove the prostate by enucleation morcellement must be resorted to. The finger in the bladder is almost indispensable in operating by this method. With it the parts are brought within easier reach and it serves at the same time as a valuable guide for the use of the cutting and traction instruments. With grasping forceps portions of the gland are seized, when the necessary traction is made by an assistant while the surgeon does the cutting with blunt-pointed scissors well curved on the flat. Complete prostatectomy in such cases is not necessary, but enough tissue must be removed to insure a free outlet for the urine and to guard against a recurrence of obstruction from the same cause. I am decidedly in favor of a preliminary cystotomy in performing perineal prostatectomy, as it greatly facilitates the removal of the gland by enucleation or morcellement, and in the majority of cases it becomes a necessity for the treatment of complicating affections of the bladder. It is preferable to incise the urethra and take advantage of such an opening into the bladder during the operation than to tear it accidentally, as is so often done when operators undertake a perineal prostatectomy without a preliminary cystotomy. I invariably drain the bladder by inserting a soft rubber drain with two oval fenestra near the vesical end. The drain is fastened in the lower angle of one of the lateral incisions with a suture which includes the outer margin of the wound. The perineal wound is drained with a strip of iodoform gauze which is brought out on the side of the rubber drain. The balance of the incision is sutured. The bladder is kept practically empty by siphonage by connecting the perineal drain with another piece of rubber tubing, making the connection with a glass tube. Through this rubber drain the bladder can be washed out daily with appropriate antiseptic solutions. The iodoform gauze drain should remain for at least five or six days, as its presence in the wound is of the greatest value in preventing infection by leakage of septic urine. The bladder drainage must be continued until the condition of the urine is such as to warrant suspension of intravesical medication. In regard to the indications for prostatectomy history will repeat itself. Every new surgical procedure has had its enthusiastic advocates who championed extreme views and who would recognize no exceptions, and who followed a routine practice. I will refer only to a few operations of recent date that have had such a history. It is not long since thousands of ovaries were sacrificed under the belief that the anticipated climacteric period would correct all kinds of obscure nervous affections until sad experience proved the contrary. Craniectomy for microcephalus had a short but exciting career. It is impossible to estimate the number of healthy appendices that have been removed by surgeons who rely on pain in the right iliac fossa as a conclusive evidence of a diseased vermiform appendix, and resort to the knife as the only remedy. Castration for enlarged prostate has unsexed hundreds of men without yielding them an equivalent in relief for the loss sustained. Gall-bladder surgery has now a few extremists who affirm that it should be dealt with in the same medical manner as the appendix when it is the seat of disease. Instances could be multiplied, but the early history of the operations mentioned will suffice that new operations are very likely to be abused when first placed on trial, and prostatectomy can not escape a similar fate. It is impossible at the present time, so early in the history of this operation, to formulate the exact indications. The size of the prostate is no criterion to go by in deciding on the propriety or necessity of an operation as a large prostate may cause less disturbance of function of the bladder than one only moderately enlarged. The degree of obstruction depends more on the location of the enlargement and the effect of pressure on the urethra than the size of the swelling. Every prudent surgeon would hesitate to recommend a prostatectomy in men 70 to 80 years of age, the subjects of extensive atheromatous degeneration of the arteries or of organic disease of any of the important viscera. Systematic aseptic catheterization will not be displaced entirely by prostatectomy, and it will continue to be a most valuable resource in the future, as it has been in the past, in the treatment of hypertrophy of the prostate, more particularly in men advanced in years the subjects of degenerative diseases which in themselves would contraindicate the performance of any operation of importance except as an immediate life-saving procedure. It will be with this as with any other operative procedure that the best results will be obtained by surgeons who search as carefully for the negative as for the positive indications for the operation. The present technic of prostatectomy will be greatly improved, and its legitimate range of usefulness will be widened with increasing clinical experience and with a more definite knowledge of the etiology and pathology of senile hypertrophy of this gland.

THE ESSENTIAL PRINCIPLES OF INFANT FEEDING AND THE MODERN METHODS OF APPLYING THEM.

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BOSTON.

(Concluded from p. 354.)

MILK LABORATORIES.

The next question is where and in what way the modification of the milk is to be carried out. This problem has been to a great extent solved since the establishment of what are termed milk laboratories. Up to the present time the milk laboratories have been under the control of one company called The Waker-Gordon Laboratory Company, which was established in Boston in 1891 by Mr. G. E. Gordon, Mr. Geo. H. Walker and Mr. J. H. Waterhouse. These milk laboratories are intended to take the same position toward the modification of milk that apothecary shops have to drugs. That is, directions for substitute feeding can be sent in the form of a prescription to the milk laboratory, and should only be dispensed and sold under the direction of a physician. It is well that this should be clearly understood, as it places the milk laboratories in the strong position which they have up to this time held by being endorsed by the physician and by giving the public to understand that they are merely a means by which physicians can accurately carry out their ideas as to the substitute feeding of their patients.

Emanating from Boston, laboratories have been established in this country in New York, Philadelphia, Chicago, Baltimore, Buffalo, Cincinnati, Cleveland, Grand Rapids, Pittsburg, St. Louis and Washington; in Canada in Montreal, Ottawa and Toronto, and in England in London. In connection with these laboratories are farms belonging to the Walker-Gordon Company and especially equipped for supplying the best milk for substitute feeding. The farms and the laboratories

in this way are kept in close touch, and the important matter of a fresh milk supply is thus dealt with and carried as nearly to perfection as is possible under the existing conditions.

The materials which are needed to carry out the physician's prescriptions in these laboratories are:

1. Creams of different but definite fat percentages, obtained either by gravity or by centrifugal separation.
2. Fat-free milk, which is used to increase the percentage of proteids in the substitute food beyond that contributed by the cream.
3. Milk sugar to raise the percentage of the sugar above the amount contributed by the cream and the fat-free milk.
4. Lime-water to increase the alkalinity.
5. Boiled or distilled water as a diluent.
6. Cereal waters and jellies, usually of barley or oat meal, which in certain cases, if the physician prescribes it, can be used as a diluent, or, in the latter part of the first year, to provide the necessary element of starch.
7. Special apparatus for pasteurizing, sterilizing or heating the mixtures at any required temperature.

The milk supply from the farms connected with these laboratories is treated with such care that it shows a remarkably low bacterial content, so that it often can be transported for long distances without the necessity of pasteurization, sterilization or the addition of preservatives.

These laboratories established in the interest of substitute feeding are, then, simply places where milk, which has been obtained under the best conditions, is supplied, where physicians can send their prescriptions calling for any percentage of fat, sugar, proteids, alkalinity or anything else which is desirable, and where these prescriptions can be put up cleanly and accurately.

The following is the sample prescription blank which is at present used in the Walker-Gordon laboratories, and a sample prescription:

THE WALKER GORDON LABORATORY.

		Per cent.
℞.	Fat	3.50
	Milk sugar	6.50
	Whey proteids	0.50
	Caseinogen	0.25
	Lime water	5.00

Heat at 155 F. Number of feedings, 8. Amount at each feeding, 4 oz. Ordered for.....

Address..... Date.....190..

....., M.D.

Physicians who do not wish to subdivide the proteids may erase the words "whey" and "caseinogen," and simply write for the percentage of the total proteids desired. They may also write for as many ounces of cereal water or jelly in each tube as may be desired, the cereal being added in place of the water used in making the modification, so that the percentage of fat, sugar, and proteids are not materially altered.

By examining the prescription it will be seen that the substitute food is written for simply in percentages, and that by this method the physician does not have to calculate the various amounts of cream or separated milk or sugar or anything else which he may wish to have introduced into the food, these being calculated at the laboratory for him. The great advantage in using the laboratory methods for preparing a substitute food is not only the relative greater certainty of the purity and the freshness of the milk supply, but also that the percentages of the different elements of the milk and cream being known each day, the calculations for any especial percentages are more likely to be correct. We must not, however, expect, in the present state of our knowledge, when a prescription of certain percentages is written for, that these percentages in the resulting mixture will be absolutely correct. Practically, however, they have been shown to be reasonably accurate, and necessarily are more accurate than when the mixtures are prepared by other methods or in the patient's home. The following analyses of laboratory mixtures were made by Dr. Edsall of Philadelphia, who is well known as a skilled chemist, as well as a practical worker in the care of children.

The mixtures were calculated at and put up in the Walker-Gordon Milk Laboratory in Philadelphia.

TABLE 9.

Percentages as calculated by the laboratory.		Percentages in the same mixtures as estimated by chemical analysis by Dr. Edsall.	
Fat.	Proteids.	Fat.	Proteids.
1.5	.75	1.3	.822
1.5	.75	1.3	.8217
1.5	.75	1.4	.8217
1.5	.75	1.2	.7503
1.5	.75	1.3	.7140
1.5	.75	1.1	.8574
1.5	.75	1.45	.3217
1.50	.75	1.30(?)	
1.50	.75	1.50	.8574
1.50	.75	1.50	.9288
2.	1.25	2.2	1.2147
2.	1.25	1.9	1.2504
2.	1.25	1.9	1.2147
2.	1.25	2.4	1.2861
2.	1.25	1.6	1.036
2.	1.25	1.7	1.2147
2.	1.25	1.9	1.0717
2.50	1.50	2.4	1.2504
2.50	1.50	2.6	1.3891
2.5	1.50	2.6	1.2881
2.5	1.50	2.6	1.4098
2.5	1.50	2.2	1.143
2.5	1.50	2.6	1.3
3.5	1.75	3.55	1.6355
3.5	1.75	3.3	1.6335
3.5	1.75	3.3	1.544
3.5	1.75	3.28	2.2151
4.0	1.75	3.9	2.1794
4.0	1.75	4.2	1.544
4.0	1.75	3.3	1.536
4.0	1.75	3.8	1.7049
4.0	1.75	3.9	1.557
4.0	1.75	3.7	1.562

After the prescription has been made up at the laboratory by the laboratory modifying clerks the number of tubes required for the special substitute feeding, each tube containing the amount which the physician wishes the infant to have at one feeding, are placed in an ice box especially adapted for the purpose of transportation to the patient's home. On the following day, when the fresh supply is brought, the ice box and tubes of the previous day are taken back to the laboratory. The greatest care is taken not only to have practically sterile tubes go out from the laboratory, but when the empty tubes are returned, to thoroughly sterilize them before they are brought into the modifying room.

Although an accurate composition of a substitute food can be better obtained in a laboratory than anywhere else, yet there arise cases in which a laboratory can not be conveniently reached, or in which for some special reason, the physician or the patient prefers to make the substitute food at home. We must remember, however, that many children are fed in a satisfactory manner from laboratories at a great distance from their homes. Thus, before the establishment of the Chicago laboratory the New York laboratory supplied a number of cases in Chicago. In the same way the Boston laboratories have sent, even during the hot weather, food to different parts of Maine, and the southern states have been supplied from the Washington laboratory. It is quite common for the laboratories to supply food for long ocean voyages, and the laboratory methods have been found to be remarkably successful in this part of the work. As to the relative expense incurred in

feeding from the laboratory, or from mixing the food at home, there is not a very great deal of difference, especially if good milks and creams of different percentages are provided for what is usually known as home modification.

The general principles for modifying milk are the same whether the milk is modified in the laboratory with carefully protected milk, and by skilled hands, or in the homes from whatever milk the individual is able to obtain and by hands as skilled as possible in the special household. The physician must, therefore, in making use of home modification adapt his methods as nearly as possible to those which are employed in the laboratories. This implies the careful choosing of a herd of cows, as clean and fresh milk as possible, and a reasonable certainty as to the strength of the cream used.

HOME MODIFICATION.

The chief difficulty associated with the home modification of milk lies in the uncertainty in regard to the percentages of the materials with which we are working. If creams of guaranteed strength can be purchased from the laboratories or similar places, a home modification may be made with a considerable degree of accuracy. On the other hand, if we are dependent on the use of gravity cream obtained from milk of uncertain composition, the strength of the cream can only be approximately estimated. We may, however, assume that a quart of milk which contains 4 per cent. of fat to start with, and which has been allowed to stand for a varying number of hours, will yield approximately the following percentages of fat in the different layers of milk:

TABLE 10.

Cream, 10 per cent. in the upper	8 ounces after 6 hours.
Cream, 10 per cent. in the upper	11 ounces after 8 to 12 hours.
Cream, 12 per cent. in the upper	8 ounces after 8 hours.
Cream, 16 per cent. in the upper	6 ounces after 8 hours.
Cream, 20 per cent. in the upper	4 ounces after 4 to 6 hours.

Milk containing practically no fat, or, as it is called, "fat-free milk," can be obtained from the lowest eight ounces of a quart of milk which has been set for eight or more hours. The other materials used in modification, that is, lime-water, distilled or boiled water and milk-sugar, can be easily provided.

Having on hand the materials for the modification, the next point consists in making the calculation for the different amounts of each material to be used in order to obtain the desired percentages of fat, sugar and proteids in the resulting mixture. These calculations may be made either by means of formulæ such as have been published by Taylor, Baner and Westcott, or they may be obtained by the feeding-card presently to be described.

If formulæ are to be used, it is essential that we should adopt a standard for the analysis of the different materials used, and the standard which is now most generally accepted may be stated as follows:

TABLE 11.

	Fats.	Sugar.	Proteids.
Fat-free milk	Trace.	4.60	3.60
Whey	Trace.	4.79	1.00
Whole milk	4	4.50	3.50
Eight per cent. cream	8	4.40	3.40
Ten per cent. cream	10	4.30	3.35
Twelve per cent. cream	12	4.20	3.30
Sixteen per cent. cream	16	4.05	3.20
Twenty per cent. cream	20	3.90	3.10

FORMULÆ FOR MILK MODIFICATION.

The most complete series of formulæ for the modification of milk which has yet been published is that of Dr. Thompson S. Westcott of Philadelphia, which was published in the International Clinics, October, 1901. Taking the previous formulæ of Taylor and those of Baner, he has worked out mathematical formulæ which are of universal application, and has established the principles of percentage modification on a truly scientific basis.

The formulæ which he gives are rather too elaborate to be given in this paper. For the sake of completeness, however, it may be well to give the formulæ for obtaining the desired combinations based upon the use of creams and fat-free milk. The use of creams and fat-free milk, instead of the use of cream and whole milk, simplifies very greatly the work of computation, as may readily be seen by referring to Westcott's paper. Moreover, it is a more economical method, as the fat-free milk may be obtained from the same quart from which the cream is separated. The formulæ may briefly be expressed as follows:

TABLE 12.

F.=prescribed percentage of fat.
S.=prescribed percentage of sugar.
P.=prescribed percentage of proteids.
C.=total quantity of cream in ounces.
M.=total quantity of milk in ounces.
W.=total quantity of water in ounces.
L.=total quantity of dry milk sugar in ounces.
Q.=total quantity of mixture.
a =known percentage of fat in cream.
a′=known percentage of fat in milk.
b =known percentage of proteids in cream.
b′=known percentage of proteids in milk.

The amount of cream to be used is;

$$\text{Cream (C)} = \frac{QF}{a}$$

The amount of fat-free milk to be used is:

$$\text{Fat-free milk (M)} = \frac{QP - bC}{b'}$$

The amount of sugar is:

$$\text{Sugar (L)} = \frac{QS - 4.50\ (M+C)}{100}$$

which gives the amount of sugar in ounces.
The amount of water to be added is:

$$\text{Water (W)} = Q - (C + M).$$

A comparatively unimportant error arises in the calculation of the sugar by the assumption that the percentage of sugar in the mixture of fat-free milk and cream is the same as that in whole milk, that is, 4.50 per cent.

To many physicians, however, the use of a formula is more or less inconvenient, both because of the time required to make the computation and because of the difficulty which some minds experience in using algebraic formulæ. In order to simplify the work of calculation, a very practical and simple method has been devised by Dr. Maynard Ladd, a member of the pediatric department at Harvard University.

DR. LADD'S CARD FOR HOME MODIFICATION.

This method consists of a card small enough to be carried conveniently in the pocket and on which are given thirty different combinations of fat, sugar and total proteids with the amounts in ounces of cream, fat-free milk, lime-water, boiled water and milk-sugar to be used in obtaining these combinations.

By referring to this card it is seen that it is so arranged that a physician may exercise a choice in the percentage of cream to be used, and can see at a glance what combinations are possible and what combinations impossible with the creams of different strengths. The calculations are made for twenty-ounce mixtures. For twenty-five ounce mixtures the amount of each ingredient is multiplied by 1¼. For a thirty-five ounce mixture the amount of each ingredient is multiplied by 1¾ and for a forty-ounce mixture the amount of each ingredient is multiplied by 2. The percentage

of lime-water may be increased at will, by remembering that each additional ounce in a twenty-ounce mixture increases the alkalinity 5 per cent., and the amount of lime-water added beyond what is given in the total amount must be subtracted from the amount of water used as a diluent. For accuracy the milk-sugar should be dissolved in a portion of the water, and then enough water added to make the amount called for. The amount of sugar required is expressed in measures; the measure is a small tin dipper obtained at the milk laboratory, and holds just 3⅜ drams, which is approximately a level tablespoonful.

TABLE 13.

No.	Fat.	Sugar.	Prot'd.	Alk.	Ounces of Cream. 10%	12%	16%	20%	Ozs. Fat Free Milk Used with Cream of 10%	12%	16%	20%	Ounces Lm. Wtr.	Bld. Wtr.	Milk Sugar. meas.	Sugar % without dry sugar
1	1.50	4.50	0.25	5	*	*	*	1½	*	*	*	0	1	17½	2	0.33
2	1.50	4.50	0.50	5	3	2¾	2	1½	0	½	1	1¼	1	16	2¼	0.61
3	2.00	5.00	0.25	5	*	*	2½	2	*	*	½	0	1	17	2¼	0.75
4	2.00	5.00	0.50	5	*	¾	1½	2	*	½	1	1¼	1	16	2¼	0.73
5	2.00	5.00	0.75	5	*	¾	2	2	*	½	1½	1¼	1	15¾	2¼	1.01
6	2.00	5.50	1.00	5	4	3	2½	2	*	½	2	1¼	1	15¼	2¼	1.30
7	2.50	5.50	0.50	5	*	*	2	2½	*	*	1½	1½	1	15¾	2¼	0.73
8	2.50	5.50	0.75	5	*	*	2½	2½	*	*	2	1½	1	15¼	2¼	1.01
9	2.50	6.00	1.00	5	5	4	3	2½	*	*	2½	1½	1	14¾	2¼	1.23
10	3.00	6.00	0.50	5	*	*	2½	3	*	*	1½	2	1	15¼	2½	0.84
11	3.00	6.00	0.75	5	*	*	3	3	*	*	2	2	1	14¾	2½	1.12
12	3.00	6.00	1.00	5	6	5	3¾	3	*	*	2½	2	1	14¼	2½	1.35
13	3.00	6.00	1.25	5	6	5	3¾	3	0	¼	2¾	2	1	13¾	2½	1.35
14	3.00	6.50	1.50	5	6	5	3¾	3	¼	2½	3¼	2	1	13¼	2½	1.91
15	3.00	6.50	2.00	5	6	5	3¾	3	¾	3½	4¾	2½	1	12¾	2½	2.68
16	3.50	6.00	0.50	5	*	*	3¼	3½	*	*	2½	2½	1	15½	2½	0.78
17	3.50	6.00	0.75	5	*	*	4	3½	*	*	3	2½	1	15	2½	1.01
18	3.50	6.50	1.00	5	5	4½	4	3½	0	½	3½	2½	1	14½	2½	1.26
19	3.50	6.50	1.25	5	5	4½	4	3½	¼	1	3¾	2½	1	14	2½	1.68
20	3.50	6.50	1.50	5	5	4½	4	3½	½	1¼	4¼	2½	1	13½	2½	2.02
21	4.00	6.00	0.60	5	*	*	4	4	*	*	3	3	1	15	2¼	0.78
22	4.00	6.00	0.75	5	*	*	5	4	*	*	3¾	3	1	14¼	2¼	1.12
23	4.00	7.00	1.00	5	*	*	5	4	*	*	4¾	3	1	13¼	2¼	1.35
24	4.00	7.00	1.25	5	8	6¾	5	4	1	2¼	6	3	1	12	2¼	1.68
25	4.00	7.00	1.50	5	8	6¾	5	4	1½	2¾	7	3	1	11½	2½	2.02
26	4.00	7.00	2.00	5	8	6¾	5	4	2	4¼	9¼	3	1	10	2½	2.56
27	4.00	7.00	2.50	5	8	6¾	5	4	2½	5¾	11½	3	1	8½	2½	3.20
28	4.00	7.00	3.00	5	8	6¾	5	4	3	7¼	13¾	3	1	7	2½	3.88
29	4.00	6.00	3.00	5	8	6¾	5	4	3	7¼	13¾	3	1	7	2½	3.88
30	4.00	5.50	3.00	5	8	6¾	5	4	3	7¼	13¾	3	1	7	2½	3.88

For 25-oz. mixtures multiply amount of each ingredient by 1¼
For 30-oz. mixtures multiply amount of each ingredient by 1½
For 35-oz. mixtures multiply amount of each ingredient by 1¾
For 40-oz. mixtures multiply amount of each ingredient by 2
For 45-oz. mixtures multiply amount of each ingredient by 2¼

* Combination impossible with strength of cream indicated.

The following is an example of the way in which this card may be used: Suppose that it is desired to give a baby a mixture calling for a 4 per cent. fat, 7 per cent. sugar, 1.25 per cent. proteids, 5 per cent. alkalinity, and five feedings of eight ounces. By referring to the table it will be seen that this corresponds to formula 24. Looking into the cream column we see that it is impossible to obtain this combination with a cream of 10 per cent. fat, but it may be obtained with a cream of 12 per cent. fat. As forty ounces of milk are to be given the baby in the course of twenty-four hours, it will be necessary to double the quantity of each ingredient, and the calculation is readily made as follows:

TABLE 14.

12 per cent. cream	6¾ ounces	x 2 = 13½ ounces.
Fat free milk	¾ "	x 2 = 1½ "
Lime water	1 "	x 2 = 2 "
Boiled water	11½ "	x 2 = 23 "
Milk sugar	2½ measures	x 2 = 5 measures.

The mother is then told how to obtain a cream of 12 per cent. strength, following the rules given above. By referring to the table of creams it will be seen that a cream of 12 per cent. may be obtained from the upper eight ounces of a quart of milk which has been allowed to set in a cool place for eight hours. The mother may be directed either to siphon off this cream, or to remove it by means of a dipper, or she may pour off the top eight ounces into a graduate. Two quarts of milk will be necessary to obtain the amount of cream necessary for this modification. The fat-free milk is obtained from the lowest eight ounces of the quart from which the cream has been removed. The ingredients are mixed and five nursing bottles are then filled, each with five ounces of milk, stoppered with cotton, and then pasteurized or not, as the physician chooses to direct.

Whey-cream mixtures may be obtained by using whey as a diluent, in place of the boiled water, preferably in the combinations containing low proteid percentages. Each two ounces of whey replacing an equal quantity of water in a twenty-ounce mixture will raise the whey-proteids, 0.10 per cent., and will increase the sugar percentage 0.50. The total sugar percentage is therefore, the amount contributed by the cream and fat-free milk, which is indicated in the last column of table 13, plus that of the whey. The amount of dry sugar which must be added to make the desired final sugar percentage can be easily calculated by referring to the following table.

TABLE 15.

	Per cent. of sugar.
One measure of dry lactose in a 20-oz. mixture gives	2.00
One-half measure of dry lactose in a 20-oz. mixture gives	1.00
One-quarter measure of dry lactose in a 20-oz. mixture gives	.50

(One measure is approximately one level tablespoonful.)

Example: If in formula 21 of Dr. Ladd's card, fourteen ounces of whey are added in place of the same quantity of water, the whey-proteids are increased 0.70 per cent., making total proteids of 1.30 per cent. The sugar contributed by the cream is 0.78; that by the whey 3.50—making a total of 4.28. The desired percentage of sugar is 6, therefore the balance of 1.72 per cent. may be obtained by adding a little short of the measure of sugar.

Whey should be made of fresh fat-free milk and liquid rennet, and should be heated to 150 F. (65 C.) to destroy the rennin enzyme before it is added to the cream mixture. One quart of fat-free milk will yield about twenty-four ounces of whey.

EDSALL'S COMPARATIVE ANALYSES.

Dr. Edsall of Philadelphia has carefully estimated the percentages of the fat and proteids where the mixtures have been prepared by means of formulæ in the hospital, by trained nurses, at the out-patient department of the University of Pennsylvania, and by a number of physicians. The results under these conditions were not so good as when the modifications were done in the laboratory. Dr. Edsall has also carefully estimated mixtures that have been put up according to the figures on Dr. Ladd's card, and has found that the results were very accurate, approaching closely those of the laboratory modifications. It would seem, therefore, that the laboratory modifications are best if they can be obtained, but that if home modification is to be used, the

method suggested by Dr. Ladd will probably give the most accurate and successful results.

GENERAL PRINCIPLES OF PERCENTAGE FEEDING.

Having described the general principles of modifying milk and explained the various methods whether by laboratory modification or home modification by special formulæ, or by the feeding card, it may be well for me to say a few words about the general principles of percentage feeding.

This system of percentage feeding has been so much more elaborated in America than elsewhere that it is often spoken of as the American method. It simply means that each individual infant must be studied by itself; that its special idiosyncrasies must be allowed for, and that its food should be adapted to its age, weight and other conditions, whether normal or abnormal. This seems to be the most rational manner of approaching the subject, and, although there are many factors of the problem which have not yet been entirely solved, yet the principle having been determined, greater accuracy will necessarily follow the continuous investigation of the subject.

So far as the materials of the food are concerned, we conclude that it is practical to use cow's milk for a substitute food, and that the milk should be from cows of hardy breeds, such as Durham, Devon, Ayrshire and Holstein. These grades are noted for their constitutional vigor, adaptability to acclimatization, notable ability to raise their young, freedom from intense inbreeding, a distinctly emulsified fat in the milk, and a preponderance in the fats of the fixed over the volatile glycerids.

In regard to the heating of the milk, the temperature should vary according to the especial conditions. Where whey is used to obtain a definite percentage of the whey-proteids, a temperature sufficient to kill the rennin enzyme, used in obtaining the whey, and not so high as to coagulate the whey-proteids, should be employed. An intermediate temperature of 155 F. (68.3 C.) meets this condition.

In hot weather, and when the distance for transportation is great, also in diarrheal diseases, it is sometimes found desirable to heat the milk to a much higher temperature, such as 212 F. (100 C.). It may be said, however, that with the present care which is taken to preserve the milk used for laboratory purposes, it has been found that either sterilization or pasteurization is often unnecessary.

In regard to the reaction, a slightly alkaline reaction seems to accomplish the most favorable results. The lime-water does not appear in itself to interfere with the infant's digestion. Care should be taken, however, when a large percentage of lime-water is added to the milk, such as 15 or 20 per cent., that it should be added just before the milk is given if it is decided to heat the food at a high temperature, such as 212 F. (100 C.). This precaution is taken because if the lime-water and milk-sugar are heated together at a high temperature a reaction takes place seemingly between the lime-water and the milk-sugar, with a resulting discoloration of the milk.

In regard to the percentages which should be given under different conditions, you may perhaps wish to know what my custom has been. We may divide all feeding cases into two broad classes, one in which the infant is normal for its age, both in digestion and nutrition, and a second class in which there is some disturbance in the digestion and nutrition of the infant.

The feeding in the first class of cases, in which the infant is normal at birth, presents very few difficulties, as a rule, when the case is intelligently managed. It is necessary, however, to bear in mind that even a normal infant can not be started at once on a modified milk, corresponding in its percentages to human milk. It is a cardinal principle in the feeding of both healthy and sick infants, to start with weak milks and gradually to strengthen one element after another until the child is taking a milk of full strength. The rapidity with which this can be accomplished will depend largely on the idiosyncrasy of the infant. In some cases we are surprised at the strength of the food which the child can digest, in other cases the progress from a very weak to a very strong milk can only be made slowly and with caution.

In a general way it has been my experience that the fats should be from 1.5 to 2 per cent. during the first week, and from 2 to 2.5 per cent. in the second and third weeks. By the end of the month the infant should be taking from 3 to 3.5 per cent. of fat. Four per cent. of fat should be reached anywhere from the sixth week to the sixth month.

The sugar percentage can be pushed up rapidly, beginning with 5 per cent., and by the end of a month in most cases we can give 7 per cent. It is rarely necessary to go higher.

The proteids present the greatest difficulty, and as a rule must be increased very gradually, beginning with a total percentage as low as 0.50, and preferably in young infants using the splitting the proteid so as to give 0.25 whey-proteids and 0.25 caseinogen. This will suffice for the first week or two. At the end of a month the infant is usually taking 1 per cent.; at the end of the second or third month 1.25 to 1.50 per cent., and from the fourth to the fifth month about 2.00 per cent. The full total proteid of 3.50 is rarely tolerated before the tenth or twelfth month. At any time when necessary or desired the various combinations of the split-proteid can be used instead of the undivided proteid.

Table 16 summarizes what has just been said, giving the formulæ, according to the feeding-card on which the average healthy baby may be started.

Table 16.

Premature	No. 1 or 2
2-4 weeks	No. 5, 8, 9 or 11
1-2 months	No. 12 or 13
2-4 months	No. 19 or 20
4-6 months	No. 24 or 25
6-8 months	No. 26 or 27
8-9 months	No 28

Rules for Feeding.

Day feedings begin at 6 a. m., and end at 10 p. m.

Age of Infant.	Intervals in Hours.	No. of Feedings in 24 Hours.	No. of Night Feedings.	Amount ozs. at Each Feeding.	Total Amount of ozs. in 24 Hours.
1 week ..	2	10	1	1	10
2 weeks ..	2	10	1	1½	15
4 weeks ..	2	9	1	2½	22½
6 weeks ..	2½	8	1	3	24
8 weeks ..	2½	8	1	3¼	26
3 months .	2½	7	0	4	28
4 months .	2½	7	0	4½	31½
5 months .	3	6	0	5½	33
6 months .	3	6	0	5¾	34½
7 months .	3	6	0	6¼	37½
8 months .	3	6	0	7	42
9 months .	3	6	0	7	42
10 months	3	5	0	8½	42½
11 months	3	5	0	8¾	43¾
12 months	3	5	0	9	45

While these changes in the percentage composition of the milk are being made, it is equally important to regu-

late the number of feedings, the intervals between the feedings and the quantity at each feeding. The manner in which this is done is seen in Table 17.

TABLE 17.
RULES FOR FEEDING.
Day feedings begin at 6 a. m., and end at 10 p. m.

Age of Infant.	Intervals in Hours.	No. of Feedings in 24 Hours.	No. of Night Feedings.	Amount ozs. at Each Feeding.	Total Amount of ozs. in 24 Hours.
1 week ..	2	10	1	1	10
2 weeks ..	2	10	1	1½	15
4 weeks ..	2	9	1	1½	22½
6 weeks ..	2½	8	1	3	24
8 weeks ..	2½	8	1	3¼	26
3 months .	2½	7	0	4	28
4 months .	2½	7	0	4½	31½
5 months .	3	6	0	5½	33
6 months .	3	6	0	5¾	34½
7 months .	3	6	0	6¼	37½
8 months .	3	6	0	7	42
9 months .	3	6	0	7	42
10 months	3	5	0	8½	42½
11 months	3	5	0	8¾	43¾
12 months	3	5	0	9	45

The feeding of infants with weak digestions can not be so easily managed. At times it is impossible to say what element of the food is causing the trouble, or it may be that all three elements, fat, sugar and proteids, are at fault, or that the appropriate combinations of percentages has not been employed. The secret of successful management of these cases is to provide rest for the stomach. This can best be accomplished by putting the infant, irrespective of its age, on a milk easily within its digestive power, perhaps giving it no higher than 1.5 to 2 per cent. of fat, 5.00 per cent. of sugar, and 0.50 per cent. of proteid.

The infant is to be kept on this mixture until the discomfort of indigestion has passed away, and then we should begin gradually to increase one element after another, until it is taking a food appropriate to its age. The great mistake made by most physicians is their aversion to making so radical a change as that just indicated. They try to decrease the strength of the milk working downwards until a digestible mixture is obtained, whereas they should begin at once at the bottom and work upward.

The majority of cases of difficult digestion are due to the caseinogen, and it is for this reason that I have found the use of the whey-cream mixtures of the greatest value. I am accustomed to use mixtures giving only 0.25 per cent. of caseinogen and rapidly to run the whey-proteids up to 0.90 per cent. (the highest that can be given); then keeping the whey-proteids at 0.90 per cent., I advance the caseinogen first to 0.50 per cent., then to 0.75 per cent., then to 1.00 per cent. The next change is to a total proteid of 1.50 per cent. and then to 2.00 per cent.

Very rarely, in addition to careful modification, partial or complete peptonization may have to be resorted to, but such cases seldom arise, if we diligently and intelligently carry out the essential principles underlying the adaption of cow's milk to an infant.

Finally, let me reiterate what I have said before in other words. Sick infants can not be fed by rule of thumb. We can only lay down the general principles governing the milk supply, the subsequent modification of the milk and finally its adaption to the particular child. Each sick infant is a study by itself. The most successful feeder of infants will be the man who has at his command the many resources embodied in our modern methods of percentage feeding, and who can appreciate the individual needs of the especial infant.

CLIPPINGS FROM LAY EXCHANGES.

FEARFUL AND WONDERFUL NAME.

"'Coccus babyllus polymohpus lissac' is the name given to the hydrophobia microbe by its discoverer" . . . *Binghamton* (N. Y.) *Herald*, June 29.

ANTIPHENACETINE POULTICE.

"Last night Jeffries defied his trainer and doctor by pulling off the antiphenacetine poultice that had been applied twenty-four hours before."—*Chicago Tribune*, July 27, 1903.

ARE "ECLECTIC" AND "EPILECTIC" SYNONYMOUS?

"The epileptic staff of the county hospital elected officers," . . . *Chicago Record-Herald*, July 19, 1903; "A meeting of the epileptic staff . . . was held . . ," *Chicago Chronicle*, July 20, 1903.

CARDIECTOMY PROPOSED.

A London despatch to the *New York Herald*, and published in the *Ithaca* (N. Y.) *News* of June 29, gives the details of a case of stab-wound of the heart. The surgeon "at first thought the heart itself would have to be removed, but on washing away the blood clots and raising it a little the puncture was found."

INGESTED INTESTINE.

"Dr. —— came to Newkirk about two years ago. . . . . A few months ago a baby was born, elating the young physician and spurring him on to renewed effort. About two weeks ago the doctor incurred appendicitis. . . . The operation revealed the fact that the intestine had been eaten, a dangerous symptom."—*Newkirk* (O. T.) *Journal*, Dec. 25, 1902.

MAY BE CYANOSIS.

"His Disease Puzzles Surgeons—Deaf Mute's Body Turns Dark and He Is Unconscious—May Be Cyanosis.—The peculiar symptoms of the illness from which —— is suffering puzzle the surgeons . . . From chest to head his body is discolored and the physicians are unable to explain the cause. . . . The surgeons finally concluded that he was suffering from cyanosis, which is a diseased condition of the circulation, causing a livid bluish color of the skin."—*New York Tribune*, Aug. 5, 1903.

EVERLASTING ANESTHESIA.

A fervid obituary notice which appeared in the *Somerset* (Ky.) *Journal*, of Jan. 13, 1903, contains the following literary gems:

"How inconceivably cold is the grave and the state of death! To-day in this winter atmosphere, through the drifting snow, into the frozen ground they are burying our recent familiar friend and fellow, Dr. ——, yet his once sensative nerves are so benumbed by the chill of death that he feels not the frigid environment.

"When I, with his employer and friend, ——, saw him the other day (6th inst.), and I took the emaciated hand and met the weak but lucid eye, life's near extinction was apparent, but I did not realize then that in six short hours he would be brought fully under the everlasting anesthesia."

Alcohol Applications in Pleurisy, Peritonitis and Arthritis.—Local application of alcohol has proved effective in curing cases of this kind in the experience of Dr. Ssaweljew of Dorpat, as he reports in the *Allg. Med. Ct.-Ztg.*, lxxii, p. 257. He keeps the part wet with a bandage saturated with alcohol and reports unusually rapid recoveries. In case the patient wishes to be up he applies the alcohol on cotton covered with perforated parchment paper, the whole held in place by a suspending bandage. The alcohol is poured through a glass funnel into the perforations as needed. He does not attempt to explain the mechanism of its action, which has been theorized on by many writers, but contents himself with detailing the results of the measure, which he thinks he is the first to apply in pleurisy.

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Owing to the amount of space given to the educational matter in this issue, many of the regular departments are abbreviated and some are omitted.

MEDICAL EDUCATION IN THE UNITED STATES.

This week's issue of THE JOURNAL is the third annual educational number, and contains the statistics regarding medical education in the United States covering the year ending June 30, 1903. We believe that the statistics presented in this number, and for the two years preceding, are absolutely correct. It will not be out of place to say that until THE JOURNAL, four years ago, undertook to annually gather the information, there was no way of knowing even the number of medical colleges, much less the number of students in, and graduates from, these colleges, aside from the information furnished by the publications of the Commissioner of Education, which are usually a year behind. There were plenty of vague guesses and wild statements made regarding the number of colleges, students and graduates, just as to-day the same kind of statements are made regarding the number of physicians in the United States, which is an unknown quantity.

The average reader, making a casual glance at the statistical and other information presented, will possibly imagine that it was a simple matter to obtain it. He will naturally suppose that a letter to the dean or secretary of a college would bring the information desired. We are sorry to say, however, that this is not correct. Three months have been covered in this work, and yet even as we go to press it has been impossible to get a reply from anyone connected with two of the colleges listed. In a number of instances three or four letters to the dean or secretary or president would have to be supplemented by letters to individual members of the faculties or even to outsiders, before the information desired could be had. This criticism, we are happy to say, applies only to less than twenty institutions, the officers connected with the other colleges replying promptly to our requests for information. We extend thanks to all who aided us in gathering these statistics.

Medical Students in the United States.—The number of medical students in the United States for the year ending June 30, 1903, was 27,615. Of this number 24,930 were at the regular schools, 1,498 at the homeopathic, 848 at the eclectic and 339 at the physio-medical and nondescript schools. There was an increase in the attendance at the regular schools of 52 over last year, and an increase of 1,094 over the year previous—1901. In the homeopathic schools there was a decrease of 119 below that of 1902, and a decrease of 185 since 1901. The eclectic, however, seem to have increased in the number registered. This past year there were 848 registered, against 765 of the preceding year, and 664 in 1901, showing an increase of 83 over 1902, and 184 over 1901. Those in attendance at the physio-medical and nondescript schools numbered 339, an increase of 98 over last year, and 115 over 1901. We give below a comparative table:

TABLE OF MEDICAL COLLEGE ATTENDANCE.

Year.	Regular.	Homeopathic.	Eclectic.	Physio-Med. and Nondescript.	Total.
1880*....	9,776	1,220	830	...	11,826
1890*....	13,521	1,164	719	...	15,404
1900*....	22,710	1,909	552	...	25,171
1901.....	23,846	1,683	664	224	26,417
1902.....	24,878	1,617	765	241	27,501
1903.....	24,930	1,498	848	339	27,615

Number of Graduates.—The total number of graduates in medicine for the year ending June 30, 1903, was 5,698, an increase of 699 over the preceding year. By referring to the table given below, it will be noticed, however, that this is an increase of only 254 over the number of graduates for the year ending June 30, 1901. As we stated last year, the decrease in the number of graduates in 1902 is assigned to the increased length of course of study and increased requirements by state boards. As we stated then, the decrease might be considered as only temporary, and this is proving to be true. However, the normal condition as regards the number of graduates to the number of students registered has probably not yet been reached, for a very large number of the medical schools adopted the four years' course during the last three years:

TABLE OF MEDICAL COLLEGE GRADUATES.

Year.	Regular.	Homeopathic.	Eclectic.	Physio-Med. and Nondescript.	Total.
1880*....	2,673	380	188	..	3,241
1890*....	3,853	380	221	..	4,454
1900*....	4,715	413	86	..	5,214
1901.....	4,879	387	148	30	5,444
1902.....	4,498	336	138	27	4,999
1903.....	5,088	420	149	41	5,698

Number of Colleges.—The number of medical colleges in the United States which grant the degree of M.D. is 154. Of these 121 are regular, 19 homeopathic, 10 eclectic, 3 physio-medical, and 1, the National Medical College of Chicago, nondescript, this institution advertising to teach not only according to the tenets of the four "schools" mentioned, but also osteopathy. In addition to the above, there are three schools which give instruction in the first two years' work. In other words, there are 157 institutions devoted to teaching medicine in the United States.

Our report for last year showed that there were at that time 156 medical colleges which conferred the degree of M.D. This, however, included the West Coast Medical College of San Francisco, which we found, when too late, should not have been included. Thus there has been a decrease of one college this year. An analysis of the report of medical colleges, given on pp. 436 to 449, with

* These statistics were obtained from the report of the Commissioner of Education.

the similar report of last year, shows that three new colleges have been started and four have gone out of existence by consolidation or otherwise.

We give below the number of medical schools, and include for comparison the same statistics for the years 1880, 1890 and 1900:

Comparative Table of Medical Colleges.

Year.	Regular.	Homeopathic.	Eclectic.	Physio-Med. and Nondescript.	Total.
1880*....	72	12	6	..	90
1890*....	93	14	9	..	116
1900*....	121	22	8	..	151
1901.....	124	21	10	4	159
1902.....	121	20	10	4	155
1903.....	121	19	10	4	154

Colleges Located in Small Towns.—It is acknowledged by all who have given thought to the subject that a town of less than 50,000 inhabitants can not, except under unusual circumstances, supply the clinical advantages that third and fourth-year students require. Yet the fact is there are thirty medical colleges located in towns of less than 50,000 that confer the degree of M. D. Ten of these schools are in towns of between 30,000 and 40,000, two in towns of between 20,000 and 30,000, six in towns of between 10,000 and 20,000, and nine in towns of less than 10,000.

Ratio of Schools to Population.—There are 14 cities containing 4 or more schools each, and these cities contain 84 of the 154 schools. Below is a table of these cities, with population, number of schools and ratio of population to each school. The population in each instance is based on the census report for 1900. It is quite probable that the population of all of these cities has increased, but, if so, the relative increase is possibly about the same. It will be noticed that New York has the fewest medical schools in proportion to its population, and that Chicago has the distinction of having the largest number of medical schools of any city in the United States.

Table of Ratio of Colleges to Size of Cities.

City.	Population.	Number of Schools.	Ratio of Popu. to Each School.
Dallas	42,638	4	10,659
Nashville	80,865	5	16,173
Kansas City	163,752	6	27,292
Louisville	204,731	7	29,247
Indianapolis	169,164	4	42,291
Baltimore	508,957	8	63,619
San Francisco	342,782	5	68,556
Washington	278,718	4	69,679
Cincinnati	325,902	4	81,475
St. Louis	575,238	6	95,873
Chicago	1,698,575	14	121,326
Boston	560,892	4	140,223
Philadelphia	1,293,697	6	215,616
New York	3,437,202	7	491,029

THE IDEAL PRELIMINARY EDUCATION FOR MEDICAL STUDENTS.

That there is unusual interest in the education which prospective medical students are to pass through preliminary to undertaking the studies of the medical curriculum proper is proven by the large number of articles which are being written on the subject, by the discussions which take place in the faculties of medical colleges, and among the students of those colleges, by the action taken by the Association of American Medical Colleges as regards the minimum requirement, and, above all, by the high standards of admission which are being adopted by the schools of higher rank in various parts of the country. There can be no doubt that a strong movement has set in toward a more liberal education of the profession, as a whole, and that this movement is supported not only by the best representatives of the profession itself, but also by the more intelligent part of the public with which the profession has to deal. The reason for this movement may be found in the general elevation of educational standards and in the enormous advances in the medical sciences dependent on progress of knowledge in the fundamental subjects of biology, chemistry and physics.

Up to 1895 no medical school in the United States had rigorously demanded for entrance any educational qualifications higher than those corresponding to graduation from an ordinary high school. In that year the Johns Hopkins Medical School was opened, its faculty making the startling announcement that in order to gain admission to the school applicants must not only possess the bachelor's degree in arts or science from a recognized college or university, but must, in addition, present certificates indicating the completion of a year's work (including laboratory practice) in biology, physics and chemistry, and give evidence of the possession of a reading knowledge of the French and German languages. Great skepticism was expressed at the time regarding the advisability of setting up such a high standard even by a school which was liberally endowed and was not dependent for income on the fees of students. A prominent member of the staff of the school itself declared the entrance requirements to be absurdly high, and prophesied that not a student would apply for admission. However, a dozen students were enrolled during the first year, and the number has steadily increased, until last year there were nearly 100 students in its freshman class.

The success of this school in securing a large number of superior students, capable of beginning the subjects in the medical curriculum on a plane far above that on which they must be begun by students less liberally educated, has been perhaps the most potent influence in leading colleges like Harvard and Western Reserve, and after them, a group of other medical schools connected with universities, to require a college education, or at least some part of it, preliminary to the undertaking of medical studies. From these leading medical colleges the movement in favor of more liberal preliminary training is rapidly spreading into the rank and file; even the conservative Association of American Medical Colleges, with its large membership of widely distributed medical schools, at its last meeting adopted high school graduation as a minimum entrance requirement to become operative in the near future, a standard which five years ago would have been thought impossible of attainment.

* The statistics for these three years were obtained from the report of the Commissioner of Education.

It is easy to formulate the needs of the modern medical student in the way of preliminary education. In the first place, he should be liberally educated; in the second place, he should secure that liberal education at a relatively early age, in order that it may be followed by four or five years of the medical school and one or two years of hospital experience, or foreign travel, and the man not be too old when he enters on the actual practice of his profession; in the third place, he should receive training in certain special subjects—like biology, physics and chemistry—which are fundamentally necessary for a proper understanding of anatomy, physiology, pathology and bacteriology, for otherwise he will be compelled either to take up his medical studies in the non-scientific and superficial way which the lack of such training compels, or, in the medical school, he must spend a large part of the time which should be given to the more strictly medical subjects, to the acquisition of that training; and in the fourth place, beside having a good command of English, he should be able to read German or French, or both, in order that he may consult the original sources of a large portion of medical knowledge and keep pace with the advance of medical thought and practice in the great European medical centers.

If these are the real needs of the prospective medical student, how may the admission requirements to our medical schools be adjusted in order that the faculties thereof may feel confident that entering students have satisfied them? Different educators would doubtless answer this question in different ways, as opinions differ as to what may be regarded as "a liberal education." Many assume that it is synonymous with the bachelor's degree. Others maintain that graduation from the high school, the "people's college," should guarantee a sufficiently liberal education for entrance on professional life. The consensus of opinion among the more intelligent of the laity would probably consider the former view nearer its standard than the latter. A liberally educated man, it would say, must have received a more profound training in languages and literature, and in mathematics and the sciences than is obtainable in even the best of our high schools. A physician or a lawyer who can not use the English language with a tolerable degree of accuracy, who has little or no conception of the historic method, who is not familiar with the chief results and general trend of modern science, and who, in his contact with life, is unfamiliar with that literature which is the interpretation of life, must, it thinks, enter on his career more or less seriously handicapped.

Just here, though, the age difficulty is met. The average college graduate is about 23 years old. If he then study medicine four years, spend a year or a year and a half as a hospital interne, and then go abroad for a year to visit European laboratories and clinics, he will be nearly 30 years of age before he enters on his private practice. All will agree that at 30 a man should be actively engaged in the practice of the profession to which he is to devote his life, and many will maintain that the student who enters the medical school at 23 after four years of college will be more blasé and less plastic than the student who enters the medical college directly from the high school. Against these objections it is urged (1) that while the average age at graduation from college is 23, these figures give a false impression; the majority of students graduate at a much earlier age, the average age being higher owing to the presence in the graduating classes of a few men of 35 or 40 and over; (2) that time is now wasted in college and in high schools, and that if the curriculum in these were modified students might easily enter college at 16 or 17 and graduate at 20 or 21, and be as far on as the average college graduate is to-day at 23, and (3) that the greater success which is possible and the greater personal satisfaction derivable justify the student in prefacing his medical course by a thorough education in college.

The medical student who desires to take both the bachelor degree and the medical diploma has been much helped by the wise requirement made by certain schools that a training in chemistry, physics, biology, French and German shall precede medical study. Colleges preparing students for medicine have had to arrange their curricula so that premedical students may, during their three or four undergraduate years, obtain the necessary work in these subjects, for a baccalaureate degree obtained without them is insufficient to admit a student to that medical school. Indeed, the ordinary baccalaureate degree means so many different things with us that some of the better medical schools are of the opinion that two or three years of college work in which training in physics, chemistry and biology are included, make a far better preparation for medical study than four years of college work in which these subjects are omitted, and they have framed their admission requirements accordingly. The significance of the time element in this whole question is made sufficiently obvious by the various devices which have been introduced to shorten the period for obtaining a degree in arts and in medicine. The first method resorted to was to give the college graduate a year's advanced standing when he entered the medical school. If the baccalaureate had taken the science course this was a fair thing to do at a time when the admission requirements were so low that biology, physics, chemistry and even a little Latin had to be taught in the medical school itself, for the science work such a student had done was, as a rule, far better than he could get in the medical school. If he had not had a science course, the year of advanced standing was of doubtful advantage to him, for he had to crowd the work of four years into three. Now that physics, chemistry and biology are being crowded out of the medical school entirely and forced back into the college curriculum, any advanced standing to a college graduate in the medical school other than that corresponding to work of the medical curriculum itself which he may have previously accomplished is likely to be harmful to him; his course will be crowded with con-

flicts, and, instead of being a better student for his liberal college education, he may be seriously handicapped in his subsequent career.

A second method advised is that of shortening the literary college course to three, or even to two years. The regular undergraduate course at the Johns Hopkins College is a three-year course, and Harvard has an arrangement by which a good student may graduate in three years, instead of four, if he so elects. The president of Columbia University has suggested that the course be so arranged that the bachelor's degree may be given at the end of two years, but there has been a strong outcry against this proposition, and it has nowhere yet been put into practice. Pending the actual shortening of the college course, certain of the universities have practically accomplished the same purpose by establishing laboratories and professorships in the university corresponding to the subjects of the first two years of the medical curriculum and "telescoping" the two courses, so that the student may secure the two degrees, baccalaureate and medical, at the end of six or six and a half years of work; the student in the first two years gets his English, history, mathematics, physics, chemistry, biology and languages, at the beginning of the third year undertakes the first two years of the medical curriculum taught in the university as pure sciences, and at the end of the fourth year receives the bachelor's degree; by this time he has completed the study of the fundamental medical branches and is ready for clinical work, after the successful completion of two years of which he is given the M. D. degree. This plan is at the moment a popular one, for it has not only been adopted by richly endowed institutions, but has met with favor among some of the state universities, many of which are rapidly installing departments of anatomy, physiology and pathology, and are encouraging candidates for the bachelor's degree who propose to take up medicine to elect these subjects as the science work of the third and fourth years. Vigorous protests are everywhere to be heard against this method; many see in it the downfall of the American college and hear in it the deathknell of the time-honored classical course; some even urge that it is dishonest to count the work in anatomy, physiology and pathology toward both degrees.

How all this will ultimately work out we dare not venture to-day. It would not be surprising if later on, when the reforms now in progress in high school education have become effective, students should graduate from high schools a year earlier than they do now; then the college course may be reduced to three years and be differentiated after the first year, so that students looking forward to medicine will follow one course, those intending law another, those looking toward engineering another, and so on. Students would then begin their professional studies at 20 or 21 years of age, and would have behind them not only the liberal culture of the college course, but also that training in specific branches which necessarily precedes the more strictly professional chemistry, biology and languages, at the beginning of the fessions. We suggest this as a possible outcome; but the history of education is full of surprises, and it may well be that some entirely unexpected readjustment at present not conjecturable may be made.

THE MINIMUM REQUIREMENTS.

Above we have been discussing what might be called the ideal preliminary or premedical standard of education. Ideals are excellent, but actual practical life often has to fall far short of ideals. This may be said of the ideal preliminary training for the medical course—we can not yet make all would-be medical students realize the necessity of such an ideal education or force medical colleges to demand it. One thing is possible and essential, that is to fix a working minimum below which none can go, and then duly enforce this standard on all medical colleges. What appears to be a practicable and reasonable minimum at the present time is a good high school course, which must include a certain amount of Latin and living foreign languages.

There are, however, varying high school standards, and a high school diploma in one state or community represents a standard decidedly different from one in another state or community. There are high schools and high schools, and the mere possession of a high school diploma does not always guarantee that the minimum requirements have been attained. The solution of this difficulty is in the standardization of the high school course and the formation of a list of schools that come up to that standard.

But the most important part of the problem to be solved is: What shall be done with him who has no high school diploma or equivalent certificate? In the first place, the applicant must show by examination that he has an equivalent education. In the second place, and this is vital, the examination must not be in the hands of those who are interested in the student passing, viz., those connected with the medical colleges.

This principle must be emphasized, and the right to say whether a man is qualified or not must be taken from those colleges that are run on a purely commercial basis. As we can not separate these from those that are conducted in a scientific and professional spirit, it must apply to all. It seems to us that the plan should be to adopt in each state where there are medical colleges an examination, uniform in all states, conducted by examiners appointed by the boards of registration, as in Ohio, by the state superintendent of schools, or by a similar disinterested body or individual. This method has already been provided for in a few states, and it is to be hoped that it will not be long before it prevails in all. This must be attained by the boards of registration refusing to recognize colleges that do not demand such a certificate, whether the law of the state in which the college is located requires it or not.

We wish it understood that we are not discussing what we believe is the desirable qualification for entrance, but what should be insisted on and enforced as the minimum.

THE VALUE OF MEDICAL BIOGRAPHY TO THE MEDICAL STUDENT.

A true pedagogic method of medical instruction is still a desideratum. The curriculum is so crowded and the time so limited that the acquisition of facts is the first and almost the only consideration. The system generally adopted may make plodding workers, but it lacks the element of mental training that should enter into any system of education, professional or otherwise. The need of this is the greater when the professional student has not had the advantage of a preliminary liberal education that has cultivated the faculties here neglected.

A great teacher of medicine has said: "As the stream of knowledge grows more rapid, we teachers live too much—we have to, I suppose—in the swift current, and few of us have time, too few the inclination, to go upstream to the sources of our art and science, and yet there is not a question which comes before us that can not be most safely approached from the historic side. Even when time and opportunity are lacking for personal investigation, as they often must be to busy teachers, the attitude of mind counts for much . . . ." Unquestionably, much good may be done in stimulating the proper spirit in our students and in giving them a proper perspective by encouraging them to read about the development of medicine as it is made evident in that most interesting form of medical literature, namely, the biography of the masters of medicine and allied sciences. This is wholly rational and based on the most correct pedagogic principles. We do not have in mind so much the establishment of regular courses in medical history, as is urged from time to time, but rather the awakening of interest in the alluring field of medical biography by means of occasional lectures and addresses, and especially by the encouragement to read good books and articles of this character. There is abundant opportunity to direct the attention of students to this aspect of medical literature. The names of great teachers and investigators are mentioned in the class-room every day in connection with their theories and discoveries, many of which have been of epochal importance in the development of a particular branch of science and even of wider significance. What could be more natural for the teacher than to call attention to some of the striking facts and circumstances connected with the lives and the work of such masters in medicine at the same time as the students are directed to books and articles in which more extended information may be obtained? In smaller classes, more particularly those conducted according to the plan of the seminar, students can be asked to prepare sketches of the lives and of certain aspects of the life-work of the founders of and important contributors to the particular branch with which the class is dealing. This plan is followed with success in some of our schools. In such classes it is possible, too, to study the original, classical articles and monographs in which the master-minds of medicine record their observations and discoveries and which form the mile-posts in the onward course of knowledge.

Owing to lack of library facilities, but still more to lack of interest in the historic side of medicine on part of the teachers, the student is given too scant an opportunity to become acquainted with these real classics of medical literature and to benefit from the stimulus that comes with seeking knowledge at its very fountain-head, while sitting, as it were, at the feet of the real masters. And certainly the interest and insight are increased if at the same time he can know something of the lives of these great men, of the conditions under which they worked, and of the state of medicine at the time and in the country in which they lived. We are convinced that it is possible by simple means of this kind to create in many a student a real interest in biographic and historic medical literature an interest that will take on spontaneous growth as he realizes the increased power to grasp subjects when their study can be approached from the developmental side, to say nothing about the pleasure and inspiration that must be felt by the delver into the amenities of medicine. There is just as much of broad human interest and liberalizing influences in medical biography as in any other form of biography, and at the same time it gives the best and liveliest picture of the development of medical knowledge. If any one should doubt the truth of this statement let him read the charming stories of the pioneers of medicine, told with such literary skill by Sir Michael Foster in his Lane Lectures on the History of Physiology during the 16th, 17th and 18th centuries. This book really constitutes the history of scientific medicine during these centuries. The story of such men as Vesalius, Harvey, Malpighi, Borelli, Stensen, Mayow, Lower, Lavoisier and others, with their love of truth and their capacity for patient, honest work, should be in the hands of every student of medicine.

As other examples of important books of this character mention may be made of the series called "Masters of Medicine," which consists of a number of small volumes, each giving an admirable account of the life and work of a man like John Hunter, William Harvey, Edward Jenner, Sir James Simpson, Hermann von Helmholtz, Claude Bernard and others. A few moments daily given to the reading of books of this series will give the hard-worked student cheerful, invigorating and profitable respite from the irksome grind of his routine work in the class-room and laboratory. No better way can be recommended to obtain an insight into the beginnings of the science of bacteriology and its tremendous significance for medicine, human, veterinary, as well as vegetable, in all its bearings, than the study of the life

of Pasteur, to whose genius all will agree medical science owes more than to any other single person the creation of its most progressive epoch. The lasting influence for good, for the setting up of noble ideals, for inspiration to become productive in medical knowledge that the careful reading of a book like Vallery-Radot's Life of Pasteur may exercise on the plastic mind of the developing student can not be overstated! Its reading in connection with the course on bacteriology, for instance, will give to that study an interest that it otherwise must be difficult to arouse even by the most genial teacher. This is a book that will have a most wholesome influence, too, on the intelligent non-medical person in arousing interest in and proper appreciation of scientific investigation along medical lines. Unfortunately, the English translation by Mrs. Devonshire is rather expensive—$7.50. It is a book that ought to be within the reach of every medical student. Of other books of this class we have the Life and Letters of Thomas H. Huxley, of Charles Darwin; the Memoirs and Letters of Sir James Paget; "Jugend-Erinnerungen eines alten Aerztes," by von Kussmaul—a charming book—as well as many others. Then there are numerous shorter articles and addresses of a biographic and historic nature that reading of which by medical teachers and students, as well as physicians in general, will be found profitable and interesting. Most of these are easy of access either in medical journals or as separates. The Smithsonian Institution of Washington has reprinted a large number of contributions of this kind which can be obtained for a nominal sum. In this country, Osler has been and is a fertile author of most excellent biographic studies of American medical men, investigators and pioneers, generally in the form of addresses. The interested teacher with the proper "attitude of mind" will find it easy enough to bring material of this kind to the notice of his classes as proper occasions arise. Let us not forget that students of medicine, in the broadest sense, perhaps more than any other class of educated men, and certainly now more than ever before, must be "broadly liberal in order to be minutely special."

THE RATIO OF STUDENTS TO TEACHERS IN THE MODERN MEDICAL SCHOOL.

The greatly increased cost of medical education in those schools which are teaching modern medicine, in the broad sense, has been frequently commented on, and it is undoubtedly true that this cost has far outgrown the purse of the average student. In the last ten or fifteen years the tuition fees have been raised at least 50 per cent., but the cost of maintenance has been increased to a much greater degree, and it is said that in one institution the average cost for each student is nearly 125 per cent. more than the total fees paid by him. Present indications are, moreover, that the limit of expense for maintenance has by no means been reached, while the fees demanded by a few of the larger schools seem to be as near to the maximum as it is reasonable to exact of the average student. With this condition of affairs it is obvious that if our medical schools are to be maintained on such a basis as will enable them to offer instruction adequate to the demands of the time, larger endowments must be had either through private beneficence or from the state.

What is the explanation of this increase? Are these conditions temporary, or likely to continue for some time to come? Fundamentally, they are to be found in the increased length of the medical course in the broadening of medical science through the developments of bacteriology, etc., and in the change in methods of instruction, and especially in the introduction of laboratory and practical methods of teaching in the fundamental branches, and as well in the clinical branches, though as yet in less degree. New buildings have become necessary for the departments of anatomy, physiology, chemistry, bacteriology, pathology and pharmacology; expensive laboratory equipment, apparatus and supplies are required for the departments. But costly as these things are, they are, for the most part, permanent investments, and have been more than balanced by the increase in the income of the schools from fees. With the more progressive schools the most important item is the increase in the instructional force, and the change in the character of the faculty. Under the purely didactic plan of teaching which prevailed up to fifteen or twenty years ago—for the amphitheater clinic of those days was little more than an illustrative didactic lecture—one instructor in each branch sufficed for the whole student body whether it numbered 50 or 500 students. A faculty numbering 20 or 30 was a large one for those days, though not a few schools had an annual attendance of five or six hundred students. Only one member of the faculty, the professor of chemistry, devoted his whole time to teaching, and had, therefore, to be paid a salary, and in the majority of colleges the occupant of even this chair was a general practitioner, who taught without pay. The introduction of laboratory methods has made such an arrangement impossible. A didactic lecture in anatomy or chemistry may be about as advantageously delivered to 500 students as to 30, but the adequate supervision of their work in the dissecting room or in a laboratory of chemistry, physiology, bacteriology or pathology demands an instructor for every 20 or 30 students at the most.

Under the old régime, the larger schools possessed a great pecuniary advantage over the smaller ones. The faculty of a school of several hundred students was not of necessity, nor was it, in fact, materially larger than that of a school attended by 30 or 40 students. Yet the income from fees was several times as large. It was frequently urged as an argument in favor of the smaller schools that more intimate personal contact of the pupil and teacher was secured, and there was some truth in this assertion. The same statement is sometimes made at the present time, but a careful scrutiny of the facts

will show that the statement is, for the most part, no longer true. Single departments, such as those of anatomy or physiology in some of the larger schools, number almost as many instructors as sufficed for the whole faculty twenty years ago. Examination of the figures in five of the largest schools reveals the fact that the ratio of teachers to students is from 1 to 4 or 5, and that it is larger than in many institutions with an attendance of one to two hundred. It might be argued that the majority of these instructors are subordinate members of the faculty, but it should be noted that it is coming to be the custom in this country, as it has long been in Germany and other European countries, to recruit the faculty of the smaller provincial school from that of the larger metropolitan college.

It is not the initial cost of buildings and equipments, the expense of repair and renewal of which is slight, which constitutes the important item of cost in any enterprise. It is the constantly running annual outlay for salaries and the like which so rapidly amount to a large sum. This greatly increased ratio of teachers to students, together with the fact that so many of them must be paid a sufficient salary to enable them to live in the absence of other income, fully explains the great increase of the cost of medical education. In a few medical colleges some of the departments have several salaried instructors in each department, and the aggregate cost is readily seen to be great.

If, as many believe to be the case, similar provision of salaried professors and assistants must be made in the clinical branches, it is difficult to see how the modern medical school can be maintained without very large endowments from some source. The idea which has led to this great change may be briefly expressed as that of "group teaching" as opposed to teaching in "mass." The tendency of the times is all away from "mass teaching" —a method which obtained quite as much in the small as in the large college under the old order of things now passing away. Instruction in "small groups" is imperative under laboratory and practical methods, and such teaching is of necessity very costly.

MEDICAL TEACHING AND MEDICAL RESEARCH AND THE INCREASING OPPORTUNITIES IN AMERICA TO ENTER ITS CAREER.

This interesting subject is discussed briefly in the *University Record* of May, 1903. It is quite appropriate to continue the discussion in this, the educational, number of THE JOURNAL. The subject is of interest to every physician because it deals with questions that touch the vital center of medicine in this country; it is of interest to every medical student because he is concerned directly and personally with medical teaching, and, naturally, he must feel gratified if he learns that his opportunities to study medicine are better than those of his predecessors. The article in question points out that not so very long ago, indeed, only a few years ago, this country offered but one distinctly medical career to the student, namely, the practice of medicine in some form or other. It says:

> Twenty years ago there was but an insignificant number of salaried medical professorships; assistants were not necessary because the teaching was done almost wholly by didactic lectures; very little attention indeed was given to research in the medical schools, and endowments for medical research existed only in the dreams of the visionary. But within a remarkably short time a most marvelous change has taken place. The elevation of the standards of medical education, the introduction of laboratory methods in medical teaching, the fostering influence of our best universities, and the steadily increasing endowments of medical teaching and investigation are some of the most important elements in the growth that has led up to the present period of promise, the blooming period of medicine in America. Rapid and healthy development of this nature can not but be associated with an increasingly diversified differentiation of function, and so there is now larger opportunity than ever before for successful careers as medical teachers and investigators to the exclusion of the actual practice of medicine.
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> Many of our best universities now offer practically the same inducements to properly qualified young men to join the departments of anatomy, physiology, pathology, and bacteriology, as they do in the case of the other university departments, let us say history, physics, chemistry, and zoölogy. In not a few instances positions in the medical departments just named are filled with success by men who have specialized in some one of these lines without having taken the regular courses in medicine. This fact is cited here simply to show that these fields offer welcome opportunities to qualified aspirants for academic careers.
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> In the more purely clinical branches the conditions as yet are somewhat different. Professors and instructors in these branches rarely, if ever, give their time and energy undividedly to teaching and investigation, but combine this work with the arduous duties of private practice. But even in these branches, related so intimately to the practical work of the physician, indications point to new developments that before long may culminate in the establishment in some of our universities of departments of medicine, of surgery, and of obstetrics on the same general basis as other university departments. Necessarily this must lead to the foundation of university hospitals as well as to the creation of a large number of positions to be filled by specially trained men who are willing to devote themselves wholly to the teaching of the clinical branches and to the investigation of the many important problems that await solution in these fields.
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> Then, again, the recent endowments of independent institutions for medical research will offer especially desirable opportunities for those whose ability and training fit them for the highest order of investigative work. The establishment, too, of research professorships in the universities may be found to prove advantageous in order to advance to greater opportunity the man of genius sure to appear from time to time as the number of men engaged in productive work in the medical sciences increases.
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> Attention may be directed also to the fact that government and municipal services are demanding an increasing number of specially trained men to carry on their work, much of which is of the nature of research in various lines. The health departments of our larger cities need men trained in sanitary science; the Philippine civil government has established laboratories in which active investigation is carried on in the rich field of tropical diseases.
>
> The managers of many of our state hospitals for the insane are beginning to realize that the surest antidote to the fossilizing influence of routine and institutionalism is to be found in the reorganization of the medical work on a scientific basis so as to attract to this service men of scientific interests and training.

These statements represent the conditions as they are. As the advent of university ideals in medical education is with us as yet barely an accomplished fact, the opportunities spoken of in teaching, in research, in sanitary science are bound to widen more and more as time goes on. The fact that medicine now offers the talented, energetic, well-trained man something more than, and

different from, the chance to crowd into the ranks of the practitioner will attract men with broad training and high ideals. In order to make careers of the kind here discussed just as attractive as possible to the finest types of college student—for no one questions for a moment the importance of this new departure on the progress of American medicine—the question of financial remuneration should be considered most carefully. The prudent man, who must earn his livelihood, will hesitate to embark on an exclusively academic or scientific career unless it appears quite clear that he need have no special fear for the future. Inasmuch as the salaries paid men of this kind probably will not exceed greatly, if at all, those paid men of equal rank in other departments of universities—and such salaries are confessedly small—it is most desirable that some liberal system of pension for age, disability, specially meritorious service, or other cause be instituted. This would result in a feeling of security the importance of which can not be doubted.

HOSPITAL AND CLINICAL WORK.

In the majority of the articles that have appeared in this country on the desiderata of medical education, comparatively little stress has been placed on the clinical training that ought to finish off a medical student's course. Possibly the matter has appeared too self-evident to require special emphasis, but the omission is the more notable since this subject was the principal one discussed in a rather remarkable symposium on medical training published in the German periodicals four or five years ago, in which von Jaksch and several other prominent German physicians took part. The present agitation among German medical students on account of the coming exaction of the "practical year" taking effect in 1906, and which is, therefore, retroactive in the case of any who have matriculated within the past year or two, is in point. The necessity of more than mere theoretical training, and, indeed, that of actual hospital practice, is so far recognized in Germany that it has been made imperative.

The necessity of this requirement is no less in this country, but the facilities for meeting it are far inferior, and the total number of German medical students is hardly more than that of graduates here. How to furnish our five or six thousand annual diplomates with practical clinical instruction and with hospital positions is a problem. The colleges that can furnish only the theory, however richly endowed and supplied with well-qualified teachers, laboratory facilities, etc., will be at a distinct disadvantage. The hospital year means more than simply "walking the hospitals"; it means actual residence and responsibility, and all that that kind of training implies. Here the state universities, with their well-equipped laboratories, etc., unless they have their medical schools in or near populous centers, will, at least in many cases, be at a disadvantage; and this may materially modify the future of the medical departments of some of these institutions. How, on the other hand, it will affect the commercial, or what we may call the personal advertising medical colleges is another problem.

One thing we believe will result from the better recognition of this need—it will, like the state examinations, stimulate to better work, and those medical schools that best fit their students by giving them practical clinical experience, without which they are seldom fitted to take the responsibility of the lives and health of their fellow men, will be the successful colleges of the coming years.

AN EDUCATOR'S FORECAST OF FUTURE MEDICAL EDUCATION.

An eminent educator, President Jordan[1] of Leland Stanford University, in a commencement address, delivered at the Cooper Medical College, San Francisco, gives his views regarding the future of medical education in America. He says the two types of medical colleges in the future will be: One, the present type of which is the medical department of the Michigan University, the aim of which is to elevate the profession in the aggregate, taking men as they are, demanding not excessive, but respectable, preliminary requirements, and maintaining no standard impracticable for the average man, but turning out as well-qualified physicians as the material will allow. The other, the existing type of which is the Johns Hopkins School, will demand the highest preliminary culture and send out only a limited number of the very best into the profession. The former will be the type toward which he thinks the state universities will tend, while a few highly endowed private institutions will have the highest standard, and be special centers of medical science and research. "The practical evolution of the matter," he says, "will be this: The medical school for the exceptional student will require a college course of science with physiology and chemistry as the leading subjects; other sciences, with German and French, being necessary factors. The state medical colleges and those of similar purposes will content themselves with a minimum of two years of college work, along semiprofessional lines, the preparatory medical course." It will be seen from this that Professor Jordan takes no apparent account of the value of a classical education, the sciences in modern languages being, in his forecast, the essentials that will be demanded. Whether this prophecy will be entirely realized is perhaps a little open to question, and it may be that he underestimates the value of the preparatory medical course and the quality of those who will choose it. There are now, and always will be, some institutions that will demand the fullest culture as preparatory to professional studies, and probably in the near future such institutions will grant degress that will be more highly valued, if not nominally more distinguished, than those of the average school.

THE VALUE OF THE CLASSICS IN MEDICAL EDUCATION.

In view of the apparent disregard of classics, it is of some interest to see that in the laws of some of the states a certain amount of classical education is still considered

1. Popular Science Monthly, August.

an essential preparatory requirement. In the new Michigan law there is a provision that the applicant shall have, previous to beginning his course in medicine, "a diploma from a recognized and reputable high school, academy, college or university having a classical course, or shall have passed examination equivalent at least to the minimum standard of preliminary education adopted and published by the board, before the examiners appointed and in accordance with the regulations of the aforesaid board, and at such time and place as the board may designate." In the Maine law the minimum grade of preliminary education before admission to the study of medicine includes, besides the ordinary high school scientific studies, ability to read at sight common Latin prose. There are other regulations of similar import in the by-laws of some state boards, but these that we have mentioned are specified in actual legislation. We believe that the tendency will be to emphasize the importance of a certain amount of classical training, rather than the reverse. Bearing on this point, as we have noticed elsewhere, certain fears have been expressed in Germany because of the admission of graduates of *Realschules,* or non-classical high schools, to the study of medicine. These fears prove to have been groundless because it is found that only a comparative few of such choose the profession of medicine. A certain knowledge of Latin and Greek, at least as much as is required for admission to the freshman class of a good university, is almost essential to the medical man, and more would certainly be very desirable. There is nothing that helps more in the acquirement of the modern languages than some knowledge of the classics, and modern languages are, to a certain extent, indispensable to the high-class medical education.

A FEATURE OF THE MICHIGAN PRACTICE ACT.

It will be remembered, in regard to the Michigan medical law, that when the Nottingham act was first introduced it contained a provision requiring graduates of medical schools of foreign countries which do not recognize the Michigan diploma to undergo a course in Michigan schools, the law corresponding to that of certain provinces of the Dominion of Canada, and was intended to apply to those coming from that country. This was objected to, and considerably criticised by newspapers and others at the time. As the law now reads, an applicant for examination must have a diploma from a legally established and reputable college of medicine in the United States or some foreign nation, "provided such foreign nation accord a like privilege to the graduates of approved medical colleges of this state." In effect, this leaves the matter very much as in the original bill. It will be hard to see how a graduate from a Quebec college, for example, or, indeed, from any foreign country, can be admitted to examination in Michigan under the law. It leaves out, however, the objectionable passage in regard to their having to study in Michigan institutions, which was really copied from certain Canadian provincial laws, and it has not the appearance, therefore, of being drawn up to favor home industries. So far as appearances go, it is a measure of reciprocity, or rather of non-reciprocity, with countries which do not recognize the Michigan diplomas. If we read the law aright, foreigners will have no show hereafter in Michigan.

MEMORIAL TO MAJOR WALTER REED.

A meeting of the committees appointed by the American Medical Association and the American Association for the Advancement of Science has been called to meet at Bar Harbor, Me., August 15, to confer regarding the memorial in honor of the late Major Walter Reed, M.D. There are other committees beside the ones above mentioned, and the object is to secure immediate, concerted action and unanimity of purpose. The chairman of the committee representing the American Medical Association is Dr. W. W. Keen, Philadelphia, and Dr. Daniel C. Gilman, Baltimore, is chairman of the committee representing the American Association for the Advancement of Science. It is to be hoped that the various committees will be heartily supported by those whom they represent, and that in the immediate future a memorial worthy of the man and his work will be dedicated to Major Reed.

Medical News.

CALIFORNIA.

Prison for "Herb King."—"Dr." Frank N. Martin, who dispensed herb medicines as the "Herb King," and referred to in these columns before, was sentenced to thirty years' imprisonment in the state prison at Folsom, for rape committed on a feeble-minded girl who was under his care.

More Bubonic Plague.—Since June 5, three more cases of bubonic plague have occurred at San Francisco, making 98 in all. Pietro Brancota died at 19 Jasper Place, July 20; Pietro Spadafora, son of above, was taken from same address and died at Southern Pacific Hospital; Chin Guie, a native of China, died at 743 Jackson street, July 15.

MARYLAND.

Unlicensed Practitioner Arrested.—W. S. Howard, Vale Summit, was arrested in Frostburg, July 22, charged with practicing medicine in Allegany County without having obtained license from the State Board of Medical Examiners, and with having failed to register with the county clerk. He was held in $300 bail.

The Cumberland Epidemic.—Dr. Francis P. O'Neil, Baltimore, who attended the smallpox cases at the Emergency Hospital in Cumberland for 51 days, has rendered a bill for $512.50, which the city council has ordered paid. There were 41 cases from the city and 6 from the surrounding country. But 2 remain, and they are about to be discharged. The total cost of the epidemic to the city was $5,000.

Baltimore.

New University Building.—The plan for the new building of the University of Maryland provides for a four-story brick structure, 100 by 90 feet, to cost $50,000. The basement and first and second floors will be used by the dental department. The other floors will be used by the medical department for bacteriologic and other laboratories.

Personal.—Dr. J. Williams Lord has resigned the chair of clinical dermatology in the Baltimore Medical College, and Dr. Edgar R. Strobel has received the appointment.——Dr. Nathan E. B. Iglehart has gone to Muskoka, Canada, for a month.——Dr. Albert L. Levy has been appointed resident physician to the Hebrew Hospital, vice Dr. Nathaniel G. Kierle, Jr., resigned, to go abroad.

July Statistics.—During July the health department reported 1,097 deaths and 782 births. There were 506 deaths under 5, or 46.12 per cent. Only one case of smallpox was reported. The chief causes of death were: Typhoid fever, 19; scarlet fever, 11; whooping cough, 9; diphtheria, 8; dysentery, 7; cancer, 40; apoplexy, 36; heart disease, 60; pneumonia, 41; tuberculosis, 121; Bright's disease, 58; suicide, 5; puerperal

septicemia, 6; and diarrhea and enteritis, 233. The deaths for the week ended August 8 were only 179.

MASSACHUSETTS.

Personal.—Dr. Louis A. Prefontaine has been appointed oculist to the Springfield Hospital, sharing that position with Dr. Ralph Carleton.

New Gift to Milford Hospital.—Mr. E. S. Draper has authorized the erection and equipment of a chemical and bacteriologic laboratory for the Milford Hospital recently built and equipped by him and presented to the town.

Home for Insane Colony.—Ground was broken, July 30, for the building for the Grafton colony of the Worcester Insane Asylum, at the intersection of the town lines of Shrewsbury, Westboro and Grafton. The building will accommodate sixty patients. It is planned that the colony shall so develop as to accommodate in a few years from two to three thousand patients.

Boston's Vital Statistics.—During the week ended August 8, a marked improvement was shown over the week before and also over the corresponding week of last year. The deaths reported were only 170, a rate of 14.70 per annum per 1,000. There were reported 30 cases of diphtheria, with 1 death; 15 cases of scarlet fever; 25 cases of typhoid fever, with 3 deaths; 20 cases of measles, and 14 cases of tuberculosis and 10 deaths. Pneumonia caused 13 deaths; heart disease, 13; bronchitis, 2, and marasmus, 7. Of children under 1 year, 60 died and 77 under 5 years.

MICHIGAN.

Smallpox.—Bay City reports several cases and one death.——Houghton County, after a three years' siege, is now free from the disease. About 65 cases have been treated in the isolation hospital since the first of the year, with no deaths.

Old Doctors Long Married.—Dr. J. D. Bear, Detroit, fifty-nine years married, celebrated his eightieth birthday anniversary, July 31.——Dr. and Mrs. William H. Haze, Lansing, recently celebrated the sixty-third anniversary of their marriage, Dr. Haze is in his eighty-seventh year.

Michigan Tetanus.—The State Board of Health is endeavoring to collect facts relative to the prevalence of tetanus in the state, to the exact mode of its causation, and to publish the facts thus obtained for the information and protection of the people. To this end it has prepared and issued a special blank to contain the final report of each case of tetanus reported in the state.

Personal.—Dr. Alfred M. Switzer, Grand Rapids, has resigned as city physician and has been succeeded by Dr. Ralph C. Apted.——Dr. Rush McNair, Kalamazoo, is taking post-graduate work in Edinburgh and Paris.——Dr. Charles C. Wallin has been appointed city bacteriologist of Grand Rapids.——Dr. James R. Arnell, Ann Arbor, formerly instructor in internal medicine at the University, has been appointed associate professor of medicine in the University of Colorado, Boulder.

MISSOURI.

Serious Accident to Physician.—Dr. Kearan C. Cummins, Maryville, after throwing down hay to his horse, was impaled on the tines of the pitchfork, one of which passed through his body, narrowly missing the kidney.

Typhoid Gaining Ground.—St. Louis reports for the four months from April to July inclusive 444 cases of typhoid fever with 74 deaths. In the same period of 1902 there were 197 cases with 46 deaths, and in 1901, 131 cases and 31 deaths. The City Hospital now has 21 typhoid cases.

Personal.—Dr. Lyman T. Reber, for eight years mortuary clerk of the St. Louis Department of Health, has resigned to enter private practice.——Dr. Edward C. Runge, superintendent of the St. Louis Insane Asylum, has resigned, and will accept a position tendered him at the Government Hospital for the Insane, Washington, D. C.

Registration of Consumptives.—An ordinance became law in Kansas City, July 24, without the approval of the mayor, which provides that all persons suffering from consumption in an infectious stage must be registered with the board of health, and must follow the instructions as to isolation and treatment made in each case by the city physician. The lay press says that the law is aimed primarily at the negroes, a large percentage of whom have consumption, and who in their conduct on the streets and in crowds show no care for the danger to public safety from the germs of the disease.

NEBRASKA.

Fire in Physician's Office.—A fire which is said to have started in the office of Dr. Chester D. Barnes, Tecumseh, resulted in damage amounting to $15,000.

Banished from Lincoln.—Edward C. Smith and Gustav Ephraim, styling themselves the "Wonderful Gentile and Jew Healers," and posing as instantaneous and permanent healers of all diseases, were summarily expelled from Lincoln.

Personal.—Dr. J. V. Bechtol, for many years at Friend, has just returned from taking a two months' post-graduate course in New York, and has located at Hastings.——Dr. E. E. Robbins, Ord, has been appointed third assistant physician at the Asylum for the Insane, Hastings.——Drs. Alonzo E. and Lucinda C. Mack, Omaha, have returned after an absence of several months abroad.

Recommend Revocation.—The secretary of the State Board of Health, on August 6, recommended the revocation of the license of Dr. Charles W. Downs, Omaha, for violation of the law forbidding the distribution of advertising relating to sexual diseases which tended to corrupt the morals of people. The advertising is considered of a particularly vicious nature. Downs appeared before the board and made the defense that he did not know there was such a law.

NEW YORK.

Gives Addition to Hospital.—Congressman Littauer has given $25,000 for an addition to the Nathan Littauer Hospital, Gloversville, which he erected several years ago as a memorial to his father.

After Suit, Compromise.—Dr. Charles F. Wicker, Saranac Lake, who sued the village for $1,200 on account of care of smallpox cases last year, and was given a judgment of $1,100 and costs, has agreed to settle for $1,000.

Artesian Water for Ithaca.—On August 6, the Board of Water Commissioners began the distribution of artesian water from wells owned by the city, charging one cent a gallon. Before long it is believed that the artesian water will be supplied to the citizens through the mains of the Ithaca Waterworks Company.

New York City.

No Race Suicide.—Health department records for the week ended July 25 show 1,121 births and 613 deaths in Greater New York.

Daily Medical Journal.—It is announced by the lay press that Dr. Albert W. Ferris and six other New York physicians have formed a company for the publication of a daily medical journal, the first number of which will appear October 1.

Rosenbaum Litigation to Cease.—The litigation over the estate of Mrs. Rosenbaum, valued at $30,000, which was left by will to the German Hospital, is to be closed. Mr. Rosenbaum contested the will, and after his death, his executor endeavored to prevent the hospital from taking possession of the property. He has now, it is said, agreed to give a clear title.

PENNSYLVANIA.

Diphtheria Epidemic.—An epidemic of diphtheria is said to prevail in several boroughs of Delaware County. A number of deaths have been reported, a large proportion of which are from the so-called "black" diphtheria.

Sues for Detention in Isolation Hospital.—Because he was forced into the pesthouse at Schuylkill Haven, Frederick Hinckle has brought suit for $10,000 damages against that borough. The plaintiff claims that he did not have smallpox on admission, nor did he contract smallpox while there.

Pure Food Prosecutions.—Prosecutions have been begun by the State Dairy and Food Commissioner against six Philadelphia firms for alleged selling of beer adulterated with salicylic acid.——A warrant has been issued against a firm of large wholesale liquor dealers charged with selling for blackberry brandy a compound colored by a coal-tar product.——It is hoped by many that the activity of the commissioner will have a widespread influence in arousing public sentiment, and will draw the attention of the National government to the need of general measures against adulterated foods and beverages.——The report of the department for July shows that during June, of the 63 samples of butter analyzed 44 were pure and 19 bogus; 93 samples of lard tested showed 44 pure and 49 impure or imitation; of 68 samples of milk and cream analyzed only 41 were found pure. Sixty-nine prosecutions were brought, 36 of which were in Philadelphia.

Philadelphia.

Resolutions Regarding Dr. Parish.—The faculty of the Woman's Medical College has adopted resolutions eulogistic of the late Dr. William Henry Parish, professor of anatomy in that institution.

Typhoid and Smallpox.—The official record of the board of health for the week ended August 8 showed that 36 new cases of smallpox had occurred, with 5 deaths. The new cases of typhoid fever numbered 108. The prevalence of the latter disease is ascribed to the promiscuous drinking of water at nearby pleasure resorts. The department of health is vigorously carrying on its crusade of vaccination. Some fear is felt that unless the disease is gotten under control before the onset of cold weather, there will be a serious outbreak.

Pasteurizing Plant in Operation.—The pasteurizing plant, the object of which is to supply pure food to the infants of the poor, and which was established by the benevolence of Nathan Straus of New York and of many Philadelphians, was put into actual operation on August 5. Dr. A. R. Green of New York inspected the establishment, and found it in excellent condition. The capacity of the laboratory is 15,000 bottles of pasteurized milk daily. The milk will be sold at the laboratory or at distributing stations at one cent a bottle. Persons who are unable to pay this sum may obtain milk for infants free, by producing evidence that they are worthy.

No Habeas Corpus for the Quarantined.—A writ of habeas corpus brought to obtain the liberty of Norman R. Hyland and family who are under smallpox quarantine in their home, and who were said to be starving, was dismissed. The quarantine was necessitated by the persistent refusal of the man to have his child suffering with smallpox taken to the Municipal Hospital for treatment. Judge Davis, in concluding his decision that the board of health has a right to quarantine the house, commenting on the destitute condition, said that "if provision is to be made for families under quarantine in their homes, there would be danger of many families being under quarantine 365 days in the year."

GENERAL.

Proposed Bureau of Medicines and Foods.—The following preamble and resolutions were presented to the American Pharmaceutical Association, at its recent meeting at Mackinac Island, by Dr. H. H. Rusby, chairman of the committee appointed to consider the proposition to create a Bureau of Medicines and Foods:

WHEREAS, The foods and medicines supplied in the United States do not so uniformly agree with proper standards of purity, quality and strength as they should, and

WHEREAS, A degree of distrust and want of confidence concerning the quality of such foods and medicines prevails to a discouraging extent, therefore, it is

RESOLVED, That a more perfectly organized system for remedying the above-mentioned conditions than that now existing should be devised and put into operation, and

Resolved, That the American Pharmaceutical Association and the American Medical Association, acting in harmony with the United States government authorities, constitute the most competent and trustworthy means for attaining the objects named, and

Resolved, That the American Pharmaceutical Association shall co-operate to this end with the above institutions, provided, that a plan be devised satisfactory to those institutions, and that the committee of this association be continued and instructed to report to the council. In the event that a plan satisfactory to the council of this association be reported to it previous to the next meeting of this association, said council shall be authorized to elect from the members of the American Pharmaceutical Association a board of directors consisting of five members to act with a similar board, in the event of its appointment by the American Medical Association and with the United States government authorities, in the establishment of a National Bureau of Medicines and Foods, and this council shall immediately on the election of such board report the same to the President of the American Medical Association, and

Resolved, That in carrying out these resolutions the following general principles shall be adhered to:

1. That neither this committee nor the proposed board of directors shall have authority to draw on any funds of the American Pharmaceutical Association.

2. That the methods employed for obtaining the objects stated above may include commendation of worthy products, or condemnation of unworthy ones, or both, provided that said methods of condemnation do not in any way involve the American Pharmaceutical Association in legal responsibility.

3. That nothing to be undertaken by such a bureau shall be in conflict with the spirit of the United States Pharmacopeia or with the United States government authorities.

4. That the operation of the proposed bureau shall be free from any attempt to secure financial profit for any of the institutes named herein nor for any of their members or agents; but said bureau is authorized to employ proper means for securing the funds necessary to defray its legitimate expenses.

On motion of Mr. Diehl the preamble and first resolution were adopted, and the whole referred to the council for action. The council recommended that the committee be continued.

FOREIGN.

The "Practical Year" Regulation.—The protests of German medical students against the retroactive feature of the "practical year" regulation, continue. They have been sent to the imperial chancellor from the universities of Bonn, Kiel, Munich and Wurzburg, and others are likely to follow.

French Congress Against Alcoholism.—The first session of this organization will be held October 26 to 29, 1903, at the great amphitheater of the Faculty of Medicine at Paris. It includes all persons and organizations interested in counteracting the ravages of alcoholism. The program includes the discussion of the actual situation and of the present status of the combat against intemperance, the public legislation and private initiative.

Regulation of Proprietary Remedies.—The Hamburg senate has passed an ordinance prohibiting any testimonials or recommendations on the wrappers or receptacles of proprietary remedies, and requiring thereon the name of the drug, the name of the firm preparing it and the price. Dealers are prohibited from repeating prescriptions of such remedies, and those which are to be on order of physicians must have that fact stated on the wrapper. Violations of the law are punishable by a fine of up to $36, or a corresponding period of imprisonment.

Pasteur Institute at Breslau.—There is to be added to the Hygienic Institute of the University of Breslau, under the direction of Professor Flügge, a department for antirabic treatment. This is the result of the experience, during recent years, of the Silesian province of Prussia, where bites of rabid animals have been unusually frequent. It is in the Districts of Oppeln and Breslau that most of these casualties have occurred. Of a total of 263 cases in 1898 in all Prussia, 102 occurred in Silesia; of 303 in 1899, 121; of 233 in 1900, 64. Heretofore, there has been but one Pasteur institute in Prussia, that in the Institute for Infectious Diseases at Berlin.

To Test Typhoid Prophylaxis.—The German reichstag has appropriated $20,000 for a test of the methods of Koch against typhoid. The investigations will be made chiefly at Strassburg, Landau, Saarbrück, Metz and Trier. Koch's plan is based on the early recognition of the disease, rendering it possible to isolate the patients and thus prevent infection. Especially should the ambulatory cases be looked after, as the least affected of these may spread the infection. Koch has also recommended special bacterial stations in the typhoid infected regions, which should work hand to hand with the general practitioners in determining the earliest appearances of the disorder.

Character of Medical Students.—The *Chronik* of the Berlin University says that the fears some have felt in regard to the admission of graduates of the *Realschules* (the non-classical high school) to the medical studies, have thus far been without basis. In the first semester of last year there was not a single one of these students in the medical classes, against 44 in the law schools. In the next semester we find some realschule graduates studying medicine, but the law students are in a very marked majority. The true *Realist,* says the *Allg. Centralzeitung,* chooses for his life occupation the one that affords him the best prospects, this, at the present time, excluding a few exceptional cases, is not the profession of medicine and the knowledge of this fact happily is not limited to the medical students alone.

The Statistics of Medical Students in Germany.—There are, at the present time, according to the *Klinisch-Therapeutische Wochenschrift,* 6,257 medical students in Germany as against 6,398 last winter, and 6,749 in the summer semester, 1902. Although every year shows a decrease in the number of students, still there is a strong over-production of physicians, if one takes into account the proportion between the population and physicians. The natural increase of the population, being yearly about half a million, would warrant a yearly addition of 250 physicians, and then there would be no lack. If all the matriculants of the present time complete their courses there will be yearly about 1,250 physicians sent out, about five times the number actually required. At the present time the number in the respective institutions are: München 1,003, Berlin 976, Leipzig 433, Freiburg 421, Würzburg 396, Kiel 317, Heidelberg 311, Bonn 242, Strassburg 237, Tübingen 207, Breslau 204, Erlanger 201, Greifswald 197, Königsberg 196,

Halle 180, Marburg 176, Giessen 158, Göttingen 150, Jena 131, and Rostock 121.

LONDON LETTER.

Physical Degeneration of the Urban Population—Enormous Proportion of Unfitness for Military Service.

The physical degeneration of the population is a subject which of late has received much attention both in the medical and lay press and been a matter of concern to several writers. The Journal has referred to it before. Alarm is felt at the fact that an enormous number of the town-bred population are unfit for military service. A parliamentary paper by Sir William Taylor, director-general of the Army Medical Service, which has just been published, throws some light on the subject. During the period 1893-1902 there were examined for enlistment 679,703 men, of whom 234,914 were rejected as medically unfit for service, giving a rejection ratio of 34.6 per cent. Sir William Taylor states that no record is kept of the number of men turned away without being examined, but that the number is a large one, though whether it would bring the number rejected up to 60 per cent. he can not say. The majority are rejected on account of poor physical development, namely, under chest measurement, defective vision, under weight, under height, imperfect constitution and debility, disease of veins, disease of heart, defects of lower limbs, varicocele, flat feet and loss and decay of teeth. Bad teeth and flat feet occupy a comparatively low place on the list of causes. But with regard to decay of teeth the number has increased in the last four or five years. It has been estimated that as much as 77 per cent. of the population, or 25,000,000, now live in towns. Of this number probably at least 6,000,000 appear to live in such poverty as to be unable to rear their children under conditions favorable to health.

Revised Classification of the Causes of Death.

We have called attention before (The Journal, May 10, 1902, p. 1242) to the new official list of the causes of death. Every effort is being made to render official statistics as accurate as possible. The registrar general has just issued another memorandum on the subject. The use of the term rubeola for measles is condemned, morbilli being the only Latin equivalent recognized by the Royal College of Physicians. In cases of peritonitis the cause, such as hernia, perforating ulcer, appendicitis or metritis should be stated. When a practitioner returns a cause of death as simply peritonitis, an official form is sent to him requesting a statement of the probable cause of the disease.

Infant Mortality in Bombay.

Dr. D. R. Bardi has recently read before the Bombay Medical and Physical Society an exhaustive paper on infant mortality in that town. In 1899 the infant mortality was 593 per 1,000 births. This appalling loss of life is due to overcrowding, bad sanitation, and above all to ignorance and superstition, which can be efficiently dealt with "only by sustained and organized efforts on the part of the government and the municipality no less than the public at large."

Miscellany.

The Ill Health of Richard Wagner—A Correction.—A typographic error occurs on page 372, line 43, first column, of The Journal of August 8. Instead of "Any spectacles he could get would have neutralized," etc., read: "Any spectacles he could get would *not* have neutralized," etc.

Are There Too Many Physicians?—There seems to exist a general complaint at present, and it appears to be reflected in medical journals to an extent which shows that the matter is almost universal and one on which there is a certain unanimity of opinion. We allude to the plaintive howl raised by a number of physicians concerning the overcrowding of the profession and the large number of physicians who are practicing medicine or attempting to do so. This wail naturally leads us to inquire whether there are, in reality, too many physicians. Of course, this leads to a critical inquiry into the terms which enter in the proposition, and the first one is as to what constitutes a physician. Any one who calls himself such or who can dignify his name with the affix "M.D." is not necessarily, on that account, a physician. There seems to unfortunately exist an idea that the mere fact of graduating at a medical college makes a physician; when, as a matter of fact, it merely qualifies the individual to begin studying in a rational manner. The title conveyed by the degree, in too many cases, reminds us of the old cynic's aphorism, *doctor sed non doctus*. The recent graduate who assumes learned looks and indulges in technical phrases is soon uncovered, and the veriest tyro soon discovers his deficiencies. He is soon relegated to the great band of physicians who have no practice, and it is this very fact which has led to the mistaken idea that there are too many physicians. Again, there are those who are employed to do what might be termed semi-medical or purely office work, and these certainly can not be looked on in the light of physicians. Another cause of complaint arises from the older members of the profession who are unreasonable in their querulous observations. They forget that they have not kept abreast of the progress made in the medical and surgical sciences and that they have remained in the same old rut, depending on their imperfect methods of examinations and on therapeutics which long ago were abandoned on account of their inefficiency. The younger generation has been trained to exact methods, in scientific diagnosis and modern rational methods of treatment. These causes have naturally contributed to a marked lessening of the practice and diminution in numbers of the patients of the older physicians, who but too often are derisively called "moss-backs." For them, there are too many physicians. They have felt the oncoming of a more competent generation of medical practitioners—*Hinc illæ lachrymæ!* We hardly think that there are too many physicians—we know that there can not be too many good ones. In this matter, as in all others, the law of evolution will hold. The weakest will go to the wall and the better, and, therefore, stronger portion will fittingly exemplify the law of the survival of the fittest.—*St. Louis Med. and Surg. Jour.*

Marriages.

Robert Granger, M.D., to Mrs. Lulu Howe, both of Cincinnati, August 6.

Jacques Holinger, M.D., to Miss Cora Follen, both of Chicago, July 29.

James S. Covey, M.D., to Mrs. W. F. Cochran, both of Culleoka, Tenn., August 6.

Elizabeth Janet Child, M.D., Bethel, Vt., to Dr. Daniel Freeman of Chicago, August 6.

Carroll McGinnis, M.D., Starbel, Ohio, to Miss Louise Himmelrath of Cincinnati, July 27.

Kate B. Gardner, M.D., to George W. Heumann, M.D., both of St. Louis, at Clayton, Mo., July 29.

Howard J. Williams, M.D., Muskogee, I. T., to Miss Sarah Annette Barnum of Kansas City, Mo., July 28.

Deaths.

Francis Turquard Miles, M.D. Medical College of South Carolina, 1849, of Baltimore, died, July 30, after a year's illness, from prostatic disease and multiple neuritis, aged 76. After studying in Paris he entered the faculty of his alma mater, filling successively various positions until 1860, when he became professor of physiologic anatomy. He served throughout the Civil War in the Confederate Army, being a surgeon the last year. At the close of the war he resumed his practice, and again visited Europe to study nervous diseases. He removed to Baltimore in 1868. He was appointed professor of anatomy in Washington University Medical School and later professor of anatomy and clinical diseases of the nervous system at the University of Maryland. In 1880 he was transferred to the chair of physiology, from which he resigned in 1903, on account of ill health. Dr. Miles was a member of the Medical and Chirurgical Faculty of Maryland, and had been vice-president. He was president of the American Neurological Association from 1880 to 1882; he was an honorary member of the American Associaton of Physicians, and had been a consulting physician of the Johns Hopkins Hospital since its foundation in 1889.

John Washington Divine, M.D. University of Nashville, Tenn., captain and assistant surgeon in the United States Army during the Civil War, and thereafter a practitioner of Tazewell, Tenn., died at his home in that place, from prostatic disease, July 28, after a long illness, aged 66. The Claiborne County Medical Society, of which Dr. Divine was a member, at a meeting, August 3, passed suitable resolutions in his memory.

Reuben Barney, M.D. Albany (N. Y.) Medical College, 1865, a member of the American Medical Association, the Medical Association of Missouri, and the International Association of Railway Surgeons, some-time president of the Chillicothe Board of Health, and of the city and county and Grand River district medical societies, died at his home in Chillicothe, Mo., July 16, from endocarditis after a short illness, aged 59.

Francis L. Morhard, M.D. Eclectic Medical College of the City of New York, 1896, a dentist of New York City, was instantly killed at his summer home at Stapleton, Staten Island, by an electric shock received while he was presumably endeavoring to adjust an imperfectly insulated wire in his cellar, aged 37.

Headley V. McNeer, M.D. College of Physicians and Surgeons, Baltimore, 1885; Bellevue Hospital Medical College, New York, 1886; a member of the American Medical Association, died at his home in Bramwell, W. Va., July 17, after an illness of two days, supposed to have been due to a ruptured abscess of the kidney.

Joseph Ferguson, M.D. University of Pennsylvania, Philadelphia, 1866, formerly medical director of the Pennsylvania Division, G. A. R.; surgeon of the Lady Franklin Alaska expedition in 1866, and author of "Life Struggles in Rebel Prison," died in Philadelphia, July 25, aged 63.

Fife Fowler, M.D. University of Aberdeen, Scotland, 1858, one of the founders and dean of the Royal College of Physicians and Surgeons, Kingston, Ont., and president of the Ontario Medical Council in 1892, died at his home in Kingston, August 2, aged 80.

George H. Greene, M.D. University of Michigan, Ann Arbor, 1865, a member of the American Medical Association, and once president of the Calhoun County (Mich.) Medical Society, died at his home in Marshall, after an illness of five months, aged 62.

John J. Taylor, M.D., for fourteen years secretary of the La Salle County Medical Society, and once president of the North Central Illinois Medical Association, died at his home in Streator, Ill., August 3, from cancer of the stomach.

James R. Gregory, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1887, Long Point, Ill., died at Las Vegas, N. M., where he had gone in the hope of improving his health, August 1, from consumption, aged about 40.

William V. Tolley, M.D. Central College of Physicians and Surgeons, Indianapolis, 1881, of Indianapolis, died at the isolation hospital in that city from smallpox, July 25, after an illness of several weeks, aged 67.

John E. Sutcliffe, M.D. Bellevue Hospital Medical College, New York, a resident of Louisville, who retired from practice in 1845, on account of defective vision, died at his home in Louisville, July 24, aged 83.

Delos W. Hoskins, M.D. New York Homeopathic Medical College and Hospital, 1895, formerly of Auburn, N. Y., died from consumption at Le Grand, Cal., in July, after an illness of four years.

Joseph Smith Carter, M.D. Ohio Medical College, Cincinnati, 1850, who retired from practice twenty years later on account of ill health, died at his home in Urbana, Ohio, July 27, aged 78.

John Henry Helfrich, M.D. Pennsylvania Medical College, Philadelphia, 1861, died at his home in Allentown, Pa., July 29, from Bright's disease after an illness of six months, aged 83.

Edwin Garrett Hank, M.D. University College of Medicine, Richmond, Va., 1898, died at his home in Tannerscreek, Va., from the effects of the kick of a horse, July 26, aged 27.

Albert Jeremiah Schureman, M.D. New York University, 1872, of Newark, N. J., died at the home of his brother in that city, July 28, after an invalidism of ten years, aged 74.

Amos C. Erskine, M.D. Central College of Physicians and Surgeons, Indianapolis, 1880, died at his home in Indianapolis, July 23, from tuberculosis, after a long illness, aged 55.

Milo Hotchkiss Jones, M.D. Yale University, New Haven, Conn., 1896, died at his home in Greenwich, Conn., from typhoid fever after an illness of one week, July 27, aged 28.

Walter D. Anderson, M.D. Harvard University Medical School, Boston, 1864, president of the local board of health, died at his home in Vallejo, Cal., July 31.

William E. Forest, M.D. New York University, 1876, formerly of New York City, was drowned at Rockaway Beach, July 28, while bathing, at the age of 53.

John C. Luke, M.D. Cleveland Medical College, 1871, for several years postmaster at South Fork, Pa., died at his home in that place, August 2, aged 70.

William Craig, M.D. University of Pennsylvania, Philadelphia, 1871, died suddenly at his home in Mentone, Cal., July 25, from hemorrhage, aged 83.

William H. Coyle, M.D. Cleveland Medical College, 1869, died suddenly at his home in Columbia City, Ind., July 29, from apoplexy, aged 68.

Benjamin Hawker, M.D. Eclectic Medical College of the city of New York, 1875, died at his home in New York City from diabetes, July 31.

Samuel W. Hoover, M.D. University of Michigan, Ann Arbor, 1885, of Fayette, Ohio, died suddenly, July 18, from paralysis, aged 46.

James D. Donnelly, M.D., 1848, died at his home in Mountain City, Tenn., June 18, after an illness of two years and a half, aged 79.

William M. Mercer, M.D. University of Buffalo, 1872, died at his home in Corunna, Ind., July 24, aged 75.

State Boards of Registration.

Pennsylvania Summary.—Of the 392 candidates who recently took the examination before the Pennsylvania State Board of Medical Examiners, 339 were successful, 50 failed to secure the necessary 75 per cent., 1 was expelled for cheating, and 2 withdrew because of illness.

Utah Report.—Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners, reports that a written examination was held at Salt Lake City, July 6 and 7, 1903, at which the number of subjects was 10; questions, 80; percentage required to pass, 75; total number examined, 7; all of whom passed.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Coll. of Phys. and Surgs., Baltimore	1903	84 6-7
4	R.	Coll. of Phys. and Surgs., Chicago..	1903	75 1-7
2	R.	Medico-Chirurg. Coll., Kansas City.	1903	84 1-7
3	R.	Rush Medical College, Chicago.....	1903	80 6-7
5	R.	Jefferson Med. College, Philadelphia	1897	85
6	R.	University and Bellevue Hospital Medical College, New York.....	1903	88
7	R.	Barnes Med. College, St. Louis....	1901	81 3-7

Rhode Island Report.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, July 2 and 3, 1903, as follows: Number of subjects examined in, 7; total number of questions, 70; percentage required to pass, 75; total number examined, 27; number passed, 20; number failed, 7.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
217	R.	Syracuse University, Medical Dept..	1902	76.9
218	R.	University and Bellevue Med. College	1901	83.5
221	R.	University of the South, Med. Dept..	1903	74.4
222	R.	Univ. of Pennsylvania, Medical Dept.	1903	81.6
225	R.	University of Vermont, Medical Dept.	1898	77.9
238	R.	University of Vermont, Medical Dept.	1898	79.6
219	R.	Harvard University, Medical Dept..	1902	89.7
224	R.	Harvard University, Medical Dept..	1902	77.9
226	R.	Harvard University, Medical Dept..	*	76.1
243	R.	Harvard University, Medical Dept..	1903	84.5
236	R.	Harvard University, Medical Dept..	1901	88.3
227	R.	Coll. of Phys. and Surgs., Baltimore.	1903	85
242	R.	Coll. of Phys. and Surgs., New York.	1903	80.3
228	R.	Detroit College of Medicine and Surg.	1903	78.1
229	R.	Laval University, Medical Dept.....	1903	75.1
230	R.	Jefferson Medical College.....	1903	82
231	R.	Jefferson Medical College.....	1903	78.6
237	R.	Jefferson Medical College.....	1903	82.6
232	R.	Bowdoin Medical College.....	1902	76.5
233	R.	Cornell Medical College.....	1903	86.1

FAILED.

220	R.	University of Naples.....	1899	66
234	R.	University of Naples.....	1899	63.4
223	R.	Baltimore Medical College.....	1903	71.9
241	R.	Baltimore Medical College.....	1903	72.7
235	R.	Illinois Medical College.....	1902	73.5
239	R.	Victoria University, Medical Dept...	1884	69.4
240	R.	Jefferson Medical College.....	1903	71.9

* Undergraduate, third year.

Delaware Report.—Dr. P. W. Tomlinson, Wilmington, secretary of the Medical Council of Delaware, reports for the medical examining board representing the Medical Society of Delaware, that a written examination was held at Dover, June 16 to 18, 1903, at which the number of subjects examined in was 10; total questions, 90; percentage required to pass, 75; total number examined, 7; number passed, 3; number failed, 4.

PASSED.

Candi-date.	Sch. of Pract.	College.	Year Grad.	Per Cent.
136	R.	Woman's Medical College, Baltimore.	1902	84.6
137	R.	Medico-Chirurgical College, Baltimore	1903	79.2
135	R.	Baltimore Medical College.....	1903	80.8

FAILED.

133	R.	Baltimore Univ. School of Medicine..	1903	68.4
132	R.	Maryland Medical College.....	1903	68
134	R.	Maryland Medical College.....	1902	64
131	R.	Jefferson Med. College, Philadelphia.	1902	69.6

South Dakota Report.—Dr. H. E. McNutt, Aberdeen, reports for the South Dakota Board of Medical Examiners, that a written examination was held at Sioux Falls, July 8 to 10, 1903, at which the number of subjects examined in was 10; total questions, 80; percentage required to pass, 75; total number examined, 20; number passed, 17; number failed, 3.

PASSED.

Candi-date.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Rush Medical College, Chicago.....	1901	87
2	R.	Rush Medical College, Chicago.....	1903	97
3	R.	Rush Medical College, Chicago.....	1888	79
4	R.	Rush Medical College, Chicago.....	1901	80
5	R.	University of Minnesota.....	1903	93
6	R.	University of the City of New York...	1892	80
8	R.	University of Missouri.....	1903	85
16	R.	University of Nebraska, Omaha.....	1903	85
7	R.	Coll. of Phys. and Surgs., New York City	1894	83
9	R.	College of Phys. and Surgs., Chicago..	1903	87
10	R.	Louisville Medical College, Kentucky..	1890	89
11	R.	Johns Hopkins University.....	1903	90
12	R.	Northwestern Univ. Med. Schl., Chicago	1903	95
13	R.	Northwestern Univ. Med. Schl., Chicago	1903	86
14	R.	Jefferson Medical College, Philadelphia.	1903	85
15	R.	Sioux City College of Medicine.....	1903	78
17	E.	Lincoln (Neb.) Medical College.....	1903	88

FAILED.

18	R.	Omaha Medical College.....	1899	..
19	R.	Sioux City College of Medicine.....	1903	..
20	R.	Medical College of Alabama.....	1884	..

EXAMINATION QUESTIONS.

Lists of Questions Asked at State Board Examinations.

We give below the questions asked by the Ohio State Board of Medical Registration and Examination at Columbus, June 23-25, 1903. The record of the students in this trial was given in THE JOURNAL, August 8.

Hereafter, as space will permit, we shall occasionally publish the questions of different state examining boards.

ANATOMY.

1. Describe the clavicle and scapula. 2. Describe the sacrum and coccyx. 3. Describe and illustrate the different classes of articulations. 4. Describe the hip joint, its ligaments and its synovial membrane. 5. Name and give origin of the muscles of the posterior tibial region (superficial group). 6. Name and give origin of the muscle of the anterior scapular region. 7. Give the origin and distribution of the ulnar artery. 8. Describe the deep veins of the lower extremity. 9. Describe the cecum. 10. Describe the pleura.

PHYSICAL DIAGNOSIS.

1. Give the signs of aortic valvular obstruction, with hypertrophy of the left ventricle. 2. How determine whether a cardiac murmur occurs with the first or second sound of the heart? 3. Differentiate between a pleuritic and a pericardial friction sound. 4. Differentiate between a pericardial effusion and a pleural effusion on the left side. 5. By what signs may ascites arising from disease of the kidneys be distinguished from that due to disease of the heart or liver? 6. Differentiate paralysis of the facial nerve due to a central lesion from one due to a peripheral lesion. 7. Make a differential diagnosis of tumor of the right kidney from tumor of the liver. 8. What would you elicit in an examination of the chest of a patient with advanced phthisis? 9. What are the signs of a dilated stomach? 10. Give the normal boundaries of the liver.

CHEMISTRY.

1. Define chemical incompatibility and give example. 2. Give chemical formula of three acids. 3. Describe "K" and its principal salts. 4. How is a salt formed? 5. Describe "Na" and its principal salts. 6. Differentiate organic and inorganic chemistry and give an example of each. 7. Explain the difference between a carbonate and a bicarbonate. 8. Give formulas and describe calomel and bichlorid. 9. Give tests for acids and alkalies. 10. Give tests for arsenic.

MATERIA MEDICA.

1. Creosote—from what is it obtained? What is its physiologic action? 2. What are the indications for creosote, its doses, and how is it administered? 3. Ipecac—physiologic action, indications and doses. 4. Chloral hydrate—physiologic action, indications and doses. 5. Phenacetin—physiologic action, indications, doses and uses. 6. Oxygen—in what condition and how is it used? 7. Serum therapy—on what scientific principle is it based? 8. Antidiphtheritic serum—how is it obtained and how used? 9. Anesthetics—mention those most generally used, and what are the dangers attending their use? 10. Local anesthesia—how is it produced?

PHYSIOLOGY.

1. In what do physiology and pathology differ? 2. How are the functions of the body classified? 3. Define the digestive process. 4. Describe the portal circulation. 5. What is chyle and how does it differ from lymph? 6. What is the coloring matter of the blood and its function? 7. How does the pneumogastric nerve influence the heart beat? 8. How is the temperature of the body kept at the standard? 9. What are the functions of the skin? 10. State the functions of the first two cranial nerves.

OBSTETRICS.

1. Define natural labor. 2. What precautions should be taken before and during the first examination in labor? 3. How would you manage a case of prolapsed cord? 4. What is dry labor and what are its difficulties and dangers? 5. How would you diagnose and manage a case of placenta previa? 6. Under what circumstances would you use a douche after labor or during the lying-in? 7. Define and describe involution. 8. What are some of the causes of mastitis? How should it be treated? 9. When should the cord be cut, and how dressed? Describe the process. 10. What should be done with a child prematurely born?

SURGERY.

1. Describe the application of the plaster-of-paris jacket. 2. How should fracture of the olecranon be treated? 3. Give causes and symptoms of adenitis. 4. What is saline transfusion and how is it performed? 5. What is asepsis and how would you secure it? 6. Describe the Trendelenburg position and its uses. 7. How would you treat a penerating gunshot wound of the abdomen? 8. How is suprapubic lithotomy performed? 9. What is the difference between true and false ankylosis? 10. What do you understand by intubation, and under what circumstances is it of use?

GYNECOLOGY.

1. Give symptoms, diagnosis, prognosis and treatment of acute metritis. 2. What is chronic endometritis, its causes and treatment? 3. Give etiology, symptoms and diagnosis of carcinoma uteri. 4. Give differential diagnosis of abdominal ascites and large ovarian cysts. 5. Give palliative treatment of retroversion of uterus.

DISEASES OF CHILDREN.

1. Differentiate between varicella and smallpox. 2. Give the technic of vaccination. 3. Differentiate enterocolitis from cholera infantum. 4. Differentiate catarrhal from lobar pneumonia. 5. Symptoms of hydrocephalus.

PRACTICE AND PATHOLOGY.

1. Give four causes of a persistent polyuria, and the results of a urinary examination. 2. Differentiate between gastralgia, gastric ulcer and gastric carcinoma. 3. Outline management of a case of organic cardiac lesion, with lost or broken compensation. 4. Describe the lesion and location in tabes dorsalis, and the signs by which the disease may be recognized. 5. What is ascites? Give causes, differential diagnosis and treatment. 6. What is cystitis? Give symptoms, diagnosis and treatment. 7. How diagnose and treat a case of diphtheria? 8. What does the word dysentery mean? Give symptoms and diagnosis of a case? 9. What do you understand by the terms symptoms, signs and periods of incubation and prodromes of disease? 10. Define erysipelas. Describe its course and give indications for three remedies.

Medical Organization.

Floyd County (Iowa) Medical Society.

Twelve physicians met at Charles City, July 24, and took preliminary steps toward reorganizing along the lines suggested by the American Medical Association. Dr. Semun R. Hewett acted as chairman and Dr. James J. Daly, as secretary, both of Charles City.

Audubon County (Iowa) Medical Society.

The physicians of Audubon County met in Audubon, July 21, organized a county medical society, adopted the constitution and by-laws recommended by the American Medical Association, and elected the following officers: Dr. H. P. Lauritzen, Exira, president; Dr. Ratford F. Childs, Audubon, vice-president; Dr. Daniel Jackson, Audubon, secretary-treasurer, and Drs. A. L. Brooks, Audubon, Nathaniel L. A. K. Slamberg, Kimballton, and Daniel G. Loss, censors.

Waupaca County (Wis.) Medical Society.

Physicians of Waupaca County met at Waupaca, July 28, with Dr. John F. Pritchard, Manitowoc, councilor for the Eighth District, and organized a county society to be in affiliation with the State and National organizations. The following officers were elected: Dr. Levi H. Pelton, Waupaca, president; Dr. Thomas W. Trimble, Waupaca, vice-president; Dr. J. Fremont Corbett, Weyauwega, secretary-treasurer, and Drs. Bruno G. Jurgensohn, Manawa, J. Fremont Corbett, Weyauwega, and Carl A. Sander, Waupaca, censors.

MEDICAL SCHOOLS OF THE UNITED STATES.

Below is given a brief description of every college in the United States that is legally chartered to confer the degree of doctor of medicine, and whose diploma is recognized by at least one state licensing board. The list includes the sectarian as well as the regular colleges, as their graduates are physicians in the eyes of the law. The information given is, as a rule, obtained from the catalogues and has been submitted to the dean of each school for his inspection and approval. Colleges which belong to the American or the Southern Medical College Association or other organization of colleges have requirements for admission of students according to the rules of these associations, unless their requirements are higher, in which case a statement is made to that effect. Extracts from these rules are given at the close of the list of colleges.

ALABAMA.

Alabama, population 1,828, 697, has two medical colleges, the Medical College of Alabama and the Birmingham Medical College, located in Mobile and in Birmingham. The population of each city is over 38,000 and board and room may be obtained for from $12 to $20 per month.

Mobile.

MEDICAL COLLEGE OF ALABAMA.—This is the Medical Department of the University of Alabama, organized in 1859. The City Hospital furnishes free clinical material. The faculty consists of 9 professors and 9 lecturers, 18 in all. It is well equipped with buildings, laboratories, dispensary, etc. It is a member of the Southern Medical College Association. The course of study covers four years of six months each. The total fees for each of the first three years is $100; for the fourth year, $125. The Dean is Dr. George E. Ketchum. Total registration, 1902-3, 145; graduates, 12. The thirty-eighth session will begin Oct. 8, 1903, and will close April, 1904.

Birmingham.

BIRMINGHAM MEDICAL COLLEGE.—This school was incorporated in 1894 and is situated in Birmingham, a manufacturing town of 38,415. The clinical advantages are good. The Hillman, St. Vincent's, Pratt and County hospitals are accessible to the students. The laboratories are well equipped. There are 19 professors and 13 assistants, total, 32. The school is a member of the Southern Medical College Association. The course of instruction embraces four separate sessions of six months each. The fees are $75 for each of the first three years and $105 for the fourth. The Dean is Dr. B. L. Wyman. Registration, 1902-3, 94; graduates, 22. Next session opens Oct. 1, 1903, and closes April 1, 1904.

ARKANSAS.

Arkansas, population 1,311,564, has one medical college, located in Little Rock. Board and lodging costs from $13 to $18 per month.

Little Rock.

MEDICAL DEPARTMENT OF THE ARKANSAS UNIVERSITY.—This college is located at Little Rock, population about 60,000. It was organized in 1880 as the Arkansas Industrial University Medical Department. It is a charter member of the Association of American Medical Colleges. Hospital facilities are furnished by Logan H. Roots Memorial Hospital, St. Vincent's Infirmary and Pulaski County Hospital, the latter having a capacity of 200 beds. The teaching body consists of 13 professors and 23 lecturers and assistants, total 36. Dr. F. L. French, Little Rock, is Secretary. The fees are: Matriculation $5, paid but once; annual fees $60, and graduation $25. Total number of students at last session, 236; graduates, 12. The next course of lectures begins Oct. 19, 1903, and ends April 19, 1904.

CALIFORNIA.

California, population 1,485,053, has seven medical colleges. Five are located in San Francisco, a city of about 400,000 inhabitants. They are Cooper Medical College, Medical Department of the University of California, California Medical College, Hahnemann Medical College of the Pacific, and the College of Physicians and Surgeons. The clinical facilities of San Francisco are good; board and lodging can be obtained for from $20 to $30 a month. The College of Medicine of the University of Southern California is situated in Los Angeles, population 102,479. Board and lodging can be obtained in that city for $4 a week and upward. The Oakland College of Medicine and Surgery is in Oakland, a suburb of San Francisco.

San Francisco.

COOPER MEDICAL COLLEGE.—This school was organized in 1858. though its present name was not adopted until 1882. The faculty consists of 12 professors and 28 lecturers, instructors, etc., 40 in all. Lane Hospital, adjoining the college, the City and County Hospital, containing 464 beds, and the college dispensary furnish clinical material. The requirements for admission are a certificate showing that applicant has passed the regular examination for admission to the University of California, or its equivalent, or graduation from an accredited high school or academy, or its equivalent. The college itself does not hold entrance examinations. The college building supplies large laboratory and lecture-room facilities. The curriculum covers a graded course of four years of eight months each. Fees: Matriculation, $5; course fee for each year, $150; breakage deposit each year, $10; graduation fee, $25; no other charges. The Dean is Dr. Henry Gibbons, Jr. Total registration for 1902-3 was 212; graduates, 45. The next session opens Aug. 15, 1903, and will close April 26, 1904.

MEDICAL DEPARTMENT UNIVERSITY OF CALIFORNIA.—This department of the State University was organized in 1872, and has a faculty composed of 20 professors, 50 associates and assistants, a total of 70. The City and County Hospital, which admits students of this school not only to the clinics proper, but also to its wards for study, and the college dispensary furnish good clinical material. The course covers graded work for four years of nine months each. This school is a member of the Associatioon of American Medical Colleges. In 1905 two full college years' work will be required of all applicants for admission. The fees are: Matriculation, $5; tuition, $150 each year; laboratory fees extra. The Dean is Dr. Arnold A. D'Ancona. Total registration for 1902-3 was 115; graduates, 26. The thirty-first session opens Aug. 7, 1903, and will close May 14, 1904.

COLLEGE OF PHYSICIANS AND SURGEONS OF SAN FRANCISCO.—This school was organized in 1896 and has a faculty of 23 professors and 23 associate professors and teachers, a total of 46. The hospital facilities consist of the City and County Hospital, the California General Hospital, with 50 beds, and St. Winifred Hospital, with 50 beds. The daily clinics at the new college building furnish abundant material of every description. Applicants for matriculation must show an equal amount of work done or pass a satisfactory examination in English, history and government, geography, physics, mathematics and Latin, grammar and translation. The college building recently completed is well supplied with laboratories and lecture rooms. This college now conducts a continuous course of medical instruction. Each year is divided into four quarters of three months each, and known as the autumn, winter, spring and summer quarters. Students may enter at the beginning of any quarter. Attendance on 12 quarters will be required, and at least 45 months must elapse between the beginning of the first course and the time of graduation. Fees, $30 per quarter. The Dean is Dr. D. A. Hodghead. Registration for 1902-3 was 146, of these 28 graduated in medicine. The autumn quarter opens Sept. 1, 1903, and closes May, 1904.

CALIFORNIA MEDICAL COLLEGE.—Eclectic. This school was organized in 1878. Its faculty includes 14 professors and 14 lecturers and instructors, a total of 28. The clinical material is supplied by the Buena Vista and City and County hospitals. Applicants for admission not holding diploma or certificate are examined. The course has been extended to cover four years of eight months each. Total fees are about $110 for each of the first three years and $40 for the fourth year. The Dean is Dr. Maclean. Total registration for 1902-3 was 60; graduates, 7.

HAHNEMANN MEDICAL COLLEGE OF THE PACIFIC.—Homeopathic. This was organized in 1884, and has a faculty of 19 professors and 23 lecturers, instructors, etc., in all 42. The Pacific Homeopathic Polyclinic, the Homeopathic Sanatorium, the San Francisco Nursery for Homeless Children, Marie Kip Orphanage, accommodating, respectively, 45, 75 and 120 beds; Fabiola Hospital and the City and County Hospital, furnish the clinical material for study. Matriculants must possess the equivalent of a high school education. One year after entrance is permitted in which the student may complete conditions in Latin. The college is registered and accredited with New York State Regents. The course includes four years of seven months each. Total fees for the first year, $155, and $100 for each of the other three years. The Dean is Dr. James W. Ward. Total registration for 1902-3 was 38; graduates, 12. The twenty-first session opened March 6, 1903, and will close Oct. 31, 1903.

Oakland.

OAKLAND COLLEGE OF MEDICINE AND SURGERY.—The second session of this new school will begin Sept. 1, 1903, and end April 30, 1904. The Registrar is Dr. Edward N. Ewer. The faculty numbers 21. Tuition is about $115 yearly. There were 6 students last session, all in the freshman class.

Los Angeles.

COLLEGE OF MEDICINE, UNIVERSITY OF SOUTHERN CALIFORNIA.—This school was organized in 1885, and has a faculty of 27 professors and 7 instructors, etc., 34 in all. The County Hospital, having 200 beds, and a college dispensary furnish clinical material. Applicants for admission are required to pass an examination in English, arithmetic, elementary algebra, physics and Latin equal to one year's work, unless they can show by certificate that they have covered that ground. The building is amply provided with laboratories and lecture rooms. A graded course, covering four years of thirty-two weeks each, is offered. The total fees for the first year are $145; second and third, $130 each, and $40 for the fourth year. The Dean is Dr. James H. McBride. Total registration for 1902-3 was 106; graduates, 27. The next session opens October, 1903, and closes June, 1904.

COLORADO.

Colorado, with a population of 539,700, has three medical colleges. Two of these, Denver and Gross College of Medicine and Denver Homeopathic College, are in Denver, which has a population of about 175,000, the other, the Colorado School of Medicine, is at Boulder (population 6,150). The clinical facilities in Denver available to the two colleges are the Arapahoe County Hospital, which has a capacity of 225 beds; St. Joseph's

Hospital, with 200 beds, and St. Luke's Hospital, with 75 beds. The Public Library contains 10,000 volumes on medicine. Board can be obtained in Denver for $5 a week and upward.

Denver.

The Denver and Gross College of Medicine.—This is the Medical Department of the University of Denver, and was organized in 1902 by the union of the Gross Medical College (organized 1887) and the Denver College of Medicine (organized 1880). The clinical advantages are the college dispensary, the Arapahoe County Hospital, St. Luke's Hospital, St. Anthony's Hospital, St. Joseph's Hospital, National Jewish Hospital for Consumptives, Home for Dependent Children and the City Contagious Hospital and Mercy Sanitarium. The faculty is made up of 38 professors, 45 assistants and instructors, a total of 83. Its location is central and the buildings are well arranged for laboratory, dispensary and didactic work. The course is graded and covers four years of eight months. The college is a member of the Association of American Medical Colleges. Final examinations at the end of each year are held. Fees for the first year are $115. For the second year $116. Third year $101. Fourth year $126. Total registration, 1902-3, 130; graduates, 33. The twenty-third session will begin Sept. 15, 1903, and close May 16, 1904. The Dean is Dr. S. G. Bonney.

Denver Homeopathic College.—This college, organized in 1894, beside clinical privileges in the Arapahoe County Hospital, has exclusive privileges for clinical work in the Denver Homeopathic Hospital, the Haven and the Belle Lenox Nursery. The faculty numbers 25 professors and 7 lecturers and instructors, 32 in all. The requirements for admission are, "possession of a diploma from a literary college, university, an academy, a normal or high school; a first-grade teacher's certificate, or a previous matriculation at some reputable literary or medical college." The course of study consists of four years of seven months each; monthly examinations are held in each subject. A five-year scholarship may be had for $300, payable in advance, otherwise the tuition is $100 a year; there is a matriculation fee of $5, payable once. The Dean is Dr. James P. Willard. Total registration for 1902-3 was 29; the number of graduates. 6. The ninth session begins in September, 1903, and will close April, 1904.

Boulder.

Colorado School of Medicine.—This is the Medical Department of the University of Colorado, and was opened in 1883. The University Hospital, under the control of the state, is equipped to accommodate 40 patients and furnishes free clinical material. Both hospital and dispensary clinics are offered and the sanatorium located in Boulder offers additional advantages in this line. The faculty embraces 15 professors and 12 lecturers and assistants, a total of 27. The laboratories are well equipped and commodious. A separate building is devoted to the study of anatomy and another one is used for medical work exclusively. A complete four-year course of study in a recognized high school, or its equivalent, is required for admission. This school is a member of the Association of American Medical Colleges. The work embraces a graded course of four years of nine months each. The tuition is $50 per year; there are no other fees. The Dean is Dr. Luman M. Giffin. Total registration for 1902-3 was 63; graduates, 8. The twenty-second session begins Sept. 14, 1903, and closes June. 1904.

CONNECTICUT.

Connecticut has a population of 908,420, and contains one medical college, located in New Haven, population 115,000. Board and lodging cost $4.50 and upward per week.

New Haven.

Yale Medical School.—This is the Department of Medicine of Yale University. In 1810 a charter was granted for the establishment of this school, and in 1813 it was organized as the Medical Institution of Yale College. In 1879 a new charter changed the name to the one now used, and in 1884 the Connecticut Medical Society, which, from the granting of the first charter, had taken an active part in its control, released itself from a further responsibility and the University authorities assumed full control. The clinical advantages are embraced under the New Haven Hospital, which contains 150 beds and is the general hospital for New Haven; the Springside Hospital, which is connected with the city almshouse, and the State Hospital for the Insane, which, with its 1,800 patients, offers an opportunity for special instruction in insanity in addition to the clinics. Besides these, the University has just completed a $100,000 building for the dispensary service, which offers good material for clinical teaching. The faculty embraces 13 professors, 5 lecturers, 12 instructors, and 22 assistants, a total of 52. The lecture rooms and laboratories are large and well equipped. Matriculants are admitted without examination, provided that they have received a degree in arts or sciences, that they present certificates showing that they have successfully prosecuted the subjects of the examination at some college, high school, academy, or preparatory school approved by the faculty, or that they have passed matriculation examinations equivalent to those required, at some approved professional school. This school is a member of the Association of American Medical Colleges. The course covers a four-year graded curriculum, eight months constituting a school year; the first two years the fundamental branches are studied, the third year is devoted to a systematic teaching of medicine, surgery, obstetrics and pharmacology, and in the fourth year clinical work, with medicine, surgery and the specialties, is presented. The fees are $150 each year; in the first year there are additional fees amounting to $18, and in the second, $8, and there is a graduation fee of $10. The Dean is Dr. Herbert E. Smith, New Haven. During the session of 1902-3 there were 145 matriculants and 27 graduates. The ninety-first session opens Sept. 24, 1903, and closes June 23, 1904.

DISTRICT OF COLUMBIA.

Washington, population, 278,718, has four medical colleges: Medical Department of Columbian University, Georgetown University School of Medicine, Howard University Medical Department and National University Medical Department. Washington offers to the student of medicine many advantages. The Army Medical Museum, the Museum of Hygiene, the National Museum, the library in the Surgeon-General's office, the Toner Medical Library and Museum of Hygiene, in all over 125,000 volumes on medicine, open to the medical student a most profitable field. The clinical advantages offered by the various hospitals are good. Owing to the many boarding houses and hotels, board and lodging can be had at extremely reasonable rates.

Washington.

Columbian University, Department of Medicine.—This school was organized in 1821. Columbian University Hospital, under the immediate control of the faculty, gives the students of this school exclusive clinical advantages. In addition, Central Dispensary and Emergency Hospital, Lutheran Eye and Ear Infirmary, Episcopal, Garfield, Children's, Providence, Columbia and St. Elizabeth's hospitals, all permit of abundant opportunity for clinics and clinical material. The faculty is composed of 26 professors and 30 demonstrators and assistants, 56 in all. This school is a member of the Association of American Medical Colleges. The equipment and facilities for laboratory, didactic and clinical work are good. The completion of graded work covering the period of four years, eight months to the school year, is required; semi-annual examinations are held. Total fees for each year are $110. The Dean is Dr. E. A. de Schweinitz, 1325 H St., N. W. New and enlarged buildings for both college and hospital have been completed. Registration for 1902-3 was 260; graduates, 34. The eighty-second session begins Sept. 30, 1903, and closes June 1, 1904.

Georgetown University School of Medicine.—This school, organized in 1850, controls the Georgetown University Hospital, which affords excellent facilities for clinical teaching and ward classes. Clinics are also held for the benefit of the students in Providence Hospital, containing 300 beds; in the Children's Hospital, the Central Dispensary, Emergency Hospital and the Garfield Hospital. Attendance on clinical instruction is obligatory in the third and fourth years. The faculty contains 26 professors, 27 instructors and assistants, total 53. This school is a member of the Association of American Medical Colleges. The building is conveniently located and contains spacious and well-ventilated lecture rooms, laboratories and library; the laboratories are equipped with the most approved instruments and appliances. The complete course of study extends over four terms of eight months each. Examinations are held at the end of each session. The fees are $110 each year. The Dean is Dr. George M. Kober, 1600 T St. The registration for 1902-3 was 144; graduates, 22. The next term opens on Sept. 29, 1903, and ends May 31, 1904.

Howard University Medical Department.—This institution was organized in 1867 and "in conformity with the spirit of the organic law of the University, is open to all, without regard to sex or race, who are qualified by good moral character, proper age and suitable education." The removal of any racial distinction has been taken advantage of by colored students, who compose a majority of those in attendance, but a number of white students are also receiving instruction. The Freedman's Hospital and Asylum is a general hospital of 300 beds. The faculty comprises 15 professors and 20 lecturers and assistants, 35 in all. This college is a member of the Association of American Medical Colleges. Students are required to attend four courses of lectures in separate years of seven months each. The fees of each session are $80, plus $2 per part for dissecting material. Board can be had at the school dining hall for $9 a month, and a room in the dormitory for $15 a term. The Dean is Dr. Robert Reyburn, 714 13th St. N. W. Registration for 1902-3 was 141; graduates, 29. The thirty-sixth session begins Oct. 1, 1903, and closes May, 1904.

National University Medical Department.—We are unable to furnish information concerning this school, as repeated letters to different officials have failed to elicit any reply. In our statistical table we use the same figures as were used last year, assuming that they are approximately correct. The school was organized in 1884 and has a faculty of about 37. The course consists of four years of eight months each.

GEORGIA.

Georgia, population 2,216,331, has three medical colleges: Medical College of Georgia, located in Augusta (population, 39,441); Atlanta College of Physicians and Surgeons, and Georgia College of Eclectic Medicine and Surgery, both in Atlanta (a manufacturing city of 89,872 population). Board and lodging may be obtained for from $3 to $5 per week.

Augusta.

Medical College of Georgia.—This school was organized as a medical academy in 1829, and in 1873 was made the Medical Department of the University of Georgia. Its faculty includes 12 professors and 12 assistants, 24 in all. The course is four years of six months each. Applicants for admission must, by examination, certificate or diploma, show that they possess educational qualifications equal to those required for second grade teachers in public schools; if they are deficient on examination, however, they are admitted, and they may remove the conditions any time before they appear for graduation. The City Hospital, with 130 beds; Lamar Hospital, with 80 beds; the Polyclinic and the Hospital for Contagious Diseases supply clinical material. Fees for the first two years are $75 each; third year, $100, and 130 for the last year. The Dean is Dr. DeSaussure Ford. Total enrolment for 1902-3 was 110; graduates, 7. The seventy-second session opens Oct. 1, 1903, and closes April, 1904.

Atlanta.

Georgia College of Eclectic Medicine and Surgery.—This was organized in 1839, and has a faculty of 12. The college dispensary and Grady Hospital furnish clinical material. Applicants for admission must adhere to the requirements established by the

National Confederation of Eclectic Colleges of which this college is a member. The curriculum covers four years of six months each. The Proctor is Dr. W. M. Durham, 77½ Peachtree St. Total number of students for 1902-3 was 46; graduates, 2. The next session opens Oct. 1, 1903, and closes April 1, 1904.

ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS.—This school was formed in 1898 by the consolidation of the Atlanta Medical College, organized in 1854, with the Southern Medical College, organized in 1879. It has a faculty of 14 professors and 20 assistants, a total of 28. Clinical facilities are furnished by the Grady Hospital, which is the general hospital for Atlanta; clinics are free to the graduating class. First course students are required to "give satisfactory evidence to the faculty of such educational qualifications as will be deemed necessary for the successful prosecution of their medical studies. These requirements will be similar to those of other reputable medical colleges in the country." The course of study covers four years of six months each and is graded. The buildings are large and a new building for practical anatomy has just been added. Fees: First and second years, $75 each; third and fourth, $100 each. The Dean is Dr. W. S. Kendrick, 71 Washington St. Total registration of students for 1902-3 was 200; graduates, 34. Next session begins Oct. 1, 1903, and closes April, 1904.

ILLINOIS.

Illinois, population 4,821,550, has 14 medical colleges. They are all located in Chicago, a city of about 1,900,000 inhabitants, and are as follows: Rush Medical College, Northwestern University Medical School, Hahnemann Medical College, Bennett College of Eclectic Medicine and Surgery, Chicago Homeopathic Medical College, College of Physicians and Surgeons, Hering Medical College, Jenner Medical College, Harvey Medical College, Illinois Medical College, American Medical Missionary College, College of Medicine and Surgery, National Medical University and American College of Medicine and Surgery. Room and board cost $3 a week and upward.

Colleges in Illinois have to admit students in conformity with the minimum requirements of the Illinois State Board of Health, as follows: "A diploma or certificate of graduation from a high school; or a certificate signed by a principal of a regularly organized high school or by the examiner of the faculty of a recognized literary or scientific college or university, or by the state superintendent of public instruction, or a superintendent of public schools, of having successfully passed an examination in all the several branches embraced in the curriculum of a four years' high school course. The matriculation examination shall not be conducted by any member of the faculty of the medical college. The Illinois State Board of Health will require each applicant for a state certificate to present documentary evidence of his preliminary education, together with his medical diploma, when taking the examination of the board." These conditions will govern all persons admitted to the freshman year on or after Jan. 1, 1903.

Chicago.

RUSH MEDICAL COLLEGE.—This school was founded in 1837, organized in 1843, was the medical department of Lake Forest University from 1887 to 1898, and in the latter year became affiliated with the University of Chicago. The faculty is composed of 22 professors, 144 associates, instructors, etc., a total of 166. Good clinical facilities are furnished by Cook County Hospital, caring for about 20,000 patients yearly; Presbyterian Hospital, with 250 beds; a college dispensary, and an obstetric department. In addition to these, extramural clinical courses are offered at the West Side Hebrew Dispensary, St. Luke's Hospital, St. Anthony's Hospital, the Alexian Brothers' Hospital, Illinois Charitable Eye and Ear Infirmary and Chicago Isolation Hospital. Bedside instruction is given. The requirements for admission are those of admission to the better universities or colleges and, in addition thereto, one and one-third years of college work. For the sessions of 1904 there will be required a certificate of admission to the third academic year of an accredited university. By the addition of a recently completed seven-story building, the facilities for clinical instructions are largely increased. The laboratories and their equipment are unexcelled. The curriculum covers graded work for four years of three quarters each, a quarter being three months. A continuous session is held, but credit for more than three quarters can not be obtained in any calendar year. A combined course for six years confers degrees of both science and medicine. All freshmen and sophomore studies are given at the University of Chicago. The total regular fees are $172.50 this year, but it is designed to gradually increase the fees to $200 per year. However, students in continuous attendance, i. e., three quarters in twelve months, may complete their course by paying the fees in vogue when they first enter the college. A matriculation fee of $5 is paid but once, and there are incidentals amounting to from $2 to $5 annually. The Deans are Dr. Frank Billings, 100 State St., and Dr. John M. Dodson, 34 Washington St. Total registration, 1902-3, was 1,047; graduates, 220. The fiscal year begins July 1; final examinations are held at the end of each year.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.—This school was organized in 1859 as the Medical Department of Lind University, became independent as the Chicago Medical College in 1864, and in 1869 assumed its present relation as Medical Department of Northwestern University. The faculty comprises 41 professors and 67 assistants and instructors, in all, 108. The newly completed Wesley Hospital, with 225 beds; Mercy Hospital, containing 400 beds; Provident Hospital, 100 beds; St. Luke's, 200 beds, and a college free dispensary furnish opportunities for clinical study to students of this college exclusively. Cook County, and the Chicago Lying-in hospitals are also open to them for study. Applicants for admission must, by diploma, certificate or examination, show possession of the educational acquirements required to enter the College of Liberal Arts of Northwestern University. This school is a member of the Association of American Medical Colleges. The laboratory and lecture-room facilities are ample and the equipment is good. The course of study covers graded work for four years of thirty-six weeks each. Optional summer laboratory and clinical courses are also given. Final examinations are held at the end of each semester. The fees for each year are $165 and a matriculation fee of $5, paid once, is charged. The Dean is Dr. N. S. Davis, Jr., 65 Randolph St. The total registration for 1902-3 was 608; graduates, 127. The next session opens October, 1903, and closes June, 1904.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1881, and in 1896 became the Medical Department of the University of Illinois. The faculty is composed of 43 professors, 90 assistants and instructors, a total of 133. The West Side Hospital, containing 125 beds; Cook County Hospital, and a college dispensary and maternity clinic supply most of the clinical material, but under certain conditions students of this school are admitted to the following hospitals for clinical study: Augustana, Baptist, Chicago, Woman's, Samaritan, Alexian Brothers', St. Mary's, and the Chicago Lying-in. This school is a member of the Association of American Medical Colleges. A magnificent building has recently been added to the college, and the laboratory, amphitheater and lecture-room space and equipment are excellent. The collegiate year is divided into two terms: the winter term of thirty-two weeks and the summer term of twelve weeks, of actual teaching. Attendance on the winter term is required in order to secure credit for a year's work, and attendance on four winter terms is required for graduation, except for students who are admitted to advanced standing. Attendance on the summer term is optional, and the work is supplementary to the work of the winter term. Students may obtain credit for work done in certain branches, but attendance on this term does not apply on the required thirty-two months' attendance necessary for graduation. The fees are $145 each for the first two years, $130 for the third and $155 for the fourth year. The Dean is Dr. William E. Quine, 103 State St. Total registration for 1902-3 was 685; graduates, 216. The fall term begins Oct. 1, 1903.

HAHNEMANN MEDICAL COLLEGE.—Homeopathic. This was organized in 1855, and has a faculty of 60. Hahnemann Hospital and a college dispensary supply clinical material. The requirements for admission are a high school diploma or its equivalent. The course is four years of seven months each. Fees: Matriculation, paid once, $5; each term, $50, and hospital tickets, $5 each for third and fourth years. The Registrar is Dr. W. Henry Wilson. Total registration, 1902-3, 195; graduates, 69. The next session begins Sept. 27, 1903.

BENNETT COLLEGE OF ECLECTIC MEDICINE AND SURGERY.—This school, organized in 1868, has a faculty of 32 professors and 5 assistants, 37 in all. The Bennett, Cook County and Baptist hospitals and a college dispensary supply clinical facilities. Matriculants must present a diploma or certificate or pass a satisfactory examination "in conformity with the minimum requirements of the State Board of Health." The course covers four years of twenty-six weeks each. This school is a member of the National Confederation of Eclectic Medical Colleges. Fees for each year are $100, with a matriculation fee, paid once, of $5. The Dean is Dr. A. L. Clark, Elgin, Ill. Total registration, 1902-3, was 113; graduates, 18. The thirty-sixth session begins Sept. 22, 1903, and ends May 11, 1904.

CHICAGO HOMEOPATHIC MEDICAL COLLEGE.—This was organized in 1876, and has a faculty of 19 professors and 44 adjuncts, lecturers, etc., a total of 63. The Chicago Homeopathic and Cook County hospitals, together with a college dispensary, furnish clinical material. Applicants for admission must show by certificate from high school, or its equivalent, a sufficient knowledge of English, arithmetic, algebra, physics, United States history, geography, botany and Latin, equivalent to a year's study. The course covers four years of seven and one-half months each. Total fees are about $110 for each year. The Dean is Dr. W. M. Stearns, 87 Wabash Ave. Total registration, 1902-3, was 130; graduates, 37. The next session opens September, 1903, and ends April, 1904.

HERING MEDICAL COLLEGE.—Homeopathic. This school was organized in 1892. Dunham Medical College, organized in 1895, was consolidated with this school in August, 1902. The faculty comprises 28 professors and 16 associates, lecturers, etc., in all 44. Hering College Hospital, Baptist and Cook County hospitals supply clinical facilities. The course covers four years of seven months each. The total fees for a full course are $300 if paid in advance, or $100 per year. The Dean is Dr. J. T. Kent, 92 State St. Total registration for 1902-3 was 90; graduates, 22. The twelfth session begins Sept. 8, 1903, and ends April 11, 1904.

JENNER MEDICAL COLLEGE.—This is a day and evening school, organized in 1892. The faculty consists of 46 professors and 7 assistants, 53 in all. Cook County Hospital and college dispensary supply clinical material. The course covers four years of 40 weeks each and embraces laboratory, didactic and clinical instruction. The total fees each year are $100, with a $5 matriculation fee, paid but once. The Registrar is Dr. C. Shorman, 163 Randolph St. Total enrolment for 1902-3 was 107; graduates, 13. The next session begins September, 1903, and will end June, 1904.

HARVEY MEDICAL COLLEGE.—This is a night school, organized in 1891. The lecture and laboratory work is all in the evening between the hours of 7 and 10, six days of the week and forty weeks of the year. The clinical work, hospital, dispensary, in-practice and out-practice, are between the hours of 10 a. m. and 10 p. m. Attendance on 100 clinical hours yearly before 7 in the evening is obligatory beside attendance by the seniors on night obstetric cases and Saturday evening clinic at Cook County Hospital. The faculty is composed of 42 professors, 21 instructors and assistants, total, 63. The course covers four years of ten months each. The total fees are, each year, $200. The Dean is Dr. Frances Dickinson. Total registration for 1902-3 was 330;

graduates, 20. The thirteenth session begins September, 1903, and ends June, 1904.

Illinois Medical College.—This school, organized in 1894, has a faculty of 26 professors and 19 assistants, a total of 45. A college dispensary and Cook County Hospital are available for clinical study. The requirements of admission include a high school diploma or its equivalent. The college is a member of the Association of American Medical Colleges. Attendance for seven months during each of four years is necessary for graduation. Total fees are about $75 for each year. The Dean is Dr. B. B. Eads, 103 State St. Total registration for 1902-3 was 265; graduates, 47. The next fall term begins Oct. 1, 1903.

American Medical Missionary College.—This school was organized in 1895 and has the primal object of educating men and women as missionary physicians. The faculty numbers 25. The didactics and laboratory work, covering the first two years, are carried on at Battle Creek, Mich., and the clinical studies in Chicago. A hospital with 20 beds, in connection with the college, together with a free college dispensary, with an obstetric department, supply material for practical work. The college is a member of the Association of American Medical Colleges. The course covers four years of nine months each. Total fees are $125 for each of the four years. The Secretary is Dr. E. L. Eggleston, Battle Creek, Mich. Total registration for 1902-3 was 88; graduates, 22. The ninth session opens Sept. 23, 1903, and closes June 22, 1904.

College of Medicine and Surgery.—Physio-Medical. This school was organized in 1896 and has a faculty of 44 teachers. A college dispensary supplies material for clinical work. The course covers four years of seven months each. Fees for the first year, $100; for the second and third, $95 each, and $110 for the fourth. The Secretary is Dr. Florence Dressler, 245 Ashland Boul. Total registration for 1902-3 was 76; graduates, 12. The next session begins September, 1903, and ends April, 1904.

National Medical University.—This was organized in 1891, and its courses include instruction in the methods of all the so-called schools of practice, including osteopathy. The faculty numbers 76. The requirements for entrance are in accordance with the requirements of the Illinois State Board of Health. Each year is divided into four quarters of thirteen weeks each. The fees are $100 per year. The Registrar is Dr. L. D. Rogers, 533 Wells St. Total matriculants for 1902-3 were 173; graduates, 17. The autumn quarter will begin Sept. 30, 1903.

American College of Medicine and Surgery.—Eclectic. This school was founded in 1901 and has a faculty of 65. The requirements for entrance are in accord with the rules of the State Board of Health. The course is four years of eight months each. American and Cook County hospitals supply clinical material. The Secretary is Dr. J. D. Robertson, 103 State St. The annual fee is $100; matriculation fee is $5; a total fee for one year, with board, room, light and heat, is $208. The enrolment, 1902-3, was 126; graduates, 10. The next session begins Sept. 29, 1903, and closes May 14, 1904.

INDIANA.

Indiana, population 2,516,462, has five medical colleges. Four are situated in Indianapolis, a city of 169,164 people: The Central College of Physicians and Surgeons, Medical College of Indiana, the Eclectic Medical College and the Physio-Medical College of Indiana. The clinical facilities of Indianapolis are good, and board and lodging can be obtained from $3 a week and upward. The Fort Wayne College of Medicine is situated in Fort Wayne, a railroad and manufacturing town of 45,115 inhabitants. Board and room can be obtained there at an average of $3 a week.

Indianapolis.

Central College of Physicians and Surgeons.—This school was organized in 1879 and reorganized in 1901. The faculty numbers 23 professors and 45 lecturers and demonstrators, total 68. A new college building has been erected on the most up-to-date plans. Its floor space comprises 25,000 square feet, more than half of which is devoted to laboratory teaching. The school gives instruction largely by laboratory and clinical methods. Clinical facilities are furnished by a dispensary maintained by the college, by the City Dispensary, City Hospital, St. Vincent's Infirmary and the Central Hospital for the Insane. Bedside clinics are given to sections of senior class daily at City Hospital. This college was a charter member of the Association of American Medical Colleges. The course is four years of 7 months each. The Secretary is Dr. John F. Barnhill. The fees are $75 for each year. Total registration, 1902-3, was 115; graduates, 22. The session for 1903-4 will open Sept. 22, 1903.

Medical College of Indiana.—This is the Medical Department of the University of Indianapolis and was organized in 1869. The faculty embraces 26 professors, 42 adjuncts, lecturers, etc., a total of 68. The City Hospital, containing 200 beds; Indianapolis Dispensary; Central Hospital for the Insane, with a capacity for 1800 patients; St. Vincent's and the Maternity hospitals, and a college dispensary provide clinical facilities; the wards in the charity hospitals are open to students of this college for bedside instruction. The laboratory and lecture-room space is ample. This college is a member of the Association of American Medical Colleges. The course extends over four years of seven months each. Fees: First and second years, $80 each; third, $75, and $100 for the fourth year, which includes graduation fee. The Dean is Dr. Henry Jameson, Newton-Claypool Bldg. Total enrolment for 1902-3 was 332; graduates, 76. The thirty-fourth session opens September, 1903, and closes April, 1904.

Eclectic Medical College of Indiana.—This school was organized in 1900 and has a teaching force of 31. The course is four years of six months each. Fees: For each year, $75, or for all four, $225; $25 for graduation. Total registration, 1902-3, 28; graduates, 5. The Dean is Dr. R. T. Laycock, 909 Bates St. The next session begins Sept. 22, 1903, and ends April 10, 1904.

Physio-Medical College of Indiana.—This school was organized in 1873, and has a faculty of 30. The course is four years of 26 weeks each. Total fees for each year are $70. The Secretary is Dr. C. T. Bedford. Total enrolment, 1902-3, was 29; graduates, 9. The next session begins Oct. 7, 1903, and closes May, 1904.

Fort Wayne.

Fort Wayne College of Medicine.—This school was organized in 1879, has a faculty of 25 professors and 9 lecturers and assistants, a total of 34. St. Joseph's Hospital, with a capacity of 250 patients; Hope Hospital, with 200 beds; St. Roche's Hospital, having accommodation for 35 patients; Indiana School for Feeble-Minded Youth and Allen County Orphan Asylum, capable of holding 150 children, supply the clinical facilities. This school is a member of the Association of American Medical Colleges. The curriculum covers four years of seven months each. The course is practical, supplemented by lectures and laboratory work. The total fees for each year are $75, with an additional $5 matriculation fee, payable once. The Dean is Dr. C. B. Stemen, 715 Broadway. Total registration, 1902-3, was 46; graduates, 5. The next session opens Sept. 8, 1903, and closes April 22, 1904.

IOWA.

Iowa, population 2,231,853, contains five medical colleges. The College of Medicine of the State University of Iowa and the College of Homeopathic Medicine of the State University of Iowa are located in Iowa City (population 7,987). In Des Moines (population 62,139) is the Iowa College of Physicians and Surgeons. In Sioux City (population 33,111) is the Sioux City College of Medicine. In Keokuk (population 15,641) is Keokuk Medical College, College of Physicians and Surgeons. Board and lodging may be had in Des Moines for $15 a month and upward and in the other cities named for from $2.50 to $5 per week.

Iowa City.

College of Medicine of the State University of Iowa.—This department was organized in 1870. The faculty is made up of 13 professors, 26 lecturers, demonstrators and assistants, a total of 39. The University Hospital, built in 1897 at a cost of $50,000, supplies the clinical material. The school is a member of the Association of American Medical Colleges. The course of study covers four years of thirty-six weeks each, embracing graded laboratory, didactic and clinical work. Combined courses leading to more than one degree are offered. Total fees for each year are $65. The Dean is Dr. James R. Guthrie, Dubuque. Total number of students registered for 1902-3 was 251; graduates, 35. The thirty-fourth session opens Sept. 24, 1903, and ends June 15, 1904.

College of Homeopathic Medicine of the State University of Iowa.—This was organized in 1877. The faculty is composed of 10 professors and 10 lecturers and assistants, a total of 20, but some of these are of the faculty of the College of Medicine. The requirements for admission, and the work, with the exception of that pertaining to homeopathy, are the same as those for the other department. The fees are also the same. The Dean is Dr. George Royal, Des Moines. Total registration for 1902-3 was 35; graduates, 11. The twenty-seventh session begins in September, 1903, and will end in June, 1904.

Des Moines.

The Iowa College of Physicians and Surgeons.—This, the Medical Department of Drake University, was organized in 1882. The faculty contains 16 professors and 16 assistants, a total of 32. Mercy and Methodist hospitals furnish clinical material and attendance on clinics is required the same as on lectures. The requirements for admission are those determined by the Association of American Medical Colleges, of which association this college is a member, and by the Iowa State Board of Medical Examiners. Instruction is given by means of lectures, recitations, demonstrations, laboratory work and hospital clinics. The work covers a graded course of four years of nine months each. The total fees for the first two years are $80 each, and for the last two years, $75 each. The Dean is Dr. D. S. Fairchild. The total registration for 1902-3 was 66; graduates, 11. The twenty-second session begins Sept. 14, 1903, and ends June 16, 1904.

Sioux City.

Sioux City College of Medicine.—This school was organized in 1891. The faculty numbers 15. Clinical material is supplied by St. Joseph's, Mercy and Samaritan Hospitals and a college dispensary. This college is a member of the Association of American Medical Colleges. The system of study embraces a four year graded course, eight months being a school year. Final examinations are held at the close of each course of instruction. Matriculation fee, paid but once, $5; tuition, each year, $48; hospital fee, $5, and graduating fee, $20. The Secretary is Dr. J. N. Warren. Total number of students registered, 1902-3, was 72; graduates, 13. The fourteenth session opens Sept. 8, 1903, and will close May 4, 1904.

Keokuk.

Keokuk Medical College, College of Physicians and Surgeons.—In 1849 the College of Physicians and Surgeons, Keokuk, was organized and four years later it became the Medical Department of the University of Iowa, continuing as such until 1870 when the original name was resumed. By the union, in 1899, of this college with the Keokuk Medical College, organized in 1890, the present school under the above name was founded. The clinical material is good. St. Joseph's Hospital is open to the student for study and the clinics held there are large and varied. The faculty is composed of 17 professors and 5 assistants and demonstrators, 22 in all. This college is a member of the Association of American Medical Colleges. The studies embrace a graded course of four years of seven months each. The total fees for the first year are $63; for the second and third, $58 each, and $53 for the last year. The Secretary is Dr. C. E. Ruth. Total registration for 1902-3 was 243; graduates, 56. The next session begins Sept. 15, 1903, and ends April 19, 1904.

KANSAS.

Kansas, population 1,470,495, has three medical colleges: Kansas Medical College is in Topeka (population 33,608), and the College of Physicians and Surgeons in Kansas City (population 55,000). In addition, there is a school which does not grant degrees, but prepares students in the first two years. This is the Medical School of the University of Kansas, at Lawrence, a town of 10,862 people. Board and lodging in all these places may be had for $3 to $5 per week.

Lawrence.

SCHOOL OF MEDICINE OF THE UNIVERSITY OF KANSAS.—This school does not confer the degree of Doctor of Medicine. It was organized in 1880. The faculty numbers 18. This school is a member of the Association of American Medical Colleges. Only the purely scientific subjects are taught, but the work in these is thorough, seventy-two weeks being devoted to the two-year course. The greater part of the work is in the laboratory, with recitations and assigned readings, the lectures being supplementary only. For this reason the equipment and arrangement of the laboratories have been given special attention. A combined course of four years is offered, conferring "the degree of bachelor of arts in medicine." The total fees to residents of the state are: First year, $35; second, $30; to non-residents of the state, $60 and $50. The Acting Dean is Dr. C. E. McClung. The number of students registered for 1902-3 was 31. The next session begins September, 1903, and will end June, 1904.

Topeka.

KANSAS MEDICAL COLLEGE.—This college, organized in 1890, has a faculty of 25 professors and 8 lecturers and assistants, 33 in all. Good material for both medical and surgical clinics is found in Christ's Hospital, with 100 beds, and Topeka State Hospital; the dispensary in the college building also supplies material for class demonstration. The college is a member of the Association of American Medical Colleges. The college building affords ample laboratory and lecture-room space. The course of study is a graded one covering four years of 30 weeks each. Individual instruction is especially aimed at. The total fees for the first three years are $70 each, and $30 for the last year. The Dean is Dr. John E. Minney. The total registration for 1902-3 was 101; graduates, 12. The fourteenth session begins Sept. 16, 1903, and will close April 14, 1904.

Kansas City (Kansas).

COLLEGE OF PHYSICIANS AND SURGEONS.—This was organized in 1894 as the Medical Department of Kansas City University. The faculty is made up of 29 professors, 13 lecturers and assistants, a total of 42. Bethany Hospital, with 60 beds; St. Margaret's Hospital, a college dispensary and an outside obstetric department supply clinical material. Practical demonstration and bedside teaching is emphasized in the work. The requirements for admission are in accordance with the rules of the Association of American Medical Colleges. The course of study is a graded one of four years, seven months each. A scholarship is offered for $175, but taken separately the total fees for the first three years are $60 each, and for the fourth year, $50; matriculation fee, $5, payable once. The Dean is Dr. J. W. May. The total registration of students for 1902-3 was 52; graduates, 10. The tenth session opens September, 1903, and will close March, 1904.

KENTUCKY.

Kentucky, population 2,147,174, has seven medical colleges. They are all situated in Louisville, a city of about 225,000 inhabitants, and are as follows: University of Louisville Medical Department, Kentucky School of Medicine, Louisville Medical College, Hospital College of Medicine, Southwestern Homeopathic Medical College, Kentucky University Medical Department, and Louisville National Medical College. Board and lodging in Louisville cost from $3 to $4 per week.

Louisville.

UNIVERSITY OF LOUISVILLE MEDICAL DEPARTMENT.—This school was organized in 1837, under the name, Louisville Medical Institute, and in 1846 assumed its present title. It has a faculty of 11 professors, 26 lecturers, demonstrators, etc., a total of 37. The University Hospital, City Hospital, Sts. Mary and Elizabeth Hospital, together with the college dispensary, furnish good clinical material. This school is a member of the Association of American Medical Colleges. The course covers graded work for four years of six months each. There are two six months' courses in the year; one course runs from Sept. 21, 1903, to April 1, 1904; the other runs from Jan. 1, 1904, to July 1, 1904. Total fees: First year, $107; second, $122; third, $100, and fourth, $112. The Dean is Dr. J. M. Bodine. Total registration for 1902-3 was 227; graduates, 34. The sixty-seventh session begins Sept. 21, 1903.

KENTUCKY SCHOOL OF MEDICINE.—This school was organized in 1850, and has a faculty composed of 20 professors, 19 lecturers, instructors and assistants, a total of 39. The College Hospital, City Hospital and the college dispensary furnish the facilities for clinical study. The student is brought directly into contact with the patient through dispensary and bedside work by dividing the classes into sections. This college is a member of the Association of American Medical Colleges. The laboratories and their equipment are good. The curriculum embraces a four years' course of 28 weeks each. The fees for the first two years are $120 each; for the third year, $100, and $90 for the fourth year. The Dean is Dr. W. H. Wathen, 628½ Fourth Ave. Total number of students registered for 1902-3 was 290; graduates, 56. The next session begins Jan. 1, 1904, and will end July 15, 1904.

LOUISVILLE MEDICAL COLLEGE.—This school was organized in 1869 and has a faculty of 11 professors and 11 instructors and assistants, 22 in all. The City Hospital, College Infirmary and a dispensary offer good clinical facilities. Applicants for admission must show by diploma, certificate or examination that they are sufficiently proficient in English, arithmetic, algebra, physics and such Latin as would be acquired in one year's study. The laboratories and lecture rooms are ample. The course of study covers four years of six months each. The fees for the first three years are $100 each; for the fourth, $90. The Secretary is Dr. Irvin Abell. Total registration for 1902-3 was 257; graduates, 53. The next session opens Sept. 21, 1903, and closes March 31, 1904.

HOSPITAL COLLEGE OF MEDICINE.—This school is the medical department of Central University of Kentucky and was organized in 1873. The faculty is composed of 9 professors and 35 assistants, lecturers, etc., a total of 44. The Gray Street Infirmary, City Hospital and a well-equipped college dispensary present good facilities for clinical study. This college is a member of the Association of American Medical Colleges. Laboratory work, which is a prominent feature of the course, is thorough and practical. The laboratories and amphitheaters are ample in equipment and capacity, and the hospital advantages give opportunity for personal bedside instruction. The course covers four years of six months each. Total fees for each of first two years, $120; for the third year, $85, and $125 for the fourth year. The Dean is Dr. P. Richard Taylor. Total enrolment for 1902-3 was 421; graduates, 69. The thirtieth session opens Jan. 1, 1904, and closes July 1, 1904.

KENTUCKY UNIVERSITY MEDICAL DEPARTMENT.—This school was organized in 1898. The faculty is composed of 14 professors, 19 lecturers, demonstrators, etc., 33 in all. Broadway Infirmary, the City Hospital and a college dispensary furnish clinical material. The school is a member of the Association of American Medical Colleges. The buildings provide ample facilities for clinical, laboratory and didactic instruction. The course of study embraces graded work for four years of at least twenty-six weeks each. The calendar year is divided into four quarters of thirteen weeks each. Two quarters constitute a college year. Fees are $25 per quarter. The Dean is Dr. Thomas C. Evans, 419 W. Chestnut St. Total number of students registered in 1902-3 was 330; graduates, 57. The next session opens Oct. 1, 1903.

SOUTHWESTERN HOMEOPATHIC MEDICAL COLLEGE.—This college was organized in 1892 and has a faculty of 18 professors and 12 lecturers and assistants, 30 in all. A college dispensary supplies clinical material. The curriculum covers four years of seven months each. Total fees: First and second years, $80; third, $70, and $65 for the fourth. The Dean is Dr. A. L. Monroe. Total number of students for 1902-3 was 22; graduates, 5. Next session opens Sept. 29, 1903, and closes April 26, 1904.

LOUISVILLE NATIONAL MEDICAL COLLEGE.—Colored. This was chartered in 1888 and shows a teaching force of 19. There is a four-year course, seven months to the year; the fees are $58, $58, $55 and $50 for the four years respectively. The Dean is Dr. W. A. Burney. The attendance, 1902-3, was 26; graduates, 4. The next session opens Oct. 6, 1903, and ends about May 10, 1904.

LOUISIANA.

Louisiana, having a population of 1,381,625, contains two medical colleges: Medical Department of the Tulane University of Louisiana and New Orleans University. They are both situated in New Orleans, a city of 287,104 people. The cost of room and board is from $16 to $22 a month.

New Orleans.

MEDICAL DEPARTMENT OF THE TULANE UNIVERSITY OF LOUISIANA.—This school was organized in 1834 as the Medical College of Louisiana, and became, by law, in 1847, the Medical Department of the University of Louisiana, and in 1884 the Medical Department of the Tulane University of Louisiana. The faculty and all other instructors number 41. By acts of legislature the Charity Hospital, with its 900 beds, has been opened to the students of this school for clinical study, not only in medicine and surgery, but also in obstetrics and gynecology. In the year 1902 there were 8,793 cases treated in the wards of this hospital; these were indoor patients, and, in addition, 21,129 outdoor patients were treated in the free dispensary department. The Milliken Memorial Hospital, with a capacity for 200 children, is also available for study of clinical cases. Bedside instruction is given by the attending physicians to these hospitals, and postmortem examinations are held before the students. This college is a member of the Southern Medical College Association. The laboratories are large and well equipped, and the lecture rooms and recitation rooms are ample. The course of study covers four years of twenty-eight weeks each. Total fees for the first two years are $135 each, and for the third and fourth, $145 and $165 respectively. The Dean is Dr. Stanford E. Chaille, New Orleans. The total number of medical students registered for 1902-3 was 405; graduates, 82. The seventieth session begins Oct. 22, 1903, and will close May 4, 1904.

FLINT MEDICAL COLLEGE OF NEW ORLEANS UNIVERSITY.—Colored. This school was organized in 1889. The faculty is made up of 9 professors, 4 lecturers and instructors, 13 in all. Clinical material is supplied by the Sarah Goodridge Hospital and by an outdoor clinic. This college is a member of the Association of American Medical Colleges. The curriculum covers a graded course of four years, thirty weeks each. The laboratories and lecture rooms are ample. Examinations are held monthly. Total fees for the first, second and third year are $40 each, and $50 for the last year. The Dean is Dr. H. J. Clements, New Orleans. Total enrolment for 1902-3 was 42; graduates, 5. The fifteenth college year begins Sept. 1, 1903, and will end March 18, 1904.

MAINE.

Maine, population 694,466, has one medical college, located in Portland, population 50,000. Board and lodging cost from $3 to $5 a week.

Portland.

MEDICAL SCHOOL OF MAINE.—This, the Medical Department of Bowdoin College, was organized in 1820. It has 13 professors and 5 instructors, total 18. Students of the first and second years are instructed in Brunswick, a town with 6,800 inhabitants. The third

and fourth year classes are taught in Portland, where are situated the Maine General Hospital and other clinical advantages. Applicants for admission, unless they possess a diploma, are examined in English, arithmetic, algebra, geometry, United States history, physics, chemistry and Latin. The course covers four years of twenty-six weeks each. The total fees are $120 for the first year; for the second and third, $110, and $110 for the fourth year. The Dean is Dr. Alfred Mitchell, Brunswick. Total number of students in 1903, 100; graduates, 20. The next session opens Dec. 23, 1903, and closes June 23, 1904.

MARYLAND.

Maryland, with a population of 1,188,044, contains eight medical colleges, all located in Baltimore, a city with 508,957 inhabitants. They are as follows: School of Medicine of the University of Maryland, College of Physicians and Surgeons, Baltimore University School of Medicine, Baltimore Medical College, Woman's Medical College, Southern Homeopathic Medical College, Johns Hopkins Medical School and Maryland Medical College. The Bay View Hospital, having a capacity for 2,000 patients, is open to students for clinical instruction, and furnishes good opportunities for practical demonstrations. Board and lodging can be obtained for from $3 to $5 per week.

Baltimore.

SCHOOL OF MEDICINE OF THE UNIVERSITY OF MARYLAND.—This institution was organized in 1807 as the College of Medicine of Maryland, and in 1812, other faculties having been added, the whole was chartered under the name of the University of Maryland. The faculty is composed of 11 professors, 44 associates and lecturers, etc., a total of 55. The University Hospital, a part of which is used for a hospital for foreign seamen and another portion for a free city hospital, offers excellent clinical facilities. Besides this, the Presbyterian Eye, Ear and Throat Charity Hospital, in which 10,820 patients were treated in 1901; the Hospital for the Relief of Crippled and Deformed Children, containing 40 beds; the Maternity Hospital, and a college dispensary furnish material for clinical study. This school is a member of the Association of American Medical Colleges. The laboratories and lecture-rooms are ample and well equipped. The fourth-year class, divided into sections, receives special training in practical laboratory work in a well-appointed clinical laboratory. Didactic, laboratory and clinical instruction, special attention being paid to bedside work, make up the system of teaching. The course covers four years of seven and a half months each, and is graded. The total fees for the first two years are $120 each; for the third year, $110, and $140 for the final year. The Dean is Dr. R. Dorsey Coale, Baltimore. The total number of students registered in 1902-3 was 392; graduates, 96. The ninety-seventh session begins Oct. 1, 1903, and will terminate May 15, 1904.

COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.—This school was organized in 1872, and in 1878 Washington University School of Medicine, established in 1827, was consolidated with it. The faculty numbers 49. The clinical facilities, besides those afforded in common with other schools, are supplied by the Baltimore City Hospital; the Hospital for the Colored Race, containing 100 beds; the Nursery and Child's Hospital, with 150 beds; the Maryland Lying-in Asylum, and a college dispensary. This school is a member of the Association of American Medical Colleges. The work covers a graded course of four years, seven months constituting a year. Total fees are $115, $110, $110 and $130 for the respective years. The Dean is Dr. Thomas Opie. The total number of students registered in 1902-3 was 315; graduates, 76. The next session opens Oct. 1, 1903, and closes May 1, 1904.

BALTIMORE MEDICAL COLLEGE.—This college was organized in 1881, and has a faculty of 31. The clinical material is furnished by the Maryland General Hospital, having a capacity of 200 beds; the Maryland Lying-in Hospital, the Mount Hope Retreat, which presents good opportunity for the study of nervous and mental diseases, and a college dispensary, which, besides the great number of ambulatory patients treated, has an outdoor department that permits of the advanced student taking care of charity cases and carrying out his own treatment. This college belongs to the Association of American Medical Colleges. The college buildings afford ample laboratory, clinical and lecture-room space. Bedside teaching in the hospital wards is carried on in sections and every member of the senior class is required to attend throughout the session. The course of study is graded and covers four years of seven months each. The Dean is Dr. David Streett. The total number of students registered in 1902-3 was 410; graduates, 93. The twenty-third session opens September, 1903, and closes April, 1904.

WOMAN'S MEDICAL COLLEGE.—This school was organized in 1882 and has a faculty of 18 professors, 9 associates, assistants and lecturers, a total of 27. The Hospital of the Woman's Medical College and a college dispensary furnish general clinical material, while abundant special material is furnished by the Presbyterian, Eye and Ear and the Sheppard and Enoch Pratt Hospital (for mental cases). The college is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are equipped with all necessary apparatus; the practical work is emphasized. Eight months constitute a school year, and the course covers graded work for four years. The total fees for the first three years are $106 each, and $81 for the last year, with $30 graduation fee. The Dean is Dr. R. H. Thomas, 1718 John St. Total number registered for 1902-3 was 16; graduates, 2. The twenty-second session opens Oct. 1, 1903, and closes May 27, 1904.

BALTIMORE UNIVERSITY SCHOOL OF MEDICINE.—This school, organized in 1884, has a faculty of 10 professors and 25 lecturers, demonstrators, etc., in all 35. The Baltimore University Hospital, Lying-in Hospital and the clinical material used in common with the other schools, supply the facilities for practical work. This college is a member of the Association of American Medical Colleges. The course is four years of six months each. The fees are about $100 each year. The Dean is Dr. Hampson H. Biedler, 119 W. Saratoga St. Total registration for year 1902-3 was 58; graduates, 26. The twentieth session opens October, 1903, and closes April, 1904.

JOHNS HOPKINS MEDICAL SCHOOL.—This is the Medical Department of Johns Hopkins University and was organized in 1893. The faculty comprises 29 professors, 45 lecturers and assistants, a total of 74. The Johns Hopkins Hospital and Dispensary furnishes abundant and varied clinical material; the lying-in department of the hospital, opened in 1896, is in successful operation. The requirements for admission demand that the applicant either has, (*a*) completed the chemical-biologic course which leads to the A.B. degree in the university; (*b*) graduated at an approved college or scientific school, and can furnish evidence of an acquaintance with Latin and a fair reading knowledge of French and German, and such knowledge of physics, chemistry and biology as above indicated. If the candidate is unable to show this, he must pass a satisfactory examination covering the ground. The school is a member of the Association of American Medical Colleges. The laboratories are large, well lighted and well equipped. The buildings are ample and built expressly for the purpose for which they are used. In the method of instruction special emphasis is laid on practical work in the laboratories, dispensary and in the wards of the hospital. The first two years are devoted to practical work in the laboratories, combined with demonstrations, recitations and lectures, and during the remainder of the course opportunity for the personal study of cases is given. The work covers a graded course of four years, eight and a half months to the year. Final examinations, partly written and partly oral, include practical tests in laboratory and clinical work; the general character of the student's work is closely watched. The charge for tuition is $200 per annum, with no fees unless a microscope is rented; that fee is $5 a year. The Dean is Dr. William H. Howell, 232 W. Lanvale St. Total registration in 1902-3 was 257; graduates, 49. The eleventh session begins Oct. 6, 1903, and ends June 15, 1904.

MARYLAND MEDICAL COLLEGE.—This school was organized in 1898, and has a faculty of 14 professors, 19 associates, lecturers, etc., 33 in all. The Franklin Square Hospital and a college dispensary furnish clinical material. The course of study covers four years of eight months each. A matriculation fee of $5 and total laboratory fees for the three years of $50 are charged; tuition is $75 each year. The Dean is Dr. J. Wm. Funck, 1631 Eutaw Pl. Total registration for 1902-3 was 204; graduates, 59. The sixth session begins Sept. 15, 1903, and closes in May, 1904.

SOUTHERN HOMEOPATHIC MEDICAL COLLEGE.—This school was organized in 1890, and has a faculty of 11 professors, 21 associates and lecturers, a total of 32. The clinical facilities are those offered by the Maryland Homeopathic Hospital, which has 55 beds, and the dispensary; the obstetric department also furnishes clinical material. Applicants for matriculation must pass a satisfactory examination in English, arithmetic, geography, history, and Latin, unless they possess satisfactory evidence that they have done a corresponding amount of work. The course covers graded work for four years, seven months to the year. The fees are $105 for the first year, $100 each for the second and third, and $130 for the last year; $350 in advance for the full four years' course. The Dean is Dr. George T. Shower, 421 Roland Ave. Total registration for 1902-3 was 26; graduates, 3. The thirtieth session begins Oct. 5, 1903, and ends May 4, 1904.

MASSACHUSETTS.

Massachusetts, population 2,805,346, has four medical colleges: Medical School of Harvard University, Boston University School of Medicine, College of Physicians and Surgeons, and Tuft's College Medical School. They are all situated in Boston, a city of 603,163 inhabitants. Board and lodging can be obtained for from $5 to $7 per week.

Boston.

MEDICAL SCHOOL OF HARVARD UNIVERSITY.—This was organized in 1782, and has a faculty of 26 professors, 112 associates and assistants, etc., a total of 138. Beside the clinical advantages mentioned, the Boston Lying-in Hospital, the Boston Dispensary, where 43,918 patients were treated last year; the Infants' Hospital, the Children's Hospital, Long Island Hospital, containing 250 beds, and the Marine Hospital, all furnish excellent opportunity to the student for clinical study. Students are also permitted to visit the Free Hospital for Women and Carney Hospital on application to the physicians on duty. Candidates for admission "must present a degree in arts, literature, philosophy or science from a recognized college or scientific school, with the exception of such persons, of suitable age and attainments, as may be admitted by special vote of the faculty in each case." Each candidate is required to hand in the original note-book in which he recorded the work performed by him in qualitative analysis, and also to pass a written examination in theoretical and descriptive chemistry. If conditioned in chemistry one year is allowed in which to remove the condition. The laboratories and lecture rooms offer ample facilities and the equipment is good; special facilities are open to those desiring to pursue advanced or original work. The course of study covers four years of nine months each; the course is graded, and each correlated group as taken up presents sufficient variety to avoid monotony. A series of written, oral and practical examinations are distributed throughout the course of study. Fees: Matriculation, $5; $200 each year. The Dean is Dr. William L. Richardson, 688 Boylston St. The total registration for 1902-3 was 432; graduates, 114. The 122d session begins Oct. 1, 1903, and ends June 24, 1904.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1880, and has a faculty of 24 professors, and 15 lecturers and assistants, a total of 39. Clinical facilities are furnished by the North End Hospital and Dispensary, Union General Hospital, and the city and state institutions. This school is a member of the Association of American Medical Colleges. The course of study covers graded work for four years of eight months each. The total fees for the first year are $100, and for each of the other years about $110, with a graduation fee of $30. The Registrar is Dr. John H. Jackson, 155 Franklin St., Fall River. Total students registered 1902-3, 117; graduates, 19. The twenty-fourth session begins Sept. 25, 1903, and ends June, 1904.

TUFTS COLLEGE MEDICAL SCHOOL.—This school was organized in 1893 as the Medical Department of Tufts College. It has a faculty of 28 professors, 46 assistants and lecturers, etc., a total of 74. Clinical material is furnished by the Boston City Hospital, Massachusetts Charitable Eye and Ear Infirmary, Free Home for Consumptives, Free Hospital for Women, Boston Dispensary, Cambridge Hospital, St. Elizabeth's Hospital, Carney Hospital and the college dispensary; the student has also the advantages derived from an out-department in connection with the Boston Dispensary. "Graduates of a high school, college or university, and students having certificates of entrance to a college or university, or holding the State of New York Regents' certificate," also certain approved preparatory school graduates, are admitted without examination; all others must pass an examination in English, Latin, physics and mathematics, including arithmetic, elementary algebra and plane geometry. The laboratories and lecture rooms are ample in their equipment and capacity. Teaching is carried on by means of lectures, recitations and practical work in the laboratories and clinics; frequent examinations are held during a course and a final examination on completing the subject. Graded instruction covering four years of eight months each makes up the full course. The total fees are $125 each year; dissecting material is furnished at cost. The Dean is Dr. Harold Williams, 528 Beacon St. Total number of students for 1902-3 was 349; graduates, 35. The eleventh session begins October, 1903, and ends June, 1904.

BOSTON UNIVERSITY SCHOOL OF MEDICINE.—Homeopathic. This school was organized in 1873; in 1874 the New England Female Medical College, founded in 1848, was merged into it. The faculty includes 23 professors, 35 associates and assistants, etc., a total of 58. Clinical material is furnished by the Massachusetts Homeopathic Hospital, containing 225 beds, a dispensary, a maternity hospital, and the Westborough Insane Hospital; 800 patients. Candidates who have taken their degree in arts, philosophy or science are not examined; all others are examined in English, Latin, French or German or history, mathematics, physics and chemistry. The instruction is graded and covers a period of four years, eight months each. Total fees for the first year are $105; for the second and third, $125 each, and for the last year, $155. The Dean is Dr. John P. Sutherland, 295 Commonwealth Ave. Total registration for 1902-3 was 127; graduates, 36. The thirty-first session opens Oct. 8, 1903, and closes June 1, 1904.

MICHIGAN.

Michigan, population 2,420,982, has six medical colleges. Two of these, University of Michigan Department of Medicine and Surgery and the Homeopathic College of the University of Michigan, are located at Ann Arbor, a city of 14,509 people. Board and lodging cost from $2.50 to $5 a week. Detroit, a city of 300,000 inhabitants, contains three medical colleges, as follows: Detroit College of Medicine, Detroit Homeopathic College and the Michigan College of Medicine and Surgery. Board and room can be obtained for $3 a week and upward. Grand Rapids Medical College is located in Grand Rapids, population 87,565. Room and board cost from $3 to $3.50 a week.

Ann Arbor.

UNIVERSITY OF MICHIGAN, DEPARTMENT OF MEDICINE AND SURGERY.—This was organized in 1850, and has a faculty composed of 17 professors, 50 associates, instructors, etc., a total of 67. The University Hospital, with nearly 200 beds, furnishes the clinical facilities. The requirements for admission provide that the applicant, either by certificate or examination, show a sufficient knowledge of the following: English grammar, rhetoric and composition; United States and general history; algebra, through quadratics, plane and solid geometry and plane trigonometry; physics, biology and chemistry, these subjects to be accompanied by laboratory work; German or French and Latin. The laboratories and their equipment are good, and the training in them and in didactic work is thorough. The new medical building accommodating the laboratories of hygiene, bacteriology, physiologic chemistry, pathology, histology, embryology and anatomy is now completed and occupied. This school is a member of the Association of American Medical Colleges. The curriculum embraces four years of nine months each. A combined course leading to degrees in both arts and medicine in six years is offered. The total fees for Michigan students for the entire course of four years is about $300, and for others $350. The Dean is Dr. Victor C. Vaughan. Total registration for 1902-3 was 455; graduates, 92. Next session begins Sept. 29, 1903, and will end June 23, 1904.

HOMEOPATHIC COLLEGE, UNIVERSITY OF MICHIGAN.—This department of the University was organized in 1875 and has a faculty of 18 professors and 12 assistants, total 20; a part of the teaching force is from the other departments of the University. The Homeopathic Hospital, containing 140 beds, furnishes material for clinical teaching. The course covers four years of nine months each. The total fees for Michigan students are about $240 for the four years, and for other students about $295. The Dean is Dr. W. B. Hinsdale. Total enrolment for 1902-3 was 76; graduates, 13.

Detroit.

DETROIT COLLEGE OF MEDICINE.—This school was formed in 1885 by the union of Detroit Medical College, organized in 1868, and the Michigan College of Medicine, established 1880. The faculty embraces 21 professors, 50 lecturers, instructors, etc., a total of 71. Clinical facilities are offered by the following hospitals: St. Mary's and Harper, each of which contain a free disepnsary; Woman's, St. Luke's, the Children's Free Hospital and the House of Providence. This school is a member of the Association of American Medical Colleges. The course covers four years of seven months each. The work includes laboratory, didactic and clinical study. Fees: Matriculation, paid once, $5; tuition, each term, $65; hospital and laboratory tickets, each $10, and diploma fee $30. The Secretary is Dr. H. O. Walker. Total enrolment for 1902-3 was 257; graduates, 62. The next session begins Sept. 23, 1903, and will close May 5, 1904.

MICHIGAN COLLEGE OF MEDICINE AND SURGERY—SAGINAW VALLEY MEDICAL COLLEGE.—These two schools, organized in 1888 and 1896 respectively, have just been consolidated to continue on the site of the former. The faculties numbered 36 and 30 and are combined. Clinical facilities are offered by a college dispensary, the Emergency Hospital and Detroit Eye and Ear Infirmary. This school is a member of the Association of American Medical Colleges. The course covers graded work for four years of seven months each. The fees are about $80 to $95 per year; third year $70 and $95 for the fourth year. The Dean is Dr. Hal. C. Wyman, 46 W. Adams Ave., Detroit. In the perfecting of the consolidation some of these details may be changed. Total registration for 1902-3 of the Michigan College of Medicine and Surgery was 66; graduates, 19; of the Saginaw Valley Medical College, 83; graduates, 34. The next session begins Sept. 29, 1903, and will end May 1, 1904.

DETROIT HOMEOPATHIC COLLEGE.—This was organized in 1899, and has a faculty of 35. Grace Hospital and a college dispensary are available for study of clinical cases. Unless possessing certificates of an equal amount of work completed, applicants for admission will be examined in English, arithmetic, history, geography and elementary Latin. The course embraces work for four years of seven months each. Fees: From $70 to $90 per year. The Dean is Dr. D. A. MacLachlan. Total enrolment for 1902-3 was 52; graduates, 14. The next session begins September, 1903, and will close April, 1904.

Grand Rapids.

GRAND RAPIDS MEDICAL COLLEGE.—This was organized in 1897. The faculty is made up of 28 professors and 3 assistants, in all 31. Clinical cases in the U. B. A., St. Mary's, and Woman's Butterworth hospitals, and St. John's Orphan Asylum and a college dispensary are available for study. The course is four years of six months each. The total fees are about $65 for each year. The Dean is Dr. C. H. White. Total enrolment for 1902-3 was 52; graduates, 16. Next session opens Oct. 1, 1903, and closes June 1, 1904.

MINNESOTA.

Minnesota, population 1,751,394, contains three medical colleges: Hamline University College of Medicine, and the two medical departments of the University of Minnesota, viz., the College of Medicine and Surgery and the College of Homeopathic Medicine and Surgery. They are all situated in Minneapolis, a city with a population of 225,000. The various hospitals of Minneapolis furnish ample clinical material, and owing to the proximity to St. Paul, the clinical advantages of that city are Medicine and Surgery. They are all situated in Minneapolis, available. The average cost of board and lodging is $20 a month.

Minneapolis.

COLLEGE OF MEDICINE AND SURGERY.—This department of the University of Minnesota was created in 1883, but at that time its only function was to examine for the degrees of B.M. or M.D. In 1888, by the consolidation and absorption of the Minnesota Hospital Medical College and the St. Paul Medical College, its present status was assumed. The faculty is composed of 31 professors and 53 instructors and assistants, a total of 84. The medical school occupies five buildings, and its laboratories are excellent. The last legislature made an appropriation of $105,000 for an additional laboratory of pathology and bacteriology. Eight large hospitals in the Twin Cities, beside the University dispensary and St. Paul dispensary, afford an abundant supply of material for clinical study. The curriculum covers four years of nine months each, and the work is carefully graded. The entrance requirement of one year of university, in addition to four years of high school work, limits the number of students, but assures a high standard of the student body. Total number of students registered in 1902-3 was 315; graduates, 70. Total fees for each year, $100. The Dean is Dr. Parks Ritchie. The next session opens Sept. 1, 1903, and closes June 2, 1904.

COLLEGE OF HOMEOPATHIC MEDICINE AND SURGERY.—This is a department of the University of Minnesota and was organized in 1888. The faculty comprises 19 professors and 14 assistants, 33 in all. The primary branches are taught by the professors of the College of Medicine and Surgery. The course is graded, extending over four years of nine months each. The total fees for the first two years are $100 each, and $80 each for the last two years. The Dean is Dr. Eugene L. Mann. Total number of students registered in 1902-3 was 18; graduates, 6. The next session opens Sept. 1, 1903, and closes June 2, 1904.

HAMLINE UNIVERSITY COLLEGE OF MEDICINE.—This was organized in 1883. Its faculty is composed of 23 professors, 17 instructors and assistants, a total of 40. The laboratories and lecture rooms are large, well lighted and supplied with all the necessary equipment. Clinical work is offered to the student in City Hospital, Asbury Methodist Hospital, Swedish, St. Barnabas' and St. Mary's hospitals in Minneapolis, Bethesda Hospital, City and County, and St. Joseph's, in St. Paul, and the college dispensary. This school belongs to the Association of American Medical Colleges. The course of study covers graded work for four years, nine months making a year. Total fees, first year, $85; second year, $87.50, and for each of the last two, $80. The Dean is Dr. George C. Barton. Total number of students 1902-3 was 123; graduates, 34. The next session begins Sept. 15, 1903, and ends June 8, 1904.

MISSOURI.

Missouri, population 3,106,665, has fifteen medical colleges. St. Louis, population 575,238, contains six of these, viz.: St. Louis College of Physicians and Surgeons, American Medical College, Homeopathic Medical College of Missouri, Marion-Sims-Beaumont College of Medicine, Washington University

Medical Department, and Barnes Medical College. Board and lodging can be procured for from $3.50 to $5 a week. Kansas City, with 163,752 inhabitants, has six colleges, namely: Kansas City Medical College, University Medical College, the Hahnemann Medical College of Kansas City, Woman's Medical College, Medico-Chirurgical College and Eclectic Medical University. Room and board can be obtained in this city for from $3 to $5 a week. Ensworth Medical College and Central Medical College are located in St. Joseph, population 105,000; board and room can be had for from $3.50 to $5 a week. Department of Medicine of the University of Missouri is at Columbia, a town of 5651. Board and lodging can be obtained at Columbia for from $2 to $5 a week.

St. Louis.

ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1878, and has a faculty of 23 professors, 26 lecturers, instructors, etc., a total of 49. The resources for clinical instruction are Jefferson Hospital, which is open to students of this college only; City Hospital, with 600 beds; Female Hospital, having 250 beds; City Insane Asylum; City Poorhouse, and the college dispensary. This college is a member of the Association of American Medical Colleges. The laboratory and lecture-room space and the equipment are ample. The course of study covers four years of seven months each, and is graded. Total fees for the first year are $70; second, $65; third, $60, and $75 for the fourth year. The Dean is Dr. Waldo Briggs, 2600 Gamble St. Total number of students registered, 1902-3, was 270; graduates, 62. The twenty-fifth session begins Sept. 16, 1903, and ends April 9, 1904.

MARION-SIMS-BEAUMONT MEDICAL COLLEGE.—By the union of Marion-Sims, organized in 1890, and Beaumont Hospital Medical College, organized in 1886, the present school was founded. It is the Medical Department of St. Louis University. The faculty is composed of 40 professors, 55 lecturers and assistants, a total of 95. Clinical facilities are offered by Alexian Brothers' Hospital, with 250 beds; Rebekah Hospital, having a capacity for 50 patients; Josephine Hospital, 50 beds; Mt. St. Rose Throat and Chest Hospital, 150 beds; Good Samaritan Hospital, 50 beds; St. Mary's Infirmary, containing 150 beds; the City Hospital and Insane Asylum, each with a capacity of 600 patients. Grand Avenue Dispensary also furnishes good material for practical instruction. This school is a member of the Association of American Medical Colleges. The buildings afford ample laboratory and lecture-room space and they are well equipped. The course of study embraces laboratory and clinical instruction, with recitations and lectures. The curriculum covers four years of seven months each. The total fees for the first year are $80; for the second and third, $75 each, and $100 for the fourth. The Secretary is Dr. H. W. Loeb, 3559 Olive St. Total number of students registered for 1902-3 was 391; graduates, 88. The next session opens Oct. 1, 1903, and closes May 1, 1904.

WASHINGTON UNIVERSITY MEDICAL DEPARTMENT.—This school was organized in 1891 from the St. Louis Medical College, which was founded in 1842. In 1899 the Missouri Medical College, organized in 1840, was added. The faculty comprises 39 professors, 22 lecturers and instructors, a total of 61. Clinical material is furnished by the St. Louis Mullanphy Hospital, Polyclinic Hospital, Bethesda Hospital and O'Fallon's Dispensary. In addition to these, the City Hospital, Female Hospital, Insane Asylum and Poorhouse are used in common with the other schools. The requirements for admission are higher than those of the Association of American Medical Colleges. The college buildings, of which there are two, furnish the best laboratory and lecture-room facilities. The course is four years of seven and one-half months each, and the system of study embraces laboratory, didactic and clinical teaching. The total fees for the first year are $121; second, $105, and for the third and fourth years, $100 each. The Dean is Dr. Robert Luedeking. Total registration of students for 1902-3 was 281; graduates, 53. The next session opens Sept. 24, 1903, and closes May 19, 1904.

BARNES MEDICAL COLLEGE.—This school was organized in 1892, and has a faculty of 24 professors and 20 lecturers and assistants, a total of 44. The clinical advantages are those offered by Centenary Hospital, with 150 beds; City Hospital, the college dispensary and the outdoor obstetrical department. This college is a member of the Association of American Medical Colleges. The laboratories are well equipped and other facilities ample. The course of study includes graded work for four years of seven months each. The total fees for the first three years are $75 each, and $85 for the fourth year. The Secretary is Dr. Pinckney French, Century Bldg. Total registration for 1902-3 was 495; graduates, 100. The twelfth session opens Sept. 7, 1903, and closes April 21, 1904.

AMERICAN MEDICAL COLLEGE.—Eclectic. This was organized in 1873, and has a faculty of 9 professors and 5 lecturers, etc., a total of 14. Metropolitan Hospital, containing 40 beds; St. Louis City Hospital, and a college dispensary supply ample clinical material. The requirements for admission are those of the National Federation of Eclectic Medical Colleges, of which this college is a member. The course of study covers four years of seven months each. The total fees are: Tuition $75 per year, dissecting material $5 per year for three years, final examination and graduation fee $25. Total registration for 1902-3 was 78; graduates, 18. The Dean is Dr. M. M. Hamlin, 2900 Lawton Ave. The next session opens Sept. 21, 1903, and closes April 13, 1904.

HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI.—This was organized in 1857, and has a faculty of 26 professors and 5 assistants, total 31. Clinical facilities are offered by the City Hospital, Children's Free Hospital and a college dispensary. The curriculum covers four years of seven months each. Fees: First year, $80; second, $75; third, $60, and $85 for the fourth year. The Dean is Dr. L. C. McElwee. Total registration for 1902-3 was 66; graduates, 13. The next session opens September, 1903, and closes April, 1904.

Kansas City.

KANSAS CITY MEDICAL COLLEGE.—This was established in 1869, and has a faculty of 19 professors, and 26 lecturers, demonstrators, etc., in all 45. The clinical facilities are those of St. Joseph's Hospital, which also contains an out-patient department; the City Hospital, Bethany Hospital, Scarritt Hospital, St. Anthony's Home for Children and the college dispensary. This college is a member of the Association of American Medical Colleges. The building is large and well equipped, the course is graded and the classes in practical work are divided into small sections and required to personally conduct series of obstetric, medical and surgical cases as a condition of graduation. The curriculum embraces four years of seven months each. The total fees for the first three years are $75 each, and $85 for the fourth. The Secretary is Dr. R. M. Schauffler, 302 Deardorff Bldg. Total registration for 1902-3 was 122; graduates, 24. The thirty-fifth session begins Sept. 9, 1903, and ends April 13, 1904.

UNIVERSITY MEDICAL COLLEGE.—This was organized in 1881 as the University of Kansas City Medical Department and in 1888 was reorganized under its present name. Its faculty comprises 21 professors and 25 lecturers and assistants, a total of 46. Clinical material is furnished by the University Hospital, owned by the college, with 200 beds; the City Hospital, German Hospital, Home for the Aged, containing 147 beds; the Sisters' Hospital, Scarritt and St. Margaret's hospitals, the Children's Home, St. Joseph's Orphan Asylum, and the college dispensary and obstetric department. Instruction is given by means of lectures, recitations, demonstrations and laboratory work and clinics. The school is a member of the Association of American Medical Colleges. The college building, which has been recently enlarged, furnishes ample accommodations for laboratories and lecture rooms. The course of study covers four years of seven months each, and the work is graded. The total fees for each of the first two years are $80, for the third $60, and $85 for the fourth year. The Dean is Dr. Samuel C. James, Bryant Bldg. The total number of students registered in 1902-3 was 222; graduates, 63. The twenty-third session begins Sept. 9, 1903, and ends April 27, 1904.

WOMAN'S MEDICAL COLLEGE.—This school was organized in 1895, and has a faculty composed of 44 professors, 6 lecturers and assistants, a total of 50. Material for clinical study and demonstration is furnished by St. Joseph's, Scarritt, German, Sisters', Agnew, St. Margaret's and City hospitals, and the college dispensary. The requirements for admission are those of the Association of American Medical Colleges. The course of study embraces graded work for four years of seven months each. The total fees for the first year are $68; second, $60; third, $55, and $80 for the fourth year. The Dean is Dr. Nannie P. Lewis, 1219 Wyandotte St. Total number of matriculants for 1902-3 was 16; graduates, 1. The ninth session opens Sept. 16, 1903, and closes March 24, 1904.

MEDICO-CHIRURGICAL COLLEGE.—This school was organized in 1897 as the Kansas City College of Medicine and Surgery of Kansas City, Kan., and was reorganized the following year under its present name. Its faculty embraces a total of 61. Clinical facilities are furnished by the hospitals of Kansas City, used in common by the medical colleges, and a college dispensary. The course covers four years of six months each. The fees are: For the first year, $70; second, $65; third, $55, and $75 for the fourth year. The Dean is Dr. George O. Coffin, 400 New Ridge Bldg. Total registration for 1902-3 was 83; graduates, 19. The next session opens September, 1903, and closes March, 1904.

KANSAS CITY HAHNEMANN MEDICAL COLLEGE.—This school was formed by the union of the Kansas City Homeopathic Medical College, organized in 1888, and the Kansas City University College of Homeopathic Medicine and Surgery. It has a faculty of 38. The City Hospital, Homeopathic Hospital, the Sanitarium, Scarritt, University, Women's and Children's, German, Bethany and Children's hospitals are open to its students for clinical study. The college dispensary and clinics also supply clinical material. Applicants for admission must show by diploma, certificate or examination that they have a sufficient knowledge of English, arithmetic, geography, United States history, and Latin equal to one year's work. The course covers four years of seven months each. The Dean is Dr. S. H. Anderson, 1214 Main St. Total registration for 1902-3 was 71; graduates, 17. The sixteenth session begins September, 1903, and closes April, 1904.

ECLECTIC MEDICAL UNIVERSITY.—This was organized in 1898, and has 22 in its faculty. The curriculum covers four years of six months each. Fees, about $70 each year, with a graduation fee of $15. The Dean is Dr. Theodore Doyle. Total students for 1902-3 was 61; graduates, 15. The next session begins Sept. 17, 1903, and ends March 25, 1904.

Columbia.

DEPARTMENT OF MEDICINE OF THE UNIVERSITY OF THE STATE OF MISSOURI.—This department was organized at Columbia in 1872. The faculty includes 12 professors, 20 assistants, lecturers, etc., a total of 32. Clinical facilities are supplied by the Parker Memorial State Hospital and the Boone County Infirmary. A new $40,000 building for the medical laboratories has just been completed and has excellent equipment. Special emphasis is laid on thorough training in the scientific branches which constitute the foundation of medicine. Four years' course, nine months each, carefully graded. The university offers also a combined course of six years, conferring degrees in both arts and medicine. The entrance requirements are a diploma from a good high school, or the full equivalent. There is no charge for tuition, the only expense being a library fee of $5 each year, and small laboratory fees. The Dean is Dr. A. W. McAlester. Total registration of students for 1902-3 was 98; graduates, 12. The next session opens September, 1903, and closes June 1, 1904.

St. Joseph.

ENSWORTH MEDICAL COLLEGE.—This was organized in 1888, and has a faculty of 22 professors and 12 lecturers and assistants, 34 in all. Ensworth Hospital, with 250 beds; City Hospital, containing 40 beds; the State Hospital No. 2, which is open to the students once a week, and a college dispensary furnish clinical material. Applicants for admission must show by certificate or examination that they possess a sufficient knowledge of English, arithmetic, algebra, physics and Latin equal to one year's instruc-

tion. The building furnishes ample laboratory and lecture-room facilities. The curriculum covers a graded course of four years of seven months each. The fees are about $55 each for the first three years, and $75 for the fourth year. The Dean is Dr. Jacob Geiger. Total enrolment for 1902-3 was 110; graduates, 14. The next session opens Sept. 1, 1903, and closes March 31, 1904.

CENTRAL MEDICAL COLLEGE.—This school was organized in 1894, and has a faculty of 16 professors and 8 lecturers, in all 24. The Methodist and St. Joseph's hospitals, State Hospital No. 2, and the City and County hospitals are available for clinical study; a college dispensary also supplies clinical material. The requirements for admission are the possession of a high school diploma, or its equivalent, or an examination. The curriculum embraces four years of seven months each. Fees: First year, $55; second, $50; third $50, and $75 for the fourth year. The Secretary is Dr. C. A. Tygart. Total enrolment for 1902-3 was 80; graduates, 23. The next session begins Sept. 1, 1903, and will end April 1, 1904.

NEBRASKA.

Nebraska, population 1,066,300, has three medical colleges: The University of Nebraska College of Medicine and John A. Creighton Medical College in Omaha (population 102,555); and Lincoln Medical College, at Lincoln (population 40,169). Board and lodging can be obtained for from $3 to $5 a week.

Omaha.

UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE.—This was organized in 1880 as the Omaha Medical College. In 1902 an affiliation was entered into with the University of Nebraska, the name being changed to the College of Medicine of the University of Nebraska. As soon as practicable, the first two years will be given only at Lincoln, though at present these courses are given both at Lincoln and at Omaha. The last two years are given only at Omaha. The faculty is composed of 35 professors and 20 lecturers and assistants, total 55. The Douglas County, Immanuel, Wise Memorial, and Omaha Methodist hospitals, together with the college dispensary, furnish an abundance of material for clinical study and demonstration. The course consists of graded studies covering four years of eight months each. The method of instruction consists of didactic and clinical lectures, section clinics, demonstrations, recitations and laboratory work. The college building is well adapted to its purpose, the laboratories being well equipped and the lecture rooms commodious. The fees, including breakage deposits, are $90 for the first two years, and $95 and $90 for the last two years respectively. Total number of students enrolled in 1902-3, 138; graduates, 38. The college is a member of the Association of American Medical Colleges. The Secretary is Dr. Paul H. Ludington, Bee Building. The twenty-third annual session will begin Sept. 22, 1903, and end May 26, 1904.

JOHN A. CREIGHTON MEDICAL COLLEGE.—This school, organized in 1892, is the Medical Department of Creighton University, and has a faculty of 27 professors and 16 associates, lecturers and assistants, a total of 43. The clinical facilities are those of St. Joseph's Hospital, containing 300 beds and having a clinical amphitheater connected with it; St. Bernard's Hospital, with 256 beds; Douglas County Hospital, Presbyterian and Mercy hospitals, and the college dispensary; the material is abundant and varied. The school is a member of the Association of American Medical Colleges. The building, which was completed in 1898, contains excellent facilities for laboratory and lecture-room work, and the equipment is good. In the methods of instruction, including clinical, didactic and laboratory work, special emphasis is laid on practical work. The course of study embraces four years of seven and one-half months each. The total fees for the first two years are $80 each, and $85 for each of the last two years. The Dean is Dr. D. C. Bryant, McCague Bldg. Total number of students registered in 1902-3 was 142; graduates, 29. The eleventh session opens Sept. 22, 1903, and closes May 1, 1904.

Lincoln.

LINCOLN MEDICAL COLLEGE.—Eclectic. This was organized in 1889 and has a faculty of 27. The requirements for admission are those of the National Confederation of Eclectic Medical Colleges, of which this college is a member. The course of study covers four years of thirty-two weeks each. The total fees for the first year are $80; second, $75; third, $75, and $85 for the fourth year, or $255 for all four years together. The Secretary is Dr. M. B. Ketchum. Total number of students for 1902-3 was 86; graduates, 16. The next session begins Sept. 15, 1903, and ends April 20, 1904.

NEW HAMPSHIRE.

New Hampshire, population 411,588, contains one medical college, located in Hanover, population 1884.

Hanover.

DARTMOUTH MEDICAL SCHOOL.—This is the Medical Department of Dartmouth College, and was organized in 1797. Its faculty is made up of 17 professors and 6 instructors, 23 in all. The Mary Hitchcock Memorial Hospital, a cottage hospital of 36 beds, supplies the clinical material. Applicants for admission must possess an education at least equivalent to graduation from a registered high school. The laboratories afford good facilities for work. The course covers four years of thirty-two weeks each. Fees: $125 each year. The Dean is Dr. William T. Smith. The total number of students registered for 1902-3 was 65; graduates, 14. The work for the first and second years begins with that of the academic department, commencing Sept. 24, 1903, and closing April and June, 1904, respectively; for the advanced classes it begins July 14, 1903, and ends in February, 1904.

NEW YORK.

New York State, population 7,268,894, has ten medical colleges. Seven of these, College of Physicians and Surgeons, Long Island College Hospital, New York Homeopathic Medical College and Hospital, New York Medical College and Hospital for Women, Eclectic Medical College of the City of New York, Cornell University Medical College and the University and Bellevue Hospital Medical College, are located in New York City, population 3,437,202. This city, with its hospitals and dispensaries, offers abundant clinical material. Board and lodging can be obtained for from $5 to $7 a week.

Albany Medical College is in Albany, a city of 100,000 people, where board and room can be had for from $4 to $5 a week.

The University of Buffalo Medical Department is situated in Buffalo, population 352,387; here board and lodging can be obtained for from $3.50 to $5 per week.

The College of Medicine, Syracuse University, is in Syracuse, a city with 108,374 inhabitants. Board and lodging can be procured for from $3.50 a week upward.

The laws of the state of New York require of the prospective student of medicine a preliminary education equivalent to that obtainable in a four years' course in any of the public high schools recognized by the regents as maintaining a satisfactory standard. On proof of at least this amount of education, a medical-student certificate will be issued by the state authorities. The colleges, therefore, have a common standard for the requirements of admission.

New York City.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1807 and its present relation, that of Medical Department of Columbia University, was assumed in 1860. The faculty embraces 37 professors and 77 demonstrators, instructors, etc., a total of 114. The Vanderbilt Clinic, where 45,338 patients were treated during the year 1902, and which is equipped with all modern appliances for the study and treatment of disease, and Sloane Maternity Hospital, containing 116 beds, offer exclusive clinical advantages to students of this school. Beside these, Roosevelt Hospital, containing 238 beds; New York Hospital, with 150 beds; Bellevue, 900 beds; Presbyterian, 350 beds; St. Luke's, 225 beds; General Memorial, 100 beds, and New York Foundling hospitals, together with the Eye and Ear Institute, containing 40 beds; Willard Parker and Reception hospitals, 200 beds; Babies' Hospital, 50 beds; St. Mary's Free Hospital for Children, 120 beds, and the Hospital for Ruptured and Crippled, 250 beds, all offer free clinical teaching to matriculants of this school. The laboratories, lecture rooms and amphitheaters are ample in equipment and accommodation; special provisions are made to equip each student thoroughly in each of the laboratories and thus make the work individual. The work is graded, covering four years of eight months each. The total fees for the first year are $205; for the second and third, $200, and $225 for the fourth year. Total registration for 1902-3 was 795; graduates, 168. The next session begins Sept. 23, 1903, and ends June 8, 1904.

LONG ISLAND COLLEGE HOSPITAL.—This was organized in 1858 and has a faculty of 9 professors and 64 assistants, instructors, etc., a total of 73. Long Island College Hospital, containing 300 beds and connected with a four-story maternity hospital; Polhemus Memorial Clinic, and Hoagland Laboratory, completely equipped with the most modern apparatus, are all a part of the college. Beside the clinical facilities furnished by these, members of the faculty attend at Kings County, St. John's, Brooklyn, Norwegian, Williamsburg, Methodist Episcopal and the Brooklyn Eye and Ear hospitals, where the students are offered opportunities for clinical study. Many of these also contain out-patient departments, thus permitting advanced students to attend personally to cases. Bedside instruction is also given in the wards. The course covers four years of thirty weeks each. Fees: First year, $195; second, $200; third, $160, and $195 for the fourth year. The Secretary is Dr. Joseph H. Raymond. Total registration, 1902-3, was 290; graduates, 40. The forty-sixth session opens Oct. 1, 1903, and closes May 15, 1904. The summer session opens May 11, 1904, and closes Aug. 11, 1904.

CORNELL UNIVERSITY MEDICAL COLLEGE.—This department of Cornell University was established in 1898. The faculty is composed of 39 professors and 103 instructors and assistants, a total of 142. The City Hospital, having 1,000 beds; Bellevue Hospital, New York Hospital, Presbyterian, Willard Parker and Reception, with 200 beds; New York Skin and Cancer; St. Francis having a capacity of 230 beds; St. Vincent's, with 200 beds; the Manhattan Eye and Ear Infirmary, in addition to a large college dispensary, furnish the clinical resources; the material is abundant and varied. The first two years of the course are taken at New York or at Ithaca and the work is devoted to the fundamental scientific subjects. The last two years are spent mostly in practical and clinical work and the hospital advantages are utilized. The Loomis Laboratory, a five-story modern building, is well equipped and supplies ample practical laboratory facilities required in the advanced work. "The essential feature of the entire system is the division of the classes of the several years into small sections." Fees: First year, $190; second and third, $180 each, and $200 for the fourth year. The Dean is Dr. William M. Polk. Total registration for 1902-3 was 394; graduates, 60. The next session opens Sept. 30, 1903, and closes June 8, 1904.

UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.—This is a department of the New York University, and was founded in 1898 by the union of the New York University Medical College, organized in 1841, and the Bellevue Hospital Medical College, organized in 1861. The faculty is composed of 26 professors and 81 instructors, assistants, etc., in all 107. Bellevue and City hospitals,

hospitals of the Workhouse and Almshouse, Manhattan State Hospital for the Insane, Willard Parker and Reception hospitals, Riverside Hospital for Contagious Diseases, Randall's Island, Presbyterian, St. Luke's, St. Vincent's, General Memorial, Gouverneur, Columbus, Harlem, New York Foundling, and the Society for the Lying-in hospitals, the New York Eye and Ear Infirmary, and a large college dispensary are open to students of this school for a study of clinical cases. The Carnegie building, a new five-story structure adjoining the college, is devoted to laboratory instruction and investigation, and, with the other two large college buildings, affords good laboratory and lecture-room facilities. The course of instruction covers four years of eight months each. Actual clinical teaching, in conjunction with and founded on laboratory work, recitation and didactic teaching, is emphasized to the greatest possible degree. Fees: First year, $185; second and third, $180 each, and $195 for the fourth year. The Dean is Dr. Edward G. Janeway. Total registration for 1902-3 was 311; graduates, 73. The next session opens Sept. 30, 1903, and closes June, 1904.

New York Homeopathic Medical College and Hospital.—This school, organized in 1861, has a faculty of 29 professors and 33 lecturers, instructors, etc., 62 in all. Flower Hospital, adjoining the college and having a completely equipped out-patient department, Metropolitan, Hospital, New York Ophthalmic Hospital and the Laura Franklin Free Hospital for Children furnish the clinical facilities. The course covers four years of seven months each. Total fees for the first year, $110; second, $130; third, $125, and $155 for the fourth year. The Dean is Dr. W. H. King, 64 W. 51st St. Total students registered for 1902-3 was 111; graduates, 29. The next session begins Oct. 6, 1903, and ends May 12, 1904.

New York Medical College and Hospital for Women.—Homeopathic. This school was organized in 1863, and has a faculty of 24 professors, 20 lecturers and assistants, total, 44. The college hospital and dispensary, the Memorial Hospital for Women, Metropolitan, Flower and the Laura Franklin Free Hospital for Children afford clinical material. The course covers four years of twenty-six weeks each. Fees: First year, $155; second, $135; third, $125, and $155 for the fourth year. The Dean is Dr. M. Belle Brown, 30 W. 51st St. Total registration for 1902-3 was 34; graduates, 8. The next session opens Sept. 29, 1903, and closes May 13, 1904.

Eclectic Medical College of the City of New York.—This was organized in 1865 and has a faculty of 15 professors and 15 lecturers, demonstrators, etc., 30 in all. A college dispensary, Beachonian Dispensary, Manhattan and Red Cross hospitals and Muncie Sanatorium supply clinical facilities. The work covers four years of seven months each. The total fees: First year, $125; second, $125; third, $125, and $155 for the fourth year. The Dean is Dr. George W. Boskowitz. Total registration for 1902-3 was 104; graduates, 13. The next session opens Sept. 23, 1903, and closes May, 1904. This school is a member of the National Confederation of Eclectic Medical Colleges.

Albany.

Albany Medical College.—This school was organized in 1838, and in 1873 it assumed its present relations, as Medical Department of Union University. The faculty is composed of 19 professors and 45 lecturers, instructors and assistants, a total of 64. Albany, St. Peter's, Child's and County hospitals, South End Dispensary, Eye and Ear Infirmary and the Albany Hospital for Incurables, also the free dispensaries connected with each, are open to students for clinical study. The curriculum embraces graded work for four years of seven and one-half months each. Teaching is carried on in the laboratories, clinics and lecture rooms. Examinations are held twice a year in all subjects. Fees: Third year, $110, and $130 for each other year. The Dean is Dr. Albert Vander Veer. Total registration for 1902-3 was 165; graduates, 33. The next annual session opens Sept. 22, 1903, and closes May 3, 1904.

Buffalo.

University of Buffalo Medical Department.—This was organized in 1846 and has a faculty made up of 48 professors and 31 assistants, lecturers, etc., a total of 79. Buffalo General Hospital, Hospital of the Sisters of Charity, Erie County and German hospitals and the German Deaconess' Hospital supply amply clinical material for study. A college dispensary, recently organized, is also of value in practical work. The buildings and hospitals are well equipped for clinical and laboratory work. Bedside instruction is insisted on and the senior students are permitted to assist in operations and give anesthetics. This school is a member of the Association of American Medical Colleges. The course covers four years of seven months each. The total fees are: First year, $455; second, $55, and $15 each for the third and fourth years. The Dean is Dr. Matthew D. Mann, 37 Allen St. Total registration for 1902-3 was 237; graduates, 45. The fifty-eighth session opens Sept. 28, 1903, and closes May 3, 1904.

Syracuse.

College of Medicine, Syracuse University.—This school was organized in 1872 as the Medical Department of Syracuse University. The faculty is composed of 16 professors and 34 lecturers, instructors, etc., in all 50. Clinical facilities are furnished by St. Joseph's Hospital, with a capacity of 200 patients; Hospital of the House of the Good Shepherd, Syracuse Hospital for Women and Children, Onondaga County Orphan Asylum, and the Syracuse Free Dispensary. The laboratories and amphitheaters are large and well equipped. This school is a member of the Association of American Medical Colleges. The curriculum embraces a four years' graded course, eight months making a school year. The total fees for each of the four years are $130. The Dean is Dr. Henry D. Didama, 424 S. Salina St. Total number of students registered for 1902-3 was 140; graduates, 29. The next session opens Oct. 6, 1903, and closes June 9, 1904.

NORTH CAROLINA.

North Carolina, population 1,893,810, has three medical schools which grant degrees and one which gives only the first two years of the medical course. The Medical Department of the University of North Carolina is located at Chapel Hill (population 1,099) and at Raleigh (population 13,643). The Leonard School of Medicine is at Raleigh. The North Carolina Medical College is located at Davidson (population 904). Wake Forest School of Medicine is at Wake Forest (population 823).

Chapel Hill and Raleigh.

University of North Carolina Medical Department.—This school was organized in 1891, and formerly gave only the work of the first two college years, at Chapel Hill. In 1902 the course was extended to four years by the establishment of a department at Raleigh in which the last two years are given. Degrees will now be conferred, and the faculty in the completed school of medicine numbers 25. It is a member of the Association of American Medical Colleges. The number of students enrolled in 1902-3 was 83; graduates, 4. Total fees are $85 per year. Board, room, light and heat may be had for from $84 to $102 per college year. The President is Dr. F. P. Venable, Chapel Hill. The next session will begin Sept. 7, 1903, and end June, 1904.

Raleigh.

Leonard School of Medicine.—This department of Shaw University was established in 1882 by the American Baptist Home Mission Society to train colored students of medicine. It has a faculty of 11. A free hospital and dispensary supply clinical material. A preliminary entrance examination is given to applicants not possessing a certificate or diploma of educational requirements. The course covers four years of six months each. The total fees for each year are $75. The dormitory plan is adopted generally, and board and room costs $2 a week. The Dean is Dr. James McKee. Total enrolment for 1902-3 was 113; graduates, 23. Next session opens Oct. 1, 1903, and closes April 14, 1904.

Davidson.

North Carolina Medical College.—This school was organized in 1893 and has a faculty of 19. A small hospital supplies the clinical facilities. The course covers four years of eight months each. Fees: First three years, $85 each, and $100 for the fourth year. The president is Dr. J. P. Monroe. The total registration for 1902-3 was 67; graduates, 10. The next session begins September, 1903, and closes May, 1904.

Wake Forest.

Wake Forest School of Medicine.—This school was organized in 1902. It only gives the first two years of the medical course. It has a faculty of 5, and last year enrolled 10 students. The fees are $85 a year. The President is Dr. C. E. Taylor, Wake Forest.

OHIO.

Ohio, population 4,157,545, has ten medical colleges. Four of these, the Medical College of Ohio, Eclectic Medical Institute, Miami Medical College, and Pulte Medical College are located in Cincinnati, a city of 325,902 inhabitants. The clinical advantages of Cincinnati are good; beside many smaller hospitals, the Cincinnati Hospital is open to the students for study. Board can be procured in Cincinnati for from $3 to $5 per week. The Laura Memorial Woman's Medical College has ceased to exist.

Cleveland, population 381,768, contains three medical schools: Western Reserve University Medical College, Cleveland College of Physicians and Surgeons and the Cleveland Homeopathic Medical College. The City Hospital, with 275 beds, is used in common by them for clinical study. Board and lodging can be had for from $2.50 to $5 a week.

Columbus, population 125,560, contains two: Starling Medical College and Ohio Medical University. Board and lodging cost from $2.50 to $5 per week.

Toledo, with 131,822 people, has one medical school: Toledo Medical College. It has good clinical advantages. Board and room can be had for from $3 to $5 per week.

The laws of Ohio require that in order to practice medicine in this state, any student not possessing a diploma or certificate showing that he is possessed of the educational advantages required, must pass a satisfactory examination, under the direction of the State Board of Medical Registration and Examination, in the following subjects: Foreign languages—Two years of the Latin language. English—English literature, composition and rhetoric. History—United States history and civics, with reference to the constitutional phases of American history. Mathematics—Algebra through equations and plane geometry. Science—Botany or zoology; physiography or chemistry, and physics. This is the standard adopted by all the medical colleges in the state.

Cincinnati.

Medical College of Ohio.—This is the Medical Department of the University of Cincinnati, organized in 1819, and has a faculty

made up of 24 professors, 26 lecturers and assistants, a total of 50. Good Samaritan Hospital, with 100 beds; Cincinnati Hospital, with 550 beds, and a well-equipped college dispensary furnish clinical facilities. The buildings supply ample laboratory and lecture-room space, and their equipment is good. The course of study is graded and covers four years of eight months each. This school is a member of the Association of American Medical Colleges. The lecture fees are $125 each year for each student entering after July 1, 1903; $100 each year for those who have matriculated prior to July 1, 1903. In addition there is a matriculation fee of $5, payable but once, and a graduation fee of $25. Total registration of students for 1902-3 was 170; graduates, 54. The Dean is Dr. P. S. Conner, Cincinnati. The eighty-fifth session begins Sept. 24, 1903, and ends May, 1904.

MIAMI MEDICAL COLLEGE.—This school was organized in 1852 and has a faculty of 23 professors and 24 lecturers and demonstrators, a total of 47. The clinical facilities are furnished by the Cincinnati Hospital and a college dispensary. The Presbyterian Hospital, with the Laura Memorial Dispensary, has become a clinical department of the college. The undergraduates of the Laura Memorial College will continue their studies in the Miami College. This college is a member of the Association of American Medical Colleges. The curriculum embraces a four-year graded course of eight months each. The total fees are, for the first year, $130; for the second and third, $125, and $150 for the fourth year. The Dean is Dr. J. C. Oliver, 628 Elm St. The total registration for 1902-3 was 106; graduates, 40. The next session opens Oct. 1, 1903, and closes June 1, 1904.

ECLECTIC MEDICAL INSTITUTE.—This school, organized in 1845, has a faculty of 29 members. The Seton Hospital, Cincinnati Hospital, and a college dispensary furnish clinical material. It is a member of the National Confederation of Eclectic Medical Colleges. The course covers four years of thirty weeks each. The fees are $75 for each year, with a graduation fee of $25. The Dean is Dr. F. J. Locke, Newport, Ky. Total enrolment, 1902-3, was 146; graduates, 45. The next session begins Sept. 21, 1903, and closes April 19, 1904.

PULTE MEDICAL COLLEGE.—Homeopathic. This was organized in 1872 and has a teaching force of 18 professors and 14 assistants, 32 in all. Pulte Hospital, Cincinnati Hospital, Bethesda Hospital, Home of the Friendless and Foundlings, and a college dispensary supply clinical material. The curriculum covers four years of seven months each. Fees: First year, $80; for the second and third, $75 each, and $100 for the fourth. The Dean is Dr. J. D. Buck. Total enrolment for 1902-3 was 30; graduates, 10. The next session opens Sept. 29, 1903, and closes May 3, 1904.

Cleveland.

WESTERN RESERVE UNIVERSITY MEDICAL COLLEGE.—The Medical Department was organized in 1843. Its teaching faculty includes 21 professors, 30 lecturers, demonstrators and assistants, a total of 51. Clinical facilities are offered students of this school by Lakeside Hospital, having 250 beds; St. Vincent's Hospital, having about 150 beds; City Hospital, with 250 beds; St. Alexis Hospital with 250 beds, and the Home of Maternity, with the dispensary service at Lakeside and Charity hospitals. The laboratory chairs are endowed, the teachers devoting their entire time to teaching and research work. The new clinical laboratory has recently been added, where a systematic course of instruction is given. This college is a member of the Association of American Medical Colleges. The curriculum embraces four years of eight months each. Three years of college work are required for admission to first year of medical course. The total fees are $125 for each year. The Dean is Dr. B. L. Millikin, 278 Prospect St. Total enrolment for 1902-3 was 97; graduates, 26. The next session begins Oct. 1, 1903, and closes June 16, 1904.

THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1863 as Charity Hospital Medical College, became the Medical Department of Wooster University in 1869, and the Medical Department of the Ohio Wesleyan University in 1896, when it assumed its present name. The faculty is composed of 27 professors, 36 lecturers, assistants, instructors, etc., 63 in all. Cleveland General Hospital, Cleveland City Hospital and a college dispensary are used for regular clinical teaching. St. Alexis, St. John's and St. Clair hospitals are utilized for extra-mural clinics. This school is a member of the Association of American Medical Colleges. The school is co-educational. The total annual fees are $120. The curriculum covers four years of eight months each. The Dean is Dr. N. Stone Scott, 604 Citizen's Bldg. Total enrolment for 1902-3 was 86; graduates, 22. The next term opens Sept. 16, 1903.

CLEVELAND HOMEOPATHIC MEDICAL COLLEGE.—This school was founded in 1897 by a consolidation of Cleveland University of Medicine and Cleveland Medical College, the former of which was incorporated in 1850, and is the second oldest homeopathic medical college in the United States. The faculty includes 27 professors and 29 adjuncts, lecturers, etc., 56 in all. The clinical facilities are obtained from the Cleveland Homeopathic Hospital, the Cleveland City Hospital, the Cleveland Maternity Hospital and a college dispensary. The course embraces four years of thirty weeks each. Fees: First year, $110; second and third years, $105 each, and $125 for the fourth year. The Dean is Dr. Gaius J. Jones. Total number of students registered, 1902-3, was 115; graduates, 40. The next session opens Sept. 21, 1903, and closes May 4, 1904.

Columbus.

STARLING MEDICAL COLLEGE.—This school was organized in 1847 and has a faculty composed of 20 professors and 16 lecturers, associates, etc., a total of 36. St. Francis Hospital, which is under the control of this faculty, Hawkes' Hospital of Mt. Carmel, the Lawrence Hospital, and a college dispensary are available for clinical study. This college is a member of the Association of American Medical Colleges. The work covers four years of thirty-two weeks each. Fees: $100 per year; graduation fee, $10. The Dean is Dr. Starling Loving. Enrolment for 1902-3 was 163; graduates, 49. The next session opens Sept. 16, 1903, and closes May 3, 1904.

OHIO MEDICAL UNIVERSITY.—This school was organized in 1890 and has a faculty of 23 professors and 11 assistants, 34 in all. The Protestant Hospital, State Hospital, Ohio Penitentiary Hospital, and a college dispensary provide material for clinical work. This school is a member of the Association of American Medical Colleges. The course is four years of 32 weeks each. Fees: First year, $105; second year, $100; third year, $100, and $110 for the fourth year. The Dean is Dr. George M. Waters. Total students for 1902-3 was 214; graduates, 58. The next sessions begin Sept. 16, 1903, and ends April 28, 1904.

Toledo.

TOLEDO MEDICAL COLLEGE.—The school was organized in 1882 and has a faculty of 17 professors, 21 lecturers and assistants, in all 38. Toledo Hospital, St. Vincent's and Robinwood hospitals, Lucas County Infirmary Hospital, Toledo Hospital for the Insane, and a free dispensary supply clinical facilities. This college is a member of the Association of American Medical Colleges. The curriculum embraces four years of eight months each. The fees are $75 for each year with a matriculation fee of $5, payable once. The Secretary is Dr. Park L. Myers, 1921 Franklin Ave. Total enrolment for 1902-3 was 41; graduates, 14. The next session opens Sept. 24, 1903, and closes May 12, 1904.

OREGON.

Oregon, population 413,536, has two medical colleges: Medical Department Willamette University, located in Salem, a city of 4,258 people, and University of Oregon Medical Department, in Portland, a city of about 100,000 population. Board and lodging may be obtained in Salem for from $3 to $5 per week and in Portland for from $4 to $6.

Salem.

MEDICAL DEPARTMENT WILLAMETTE UNIVERSITY.—This school was organized in 1864. The faculty consists of 16 teachers. Clinical facilities for study are supplied by Salem Hospital, and a college dispensary. This school is a member of the Association of American Medical Colleges. The course embraces four years' work of six months each. Fees: First year, $110; second, $100; third, $75, and $50 for the fourth year. The Dean is Dr. W. H. Byrd. Total enrolment for 1902-3 was 40; graduates, 7. The next session begins Oct. 1, 1903, and ends April 2, 1904.

Portland.

UNIVERSITY OF OREGON MEDICAL DEPARTMENT.—This department of the State University was organized in 1887 and has a faculty of 14 professors and 13 assistants, lecturers, etc., a total of 27. Good Samaritan and St. Vincent's hospitals, containing 200 and 350 beds, respectively, furnish good material for clinical study. The requirements for admission are those of the Association of American Medical Colleges, but the members of the faculty do not hold examinations for entrance. The college building is modern and well equipped, presenting ample teaching facilities. The course is four years of seven months each. Fees: First year, $142.50; second, $137.50; third, $107.50, and for the fourth, $57.50. The Dean is Dr. Simeon E. Josephi, Portland. Total number of students for 1902-3 was 88; graduates, 10. The next session opens Sept. 16, 1903, and closes April 18, 1904.

PENNSYLVANIA.

Pennsylvania, population 6,302,115, has seven medical colleges. Of these Philadelphia, having a population of 1,293,697, contains six, as follows: University of Pennsylvania Department of Medicine, Jefferson Medical College, Hahnemann Medical College, Woman's Medical College of Pennsylvania, Medico-Chirurgical College of Philadelphia, and Temple College Department of Medicine. The clinical facilities of Philadelphia present abundant and varied material for study. Beside the individual hospitals connected with each of the schools the charity hospitals are open to all the students in common. Board and lodging costs from $4 a week upward.

The other school, Western Pennsylvania Medical College, is situated in Pittsburg, a city of 321,616 people. The cost of board and lodging is from $4 to $6 a week.

A preliminary examination is required of all applicants for a license to practice medicine or surgery in the state. This examination is held at stated intervals by the state examiners, and includes: (a) English composition, grammar and rhetoric; (b) mathematics, covering algebra and plane geometry; (c) elementary physics; (d) United States history, and (e) Latin equivalent to a year's study. On passing a successful examination a medical student certificate is issued to the applicant. This certificate will admit the possessor to matriculation in any medical college in the state.

Philadelphia.

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF MEDICINE.—This is the first medical college established in this country, having been organized in 1765 as the Medical Department of the College of Philadelphia; the first degrees were granted in 1768. When from the College of Philadelphia the University of Pennsylvania was organized, in 1791, it became the Medical Department of the University, its present relation. The faculty is made up of 25 professors and 78 assistants, lecturers, etc., a total of 103. Abundant and varied clinical material is furnished by the University Hospital.

capacity 300 beds, which treats over 14,000 cases annually; University Maternity Pavilion, with 50 beds; Philadelphia Hospital, containing 1,000 beds; Pennsylvania, Children's and the Southeastern Hospital and Dispensary. Special attention is paid to bedside instruction and to thoroughly practical work. Applicants for admission must furnish evidence of the education required to enter the academic department of the university. The buildings known as Medical Hall, Laboratory Hall and the Laboratory of Hygiene, the laboratories of pathology, physiology and pharmaco-dynamics, and the Wistar Institute of Anatomy, and the Wm. Pepper Clinical Laboratory supply excellent laboratory and lecture-room facilities and are well equipped. The course embraces study for four years of nine months each. The total fees for each year are $200, with a matriculation fee of $5 for the first year. The Dean is Dr. Charles H. Frazier. Total enrolment for 1902-3 was 469; graduates, 111. The next session opens Sept. 25, 1903, and closes June 15, 1904.

JEFFERSON MEDICAL COLLEGE.—This school was organized in 1825, and has a faculty of 27 professors and 75 lecturers, demonstrators, etc., a total of 102. Jefferson Hospital, together with its Maternity Department, are used exclusively by students of the school for clinical study. Bedside instruction is given daily to small sections of the senior class. In addition, the following hospitals are open for study of clinical cases: Pennsylvania, Philadelphia, St. Joseph's, German, Municipal and Wills Eye hospitals. This college is a member of the Association of American Medical Colleges. The course of study covers graded work of four years of eight months each. The laboratories are large and well equipped, a new five-story laboratory building having recently been added; the lecture rooms and amphitheaters are also ample. A new fire-proof hospital is now building, to cost $700,000, to be finished in 1905. The tuition is $180 a year, with a matriculation fee of $5, paid but once. The Dean is Dr. James W. Holland. The total number of students for 1902-3 was 771; graduates, 166. The next session opens Sept. 24, 1903, and closes May 27, 1904.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—This school was organized in 1850, and has a faculty of 31 professors and 42 assistants, lecturers, etc., in all 53. Clinical facilities are offered exclusively to this college by the Woman's Hospital and West Philadelphia Hospital for Women. Other clinical advantages offered are those of the Pennsylvania, German, Children's and Philadelphia hospitals, Wills Hospital for Diseases of the Eye and the Philadelphia Lying-in Charity. This school is a member of the Association of American Medical Colleges. The lecture-room and laboratory equipment is good. The curriculum covers four years of eight months each. Fees: First year, $140; second, $145; third, $135.50, and $100.50 for the fourth year. The Dean is Dr. Clara Marshall. Total enrolment for 1902-3 was 165; graduates, 30. The fifty-fourth session begins Sept. 23, 1903, and will end May 18, 1904.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1881 and has a faculty made up of 29 professors and 48 assistants, lecturers, etc., 77 in all. Opportunities for clinical study are offered exclusively to students of this school by the Medico-Chirurgical Hospital, with 130 beds, and its children's hospital, containing 40 beds, and maternity hospital having 40 beds. In common with other schools the following are used: Philadelphia, Pennsylvania, German, Samaritan, St. Joseph's, St. Agnes', St. Mary's, Methodist and the Philadelphia Lying-in hospitals. This school is a member of the Association of American Medical Colleges. With new laboratories, lecture rooms, a modern hospital and fine clinical amphitheater this college is amply provided and the equipment is good. The work embraces four years of eight months each. Fees: $150 per annum; matriculation, $5, payable once. The Dean is Dr. Seneca Egbert. Total enrolment for 1902-3 was 431; graduates, 93. The next session opens Sept. 28, 1903, and will close May 28, 1904.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL.—Homeopathic. This was organized in 1848 and has a faculty of 16 professors and 40 lecturers, instructors, etc., in all 56. Hahnemann College Hospital and Pennsylvania Hospital furnish material for clinical work. The requirements for admission are those established by the Intercollegiate Committee of the American Institute of Homeopathy. The work covers four years of thirty-two weeks each. Fees: For each year, $150; matriculation, $5. Total number of students for 1902-3 was 233; graduates, 69. The Dean is Dr. Charles M. Thomas. The next session begins Sept. 21, 1903, and will end May 21, 1904.

TEMPLE COLLEGE DEPARTMENT OF MEDICINE.—This department was organized in 1901, and has a faculty of 37. Instruction is given in the afternoon and evening. The fees are $125 per year. The Dean is Dr. W. Wallace Fritz. The enrolment for 1902-3 was 70; graduates, none. The next session begins Sept. 14, 1903, and ends June 14, 1904.

Pittsburg.

WESTERN PENNSYLVANIA MEDICAL COLLEGE.—This is the Medical Department of the Western University of Pennsylvania, and was organized in 1886. The faculty is composed of 31 professors and 39 associates, assistants, etc., 70 in all. Clinical material for study is furnished by a college dispensary, and the Emma Kaufman Clinic, Relaeman Maternity Hospital, Mercy, South Side, Passavant and St. John's hospitals. This school is a member of the Association of American Medical Colleges. The course of study embraces graded work for four years of eight months each. Special attention is given to practical bedside work. The total fees are $150 for each year. The Dean is Dr. J. C. Lange. Total enrolment for 1902-3 was 317; graduates, 79. The next session begins Oct. 1, 1903, and will close May, 1904.

SOUTH CAROLINA.

South Carolina, population 1,340,316, has one medical college, situated in Charleston, a city of 55,807 people. Board and room can be obtained for from $12 to $16 a month.

Charleston.

THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.—This was founded in 1823. The faculty is made up of 10 professors and 11 assistants, etc., 21 in all. The clinical facilities are those offered by the City Hospital, where surgical, obstetrical and medical instruction is given. Applicants for matriculation must show a diploma of graduation from some literary or scientific institution of learning or a certificate from some legally constituted high school. The course covers four years of six months each. The total fees for each of the first two years are $100, and $75 each for the last two. The Dean is Dr. Francis L. Parker. Total enrolment for 1902-3 was 95; graduates, 21. The next session opens Oct. 1, 1903, and closes April 5, 1904.

TENNESSEE.

Tennessee, population 2,020,616, has twelve medical colleges. Of these the Medical Department of the University of Nashville, Vanderbilt University Medical Department, University of Tennessee Medical Department, Meharry Medical College and Southwestern Presbyterian University Medical Department are situated in Nashville, a city with a population of 80,865. The City Hospital, containing 100 beds, is used by all the schools in common for clinical study. Board and lodging cost from $3 to $4 a week.

Knoxville, population 32,637, contains two colleges, Tennessee Medical College and Knoxville Medical College. The cost of room and board in that city is from $2.50 to $4 a week.

Chattanooga Medical College and Chattanooga National Medical College are situated in Chattanooga, a city of 30,154 people. Board and lodging cost there from $2 a week upward.

Memphis Hospital Medical College is located in the growing city of Memphis, population 102,320. Good board can be obtained for from $3 to $4 a week.

The University of West Tennessee is in Jackson, whose population is 15,000.

The other school, the Sewanee Medical College, is located at Sewanee, a mountain town of 1,200 people.

Nashville.

MEDICAL DEPARTMENT UNIVERSITY OF NASHVILLE.—This school, established in 1850, has a faculty of 13 professors and 14 lecturers, assistants, etc., in all 27. This school is a member of the Southern Medical College Association. The course of study covers four years of twenty-six weeks each. The total fees for each of the four years are $65. The Dean is Dr. William G. Ewing. Total enrolment for 1902-3 was 317; graduates, 50. The next session begins Oct. 1, 1903, and ends March 31, 1904.

VANDERBILT UNIVERSITY MEDICAL DEPARTMENT.—This school was founded in 1874, and in 1895, when the present medical building was completed, the course was extended, the standard raised, and the present faculty of 35, consisting of 18 professors and 17 associates, lecturers, etc., was appointed. The school is a member of the Southern Medical College Association. The course covers four years of six months each. The total fees for the first three years are $105 each, and $130 for the fourth year. The Dean is Dr. William L. Dudley. Total enrolment for 1902-3 was 162; graduates, 34. The next session begins Oct. 1, 1903, and ends April 5, 1904.

UNIVERSITY OF TENNESSEE MEDICAL DEPARTMENT.—This was organized in 1876 as the Nashville Medical College; its present relations were assumed in 1879. The faculty is composed of 14 professors and 13 lecturers, assistants, etc., 27 in all. The school is a member of the Southern Medical College Association. The course of study includes work for four years of six months each. The total fees for each of the first three years are $90, and $65 for the fourth year. The Dean is Dr. Paul F. Eve, 614 Broad St. Total enrolment for 1902-3 was 150; graduates, 33. The next session begins Oct. 1, 1903, and ends April, 1904.

MEHARRY MEDICAL COLLEGE.—Colored. This school was organized in 1876 as the Medical Department of Central Tennessee College, now Walden University, "for the purpose of furnishing to the colored people of the South an opportunity of obtaining a medical education." The faculty is made up of 10 professors and 12 instructors, demonstrators, etc., 22 in all. The work embraces a four-year graded course, six months to the year. The total fees for the first three years are $40 each, and $50 for the fourth year. The Dean is Dr. G. W. Hubbard. Total registration for 1902-3 was 252; graduates, 41. The twenty-eighth session begins Sept. 2, 1903, and ends in March, 1904.

SOUTHWESTERN PRESBYTERIAN UNIVERSITY MEDICAL DEPARTMENT.—This department, just established, will begin its course this fall. Dr. J. W. Brandau is Dean. About 16 members of the faculty have been selected.

Knoxville.

TENNESSEE MEDICAL COLLEGE.—This school was organized in 1889, and has a faculty of 13 professors and 7 assistants, 20 in all. A new building with large and well-fitted laboratories, has been completed. City General Hospital and a free dispensary supply material for a study of clinical cases. This school is a member of the Southern Medical College Association. The curriculum includes graded work for four years of seven months each. Fees: Matriculation, $5; annual fee, $50; graduation fee, $25. The Secretary is Dr. Henry J. Kelso. Total number of students for 1902-3 was 62; graduates, 8. The fifteenth session begins Nov. 2, 1903, and closes May 23, 1904.

KNOXVILLE MEDICAL COLLEGE.—Colored. This school was established in 1900, following the discontinuance of the Medical Department of Knoxville College, organized in 1895. The teaching force comprises 13. The course covers four years of six

months each. Fees: First year, $42; second, $37; third, $30, and $40 for the fourth year. The Secretary is Dr. H. M. Green. Total number of students for 1902-3 was 23; graduates, 6. The next session opens Dec. 1, 1903, and closes in June, 1904.

Chattanooga.

CHATTANOOGA MEDICAL COLLEGE.—This is the Medical Department of Grant University, and was organized in 1889. The faculty consists of 10 professors and 18 instructors, demonstrators, etc., total 28. Adequate clinical facilities are afforded by the wards of Baroness Erlanger Hospital, a county asylum, an out-door clinic maintained in the college building and all material furnished by the city physician's office which the faculty desire to utilize. The scholastic requirements are those of the Association of Southern Medical Colleges, and involve a strictly graded course covering four years of seven months each. The total fees approximate $65 each session. The trustees have materially added to the general facilities of the institution by the recent erection of another fine four-story building of brick and stone for the medical department, wherein much modern and elaborate equipment has been installed. The Dean is Dr. E. A. Cobleigh. The total enrolment for the session of 1902-3 was 264, of which 41 graduated. The fifteenth annual term opens Oct. 7, 1903, and ends about May 15, 1904.

CHATTANOOGA NATIONAL MEDICAL COLLEGE.—Colored. This was organized in 1898, and claims a teaching force of 18. The course covers four years of seven months each. The total fees are $50 each year with an additional graduation fee of $20. Total enrolment for 1902-3 was 9; graduates, 1. The Dean is Dr. T. W. Haigler, 602 E. 8th St. The next session begins September, 1903, and ends March, 1904.

Memphis.

MEMPHIS HOSPITAL MEDICAL COLLEGE.—This school, organized in 1878, has a faculty of 10 professors and 18 assistants, beside quiz masters. Excellent clinical facilities are furnished by the City Hospital, Presbyterian Hospital, St. Joseph's Hospital and the East End Dispensary, the latter being located in the college building. The course includes graded work for four years of six months each. The total fees for the first three years are $75; for the fourth, $105. The Dean is Dr. W. B. Rogers. Total registration for 1902-3 was 675; graduates, 195. The twenty-fourth annual session will begin Nov. 1, 1903, and close April, 1904.

Jackson.

UNIVERSITY OF WEST TENNESSEE MEDICAL DEPARTMENT.—Colored. This school, organized in 1900, has a faculty of 10. The course is four years of seven months each. The fees are $40 per year, graduation $10 extra. Registration, 1902-3, 17; no graduates. The next session opens Sept. 3, 1903.

Sewanee.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE SOUTH (Sewanee Medical College).—This school was organized in 1891 and has a faculty of 22. It is a member of the Southern Medical College Association. The course is four years of six months each. The fees are $65 for each of the first two years, $55 for the third and $75 for the last year. The Dean is Dr. John S. Cain. Total enrolment for 1902-3 was 203; graduates, 38. The twelfth session commenced May, 1903, and will close January, 1904.

TEXAS.

Texas, population 3,048,710, has six medical colleges. The University of Texas Department of Medicine is located at Galveston, a city of 37,789 inhabitants. Good board and room can be procured for from $15 to $20 a month.

The Medical Department of Fort Worth University is at Fort Worth, population 35,000. The cost of board and room in that city is from $12 to $15 a month.

The Baylor University College of Medicine, the Dallas Medical College, the Medical Department of Southwestern University and the Physio-Medical College of Texas are situated in Dallas, population 55,000.

Galveston.

UNIVERSITY OF TEXAS MEDICAL DEPARTMENT.—This department of the State University was organized in 1891 and has a faculty of 25. The John Sealy Hospital, also having an outdoor department, and St. Mary's Infirmary supply good material for clinical study. The requirements for admission are proof, either by certificate or examination, that the candidate is sufficiently proficient in English, including grammar, composition and rhetoric; mathematics through plane geometry and algebra including quadratics, and general history. The curriculum embraces graded work for four years of eight months each. Fees, to residents of the state: First year, $50; second and third each $20, and $5 for the fourth. Non-residents of the state are required to pay an additional fee of $50 each year. The President is Dr. William L. Prather. Total registration for 1902-3 was 179; graduates, 35. The next session begins Oct. 1, 1903, and ends in May, 1904.

Fort Worth.

MEDICAL DEPARTMENT OF FORT WORTH UNIVERSITY.—This school was organized in 1894, and has a faculty of 17 professors and 15 lecturers, assistants, etc., in all 32. Clinical facilities are supplied by St. Joseph's Hospital, with 200 beds; the Benevolent Home, containing 75 beds; the Delia Collins' Rescue Home, having 50 beds, and a college dispensary. The school is a member of the Southern Medical College Association. The course covers four years of six months each. The total fees for each of the first three years are $75, and $100 for the fourth year. The Dean is Dr. Bacon Saunders. The total enrolment for 1902-3 was 108; graduates, 5. The next session opens Oct. 1, 1903, and closes April 7, 1904.

Dallas.

BAYLOR UNIVERSITY COLLEGE OF MEDICINE.—This is a new name for the University of Dallas Medical Department, which was organized in 1901. In June, 1903, it became the Medical Department of Baylor University of Waco. The faculty numbers 19 professors and 21 assistants, total 40. Parkland Hospital, with 90 beds; St. Paul's Sanitarium, Good Samaritan, and Policlinic Infirmary and a college dispensary and hospital are utilized for clinical study. The course covers four years of six months each. The school is a member of the Association of Southern Medical Colleges. The fees are $75 for each of the four years, with a matriculation fee of $5, paid once, and a graduation fee of $25. The Dean is Dr. E. H. Cary. Total registration for 1902-3 was 66; graduates 3. The next session opens Oct. 1, 1903, and closes April 5, 1904.

SOUTHWESTERN UNIVERSITY MEDICAL COLLEGE.—This is the Medical Department of Southwestern University and was organized in June, 1903, with a faculty of 28 professors and 11 instructors, total 39. The first session opens Oct. 1, 1903. The course of instruction is graded and covers four years. Requirements for admission are equivalent to those prescribed by the Association of American Medical Colleges. The fees are: Matriculation, $5, paid once; annual tuition, $75; graduation, $25. The hospitals represented by the faculty and open for clinical teaching are: St. Paul's Sanitarium, City Hospital, Children's Home, Rescue Home, Woman's Home, St. Joseph's Orphanage, St. Matthew's Home for Children, Dr. H. K. Leake's Private Infirmary, Out-door Clinic of the Settlement Home and Presbyterian Home for Children. The Dean is Dr. John O. McReynolds.

DALLAS MEDICAL COLLEGE.—We have been unable to secure information of this school, aside from newspaper reports, the Dean and Secretary having failed to reply to several letters. The school was the Medical Department of Trinity University, but this relation has been severed. Total enrolment, 1902-3, 150 (estimated); graduates, 29. The course is four years of about six months each.

PHYSIO-MEDICAL COLLEGE OF TEXAS.—This college was organized in 1902. It has a faculty of 24 professors and 4 assistants, total 28. The course is four years of twenty-six weeks each. The fees are, first year, $70; fourth year, $85; other years, $65. Enrolment, 1902-3, 20; graduates, 3. The Secretary is Dr. R. L. Spann. The next session opens Oct. 13, 1903, and closes April 16, 1904.

VERMONT.

Vermont, population 343,641, has one medical school, located at Burlington, a town of about 20,000 people. Board and room costs from $3.50 to $5 a week.

Burlington.

MEDICAL DEPARTMENT UNIVERSITY OF VERMONT.—This school was organized in 1822, but suspended from 1836 until 1854, when it was reorganized. The faculty consists of 18 professors, and 27 assistants, instructors, etc., in all 45. The Mary Fletcher Hospital and a free dispensary furnish material for clinical instruction. Applicants for admission must be graduates of a four-year high school course or take an examination to show equivalent educational qualifications. The laboratory and lecture-room space and equipment are good. The course of study embraces graded work for four years of seven months each. The total fees for each of the first three years are $115 and $140 for the fourth year. The Secretary is Dr. B. J. Andrews. Total registration of students for 1902-3 was 246; graduates, 31. The fifty-first session begins Nov. 28, 1903, and ends June 25, 1904.

VIRGINIA.

Virginia, population 1,854,184, has three medical colleges, situated in Charlottesville (population 6,449) and Richmond (population 85,050). The clinical facilities in Richmond are good. Board and room can be obtained for $18 a month, and upward, in Charlottesville, and from $12 to $20 a month in Richmond.

Charlottesville.

UNIVERSITY OF VIRGINIA DEPARTMENT OF MEDICINE.—This school was organized in 1827, and has a faculty of 31. A free dispensary and the new four-story hospital furnish clinical facilities. The requirements for admission are those of the Association of American Medical Colleges. The course is four years of nine months each. Fees: First year, $110; second, $100; third, $80, and $60 for the fourth year. Total enrolment for 1902-3 was 151; graduates, 25. The eightieth session opens Sept. 15, 1903, and closes June 15, 1904.

Richmond.

MEDICAL COLLEGE OF VIRGINIA.—This school was organized in 1838 as the Medical Department of Hampden Sidney College, and in 1854 the present name was assumed. The faculty is made up of 16 professors and 24 lecturers, instructors, etc., a total of 40. Clinical material is furnished by the Memorial Hospital and the City Free Dispensary; an outside obstetric department also furnishes opportunities for clinical work. The magnificient new Memorial Hospital, opened July, 1903, is under the exclusive control of this college for clinical purposes. The State Penitentiary, City Almshouse and other public charities and asylums of the city also afford opportunities for clinical work. This school is a member of the Southern Medical College Association. The buildings are large and contain well-equipped laboratories and amphitheaters. The course embraces four years of seven months each. The fees are $85 for each year, with an additional graduation fee of $30. The Dean is Dr. Christopher Tompkins. Total registration for 1902-3 was 219; graduates, 35. The next session begins Sept. 29, 1903, and will end May 10, 1904.

UNIVERSITY COLLEGE OF MEDICINE.—This school was organized in 1893, and has a faculty of 19 professors, 34 lecturers, assistants, etc., a total of 53. Good clinical facilities are furnished by

Virginia Hospital, with a maternity department and annex, which was built especially for the purpose of affording bedside instruction; Richmond Eye, Ear and Throat Infirmary, containing 34 beds; the City Hospital, City Jail, State Penitentiary, and a college dispensary. Matriculation is in accord with the rules of the Association of American Medical Colleges, and of the Southern Medical College Association, to both of which this college belongs. The laboratory and lecture-room space and equipment are ample, and some of the instructors devote their entire time to the laboratories. The school lays especial importance on the careful instruction and guidance of each student. The curriculum covers four years of seven and one-half months each. The total fees are $85 for each year. The Dean is Dr. J. Allison Hodges, Richmond. Total enrolment for 1902-3 was 187; graduates, 44. The next session begins Sept. 29, 1903, and ends May 12, 1904.

WISCONSIN.

Wisconsin, population 2,069,042, has two medical colleges, the Milwaukee Medical College and Wisconsin College of Physicians and Surgeons. They are both situated in Milwaukee, a city of 300,000 people. Clinical facilities are furnished them in common by the County Hospital with 300 beds, and the Milwaukee Hospital for the Insane. Board and lodging can be had for from $3 to $5 a week.

Milwaukee.

Milwaukee Medical College.—This school was organized in 1893, and has a faculty of 33 professors and 26 lecturers, instructors, etc., a total of 59. Good clinical material is furnished by Trinity, St. Mary's, and the County hospitals, Milwaukee Hospital for the Insane, and a college dispensary. This school is a member of the Association of American Medical Colleges. Ample laboratory and amphitheater facilities are afforded. The course covers four years of seven months each. The total fees are $120 each for the first three years and $130 for the fourth year. The President is Dr. William H. Earles. Total number of students for 1902-3 was 184; graduates, 43. The tenth session begins Oct. 1, 1903, and will close about May 1, 1904.

Wisconsin College of Physicians and Surgeons.—This college was organized in 1893, and has a faculty composed of 26 professors and 21 associates, assistants, etc., a total of 47. St. Joseph's Hospital, containing 150 beds; the college dispensary, the Milwaukee County Hospital, and the Hospital for the Insane supply facilities for clinical study. The school is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are well equipped. The curriculum includes four years of eight months each. Fees: Matriculation, paid once, $5; general ticket, $100; for the use of the microscope, a fee of $2 is charged for each course. The Secretary is Dr. W. H. Washburn. Total enrolment for 1902-3 was 102; graduates, 23. The next session begins Sept. 29, 1903, and ends May 26, 1904.

CANADA.

The Dominion of Canada, with a population of 5,335,055 (1900) distributed through seven provinces and the Northwest territories, an area which reaches from the Atlantic to the Pacific, contains only 11 medical colleges. Of these, 4 are situated in Ontario, 4 in the province of Quebec, 2 in Nova Scotia, and one in Manitoba. The distinction between university and college in Canada is definite, namely, the latter is a teaching body only and has no right to grant a degree.

Toronto, Ontario.

University of Toronto, Medical Faculty.—All the lectures and demonstrations are given in the laboratories and lecture rooms of the University; more than two-thirds of the instruction in the third and fourth years are given in the wards and in the pathologic and clinical laboratories. A fifth year is now required by the Ontario Medical Council. The faculty numbers 55. Clinical instruction is given in the Toronto General Hospital, Mercer Eye and Ear Infirmary, Burnside Lying-in Hospital, Hospital for Sick Children, and St. Michael's Hospital. Before commencing students must satisfy, as to qualifications, the College of Physicians and Surgeons of Ontario (Provincial Board). Fees are: Registration (payable once), $5; each of the first four years, $100; fifth year, $50; for the degree of M.B., and M.D., each $20. Number of students registered last session, 427; graduates, 90. The next session will commence Oct. 1, 1903. Trinity Medical College of Toronto, which has been in affiliation, has this year been amalgamated with the University. The matriculants of that school in 1902-3 were 165; graduates, 68.

Ontario Medical College for Women.—This college is not empowered to grant degrees, but it qualifies students fully to take the examination in any university. The faculty numbers 35. The fee for each year is $100, exclusive of hospital and university fees. The number of undergraduates, 1902-3, was 31; graduates, 5. The twentieth session will open Oct. 1, 1903, and continue for eight months.

Kingston, Ontario.

Queen's University.—This school had 205 students registered in its medical department during 1902-3, and graduated 48. The faculty numbers 25.

London, Ontario.

Medical Department of Western University.—This school matriculates students in accordance with the requirements of the Provincial Council and has a course of five years. Victoria Hospital supplies the clinical advantages. The fees are about $90 per year and $25 extra for graduation. This school has nearly a hundred students and from 10 to 20 graduates annually. The next session runs from September to May.

Montreal, Quebec.

University of Bishop's College, Faculty of Medicine.—The course leading to the degree of C.M., M.D., extends over four years of nine months each. The annual fees are $100, which include all practical classes and material for the same. Students must, on entering the study of medicine, pass the college matriculation examination, or, if the license for the Province of Quebec is desired, that of the College of Physicians and Surgeons of that Province. Special facilities are offered for the practical teaching of obstetrics, and undergraduates are obliged to take entire charge of several accouchements before being allowed to take the final examination. Other clinical facilities are offered in the Montreal General Hospital, the Royal Victoria Hospital, the Western Hospital, the Hotel Dieu, and the Woman's Hospital. During the last session the students numbered about 75; graduates, about 10. The next session will open in October.

McGill University, Faculty of Medicine.—This college has a course of four years of nine months each. The faculty numbers 20 professors and 61 assistants, total 81. The total fees for the course are $500. Clinical instruction is given in the Montreal General Hospital, Royal Victoria Hospital, and Montreal Maternity Hospital. Students, except university graduates in arts, must pass the medical matriculation of this university or that of one of the provincial medical boards. Students registered during session 1902-3, 435; graduates in June, 1903, 100. The seventy-second session will commence Sept. 22, 1903.

Ecole de Medecine et de Chirurgie de Montreal.—This is the Montreal branch of Laval University's medical faculty in Quebec. It is a French school, organized in 1845. The faculty numbers 47. The registration, 1902-3, was 229; graduates, 45.

Quebec, P. Q.

Universite Laval, Faculte de Medecine.—This is the Quebec branch of Laval University medical faculty. The course consists of four years. The fees for the entire course are from $200 to $300, according to preliminary qualifications. The matriculants are about 100 annually, and the graduates about 20.

Halifax, Nova Scotia.

Faculty of Medicine of Dalhousie University.—The course consists of four years of eight months each, and leads to the final M.D. and C.M. examination. Prospective students must pass the preliminary examination of the Provincial Medical Board, a university examination or a recognized equivalent. During last session there were 80 students, of whom 20 graduated. The faculty numbers 23, and the next session is from September to April.

Halifax Medical College.—The course is four years of eight months each. Matriculants have to be examined by the Provincial Council, as the college does not conduct entrance examinations. The faculty numbers 30. Fees are about $300 for the whole course and $30 for graduation. The students, 1902-3, numbered 77; graduates, 19. The next session begins Sept. 1, 1903, and ends April 26, 1904.

Winnipeg, Manitoba.

Manitoba Medical College.—This is in affiliation with the University of Manitoba, and has a faculty of 21. Winnipeg General Hospital and St. Boniface Hospital supply clinical material. The fees are $400 for the course of four years. There were 94 students in 1902-3, and 17 graduates.

THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

The requirements for admission to be maintained by colleges belonging to this Association are as follows:

Section 1.—Each college holding membership in this Association shall require of each student, before admission to its course of study, an examination, the minimum of which shall be as follows:

1. In English, a composition on some subject of general interest. This composition must be written by the student at the time of the examination, and should contain at least 200 words. It should be criticised in relation to thought, construction, punctuation, spelling, and handwriting.

2. In Arithmetic, such questions as will show a thorough knowledge of common and decimal fractions, compound numbers, and ratio and proportion.

3. In Algebra, such questions as will bring out the student's knowledge of the fundamental operations, factoring, and simple quadratic equations.

4. In Physics, such questions as will discover the student's understanding of the elements of mechanics, hydrostatics, hydraulics, optics, and acoustics.

5. In Latin, an examination on such elementary work as the student may offer, showing a familiarity usually attained by one year of study; for example, the reading of the first 15 chapters of Cæsar's Commentaries, and the translation into Latin of easy English sentences involving the same vocabulary.

Sec. 2.—In place of this examination, or any part of it, colleges, members of this Association, are at liberty to recognize the official certificates of reputable literary and scientific colleges, academies, high schools, and normal schools, and also

the medical student's certificate issued by any state examining board covering the work of the foregoing entrance examination.

SEC. 3.—Colleges, members of this Association, may allow students who fail in one or more branches in this entrance examination the privilege of entering the first-year course, but such students shall not be allowed to begin the second course until the entrance requirements are satisfied.

SEC. 4.—Colleges, members of this Association, are free to honor official credentials issued by medical colleges of equal requirements, except in the branches of study embraced in the last year of their own curriculum.

SEC. 5.—Candidates for the degree of Doctor of Medicine in the year 1899 and thereafter shall have attended at least four courses of medical instruction, each course of at least six months' duration, no two courses of which shall have been in the same calendar year.

SEC. 6.—Colleges, members of this Association, are free to give to students who have met the entrance requirements of the Association additional credit for time on the four years' course as follows: (a) To students having the A.B., B.S., or equivalent degree from reputable literary colleges, one year of time; (b) To graduates and students of colleges, of homeopathic or eclectic medicine, as many years as they attended those colleges, provided they have met the previous requirements of the Association and that they pass an examination in materia medica and therapeutics; (c) To graduates of reputable colleges of mentistry, pharmacy, and veterinary medicine, one year of time.

SEC. 7.—A college not giving the whole four courses of the medical curriculum, and not graduating students, but otherwise eligible, may be admitted to membership.

At the last meeting of this Association new regulations were adopted. After July 1, 1905, matriculants must have a diploma from a four-year high school or an equivalent education. Full particulars were given in THE JOURNAL, July 25, page 274.

The following colleges are members: Arkansas University Med. Dept., University of Southern California College of Medicine, University of California Med. Dept., University of Colorado Medical School, Denver and Gross College of Medicine, Yale University Med. Dept., Columbian University Med. Dept., Georgetown University Med. Dept., Howard University Med. Dept., National University Med. Dept. of Washington, D. C., American Medical Missionary College, University of Illinois Med. Dept., Illinois Medical College, Northwestern University Medical School, Rush Medical College, Fort Wayne College of Medicine, Central College of Physicians and Surgeons, Medical College of Indiana, Iowa College of Physicians and Surgeons, University of Iowa College of Medicine, Keokuk Medical College, Sioux City College of Medicine, Kansas Medical College, University of Kansas Med. Dept., Hospital College of Medicine, Kentucky School of Medicine, University of Louisville Med. Dept., Kentucky University Med. Dept., Flint Medical College, Baltimore Medical College, Baltimore University School of Medicine, Baltimore College of Physicians and Surgeons, Johns Hopkins University Medical School, University of Maryland School of Medicine, Woman's Medical College of Baltimore, Boston College of Physicians and Surgeons, University of Michigan Department of Medicine and Surgery, Detroit College of Medicine, Michigan College of Medicine and Surgery, Hamline University College of Medicine, University of Minnesota College of Medicine, University of Missouri Med. Dept., Kansas City Medical College, University Medical College of Kansas City, Barnes Medical College, Marion Sims-Beaumont Medical College, St. Louis College of Physicians and Surgeons, John A. Creighton Medical School, Omaha Medical College, University of Nebraska College of Medicine, University of Buffalo Med. Dept., College of Medicine Syracuse University, University of North Carolina Med. Dept., Medical College of Ohio, Miami Medical College, Western Reserve University Medical College, Cleveland College of Physicians and Surgeons, Ohio Medical University, Starling Medical College, Toledo Medical College, University of Oregon Med. Dept., Med. Dept. Willamette University, Jefferson Medical College, Medico-Chirurgical College, Woman's Medical College of Pennsylvania, Western Pennsylvania Medical School, University of Virginia College of Medicine, Milwaukee Medical College, and Wisconsin College of Physicians and Surgeons.

Further information may be had of the secretary, Dr. F. C. Zapffe, 1764 Lexington street, Chicago.

THE SOUTHERN MEDICAL COLLEGE ASSOCIATION.

The following extracts from the Constitution show a portion of the regulations controlling matriculants:

ART. IV. SEC. 3. He must possess a diploma of graduation from some literary or scientific institution of learning, or a certificate from some legally constituted high school, general superintendent of state education, or superintendent of some county board of public education, attesting that he has been regularly examined and is possessed of at least the educational attainments required of first grade teachers of public schools or a certificate that he has passed the entrance examination to a university; and a student may be given one month, from the date of his admission, to submit his certificate of qualification.

A candidate for graduation (among other provisions), "must have attended, in a regular and reputable medical college, four full courses of lectures, of not less than six months (26 weeks) each, in four separate years, which is construed to mean that no two courses shall either commence or close in the same calendar year—that is, between January 1 and the ensuing December 31." (Art. VI, Sec. 2.)

The following colleges are members: Medical College of Alabama, Birmingham Medical College, Tulane University Med. Dept., University of Mississippi Med. Dept., University of Tennessee Med. Dept., University of Nashville Med. Dept., University of the South Med. Dept., Vanderbilt University Med. Dept., Tennessee Medical College, Baylor University Med. Dept, Fort Worth University Med. Dept., Medical College of Virginia, University College of Medicine.

The secretary is Dr. G. C. Savage, Nashville, Tenn.

AMERICAN INSTITUTE OF HOMEOPATHY.

The minimum requirements for entrance into the freshman class of all homeopathic medical colleges, as adopted in 1901, are, with abbreviation, as follows:

1. English Composition. Exercise on assigned theme, not less than 200 words. Exercise in reading. Exercise in correction of ungrammatical sentences.

2. Mathematics. Arithmetical exercises in (a) vulgar fractions; (b) decimals; (c) percentage; (d) proportion; (e) square and cube root; (f) weights and measures; (g) decimal system. Mensuration. (a) Definition of terms: (b) exercises under the more fundamental rules.

3. Geography (general facts about North America).

4. History. General, with particular reference to human progress in art, science and letters. (The examination to avoid exact dates and minor details.)

5. Latin Language. (a) Grammar; (b) four books of Cæsar, or its equivalent.

The colleges recognized as in good standing by this organization are: Hahnemann Medical College of the Pacific; Denver Homeopathic Medical College; Hahnemann Medical College, Chicago; Chicago Homeopathic Medical College; Hering Medical College; Homeopathic Medical Department of the State University of Iowa; Southwestern Homeopathic College; Kansas City Hahnemann Medical College; Southern Homeopathic Medical College; Boston University School of Medicine; Homeopathic Medical College of University of Michigan; College of Homeopathic Medicine and Surgery of University of Minnesota; Homeopathic Medical College of Missouri; New York Homeopathic Medical College; New York Medical College; Cleveland Homeopathic Medical College; Pulte Medical College; Hahnemann Medical College of Philadelphia.

The secretary is Dr. Chas. Gatchell, 100 State st., Chicago.

THE NATIONAL CONFEDERATION OF ECLECTIC MEDICAL COLLEGES.

The following are the minimum requirements of this confederation, for admission to the freshman year:

2. Good English education, to be attested by (a) first grade teacher's certificate; (b) a diploma from a graded high school or literary or scientific college or university; (c) regent's medical student's certificates; (d) entrance examination.

3. An elementary knowledge of natural history, physics and Latin.

The following colleges are members of this confederation: Eclectic Medical Institute, Cincinnati; American Medical College, St. Louis; Eclectic Medical College, New York; Bennett College of Eclectic Medicine and Surgery; California Medical College; Georgia College of Eclectic Medicine and Surgery; Lincoln Medical College.

The secretary is Dr. John K. Scudder, 1009 Plum st., Cincinnati.

COLLEGE NOTES.

Miscellaneous Items of Interest About Many Colleges.

Oklahoma School Not Yet in Operation.—We announced last year the formation of a new medical college in Oklahoma City. The secretary informs us that the school is not yet in operation.

Medical Department University of Mississippi.—This school is to be opened this fall, but for the present only the first two years' work will be undertaken. The dean is Dr. W. S. Leathers, Oxford.

The Table of Homes of Students.—This table on pages 454 to 457 does not give the statistics of every college, as some colleges failed to furnish, or were unable to indicate, the states from which their students came.

Michigan College of Medicine and Surgery.—This school has established a department of tropical medicine, the lecturers for the coming year being Drs. R. S. Linn and V. J. Hooper, both of whom served as volunteer surgeons in the late war.

Canadian Students in the United States.—In the table indicating homes of students, pages 454 to 457, those marked foreign include Canadians. This will explain the number in the "foreign" column, in certain colleges located near the border.

Southwestern University Medical Department.—The curators and trustees of the Southwestern University of Georgetown, Texas, have accepted the offer made by the Texas College of Physicians and Surgeons of Dallas, to make it the medical department of the University.

States That Have No Medical Schools.—The following states and territories contain no medical colleges: Arizona, Delaware, Florida, Idaho, Indian Territory, Montana, New Jersey, New Mexico, Nevada, North Dakota, Rhode Island, South Dakota, Utah, Washington, West Virginia and Wyoming.

Hospital College Improvements.—The faculty of the Hospital College of Medicine has renewed the contract with Central University of Kentucky for ten years, continuing as the medical department of the university. The university owns the college buildings, which it is said will be altered for the 1904 session.

Teaching Methods.—This is the title of a little publication published by the University College of Medicine, Richmond, Va., a year ago. It has been the subject of a great deal of favorable comment. It indicates the hold modern educational ideas are obtaining in the colleges of medicine. Medical teachers may be glad to read this booklet.

Medical Department Arkansas University.—A committee has been appointed to devise ways and means to erect a new "Folsom Clinic." It is expected to cost not less than $20,000. Dr. H. C. Stinson, superintendent of the State Asylum for the Insane, will hereafter lecture on nervous diseases, in place of Dr. Illing. Dr. J. W. Jenkins has been elected adjunct professor of surgery.

Medical College of Virginia.—This school has a fine new hospital. The patients from the Old Dominion Hospital, formerly used by the college, have been removed to the new Memorial Hospital, and the former building is being converted into laboratories to meet the demand for more room caused by the increase in students. Dr. J. Shelton Horsley, formerly of El Paso, Texas, has accepted the chair of the principles of surgery in this college.

Kentucky University, Continuous Session.—The Medical Department of Kentucky University, beginning October 1, will inaugurate a continuous session, divided into four quarters of thirteen weeks each. The course requires four years, with an attendance of at least two quarters in each year, a student beginning his studies with any quarter. At least forty-two months must elapse between the date of his first matriculation and the date of graduation.

The University of Kansas School of Medicine.—This school is remodeling and refitting the old laboratories and will add several new ones in Snow Hall, from which the natural history collections are being removed for installation in the new Museum Building. By this arrangement they will have some fine rooms for microscopic work. To fill the position of associate professor of anatomy, Dr. G. H. Hoxie, A.M. (Union College), M.D. Zurich, takes the place of Dr. S. W. Williston, who has gone to the University of Chicago.

University College of Medicine.—Arrangements are about perfected whereby the University College of Medicine, Richmond, Va., will obtain the entire ownership of a hospital containing 140 beds. This hospital, which is provided with a large number of private rooms beside the wards, has a spacious surgical amphitheater in addition to the private operating room. It is well equipped with all the accessories of a modern hospital including a free ambulance service. Its x-ray apparatus is called one of the best in the south.

Is the Woman's College Passing?—Among the colleges that have ceased operation in the past two years are the Northwestern University Woman's Medical College, Chicago, and Laura Memorial Woman's Medical College, Cincinnati. The undergraduates of these institutions continued their work in most instances in coeducational schools. There now remain only the Woman's Medical College of Baltimore; the Woman's Medical College of Kansas City, and the Woman's Medical College of Pennsylvania. The question arises: Is the woman's college suffering in competition with the coeducational school?

University of Michigan Department of Medicine and Surgery.—The psychopathic ward now being erected in connection with the hospital of the University of Michigan will be opened early in the fall. This ward will contain forty typical cases of insanity, and these will be used for the double purpose of scientifically studying forms of insanity and for the instruction of students. This department of the University Hospital will be in touch with the insane asylums of the state, and from the latter typical cases of insanity will be sent to the hospital.

New Colleges and Colleges Discontinued.—The following new colleges are mentioned this year: Southwestern Presbyterian University Medical Department, Nashville, Tenn.; University of West Tennessee Medical Department, Jackson; Southwestern University Medical Department, Dallas, Tex. In addition there are two new schools that give only the first two years of the course: Wake Forest (N. C.) School of Medicine and University of Mississippi Medical Department, Oxford. The following colleges have passed out of existence: Dunham Medical College has been consolidated with Hering Medical College, Chicago; Saginaw Valley Medical College has been consolidated with the Michigan College of Medicine and Surgery, Detroit; Laura Memorial Woman's Medical College has ceased to exist, being partially absorbed by the Miami Medical College; the Medical Department of the State University at Louisville, Ky. (colored), has been absorbed by the Louisville National Medical College. In addition, plans are being discussed for the consolidation of the Medical College of Indiana and Central College of Physicians and Surgeons, both of Indianapolis.

Name of College.	Estimated population of city in which college is located.	No. of students registered, session 1902-3.	Graduates, 1903.	Total number of teachers.	Number of weeks in college year.	Total graduates all colleges in state, 1903.	Total students in all colleges in state, 1902-3.
ALABAMA	.....	....	....	....	....	34	239
Birmingham Medical College.—R	38,000	94	22	32	24		
Medical College of Alabama.—R	"	145	12	18	24		
ARKANSAS	.....	....	....	....	....	12	236
Medical Department Arkansas University.—R	60,000	236	12	36	24		
CALIFORNIA	.....	....	....	....	....	145	683
Cooper Medical College.—R	400,000	212	45	40	32		
Medical Department University of California.—R	"	115	26	70	36		
California Medical College.—E	"	60	7	28	32		
Hahnemann Medical College of the Pacific.—H	"	38	12	42	28		
College of Physicians and Surgeons, San Francisco.—R	"	146	28	46	36		
Oakland College of Medicine and Surgery.—R	67,000	6	....	21	32		
College of Medicine, University of Southern California.—R	102,479	106	27	34	32		
COLORADO	.....	....	....	....	....	47	222
Denver and Gross College of Medicine.—R	175,000	130	33	83	32		
Denver Homeopathic College.—H	"	29	6	32	28		
Colorado School of Medicine.—R	6,150	63	8	27	36		
CONNECTICUT	.....	....	....	....	....	27	145
Yale University, Medical Department.—R	115,000	145	27	52	32		
DISTRICT OF COLUMBIA	.....	....	....	....	....	94	582
Columbian University, Department of Medicine.—R	278,718	260	34	56	32		
Georgetown University School of Medicine.—R	"	144	22	53	32		
Howard University, Medical Department.—R	"	141	29	35	28		
National University, Medical Department.—R	"	37	9	37	32		
GEORGIA	.....	....	....	....	....	43	356
Atlanta College of Physicians and Surgeons.—R	89,872	200	34	28	24		
Georgia College of Eclectic Medicine and Surgery.—E	"	46	2	12	24		
Medical College of Georgia.—R	39,441	110	7	24	24		
ILLINOIS	.....	....	....	....	....	850	4,055
American Medical Missionary College.—R	1,900,000	88	22	25	36		
Bennett College of Eclectic Medicine and Surgery.—E	"	113	18	37	26		
Chicago Homeopathic Medical College.—H	"	130	37	63	30		
College of Medicine and Surgery.—Ph.M	"	76	12	44	28		
College of Physicians and Surgeons, Chicago.—R	"	685	216	133	32		
Hahnemann Medical College and Hospital.—H	"	195	69	60	28		
Harvey Medical College.—R	"	330	20	63	40		
Hering Medical College.—H	"	90	22	44	28		
Illinois Medical College.—R	"	265	47	45	24		
Jenner Medical College.—R	"	107	13	53	44		
Northwestern University Medical School.—R	"	608	127	108	36		
Rush Medical College.—R	"	1,047	220	166	36		
National Medical University	"	173	17	76	36		
American College of Medicine and Surgery.—E	"	126	10	65	32		
INDIANA	.....	....	....	....	....	117	550
Central College of Physicians and Surgeons.—R	169,164	115	22	68	28		
Medical College of Indiana.—R	"	332	76	68	28		
Physio-Medical College of Indiana.—Ph.M	"	29	9	30	26		
Eclectic Medical College of Indiana.—E	"	28	5	31	24		
Fort Wayne College of Medicine.—R	45,115	46	5	34	28		
IOWA	.....	....	....	....	....	126	667
Keokuk Medical College of Physicians and Surgeons.—R	14,641	243	56	22	28		
Iowa College of Physicians and Surgeons.—R	62,139	66	11	32	36		
Sioux City College of Medicine.—R	33,111	72	13	15	32		
State University of Iowa, Homeopathic Medical Dept.—H	7,987	35	11	20	36		
State University of Iowa, Medical Department.—R	"	251	35	39	36		
KANSAS	.....	....	....	....	....	22	184
College of Physicians and Surgeons of Kansas City.—R	55,000	52	10	42	28		
Kansas Medical College.—R	33,608	101	12	33	30		
School of Medicine, University of Kansas	10,862	31	....	18	....		
KENTUCKY	.....	....	....	....	....	278	1,573
Hospital College of Medicine.—R	225,000	421	69	44	24		
Kentucky School of Medicine.—R	"	290	56	39	28		
Louisville Medical College.—R	"	257	53	22	24		
Louisville National Medical College.—R	"	26	4	19	28		
Southwestern Homeopathic Medical College.—H	"	22	5	30	28		
Medical Department, University of Louisville.—R	"	227	34	37	24		
Kentucky University, Medical Department.—R	"	330	57	33	26		
LOUISIANA	.....	....	....	....	....	87	447
Flint Medical College of New Orleans University	287,104	42	5	13	30		
Tulane University, Medical Department.—R	"	405	82	41	28		
MAINE	.....	....	....	....	....	20	100
Medical School of Maine, Bowdoin College.—R	50,000	100	20	18	26		
MARYLAND	.....	....	....	....	....	404	1,678
Baltimore Medical College.—R	508,957	410	93	51	28		
Baltimore University School of Medicine.—R	"	58	26	25	24		
College of Physicians and Surgeons of Baltimore.—R	"	315	76	49	28		
Medical Department, Johns Hopkins University.—R	"	257	49	74	34		
Southern Homeopathic Medical College.—H	"	26	3	32	28		
University of Maryland, School of Medicine.—R	"	392	96	55	30		
Woman's Medical College of Baltimore.—R	"	16	2	27	32		
Maryland Medical College.—R	"	204	59	33	32		
MASSACHUSETTS	.....	....	....	....	....	204	1,025
Boston University School of Medicine.—H	603,163	127	36	58	32		
College of Physicians and Surgeons.—R	"	117	19	39	32		
Harvard University Medical School.—R	"	432	114	138	36		
Tufts' College Medical School.—R	"	349	35	74	32		
MICHIGAN	.....	....	....	....	....	250	1,043
Detroit College of Medicine.—R	300,000	257	62	71	28		
Detroit Homeopathic Medical College.—H	"	52	14	35	28		
Michigan College of Medicine and Surgery.—R	"	66	19	36	28		
Grand Rapids Medical College—R	87,565	52	16	31	24		
Saginaw Valley Medical College.—R	43,000	85	34	30	28		
University of Michigan Dept. of Medicine and Surgery.—R	14,509	455	92	67	36		
University of Michigan Homeopathic Medical College.—H	"	76	13	20	36		
MINNESOTA	.....	....	....	....	....	110	456
College of Homeopthic Med. and Surg., Univ. of Minn.—H	225,000	18	6	33	34		
College of Medicine and Surgery, Univ. of Minnesota.—R	"	315	70	84	36		
Medical Department of Hamline University.—R	"	123	34	40	36		
MISSOURI	.....	....	....	....	....	522	2,476
Medico-Chirurgical College.—R	163,752	83	19	61	24		
Woman's Medical College.—R	"	16	1	50	28		

NAME OF COLLEGE.	Estimated population of city in which college is located.	No. of students registered, session 1902-3.	Graduates, 1903.	Total number of teachers.	Number of weeks in college year.	Total graduates all colleges in state, 1903.	Total students in all colleges in state, 1902-3.
MISSOURI.—*Continued*							
University Medical College of Kansas City.—R	163,752	222	63	46	28		
Kansas City Hahnemann Medical College.—H	"	71	17	38	28		
Kansas City Medical College.—R	"	122	24	45	28		
Eclectic Medical University.—E	"	61	15	22	24		
Central Medical College.—R	105,000	80	23	24	28		
Ensworth Medical College.—R	"	110	14	34	28		
Barnes' Medical College.—R	575,238	495	100	44	28		
Marion-Sims-Beaumont College of Medicine.—R	"	391	88	95	28		
St. Louis College of Physicians and Surgeons.—R	"	270	62	49	28		
American Medical College.—E	"	78	18	14	28		
Homeopathic Medical College of Missouri.—H	"	66	13	31	28		
Medical Department, Washington University.—R	"	281	53	61	30		
University of the State of Missouri.—R	5,651	98	12	32	36		
NEBRASKA						83	366
University of Nebraska College of Medicine	102,555	138	38	55	32		
John A. Creighton Medical College.—R	"	142	29	43	30		
Lincoln Medical College of Cotner University.—E	40,169	86	16	27	32		
NEW HAMPPSHIRE						14	65
Dartmouth Medical College.—R	1,884	65	14	23	32		
NEW YORK						498	2,581
Albany Medical College.—R	100,000	165	33	64	30		
College of Physicians and Surgeons.—R	3,437,202	795	168	114	32		
Cornell University Medical College.—R	"	394	60	142	30		
Eclectic Medical College.—E	"	104	13	30	28		
Long Island College Hospital.—R	"	290	40	73	30		
New York Homeopathic Medical College and Hospital.—H	"	111	29	62	28		
New York Medical College and Hospital for Women.—H	"	34	8	44	26		
University and Bellevue Hospital Medical College.—R	"	311	73	107	32		
Syracuse University College of Medicine.—R	108,374	140	29	50	32		
University of Buffalo, Medical Department.—R	352,387	237	45	79	28		
NORTH CAROLINA						37	273
Leonard Medical School.—R	13,643	113	23	11	24		
Wake Forest School of Medicine	823	10	....	5	....		
North Carolina Medical College.—R	904	67	10	19	32		
Medical Department, University of North Carolina	13,643	83	4	25	28		
OHIO						365	1,188
Western Reserve University Medical College.—R	381,768	97	26	51	32		
Cleveland College of Physicians and Surgeons.—R	"	86	22	63	32		
Cleveland Homeopathic Medical College.—H	"	115	40	56	30		
Eclectic Medical Institute.—E	325,902	146	45	29	30		
Laura Memorial Woman's Medical College.—R	"	20	7	....	....		
Medical College of Ohio.—R	"	170	54	50	32		
Pulte Medical College.—H	"	30	10	32	28		
Miami Medical College.—R	"	106	40	47	32		
Ohio Medical University.—R	125,560	214	58	34	32		
Starling Medical College.—R	"	163	49	36	32		
Toledo Medical College.—R	131,822	41	14	38	32		
OREGON						17	128
University of Oregon Medical Department.—R	100,000	88	10	27	28		
Medical Department, Willamette University.—R	4,258	40	7	16	24		
PENNSYLVANIA						548	2,456
Temple College of Philadelphia, Dept. of Medicine	1,293,697	70	....	37	36		
University of Pennsylvania Department of Medicine.—R	"	469	111	103	36		
Hahnemann Medical College and Hospital.—H	"	233	69	56	32		
Jefferson Medical College.—R	"	771	166	102	32		
Woman's Medical College of Pennsylvania.—R	"	165	30	53	32		
Medico-Chirurgical College of Philadelphia.—R	"	431	93	77	32		
Western Pennsylvania Medical College.—R	321,616	317	79	70	32		
SOUTH CAROLINA						21	95
Medical College of the State of South Carolina.—R	55,807	95	21	21	24		
TENNESSEE						447	2,134
Tennessee Medical College.—R	32,637	62	8	20	28		
Knoxville Medical College.—R	"	23	6	13	24		
Medical Department of University of Nashville.—R	80,865	317	50	27	26		
Vanderbilt University Medical Department.—R	"	162	34	35	24		
University of Tennessee, Medical Department.—R	"	150	33	27	24		
Meharry Medical College.—R	"	252	41	22	24		
Memphis Hospital Medical College.—R	102,320	675	195	28	24		
Sewanee Medical College.—R	1,200	203	38	22	24		
Chattanooga National Medical College.—R	30,154	9	1	18	28		
Chattanooga Medical College.—R	"	264	41	28	28		
University of West Tennessee, Medical Department	15,000	17	....	10	28		
TEXAS						75	523
Medical Department Fort Worth University.—R	35,000	108	5	32	24		
University of Texas Department of Medicine.—R	37,789	179	35	25	32		
Baylor University College of Medicine	55,000	66	3	40	24		
Physio-Medical College of Texas	"	20	3	28	26		
Dallas Medical College.—R	"	150	29	40	24		
VERMONT						31	246
University of Vermont Medical Department.—R	20,000	246	31	45	28		
VIRGINIA						104	557
Medical College of Virginia.—R	85,050	219	35	38	28		
University College of Medicine.—R	"	187	44	53	30		
University of Virginia Department of Medicine.—R	6,449	151	25	31	36		
WISCONSIN						66	286
Milwaukee Medical College.—R	300,000	184	43	59	28		
Wisconsin College of Physicians and Surgeons.—R	"	102	23	47	32		

The Family Physician to the Medical Attendant at the Health Resort.—A writer in the *Corr.-Blatt f. Schweizer Aerzte* calls attention to an antiquarian catalogue, which lists a number of letters written 1865 to 1888 by prominent Swiss physicians commending certain patients to the care of a physician at a watering place, and posting in regard to the details of each case. Another bunch of similar letters written by a physician at Zurich, still in active practice and addressed to a resort physician, are offered for sale at 37c. each. These facts warrant great care on the part of physicians in the matter of such correspondence, and impose greater prudence on the resort physicians not to allow such letters to be exploited for gain. The article concludes with an appeal to resort physicians to reply to these carefully-written letters, a courtesy and necessity which is too often neglected. The family physician is anxious to know the measures attempted and the results, and will be grateful for any aids in the diagnosis if communicated in writing. Any such communications given orally to the patients are liable to be misunderstood and defectively transmitted.

NAME OF COLLEGE.*	Alabama.—524	Arizona.—4	Arkansas.—561	California.—612	Colorado.—195	Connecticut.—290	Delaware.—60	D. of Colum.—139	Florida.—115	Georgia.—463	Idaho.—28	Illinois.—2619	Indian Ter.—103	Indiana.—1111	Iowa.—1095	Kansas.—612	Kentucky.—1016	Louisiana.—470	Maine.—231	Maryland.—465	Massach'ts.—1171
Birmingham Medical College	92	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medical College of Alabama	135	...	...	...	...	...	...	...	3	...	...	...	...	...	1	...	...	...	...	...	...
Medical Department Arkansas University	...	...	213	...	...	...	...	...	...	...	...	...	7	...	...	...	...	6	...	...	...
Coll. of Physicians and Surgs., San Francisco	...	...	...	60	...	1	...	...	...	...	...	8	...	5	5	3	2	1	...	...	...
Cooper Medical College	...	...	...	186	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
California Medical College	...	2	...	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Coll. of Med., University of So. California	...	...	...	81	2	...	...	...	...	...	...	6	...	...	3	...	...	...	...	...	...
Oakland College of Medicine and Surgery	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hahnemann Medical College of the Pacific	...	...	...	34	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
University of California Med. Department	...	...	...	107	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Denver Homeopathic College	...	...	...	...	15	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	2
Colorado School of Medicine	...	...	...	...	37	...	...	...	...	...	...	1	...	2	5	...	1	...	3	...	...
Denver and Gross College of Medicine	1	...	1	1	74	1	...	...	...	...	1	5	...	2	4	2	3	1	...	...	2
Yale University Medical Department	...	...	...	...	...	100	1	...	...	...	...	...	...	...	...	2	...	...	...	...	14
Howard University Medical Department	2	...	1	...	...	...	...	35	4	9	...	2	...	3	1	4	3	1	...	3	1
Medical Department Columbian University	...	...	1	1	...	2	...	38	...	4	1	10	...	7	1	1	3	3	5	30	5
University of Georgetown Med. Department	1	...	...	...	1	3	1	42	1	...	...	3	...	...	...	1	1	1	...	8	27
Atlanta College of Physicians and Surgeons	17	...	...	...	...	1	...	...	11	153	...	...	1	...	...	...	1	...	...	...	...
Medical College of Georgia	1	...	...	...	...	...	...	...	...	94	...	...	...	...	...	...	...	...	...	...	...
Georgia Coll. of Eclectic Med. and Surg.	3	...	4	...	...	...	...	...	1	35	...	...	1	...	...	...	...	...	...	...	...
American Medical Missionary College	...	...	...	5	1	...	...	...	1	...	...	4	...	1	13	2	...	...	1	...	1
Bennett Coll. of Eclectic Med. and Surg	...	...	...	1	...	...	...	...	...	...	...	67	...	7	5	...	...	...	...	...	...
Chicago Homeopathic Medical College	...	...	...	1	...	...	...	...	...	...	...	57	...	12	16	5	1	...	1	...	...
College of Medicine and Surgery	1	...	...	2	2	1	...	...	...	...	1	30	...	4	2	...	1	...	...	...	1
Harvey Medical College	...	...	...	...	...	...	...	...	...	...	...	330	...	...	...	...	...	...	...	...	...
Coll. of Phys. and Surgs. of Chicago	...	...	3	3	1	1	...	1	1	...	...	379	...	25	81	15	1	1	...	...	1
Jenner Medical College	...	...	...	1	2	...	...	...	...	...	...	82	...	1	2	...	1	...	...	1	...
Hahnemann Medical College and Hospital	...	...	...	2	...	1	3	...	...	...	1	80	...	5	32	5	1	...	...	...	2
Hering Medical College	...	...	...	1	2	...	...	...	...	...	...	58	1	3	2	4	...	...	...	...	...
Illinois Medical College	1	...	...	2	2	...	...	...	...	1	6	67	...	52	4	7	3	3	...	...	1
Northwestern University Medical School	...	...	...	5	2	...	...	...	...	...	1	251	2	22	107	14	...	1	...	1	...
Rush Medical College	...	...	6	12	10	...	...	...	...	1	1	382	1	81	92	30	9	1	1	1	8
National Medical University	...	...	1	2	1	1	...	...	...	1	...	99	2	3	10	5	2	...	...	1	...
American College of Medicine and Surgery	3	...	2	2	2	2	...	...	...	4	...	34	1	21	2	1	2	1	2	1	1
Central Coll. of Phys. and Surgs. of Indiana	...	...	...	...	...	...	...	...	...	...	...	4	...	97	3	...	1	...	...	...	...
Eclectic Medical College of Indiana	...	...	...	1	...	...	...	...	...	...	...	...	...	26	...	...	...	...	...	...	...
Medical College of Indiana	2	...	1	...	1	...	...	...	...	...	...	15	...	300	1	...	...	...	...	...	...
Physio-Medical College of Indiana	...	...	...	...	...	...	...	...	...	...	...	3	...	16	...	...	...	...	...	...	...
Fort Wayne College of Medicine	...	...	...	...	...	...	...	...	...	...	...	...	...	35	...	...	...	...	...	...	...
Keokuk Med. Coll. of Phys. and Surgs.	...	...	...	1	3	...	...	...	...	...	1	48	...	3	128	7	...	...	...	...	...
Iowa College of Physicians and Surgeons	...	...	...	...	...	...	...	...	...	...	...	1	...	...	61	...	...	...	...	...	...
Sioux City College of Medicine	...	...	...	...	...	...	...	...	...	...	...	2	...	1	49	...	...	...	...	...	...
State University of Iowa Homeo. Med. Dept.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	34	...	...	...	...	...	...
State University of Iowa Med. Dept	...	...	...	1	...	...	...	...	...	...	...	10	...	...	230	1	...	...	...	...	...
Coll. of Phys. and Surgs. of Kansas City	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	32	...	...	...	...	...
Kansas Medical College	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	93	...	...	...	...	...
School of Medicine of University of Kansas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31	...	...	...	...	...
Hospital College of Medicine	2	...	5	...	...	...	...	...	3	...	...	7	2	35	...	6	291	3	...	...	...
Louisville Medical College	14	...	6	...	...	...	...	...	1	7	...	3	3	33	...	6	71	8	...	...	...
Louisville National Medical College	...	...	...	...	...	...	...	...	...	...	...	1	...	4	...	...	17	...	...	...	...
Kentucky School of Medicine	2	...	4	...	1	1	...	...	2	2	1	7	3	61	...	1	92	...	1	1	2
S. W. Homeopathic Medical College	...	...	...	...	...	...	...	...	...	...	...	1	...	8	...	...	11	...	...	...	...
Medical Department University of Louisville	...	...	2	1	1	...	...	...	...	1	...	7	...	38	1	...	116	2	...	...	...
Kentucky University Medical Department	6	...	5	1	...	...	...	...	2	5	...	5	3	43	1	5	155	6	1	...	2
Flint Med. College of New Orleans Univ.	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	20	...	...	...
Tulane University Medical Department	28	1	17	...	1	...	...	...	11	2	...	...	...	1	...	...	1	211	...	1	...
Med. School of Maine at Bowdoin Coll.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	88	...	7
Baltimore Medical College	1	...	...	...	...	14	1	1	1	4	...	3	...	3	...	...	...	...	13	76	65
Baltimore University School of Medicine	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	1	...	1	12	6
Coll. of Phys. and Surgs., Baltimore	3	...	...	1	1	16	4	...	1	4	...	...	...	2	...	...	1	...	6	40	26
Med. Dept. Johns Hopkins University	7	...	...	9	2	10	...	3	3	7	...	11	...	4	8	2	7	...	13	42	11
Southern Homeopathic Medical College	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...	...	...	...	...	12	...
University of Maryland School of Medicine	...	...	1	...	...	...	4	1	7	15	...	...	...	...	...	...	2	...	2	155	9
Woman's Medical College of Baltimore	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	9	...
Maryland Medical College	3	...	1	1	...	3	4	...	4	8	...	...	1	...	1	...	1	4	7	36	9
Boston University School of Medicine	1	...	...	1	...	3	...	...	1	...	...	...	...	...	...	...	...	...	6	...	84
College of Physicians and Surgeons	...	...	...	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	1	1	80
Harvard University Medical School	...	...	...	5	...	5	...	...	...	...	...	7	...	1	...	...	...	...	20	...	330
Tufts College Medical School	...	...	1	...	1	6	...	...	...	...	...	...	...	...	1	...	...	...	14	...	273
Detroit College of Medicine	...	...	...	...	...	...	...	1	...	...	...	1	...	...	2	...	...	...	...	...	1
Saginaw Valley Medical College	...	...	...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	1
Univ. of Mich. Dept. of Med. and Surg.	2	...	1	4	1	1	...	...	1	3	...	25	1	14	11	2	2	...	...	...	2
Grand Rapids Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
University of Michigan Homeo. Med. Coll.	1	...	...	...	...	...	...	...	...	...	...	1	...	6	...	...	...	...	2	...	1
Michigan College of Medicine and Surgery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Detroit Homeopathic Medical College	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
College of Homeo. M. and S., Univ. of Minn.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hamline University College of Medicine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
University of Minn. College of M. and S.	...	...	...	1	...	...	...	...	...	...	...	2	...	...	13	2	...	...	...	...	...
Medico-Chirurgical College	...	...	2	1	1	...	...	...	...	...	...	3	3	...	1	19	...	2	...	...	1
Ensworth Medical College	...	...	...	...	...	...	...	...	...	...	...	2	...	...	7	8	1	...	...	...	...
Woman's Medical College	...	...	3	...	2	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...
Central Medical College	...	...	...	...	1	...	...	...	...	...	1	...	1	2	5	10	...	...	...	...	...
Barnes Medical College	1	...	30	...	2	1	...	...	1	...	2	99	12	10	18	15	8	1	...	...	1
University Medical College of Kansas City	...	...	...	2	1	...	...	...	...	...	...	4	4	...	7	80	...	...	...	...	...
Kansas City Hahnemann Medical College	...	...	...	2	...	...	...	...	1	...	...	...	...	1	1	26	1	...	...	...	...
Marion-Sims-Beaumont College of Medicine	...	1	6	2	1	...	...	...	...	...	...	133	1	9	11	20	1	3	...	...	...
St. Louis Coll. of Phys. and Surgs	1	...	15	...	1	...	...	...	...	...	1	82	3	8	21	4	9	1	...	...	...
American Medical College	...	...	10	...	...	...	...	...	...	...	1	13	2	...	3	...	...	1	...	...	...
Kansas City Medical College	...	...	...	...	2	...	...	...	...	...	...	3	...	...	...	59	1	...	...	...	...
Univ. of the State of Missouri Med. Dept.	...	...	...	...	...	...	...	...	...	...	1	3	...	1	2	1	...	2	...	...	1
Med. Dept. Washington University	...	...	12	1	3	...	...	...	...	...	1	74	3	3	5	5	3	2	...	...	...
Homeopathic Medical College of Missouri	...	...	...	...	...	...	...	...	...	...	1	15	2	3	...	13	2	...	...	...	...
Eclectic Medical University	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	28	...	1	...	...	...
University of Nebraska Coll of Med	...	...	...	...	2	...	...	...	...	...	...	...	...	...	26	...	...	...	...	...	...
Lincoln Medical College	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	12	1	...	...	...	...
John A. Creighton Medical College	...	...	...	...	1	...	...	...	...	...	...	...	...	1	26	4	...	...	...	...	...
Dartmouth Medical School	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	3	...	18
Union University Albany Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
Cornell University Medical College	2	...	...	...	...	3	...	3	...	...	...	1	...	2	1	...	...	1	1	...	5

* The total number of students from each state is given at the top of each column.

Michigan.—810	Minnesota.—538	Mississippi.—557	Missouri.—285	Montana.—34	Nebraska.—429	N. H'mpsh're.—141	New Jersey.—510	New Mexico.—9	New York.—2414	Nevada.—11	N. Carolina.—402	N. Dakota.—98	Ohio.—1289	Oklahoma.—92	Oregon.—153	Pennsyl'nia.—2119	R. Island.—125	S. Carolina.—252	S. Dakota.—94	Tennessee.—627	Texas.—916	Utah.—60	Vermont.—169	Virginia.—615	Washington.—91	W. Virginia.—358	Wisconsin.—678	Wyoming.—19	Canada.—203	Foreign.—345	Total.—27327
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	94
...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	145
...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	236
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Med. Coll. of the State of South Carolina	...	...	...	...	...	...	...	...	2	1	...	...	...	1	...	...	...	...	...	...	...
Chattanooga National Medical College	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	1	...	...	...	...
Med. Dept. University of Tennessee	8	...	1	...	...	...	...	...	1	...	...	1	3	...	...	...	22	8	...	...	...
Chattanooga Medical College	49	...	7	1	2	...	...	1	2	27	...	3	2	...	2	...	9	2	1	...	...
Meharry Medical College	18	...	23	...	...	2	...	...	17	14	...	6	...	...	...	4	15	13	...	...	...
Memphis Hospital Medical College	31	...	129	...	...	...	...	...	1	7	...	...	18	1	1	1	4	83	...	...	...
Med. Dept. University of the South	16	...	11	...	...	...	...	...	8	16	...	...	...	1	...	...	5	28	...	...	1
Tennessee Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	...
University of Nashville Medical Department	25	...	22	...	...	...	...	...	4	4	...	3	1	2	...	...	19	33	...	...	...
Vanderbilt University Medical Department	17	...	3	2	...	1	...	...	...	2	...	2	2	...	...	...	12	2	1	...	...
Knoxville Medical College	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...
Medical Department Ft. Worth University	...	...	1	...	...	...	...	...	...	...	...	...	7	...	...	...	1	2	...	...	...
Physio-Medical College of Texas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medical Department University of Texas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Baylor University Medical College	...	...	...	...	...	...	...	...	...	...	...	1	6	...	...	...	...	3	...	...	...
Dallas Medical College	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
University of Vermont Medical Department	...	...	...	...	...	18	1	...	...	...	...	1	...	...	...	...	...	...	9	1	37
University College of Medicine	...	...	...	...	...	...	...	...	4	2	...	...	...	...	...	...	...	...	...	...	1
University of Virginia Dept. of Med.	11	...	...	...	...	1	...	2	2	3	...	...	...	...	...	...	3	6	...	5	1
Medical College of Virginia	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2
Wisconsin College of Phys. and Surgs.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Milwaukee Medical College	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...

Societies.

Medical Society of Nova Scotia.—The following officers were elected at the recent annual meeting held at Antigonish, July 1 and 2; President, Dr. M. Chisholm, Halifax; vice-presidents, Drs. Henry E. Kendall, Sydney, and Henry K. Macdonald, Lunenburg, and secretary-treasurer, Dr. W. Huntley Macdonald, Antigonish. Halifax was selected as the next place of meeting.

American Microscopical Society.—At the annual meeting held at Winona Lake, July 29, 30 and 31, the following officers were elected: President, Prof. Thomas J. Burrill, University of Illinois; vice-presidents, Prof. H. A. Weber, Columbus, and F. W. Kuhn, Fort Warner; secretaries, Profs. H. B. Ward, and R. H. Walcott, University of Nebraska, and treasurer, J. C. Smith, New Orleans.

Central Wisconsin Medical Society.—At the annual meeting held in Madison, July 28, the following officers were elected: President, Dr. Edward Evans, La Crosse; vice-presidents, Drs. Thomas W. Nuzum, Brodhead, Ledyard V. Lewis, Sun Prairie, William H. Palmer, Janesville, and Charles R. Pickering, Muscoda; censors, Drs. Walter F. McCabe, Beloit, Theodore W. Evans, Madison, J. C. Cutler, Verona, and W. E. L. Froggart, Cross Plains, and Dr. Charles S. Sheldon, Madison, secretary and treasurer.

Maritime Medical Association.—The thirteenth annual meeting was held at St. John, N. B., July 22 and 23, under the presidency of Dr. Murray MacLaren of St. John. Dr. Galen M. Woodcock, Bangor, was present as a representative of the Maine Medical Association. Drs. Maurice Richardson and E. W. Cushing of Boston were present and contributed papers. The following officers were elected: President, Dr. George M. Campbell, Halifax, N. S.; vice-presidents—for Nova Scotia, Dr. William H. Macdonald, Rose Bay; for New Brunswick, Dr. Alban F. Emery, St. John, and for Prince Edward Island, Dr. Alexander MacNeil, Summerside; treasurer, Dr. John Sutherland, Bedeque, Prince Edward Island, and secretary, Dr. T. D. Walker, St. John, N. B.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

Report of the Committee on Curriculum, made at the Annual Session, held in New Orleans, May 4, 1903.

Dr. George W. Webster, chairman of the committee, president of the Illinois State Board of Health, and professor of physical diagnosis and clinical medicine in Northwestern University Medical School, Chicago, read the following report:

Mr. President and Members of the Confederation:

At the meeting of the confederation last year a Committee on Curriculum was appointed, in accordance with the recommendation of Dr. N. R. Coleman in his presidential address. I had the honor to be made chairman of the committee, and it is only fair to the other members of the committee to state that the following report represents only my own personal work and personal views. I make this statement in order that any criticisms may be directed against me and not against the other members of the committee.

In the interests of a higher and improved standard of medical education, and of interstate reciprocity in licensure, and in order that the degree of M.D. may have a definite meaning, at least an approach to a uniform, fixed value, it is desirable that a minimum standard of requirements for graduation in medicine shall be established and maintained.

Michigan.—810	Minnesota.—538	Mississippi.—557	Missouri.—285	Montana.—34	Nebraska.—429	N. H'mpsh'e.—141	New Jersey.—510	New Mexico.—9	New York.—2414	Nevada.—11	N. Carolina.—402	N. Dakota.—98	Ohio.—1289	Oklahoma.—92	Oregon.—153	Pennsyl'nia.—2119	R. Island.—125	S. Carolina.—252	S. Dakota.—94	Tennessee.—627	Texas.—916	Utah.—60	Vermont.—169	Virginia.—615	Washington.—91	W. Virginia.—358	Wisconsin.—678	Wyoming.—19	Canada.—203	Foreign.—345	Total.—27327
...	...	...	...	...	...	...	10	...	93	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	104
...	...	...	...	...	...	...	...	...	219	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	4	1	237
...	...	...	...	...	...	2	16	...	255	...	2	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	...	1	290
1	...	...	...	1	...	...	23	...	66	...	...	...	1	...	...	...	1	...	...	...	1	...	...	1	1	...	...	...	1	...	111
...	...	...	...	...	...	1	...	...	129	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	3	140
2	...	1	2	2	1	2	110	...	504	...	5	...	4	...	1	7	13	3	...	2	4	...	4	4	...	1	4	1	3	15	795
...	...	...	...	...	...	...	7	...	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	34
...	1	...	2	...	1	4	38	...	180	...	...	...	8	...	1	7	1	...	...	...	3	5	2	...	...	...	...	2	3	9	311
...	...	4	...	...	...	...	2	...	3	...	29	...	...	...	...	10	...	15	...	...	2	...	...	24	...	3	...	...	...	6	113
...	...	1	...	...	...	...	...	...	2	...	76	...	1	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	83
...	...	...	...	...	...	...	...	...	...	...	55	...	...	...	...	...	...	4	...	3	...	...	...	2	...	...	...	...	...	1	67
...	...	...	...	...	...	...	...	...	1	...	...	...	70	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	5	86
5	...	...	...	...	...	...	2	...	11	...	...	...	65	...	...	26	1	...	...	...	...	...	...	...	1	1	...	...	...	1	115
1	...	...	4	...	1	...	...	...	6	...	...	...	54	1	...	13	...	...	...	...	7	...	...	...	...	12	...	...	...	...	146
...	...	...	...	...	...	...	...	...	...	...	...	...	127	1	...	1	...	...	...	...	...	...	...	1	...	2	...	...	...	1	170
1	...	...	...	...	...	...	...	...	1	...	...	...	87	...	...	4	...	...	...	...	...	...	...	...	...	1	...	...	...	1	97
...	...	...	...	...	...	...	...	...	...	...	...	...	79	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	106
1	...	...	...	...	...	1	...	...	6	...	...	...	173	...	...	13	...	...	...	...	...	...	...	...	...	4	1	...	...	5	214
...	...	...	...	...	...	...	...	...	1	...	...	...	19	...	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	30
...	...	...	...	...	...	...	...	...	...	...	...	...	142	...	...	11	...	...	...	...	...	...	...	1	...	6	...	...	...	1	163
1	...	...	...	...	...	...	...	...	...	...	...	...	38	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	41
...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	61	1	...	...	...	...	...	1	...	...	14	...	...	...	4	1	88
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	40
1	1	...	3	...	1	4	20	...	19	...	...	...	15	...	1	278	4	2	...	4	3	...	2	15	3	6	3	...	...	12	469
...	2	...	...	...	1	1	33	...	10	...	...	...	6	...	...	151	...	...	...	...	...	...	1	1	...	...	...	...	1	3	233
1	3	3	2	1	2	2	63	...	24	...	13	...	24	...	5	470	5	1	1	...	5	2	2	5	...	7	3	...	1	15	771
...	...	...	...	...	...	...	...	...	2	...	...	...	29	...	...	246	...	...	...	...	...	...	...	1	...	19	2	...	2	1	317
...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	59	...	1	...	...	...	...	...	...	...	...	...	...	...	3	70
...	...	2	...	...	...	2	12	...	8	...	1	...	...	...	...	81	...	1	...	1	1	...	1	2	1	1	...	...	2	9	165
...	...	...	...	1	1	...	29	...	10	...	1	1	5	...	1	336	...	...	...	1	...	1	...	...	...	1	...	...	4	9	431
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	91	...	...	...	...	...	...	...	...	...	...	...	...	95
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...	...	7	...	...	...	...	1	...	5	...	5	...	1	...	...	...	...	...	...	64	24	...	...	...	...	1	...	...	...	3	150
...	...	14	1	...	1	...	4	...	2	...	27	1	4	1	...	1	1	3	...	75	6	1	...	3	...	8	1	...	1	1	264
1	...	24	14	...	...	...	...	...	1	...	1	...	4	1	...	2	...	14	...	47	20	...	...	1	...	2	...	...	...	8	252
...	...	197	10	...	...	...	...	...	1	...	1	...	...	6	...	...	...	1	...	88	93	...	...	...	...	1	...	...	...	1	675
...	...	20	...	...	...	...	3	...	3	...	4	...	...	...	...	2	...	6	...	30	26	...	...	15	...	6	...	...	1	1	203
...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	45	1	...	...	2	...	...	...	...	...	...	62
...	...	65	...	...	...	...	2	...	2	...	2	...	...	...	...	...	...	4	1	92	30	...	...	...	...	7	...	...	...	1	317
...	...	22	2	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	69	21	...	...	...	...	1	...	...	...	1	162
...	...	3	1	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	23
...	...	...	1	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	91	...	...	...	...	...	...	...	...	1	108
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...	...	...	...	...	...	...	...	1	20
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	179	...	...	...	...	...	...	...	...	...	179
...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	54	...	...	...	...	...	...	...	...	...	66
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	21	1	1	49	...	...	...	1	...	...	4	3	...	...	...	...	...	92	...	...	...	...	...	3	3	246
...	...	...	...	...	...	...	2	...	1	...	21	...	1	...	...	1	...	...	...	...	...	...	...	138	...	15	...	...	1	...	187
...	1	2	...	...	...	...	4	...	1	...	8	...	...	...	...	3	...	3	...	3	3	...	...	78	...	11	...	...	...	...	151
1	...	...	...	...	...	...	...	...	6	...	22	...	2	...	...	2	...	5	...	1	1	...	...	151	...	19	...	...	...	4	219
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	102	...	...	...	102
1	3	...	...	...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	175	...	...	...	184

One of the inalienable constitutional rights of the state is the establishment of standards and the enforcement of regulations in regard to medical education. It seems to be of vital importance that we establish a minimum standard of work in a medical curriculum, to which all states can agree, or to which at least a majority can agree and then have each board of examiners or state board of health adopt this as its standard, just as the National Educational Association did in standardizing the high school course.

The first question is, how shall this standard be obtained or determined; and second, how secure compliance with its requirements? This will never be accomplished by the colleges themselves, nor will it be done by such associations as the American Medical College Association, the Southern Medical College Association, the American Institute of Homeopathy, or similar organizations.

The colleges are many of them influenced, dominated by financial considerations, the spirit of trade, and the college associations by sectarian bias or dogma, and they lack the authority to establish standards and compel recognition of them or conformity to them. This standard can, in my opinion, be established, maintained, compliance with its requirements enforced, only by the concerted action of the various boards of health and examining boards of the Union.

Heretofore the standards established by the American Medical College Association and other similar organizations, have been an outline or definition of a "medical course" in the most indefinite terms: For example, "four years of six months each, in four separate calendar years." Not a word in regard to the number of hours of work in each month or in each year and no specifications in regard to relative amount of time devoted to each study in the curriculum, the order or sequence in which studies should follow each other in the course, nothing in regard to whether the work should consist of lectures only, or of laboratory work, recitations, lectures, and clinics combined, and especially the relative amount of time devoted to each, especially clinics.

The same is true of the requirements of the state examining boards as a general rule. In many states some of the colleges aim no higher than the compulsory standards established by their respective state boards, and if the latter are indefinite and elastic those of the medical school are equally nebulous and hazy. A glance at the curriculums of the various medical colleges shows the same wide variations, no two being alike, either in total number of hours of instruction, total hours in any one year or the time devoted to any one subject in the curriculum. The total hours vary from 5,000 in some to a little over 2,000 in others. The time devoted to clinical instruction varies from over 2,000 hours in some down to a little over 200 in others. The same is true of every subject in the curriculum. Over 500 hours are devoted to the subject of chemistry in some schools, and less than half as many in others. Anatomy varies from over 1,200 as a maximum to 200 as a minimum. One school devotes over 400 hours to the study of physiology, while another has less than 100. Medicine has over 1,200 hours in one and less than 200 in another. In other schools such important subjects as physical diagnosis, pharmacology, etiology and hygiene are not taught at all.

THE CIRCULAR LETTER.

With a view of ascertaining what is actually being done, rather than asking advice as to what should be done, I sent the following circular letter to each medical college in the United States:

Dear Doctor:—At a meeting of the National Confederation of State Medical Examining and Licensing Boards, held at Saratoga, June 9, 1902, I had the honor to be elected chairman of the executive committee of the general committee on curriculum.

I am sending you this communication to ask your assistance and advice in the preparation of my report, which is to be made to the confederation at New Orleans, May 4, 1903.

I am enclosing a list of studies usually embraced in the curriculum of a medical course. Will you, at your earliest possible convenience, fill out this schedule, giving the number of hours devoted to each of the studies named in the medical school of which you are the secretary? If the studies are not put down in the proper year, please change to correspond with the work of your school.

For the sake of advancement in medical teaching, and as one of the elements for a basis of interstate reciprocity, uniformity in the length and character of the medical course seems desirable. That I may have the benefit of the views of the leading educators in medicine on this very important point, I would respectfully request replies to the following questions:

1. Aside from the teaching in materia medica, practice and therapeutics, is a uniform curriculum in all the medical schools of the United States desirable?
2. Is it possible?
3. If desirable and possible, how, in your opinion, is it to be established?
4. Dividing the work under the following heads: Lectures, recitations, laboratory work, clinics, what relative time should be devoted to each?
5. How many hours of actual work in each college year?
6. Over how many months should this be distributed?
7. Over how many years?
8. Do you favor elective work, and if so, in what branches?
9. Any suggestions as to the work or the report of this committee will be gratefully received.

In addition to the answers to the questions, I requested each secretary or dean to fill out the following blank form which I sent him, showing the number of hours devoted to each study in the entire curriculum, and divided the work into lectures, recitations, laboratory work and clinics, extending over a four-year course.

First Year.	Clinics.	Lectures.	Recitations.	Laboratory.
Chemistry.				
Anatomy.				
Histology and Embryology.				
Physiology.				
Pharmacology.				
Physical Diagnosis.				
Surgery.				
Total Hours of Instruction.				
Second Year.				
Chemistry.				
Anatomy.				
Physiology.				
Pharmacology.				
Bacteriology.				
Etiology and Hygiene.				
Pathology.				
Physical Diagnosis.				
Surgery.				
Medicine.				
Total Hours of Instruction.				
Third Year.				
Pathology.				
Obstetrics.				
Dermatology and Syphilology.				
Laryngology and Rhinology.				
Pediatrics.				
Surgery.				
Medicine.				
Total Hours of Instruction.				
Fourth Year.				
Obstetrics.				
Ophthalmology and Otology.				
Gynecology.				
Neurology.				
Mental Diseases and Jurisprudence.				
Surgery.				
Medicine.				
Total Hours of Instruction.				
Total Hours of Instruction in Four Years.				

Name of Medical School.
Signature and Address of Secretary of Dean.

I received the courtesy of a reply from about 20 per cent., and gratefully acknowledge the same at this time. The following statistics have been made up from the reports sent in, as far as it was available. In addition to this, the blank forms have been filled in by myself from information taken from the annual announcements of the colleges. More would have been added had it not been for the fact that the announcements are not definite enough and of such a character as to enable me to determine how much time a particular school devotes to any one study, nor the total number of hours of clinics, lectures, recitations or laboratory work in any one year, or in the entire course.

This doubtless accounts for the failure of so many medical schools to answer my letter or fill out the blank forms.

Every effort has been made to have these statistics as reliable as possible. In compiling these statistics many errors have doubtless crept in, and for any such I offer sincere apologies at this time and will very gratefully acknowledge any corrections which may be sent me. It is my purpose to continue this work and to secure this information from every school in the United States and to present a complete report next year.

Some of the statistics furnished this year had to be discarded because of their very evident unreliability. For example, one school gave as the grand total of hours of instruction in the four years over 25,000. This would make over 30 hours a day, including Sundays and holidays.

From these statistics I have constructed the following tables: First, a table showing the total number of hours of work in each of the four years of the medical course, and the grand total of hours in the entire four-year course. The sum of the latter, divided by the number of schools, gives the average number of hours of instruction in these 43 medical schools. (See Table 4.)

A second table gives the number of hours devoted to each study in each of said schools. The total number of hours devoted to any one branch in all the schools divided by the number of colleges gives us the average number of hours devoted to that particular subject. (See Table 4.)

A third table shows the relative number of hours devoted to clinical instruction.

Finally, a fourth table has been constructed which sums up all the foregoing and condenses it into what might be termed an average curriculum which might be adopted and then required as a minimum standard by the various examining boards.

Against this average curriculum it might be urged that it does not represent the average of work done in all the medical colleges of the United States. This is true, but it does represent the work of those schools from which at least half of the graduates come each year. For example, there were about 5,000 graduates in 1902. The graduates from the colleges in this list made up about 2,500 of that total.

ANSWERS TO QUESTIONS.

Question 1.—Yes, 19; no, 6; doubtful, 1.

Question 2.—Yes, 7; no, 8; doubtful, 10.

Question 3.—"The development of interstate reciprocity will help materially in this direction, as will also the perfected organization of the American Medical Association."—Dr. L. M. Crafts, Hamline University, College of Physicians and Surgeons.

"In my opinion there has to be a different standard in different schools; and it seems to me a Utopian idea to expect that all the medical schools in the country should be based on a uniform curriculum, any more than the various colleges or academies."—C. M. Green, Harvard University.

"Attempts to secure uniformity should only be by frequent conferences of the schools where the matter may be considered on broad and catholic grounds; certainly not by compulsion of the weaker by the stronger, nor by state boards or legislation."—S. Egbert, Medico-Chirurgical College.

"I should be inclined to say that such a condition is impossible of attainment in view of the widely different circumstances surrounding different schools and also because of the widely divergent opinions held by different teachers."—J. C. Oliver, Miami Medical College.

"It should be possible and ought to be regulated by the appointment of a special committee who should determine first the number of years required to cover the course, etc."—G. M. Kober, Georgetown University.

"If established at all it must be by an understanding between state boards of medical examiners and the various medical institutions."—G. H. Price, Vanderbilt University Medical Department.

"The varying conditions that exist in the different medical schools as to the number of students, facilities for laboratory and clinical instruction, and endowment would render such a plan undesirable and impossible."—C. H. Frazier, University of Pennsylvania.

Many no answers at all. A number simply say state board associations.

Question 4.—"It seems to be the tendency of the times to diminish the number of lectures and increase the laboratory work and clinics, recitations being retained as hitherto."—C. M. Green, Harvard University.

Eight no replies. On an average the balance suggest the work given thus: Laboratory, clinics, lectures, recitations, about one-fourth to each.

Question 5.—Average of those giving hours, 1,059.

Question 6.—Average of replies, eight months.

Question 7.—Average of replies, four years.

Question 8.—Yes, 13; no, 10; no replies, 3; most replies "yes" were for specialties.

Question 9.—No suggestions were made.

CONCLUSIONS AS TO QUERIES MADE.

1. At present there is a disgraceful lack of uniformity in the medical curriculum of the medical colleges of the United States.

2. Comparative uniformity in the medical curriculum is desirable in the interests of higher medical education and of interstate reciprocity.

3. It is possible. It can be accomplished by this confederation by adopting a minimum standard and then having this standard adopted by each of the state boards of health or examing and licensing boards.

4. This standard curriculum, which is to be adopted as a minimum requirement for the degree of M.D., should consist of not less than 3,600 hours, divided nearly equally between the four years.

5. The course should consist of four terms in four separate calendar years.

6. There should be at least 900 hours of actual work, or 30 weeks and 30 hours in each week aside from holidays.

7. Clinical work should constitute at least one-fourth of the entire work of the four-year course.

8. The average time devoted to each subject in the curriculum should be approximately that presented in volume two of the advised standard.

9. There should be a minimum standard of required work. If elective work is permitted it should be in addition to the required work.

10. The above is recommended with a full realization of the fact that the value of a college course lies not so much in the facts learned as in the way in which they are learned, the view point obtained, the atmosphere created and that the atmosphere is made, not so much by the dead subjects of its curriculum, but by the living personality of its professors.

It was a realization of this that let a former president of the United States remark that "Mark Hopkins at one end of a log and himself at the other was university enough for him."

In medical education there should be unity of direction, at least comparative uniformity of standards, and the most intelligent methods should prevail.

The ideal curriculum not only compels men to think, but fits them to act, which teaches not only facts, but inculcates correct methods.

GEO. W. WEBSTER, Chairman.
AUG. KORNDOERFER.
J. C. WEBSTER.

TABLE 1.

Name of School.	Clinics.	Lectures.	Quizzes.	Laboratory.	Total Hours in Each Year.	Total Hours in the Entire Medical Course.
c—MEDICO-CHIRURGICAL COLLEGE.						
First year	....	640	....	608	1,248	
Second year	....	544	....	896	1,440	
Third year	720	722	....	....	1,442	
Fourth year	640	576	....	256	1,472	5,602
s—UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.						
First year	....	304	160	880	1,344	
Second year	32	480	320	800	1,632	
Third year	254	616	240	412	1,522	
Fourth year	502	....	64	448	1,014	5,512
c—UNIVERSITY OF MINNESOTA, DEPARTMENT OF MEDICINE.						
First year	....	340	136	288	764	
Second year	....	356	170	478	1,004	
Third year	703	512	34	315	1,564	
Fourth year	1,555	386	....	....	1,941	5,273
s—WESTERN RESERVE UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	281	....	1,117	1,398	
Second year	....	426	....	748	1,174	
Third year	423	727	....	208	1,358	
Fourth year	782	268	....	....	1,150	5,080
s—NORTHWESTERN UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	330	....	830	1,160	
Second year	32	400	....	686	1,118	
Third year	988	336	....	72	1,396	
Fourth year	1,044	272	....	24	1,340	5,014
s—WESTERN PENNSYLVANIA UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	576	....	540	1,116	
Second year	96	672	....	338	1,104	
Third year	64	736	....	188	1,564	
Fourth year	704	476	....	....	1,180	4,964
s—JEFFERSON MEDICAL COLLEGE.						
First year	....	268	208	620	1,096	
Second year	180	405	75	372	1,032	
Third year	300	360	135	249	1,044	
Fourth year	592	299	390	386	1,667	4,839
s—UNIVERSITY OF MICHIGAN, MEDICAL DEPARTMENT.						
First year	....	480	....	720	1,200	
Second year	....	384	....	720	1,104	
Third year	256	416	....	642	1,314	
Fourth year	608	560	....	....	1,168	4,786
s—COLORADO SCHOOL OF MEDICINE.						
First year	....	402	....	691	1,093	
Second year	....	600	....	703	1,303	
Third year	414	....	....	515	929	
Fourth year	680	....	....	779	1,459	4,784
s—CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS.						
First year	....	362	....	556	918	
Second year	....	512	....	704	1,216	
Third year	976	352	....	128	1,456	
Fourth year	840	304	....	....	1,144	4,734
s—COLLEGE OF PHYSICIANS AND SURGEONS, SAN FRANCISCO.						
First year	....	329	92	451	872	
Second year	....	496	220	499	1,215	
Third year	452	442	204	70	1,166	
Fourth year	514	480	240	144	1,378	4,631
s—COOPER MEDICAL COLLEGE.						
First year	....	256	....	1,000	1,256	
Second year	....	288	....	560	848	
Third year	384	542	32	128	1,086	
Fourth year	816	382	64	176	1,438	4,628
s—ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS.						
First year	75	502	....	400	977	
Second year	90	759	....	463	1,312	
Third year	210	545	....	148	903	
Fourth year	72	759	....	....	1,357	4,549
c—JOHNS HOPKINS UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	136	156	504	796	
Second year	20	104	32	856	1,012	
Third year	432	426	64	212	1,134	
Fourth year	1,152	278	128	32	1,590	4,532
s—ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS.						
First year	....	286	234	520	1,040	
Second year	....	328	260	910	1,408	
Third year	260	364	182	260	1,066	
Fourth year	338	416	156	....	910	4,424
s—CORNELL UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	169	249	574	992	
Second year	....	233	351	728	1,312	
Third year	432	139	289	300	1,160	
Fourth year	560	137	170	....	867	4,331

TABLE 1.—*Continued.*

Name of School.	Clinics.	Lectures.	Quizzes.	Laboratory.	Total Hours in Each Year.	Total Hours in the Entire Medical Course.
s—UNIVERSITY OF TEXAS, MEDICAL DEPARTMENT.						
First year	....	252	56	502	810	
Second year	....	270	56	690	1,016	
Third year	294	346	56	424	1,120	
Fourth year	728	420	56	168	1,372	4,318
c—UNIVERSITY OF CALIFORNIA, MEDICAL DEPARTMENT.						
First year	....	1,008	....	252	1,260	
Second year	....	162	....	1,082	1,244	
Third year	252	324	....	576	1,152	
Fourth year	414	80	....	144	638	4,294
s—HAMLINE UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	352	124	400	876	
Second year	....	407	135	458	1,000	
Third year	342	515	182	....	1,039	
Fourth year	667	543	148	....	1,358	4,273
c—UNIVERSITY OF IOWA, MEDICAL DEPARTMENT.						
First year	....	441	36	396	873	
Second year	....	339	171	312	822	
Third year	252	646	167	189	1,255	
Fourth year	534	582	90	....	1,206	4,156
c—DETROIT COLLEGE OF MEDICINE.						
First year	192	480	....	384	1,056	
Second year	192	512	....	432	1,136	
Third year	256	528	....	192	976	
Fourth year	256	576	....	48	880	4,048
c—COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO.						
First year	60	420	....	575	1,005	
Second year	60	435	....	510	1,005	
Third year	90	225	390	60	765	
Fourth year	750	475	....	....	1,225	4,005
s—VANDERBILT UNIVERSITY, NASHVILLE, TENN.						
First year	....	312	104	520	936	
Second year	....	312	78	416	806	
Third year	260	416	156	156	988	
Fourth year	286	468	130	312	1,196	3,926
c—MEDICAL SCHOOL OF HARVARD UNIVERSITY.						
First year	....	308	36	846	1,190	
Second year	56	458	....	540	1,064	
Third year	538	304	104	....	946	
Fourth year	449	185	....	....	634	3,824
s—WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS.						
First year	....	150	210	432	792	
Second year	....	294	270	540	1,104	
Third year	332	165	285	30	812	
Fourth year	594	480	....	....	1,074	3,782
c—UNIVERSITY MEDICAL COLLEGE.						
First year	....	504	....	400	904	
Second year	....	630	....	456	1,086	
Third year	....	588	....	56	644	
Fourth year	532	588	....	....	1,120	3,754
c—UNIVERSITY OF BUFFALO, MEDICAL DEPARTMENT.						
First year	32	538	....	304	874	
Second year	....	688	....	268	956	
Third year	32	534	....	352	918	
Fourth year	694	250	....	32	916	3,724
s—UNIVERSITY OF LOUISVILLE, MEDICAL DEPARTMENT.						
First year	....	312	312	314	938	
Second year	....	312	286	236	834	
Third year	234	442	130	234	1,040	
Fourth year	300	436	104	72	912	3,724
s—GEORGETOWN UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	419	31	356	806	
Second year	....	363	31	396	790	
Third year	426	495	....	111	1,032	
Fourth year	490	478	....	63	1,031	3,659
c—MARION-SIMS MEDICAL COLLEGE.						
First year	....	294	126	372	792	
Second year	....	322	308	288	918	
Third year	112	476	....	112	700	
Fourth year	448	644	98	56	1,246	3,656
s—PULTE MEDICAL COLLEGE.						
First year	84	308	28	288	708	
Second year	112	196	56	530	902	
Third year	448	476	28	56	1,008	
Fourth year	416	522	28	42	1,008	3,626
s—UNIVERSITY COLLEGE OF MEDICINE, VIRGINIA.						
First year	....	251	115	351	817	
Second year	....	242	110	256	608	
Third year	241	444	203	....	888	
Fourth year	269	457	190	14	930	3,243
s—DARTMOUTH MEDICAL COLLEGE.						
First year	....	51	130	559	740	
Second year	....	....	134	670	804	
Third year	90	300	307	116	813	
Fourth year	140	361	324	....	825	3,182
c—DENVER AND GROSS MEDICAL COLLEGE.						
First year	....	384	50	217	651	
Second year	....	432	10	281	723	
Third year	260	480	....	80	820	
Fourth year	384	576	....	....	960	3,154
s—COLUMBIAN UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	195	135	426	756	
Second year	....	285	225	252	762	
Third year	378	248	105	120	851	
Fourth year	372	171	30	164	737	3,106
s—MIAMI MEDICAL COLLEGE.						
First year	....	196	168	470	834	
Second year	....	312	84	452	848	
Third year	224	364	84	....	672	
Fourth year	300	296	28	44	668	3,022
s—FORT WORTH UNIVERSITY, MEDICAL DEPARTMENT.						
First year	....	218	182	264	664	
Second year	....	222	104	478	804	
Third year	286	390	....	96	772	
Fourth year	286	366	....	....	652	2,892
c—KEOKUK MEDICAL COLLEGE.						
First year	....	334	140	295	769	
Second year	....	470	168	135	773	
Third year	....	504	112	75	691	
Fourth year	....	420	196	....	616	2,849
s—UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT.						
First year	....	267	....	737	804	
Second year	....	288	....	122	410	
Third year	192	224	268	118	802	
Fourth year	346	175	182	12	715	2,731
s—CENTRAL MEDICAL COLLEGE, ST. JOSEPH.						
First year	....	536	....	130	666	
Second year	104	546	....	104	754	
Third year	104	442	....	....	546	
Fourth year	130	468	....	....	598	2,564
s—UNIVERSITY OF VIRGINIA, MEDICAL DEPARTMENT.						
First year	....	370	66	150	586	
Second year	200	485	38	93	816	
Third year	....	285	30	25	340	
Fourth year	120	252	15	10	397	2,139

EXPLANATIONS OF TABLES 1 AND 2.

c Before the names of colleges means report taken from catalogue.

s Before the names of colleges means report taken from replies by secretaries.

x In the column giving the general average in any one subject means the subject is taught but included in some other subject.

o In the column giving the general average in any one subject means the subject is not taught at all.

SUMMARY OF TABLE 1.

TOTAL NUMBER OF HOURS DEVOTED TO THE MEDICAL COURSE IN THE FOLLOWING SCHOOLS.

NAME OF SCHOOL.	Hours.
Medico-Chirurgical College	5,602
University and Bellevue Hospital Medical College	5,512
University of Minnesota, Medical Department	5,273
Western Reserve University, Medical Department	5,080
Northwestern University, Medical Department	5,014
Western Pennsylvania, Medical Department	4,964
Jefferson Medical College	4,839
University of Michigan, Medical Department	4,786
Colorado School of Medicine, University of Colorado	4,784
Cleveland College of Physicians and Surgeons	4,734
College of Physicians and Surgeons, San Francisco	4,631
Cooper Medical College	4,628
St. Louis College of Physicians and Surgeons	4,549
Johns Hopkins University, Medical Department	4,532
Atlanta College of Physicians and Surgeons	4,424
Cornell University, Medical Department	4.331
University of Texas, Medical Department	4,318
University of California, Medical Department	4,294
Hamline University, College of Physicians and Surgeons	4,273
University of Iowa, Medical Department	4,156
Detroit Medical College	4,048
College of Physicians and Surgeons, Chicago	4,005
Vanderbilt University, Medical Department	3,926
Harvard University, Medical Department	3,824
Wisconsin College of Physicians and Surgeons	3,782
University Medical College, Kansas	3,754
University of Buffalo, Medical Department	3,724
University of Louisville, Medical Department	3,724
Georgetown University, Medical Department	3,659
Marion-Sims Medical College	3,656
Pulte Medical College	3,626
University College of Medicine, Virginia	3,243
Dartmouth Medical College	3,182
Denver and Gross Medical College	3,154
Columbian University, Medical Department	3,106
Miami Medical College	3,022
Fort Worth University, Medical Department	2,892
Keokuk Medical College	2,849
University of Pennsylvania, Medical Department	2,731
Central Medical College, St. Joseph, Mo	2,564
University of Virginia, Medical Department	2,139

TABLE 2.

Name of School.	Chemistry.	Anatomy.	Histology and Embryology.	Physiology.	Pharmacology.	Physical Diagnosis.	Surgery.	Bacteriology.	Etiology and Hygiene.	Pathology.	Medicine.	Obstetrics.	Dermatology and Syphilology.	Laryngology and Rhinology.	Pediatrics.	Ophthalmology and Otology.	Gynecology.	Neurology.	Mental Dis. and Jurisprudence.
c Medico-Chirurgical College....	384	896	96	288	256	112	930	192	192	384	544	352	112	64	96	192	160	96	32
s Univ. and Bellevue Hosp. Coll.	576	1248	160	320	352	96	892	64	o	400	816	160	x	x	48	112	208	56	32
c Univ. of Minnesota, Med. Dept.	390	438	450	374	204	o	621	176	x	327	1020	128	140	138	156	218	242	208	x
s West. Reserve Univ., Med. Dept.	350	1068	353	420	372	105	549	117	70	492	140	67	67	75	35	75	120	77	23
s Northwest. Univ., Med. Dept..	490	624	232	236	168	112	1064	176	32	240	536	160	112	96	96	176	320	112	32
s West. Penn. Univ., Med. Dept.	256	436	320	352	544	64	1168	192	o	242	1232	160	o	o	32	44	32	o	48
s Jefferson Medical College.....	271	612	252	204	236	44	1001	o	45	411	638	216	128	98	98	178	233	136	128
s Univ. of Michigan, Med. Dept.	568	568	276	308	128	o	560	228	48	199	412	132	96	36	o	160	224	160	48
s Colorado School of Medicine..	340	542	288	380	282	o	364	255	36	320	690	180	72	72	108	356	252	216	18
s Cleveland Coll. of P. and S..	320	576	214	384	96	96	788	192	36	320	820	76	60	96	224	92	96	96	92
s Coll. of P. & S., San Francisco	306	596	65	450	60	30	684	60	o	484	684	246	72	72	72	168	180	36	48
s Cooper Medical College.....	384	648	416	256	192	64	864	45	32	339	608	160	32	32	124	176	96	96	64
s St. Louis Coll. of P. and S...	412	503	105	434	275	165	661	50	80	150	435	220	90	198	130	143	152	112	x
c Johns Hopkins Med. School..	240	796	90	212	184	32	580	128	x	368	640	416	104	104	104	104	368	188	x
s Atlanta College of P. and S.	390	884	274	156	o	o	546	364	o	624	432	234	26	78	o	130	104	52	o
s Cornell Univ. Med. College...	392	748	380	248	342	o	569	96	24	448	350	297	25	33	83	53	o	72	15
s Univ. of Texas, Med. Dept...	336	560	169	294	196	28	692	90	136	504	524	140	28	168	112	x	182	56	28
c Univ. of California, Med. Dept.	180	936	324	378	108	108	712	216	o	504	774	144	72	72	108	o	126	o	o
s Hamline Univ., Med. Dept....	390	438	450	374	201	o	64	176	x	54	1020	128	114	74	74	107	307	74	42
c Univ. of Iowa, Med. Dept....	360	459	117	303	306	24	743	166	x	282	612	114	36	180	12	108	144	24	x
c Detroit Medical College.....	448	480	224	288	258	64	752	240	x	208	640	128	32	32	32	64	32	96	x
c College of P. and S., Chicago.	420	540	245	270	225	45	750	150	x	390	555	120	150	120	60	60	180	60	30
s Vanderbilt Univ., Med. Dept..	286	728	130	156	260	104	720	104	26	156	468	156	26	78	52	104	312	26	26
c Harvard Univ., Med. Dept...	390	526	188	360	64	36	531	208	x	336	564	132	92	28	104	68	38	112	x
s Wisconsin College of P. and S.	540	354	270	180	165	15	465	132	45	330	347	120	75	45	195	180	180	90	54
c Univ. Med. Coll., Kansas City.	392	492	252	96	154	56	672	168	x	168	364	112	56	56	56	84	168	84	x
c Univ. of Buffalo, Med. Dept..	336	438	176	320	256	32	354	96	32	512	572	320	44	96	32	74	160	96	16
s Univ. of Louisville, Med. Dept.	468	524	260	338	260	78	518	104	52	x	332	208	78	26	104	104	156	52	52
s Georgetown Univ. Schl. of Med.	368	464	182	210	263	31	561	102	68	314	424	248	12	68	o	48	88	23	51
c Marion-Sims Medical College.	280	478	324	196	168	56	504	112	x	308	518	224	84	56	70	112	84	112	x
s Pulte Med. College, Cincinnati	216	468	114	184	252	112	690	72	o	240	606	188	56	28	56	84	56	70	42
s Univ. College of Med., Virginia	280	460	222	o	95	40	431	108	30	141	322	216	121	13	105	121	162	123	27
s Dartmouth Medical School...	366	441	204	309	246	o	444	54	o	203	262	224	o	o	87	54	181	o	24
c Denver and Gross Med. Coll..	288	262	192	232	224	o	532	112	x	224	596	196	64	64	32	64	96	28	x
s Columbian Univ., Med. Dept..	285	651	90	210	180	o	621	42	x	138	364	184	40	40	52	100	82	o	
s Miami Medical College.....	652	454	70	168	56	o	356	96	30	212	428	168	64	74	o	142	88	64	x
s Ft. Worth Univ., Med. Dept..	312	490	172	104	182	104	282	146	26	136	208	208	104	156	104	o	52	52	14
c Keokuk Medical College.....	324	344	187	224	274	56	420	141	x	103	224	112	56	28	56	56	56	112	x
s Univ. of Penn., Med. Dept...	272	434	192	416	x	48	409	90	32	256	291	150	32	16	16	112	86	80	32
s Central Medical College.....	176	286	130	156	156	52	468	78	52	78	416	130	o	o	52	52	104	26	26
s Univ. of Virginia, Med. Dept.	209	200	125	170	105	70	235	25	o	155	495	145	10	15	25	22	60	25	11

TABLE 3.

RELATIVE TIME DEVOTED TO CLINICAL WORK IN THE FOLLOWING SCHOOLS.

Name of School.	Hours.
Northwestern University, Medical Department	2,064
Cleveland College of Physicians and Surgeons	1,816
Johns Hopkins University, Medical Department	1,604
Western Pennsylvania University, Medical Department	1,440
Medico-Chirurgical College	1.360
Cooper Medical College	1,200
Western Reserve University, Medical Department	1,205
Colorado School of Medicine	1,094
Jefferson Medical College	1,072
Pulte Medical College	1.060
Harvard University, Medical Department	1,043
University of Texas, Medical Department	1,022
Hamline University, Medical Department	1,009
Cornell University, Medical Department	992
College of Physicians and Surgeons, San Francisco	966
College of Physicians and Surgeons, Chicago	960
Wisconsin College of Physicians and Surgeons	926
Georgetown University, Medical Department	916
Detroit College of Medicine and Surgery	896
University of Michigan, Medical Department	864
University and Bellevue Hospital Medical College	788
University of Iowa, Medical Department	786
University of Buffalo, Medical Department	758
Columbian University, Medical Department	750
University of California, Medical Department	666
Denver and Gross Medical College	644
Atlanta College of Physicians and Surgeons	598
Fort Worth University, Medical Department	572
Marion-Sims Medical College	560
Vanderbilt University, Medical Department	546
University of Pennsylvania, Medical Department	538
University of Louisville, Medical Department	534
University Medical College	532
Miami Medical College	524
University College of Medicine	510
St. Louis College of Physicians and Surgeons	447
Central Medical College, St. Joseph, Mo	338
University of Virginia, Medical Department	320
Dartmouth Medical College	230
Keokuk Medical College	*

* Can not determine.

The following is an average of the work done in the 43 colleges named. Deduct 10 per cent. and we have the course which is recommended:

TABLE 4.

	Average Course.	Proposed Standard.
Average total hours in 41 colleges in four-year course	4,095	3,600
Average total hours in 41 colleges in:		
First year	973	900
Second year	1,039	900
Third year	1,040	900
Fourth year	1,090	900
Average hours in 43 colleges devoted to the following subjects:		
Chemistry	375	340
Anatomy	549	500
Histology and embryology	219	200
Physiology	276	250
Pharmacology and therapeutics	118	110
Physical diagnosis	61	55
Surgery	596	540
Bacteriology	131	115
Etiology and hygiene	33	30
Pathology	295	260
Medicine	544	500
Obstetrics	177	150
Dermatology and syphilology	64	50
Laryngology and rhinology	67	55
Pediatrics	72	60
Ophthalmology and Otology	106	95
Gynecology	145	130
Neurology	82	75
Mental diseases and jurisprudence	27	25

Owing to the limited space and the cost of publication, 67 pages of statistics have been omitted.

BRITISH MEDICAL ASSOCIATION.

The Seventy-first Annual Meeting, held at Swansea, July 28, 1903.

(*By our Special Representative.*)

SWANSEA, WALES, July 31, 1903.

Swansea is a busy and picturesque town of about 94,000 inhabitants. It is the chief seat of the tin-plate trade of England, and is considered to be the most important copper smelting center in the world. This was the second visit of the association to Swansea, the former visit being about the middle of the last century, when the association was still young.

and the medical profession of Great Britain occupied a very different position from what it does now. The progress of the association has been extraordinary, its membership having increased from 1,500 at its first meeting in Swansea to no less than 19,000 at the present time.

Accommodations.

Although only 550 members approximately had registered up to noon of the third day of the meeting, at all of the leading hotels in the town the accommodation for visitors was taxed to the utmost. Owing to the scant accommodations some of the members and guests had to rough it. The small attendance was attributed in some measure to the inaccessibility of Swansea as a place of meeting.

Arrangements.

The arrangements made by the local committee for the reception of the visitors and for their interest and entertainment while in Swansea were admirable. There were receptions, garden parties, excursions, golf and cricket matches galore. There was sufficient variety of entertainment to please the most fastidious.

The meetings of the council, the general and representative meetings were so arranged as not to conflict with the scientific work of the association. The hours assigned for the meetings of all of the sections were from 11 a. m. to 1 p. m. each day.

The Church Service.

The members of the association attended the parish church on Tuesday morning attired in their academic robes. The congregation was very large and included the mayor and town clerk of Swansea and the new president and retiring president of the association. The Rev. Thomas Morris intoned the service, and the vicar, the Rev. Talbot Rice, read the lesson. The Bishop of St. David's preached from the text, "Christ Also Suffered." The bishop pointed to the appropriateness of the attitude of the association in thus seeking divine guidance and inspiration from the Great Physician, who had hallowed for all time the ministry of healing. After referring to the part that suffering played in the affairs of human life, the bishop said that the gratitude of mankind was deeply due to medical science for the discoveries made to reduce human suffering, but pointed to the fact that against the beneficent reduction of pain were to be set the glaring growth of social contrasts and the keener sensitiveness to suffering which attended the progress of modern civilization. It was, however, a healthy sign of the times that statesmanship now recognized more and more the agency of promoting the welfare of the people. In conclusion he reminded his hearers of the constant inspiration to be found in the recollection that Christ, who also suffered, ever associated Himself with suffering humanity.

The President's Address.

The president's address on the evolution of antiseptic surgery and its influence on the progress and advancement of bacteriology and therapeutics was interesting, brilliant and scholarly. He drew a striking picture of the wards and operating theater of a hospital at the time when he and many of his audience were students in the fifties and sixties; when wards were filled indiscriminately with disease and injuries of all kinds; when blood poisoning, erysipelas and suppuration were rife; when absorbent cotton wool was unknown, and the same sets of ward sponges were used for all cases alike. Under such circumstances the mortality of major operations was as high as 33 per cent., whereas now, he said, it is reduced to about 3 per cent., while that from minor operations is practically *nil*. This transformation was due to the evolution of surgery under the influence of Listerism.

The peroration of his entertaining address was unusually good. He said:

> The object of the British Medical Association is to secure concord and fraternity, unity and strength; power to organize and advance knowledge; power to protect our own interests and uphold the honor and noble traditions of the profession; power to promote and keep a jealous watch over the well-being of the community, and to educate them on all matters relating to health, both of mind and body; and, finally, power to influence and guide parliament in legislating for the health of the nation. The possibilities of the association are great; its influence, which is increasing year after year, will last as a living power in the country, and remain a valuable legacy for the benefit of posterity.
>
> Although our profession is not a lucrative one, it is honorable and heaven-born, and we may have the satisfaction of knowing that we are doing noble and Christian work in our effort to cure disease and alleviate human suffering. Moreover, we may claim that we live and labor to procure for the whole civilized world Nature's choicest blessing—health.

The addresses on medicine and surgery were likewise brilliant and scholarly, full abstracts of which will be given in THE JOURNAL.

The Sections.

Owing to the small registration the attendance in the various sections was slim. For instance, in the surgical section, during the reading of an important and interesting paper by Mr. Makins on intestinal anastomosis, there were only 45 present. Contrast this small number with the five or six hundred members in attendance on the Section on Surgery and Anatomy of the American Medical Association at New Orleans, and one will find food for reflection. Again, in the section on laryngology and otology, when no less an authority than Professor Glück of Berlin was demonstrating a case of laryngectomy, after presenting an exhaustive paper on this subject, there were only 25 present. There were only 35 members present in the section on obstetrics and gynecology when an interesting discussion was going on relative to fibroid tumors complicating pregnancy.

Discussions Not Reported Stenographically.

The discussions on papers read before the sections are not reported by shorthand writers, as is the custom at the annual sessions of the American Medical Association, but each discusser is furnished with a writing pad immediately at the close of his remarks by one of the secretaries. On each pad is printed the following: "Please write out your speech before leaving and hand it to the honorary secretary of the section. Please write name and number on each slip distinctly." As it takes considerable time to write out the remarks of a five or ten-minute speech, the secretaries are kept busy supplying the different speakers with writing pads and collecting them. Sometimes from four to six pads are in use at the same time. This method does not seem to curtail discussion in the least. The speakers willingly and cheerfully, apparently, write out what they have said; but there was a vast difference between the written speech and the spoken one, as we had occasion to observe by comparison. Interesting points that were brought out in the spoken speech were omitted from the written one. It is said that the British Medical Association has never tried to have its scientific discussions reported stenographically at these meetings on account of the great scarcity of competent medical stenographers in England, hence its adherence to the present method.

Excitement in the General Meeting.

The general meetings of the association, like those of the American Medical Association in former years under the old plan, are not as serene as they might be. Dr. E. W. Skerritt, Bristol, treasurer of the association, having submitted the financial statement, Dr. B. Bell, Glasgow, offered some piquant criticism thereon. He wanted more information as to how the money was spent. As it was, the members were asked to pass the accounts without knowing where the money went, and he said something should be done to remedy this unbusinesslike state of affairs. The *British Medical Journal* was conducting a large business, and the business ought to be conducted by business men and not merely by members of the council. He believed a great deal of money was spent that might be saved, and considered that the manner in which the journal was conducted was simple disgraceful. Apropos of the latter remark there were emphatic protestations and cries of "No, no." The speaker proceeded to move a set of resolutions aiming at reform, but was squelched with interruptions.

A representative defended the commercial ability of the members of the council. The accounts, he said, were published in detail in the journal, and if the members read the journal some of them would not have such extraordinary notions. Another member said he was instructed by his division not to

criticise the profit and loss account, but to ask for more details in the future.

The president regarded the questions raised by the members as childish, to which remark there was a chorus of very emphatic noes. The treasurer having replied to some of the points raised in a very satisfactory manner, the financial statement was adopted.

Absence of a Conspicuous Figure.

Last year, owing to ill health, Mr. Francis Fowke, after thirty-one years' faithful service as general secretary, tendered his resignation. This was accepted with general regret, and the association elected him an honorary member. During Mr. Fowke's term of office he guided the affairs of the association with conspicuous ability. When appointed he found the finances in a far from satisfactory condition, but by his close attention to every department he was able to change this condition of uncertainty to one of great stability. He watched the numbers of the association increase from about 5,000 tc close on to 19,000, and helped to start branches in India. Australia, Canada, Africa and other parts of the British Empire beyond the seas.

The council has appointed Mr. Guy Elliston general secretary, who has been associated with Mr. Fowke for upward of three years. It is believed that he will prove a worthy successor in this important office.

Organizer Appointed.

The association, in recognizing the great importance of thoroughly organizing the medical profession throughout the British Empire, has appointed Mr. J. Smith Whitaker organizing secretary, to take charge of the business of the medico-political organizing and ethical committees.

(*To be continued.*)

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Thirteenth Annual Meeting, held at New Orleans, May 4, 1903.

(*Concluded from p. 386.*)

For National Uniformity of Curricula.

Dr. Geo. M. Kober, Washington, moved that the special committee on by-laws, consisting of Drs. Ritchie, Dodson and Wathen, be continued, and that this committee be instructed to present some method at the next meeting for unifying the teaching in medical colleges.

Carried.

Appreciation of the President's Address.

Dr. J. W. Holland reported for the committee on president's address, as follows:

"We desire to express a very high appreciation of the valuable suggestions made by the president, and to recommend that a vote of thanks be extended to him by the Association. Further, that the address be printed, and that the suggestions contained therein, and which have not already been adopted, be referred to the committee on by-laws with a view to considering and presenting these matters at the proper time."

[Signed.] H. O. Walker.
J. W. Holland,
H. B. Ward.

On motion the report was accepted, and a vote of thanks extended to Dr. Rodman.

The Officers Elected.

The nominating committee then reported as follows: President, J. R. Guthrie, Dubuque, Ia.; first vice-president, Geo. M. Kober, Washington, D.C.; second vice-president, J. C. Oliver, Cincinnati; secretary-treasurer, Fred. C. Zapffe, 1764 Lexington street, Chicago; judicial council, John M. Dodson, Chicago; Randolph Winslow, Baltimore, H. B. Ward, Lincoln, Neb., J. W. Holland, Philadelphia. On motion the report was adopted, and the secretary instructed to cast the ballot, which he did.

Dr. P. Richard Taylor moved that the amendments as adopted be printed and mailed to the members of the Association within thirty days. Carried.

The suggestion in the secretary's report with reference to appointing a committee of three to assist the secretary in furthering the enrollment in the Association of colleges not now members of the Association, was referred to the committee on by-laws.

The Association then adjourned.

Wm. L. Rodman, President.
Winfield S. Hall, Secretary.

The following arguments were submitted, but on account of lack of time were read by title.

Symposium: To What Extent and How Rapidly Shall Our Standards of Admission to Medical Schools Be Advanced?

BY PARKS RITCHIE, DEAN COLLEGE OF MEDICINE AND SURGERY, UNIVERSITY OF MINNESOTA, MINNEAPOLIS.

The ostensible purpose in the organization of this Association was the advancement of medical education. We have met year after year and resolving ourselves into a mutual admiration society have enjoyed a pleasant social reunion. We have heard many admirable papers on the theory of higher medical education, and have indulged in delightful utopian dreams of the possibilities of the future ideal medical school. We have formulated rules for our guidance, and when a school has been convicted of flagrant violation, a *mild* reproof has been *firmly* administered!

Three years ago we made an apparent step forward, but by the wholly unauthorized and grossly unjustifiable action of the former secretary, and the chairman of the judicial council, the will of the Association was nullified.

The time has come for "the parting of the ways." Either we have fulfilled our mission and should disband, or we should take some action to justify our existence. Everyone must concede there is no crying demand for more practitioners. On the contrary, in the near future it must become a struggle for a bare livelihood.

The cheapness and ease with which a medical diploma may be secured is an invitation to ignorant and incompetent men to enter an already overcrowded profession. The number of cheap medical schools is appalling, and the unseemly strife for students in some localities is most disgraceful. What remedy offers for this unhappy situation? Consolidation of schools, which have demonstrated their fitness to survive, and the abandonment of the inferior grade, which have neither endowment, equipment nor ability.

This last proposition is humanly improbable of voluntary accomplishment. How shall the weak and consequently unworthy medical school be forced into bankruptcy and extinction? By the united efforts of the better grade of schools of this Association in an attempt to dignify the profession by limiting its membership to men with some degree of education, demonstrating that ours is not a mere trade to be taken up by any illiterate fellow who has the necessary funds.

Our entrance qualifications are absurdly low and wholly inadequate; and when we remember that these slight barriers are continually disregarded by members of this Association, the situation becomes intolerable. Any one of you who conducts correspondence with student applicants, knows this to be an indisputable fact.

In five or more states, the examining boards have increased the entrance demands to a degree which excludes the graduates of schools which admit students on our minimum requirements. This Association, which should be the pioneer and leader in this movement, is but a craven follower because it needs must!

If we raise our minimum demand to a high school entrance, the number of students will be greatly reduced. Is that a misfortune? Certainly not from a professional standpoint. Our revenue will be curtailed, but our power for good and our self respect will be exalted. If we move up as one man our united effort will compel endorsement. If we drift along in the futile fashion of the past few years, we lose our opportunity. If we obstruct the wheels of progress because some weak members may lose their doubtful patronage, we degrade ourselves and our vocation to the level of the tradesman.

If some good fellow and his "alleged" college are submerged in the rising tide, he may be considered an "offering" on the altar of higher education and enlightened progress, and ought to be proud of the opportunity to play the star part once. "Let us be up and doing." Now is the time and this the place to assume our station at the right of the column. Let us sternly enforce our rules, and expel unworthy schools which use this organization to advertise scientific wares which exist only in their prospectus. It will purify the air, advance our cause, and make a membership in this Association a badge of high endeavor.

BY SENECA EGBERT, DEAN OF THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

In order that there may be no misunderstanding of the attitude of my colleagues and myself in regard to the question under discussion, I would very positively state that I believe that there should be some reasonable and, perhaps, considerable increase in our requirements for entrance into colleges belonging to this Association, not only because the rules and enactments of certain State Examining Boards and State Boards of Health practically compel us to make the change if we are to maintain the dignity and prestige of our Association in their opinion; but also and more especially because the exigencies of the time demand a higher standard.

But there are certain facts and conditions of which we must not lose sight, but all of which we must carefully consider if we are to solve our problem correctly and at the same time maintain the unity and harmony of the Association.

First, in undertaking to raise our standard, we must distinguish between that which is necessary as a preliminary education and that which is unnecessary but desirable, the latter including the knowledge, education and training of a Huxley, a Spencer or a Darwin.

Second, our change must not be too sudden nor too severe, else it will work injustice to many and thus may do more harm than good. No one can deny that conditions to-day are immeasurably superior to those existing at the time of organizing this Association, and we are in favor of a standard of preliminary education much higher than could have been required generally at that time. Let us then have faith that the coming years will justify and demand still greater advances from us, and the ultimate attainment of the ideal of any one here present.

Again, we must not forget that our standard must be elastic enough to apply to all parts of our country; at least, to all the territory covered by the respective schools of our membership; and sufficiently catholic to satisfy practically the essential requirements of any state board, two features that I believe are entirely compatible and easy of attainment. But to secure this we must have the manifestation of the spirit and not the fixation-and-vexation-of the letter in our law. In other words, we should ask of our entering students quality, not quantity, substance rather than time of preparation. We should not insist on diplomas when certificates from reputable and recognized instructors, or a fair and thorough examination by a duly authorized, competent and impartial educator can and does assure us that the candidate is reasonably well-prepared to take up and go on with the study of medicine. And we must remember that, from a pedagogical standpoint alone, the educator (using the word in a broad sense) of our students does not stop short when they enter our colleges, but that our own courses, as at present required by the demands and needs of the profession, are developmental in a high degree.

It is also worth recalling that the best preparatory schools of to-day are usurping part of the one-time work of the literary college, and that they may and do include in their set courses leading to the acquirement of their diplomas much that may come under the head of what is unnecessary in the preliminary education of a medical student.

Lastly, and with emphasis, I believe that it is far more important that this Association should be scrupulously fair to all its members than that it should raise its standard to the detriment of any considerable number of them, however much the latter may seem necessary. Colleges in affiliation with the so-called state universities have an advantage, that can not be gainsaid, over those institutions which are more or less dependent upon their own energies and private enterprise, and the representatives of the former should be broad-minded and generous enough not to use this advantage unduly or other than fairly to all concerned. This is the Association of American Medical Colleges—not of the colleges connected with state institutions—and our purpose of association is to advance the standard of medical education throughout the whole country. Can we afford then to do anything which causes the least suspicion that the organization has been used to further the interests of even one of its members against the others?

I am ready and willing to amend Article III of our constitution, but with all due respect to the committee, I think we can amend their amendment for the better.

BY C. E. M'CLUNG, DEAN, SCHOOL OF MEDICINE, UNIVERSITY OF KANSAS, LAWRENCE.

In a discussion of the entrance requirements to the medical schools of the country, due regard must be had to the difference between what is reasonably necessary and what is academically desirable. Local conditions must be met and plans laid to secure the best possible results under the greatest variety of conditions. What is really desired from the secondary schools are well trained students. More and more is it becoming evident that the best training is not always secured by forcing all students to pursue exactly the same course of study.

Medical schools would doubtless consider it desirable if students could come prepared in the modern languages, higher mathematics, and the elementary physical and biological sciences; but, is such a training necessary; or is it even possible in most of the secondary schools? I think few will insist that it is either.

What then is the minimum necessary for thorough work in the medical school? I should be inclined to say that a good four-year high school course is the least that will meet the requirements of the present medical curriculum. In such a course I feel sure that all would agree in making an absolute requirement in English and mathematics. Students well trained in these branches almost invariably prove good students.

Aside from these subjects, it would not seem wise to make a rigid requirement of the high schools. The committee proposing the amendment to the constitution has been wise in making provision to meet local sentiment and conditions by allowing the entrance requirements to the freshman class of the state university to serve as a fulfillment of the requirements of the medical school. These institutions register the possibilities of the high schools of their states. As a rule they demand all that it is possible to secure of the secondary schools. They are also finding it wise and prudent to take from the schools the work they are best prepared to give.

Reasonable objection can scarcely be made to the entrance requirements called for by the proposed amendment. It is certainly in the interests of both the public and the profession. A young man of average ability can finish the work of a four years' high school course at the age of eighteen, and be ready for the practice of his profession by the time he is twenty-two or three. He is then young enough to adapt himself to the conditions under which he will pursue his life work, and, at the same time, he has prepared himself measurably well in the subjects that will make him strong as a man. Surely the physician should be a man of high character and ideals, and a leader in his community. Such he probably will not be if he finishes his general education at the eighth grade, and then narrows down to the grind of his purely professional studies.

And why should not the medical schools demand adequate preliminary training of their students? There are plenty of high schools in the country to educate young men to the standard contemplated by the proposed amendment, so that there would be no lack of students, even were this selfish point

of view to be taken. No one can doubt that it would be to the advantage of the medical schools to have better trained students. If it be true then, as I think it is, that benefit would accrue to public, physician, and school by insisting on better preparation for medical work, certainly only a doubtful expediency would suggest contentment with anything less desirable.

BY HENRY S. TAYLOR, ALBANY, N. Y., REPRESENTING THE REGENTS OF THE UNIVERSITY OF NEW YORK (BY INVITATION.)

The topics of discussion before the Association of American Medical Colleges for this session are of keen interest to me. A feeling prevails that the increase of physicians in the United States is out of proportion to the increase in population. The accompanying table shows that in 1860 there was one physician to 576 people; in 1870 one to 617; in 1880 one to 585; in 1890 one to 598; and in 1900 one to 575. In 40 years the population increased nearly two and a half times, but the ratio of population to physicians is practically the same to-day as it was 40 years ago. But, as the number of physicians to the number of persons increased during the last decade more markedly than in any preceding decade, it is fair to assume that the requirements for admission to the practice of medicine should be increased if the general ratio of the 40 years is a proper one.

Table showing ratio of physicians to population as shown by the United States Census:

U. S.	1860.	1870.	1880.	1890.	1900.
Physicians	54,543	62,448	85,671	104,805	132,002
Population	31,443,321	38,558,371	50,155,783	62,622,250	75,994,575
Ratio ...	1 to 576	1 to 617	1 to 585	1 to 598	1 to 575

Assuming that it is safe to advance the requirements for admission to the practice of medicine throughout the United States, should this advancement be made in the general preliminary educational requirement for admission to the medical school, in the professional requirements for graduation, or in both? Without doubt, the new Article 3 strictly enforced will materially advance the preliminary requirements, and a uniform enforcement of the minimum requirements for admission to the medical schools that are members of this Association will materially reduce the numbers of the first class entering on these full requirements. For example, under Item B of Sec. 1, "The diploma of a state normal school having a course of instruction equivalent to a four-year high school course whose credits are accepted by a state university," if interpreted for Massachusetts, will cover a two-year course subsequent to a four-year high school preparation based on eight or nine years of pre-academic or grammar school preparation, which would not be recognized by Harvard for admission to her medical school; while the diploma from an Alabama state normal college secured on a two years' normal course, subsequent to two years of high school preparation, based on six years of pre-academic work, will admit to the junior year of the University of Alabama, i. e., 14 years of scholastic preparation in Massachusetts will not admit to the freshman year of the Massachusetts university, while 10 years in Alabama will admit to the third year of the Alabama university. Hence a uniform enforcement of this section, strictly interpreted, will very materially affect the entrance class to the medical schools of the country. This illustration plainly reveals perhaps the most pressing reform essential to the advancement of the medical profession in the United States to-day, viz., the need of a fixed standard for the measurement of the entrance requirements to professional schools.

The question of advancing the professional requirements is equally important. In the re-registration of medical schools necessitated by New York's advanced statutory requirements, the solution of several important problems leads to the conclusion that an accurate and equitable registration of the medical schools necessitates personal inspection, independent of professional bias. The best available authorities regarding medical schools in 1898 were the American Institute of Homeopathy, the Association of American Medical Colleges, the Illinois State Board of Health, the National Confederation of Eclectic Medical Colleges and the Southern Medical College Association.

A member of the Institute who had served for years on the intercollegiate committee asked regarding the registration of two prominent homeopathic schools by the University of the state of New York. He thought the registration of one of them was a mistake, for that committee regarded it as one of their strongest schools. When he was shown a sworn statement that they made an allowance for admission to advanced standing contrary to the agreement of the committee, he acknowledged that the formal application for registration disclosed conditions not evidenced by annual publications.

The general preliminary educational requirement of the Illinois State Board of Health was plainly below the requirements of the New York statute; hence it became necessary to pass on the general preliminary educational qualification of a candidate for admission to the licensing examination independent of the professional requirement.

The rules of your organization permit an allowance of advanced standing to graduates of schools of dentistry, veterinary medicine, pharmacy, osteopathy, and the like, an allowance not permitted by the New York statute. This has led to the necessity of a distinction between registered and accredited schools, concerning which see the report of the director of the college department for 1902, p. r. 22-30.

The necessity of protecting the interests of students who desire to migrate from weaker to stronger medical schools, made it necessary to register the schools for admission to the licensing examinations independent of the registration for admission to other registered schools. The contention made at your last meeting regarding certain spring schools, that your rules compelled students to remain in such institutions, has some force. A spring school need not necessarily be an inferior school. The relation of receipts to expenditures, of instructors to matriculates, of library, laboratory and clinical facilities to the numbers graduating, are important factors in determining the standing of medical schools which should receive greater consideration than has ever been given them.

Finally, the allowance to be made graduates of colleges of liberal arts and sciences must receive careful attention. The independent colleges and medical schools suffer by the drifting of their students to the universities that can afford both lines of work and a combined course saving one or two years of time. The presidents of independent colleges plead for subjects they regard as essential in liberal culture, while the deans of the independent medical schools plead for these stronger students with the college training. All are agreed, however, that the matriculate possessing the baccalaureate degree, other things being equal, is better fitted for entrance on medical study than the graduate of the high school only. We hope that a satisfactory arrangement of a standardized combined baccalaureate and medical course can soon be adopted by the university that will prove satisfactory to the colleges, universities and medical schools of the State of New York.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Phlegmasia Alba Dolens.

E. C. Hill, in *Med. Standard*, recommends in the treatment of phlebitis complicating the puerperal state, that absolute rest be given the affected limb in a felt-lined splint for 25 or 30 days; linimentum opii et belladonnæ be applied locally, followed by a covering of soft lint or oiled silk, care being observed not to blister. After the second week gentle inunction of mercurial or belladonna ointment should be employed. Later slight compression with bandage should be made. The limb should not be used freely until the fortieth day.

Suprarenal Extract in Diseases of the Skin.

M. F. Engman and W. P. Loth, in *Medicine*, recommends the employment of suprarenal extract in diseases of the skin accompanied by vasomotor disturbances. They regard it of no

benefit in those conditions of the skin attended with inflammation or exudation, such as acne and eczema. They report splendid results obtained in cases of general pruritus such as chronic urticaria, given in five-grain doses three times daily. They invariably use the dried, pulverized extract, gradually increasing the dose unless untoward symptoms are observed, such as nausea, dizziness, tremor, etc. In some cases an accumulative action has been noticed.

Mercury Hypodermically.

Lemoine, according to the *N. Y. and Phil. Med. Jour.*, recommends the following formulæ in the administration of mercury hypodermically:

℞.	Hydrarg. benzoatis	gr. ivss	30
	Sodii chloridi		
	Cocainæ benzoatis, āā	gr. iii	20
	Aquæ destil.	ʒi 30	

M. Sig.: Thirty to sixty drops daily, injected hypodermically; or:

℞.	Hydrarg. bichloridi	gr. ivss	30
	Cocainæ hydrochlor.		
	Sodii chloridi, āā	gr. iss	09
	Aquæ destil.	ʒi 30	

M. Sig.: Seven to fifteen minims daily; or:

℞.	Hydrarg. biniodidi	gr. 3/4	05
	Atropinæ sulph.	gr. 3/40	005
	Aquæ destil.	3v 20	

M. Sig.: Four to seven minims daily; or:

℞.	Hydrarg. peptonatis	gr. iiss	15
	Aquæ destil.	ʒi 30	

M. Sig.: Seven to fifteen drops daily.

Formaldehyd in Acute Tonsillitis.

A. C. Jordan, according to abstract in *Amer. Med.*, has obtained splendid results from the use of formaldehyd in the treatment of acute tonsillitis, aphthous stomatitis, diphtheritic and scarlatinal sore throat. He employs a 1 to 4 per cent. solution in glycerin. This application should be begun early in the disease. It causes some pain, which lasts for several hours, but the pain is not severe. He states that no food or water should be taken for an hour or so after the application in order that the antiseptic effects may not be disturbed. A gargle of potassium chlorate may be used later in the disease.

Dysmenorrhea.

Dr. F. C. Hammond, in an abstract in *Med. News*, states that the cause should be ascertained. However, there is a large class in which the cause can not be definitely worked out. He divides the treatment into:

1. The prevention of the attack.
2. The treatment of the attack.
3. The treatment between the attacks.

In cases in which there is congestion alone, he advises free purgation the day previous to the flow. According to the author the tincture of gelsemium is of great service in cases of dysmenorrhea occurring in girls and where there is a normal anatomic relation. He administers the tincture in ten-drop doses three times a day, beginning a week previous to the flow. He also recommends in such cases the use of apiol, cimicifuga and potassium permanganate.

In the treatment of the attack rest in bed is advised; hot vaginal or rectal douches and a hot-water bag over the abdomen. Antipyrin, cannabis indica, the bromids, caffein, sodium benzoate and viburnum prunifolium are indicated when the pains are of a neuralgic nature. He condemns the use of opium. Nitroglycerin will relieve the condition if the dysmenorrhea is due to vasomotor spasm; it may be given in one-hundredth-grain doses and repeated in an hour if necessary.

In the treatment between the attacks the general health must be cared for by proper exercise, tonics, baths, clothing and elimination.

Local treatment should be employed in order to reduce the congestion by the use of the tampon, antiseptic and astringent applications, vaginal douching, high rectal injections, pelvic massage, etc. In all cases where a pelvic lesion can be made out as the cause of the dysmenorrhea surgical measures should be resorted to in order to effect a cure.

In the neuralgic form of dysmenorrhea apiol may be used, according to *Merck's Archives*, combined as follows:

℞.	Apiol	ʒii 8	
	Acetanilidi	gr. xl 2	65
	Spts. chloroformi	m. xxx 2	
	Alcoholis q. s. ad	ʒii 60	

M. Sig.: One teaspoonful in water every two or three hours.

Antipyrin may be employed likewise, combined as follows:

℞.	Antipyrini		
	Sodii salicylatis, āā	ʒi 4	
	Syr. aurantii q. s. ad	ʒii 60	

M. Sig.: One teaspoonful every hour or two until the pain is relieved.

Shoemaker employs the following combination containing apiolin in the treatment of dysmenorrhea:

℞.	Apiolini	m. l 3	30
	Aloini	gr. i	06
	Sulphuris sublim.	gr. l 3	30

M. Ft. capsulæ No. x. Sig.: One capsule night and morning, one week previous to and during menstruation.

[Apiolin is a camphoraceous substance derived from the root of parsley. Apiol is an oily mixture containing volatile oil, resin and apiolin.]

The following combination is recommended by *Jour. de Med. de Paris* in the treatment of dysmenorrhea:

℞.	Ext. cannabis indicæ		
	Ext. belladonnæ, āā	gr. 1/4	015
	Olei theobromæ q. s.		

M. Ft. suppos. No. i. Sig.: One such to be introduced at night beginning five days previous to the usual time for menstruation.

The following containing camphor and hyoscyamus is frequently prescribed:

℞.	Pulv. camphoræ	gr. xii	75
	Pulv. opii et ipecac.	gr. xx 1	30
	Ext. hyoscyami	gr. xii	75

M. Ft. pilulæ No. xii. Sig.: One pill every two hours until the pain has ceased.

Coryza.

For the relief of coryza, accompanied by obstruction in the nares, Pregnut, in *Lyon Med.*, recommends the following:

℞.	Cocainæ chloralis hydratis		
	Menthol, āā	gr. v	30
	Olei petrolati	ʒii 8	

M. Sig.: Apply locally to the nasal mucous membrane.

Medicolegal.

Presumption as to When Compensation is Due.—The Fourth Appellate Division of the Supreme Court of New York holds, in the case of Bacon vs. Chapman, brought to recover for medical services, that, presumptively, compensation for the services was due immediately on their performance.

Admissibility of Memorandum of Dying Declarations.—The Supreme Court of Wyoming holds, in Foley vs. State, that a paper alleged to contain dying declarations was improperly admitted in evidence, where the statements were written down by one of the physicians in attendance, and the paper was signed and sworn to by him and the other physician and another party, but was not read over to the deceased, and was not signed by him. Under such circumstances, it says, the writing is a mere memorandum. It may be used to refresh the memory of the witness, but is not itself evidence of the declarations of the deceased. To make it admissible, it must have been read over to the deceased, and signed or assented to by him. If, however, the statements contained in the paper above mentioned were admissible as dying declarations, when presented to the jury by competent testimony, the court says that it is not prepared to say that the admission of the paper itself, though erroneous, was prejudicial to the accused or reversible error. The two physicians were present as witnesses, and testi-

fied that the writing contained substantially the dying declarations of the deceased. They were competent to testify to the declarations, refreshing their recollection by reference to the writing, and the error in admitting the paper was thus rather technical and formal than substantial or material. Furthermore, the court says that dying declarations are obnoxious to the objections which, according to the general rule, exclude hearsay testimony. But in view of the fact that in many cases there are no eyewitnesses to the murder except the slayer and the deceased, they are made an exception to the rule, and admitted on the ground of necessity. If they relate to former distinct matters, they do not come within the reason of the exception, and are not admitted.

Power of Court to Order Physical Examination of a Woman.—The personal injury case of Brown vs. the Chicago, Milwaukee & St. Paul Railway Company, the Supreme Court of North Dakota says, presented, for the first time in that jurisdiction, the question as to the court's power to require the party suing in a proper case to submit her person to a physical examination. Here the party suing alleged permanent injury to her uterus and bladder, also the fracture of the hip bone. The trial court took the ground that it was without power to make or enforce an order for the examination of her person by a physician; or that if it was in error on that point, and had such power in a proper case, yet in this case, in view of the party suing being a woman, and in view of the examination necessary under all the circumstances, still would it decline to make the order, for the reason that it would in this case be an ordeal to which she ought not to be subjected. But the Supreme Court holds that the court possessed the power in this case, and that it was an abuse of discretion to refuse to require the party suing to submit herself to the examination of physicians under such reasonable restrictions as the court should prescribe. It holds that in an action to recover damages for personal injuries alleged to be permanent, the trial court has power to require the injured party to submit her person to an examination of physicians or surgeons designated by the party sued, when, in the exercise of a sound judgment, it appears to the court that the necessity of the case demands such an examination. To permit the party suing and a physician of her selection, after examination of her person, to testify that her injury was permanent, and to deny the party sued the privilege of having the alleged injuries examined by competent surgeons to enable them to see from what, if any, injuries she suffered, their nature, extent and probable duration, was an abuse of discretion, and reversible error. The party suing in a personal injury case, by the commencement of her action, impliedly consents to the doing of that measure of justice which she exacts. She can not claim damages for injuries which she conceals from the reasonable inspection of witnesses when such inspection is necessary to equip them to testify on the trial concerning such injuries. She must, so far as in her power, enable the court, jury, and the adverse party to have the best evidence which can be produced in the case. It was no answer to the company's request for an examination that it would offend the modest and womanly instincts of the party suing to require her to submit to an examination of experts. She told a jury of 12 men of her pains; how and when they affected her. She submitted to a digital examination of her injured parts by two physicians of her own selection. It would have been no greater indignity to be examined by other doctors. Neither was it an answer that one physician had examined her and testified to what he found, and was cross-examined by the company. Surgeons of equal learning and honesty may not diagnose an injury in the same way. They may not be equally strong in perception, or equally accurate in observation or in measurements, and thus form different judgments of the existing conditions, which, of necessity, must constitute the basis of their scientific opinions. If a party sued must make his defense against the expert opinions of the chosen surgeons of the party suing, without the opportunity of testing the verity of the basis of such opinions, he may be placed at a disastrous disadvantage, such as the law can not and does not sanction. The company's right was, through an examination, to test the effect and reduce the weight of the evidence introduced by the party suing. The courts of Massachusetts, Texas, and Delaware, in following the Supreme Court of the United States in denying the power to require an examination, under penalty of a dismissal of the case for refusal to submit to same, did not notice the influence which the federal statute had on the determination of the question by that court.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.
August 1.

1 *Chronic Postdiphtheritic Laryngeal Stenosis as a Cause of Persistent Intubation of the Larynx. Henry W. Berg.
2 *Two Cases of Congenital Elevation of the Shoulder, with a Review of the Reported Cases. Russell A. Hibbs and H. Correll-Loewensteln.
3 Life and Its Physical Basis. Axel E. Gibson.
4 *A Signal Test for Color-Blindness. Percy Fridenberg.

1. **Chronic Postdiphtheritic Laryngeal Stenosis.**—Berg's article gives the causes of prolonged intubation, the effects of defective tubes (too large in the swelling, or roughened in surface) in causing necrosis or pressure sores, the dangers of such conditions and the occurrence of autoextubation. The prevention of these pressure sores forms an important part of the treatment and depends on the selection of the proper sort of tubes and care in the technic in intubation and extubation. When the case has developed into a tube case we should see whether the stenosis is due to pressure sores or decubitus with swelling, to decubitus followed by cicatricial contracture or decubitus with paralysis of the vocal cords, or a combination of these. If cicatricial stenosis is present, persistent intubation with a tube of just the right size to pass through the strictured larynx without difficulty, but not to be forced out, is most apt to be successful, and the intubation is not to be done too frequently. The use of astringent ointments on the tubes, the author thinks, is hardly necessary, from his experience. It may take months or years before the patient can get altogether along without the tube. Cases of paralysis of the vocal cords due to pressure on the recurrent laryngeal nerve without cicatricial stricture, are best treated by intubation with either a larger tube than is usual for the age of the patient, or one with an increased swelling; this should be nearer the neck of the tube than is usually the case. For atresia of the larynx, surgical treatment is the only method.

2. **Congenital Elevation of the Shoulder.**—Hibbs and Loewenstein report two cases, and classify the conditions thus: "1. With a bony bridge between the scapula and vertebral column; 2, with absolute absence of one or two muscles forming the shoulder girdle; 3, cases with a long and turned over supraspinous portion of the scapula; and 4, cases without bony overgrowth, the scapula normal or smaller, with shorter or otherwise defective muscles." They refer to published cases according to their classes, and discuss the etiology of the anomaly. In the first of the cases reported, the defect seemed to be due to a triangular piece of bone continuous with the scapula and articulating with a pivot joint to the seventh cervical vertebra, due to epiphyseal overgrowth of developmental origin, starting early in fetal life. The second class of cases is due to congenital lack of one or two muscles. The third class is due to the curved and possibly enlarged condition of the supraspinous portion of the scapula, which is accounted for according to the Sprengel theory as the outcome of intra-uterine pressure due to a lack of amniotic fluid. The fourth class of cases is of obscure origin, and represents conditions that have not been sufficiently studied. Probably some of them are not truly congenital. In the first and third classes, the only treatment is to resect the bony bridge or bent forward piece of bone; in the second class, orthopedic appliances to press the shoulder down and substitute the missing depressors where required. The fourth class will probably have to be treated orthopedically, by apparatus, massage, exercise, electricity, and, in selected cases, by the knife.

4. **Color-Blindness.**—Fridenberg notices the defects of the Holmgren test and its advantages if supplemented by a proper lantern test. He describes a lantern which he has devised.

The Boston Medical and Surgical Journal.

July 30.

5 The Sources, Favoring Conditions and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts. (Shattuck Lecture.) Theobald Smith.
6 *Problems of Clinical Anatomy. Thomas Dwight.
7 *The Need of a Supplementary Lantern Test for the Proper Examination of Color Perception. Charles H. Williams.
8 Efforts to Abate the Mosquito Nuisance in Brookline. H. Lincoln Chase.

6. **Problems of Clinical Anatomy.**—Dwight calls attention to the fact that all people are not made alike; that there are variations of structure often not recognized during life, knowledge of which would have helped the medical practitioner, and especially the surgeon. The results of certain series of observations are also, he thinks, establishing the law that certain pathologic conditions have their origin in some peculiarity of development. He calls attention to certain special points, such as the paralysis of the muscles of the larynx, in the symptomatology of aneurism of the right subclavian artery. Nevertheless, this may not occur, owing to a deviation of the artery which arises from the region of the aorta and passes behind the esophagus to its destination. Here the inferior laryngeal nerve is not recurrent. He expects to find this arrangement at least once a year in the dissecting room. Another is the peculiarity of the aorta in severe Pott's disease, where it lies, as it were, half coiled around the spine. Still another anomaly is the fusion of the atlas with the occiput, the existence of new bones and fusion of others, etc.

7. **Color-Blindness.**—Williams describes the lantern he has devised to test color vision supplementary to the Holmgren test, the defects of which he recognizes.

Medical News, New York.

August 1.

9 *Fetal, Congenital and Infantile Typhoid. John Lovett Morse.
10 *Some Cases of Prostatectomy, Observed After an Interval. Alexander B. Johnson.
11 Case of Bothriocephalus Latus in a Woman Immigrant, with Remarks on the Occurrence of this Parasite in America. William N. Berkeley.
12 Hernia. S. W. S. Toms.
13 Thiocol. J. Leffingwell Hatch.
14 *On the Presence of Specific Coagulins in the Tissues of Vertebrates and Evertebrates. Leo Loeb.
15 Pustulation and Its Accompanying Secondary Fever a Complication and Not an Essential Symptom of Smallpox. Jennie G. Drennan.

9. **Infantile Typhoid.**—See abstract in JOURNAL, vol. xl, April 11, 1903, p. 1018.

10. **Prostatectomy.**—Johnson operates by a perineal incision, with a second abdominal incision, the latter being utilized to afford access to the prevesical space, the fingers of the left hand inserted in this abdominal wound, making counter-pressure to the fingers of the right hand, working in the perineum. He makes a perineal incision, convexity forward, and, after separating the muscles surrounding the urethra from the anterior extremity of the sphincter ani, exposes the prostate by blunt dissection, using the sound in the urethra as a convenient guide. When the prostate is reached, it is pushed downward by the fingers of the left hand, into the perineum, and can generally be brought in sight. An incision is then made obliquely upward and outward through the capsule of each lateral lobe, and the enucleation accomplished by separating the capsule with the forefinger of the right hand. There is apt to be a tear of the urethra on one side or the other, and it is utilized for the drainage tube subsequently. He speaks particularly of the utility of the downward pressure from above in putting the prostatic plexus of veins on the stretch and thus preventing the bleeding. A suprapubic opening into the bladder is not advisable, and the infectious urine in the wound not at all advantageous. He reports cases observed at intervals of one or two years or more with good results; in all of them sexual power or desire has been diminished or lost.

14. **Specific Coagulins.**—Loeb found that the muscular tissues of various animals have a coagulating power on the blood of the same species. These coagulins are analogous to certain substances which are obtained through the process of immunization, namely, the agglutinins, precipitins, and lysins. The probability is not excluded that these coagulins may also act on other species, though less strongly. Each species of animal so far tested has specifically adapted means for preventing a dangerous loss of blood. The origin is probably of interest; it is not entirely explained by a selective process. The possibility of its being due to the lymph is excluded by the author as improbable, as a careful washing of the tissue does not diminish the influence of the tissue on coagulation, and he finds it can be definitely proven that the influence of a piece of muscle of a lobster is derived from the muscle itself.

American Medicine, Philadelphia.

August 1.

16 *Appendicitis as an Incident in Development. Woods Hutchinson.
17 *Bradycardia as a Symptom. Roland G. Curtin.
18 A Study in Astigmatism. Arthur G. Bennett and J. C. Clemesha.
19 *The Teaching of Personal Hygiene. Arthur L. Pyle.
20 *An Ideal Method for Drainage in Cholecystostomy. Alois B. Graham.
21 A Case of Metastasis of Mumps to the Brain. H. E. Wright.

16. **Appendicitis.**—Hutchinson considers that Ochsner's method of treating appendicitis is simply a return to Nature's methods in the case, and while he was first inclined to doubt, the observation of the practice of one of his surgical confrères has convinced him of its excellence. He describes the embryologic development of the appendix, and its occurrence in the lower animals. Of course, the operation for the removal of the appendix, in the interval, is advisable, but he thinks that Ochsner's plan to help Nature in walling off the inflammation is the correct one.

17. **Bradycardia.**—Curtin notices the effects of bradycardia and conditions in which it has been observed, pointing out that it is so common a symptom and occurs in so widely different diseases that it can be of only small diagnostic value. In a constitution not undermined by disease, and with a gradual subsidence, it need not be considered a grave symptom. On the other hand, if associated with or caused by a depressing chronic condition, especially of the cardiovascular system, it becomes a very serious symptom. When accompanied by anginose symptoms, it is frequently followed by sudden death.

19. **Hygiene.**—See abstract in THE JOURNAL, vol. xl, p. 1528.

20. **Drainage in Cholecystostomy.**—Graham describes the method of drainage of the gall bladder after cholecystostomy, devised by Dr. George J. Cook, which is performed as follows:

> The drainage tube employed should be of large caliber and possess firm walls, so as to be not easily compressed. Its proximal end is firmly fixed in the gall bladder by a purse-string suture. Its distal end should not project more than one and one-half to two inches beyond the edges of the wound. To this end is firmly tied an extra large and extra thick condom or rubber sac. The gauze dressings are next applied; on these is placed the condom or rubber sac, and this is well surrounded and covered with cotton. All are retained in position by a binder bandage snugly adjusted. It can readily be seen that by this method we have produced an artificial gall bladder, and it lies in close proximity to the gall bladder which is to be drained. This so-called artificial gall bladder is removed once or twice every twenty-four hours, emptied, and thoroughly cleansed, after which it is again placed in position.

He claims for it the advantages of being ideal and complete, simple and easy of performance, cleanly, enables the patient to change position without assistance; the bile is collected in a pure state and can not become contaminated, and it enables one to study the influence of the so-called cholagogues on the bile secretion. It is so superior to Dr. Kehr's method that it is hardly comparable. His careful perusal of the literature, however, has failed to reveal previous mention of it.

New York Medical Journal.

August 1.

22 *Remarks on Medical Instruction; a Plea for Greater Uniformity. N. R. Coleman.
23 *The Psychical Relations of Tuberculosis in Fact and Fiction. G. A. De Santos Saxe.
24 *The Death Rate of Pneumonia. Thomas J. Mays.
25 *Dhobie Itch. Charles F. Mason.
26 Complete Removal of the Left Vocal Cord for Malignant Disease; Presentation of the Patient. Walter F. Chappell.
27 Chronic Lymphatic Leucemia Complicated by Pneumonia. T. Stuart Hart.

28 *An Improvised Method of Operating for Varicocele. Lucien Lofton.

22. **Medical Instruction.**—Coleman's address is in the line of his former address published in THE JOURNAL, vol. xl, p. 375, Feb. 7, 1903, but with more special reference to the medical curriculum.

23. **Tuberculosis.**—Saxe's article is to be continued. He reviews the characteristics of tuberculosis as given in literature, and in medical literature also, the consumptive type of insanity, the loss of self-control and increase of susceptibility to external mental influences, the variability of temper, and the alleged effect of the disease on the sexual instinct.

24. **Pneumonia.**—The alleged increase of mortality from pneumonia is noticed by Mays, who gives figures to show the ratio of deaths in various cities from pneumonia, tuberculosis and heart disease. He says:

In summing up the results of this investigation the following points seem to be fairly well established: First, there is no good reason for believing that pneumonia has gradually sprung into such prominence as to cause present or future alarm; for its highest death rate occurred before 1896, and since that time it has declined 21.17 per cent. Compared with heart diseases as a death menace, if such a term is permissible, pneumonia ranks rather low; for, in Chicago, the latter increased 350 per cent., and the former 450 per cent. in forty-two years. In the District of Columbia there is a marked decline in the pneumonia rate during the twenty-six years, while the deaths from heart disease increased 105 per cent. in the same time. In New Jersey, during twenty-three years, the deaths from pneumonia increased 30.95 per cent. and from heart diseases 55.55 per cent. In the composite chart the total increase of pneumonia deaths is not quite 10 per cent., while those from heart diseases increased 85.85 per cent.

Second, that in a number of the above-named localities the phthisis rate diminished from the beginning of the record; that there is a reduction in all of them in this respect from the early eighties to 1898, and that from the latter point of 1902 there is a general net increase. Thus, Philadelphia, St. Louis, the District of Columbia, Baltimore, Louisville, San Francisco and Rhode Island give a total increase of 117.17 per cent.; New York a decrease of 4.15 per cent., while Chicago, Buffalo, Richmond, Reading, New Jersey neither increase nor decrease, leaving, therefore, a net phthisical increase of 113.02 per cent. for the last five years, or between 1898 and 1902.

Third, that the natural average decrease in the death rate of phthisis is between 2 and 3 per cent. a year. This is shown in the composite chart, and in all the other charts in which a persistent decline occurred for a number of years in succession.

On the whole, we may, therefore, conclude that deaths from pneumonia are decreasing; that deaths from disease of the heart are increasing, and that deaths from phthisis decreased until five years ago, but have markedly increased since that time.

25. **Dhobie Itch.**—There are at least three types of infections known as dhobie itch, according to Mason; two of them mycotic, due to *Microsporon minutisimum* and the trichophyton, and one bacterial-pemphigus contagiosus. He says that the disease has been introduced into this country by soldiers returning from tropical service, and will probably become more prominent, especially where washing is not done by boiling. The prognosis will depend on the disease, whether mycotic or bacterial, and he describes pemphigus contagiosus, the treatment of which consists of thorough cleanliness of the parts and of the underclothes, with a twice daily sponging with a 1-1,000 solution of mercury bichlorid, followed when dry by a powder of equal parts of zinc oxid, boric acid and starch. If the mycotic dhobie is found, tincture of iodin, glacial acetic acid, 5 per cent. salicylic acid ointment, and 1 to 500 alcoholic solution of corrosive sublimate, would be effective in the order named.

28. **Varicocele.**—The method adopted by Lofton for this condition is the needling application of the ligation plan, and is described as follows:

The testicular case is prepared for action in the usual surgical manner. The patient is permitted to assume the semi-recumbent posture, when the scrotum is grasped with the left hand, the index finger and thumb separating the vas and the spermatic artery, i. e., placing them on the anterior border of the testicle, while the pampiniform plexus is brought well up against the anterior and upper walls of the bag, and held there firmly. With an ordinary curved surgeon's needle, three inches in length, armed with a double strand of No. 2 fiddle string, the pouch is pierced at the seat of election and the mass transfixed: the needle being curved at an angle of forty-five degrees, penetrates the opposite inner wall of the scrotum, but does not perforate it. With the point of the left index finger the needle is guided so as to slip along the inner wall of the bag, making a half circuit of the interior lining and over and above the transfixed veins, and is brought out at the original puncture and securely tied to the dangling ends of the external ligature. Caution must be observed in drawing the mass of veins well up against the inside anterior wall of the scrotum. This procedure, if it is thought necessary, may, at the same sitting, be duplicated from one to three times, at whatever points the surgeon's judgment may dictate. If you are sure you have separated the spermatic cord and artery from the general mass you may tie firmly at once; if not, gradual tightening is advised, as this will indicate the condition of affairs. The tying of the cord and artery with the veins is a mistake that some good men have made, but, with ordinary precaution, it should not occur. However, when this is done, great pain radiating from the lumbar region to the testicle on the affected side, and even on the penis, immediately sets in, and if not remedied, atrophy of the testicle will follow.

There is only one opening made in the scrotum and, when secondary inflammation sets in, the mass should be securely welded to the anterior walls. The patient can continue at his business without interruption. He has not had any severe inflammation or pain follow the procedure or any elevation of temperature in his cases. A well-fitting suspensory, of course, is advised for some weeks, and the bowels and kidneys should be in a healthy condition. Recovery follows on an average in from twenty-five to thirty days, and complete atrophy of the veins in about six months.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 25.

1 *Remarks on Ectopic Gestation and the Conditions Favorable for Its Advance to the Full term. John Ward Cousins.
2 A Case of Puerperal Eclampsia. Robert McDowell. With remarks by Professor Byers.
3 *On Influenzal Orchitis, with Three Cases. R. Clement Lucas.
4 The Causes of Acute Abdominal Pain in the Healthy, Exclusive of Traumatism. J. Lynn Thomas.
5 Hernia of the Bladder as a Complication of Inguinal Hernia. G. B. Ferguson.
6 Further Observations on Alcoholic and Arsenical Neuritis. Ernest Septimus Reynolds.
7 A Case of Ankylostomiasis in Scotland. Ralph Stockman.
8 *Treatment of Atrophic Retina with Retinal Extract. Robert W. Doyne.
9 Two Cases of Fracture of the Base of the Skull, Which Recovered After Venesection. Stephen Paget.
10 The Buried Unabsorbable Ligature and Its Sequelæ. C. Hamilton Whiteford.
11 The Treatment of Hydrocele by the Method of Seton. A. A. Scot Skirving.

1. **Ectopic Gestation.**—The conditions favorable for carriage of the fetus to full term in ectopic gestation, are given by Cousins, as, first, early continuous mobility of the ovum; second, slow subperitoneal expansion of the sac; third, absence of urgent symptoms indicating intraperitoneal or extraperitoneal rupture; fourth, the early ascent of the fetus toward the abdominal cavity; and fifth, the lateral position of the placenta in relation to the gestation sac and its upward expansion and elongation. He discusses the etiology of ectopic gestation. He thinks that while there are many unsettled points, the following conditions may be taken as a basis for further investigation: first, the fertilization of the ovum sometimes occurs within a tube in which the lumen has been distorted by chronic changes within or around it; second, that in addition to some form of mechanical obstruction, the tubal mucosa may be changed under genetic influence into decidual tissue, and that this structural change is necessary for the vital attachment of the embryo.

3. **Influenzal Orchitis.**—From cases he reports, Lucas assumes that often the inflammation of the testis may follow influenza close on the fever; that after one is recovered, the other may be attacked; second, that when there is an epidemic of influenza in the neighborhood, sporadic cases probably occur as the result of the influenzal germ, though the direct connection may be difficult to trace.

8. **Atrophia Retinae.**—Doyne has experimented with retinal extract in cases of retinal atrophy, on the theory of charging the blood more richly with the retinal constituents, and thus compensating for a lack of the usual nutrition. His results have been such as make him conclude that there is a certain amount of benefit in this treatment in cases of retinal, but not optic nerve, atrophy.

The Lancet, London.

July 25.

12 *Some Improvements in the Method of Local Analgesia: Clinical Remarks. Arthur E. J. Barker.
13 *Causes, Prevalence and Control of Pulmonary Tuberculosis. (Milroy Lectures.) H. Timbrell Bulstrode.

14 *An Inquiry Into the Susceptibility of Criminals to Atmospheric Changes. W. Norwood East.
15 Roentgen Rays in the Diagnosis of Lung Disease. David Lawson and R. Hill Crombie.
16 Some Further Improvements in the Procedures for Testing and Judging by the Naked Eye of the Agglutinating and Bacteriolytic Effects Exerted by the Sera of Patients Suffering from, or Preventively Inoculated Against, Typhoid Fever, Malta Fever and Tuberculous Affections. A. E. Wright.
17 Observations on Mastication. Harry Campbell.
18 The Conservative Treatment of Lesions of the Uterine Appendages. George Granville Bantock.
19 Have the Locality and Surroundings an Influence on the Recurrence of Malignant Disease After Operation? D'Arcy Power.
20 Hepatectomy for the Removal of Riedel's Lobe. Charles Barrett Lockwood.
21 Enzymes in Tumors. Arthur Harden and Allan MacFadyen.
22 The New Royal Victoria Hospital, Belfast. Prof. J. W. Byers.

12. **Local Analgesia.**—The difficulty of applying in practice the discovery of Corning, that a local anesthetic introduced to any part of the nerve trunk would abolish its sensation to its minutest termination, is first noted. Barker was led by this to adopt the principle laid down by Braun of Leipsic, that anything that retards or diminishes the circulation of the blood in the part, enhances the power of the analgesic agent, and followed Braun's suggestion of investigating further whether the diminution produced by the injection of adrenalin would not also have this effect. His results were good. He gives the proportions which he used; two grains B-eucain with ten grains of chlorid of sodium, added to 100 cubic centimeters of boiling distilled water, then a cubic centimeter of solution of adrenalin was added when the fluid had cooled. The difficulty of keeping the solution of adrenalin perfect, is mentioned, and he suggests that this preparation be put up in thin glass capsules like those of nitrite of amyl, which can be broken at the time needed. He has operated by this method in a number of cases of hernia and tumor extraction, varicose veins, skin grafting, abscesses, etc., and considers the success of the local anesthesia thus applied very marked.

13. **Pulmonary Tuberculosis.**—Bulstrode gives here in tabulated statement the statistics of tuberculosis in various countries and cities, Prussia, France, Denmark, Switzerland, etc., showing that in all, except it may be in France, a very marked diminution in the phthisis mortality.

14. **The Susceptibility of Criminals to Atmospheric Changes.**—East, a medical officer of the convict prison at Portland, has studied the effect of atmospheric changes in criminals under his charge. Normal individuals are markedly affected by atmospheric changes, but he finds that criminals are practically insensible to their influence. The facts seem to confirm the view that criminals are less susceptible to external impressions than are normal individuals.

Revue Medicale du Canada, Montreal.

23 (VI, 38.) La transmission des maladies par les sièges des latrines (by water closet seats). M. T. Brennan.
24 (No. 45.) De l'inflammation et de son traitement. J. P. Rottot. (Concluded.)
25 (No. 47.) Certain Drawbacks of Rectal Injections. M. T. Brennan.—Certains méfaits des lavements en chirurgie abdominale et en gynécologie.
26 (No. 48.) Quelques usages de l'acide picrique. Ibid.
27 (No. 51.) *Epilepsie menstruelle traitée par la transplantation ovarienne. Ibid.

27. **Operation for Epilepsy with Transplantation of Part of the Ovaries.**—Brennan operated last November on a young woman of 19 who had suffered from epileptic seizures since her first menstruation at 8 years of age. They recurred sometimes as often as three a day, and usually about six to fourteen a month, but seemed to be restricted to the menstrual period. No clinical lesion could be discovered, and the family history was good, the patient living in a Vermont town in easy circumstances. After failure of all other measures and loss of 40 pounds in weight during the last few months, Brennan removed both ovaries. A piece of the left ovary the size of a bean was transplanted in the fundus of the uterus. There was a very severe seizure the next day, but that was the last, and to date, June, 1903, there has been no recurrence nor any symptoms that might be attributed to the artificial menopause, except that after exceptional fatigue, on five or six occasions, there has been a slight nervous crisis.

Archiv f. Allg. Pathologie, Etc. (Virchow's), Berlin.

28 (CLXXIII, 1.) Osteogenesis imperfecta. F. Michel (Marburg).
29 Biologic Study of Blood in Arthropoda. L. Loeb (Montreal).—Ueber die Bedeutung der Blut-Körperchen für die Blut-Gerinnung und die Entzündung einiger Arthropoden und über mechanische Einwirkungen auf das Protoplasma dieser Zellen.
30 Anatomische Untersuchungen zur Frage der beginnenden Prostata-Hypertrophie. A. Rothschild (Berlin).
31 Adenomyome des Pylorus. E. Magnus-Alsleben (Strasburg).
32 Three Remarkable Tumors in or on the Stomach. F. Miodowski (Breslau).—Drei bemerk. Tumoren im und am Magen.
33 Postmortal Changes in Pupils. Placzek (Berlin).—Ueber Pupillenveränderungen nach dem Tode.
34 Fatal Hemorrhage from Arrosion of Renal Vein from Chronic Gastric Ulcer. H. Merkel (Erlangen).—Fall von chron. Magengeschwür mit tödlicher Blutung aus der arrodierten linken Nierenvene.

Archiv f. Klin. Chirurgie, Berlin.

Last indexed XL, page 131.

35 (LXIX, Nos. 1-2. Esmarch Festschrift.) *Zur radikalen Behandlung der Darm-Invagination. von Eiselsberg.
36 *Surgical Experiences with Carcinomata of Intestines. J. v. Mikulicz.—Chir. Erfahrungen über das Darmcarcinom.
37 Osteotomie und Osteoklase bei rhachitischen Deformitäten der unteren Extremität. T. Kölliker.
38 Ueber die Entstehung und Behandlung des Hohlfusses (talipes cavus). L. Heusner.
39 Zum Mechanismus des Plattfusses (flat foot). F. Petersen.
40 *Treatment of Cavities in Tibia. F. v. Mangoldt.—Zur Behandlung der Knöchenhöhlen in der Tibia.
41 Arthrodesis of Flail Joint in Shoulder. O. Vulpius.—Ueber die Arthrodese des paralytischen Schlottergelenks der Schulter.
42 Origin and Treatment of Spondylitic Paralysis. H. Tillmanns.—Ueber die Entstehung und Behandlung der spondylitischen Lähmungen.
43 Fractures of Femur. R. Klapp.—Zur Behandlung der Oberschenkelbrüche.
44 Histologische Knochenuntersuchungen bei tabische Arthropathie. Barth.
45 Secondary Incision of Thorax. C. Beck (New York).—Exploratives Prinzip und Technik bei sekundärem Brustschnitt.
46 Symmetric Lachrymal and Salivary Affections. H. Haeckel.—Zur Kenntniss der symmetrischen Erkrankung der Thränen- und Mundspeicheldrüse.
47 *Zur Kenntnis der Pustula maligna. R. Hoelscher.
48 Klinische Mitteilungen. R. Fischer (Berlin).
49 *Ueber Carcinom-Entwickelung. De Ruyter.
50 Die Rhinoplastik aus dem Arm. H. Waitz.
51 *Die Behandlung septischer Erkrankungen mit intravenösen Collargol (Arg. coll.) Injektionen. Credé.
52 *Die Hepatikus-Drainage. Berger (Kehr's clinic, Halberstadt).
53 Weiterer Beitrag zur diagnostischen Bedeutung der Leukocytose bei Appendizitis. M. Wassermann.
54 Klinische Mitteilungen. H. Schüssler (Bremen).
55 Die Elastizität der Muskeln und ihre chirurgische Bedeutung. Tilmann.
56 *Ueber die Winkelmann'sche Hydrocelen-Operation. F. Klaussner.
57 *Present Status of Surgery of Pharynx, Larynx and Trachea. Gluck (Berlin).—Der gegenwartige Stand der Chirurgie des Schlundes, Kehlkopfes und der Trachea.
58 Syphilitic Inflammation of Striated Muscles. Busse.—Ueber syph. Entzündung der quergestreiften Muskeln.
59 Notes in Orthopedic Practice. Hoeftmann.—Mitteilungen aus der Praxis.
60 Zur Kasuistik des arteriell-venösen traumatischen Aneurysma. E. v. Bergmann.
61 Ueber primäre akute Typhlitis. Jordan.
62 *Influence of Vitality of Tissues on Local and General Toxic Action of Local Anesthetics and the Importance of Adrenalin for Local Anesthesia. H. Braun.—Ueber den Einfluss der Vitalität der Gewebe auf die örtlichen und allg. Giftwirkungen lokal anesthesierender Mittel, etc.
63 Exposure of Hip Joint by Larghi Curved Incision. A. v. Bergmann.—Zur Freilegung des Hüftgelenks durch den Larghi'schen Bogenschnitt.
64 Ueber die Operation der Cholecystitis acuta infectiosa im akuten Stadium. W. Körte.

35. **Radical Treatment of Invagination of Intestines.**—Eiselsberg's experience includes 13 cases of invagination, 3 acute, 3 subacute and 7 chronic. The cause of the invagination was polyposis in 3 cases and a cicatrix or neoplasm in 4, while in 6 there was merely an abnormally long mesentery. He advises cautious attempts to reduce the invagination in order to determine how large a part of the intestine is involved. In acute cases or in much debilitated subjects the intervention should be restricted to this alone. Under other circumstances he advocates total resection to prevent recurrence. He succeeded in reducing the invagination in 5 cases and partially in 3 out of 12 in which he attempted it, and 9 of the 12 in which he performed total resection have been definitely cured. He absolutely rejects enteroanastomosis for this purpose, as also an artificial anus.

36. **Carcinomata of Intestines.**—Mikulicz's article is scarcely adapted for an abstract, as he reviews his extensive experience in detail.

40. **Treatment of Cavities in the Tibia.**—Mangoldt has found that a cavity in the tibia gradually becomes smaller and finally becomes entirely obliterated when it is lined with a flap of skin and periosteum. Small cavities can thus be lined with a tongue-shaped flap with a broad base fitted into the cleaned and leveled cavity, but larger ones require a flap of skin and periosteum drawn down from the margin of the wound after undermining it enough. A rapid and durable covering for a large cavity can be obtained with Thiersch flaps or Mangoldt's method of sowing epithelium. Cavities in the epiphysis may be lined with a turned-over flap of skin and periosteum. The cavities lined with transplanted flaps heal perfectly, but do not grow smaller as occurs with the pedunculated flaps. He describes a dozen cases in detail. In 2 the cavity became spontaneously obliterated after it had been lined with a pedunculated flap of periosteum taken from under the skin.

47. **Pustula Maligna.**—Hoelscher found pure cultures of staphylococci in 2 out of 7 cases of pustula maligna. All the patients recovered.

49. **Development of Carcinoma on Inflammatory Processes.**—De Ruyter reports a case of two carcinomata developing on the nasal mucous membrane consecutive to an old empyema of the antrum of Highmore. In a second case the carcinoma developed in an inflamed and cystically degenerated mamma, and in the third on the basis of an old perityphlitis.

51. **Collargol in Septic Processes.**—Credé reiterates his recommendation of collargol for all septic processes. In mild or moderately severe cases it can be used in inunctions, but in the severe and urgent it should be applied from the start in intravenous injections.

52. **Draining of the Hepatic Duct.**—Kehr's views have been presented in The Journal from time to time, and his address at Washington on this subject was summarized on page 1598 of the last volume. This article is a detailed statement of the technic, operations and results at his clinic, a total of 25 cases of cholelithiasis treated by drainage of the biliary passages.

56. **Winkelmann's Operation for Hydrocele.**—Klaussner has collected 104 cases of hydrocele in the literature treated by Winkelmann's operation. There has been recurrence in 2 out of this number. He has performed the operation himself in 35 cases, and recommends it for all uncomplicated ones in which the tunica vaginalis is not too rigid to be turned over in this way.

57. **Surgery of Larynx, Trachea, Etc.**—Gluck has been a pioneer in the extirpation of the larynx and pharynx, and his results have been very fine. He describes in detail his technic, apparatus for closing fistulæ, for improving phonation and for substituting parts of the defects in these organs. Only one has died out of his 22 patients whose larynx he has extirpated.

62. **Influence of Vitality of Tissues on Toxic Action of Local Anesthetics.**—Braun's experiments and conclusions are along lines almost identical with those of Barker, No. 12 above. Barker refers to Braun.

Janus, Amsterdam.

Last indexed page 403.

65 (No. 4.) The First Russian M.D. L. Stieda.—Der erste russische Doctor der Medicin. P. W. Postnikow.
66 Library Demonstrations in the Teaching of the History of Medicine. J. Finlayson (Glasgow).
67 The Tercentenary of the Faculty of Physicians and Surgeons, Glasgow. Ibid.
68 Rôle of Physicians in Annals of History. P. Fabre (Commentry).—Les medecins annalistes. (Concluded.)
69 La peste à Delft en 1557-1558 et en 1573. L. Meunier.
70 (No. 5.) *Qu'est ce que signifie "la modorra"? H. F. A. Peypers.
71 *Attempt at Identification of the Medicinal Plants Mentioned by Dioscorides. (From the drawings on a manuscript in the Paris Library.) E. Bonnet (Paris).—Essai d'identification, etc. (Concluded.)
72 Salomo Levy Steinheim. J. Pagel. (Concluded.)
73 (No. 6.) *On Indications of the Haschish Vice in the Old Testament. C. Creighton (London). (Concluded).
74 Records of Strasburg Midwives' Training School. R. Landau. Eine Urkunde der Str. Hebammenlehranstalt.

70. **"Modorra."**—Peypers has been comparing the historic accounts of the epidemics of "modorra" in the Canary Islands in 1494, and the two later centuries. He thinks that the word was used to express bubonic plague and not sleeping sickness, as some have recently asserted.

71. **Attempt at Identification of the Medicinal Plants Mentioned by Dioscorides.**—Bonnet reproduces some of the drawings on the ancient Greek MS. and establishes the identity of a large number of the plants whose medicinal virtues are described. Some of the drawings are reproduced.

73. **Indications of the Haschish-Vice in the Old Testament.**—Creighton gives a new rendering of certain words in the Old Testament, endeavoring to prove that the disreputable intoxicant drug of the east, haschish, was known and used then, and that the vice was recognized as such and attempts at regulation made. It did not come under the head of a drink but of food, and he argues to prove that it was the secret of Jonathan's and Samson's strength and of Saul's madness. Samson's "strength" collapses, just as Saul's "courage" fails, the stimulant having lost its power, and being followed by hebetude. Creighton thinks that the "grass" on which Nebuchadnezzar fed was this same drug. He was in fact first interested in the subject by noting the similarity between the ordinary Arabic word for grass, hachach, and haschish, the term for Indian hemp. He concludes by suggesting that the first chapter of Ezekiel, with its phantasmagoria of composite creatures, wheels, and of brilliant play of colors is unintelligible from any point of view except that of the subjective visual perceptions induced by haschish. He adds that this chapter caused long hesitation before the book of Ezekiel was included in the accepted text of the Bible. The article is in English.

Riforma Medica (Palermo).

Last indexed page 346.

75 (XIX. 19.) *Study of Abscess of Spleen. A. Cipollina.—Contributo allo studio dell'ascesso della milza.
76 *Hypochloruria in Pneumonia. A. Santini (Siena).—Sulla ipocloruria nella polmonite e sulla presenza del cloro organico nei tessuto. (Commenced in No. 18.)
77 (No. 20.) *Treatment of Hydatid Cysts in Liver with Sublimate. D. Pirrone.—La cura delle cisti di echinococci del fegato col metodo Baccelli.
78 Attempts at Chemical Anti-anthrax Vaccination. A. Paladino-Blandini.—Tentativi di vaccinazione chimica anti-carbonchiosa.
79 A proposito di una diagnosi di tumore addominale. G. Zagari.
80 (No. 21.) Bile Pigments in Icterus. L. Ferrannini.—Le proprietà e le trasformazioni dei pigmenti biliari nelle varie forme di ittero.
81 Gastric Functions in Splenectomized Animals. T. Silvestri.—La funzionalità gastrica negli animali smilzati.

75. **Spleen Abscess.**—The diagnosis is assured if a fluctuating tumor can be palpated under the costal arch, especially if accompanied by pyemic fever and local pains. To relieve the pain in the spleen the patients may assume a characteristic attitude, lying on the back with the left thigh flexed. The prognosis is grave, although recovery has followed prompt surgical intervention in some cases. In the typical one described the abscess was of tuberculous origin, as also the peribronchial and mesenteric glandular lesions. Less than a dozen cases are on record of abscess of the spleen, and only 3 recovered. Some were consecutive to typhoid or malaria, and one to articular rheumatism. Four of the patients were women.

76. **Retention of the Chlorids in Pneumonia.**—Santini called attention in 1902 to the hypochloruria observed in the course of pneumonia and has since established that it is a constant phenomenon in all acute infections. (The diagnostic importance of the retention of chlorids has recently been emphatically proclaimed from Senator's clinic, as quoted at length on page 140 of The Journal.) In a patient under observation for some time on account of mitral stenosis, the elimination of chlorids was constantly 8 to 10 gm. a day. An attack of pneumonia supervened, and the first day the chlorids were 9.41 gm., and the next, only 1.17 gm. In another patient the onset of an acute infection caused the chlorids to drop from 14.47 gm. the day before to 6.81 gm. the first, and 2.19 gm. the second day. In another patient two attacks of pneumonia occurred while under observation, and in both the same sudden drop in the chlorids was noted in twenty-four to forty-eight hours. From the clinical study of 50 patients with pneumonia he states that

this constant hypochloruria ranges from a daily minimum of .5 gm. to 6-7 gm., but does not seem to bear any relation to the extent of the pneumonic focus, nor the height of the fever. When salt is ingested by normal subjects the proportion eliminated in excess approximates the amount ingested, but this does not occur in case of hypochloruria. Even when a pneumonia patient took as much as 24 gm. of salt during the day, the percentage in the urine was only slightly increased, not at all in proportion to the quantity ingested. Santini concludes from his experiments and the arguments he presents that the quotient of the alkaline-mineral chlorid remains invariable in the tissues in pneumonia as in health, or may be a trifle lower in the former. During the infectious process the chlorin enters into combination with organic substances abnormally produced, and the product is impermeable for the kidneys. Even in physiologic conditions, while a constant proportion of the chlorin is found in the tissues in the form of an alkaline-mineral chlorid, another part is found in combination with organic principles. The retained chlorin can be readily found in the desiccated blood and tissues by mixing them with a 2.5 per cent. solution of caustic soda and setting aside for a time, occasionally shaking the vessel, then proceeding as usual for its determination.

77. **Treatment of Echinococcus Cysts in Liver with Injections of Sublimate.**—Pirrone gives the particulars of 3 cases of an echinococcus cyst in the liver completely and rapidly cured by aspiration of a small portion—about 10 c.c.—of the contents of the cyst, and injection through the needle before its removal of a smaller amount of a 1 per cent. solution of sublimate—about 2 c.c.—repeating the procedure in a week. Exploratory puncture and aspiration a month later were entirely negative, and the experiences in these cases have been duplicated in a large number of others. The conditions for success are that the contents of the cyst are sterile, that the cavity is single, that the lesion has not lasted so long that the walls of the cyst have become rigid and thus unable to retract, and lastly, that the cavity is not too extensive. It is important to apply a constricting bandage around the abdomen below the liver before making the puncture, and afterward to place an ice bag over the liver for twenty-four hours, withhold food for eighteen hours at least, and keep the patient immovable on his back in bed. The death of the parasites is indicated by leucocytosis in the fluid obtained by puncture and the presence of numerous hooks which become detached from the wall. The fluid first aspirated contains few, if any, of these hooklets. The liver is usually hypertrophied to compensate for the loss of the portion invaded by the cyst, and although not degenerated elsewhere, yet the organ generally remains enlarged after recovery. Pirrone styles this Baccelli method of treating echinococcus cysts "a positive and important conquest in the field of therapeutics." By removing only a small amount of the contents of the cyst the dangers from abrupt changes in pressure are avoided, and Nature attends to the gradual and safe absorption of the remainder as soon as the parasites are killed by the sublimate injection. The reaction is slight, possibly a little pain in the corresponding shoulder, and slight fever the day after the injection, not more than 38.5 C. The symptoms then all gradually subside.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, July 25, 1903:

Daywalt, George W., contract surgeon, is relieved from further duty at Fort Schuyler and from temporary duty at Fort Levett, and will proceed to Fort St. Philip for duty, to relieve Contract Surgeon Frederick Hadra, who will proceed to his home, San Antonio, Texas, for annulment of contract.

Gregory, Verdo B., contract surgeon, now at Vancouver Barracks, is relieved from further duty in the Department of the Columbia, and will proceed to his home, Bowers, Wis., for annulment of contract.

McCulloch, Jr., Champe C., captain and asst.-surgeon, is granted leave for ten days.

Roberts, William, first lieut. and asst.-surgeon, is relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to his station at Fort Brady.

Reno, William W., first lieut. and asst.-surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines, and will proceed to Fort Crook for duty.

Winter, Francis A., captain and asst.-surgeon, is granted an extension of leave for twenty days.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Aug. 1, 1903:

Medical Director M. H. Simons, commissioned medical director from June 9, 1903.

Drs. S. L. Scott, T. N. Pease and F. G. Abeken, appointed assistant surgeons from July 10, 1903.

Hospital Steward E. May, appointed pharmacist from March 28, 1903.

Hospital Steward T. N. Phillips, appointed pharmacist from June 8, 1903.

P. A. Surgeons E. M. Blackwell and G. F. Freeman, commissioned as such from June 7, 1903.

Asst.-Surgeon C. E. Ryder, ordered to the Naval Hospital, Chelsea, Mass.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 1, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, June 18-25, 4 cases.
California: Los Angeles, July 11-18, 1 case; San Francisco, July 12-19, 5 cases.
Illinois: Belleville, July 11-25, 3 cases; Chicago, July 15-25, 1 case, 1 death.
Indiana: Indianapolis, July 18-25, 1 death; South Bend, July 18-25, 1 case.
Louisiana: New Orleans, July 18-25, 3 cases.
Massachusetts: Fall River, July 18-25, 7 cases.
Michigan: Detroit, July 18-25, 6 cases, 3 deaths; Grand Rapids, July 18-25, 1 case; Port Huron, July 18-25, 2 cases.
Mississippi: Natchez, July 11-18, 1 case.
Missouri: St. Louis, July 18-25, 2 cases.
New Hampshire: Manchester, July 18-25, 5 cases.
New York: Rochester, July 14-21, 1 case.
Ohio: Cincinnati, July 17-24, 3 cases; Dayton, July 18-25, 5 cases; Toledo, July 18-25, 2 cases.
Pennsylvania: Norristown, July 18-25, 3 cases, imported from Philadelphia; Pittsburg, July 18-25, 14 cases, 6 deaths; Scranton, July 18-25, 2 cases, 1 death.
South Carolina: Charleston, July 18-25, 1 case; Greenville, July 11-18, 4 cases.
Utah: Salt Lake City, July 18-25, 2 cases.
Washington: Tacoma, July 13-20, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, May 1-31, 11 deaths.
Austria: Prague, July 4-11, 5 cases.
Belgium: Antwerp, July 4-11, 3 cases, 3 deaths; Brussels, July 4-11, 3 deaths.
Brazil: Rio de Janeiro, June 14-28, 12 deaths.
China: Hongkong, May 31-June 13, 3 cases, 1 death.
Colombia: Bocas del Toro, July 7-14, 5 cases, 1 death.
France: Paris, June 27-July 4, 1 death.
Great Britain: Dublin, July 4-11, 5 cases; Dundee, July 6-13, 3 cases; Edinburgh, July 4-11, 1 case; Leeds, July 11-18, 6 cases; Liverpool, to July 18, 13 cases, 3 deaths; London, June 20-July 11, 42 cases; Manchester, July 4-11, 2 cases; Newcastle-on-Tyne, July 4-11, 1 case; Nottingham, July 4-11, 10 cases; Sheffield, July 11-18, 1 case.
Japan: Kobo, June 13-20, 1 death; Nagasaki, June 11-20, 1 case.
Mexico: City of Mexico, July 5-19, 31 cases, 25 deaths; Tampico, July 11-18, 2 cases; Vera Cruz, July 4-11, 1 case, imported.
Russia: Moscow, June 27-July 4, 5 cases, 4 deaths.
Turkey: Constantinople, July 5-12, 2 deaths.
Uruguay: Montevideo, May 31-June 20, 4 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, June 14-23, 4 deaths.
Costa Rica: Limon, July 8-16, 2 cases, 1 death.
Mexico: Altamira, July 14, present; Motzorongo, July 13, present; Progreso, July 12-19, 3 cases, 1 death; Tampico, July 11-18, 45 deaths; Tierra Blanca, July 13, present; Vera Cruz, July 11-18, 43 cases, 13 deaths; Zongolica, July 13, 5 cases.

CHOLERA.

China: Amoy, July 22, present; Hongkong, June 6-13, 1 death.
India: Calcutta, June 20-27, 30 deaths.
Straits Settlements: Singapore, June 6-13, 8 cases.
Turkey in Asia: Catana, May 24-June 6, 10 deaths; Damascus, June 6-20, 6 deaths in province; Luma, June 2, 2 deaths; Zibdani, May 31, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, June 15, 1 death.

PLAGUE—FOREIGN.

Africa: Cape Colony, May 31-June 6, 15 cases, 4 deaths; Natal, May 16-23, 2 cases.
Australia: Sydney, June 13, 1 case.
Brazil: Rio de Janeiro, June 14-20, 5 deaths.
China: Hongkong, May 31-June 13, 256 cases, 172 deaths.
Egypt: Alexandria, June 20-27, 5 cases, 4 deaths; Port Said, June 20-27, 2 cases, 1 death; other localities, June 20-27, 2 deaths.
India: Calcutta, June 20-27, 14 deaths; Karachi, June 14-28, 14 cases, 11 deaths.
New Caledonia: July 26, present.

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Original Articles.

THE APPARENT IMMUNIZING VALUE OF ATTENUATED TUBERCLE BACILLI.*

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WASHINGTON, D. C.

The recent attention which has been drawn to the difference in virulence of tubercle bacilli from various animals, and the publication by Behring of the production of immunity to tuberculosis in cattle by the use of tubercle bacilli of low virulence, have suggested that if perhaps a little more attention had been given to some work published in December, 1894, there would have been less tendency in some quarters, at any rate, to assume an absolute difference between tubercle bacilli obtained from men and those obtained from cattle. The published works of the writer and Dorset and Schroeder, Ravenel, Nocard and that of others, have shown so conclusively that it is possible to obtain tubercle bacilli, sometimes from the sputum of adults and frequently from intestinal lesions in children, which will produce tuberculosis in cattle when the latter are inoculated subcutaneously, that it seems now almost a waste of time to discuss a question which has been so positively proved. Considering further the numerous cases of accidental infection with bovine tuberculous material, and also that monkeys are more readily infected with bovine tuberculosis than with human tuberculosis, and it is well known that monkeys are more closely allied to man than any other animal, the possibility of the intercommunicability of bovine and human tuberculosis has been well established. The fact, further, that tubercle bacilli as well as other bacilli become more or less attenuated, depending on their growth on artificial media outside of the animal body or on their cultivation within the animal body, or in other words, the fact that they are easily influenced like other plants, by changes in soil and climate, has also been well proven by ourselves and others.

Our work, published in 1894,[1] was the first to show that guinea-pigs that had received large doses of attenuated human tubercle bacilli, those bacilli that had largely lost their virulence or power of producing disease, were rendered resistant and immune to subsequent inoculation with tuberculous material of bovine origin. Futher, in 1894-5-6-7-8, cattle and various other large and small animals were injected with frequent doses of attenuated tubercle bacilli and in some cases subsequently tested by inoculation with bovine tuberculous material. While the earlier works on the effect of large doses and the apparent immunizing value of attenuated human cultures on cattle were reported in 1896, Bulletin No. 13, Bureau of Animal Industry, and in the Proceedings of the Association of American Physicians, 1897, the results of the practical tests on some of these animals with tuberculous material have never been recorded, but may be of interest now. The practical treatment of these animals was made for me at the Experiment Station of the Bureau of Animal Industry by Dr. E. C. Schroeder.

In one of our earlier experiments begun in 1894, an old cow, 285, from a tuberculous herd, which on physical examination appeared to be clearly tuberculous, was given large injections of tuberculin, subcutaneously. The first dose used was 25 c.c. and the amounts were gradually increased so that between August, 1895, and October, 1897, when the animal was killed, it had received altogether 19,500 c.c. of tuberculin, as much as 1,500 c.c. being given at one dose. After four months' treatment with tuberculin the cow seemed to improve considerably. This apparent improvement, however, did not persist and the autopsy, when made in 1897, showed a most generalized tuberculosis, all stages of the disease being apparent. If the treatment with tuberculin had any beneficial effects the disease was so far advanced when the treatment was begun that no practical benefit could be secured.

IMMUNITY TESTS ON CATTLE.

On July 26, 1894, cow 217 received an injection in the jugular vein of 16 c.c. of a suspension of an attenuated human tubercle culture then in the 17th generation. This injection produced a large swelling at the seat of inoculation, but no other evidence of tuberculosis was noted.

On Nov. 28, 1894, this same animal received an abdominal injection of 6 c.c. of the 23d generation of attenuated culture. On Jan. 25, 1895, it received an intrathoracic injection of 6 c.c. of unfiltered culture of the 26th generation. On March 5, 1895, it received an injection into the right side of the chest of 16 c.c. of the 33d generation of a tubercle culture. Between April, 1895, and July, 1897, the animal received subcutaneous injections of attenuated tubercle culture, as much as 2,000 c.c. being given at a single injection. Altogether, therefore, it had received one intravenous, two intrathoracic, two abdominal and thirty-nine subcutaneous injections of attenuated tubercle culture. As the animal appeared to be in good health and well on Feb. 22,

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

1 Medical News.

1898, it received an injection into the thoracic cavity of 10 c.c. of a turbid triturate of a tuberculous gland obtained from a cow. This gland contained many virulent bacilli, as proved by inoculation tests. On Sept. 20, 1898, this cow was killed, and postmortem examination showed it to be free from disease, indicating, therefore, that neither the attenuated human culture nor the bovine material had produced tuberculosis.

Another cow, 297, the offspring of the tuberculin cow just referred to, 285, was tested with tuberculin on Nov. 19 and 20, 1894, and found free from disease. On Nov. 24, 1894, it received an injection in the abdominal cavity of 6 c.c. of the 23d generation of a tubercle culture. The temperature as taken for ten days following the injection seemed to indicate no disease. Between Jan. 25, 1895, and July 25, 1895, it received five subcutaneous injections of attenuated tubercle culture, about 250 c.c. being given altogether. In August, 1895, it received an injection of a bovine culture. Beginning again Dec. 2, 1895, it received large subcutaneous injections of attenuated tubercle culture, about 13,500 c.c. of the material being given altogether. On Feb. 22, 1898, at the same time that 217 was inoculated, it received an intrathoracic injection of some of the same tuberculous material as that given to 217. Killed on Sept. 20, 1898, when apparently in good condition, the autopsy showed a few tubercular nodules in the udder, while the superficial lymph glands, liver, kidneys and spleen were normal. There were, however, some large tubercular masses on the pleura. The tubercular lesions appeared to have come from the first inoculation with bovine material.

In April, 1896, two calves were inoculated with smaller doses of attenuated tubercle culture, subcutaneously, two animals with serum from cow 285, which in its turn, as reported, had received large doses of tuberculin, and two animals were reserved as checks. These calves subsequently tested with bovine tuberculous material did not show the same amount of resistance as did those first inoculated. One of the calves which had received preventive inoculations of the serum from cow 285 seemed to possess immunity. So far as the records of the check inoculated with bovine material show (these latter records are unfortunately incomplete) the check contracted tuberculosis from which it died in September, 1896, while the preventively inoculated animals had shown considerable resistance. The established immunity was not as good as that obtained in the first experiments. In the first tests several intravenous inoculations, as well as subcutaneous, were made. In the second set only a small number of subcutaneous inoculations were made.

These experiments on cattle considered in connection with those on guinea-pigs showed that as it was possible to vaccinate against bovine tuberculosis by means of tubercle bacilli of human origin, then we are simply dealing with tubercle bacilli of varying degrees of virulence, and not tubercle bacilli that are really different from each other. The readiness, as we have shown, with which not only human but, as may be seen from the records attached, also bovine tubercle bacilli may be attenuated, and the ease with which, according to Nocard, avian tubercle bacilli may be converted into those of a mammalian character, all go to prove the intimate relationship of bacilli obtained from various sources.

Steer 242 was drenched with bovine tuberculous material on Jan. 10, 11, 13 and 21, 1902. On February 17, 18 and 26 of the same year, tested with tuberculin, a positive reaction was given. On October 6, about nine months after the first drenching, this animal was killed. A few small foci of a tuberculous character were found in the mediastinal and in the lymph glands at the entrance of the thorax; otherwise no evidence of tuberculosis.

On Nov. 2, 1901, bull 223 was inoculated subcutaneously with 10 c.c. of bovine culture No. 3 (Smith). On Jan. 21, 1902, and April 18, 1902, reactions after tuberculin injections were noted. On Oct. 2, 1902, when the animal was killed, its general condition was excellent. At the seat of inoculation there was a patch of induration about six inches in diameter in which were imbedded small abscesses containing a soft, cheesy material. The shoulder glands on the side of infection, both deep and superficial, were enlarged and sprinkled with necrotic foci. The mediastinal glands contained numerous necrotic foci. No other lesions of any kind were present.

This animal showed very much less tuberculosis than that found after six weeks in a calf which received, subcutaneously, injections of material from tuberculous cultures isolated from children. Compared with the record of another heifer, 284, which had been inoculated with a different virulent bovine culture (a culture that had been isolated from a spontaneous case of disease occurring at the Experiment Station), and which showed after eight weeks very generalized tuberculosis, it is very evident that the bovine germ by cultivation loses in violence and in ability to produce disease just as well as the human bacillus. It becomes attenuated. This is another strong point and emphasizes the influences of environment on the virulence of bovine as well as human bacilli.

Our earlier work and results in this connection have therefore simply been confirmed by the recent experiments of MacFadyean, Behring, Pearson and Gilliland and others.

DISCUSSION.

DR. L. HEKTOEN, Chicago—Did I understand the author to mean by attenuated bacilli those that have been cultivated artificially for some considerable time?

DR. M. DORSET, Washington, D. C.—This culture referred to is one which lost its virulence after having been cultivated for several years and one which will not kill guinea-pigs even in large doses.

DR. JOSEPH MCFARLAND, Philadelphia—Is that a peculiarity of this bacillus or is the same true of all bacilli? Do they all become attenuated?

DR. M. DORSET, Washington, D. C.—This particular human culture is the most attenuated form we have. We have some human tubercle bacilli that have been growing for ten years without passage through an animal, and they are still quite virulent for guinea-pigs. This particular culture does seem to be an exception.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.—I would like to ask the gentlemen present if it has been their experience that tubercle bacilli become attenuated after having been grown for many generations?

DR. JOSEPH MCFARLAND, Philadelphia—I brought back with me from Berlin in 1895 a tubercle bacillus that had been isolated by Koch many years ago, and I kept it growing for more than five years. At the end of that time it seemed to have retained its virulence. I never went through any quantitative method of determining this, but relatively its virulence did not seem to be diminished. Unfortunately I lost the germ and could not continue the experiment.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.—In 1888, when I was a student in Koch's laboratory, Professor Fraenkel gave me a culture of the tubercle bacillus which he said was the

112th generation of one of the first cultures made by Professor Koch in 1882. I used that germ and its descendants in experiments on guinea-pigs and rabbits and it retained its virulence until about 1896. During the interval between 1888 and 1896 no year passed in which I did not inoculate animals with this germ, and in every case it was found to be virulent. In 1896 it began to lose its virulency for guinea-pigs, and soon ceased to have any effect even in large doses. Two years ago I sent to Dr. Lartigau a culture of this germ and a few weeks ago I had a letter from Dr. Baldwin of Saranac, saying that he had obtained the culture from Dr. Prudden and had experimented with it and that his experiments had confirmed my statements. The germ has completely lost its virulence so far as guinea-pigs were concerned.

NEW PHYSIOLOGIC APPARATUS.

THE FROG-BOARD MYOGRAPH AND THE MANOMETER TAMBOUR.*

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THE FROG-BOARD MYOGRAPH.

The term myograph was originally applied to the whole apparatus used in recording the contraction of a muscle. The pendulum myograph of Helmholtz included the muscle-clamp, the muscle-lever and the moving surface (pendulum) on which the myogram or muscle-tracing was recorded. After the rotating cylinder came into use as a recording surface under the name of the kymograph, the term myograph has been applied to that portion of the apparatus which represented the muscle-clamp and the lever with the load and the tracing point. Such an apparatus traces on the kymograph the muscle-curve or myogram.

The myograph has taken several forms: In the simple myograph of Helmholtz, in the muscle-signal of Du Bois Reymond, and in several other forms the muscle is exposed to the atmosphere. The changes wrought by the atmosphere soon put the muscle-nerve preparation into an abnormal condition and the responses to stimuli are not typical. In fact, the evaporation of moisture soon condenses the tissue-plasma sufficient to induce a typical "salt-tetanus." The application of normal saline solution can temporarily, but only temporarily, avert such a result.

To reduce to a minimum the effect of atmospheric changes the so-called "moist-chamber" was devised. This consists of a glass chamber which enclosed the muscle and nerve and the electrodes with the muscle clamp. A wire or thread passes through the bottom of the chamber to the tracing lever. The air in the chamber is kept saturated with moisture by a wet paper or sponge within. This device overcomes to a large extent the difficulties with which one must contend in attempting to work with the exposed muscle. There is one serious difficulty, however, which has not been mentioned and which is not corrected by the moist-chamber myograph, namely, the cutting off of the muscle from the blood and lymph circulation. In the classic method of making a muscle-nerve preparation from the gastrocnemius muscle and sciatic nerve of the frog, the muscle and nerve, with a portion of the femur, are completely removed from the frog's body, thus not only exposing them to atmospheric changes, but removing them completely from connection with the circulatory system.

For fundamental experiments on the elementary tissues, and for work with drugs in pharmacology, it is of very great importance to have a myograph that is simple and inexpensive and which does not involve disturbing the circulatory system. The importance of the last point can not be over-estimated. The circulatory system not only brings a continuous supply of nutriment and oxygen to the muscle, but carries from the muscle the accumulating products of fatigue and thus enables the muscle to do much more work than would otherwise be possible.

In pharmacologic experiments it enables the experimenter to watch the influence of drugs carried to the muscle in the normal way, rather than applied in some artificial and abnormal way.

The frog-board myograph is a new form of myograph so constructed as to permit all experiments usually performed on the gastrocnemius-sciatic preparation without exposing the active tissues to the atmosphere or disturbing the blood supply. The instrument is constructed as follows: An oaken base about one-fourth of an inch in thickness supports a cork plate of equal thickness; the cork plate presents a surface about 10 by 25 centimeters. (Fig. 1.) The lever holder at the end of the plate is constructed of thin sheet steel and slips from side to side in order to bring it opposite either leg of the frog.

The distance from the axis of the elbow-lever to the thread-eye is the same as that to the weight, therefore,

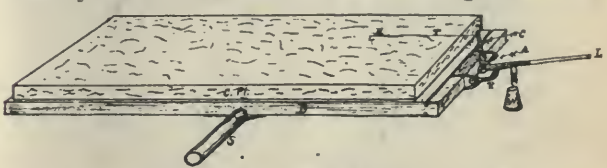

FIG. 1.—FROG-BOARD MYOGRAPH.

S, the shaft which is clamped to the upright stand; B, the oaken base; C. Pl, the cork plate to which the frog is fixed; A, the lever axis and slide lever-holder; W, the weight; L, the light lever about 20 cm. in length; H, the tendon hook which is joined through the thread T, which passed through the eye and under spring catch (c); R, the lever rest.

the weight lifted by the muscle is the actual weight hung upon the weight link. When the lever passes a little below the horizontal position it comes into contact with the rest. This rest can be used in "after-loading" a muscle. For further description of the instrument, see the figure and its description.

In the use of the frog-board myograph one proceeds as follows: The frog is pithed and pinned, dorsum up, on the cork-plate, with the feet at the lever end. The tendo-achillis is exposed and loosened from the tarsal ligaments, the tendon-hook (H) is passed through the tendon and the length of the thread adjusted at (c). The skin on the thigh is opened to the extent of two centimeters and the biceps femoris muscle removed, the sciatic nerve carefully separated from the sciatic artery and placed on the insulated electrodes. Stimulation may be made from time to time for a period of several hours before the preparation becomes exhausted.

SUMMARY.

1. The frog-board myograph is a convenient and inexpensive myograph especially adapted for work in general physiology and in pharmacology.

2. Its advantages over other similar instruments are as follows:

I. The muscle-nerve preparation can be made in at most one-fourth the time required for the classic preparation.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee.

II. The muscle and nerve are not exposed to atmospheric changes.

III. The circulation of the tissues is not disturbed. This has the advantage (1) of permitting the study of the action of drugs on muscle-tissue under normal conditions, (2) of studying fatigue without the accumulation of fatigue products under abnormal conditions.

THE MANOMETER TAMBOUR.

The second piece of apparatus to which I propose to call your attention is the manometer tambour (Fig. 2).

A very large number of research problems require the recording of blood pressure of the animal—rabbit or dog—under observation. In the physiologic or in pharmacologic laboratories where such observations are in progress almost daily, it is not difficult to get very satisfactory results with the classic apparatus, which consists of a mercury manometer whose proximal tube (p) is joined through the medium of pressure tubing (p t) to the canula (c), the pressure tubing being interposed at (T) by a T-tube, one limb of which passes to the reservoir containing a one-half saturated solution of $MgSO_4$ or some other agent for retarding coagulation. Into the distal limb of the manometer (d) there is fitted, in the classic apparatus, a float which rests on the mercury, following more or less accurately the variations in the level and carrying a vertical rod which slides through a guide in the upper end of the distal limb and bears at its upper extremity a horizontal reed, bearing at one end a tracing point.

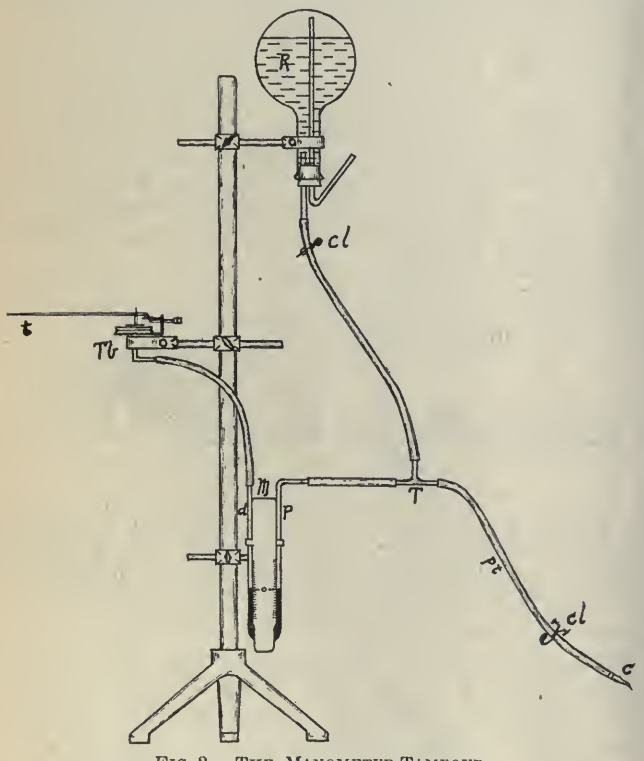

FIG 2.—THE MANOMETER-TAMBOUR.

M, manometer; Tb, tambour; R, reservoir filled with ½ sat. sol. $MgSO_4$; T, T-tube; Pt, pressure tube; Cl, clamp; C, canula; P, proximal limb of manometer; D, distal limb of manometer; T, tracing point of tambour lever.

There are two serious difficulties with this float. First, it is likely to fail to work properly just at the time when you are most anxious that there should be no hitch in your observation, though if the apparatus is in almost daily use this difficulty is not a serious one. The serious objection against the float is, that it does not follow accurately the movement of the mercury. The mercury starts up a little before the float does, and the float itself has so much inertia that the actual movements of the mercury are not shown at all by it. In order to overcome this difficulty, and to be able to record accurately the movements of the mercury meniscus, the following variation of the classic apparatus was contrived.

A small tambour was joined to the distal end of the manometer by a piece of pressure tubing and supplied with a very delicate tracing lever which magnifies the movements of the membrane 10 or 20 times, as desired, the levers being variable in the construction of the instrument. The surface of the tambour should not be larger than 15 mm. in diameter. The diameter of the mercury meniscus should probably be not less than 3 mm. in diameter. With this ration between the two surfaces and the levers multiplying 10 to 20 times, the most beautiful arterial pressure tracing can be obtained, showing not only the respiratory and percussion waves, but also the dicrotic wave clearly superimposed on each cardiac wave.

This apparatus, as above described, has one limitation which may, for certain kinds of work, seem to be a disadvantage. The pressure tubing leading from the distal end of the manometer to the tambour (Tb) is not attached to the manometer until after the rise of the mercury in the distal tube following the removal of the clamp (cl). After the tambour is attached to the manometer every movement of the mercury is shown by corresponding movements of the tracing point (t). Should there be a sudden rise or sudden fall of pressure, it will be instantly and clearly shown by corresponding rise or fall of the tracing. Should there, however, be a very gradual rise or a very gradual fall, owing to physiologic changes in the tonus of the blood vessels, for example, or perhaps by the gradual action of some drug on the animal under observation, this will not be shown by corresponding rise and fall of the tracing. It will, however, be shown by the stand of mercury in the distal limb of the manometer, and this may be easily read off or noted from time to time.

To offset this slight disadvantage, one has the two advantages above mentioned, namely, accuracy of the tracing of all the quicker movements of the mercury and the assurance that one's apparatus will always work.

PATHOLOGY AND CLINICAL HISTORY OF AMEBIC DYSENTERY.*

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PATHOLOGY.

The alterations found in the bodies of those dead of amebic dysentery vary greatly, depending on the time that the disease has existed, the extent of the intestinal lesions, and the complications that have arisen during the course of the malady—some lesions being always found, while others are encountered with greater or less frequency. Among the most common of these is emaciation, which, especially in chronic cases, is often extreme. On opening the abdominal cavity peritonitis is occasionally encountered, which may be very mild, and frequently extends but little beyond that portion of the membrane that surrounds the large gut, but in those

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

cases where perforation has occurred a general suppuration of the entire cavity is found, except it be that adhesions of such a character have previously formed that the contents of the intestine are poured into a closed sac cut off from the general peritoneum; under such circumstances the condition is practically one of abscess formation. Though not invariably the case, the large gut is usually adherent to the coils of the small intestine or other viscera, and it is sometimes united to the walls of the abdomen by newly-formed bands of fibrous tissue; in some cases neighboring portions of the large intestine are united to each other. As a result of these adhesions the colon is often drawn from its normal position, and in some cases is greatly distorted. It is generally found that the walls of the gut are so thinned in places that it is only with the greatest care that it can be removed without being torn. On opening the intestine it is found that its coats are much thickened in some situations, and that on its surface there are numerous ulcers. The extent of the ulceration varies greatly in different cases, it being sometimes slight and confined to one portion of the gut, while in other instances the entire mucous surface of the viscus is denuded; it is, however, fortunately true that in fully half of the cases the lesions do not extend upward beyond the beginning of the transverse colon. The ulcers vary in size from those that are microscopic to others that cover a large portion of the mucous surface of the gut; as a rule, however, they are separated from each other by more or less normal mucous membrane. The edges of the ulcers are prominent and project above the general surface. The floors of these lesions are ashen-gray in color, and are almost always covered by a layer of mucus, in which there are particles of undigested food and masses of sloughing tissue; when examined under the microscope this mucus is found also to contain many swollen cells, leucocytes, amebæ and myriads of bacteria. The edges of the ulcers are practically all undermined, and not uncommonly, it is said, fistulous tracts connect them when near each other, though I have never myself been able to demonstrate this. These lesions may be rounded or irregularly shaped, but more commonly they are oblong, and lie transverse to the long axis of the intestine. It is rather curious that these portions of the gut that lie nearest the attachment of the mesocolon are, as a rule, but little affected. The mucosa between the ulcers is usually somewhat reddened, but it may appear entirely normal.

The intestinal lesions of this disease are almost always confined to the large gut, but now and then the process extends up into the small intestine for a short distance. I saw the appendix involved in one case; the small gut was also affected. It is remarkable that in cases where recovery occurs—even in instances where the disease was severe, and had existed for some time—the large intestine after a short time rarely shows macroscopic evidence of the pronounced ulceration that must have existed.

Our knowledge is very meager as to the exact nature of the finer alterations that occur in the intestine in the early stages of amebic dysentery in the human being, but the changes that take place in the large gut of the dog have been studied by several investigators. The sequence of events that occur in the puppy after having received an injection of material containing living amebæ seems to be briefly as follows:

Collections of amebæ occur on the mucous surface of the intestine, and quickly thereafter the epithelial cells on which these organisms lie exhibit catarrhal changes and drop off from their basement membranes; the blood vessels in the tissues below dilate, and the lymphatics become enormously distended with fluids. There is an increase in the number of lymphoid cells, and many of the large phagocytes of Metchnikoff collect in the part; simultaneously some of the dilated blood vessels burst, and we find as a consequence that there are many red and white cells in the affected area. Following this, the basement membrane on which the desquamated epithelial cells originally lay breaks down and disappears, and the blood that was free in the tissues at once finds its way to the surface and becomes mixed with the mucus and other materials present within the lumen of the gut. Necrotic changes in the tissue surrounding the crypts quickly follow, and these structures fall out, leaving ulcers that extend down to the muscularis mucosæ. The coat just named offers considerable resistance to the downward progress of the ulceration, but it eventually gives way, and the process passes into the submucosa. The tissues composing this coat in their turn undergo necrotic changes, which extend rapidly down to the circular muscular layer, and laterally in every direction. The walls of these ulcers are not made up of the pre-existing tissues of the part, but are composed of enormous collections of phagocytes of Metchnikoff, and red blood cells, with a smaller number of polymorphonuclear leucocytes and lymphoid cells, and a few plasma cells.

This brings us to the conditions practically always found in the human being dead of amebic dysentery. When we examine the intestine microscopically it is found that all of the characteristic lesions extend into the submucosa, though in rare instances superficial ulcers do occur, which, however, appear not to have any connection with the predominant process, and will therefore not be considered. The mucosa that lies at a short distance from the true ulcers, as a rule, shows astonishingly little change, but as the edges of the lesions are approached the cells lining the crypts often exhibit decided catarrhal change, and the blood vessels in the surrounding tissues are frequently considerably dilated. Amebæ are but seldom found either within the lumina of the glands or in the tissues that lie between them. At the edges of the ulcers the mucous coat generally terminates abruptly, but now and then this layer extends outward over the surface of the ulcer to a greater or less distance; this outgrowth of mucous tissue is composed mainly of deformed and only partially developed crypts that do not become attached to the underlying tissues; these bands are sometimes reflected back over the normal mucosa. In rare instances the process of healing over of the ulcers may be observed; this consists in the epithelial cells growing downward from the edges over the surfaces of the ulcers, and ultimately covering them with a single layer of cells, no new crypts being formed. The floors of the open ulcers are usually formed by one or the other of the muscular coats—generally the inner—though the necrotic process not uncommonly extends completely through these layers, and we find only the thickened peritoneum interposing between the abdominal cavity and the lumen of the intestine. Irrespective of the depth to which the ulceration has extended the surfaces of the lesions are always made up of partially necrotic tissue, in which there are multitudes of bacteria, many amebæ, and great numbers of cells. In these situations swollen bands of fibrous tissue that appear hyaline and take acid stains intensely are frequently

found; they contain no recognizable nuclei. It is noteworthy that the elastic tissue fibrils are quite as well, if not better, preserved in these areas than the fibrous structures; this is exactly opposite to what occurs in the dog under similar circumstances, and may account for the great rapidity with which the tissues in these animals break down. Just beneath the surfaces of the ulcers the pre-existing tissues of the parts are found in varying stages of necrosis depending on the depth, and these structures are separated by accumulations of fluids between them and the presence of a vast number of cells; these consist of polymorphonuclear leucocytes, lymphocytes, plasma cells, connective tissue cells, mast cells and red-blood corpuscles. Amebæ are commonly present in these areas. The blood vessels are for the most part dilated and filled with blood; in many instances the vessels contain thrombi. The vessel walls are frequently necrotic, particularly on the side nearest the ulcers; amebæ are often found within their lumina. The lymph spaces and lymph channels are universally distended with fluids and cells. The epithelial cells that formally lined these vessels become greatly swollen, and almost without exception desquamate, and then lie loosely within the lumina of the vessel; mixed with these cells red blood corpuscles, leucocytes and amebæ are frequently found. Lower down in the walls of the gut these alterations become less pronounced, but the proximity of the pathologic process is usually evidenced by the presence here and there of small collections of lymphocytes, and great numbers of mast cells are scattered throughout the tissues. Newly formed masses of fibrous tissue are not uncommonly found at a considerable distance from the point of ulceration. Where the necrotic changes have passed through the muscular layers the subperitoneal coat is always greatly thickened, and the tissues composing it exhibit changes similar to those that have been described as occurring in the more superficial portions of the intestinal wall. While it is true that the amebæ, as a rule, are rather behind than in advance of the areas of greatest pathologic change, they are not uncommonly encountered at considerable distances from the edges of the ulcers. Under these circumstances I have been struck with the fact that they are usually acidophilic, and that their nuclei are not colored by basic dyes. Furthermore, numerous bacteria that stain well are found within them, and in many instances the parasites are undergoing disintegration, and the micro-organisms that they contain are being disseminated into the surrounding tissues. The changes that occur in the tissues at the lateral margins of the lesions resemble, on the whole, those that take place at their bases, with the exception only that the structures composing the submucosa are much more susceptible to the action of the poison of this disease than are those that make up the remaining coats of the intestine; this is strikingly shown by the resistance of the muscularis mucosa, which always projects out over the necrotic submucosa, and supports the overlying mucous coat. It is thus seen that the undermined edges of the ulcers in this, as in other intestinal diseases, are due to the power of the muscular coats to resist the poisons that produce the pathologic change. Fibrin is frequently present in the tissues of the submucosa in the neighborhood of the necrotic areas. In the lateral margins of the ulcers amebæ are numerously present, more so than in any other part of the intestinal walls; they lie in the necrotic structures, and somewhat within the tissues that are more or less normal, but do not penetrate very far as a rule. The changes in the tissues are always in advance of the great body of amebæ, this again clearly showing that if they be in reality the cause of the pathologic process they must necessarily act by producing some poison that is absorbed into the tissues. It is noteworthy that the lymph nodes that are present in the mucosa and submucosa show no marked increase in size, and exhibit, as a rule, but little alteration until the diseased process actually includes them, when they become necrotic and break down just as do the other structures.

Following acute amebic dysentery—and strangely enough appearing to develop only during the first few weeks of the disease—abscess of the liver may occur. These lesions may be situated in any part of the liver, and I do not think from a study of the literature that they are so strictly solitary as they are generally supposed to be, but miliary abscesses, such as occur in pyemia, very rarely take place. Any part of the liver may be involved, but the convex surface of the right lobe is most commonly affected. These abscesses, if not interfered with surgically, may rupture into the intestine or neighboring cavities, and may even open externally; there seems, however, to be a marked predisposition on their part to penetrate through the diaphragm and ultimately break into the lung. When this occurs an abscess of the lung develops, the contents of which eventually discharge through the bronchi. The contents of the liver abscess is made up of rather dark, pus-like material which on microscopic examination is found to consist of a very few cells, a great amount of granular debris, and numerous amebæ. Amebæ are always found in these abscesses—this being even the case in dogs where these lesions follow experimental dysentery. The walls of the liver abscesses may consist merely of disintegrating liver substance, or may be made up where the lesion has existed for some time, of a thick mass of fibrous tissue containing numerous lymphoid and plasma cells. It is noteworthy that the amebæ never penetrate into the walls of the liver abscesses, but are very frequently found just along the edges. The liver cells in the vicinity of the lesions show a very peculiar degenerative change which consists in the formation of nucleated bodies that bear considerable resemblance to amebæ. Bacteria are usually found in and around the walls of these abscesses. The blood vessels in the area surrounding the lesions usually contain no blood, but are filled with a granular detritus. In some instances areas of rhexis occur around the edges of the abscess.

It appears to me that there can be little doubt that the amebæ reach the liver by means of the portal circulation, though it has been assumed by some that the organisms get into the general peritoneal cavity, find their way to the liver, and burrow into its substance. The fact that amebæ are very frequently found within the blood vessels of the intestinal wall, even when no thrombosis exists, would seem to make it necessary that they would inevitably reach the liver substance.

SYMPTOMATOLOGY.

Amebic dysentery is a disease that frequently sets in acutely, but almost, if not quite, as commonly the beginning is gradual. In the former class of cases there is nothing in the symptoms at first that distinguishes the disease from the ordinary acute dysentery, which is so extremely common in the southern part of the United States in the spring and summer. In these instances the disease begins with diarrhea, quickly followed by stools of a dysenteric character; the patient complains of pain and tenesmus in the abdominal region,

and there is at the same time a decided quickening of the pulse and some fever. In the course of a few days or weeks the severity of the symptoms usually somewhat subsides, but in exceptional instances the patient slowly grows worse, and death occurs in from two to three weeks. In those cases where improvement follows the acute onset the disease seems always to become chronic, and it is in this stage that the patient usually consults the physician. Where the disease begins gradually the sufferer is rarely able to state with definiteness the time when his trouble began; he remembers only that about a certain time he began to note that his bowels would be loose for a day or so, this being followed by constipation. There were a number of such periods of alternating constipation and looseness of the bowels, but it was observed that the period between the diarrheal attacks became less and less, until finally a condition was reached where there was several movements of the bowels in twenty-four hours. About this time the patient usually begins to observe that the stools contain some blood, and he has slight attacks of pain and tenesmus at the time that the bowels act. At the end of a few weeks the symptoms in every way resemble those that are encountered at an equal period of time from the onset in those instances where the disease began acutely. It is in this stage, after the malady becomes chronic, that it generally comes to the notice of the clinician, as in the class of persons who suffer from this affection a physician is very rarely called in merely for an acute attack of bowel trouble. After the disease becomes chronic it runs an extremely irregular course, sometimes getting well without any apparent cause in a comparatively short period of time, while in other instances it exists for many years. Some time ago Dr. Reginald Fitz of Boston wrote me that he had under his care a patient who had suffered with this malady since the Civil War, and I have myself seen many instances where the disease continued four, six and even eight years. Though somewhat arbitrary, for convenience sake, the affection may be clinically divided into several types, it being understood, however, that either of these may pass into the other at any time, and without any apparent cause:

1. *The Very Mild Form.*—The general health remains fairly good, there is no fever or acceleration of the pulse worthy of mention, and the appetite is good. The number of stools vary from two to six in twenty-four hours. This is the form almost always seen in children.

2. *The Moderately Severe Form.*—In this type of the disease the general health is never good, the appetite is, as a rule, poor, and there is considerable loss of flesh. The pulse is increased in frequency and the temperature goes up toward evening. The number of stools vary from six to twenty in twenty-four hours.

3. *The Very Severe Form.*—In this form of the disease there is great emaciation and loss of appetite, with sometimes nausea and vomiting. The temperature is irregular, but in the afternoon is usually above normal, and the pulse is weak and decidedly accelerated. The extremities are cold, and profuse sweating is quite common. Hiccough is frequent. The stools are watery, and consist very largely of blood and mucus, in which sloughs are sometimes found. The number of stools vary from twenty to fifty in twenty-four hours. It is very remarkable how patients may remain in a condition of this kind for days, and even weeks, and finally recover. It seems to be a peculiarity of all intestinal affections that death may be very closely approached without a fatal termination actually occurring.

There are very remarkable fluctuations in the severity of the symptoms in all forms of the malady, it being not an uncommon observation that the disease passes quickly from the mildest type to the most severe, and vice versa. While we can not always account for an increase in the severity of the clinical course of this affection, it is true that bodily exertion is often followed by a decided exacerbation in the symptoms, and the taking of certain articles of food that disagree with the sufferer frequently occasion distressing results; alcoholics seem to be especially badly borne—the taking of beer being particularly injurious.

Among the symptoms that are occasionally encountered may be mentioned a constant aching in the back that is not relieved by the recumbent posture, a tearing sensation in the region of the colon, great uneasiness in the stomach, and an urgent desire to defecate immediately following the taking of food and edema of the face and feet. In the mild form of the disease the urine is practically normal, but in the severer types albumin is occasionally present. I have examined repeatedly the urine of some of my worst cases for peptone by the method of Hoffmeister, with negative results. In the severer forms of the disease the chlorids are often diminished, and in the worst cases may be totally absent. Their reappearance after having been absent from the urine is a most favorable indication. In the milder forms of the disease the stools may appear almost normal in every way, but a careful inspection will usually reveal the presence of small particles of bloody mucus upon the surfaces of the fecal masses. In the severer types of the malady the movements contain considerable quantities of mucus and blood, and are quite soft in consistency. In the worst forms the fecal discharges consist almost entirely of blood and mucus; stools of this character, occurring in a chronic intestinal affection, I consider entirely characteristic, and even in the absence of a microscope I should feel but little hesitation in making a diagnosis of amebic dysentery. In some cases just before death the quantity of mucus becomes decidedly lessened, the stools consisting of an extremely thin, dark, blood-stained fluid. The feces are, as a rule, alkaline in reaction, but are occasionally slightly acid in mild cases. On microscopic examination the stools are found to consist of partially digested food, much mucus and blood, pus, large epithelioid cells, multitudes of bacteria, and varying numbers of amebæ. Cercomonas are sometimes encountered.

The most important of the complications of amebic dysentery is liver abscess; out of ninety-five cases this has occurred fifteen times—once in a boy. As has been before stated, this complication always arises during the acute period of the disease, there being no instance with which I am acquainted in which it occurred later. It appears to be more common in the northern portions of our country than in the south, as I myself have seen this in only two instances out of fifty-two cases. It is, however, quite likely that the proportion is greater than this, even here, as almost all of my cases were seen after the disease had become chronic. The symptoms of liver abscess are by no means always characteristic, there being many instances recorded where the disease lay latent for a considerable period of time without it being suspected. The usual symptoms are a throbbing or aching pain in the region of the liver, which may be reflected to the right shoulder, chills and fever of an irregular character, and rapidity of the pulse; the appetite fails, the tongue becomes coated, the patient rapidly loses flesh, and jaundice is occasionally encountered. On physical ex-

amination the liver is found to be enlarged; a fullness or marked protuberance sometimes develops at the lower margin of the ribs.

When the liver abscess opens into the lung, as it most frequently does, abscess of this organ develops. The symptoms of this condition are the usual signs of consolidation in the lung, with cough and the expectoration of a reddish-brown fluid, which on examination with the microscope is found to contain amebæ. This complication is rare, it having occurred in only three instances out of ninety-five cases of amebic dysentery.

Perforation of the intestine with peritonitis is an occasional complication of this disease; the symptoms are those that are usually observed in cases of this kind. It has appeared to me that the inflammatory phenomena are not so marked as in the septic peritonitis that follows operations.

Appendicitis has been observed in one case. The symptoms would naturally be those commonly observed where this organ becomes diseased, but in the instance to which I refer the clinical course was so mild that the true condition of affairs was not suspected during life.

A STUDY OF THE CASES OF AMEBIC DYSENTERY OCCURRING AT THE JOHNS HOPKINS HOSPITAL.*

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It is not the intention in this paper to attempt a complete historic account of amebic dysentery. I wish merely to recall the fact that it was Lösch,[1] of St. Petersburg, who in 1875 was the first to give an accurate description of amebæ in the stools of a dysenteric patient. Although Lambl and Cunningham had previously described amebæ in the stools of infants and cholera patients, it remained for Lösch to associate the amebæ with dysentery in the relation of cause to effect. It was also Lösch who gave to the organism the name *Amœba coli,* a name that is still in very general use. Kruse and Pasquale advocate the adoption of the term *Amœba dysenteriæ,* first suggested by Councilman and Lafleur, to designate the pathogenic ameba, reserving the name *Amœba coli* (Lösch) for the non-pathogenic ameba occasionally found in the normal healthy intestine. In America, amebæ were first found by Dr. Osler,[2] who observed them in 1890 in the pus of a liver abscess originating in Panama and operated on by Dr. Tiffany, of Baltimore. I purpose attempting to give as concise an account of the disease as possible, basing the description largely on our observation of the disease and its complications as seen at the Johns Hopkins Hospital.

RELATIVE FREQUENCY.

From May 15, 1889, the date of the opening of the Johns Hopkins Hospital, to May 1, 1903, or for a period of nearly fourteen years, there have been in all departments 120 cases of amebic infection. This was out of a total of 42,614 admissions to the institution. Of the 120 cases, 118 had been admitted to the medical wards. The total number of medical patients during this period was 15,817, so that the medical amebic cases constituted 0.74 per cent. of the total medical admissions. Of the two remaining cases, which were admitted to Prof. Halsted's surgical wards without having been medical cases before or after, one had an amebic abscess of the liver and the other an amebic abscess of the floor of the mouth. It may be safely said that these 120 cases represent pretty accurately practically all the cases of amebic infection that have been admitted to the hospital. It is doubtful whether very many have escaped observation. Since Dr. Osler's first observation, in 1890, and the appearance of Councilman and Lafleur's[3] classical monograph on the subject, in 1891, careful examination of the stools and contents of hepatic abscesses have been made in all suspicious cases. Excluding the case of abscess of the lower jaw containing amebæ, the remaining 119 cases were made up of amebic dysentery or amebic hepatic abscess cases. Only cases in which the histories positively state that amebæ were found are included in the series. Three cases in which a diagnosis of amebic dysentery was made, but in which there is no record in the history of amebæ having been found in the stools, have been omitted. These were in all likelihood actual amebic infections, however, the failure to note the presence of amebæ being an oversight. So also in connection with hepatic abscesses, only those in which there is a definite statement that amebæ were found in the contents of the abscess or in sections of the abscess wall have been included. Those in which no amebæ were found, but which proved sterile on bacteriologic examination (a fact pointing rather strongly toward an amebic origin), have been omitted.

ETIOLOGY.

After the discovery of *Bacillus dysenteriæ* (Shiga) as a cause of epidemic and sporadic dysentery, there was for some time considerable doubt expressed as to whether the *Amœba dysenteriæ* played such an important rôle in the causation of amebic dysentery. It was thought that possibly the intestinal ulceration was first started by the Shiga bacillus, and that the ameba was a later invader, and played a rather secondary rôle. Those who have had most experience with the dysentery bacillus, including Flexner among others, state that there is unquestionably a form of dysentery which is quite independent of that produced by that organism and actually due to the inroads of the *Amœba dysenteriæ.* We can again, therefore, use the term amebic dysentery with full confidence. The pathogenic agent is unquestionably the *Amœba dysenteriæ.*

This parasite is placed by Leuckart in the class *Rhizopoda* of the *Protozoa.* It is a unicellular organism, varying in size between 8 and 37 microns, according to Braun,[4] but usually between 12 and 26 microns, the average diameter being about 20 microns. Whereas in different cases the amebæ may vary greatly in size, in the same case they are usually of a fairly uniform dimension. The body of the ameba consists of two portions: the inner granular portion is called the endosarc or entoplasm; the outer, clearer, hyaline portion is termed the ectosarc or ectoplasm. The division into these two parts is not clearly made out in the resting stage, but becomes very distinct in the actively motile organisms. The greater part of the body of the cell is comprised of the finely or coarsely granular endosarc. This portion often contains several vacuoles of varying size. A

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1. Lösch: Virchow's Archiv, Bd. lxv, 1875.
2. Osler: Johns Hopkins Hospital Bulletin, vol. i, 1890.
3. Councilman and Lafleur: Johns Hopkins Hospital Reports, vol. ii, 1891.
4. Braun: Die Thierischen Parasiten des Menchen, Zweite Auflage, p. 44.

nucleus can occasionally be made out in the fresh unstained ameba; more distinctly in the stained preparations. It averages about 6 microns in size, and is situated in the endosarc, near its border. A nucleolus can be recognized in the stained specimens. The ameba frequently contains foreign bodies. Red blood cells constitute one of the commonest inclusions. The number of red cells contained may reach as high as fifteen or twenty. Included red cells are apparently more numerout in acute cases. Micrococci, bacilli and granular debris are not infrequently seen within the body of the cell.

Probably the most striking thing about the *Amœba dysenteriæ* is its motility. This may present itself in two forms, either a change in shape or a change in place. The change in form is also of two kinds. A pseudopodium, consisting of a process from the hyaline ectosarc, may be seen to be protruded, and in a few minutes attracted into the body of the cell again. A more remarkable change in form is occasionally observed. This consists in the sudden throwing out of a process of the ectosarc, which instantaneously partially or completely encircles and envelopes the cell. The movements of locomotion are most interesting to watch. They seem almost purposive in their character. A hyaline process is thrown out from one border of the parasite, and the granular endosarc, with its inclusions, rapidly flows into the process. By the continual throwing out of a process from the same side of the cell an ameba in a very few seconds will cross the field of the microscope. In some of these very actively motile parasites it is almost impossible to differentiate ectosarc and endosarc, the ameba changing its place by a rapid rolling or flowing motion. In a general way, it may be stated that the more acute the course the more rapid seem to be the movements of the amebæ. When a satisfactory portion of mucus has been obtained, almost the entire field with the oil immersion lens may be seen to be comprised of very actively motile organisms. Cold tends to retard the activity of the parasites, although they will remain fairly active, often for hours, at the room temperature. When the temperature falls below 75 F. the ameboid movements cease, but they may be again started by gently raising the heat to the body temperature by carefully warming the slide over a spirit lamp. With a warm stage, the amebæ will retain their motility almost indefinitely. The activity of the ameba is immediately arrested by a solution of quinin of the strength of 1 to 5000. During the process of death of the organism vacuolization of the cell occurs.

It is not known definitely how the ameba reproduces itself. By analogy, however, one is lead to assume that this takes place by fission or sporulation. The ameba is stained by various basic anilin dyes. The staining methods, which will not be given here, are not perfectly satisfactory, although there is no difficulty in recognizing the organism in stained sections of an intestinal ulcer or wall of an hepatic abscess. Mallory and Wright[5] advocate thionin as a differential stain. Their method aids very materially in differentiating amebæ in sections from mastzellen, with which they are liable to be mistaken. With their thionin stain the nuclei of the amebæ and the granules of the mastzellen are stained brownish-red; the nuclei of the mastzellen and of all other cells are stained blue.

Resistant forms of amebæ, similar to the gamete forms of the malarial parasite, have been noted by Cunningham, Grassi and Calandruccio, and by Quincke. These "encysted amebæ" are believed by these observers to be necessary, under certain conditions, for the transmission of the disease from one person to another.

The ameba is very difficult to cultivate. Kartulis used straw-infusion, and claimed to have been able to grow the parasite. Objections were later made to his technic, as it was believed that his positive results may have been due to accidental contamination. Celli and Fiocca[6] succeeded in obtaining pure cultures of the ameba. They describe two phases in the life cycle—the ameba form and the cyst form—and they state that the amebæ multiply by division.

(*a*) TYPES OF AMEBA FOUND IN THE STOOLS.

It is now well recognized that amebæ may occur in the stools of healthy persons or in the discharges of patients suffering from other diseases, without their having in these cases any pathogenic action. Thus they have been found in cases of chronic diarrhea, intestinal tuberculosis, typhoid fever, hemorrhoids, and other affections.

As a result of careful study of the amebæ found in the feces, supported by inoculation experiments, Quincke and Roos[7] have been led to the conclusion that there are three different varieties of amebæ in the stools of human individuals. The names which they give these different varieties, with their pathogenic actions, are as follows:

1. *Amœba intestini vulgaris,* 40 microns in diameter, coarsely granular, and not pathogenic to either human beings or cats.

2. *Amœba coli mitis,* the same size, pathogenic for man, but not for cats.

3. *Amœba coli* (Lösch) or *Amœba coli felis,* up to 25 microns in diameter; pathogenic for both man and cats, and producing dysentery in both.

It will be seen that the second variety, the *Amœba coli mitis,* which is pathogenic for man only, is much larger than the third variety, the ordinary *Amœba coli* (Lösch).

In our series of 119 cases of dysentery we have no positive evidence that we were dealing with any other than the usual *Amœba dysenteriæ.* In one or two cases, owing to the average diameter of the parasite found being rather smaller than that of the ordinary ameba, it was thought that we might be dealing with a special type of the parasite.

(*b*) DISTRIBUTION OF THE AMEBÆ IN THE HUMAN BODY.

The usual habitat for the *Amœba dysenteriæ* is in the large intestine. Where complications follow, it may be found in other situations. Thus it occurs in the contents of liver abscesses, in the sputum of patients with hepato-pulmonary abscess, and in the pleural and peritoneal cavities when a liver or pulmonary abscess breaks into one or other of these. Other situations in which amebæ have been found are as follows:

1. In the buccal cavity—the so-called *Amœba gingivalis* of Gros and *Amœba buccalis* of Sternberg. These forms were found in the tartar scraped from the teeth, and are regarded as being identical with the *Amœba dysenteriæ.*

2. In the urogenital tract. In 1889, Baelz described, under the name of *Amœba urogenitalis,* large, actively motile amebæ in the urine and vagina of a young woman, 23 years of age, who died of pulmonary tuberculosis. Other similar observations were reported.

5. Mallory and Wright: Pathological Technique, p. 293.

6. Celli and Fiocca: Centralblatt f. Bakteriologie, vol. xv.

7. Quincke and Roos: Berl. klin. Wochenschrift, Bd. xxx, 1893, p. 1089.

3. In pieces of necrotic bone. Kartulis observed amebæ in the pus from an area of necrosed bone involving the lower jaw of an Arab, aged 48.

4. In an abscess in the floor of the mouth. This observation was reported by Flexner.[8] The case occurred in Dr. Halsted's wards in the Johns Hopkins Hospital, and, as already stated, is the only one in this series of 120 cases that was not an amebic dysentery or amebic hepatic abscess case. The patient was a male, white, aged 62 years. The amebæ were obtained from the contents of the abscess at operation. Flexner believed that this form of the organism was closely allied to, if not identical with, the *Amœba dysenteriæ*.

(c) SOURCE OF THE AMEBÆ AND MODE OF INFECTION.

Very little is known regarding the source of the ameba and the mode of infection. We are still absolutely unfamiliar with the life history of the parasite outside the body. Inoculation experiments by way of the mouth, with the possible exception of those of Quincke and Roos, with the so-called encysted forms, have been entirely negative. It is highly probable that infection takes place by way of the gastro-intestinal tract, and that amebic dysentery is contracted in much the same way that typhoid fever is.

GENERAL ETIOLOGIC FACTORS.

(*a*) *Geographical Source of Infection in the Johns Hopkins Series.*—The term "tropical dysentery," for many years used almost synonymously for "amebic dysentery," has long been recognized as a misnomer. Amebic dysentery is not confined to the tropics, but often originates in the subtropical, even in the higher temperate zones. Sporadic cases occur in New England, and it will be remembered that last year Dr. Dock[9] reported before this Section a case which originated in Michigan. As the analysis of our cases shows, the disease occurs very frequently in Maryland and the bordering states. Of the 119 cases of amebic dysentery, the disease was apparently contracted in Baltimore in 83, and in the state of Maryland, outside of Baltimore, in 13 cases, or a total of 95 cases contracted within the state of Maryland; 2 in the District of Columbia; 8 in Virginia; 1 in West Virginia; 1 in North Carolina; 1 in Tennessee; 1 in Georgia; 1 in Alabama; 2 in Florida; 1 in Cuba; 1 in Brazil; 4 of doubtful source, the patients being sailors or travelers, and it being impossible to determine where the dysentery was contracted. It will thus be seen that the disease is very frequently contracted in latitudes as far north as Baltimore.

(*b*) *Age.*—The incidence of the disease in the various decades is shown by the following figures: There were 11 cases in the first decade; 8 in the second; 35 in the third; 29 in the fourth; 20 in the fifth; 11 in the sixth; 4 in the seventh; 1 in the eighth. It will be seen that the largest number of cases occurred in the third decade, 35 cases occurring between the ages of 21 and 30. The youngest patient was a male child 2 years 8 months old, and the oldest was a man 71 years of age. The analysis of the series regarding the question of age is of interest in showing the rather frequent occurrence of amebic dysentery in very young children. As stated, there were 11 cases, or 9.4 per cent. of the total, in the first decade, 6 occurring between the ages of 1 and 5, and 5 between 6 and 10 years. It should teach us to keep in mind the possibility that a chronic dysentery or diarrhea in young children may be of amebic origin. This fact was emphasized by Amberg[10] in a paper in which he reported five of the cases of amebic dysentery in children from Dr. Osler's wards.

(*c*) *Sex.*—There is much disparity in the relative prevalence of the disease in the two sexes, as illustrated by this series. There were 108 males and 11 females. It is possible that the out-door life of men render them more liable to infection, by drinking water containing amebæ or by conveying the parasite to their mouths on dirty hands.

(*d*) *Race.*—The series was composed of 107 white and 12 colored patients. Considering the fact that the proportion of whites to blacks in the hospital is about in the ratio of 7 to 1, it would appear that whites are a trifle more frequently attacked, as the proportion of whites to blacks affected was approximately 9 to 1.

(*e*) *Occupation.*—There was nothing in the consideration of the occupation of the patients to throw any special light on the source of infection.

CLINICAL TYPES.

Three groups of amebic dysentery may be made according to the severity of the intestinal symptoms. The cases may be classified as follows: 1. Dysentery of moderate intensity. 2. Grave or gangrenous dysentery. 3. Chronic dysentery. Owing to lack of time, and in order to avoid repetition, these three types will not be described separately. Moreover, the classification is a more or less arbitrary one, and cases may conform to one or other type at different periods. Thus a case of dysentery of moderate intensity may, and often does, become chronic, while a chronic case may take on acute manifestations and assume a gangrenous type.

SYMPTOMATOLOGY.

In many cases the onset is abrupt; in others it is more gradual. It is most acute in its onset in the gangrenous type, which is seen less frequently in the latitude of Baltimore than in the tropics. In the majority of cases the patient is rather suddenly seized with an attack of diarrhea. In a few hours, or a day or two, the dejections assume a dysenteric character, blood and mucus constituting the bulk of the movement. In the severest cases there may be as many as twenty or thirty such movements in the twenty-four hours. In the severe, acute gangrenous cases, large portions of sloughing mucous membrane may be passed. The appetite is impaired, and there may be nausea and vomiting in the initial stages. There is usually fever at the onset, the temperature ranging often betwen 100 and 102 F. When the cases become chronic the temperature may become subnormal. Frequently there is considerable abdominal pain and tenderness in the acute stages. The pain is most marked over the lower part of the abdomen, although it may be generally distributed. It is intermittent and of a colicky character, and usually is worse preceding the movements. In the chronic cases there may be no pain, excepting during the acute exacerbations. Tenesmus may occur, but it is rather the exception. This is explained by the fact that the lesions are usually most marked in the cecum and ascending colon, the rectum in the majority of cases being uninvolved, or only to a slight extent. The tenesmus in bacillary dysentery, on the other hand, occurs much more frequently, and is often very severe, owing to the rectum being usually much more extensively involved.

8. Flexner: Johns Hopkins Hospital Bulletin, vol. iii, 1892, p. 105.

9. Dock: THE JOURNAL of the American Medical Asoociation, 1902.

10. Amberg: Johns Hopkins Hospital Bulletin, vol. xii, December, 1901.

The degree of emaciation in some cases may be extreme, and is only surpassed by that observed in carcinoma of the esophagus. It is rather surprising, however, how little the general health of the hospital cases is affected in many instances, the color and general nutrition being extremely good. The majority of our cases were of moderate intensity, and in these the symptoms soon subsided under proper treatment. In a considerable percentage of cases the disease is subacute from the start, and gradually passes over into the chronic form. These cases are characterized by alternate attacks of diarrhea and constipation. In the periods of exacerbation the symptoms are rarely so severe as in the acute cases, and the diarrhea is usually readily amenable to treatment. These are the cases which are often so difficult to actually cure, and are the ones that so frequently apply for readmission to the hospital. Of our 119 cases, 19 were readmitted one or more times, with a relapse of the dysenteric symptoms. Of these, 12 were readmitted once; 14 twice; 1 three times, and 2 four times. One patient was admitted to the hospital five times in the short period of nine months; another was admitted five times during a period of one year and seven months. During the exacerbation there is pain, frequent passage of mucus and blood, and usually slight elevation of temperature. The patients, as a rule, do not feel very ill. Nutrition remains fairly good, and the marked emaciation usually observed in these chronic cases in the tropics was practically never seen in our hospital series. The numerous evacuations in these cases very frequently give way to constipation in a few days, when the patients are kept in bed and placed on bowel irrigations.

CHARACTER OF THE STOOLS.

As stated, in the earliest days of the attack the movements are very frequent in the severest cases—as many as twenty or thirty movements occurring in the twenty-four hours. These gradually diminish in number until, in fatal cases, there may be only three or four movements daily for the last few days preceding death. This diminution is in large part due to the gradual loss of expulsive power, brought about by the destruction of the muscular coat and the general edema of the bowel.

The earliest stools are small in amount; they consist, after the expulsion of the fecal contents, almost entirely of clear or slightly turbid and very viscid masses of blood-stained mucus, mixed with more or less bright blood. With the progress of the ulceration the stools become more copious, watery, and less homogeneous, and there is less blood. They contain, also, small, opaque or translucent, gelatinous, grayish-yellow masses, varying in size from a pin's head to a split-pea; these are fragments of necrotic tissue from the bases of the ulcers, and they contain amebæ. Where extensive and rapid sloughing occurs, the stools become greenish, grayish, reddish brown, or a mixture of these colors; their consistence is more watery, and they have a penetrating and horribly offensive odor. Not infrequently they contain large sloughs in the form of tough, stringy masses of a grayish or brownish color.

In cases of moderate severity with sudden onset the stools resemble those of the early stages of the grave form. The amount of blood and mucus is liable to be less. In the chronic form the stools are homogeneous, for the most part watery or like thin gruel, excepting during the periods of constipation, and of an earthy, yellowish-brown color. They contain fewer flakes of mucus and seldom any blood or necrotic fragments.

Microscopic Examination of the Bloody Mucus.—In the acute cases, besides the amebæ, whose characteristics have been already described, large numbers of red blood cells, few leucocytes, and a variable number of degenerated intestinal epithelial cells are seen. In a great many of our cases eosinophiles have been present in large numbers. They were found in the stools of all the five children with amebic dysentery reported from Dr. Osler's clinic by Amberg.[10] Charcot-Leyden crystals in rather small numbers are not infrequently present. They usually are most numerous where eosinophiles are present in large numbers. They occurred in four of Amberg's five cases. The stools also contain an innumerable variety of the ordinary intestinal bacteria.

Parasites Other Than the Ameba.—These are not infrequently associated with this organism in the stools. Ciliated infusoria—the *Trichomonas intestinalis* and *Cercomonas intestinalis*—are comparatively frequent associates. When they occur they are usually present in large numbers. One case in this series was of extraordinary interest in that, with the amebæ in the stools, there was also an intestinal infection with the *Strongyloides intestinalis*. This case was reported by Thayer, and is of particular interest in that it was the first case of so-called Cochin-China diarrhea or infection with the *Strongyloides intestinalis* observed in this country. The stools of this patient also contained large numbers of cercomonadids and trichomonadids.

CONDITION OF THE BLOOD.

Anemia of a mild secondary type usually exists, the reduction in the hemoglobin being more marked than that of the red corpuscles. At first thought it would seem natural to expect that with a chronic disease of this kind the red cells would be quite markedly reduced. This, however, was not found to be the case, the red cells, in fact, being nearly normal. In analyzing the blood counts in our records, I have for purposes of comparison kept the cases with amebic abscesses separate from the uncomplicated amebic dysentery cases. In the case of the red counts and the hemoglobin estimations, the averages were made from the first blood reports recorded in the histories after admission. In order to ascertain whether the leucocyte count was of any material value in determining the presence or not of an hepatic abscess, I have selected the highest leucocyte counts in both groups during their entire stay in the hospital. In many of the early cases no blood counts were made, while in the more recent cases in many instances a complete blood count was not made. This accounts for the averages of the red cells, leucocytes and hemoglobin being made from varying numbers of cases.

1. *Cases with Uncomplicated Amebic Dysentery.*—The average of the red cells in 38 cases was 4,802,000 per c.mm.; the average number of leucocytes in 43 cases was 10,600 per c.m.; and the average hemoglobin estimation in 36 cases was 63 per cent. In five cases the red cells were 6,000,000 per c.mm. or over. The comparatively high average of the red cells and the high count in these five cases are probably explained by a concentration of the blood resulting from the frequent bowel movements. It will be further seen that there was a considerable reduction in the hemoglobin and only a very slight leucocytosis. The average blood count then in the group was, red cells, 4,802,000; leucocytes, 10,600, and hemoglobin 63 per cent.

2. *Cases Complicated by Amebic Abscess of the Liver.*—The average number of red cells in 15 cases was 4,250,-

000; the average number of leucocytes in 15 cases was 18,350; and the average hemoglobin estimation in 13 cases was 66 per cent. The average blood count in this group was as follows: red cells, 4,250,000; leucocytes, 18,350, and hemoglobin 66 per cent. It will be seen that the red cells were only 750,000 lower than in the previous group. The leucocytosis was not a high one. The average was 7,750 higher than in the uncomplicated dysentery cases. There were two cases in which the highest count was under 10,000. The highest leucocytosis of all was 53,000.

Some observers hold that there is a great increase in the leucocytes in cases of amebic hepatic abscess and emphasize its importance in the diagnosis of such cases. Few, however, give counts supporting their statements. Although our series shows that the average leucocyte count in the amebic abscess cases is considerably above that in the uncomplicated cases, yet it is doubtful whether the leucocyte count is of any great value as a means of diagnosis. For instance, in the uncomplicated series there were ten cases in which the leucocyte count was above the average in the abscess cases. In two of these the counts were 40,000 and 47,000 respectively.

The average differential count of the leucocytes showed a relative increase in the polymorphonuclears. Considering the rather large number of eosinophiles seen in the stools in certain cases, it was thought that there might be some change in the relative percentage of these cells in the blood. With the object of determining whether there was such a change or not, Dr. McCrae made differential counts in a number of cases, but found the eosinophilic cells present in practically normal percentages.

COMPLICATIONS.

1. *Hepatic Abscess and Hepato-Pulmonary Abscess.*—Abscess of the liver is the most frequent and most serious of the complications of amebic dysentery. Of the 119 cases of amebic dysentery, 27, or 22.6 per cent., developed hepatic abscess. It is impossible to draw an accurate comparison between this percentage and the frequency of this complication in the extensive statistics of British and French physicians dealing with dysentery in India, owing to the lack of mention of the etiologic factor in the latter. In a hospital series, the percentage of hepatic abscess cases would probably be higher than would be the actual percentage outside hospitals, owing to the fact that the severity of the symptoms from this complication would cause the victim to seek admission, whereas the patient with dysentery alone would not be so likely to enter a hospital. There were 24 cases in males and 3 in females. According to decades, the cases occurred as follows: second, none; third, 10; fourth, 5; fifth, 7; sixth, 3, and seventh, 2. It will be seen that the largest number, 10, or 35.7 per cent. of the total cases, occurred between 21 and 30 years. The complication was also most frequent in this decade in Waring's more extensive statistics. Whether there were any special determining factors predisposing the patients to the development of this complication could not be ascertained. In one case direct traumatism in the hepatic region seemed a factor. The Anglo-Indian authorities lay great stress on the predisposing influences, particularly of alcohol, but also of condiments and high temperature.

Relationship to Onset of Dysentery.—The series was analyzed for the purpose of determining the length of time the dysentery had lasted before the symptoms of hepatic abscess manifested themselves. The result was as follows: In 3 cases there was no statement as to how long the dysentery had lasted. In 5, the intestinal manifestations had been so unimportant as to lead the patient to state on inquiry that he had not had diarrhea. Definite data are given in 19 other cases. In eight cases the dysentery had lasted one month or less. In one of these the dysentery and abscess symptoms had come on simultaneously, and in three others the dysentery had lasted only two weeks; in 1 case the dysentery had lasted two months; in 1, three months; in 2, four months; in 1, five months; in 2, six months; in 1, seven months; in 1, eight months; in 1, one year, and in 1, six years. The statement is sometimes made that hepatic abscess only develops in the very acute stages. The above analysis amply proves the contrary. It shows, however, that the largest number did develop within the first month after the onset of the dysentery. It must be emphasized that in one case the intestinal symptoms had lasted one year and in another case the remarkably long period of six years. Probably the most interesting fact of all is that in 5 cases the intestinal disturbance had not been sufficient to attract the patient's attention. In 22 of our 27 cases of hepatic abscess there was clinically or anatomically the existence of amebic dysentery, although in two of these cases there were only the scars of old ulcers. In two of the remaining five cases the intestine seemed normal at autopsy. This is an interesting fact, as it shows that the ulceration may be so slight as to cause no evidence after healing, and yet hepatic abscess may result in such cases. The other three cases were among those that recovered, and no history of dysentery had been obtained, amebæ being present, however.

Number of Abscesses.—The belief, formerly held, that amebic hepatic abscess is nearly always single, is no longer tenable. There may be only one large abscess, but not infrequently there are two or three fairly large abscesses, while, on the other hand, there may be thousands of minute abscesses, some almost indistinguishable to the naked eye. These minute abscesses have also been shown to contain amebæ. In 8 of the cases the abscesses were multiple. The most frequent situation for the single large abscess or for the multiple large abscesses is the upper and posterior part of the right lobe of the liver under the diaphragm. Autopsies were obtained in 22 of the 27 fatal cases of amebic dysentery. Eighteen of these cases were found to have hepatic abscesses. In 10 there was a single large abscess in the upper part of the right lobe.

Spontaneous Rupture of Abscess.—Amebic abscess of the liver may rupture spontaneously. In our series of 27 cases the abscess ruptured into the surrounding viscera or tissues as follows: Through the diaphragm, producing abscesses in the right lung or discharging themselves through the bronchi in 9 cases; into the right pleural cavity, causing an empyema in 3 cases—in one of these a pyo-pneumothorax was recognized clinically; into the duodenum in 1 case; into the inferior vena cava in 3 cases. In one case the abscess extended into the retroperitoneal tissues, involving the muscles of the back and the psoas muscle. In another an abscess in the lower part of the right lobe of the liver invaded the right kidney. This explained a hematuria that the patient had previous to admission. One of the cases was remarkable in that a large abscess in the upper part of the right lobe had entirely healed and had been replaced by a mass of dense fibrous tissue measuring about 3 cm. in diameter. This abscess had previously ruptured through the diaphragm into the lung, and the

patient died from the effects of a large abscess in the lower lobe of the right lung, in which amebæ were found. The opening in the diaphragm was found entirely closed at autopsy. Seven of the abscesses were intact at the time of the autopsy. The series shows, what all statistics have, that the rupture is most frequently through the diaphragm into the lower lobe of the right lung with the establishment of an hepato-pulmonary abscess. The relatively large number of ruptures (three) into the inferior vena cava is of extreme interest. In one case, the inferior vena cava, beginning at a point just above the rupture, contained an organized, decolorized, firm thrombus, which extended upward and projected into the right auricle, which it nearly filled. In addition to the situations above noted where rupture may take place, the abscess may open into the pericardium, the stomach, bladder, colon, or small intestine, peritoneum, or through the skin in the right hypochondrium.

Symptoms of Hepatic Abscess.—The symptoms may be insidious in their onset, or they may be ushered in fairly abruptly. Pain is one of the earliest symptoms. At first it is usually dull and aching, later becoming lancinating and tearing in character. The former is due probably to stretching of the liver, while the latter is attributable to involvement of the peritoneum or pleura. The situation of the pain varies greatly. It may be in the epigastrium, right hypochondriac, lower right axillary, or scapular region. It is quite surprising the large number of our cases that have complained of pain in the region of the right shoulder-joint. This is a reflex pain through the phrenic, which receives large twigs from the fourth cervical. The fever which develops is at first usually of a continuous type; later it becomes remittent, and still later of an intermittent, septic type. At this stage chills are common, and the symptoms may simulate malaria. Profuse sweating is the rule. The pulse ranges between 100 and 140, and there is a certain amount of dyspnea, especially with any pleural or pulmonary involvement. There may be nausea and vomiting. Emaciation may be very marked. The patients have a sallow icteroid tint, and the conjunctivæ have a yellowish hue. The French think that there is something almost pathognomonic in the facial appearance of these cases. Marked jaundice is quite rare. As shown above, there is usually a moderate leucocytosis, the average in our cases being 18,300 per c.mm.

Physical examination may show some fullness in the epigastrium or right hypochondrium. There may be tenderness over the hepatic region, and if the abscess has attained considerable size the edge of the liver will be palpable. If the abscess be situated on the lower aspect of the right lobe or in the left lobe, its presence is more likely to be suspected early then when situated elsewhere. Percussion, when the abscess is of considerable dimensions, will nearly always reveal an increase in the area of hepatic flatness. Owing to the fact that the large abscesses are most frequently situated in the upper and posterior part of the right lobe, it will usually be found that the hepatic flatness will reach much higher than normal in the axillary line, and extending as high as, or higher than, the angle of the scapula. Auscultation may reveal nothing unusual. There may be an audible peritoneal rub over the liver, or, if the inflammatory trouble has extended through the diaphragm, there may be a pleuritic friction rub.

If the extension of the abscess upward be gradual, adhesions may take place betwen the visceral and diaphragmatic pleura, and the abscess may open directly into the lung, with the establishment of a hepato-pulmonary abscess. Rupture of the hepatic abscess into the lower lobe of the right lung took place in 9 of our 27 cases of hepatic abscess, or in 33.3 per cent. The invasion of the lung is usually ushered in by an aggravating cough of a convulsive character. The signs of involvement of the right lung are indicated by an increase in the area of dulness at the right base, feeble, tubular breathing and possible increase in the tactile fremitus. In the cases where the pulmonary abscess communicate with a bronchus, the most characteristic feature is the expectoration of a reddish-brown sputum described by Budd as having an "anchovy-sauce" appearance. The peculiar color of this expectoration is very characteristic. The contents of the hepatic abscess itself are not of this character, and the peculiar color is probably due to the admixture of the hepatic pus with blood as it passes through the lung. Microscopic examination of the expectoration will, on persistent search, practically always reveal the presence of amebæ. They were present in the sputum of all our cases. It further will show abundance of disintegrated pus cells, a few liver cells, some elastic tissue from the lung, hematoidin crystals, and occasionally Charcot-Leyden crystals. If the pulmonary abscess at intervals freely evacuates itself through the bronchus, the physical signs over the affected area may be those characteristic of a pulmonary cavity. The rupture of an hepatic abscess into the lung is usually followed by a decided diminution in the size of the liver as determined by palpation and percussion.

Bacterioscopic and Bacteriologic Examination of Hepatic Abscesses.—In all the cases but one, amebæ were found in the abscess contents. The exception was a case of healed hepatic abscess. Amebæ were found, however, in the pus of a lung abscess, from the effects of which the patient died. The statement that the hepatic abscesses are usually sterile requires to be modified. Not at all infrequently bacteria, in addition to amebæ, are also present. The bacteriologic study of our series of 27 cases gave the following results: The *Staphylococcus aureus* was found in 6; the *Bacillus coli communis* in 5, usually associated with other organisms; the *Streptococcus pyogenes* in 3, and the *Micrococcus lanceolatus* and *Bacillus pyocyaneus* in 1 each.

Avenues of Infection of the Liver.—Two views are held as to how the amebæ reach the liver. One view is that they migrate through the intestinal wall and enter the peritoneal cavity. Once reaching the peritoneum, they are supposed to pass toward the liver, the tissue of which they invade. Councilman and Lafluer considered this the likely mode of infection, and thought it amply explained the occurrence of the large abscesses in the upper part of the liver near the diaphragm, as well as of the multiple smaller superficial abscesses. In support of this view, Lafleur cites a case of dysentery in which a peritonitis existed with amebæ in the exudate over the intestinal coils and over the surface of the liver. Rogers,[11] who has made a study of amebic dysentery and hepatic abscess in India, believes that this is the method of infection in a good many cases.

The most rational theory, and the one that has the largest number of supporters, is that infection of the liver occurs by way of the portal vein. There is ample evidence in favor of this view. Dr. W. G. MacCallum, of the Johns Hopkins Hospital, in a verbal communication, informs me that in a number of recent cases he has found the amebæ in considerable numbers

11. Rogers: British Medical Journal, Sept. 20, 1902.

within the portal capillaries at the margins of the intestinal ulcers. Such a method of infection, it would seem, could alone explain the innumerable small abscesses scattered throughout the entire liver in many of the cases.

2. *Amebic Empyema.*—In two cases the hepatic abscess ruptured directly into the right pleural cavity. In a third case, an amebic abscess of the lung ruptured into the right pleura, giving rise to a pyo-pneumothorax which was recognized clinically.

3. *Perforation of the Colon and Peritonitis.*—Just as in typhoid fever, the intestinal ulceration may become so deep that perforation of the colon eventually results. This occurred in three cases in our series. In one case the patient was operated on within three hours after the perforation occurred. He failed to recover, however.

4. *Intestinal Hemorrhage.*—At first thought it seems somewhat surprising that intestinal hemorrhage is not more frequent, considering the extent of the ulceration in the severest cases. It occurred in 3 cases in the series. Its infrequency is due to the fact that the vessels are thrombosed in the area of infiltration.

Other Associated Infections.—It is of considerable interest that the amebic dysentery was associated with another protozoan infection in a number of instances. Five of the patients also had malaria. Three of these were double tertian and two estivo-autumnal infections. Flexner[12] reported one of these cases and found in addition the *Bacillus coli communis* and the *Micrococcus lanceolatus* in the cultures from various organs. Another case was of extraordinary interest. The patient had suffered from dysentery for six years. On admission it was found that he was also suffering from typhoid fever, confirmed by a positive Widal reaction. The typhoid was complicated by a double thrombosis of the femoral veins. During convalescence he developed an amebic abscess of the liver for which he was operated on, with eventual recovery. One patient had pulmonary tuberculosis.

MORBID ANATOMY.

The intestinal inflammation and ulceration is confined almost exclusively to the large intestine. In 2 of our cases there was slight superficial ulceration in the last few centimeters of the small intestine.

The intestinal lesion consists of ulceration which has been preceded by infiltration of the submucosa due to an edematous condition and to multiplication of the fixed cells of the tissue. In the earliest stage these local infiltrations appear as hemispherical elevations above the general level of the mucosa. The mucous membrane over these soon becomes necrotic and is cast off, exposing the infiltrated submucous tissue as a grayish-yellow gelatinous mass, which at first forms the floor of the ulcer, but is subsequently cast off as a slough. The individual ulcers are round, oval or irregular, with infiltrated undermined edges. The visible aperture is often small compared with the loss of tissue beneath it, the ulcers undermining the mucosa, uniting and forming sinuous tracks bridged over by apparently normal mucous membrane. According to the stage at which the lesions are observed, the floor of the ulcer may be formed by the submucous, the muscular or the serous coat of the intestine. The ulceration may affect the whole or some portion only of the large intestine, particularly the cecum, the hepatic and sigmoid flexures and the rectum. In severe cases the whole of the intestine is much thickened and riddled with ulcers, with only here and there islands of intact mucous membrane. Healing takes place by the gradual formation of fibrous tissue in the floor and at the edges of the ulcers, which may eventually result in partial and irregular strictures of the bowel.

Microscopic Examination.—A notable absence of the products of purulent inflammation appears. In the infiltrated tissues polynuclear leucocytes are seldom found and never constitute purulent collections. Amebæ are found more or less abundantly in the tissues at the base of and around the ulcers, in the lymphatic spaces, and occasionally in the portal capillaries.

Two kinds of lesions occur in the liver. First there are local necroses in the parenchyma, scattered throughout the organ and possibly due to the action of chemical products of the amebæ. The abscesses, as already stated, are either multiple or single. Multiple abscesses are usually small and generally superficial. In an early stage they are grayish-yellow, with sharply defined contours, and contain a spongy necrotic material, with more or less fluid in its interstices. The larger abscesses have ragged necrotic walls, and contain a more or less viscid, greenish-yellow, or reddish-yellow purulent material mixed with blood and shreds of liver tissue. The older abscesses have fibrous walls of a dense almost cartilaginous toughness. A section of the abscess wall shows an inner necrotic zone, a middle zone in which there is a great proliferation of the connective tissue cells and compression and atrophy of the liver cells, and an outer zone of intense hyperemia. There is the same absence of purulent inflammation as in the intestine, except in those cases in which a secondary infection with pyogenic organisms has taken place. The material from the abscess cavity shows chiefly fatty and granular detritus, few cellular elements, and amebæ in variable numbers, which are also found in the abscess walls, chiefly in the inner necrotic zone. Very frequently the pus in the central part of the abscess contains no amebæ. These are found in gradually increasing numbers as the abscess wall is approached. The organisms remain at the margins of living tissue, where they can obtain oxygen, which seems essential for their existence.

DIAGNOSIS.

The diagnosis of amebic dysentery depends on the finding of actively motile amebæ in the stools. In the majority of cases the amebæ will be found in the first specimens examined. When the organisms are few in number, and particularly in the chronic cases during the periods of constipation, many examinations extending over days may be necessary before positive findings are made. It is important that the stool should be examined as soon as possible after being passed and while the feces are still warm. In order to prevent the feces from cooling off it is well to have the patient pass the stool into a warmed receptacle and then to immerse the latter in an outer basin containing warm water. Our routine method in the hospital wards, however, has been to secure perfectly fresh specimens of the intestinal contents by the introduction of the rectal tube. When the stools are fluid considerable quantities of fecal matter may be obtained, and when constipation exists small portions of mucus will be found in the lumen of the rectal tube from which preparations for microscopic examination may be made. In searching for amebæ the portions of the feces to be selected are the particles of blood-stained mucus and the small gelatinous masses consisting of necrotic intestinal mucosa. In examining the specimen microscopically, it is well to use the low

12. Flexner: Johns Hopkins Hospital Bulletin, vol. vii, 1896, p. 171.

power first. In this way the slide can be rapidly looked over and the amebæ will be recognized as larger and more refractile than the intestinal epithelial cells and leucocytes from which they have to be differentiated. Even the ameboid movement can be recognized with this power. When a suspicious looking field has been found the high power should then be used. A positive diagnosis of amebic dysentery should be made only when actively motile organisms have been found. When one finds large, round, non-motile bodies containing one or more red cells one can be reasonably certain that he is dealing with amebæ. A positive diagnosis, however, should be withheld until actively motile organisms are found, which result will almost surely follow in such cases if persistent faithful search be made. There is one type of degenerated epithelial cell which may give rise to confusion. This is an intestinal epithelial cell in which vacuolic degeneration is taking place. The vacuole gradually increases in size at the expense of the remainder of the cell and might be mistaken for the hyaline ectosarc of an ameba. It occupies usually one side and the nucleus is pushed to the other side of the cell. The absence of any ameboid movement should suffice to prevent misinterpretation of these cells. Swollen degenerated leucocytes should give no trouble. The monads are recognized by their peculiar movement and by their different morphology.

When physical signs pointing to hepatic abscess develop in a case of amebic dysentery one naturally suspects that the abscess is of amebic origin. The question of the differential diagnosis between hepatic abscess, subphrenic abscess and pleurisy with effusion will not be considered here. The positive diagnosis of hepatic abscess will depend on the finding of motile amebæ in the contents of the abscess. In a large number of our cases of hepatic abscess contents were obtained for microscopic and bacteriologic examination by means of a long aspirating needle. While some objection to this procedure might be raised, we had no untoward results in any of our cases. The point of introduction of the needle, which should be 8 to 10 centimeters long, will depend upon the suspected position of the abscess. The procedure may be repeated a number of times if the first puncture is negative. The absence of amebæ in the contents does not prove that the abscess is not of amebic origin, for it is a frequent occurrence in cases operated on not to find amebæ until the abscess evacuates itself and until particles of the abscess wall appear on the dressings. The absence or partial absence of pus cells in the contents of an hepatic abscess is always suggestive of its being amebic in origin, because the ameba is not a great pus producer. The bulk of the contents consists largely of granular debris resulting from broken down liver cells. An amebic origin should always be suspected when the cultures prove negative. Amebic abscesses of the liver are not by any means always sterile, however, as has been already amply shown in this series.

When a patient with an hepatic abscess suddenly begins to expectorate quantities of sputum possessing a reddish-brown "anchovy-sauce" appearance, the establishment of an hepato-pulmonary abscess must be considered. The granular character of the pus on microscopic examination and the finding of liver cells and hematoidin crystals confirms this suspicion. Careful and persistent examinations of the sputum will nearly always reveal the presence of amebæ when the hepato-pulmonary abscess is of amebic origin. Amebæ were found in the sputum in all our nine cases in which this complication occurred.

After the discovery of *Bacillus dysenteriæ* some investigators were at first inclined to believe that this organism was the primary agent in setting up the intestinal inflammation and that the *Amœba dysenteriæ* was a secondary invader and of minor pathologic importance. These observers now credit the ameba with full powers to produce the lesions which are characteristic of amebic dysentery. The blood serum of nearly all the cases of amebic dysentery admitted to the Johns Hopkins Hospital during the last two years has been tested in order to ascertain whether it possessed any agglutinative action with the *Bacillus dysenteriæ* obtained from various sources. The test was invariably negative, thus tending to show that *Bacillus dysenteriæ* played no part in the production of the disease in our cases.

COURSE AND PROGNOSIS.

Any one seeing numerous cases of amebic dysentery learns to be guarded in his statements to the patient concerning the ultimate outcome of the disease. Tendency to a relapse of the dysenteric symptoms is one of the striking characteristics of the affection. In the majority of cases the dysentery yields fairly readily to absolute rest and intestinal medication in a very few days, and the bowels may become constipated and move only when the medicated irrigations are administered. The recurrence of the symptoms in patients discharged from the hospital apparently cured, is no doubt due to the failure of the intestinal irrigations to reach the living amebæ buried deep in the cells of the submucosa of the intestines. These organisms that survive eventually multiply in sufficient numbers to again set up the local intestinal ulceration with a consequent relapse of the symptoms.

That the disease is a grave one is amply illustrated by the mortality in the Johns Hopkins Hospital series. Of the 119 cases, 28 or 23.5 per cent. terminated fatally. Hepatic abscess is a very serious complication. Of the 27 cases with this complication 19 died. Five recovered after being operated on. Two of the 9 cases of hepato-pulmonary abscess left the hospital very much improved with good prospects of recovery, although their ultimate fate is not known. One case of abscess refused to remain in the hospital and was not treated. The seriousness of the hepatic abscess as a complication is further emphasized by the fact that the 5 recoveries after operation were out of a total of 17 cases operated on.

TREATMENT.

Until we know something definite of the life history of the ameba outside the human body it will be difficult to prescribe any adequate prophylactic line of treatment. Presumably, however, the same precautionary measures against typhoid infection, especially in connection with drinking water, will prove serviceable in this disease.

When the disease has actually established itself, the patient should be put to bed and kept absolutely quiet until the active symptoms have been controlled. The diet should be simple and easily digestible. A long list of medicines, administered by mouth, has been tried without satisfactory results. Even ipecac, formerly so strongly recommended in the tropics for the various forms of dysentery, has fallen largely into disuse. Local treatment gives the best results. Various astringent solutions have been advocated and may be tried. Large high irrigations of a solution of quinin have given the best results and this has been the routine treatment in our wards. The success of the treatment depends largely

on the method of giving the irrigation. It must be remembered that the rectum in the majority of cases is not at all or only slightly involved and that the ulceration is most extensive in the cecal pouch and in the ascending colon. One must insure, then, the irrigation fluid reaching the upper part of the colon. This is best attained by having the patient's hips well elevated on firm pillows and to have him roll occasionally from his left to his right side. The same object may be secured by placing the patient in the knee-chest position. A liter of the quinin solution should be allowed to run into the colon twice daily. The strength of the solution at first should be 1-5000, gradually increasing it until it reaches 1-1000 or 1-500. In some cases we have given the patients at intervals an irrigation of a weak solution of hydrogen peroxid with apparent benefit. Colostomy has been recommended very highly by some in the intractable cases. It was only performed once in our series. The patient was almost moribund at the time of the operation and died shortly after.

Where the dysentery is complicated by hepatic abscess, the latter should be operated on at the earliest possible opportunity after a diagnosis has been established. Five of our 17 cases operated on recovered. While these results are fairly satisfactory they leave much to be desired. The earlier the operation the better the patient's prospects will be. The unsuccessful results after operation have, in many cases, been shown to be due to the fact that the abscesses are multiple and consequently only one abscess is evacuated, the others continuing to exert their injurious effects after operation. The operation is usually done in two stages in this hospital. The first operation is to promote shutting off the peritoneal or pleural cavities, depending on the seat of the incision. The second operation is for the evacuation of the abscess, and is performed a few days later. This delay, of course, is only permissible when the patient's condition will allow it. Rogers advocates very strongly a quinin solution of about 1 per cent. strength for irrigating out the abscess from time to time. He believes that the amebæ in the abscess wall are more quickly destroyed, thus allowing of a more rapid healing.

Where the abscess opens into the pleural cavity with the establishment of an empyema, free drainage must be established. When intestinal perforation occurs the experience with typhoid perforation in recent years leads one to hope that success might follow operation if performed very early.

SUMMARY.

In nearly fourteen years 120 cases of amebic infection have been admitted to the Johns Hopkins Hospital. Of these, 119 were cases of amebic dysentery or amebic abscess of the liver, the remaining case being one of amebic abscess of the floor of the mouth. Of the 120 cases 118 were admitted to the medical wards. During this time there were 15,817 medical admissions, the amebic dysentery cases constituting 0.74 per cent. of the cases. Of the 119 cases of dysentery, 82 were apparently contracted in Baltimore and 13 in the State of Maryland outside Baltimore, or a total of 95 cases within the borders of Maryland. The largest number of cases occurred in the third decade. The youngest patient was a child two years and eight months old, and the oldest a man of 71. A point of special interest is the comparatively large number of cases in children under 10 years. Eleven cases, or 9.4 per cent., occurred in the first decade, 6 of these belonging in the first hemi-decade. There were 108 males and 11 females. The series comprised 107 whites and 12 blacks, or a proportion of 9 to 1. The total ratio of whites to blacks in the hospital is about 7 to 1. A secondary anemia of moderate grade occurs. Occasionally there is a polycythemia. The average leucocyte count in the uncomplicated dysentery cases was 10,600. In the hepatic abscess cases it was 18,350. Hepatic abscess occurred in 27, or 22.6 per cent., of the cases. Nine of these ruptured into the right lung and 2 into the right pleura. Three opened into the inferior vena cava. In 10 cases there was a single large abscess in the upper part of the right lobe. In 8 cases there were multiple abscesses. Perforation of the colon with peritonitis occurred in 3 cases; and severe intestinal hemorrhage in 3 cases. Five cases were complicated by malaria; 1 by typhoid; 1 by pulmonary tuberculosis; and 1 by a strongyloides intestinalis infection. The agglutinative blood reaction with *Bacillus dysenteriæ* was negative in all cases tried. A marked feature of the disease is the great tendency to relapse. The mortality was high; 28, or 23.5 per cent., terminated fatally. Hepatic abscess is a serious complication, 19 of the 27 cases terminating fatally. Five were cured out of 17 operated on. Two of the hepato-pulmonary abscess cases were discharged very much improved. One abscess case did not remain to be treated. Quinin irrigations still seem to give the best results in the treatment of the dysentery.

THE TREATMENT OF ACUTE DYSENTERY.*

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The subject will be considered under three heads: 1. Regiminal Treatment; 2, Internal Remedies; 3, Topical Applications.

I. REGIMINAL TREATMENT.

The regiminal treatment, properly carried out in its various details, is potent to render the course of this affection distinctly milder and more favorable. Among the eminently important measures in bacillary dysentery I should regard rest in bed throughout the attack as deserving of a prominent place, and it should be rigidly enforced in all instances, not excepting the milder sporadic cases. As a means to conserve the bodily strength and energy, absolute repose is never uncertain in its effects; its extreme importance to the inflamed and ulcerated bowel, with a view to promoting resolution and the healing process, is universally acknowledged. The efficiency of rest in bed can be appreciably enhanced by constant, careful attention to the ventilation of the sick chamber. Fresh, pure air, without strong currents, is practically important as an aid in preventing the development of dangerous asthenia.

Too close attention to the diet and manner of feeding can not be paid. Certain dietetic principles need to be kept in view. For example, it must be recollected that concentrated, soft and liquid forms of food tend to favor constipation, whereas bulky, hard articles stimulate intestinal peristalsis.

Our aim in this disease is to minimize the intestinal contents, and thus, also, the amount of decomposable material that will reach the seat of the morbid changes. To reduce the putrefactive processes in the intestines, especially during the active period of acute bacillary

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dysentery, an absolute liquid diet composed principally of milk and albumin water, is a prime requisite. The milk should be predigested and given in small quantities, and the dejecta carefully scrutinized; and the appearance of food remnants in the feces is an indication either for further dietetic restriction or a change of pabulum. Dieting must be systematically conducted. When not objected to, the albumin water is admirably suited to this disease in the early acute stage. If carefully carried out, a milk diet, however, is attended with the least degree of intestinal putrefaction. Nothing is more pernicious in its effects upon the local lesions than to overburden the much-enfeebled digestive organs.

It is doubtless true that the fats increase intestinal putrefaction, and must be allowed in relatively small amounts in this disease, if at all. This is probably also true of carbohydrates, although Bachman's experiments, contrary to the general teaching, show that they exert no marked influence on intestinal decomposition. Nutrients are of signal importance in supporting the vital powers, and may be preventive of dangerous asthenia. Finally, not all foods, even among the blandest and most nutritious forms, are equally well borne by the stomach, and several changes may be necessary during the course of a given case.

I have dwelt somewhat at length on the subject of diet in dysentery, believing that there is a lack of appreciation on the part of the general profession of its true value in the management of this disease.

Stimulants are required in the severer forms of endemic, and more especially epidemic, dysentery, to overcome the pronounced asthenic which often develops at a comparatively early period of the disease. Marked and even alarming circulatory enfeeblement may be met, and this calls for the free use of diffusible stimulants (e. g., champagne). In extreme adynamia, strychnin should be employed subcutaneously; and the timely, judicious employment of the normal saline solution is highly serviceable in similar cases. It has seemed to me that in our eagerness to find a special method of treatment (of which there are not a few from which to make a selection), agencies and elements whose efficiency has been satisfactorily demonstrated by the experience of by-gone generations of physicians, have been omitted from consideration in discussing the management of dysentery. An examination of the literature will confirm this opinion, so far as relates to the use of stimulants in this disease at least. The regimen, during the convalescing period, should receive much attention. Indiscretion in diet must be obviated; the too early use of fats, fruits and the coarser vegetables often cause a return of the dysenteric symptoms. The habits of the patient must be vigilantly looked after until full health is restored, and an abdominal bandage of wool is advised following an attack of dysentery, and may be warmly recommended.

The prophylactic measures applicable in the treatment of dysentery are much the same as those demanded by other micro-organismal diseases, notably typhoid fever, and need not be detailed here. Especial attention, however, should be paid to the disinfection of the excreta, while the drinking water must be both filtered and boiled. Unless a rigid system of disinfection of the stools be carried out during the prevalence of an epidemic, an infected individual contributes to the common source of contamination.

2. INTERNAL REMEDIES.

It is customary to speak of special methods of treatment by medicinal agents. This is unfortunate, since it tends to lead to neglect of other most important elements of the treatment. Pre-eminent among special drugs stands ipecacuanha, and although a most valuable agent in this disease, it can not be said to possess an abortive, or even curative, action; it is not a specific for dysentery. Says Hare:[1] "So far as we know, any influence which it possesses is brought about by reason of the fact that it tends to produce a rather profuse flow of bile in such patients, and the close connection which exists between the torpidity of the liver (to use a popular phrase) and congestion of this organ, with congestion of the colon, makes its employment under these circumstances more rational than would appear at first glance." Woodhull,[2] however, claims that "ipecac is not, as commonly supposed, a depressant or an evacuant, except in a secondary sense. Its primary action is that of a stimulant more directly of the organic nerve." He believes that this drug thus contracts the intestinal capillaries. Treatment, therefore, should be prompt.

R. Kobert[3] states that the antidysenteric action is supposed to reside in a glucocid, ipecacuanhic acid. It is probable that the use of ipecac has been less enthusiastically supported by clinicians in recent times than was formerly the case, because its mode of administration has not been of such character as to insure the highest efficacy of the drug. Kieffer[4] gives the following method, which has been adopted in tropical dysentery: "Nourishment of every description is withheld for three to four hours. Then 15 to 25 drops of tincture of opium are administered and a small sinapism applied to the epigastrium. In from twenty to thirty minutes, when the effect of the opium begins, from 30 to 60 grains of ipecac are administered in powdered form stirred up in one or two ounces of water. The patient lies on his back in bed with both eyes covered with damp, cool compresses. The pillow is removed. The patient is carefully enjoined to make no movement. If mucus gathers in the mouth and throat, a nurse, on sign from patient, removes it with a cloth or towel. If all these precautions are rigorously carried out, the patient retains the dose."

It requires at least two hours for ipecac to produce its effect. If it be vomited within an hour, the dose is repeated as soon as the nausea subsides. When all signs of nausea have disappeared the feedings are to be resumed. The next day repeat the dose of ipecac, diminishing it by 5 or 10 grains, and continue in this way for three or four days, using always the same precautions against vomiting. Kieffer feels that if administered in this way, ipecac will prove of value in the dysentery of the United States. Although aware of the fact that most authors recommend the massive dose, in my hands quarter-grain doses administered every half hour have in some cases seemed to be quite as effective, and in children the smaller doses are to be preferred. Strassberger[5] lauds ipecac highly in the treatment of the acute exacerbations of amebic dysentery, using one dram of the Rio article, with a full dose of opium, twice daily. The effect was prompt and permanent, and in only one instance did a real relapse occur. Upon further investigation and observation he found that while it may be a specific in amebic dysentery, it has little or no effect on the bacillary forms.

The use of saline laxatives in the treatment of dysentery is generally adopted. The best preparation is

1. Proceedings of the Phila. Co. Med. Society, Sept., 1902, p. 51.
2. Therapeutic Gazette, April 15, 1902.
3. Ther. Monatsch., August, 1902.
4. Tropical Dysentery, Philadelphia Med. Jour., Jan. 31, 1903.
5. Münch. Med. Woch., Sept. 9, 1902.

magnesium sulphate, which produces an eliminative effect, depletes the intestinal mucosa, and at the same time inhibits undue peristalsis. It is best administered in doses of one dram, diluted, every hour until free purgation is induced. This is followed by the generous exhibition of acid. aromat. sulphuric., which is given partly for its astringent effect and partly to render the intestinal contents acid. It has been shown by Cunningham of India, with reference to amebic dysentery, that if the contents of the intestines are alkaline, the amebæ thrive and multiply, while conversely, if the intestinal matter is rendered acid, their multiplication ceases for want of a suitable medium. The combined saline and acid method of treating dysentery rests on a most rational basis. I have, however, found and elsewhere expressed the opinion that if saline purgatives are employed at a late stage of the affection, or even after the full development of a given case, they are invariably attended with baneful effects. Richmond[6] also observes: "It is of the utmost importance that cases in which the sulphate of magnesium or sulphate of sodium should come under treatment early in the attack, before much ulceration has taken place, otherwise the septic absorption continues. In some cases treated by this method at Duelfontain, little or no improvement accrued, and the "patient died in a condition of toxemia, with rapid failing pulse, delirium and profuse diarrhea, with much painful tenesmus." Opium in some form, preferably as Dover powder, is promptly effectual in meeting certain leading systematic indications, as pain irritability, restlessness and undue peristalsis. For intensely distressing tenderness, either an opium suppository or laudanum by enema exercise a beneficial effect. The preparations of bismuth are valuable, particularly in the milder sporadic cases, and in the advanced stage of the severest forms; they may be advantageously combined with Dover powder and an antiseptic substance.

Phelm,[7] who has had an extensive experience in the treatment of this disease in Africa, advises the successive use of purgatives, calomel and subnitrate of bismuth. A suspicion of dysentery calls for 30 grams of castor oil. If the case be one of dysentery, calomel is given after twelve to eighteen hours. At the end of three days, calomel is succeeded by bismuth subnitrate, which, in turn, is kept up for three or four days, or until the stools become solid again. It may be questioned whether any of the intestinal antiseptics exercise a potent influence; and it may be safely assumed that they are without the power to destroy the infecting micro-organism. The antiseptic care of the intestinal tract in bacillary dysentery, however, should be one of the aims of treatment, and guaiacol, salol and the preparations of naphthol are the agents of choice for this purpose. They may be combined either with the ipecac or salines, or with both. Richmond,[8] during an experience of the treatment of dysentery, found that none of the recognized methods were infallible, and the use of sulphur in the treatment of this complaint was suggested to him on the analogy of the treatment of anthrax by sulphur, as advocated by Mr. Arbuthnot Lane.[9] He had under his care in the Imperial Yeomanry Hospital at Pretoria, 20 acute cases and 10 cases of chronic diarrhea following attacks of acute dysentery. All the acute cases were treated with sulphur and Dover powder, and the chronic cases with sulphur alone, and in every instance a cure resulted. The ameba was carefully searched for in all of Richmond's cases, but was never found, and he believes it to be a justifiable speculation that the dysentery of South Africa was, like that of Japan and the Philippines, due to the Shiga bacillus. This observer prescribed 20 grains of sublimed sulphur combined with 5 grains of Dover powder four-hourly in the acute cases, and a like dose of sulphur alone in the chronic diarrhea resulting from acute attacks. The signal value of this remedy has been confirmed by the experience of other competent clinicians, both abroad and in this country. Although the exact mode of action of the sulphur is unknown, it is probable that the resulting sulphuretted hydrogen and sulphur acids inhibit the growth and propagation of the *Bacillus dysenteriæ*. Stengel has observed the same curative effect in amebic dysentery, and it is quite reasonable to suppose that the modus operandi of its action is similar in this form to that of bacillary dysentery. This remedy is strongly advised on theoretical grounds, and in view of the brilliant results already reported, is worthy of a more extended trial than has as yet been accorded it. It will probably be found to be best suited to protracted or chronic forms of the complaint. Dabney has pointed out the eminently important fact that the existence of certain complicating conditions, as malaria and various intestinal worms, may occasion non-success in attempts at treatment, unless recognized and met by the use of quinin or anthelmintics according to the given case. Failure of the ipecac treatment may also be due to the unreliability of its preparations.

Another method of treatment is by the use of antidysenteric serum. Gay[10] has prepared vaccines of uniform activity, and by means of which he could protect guinea-pigs from a multiple fatal dose of living dysentery bacilli, and also produce in the horse an active, immune serum. Gay thinks that a useful serum therapy of bacillary dysentery and of certain forms of the summer diarrheas in infants (the latter having recently been shown to be due to the *B. dysenteriæ*) is rendered highly promising. Shiga has successfully employed a serum which he himself has prepared. It is both protective and curative, but not as yet available for general use.

3. TREATMENT BY TOPICAL APPLICATIONS.

The treatment of dysentery by high intestinal irrigations is doubtless of value, but quite a few recent writers are not ardent advocates of the use of large enemata in acute bacillary dysentery, believing that they may cause atony and weakening of the coats. Astringent and antiseptic solutions are used for this purpose; they must be weak, otherwise the tormina and tenesmus—distressing features of the disease—will be materially increased. The method is better adopted to the more chronic forms of dysentery, the amebic variety in particular. In the latter, a warm solution of quinin (1-2,000, 50-5,000) is almost universally acknowledged to be more or less efficacious. It may be questioned, however, whether the amebic form is curable by known methods of treatment. In the milder forms of acute bacillary dysentery, copious enemata are unnecessary. If employed in this class of cases, the same precautionary measures must be taken as in the severe types of the disease.

Among the remedies thus employed are silver nitrate, strength of solution (gr. ss. to 1 ad ℥i); salicylic acid (1 to 2 per cent.); tannic acid (½ to 1 per cent.); zinc. sulpho-carbolate (gr. i-ii ad ℥i); and mercuric chlorid (1-6,000).

6. London Lancet, June 15, 1901.
7. Deutsche Medicinische Wochenschrift.
8. London Lancet.
9. The Medical Week, Dec. 8, 1891.
10. Univ. of Penna. Medical Bulletin, Nov., 1902.

It has been my custom to alternate an astringent and antiseptic solution, administering a copious clyster at twelve-hour intervals.

The mode of giving the irrigations is of vital importance. A fountain syringe should be employed, and as shown by the experiments of Hare and Martin; the pressure should never exceed two or three feet. Intestinal lavage must be a slow process in order to be successful, and to this end the flow should be interrupted at short intervals. The patient during the enemata should assume either the dorsal position or that on the left side, with the hips elevated; or if he be not too ill, he may be turned from side to side during its administration.

In conclusion, I would emphasize the fact that it is impossible to indicate a special mode of treatment that would be suitable for all cases of dysentery since each case, whether of the bacillary or amebic variety, presents certain individual peculiarities. The therapeutic measures must vary also with the particular stage of the affection and the previous condition of health of the patient.

DISCUSSION

ON PAPERS OF DRS. MASON, KNOX, BURNS, HARRIS, FUTCHER AND ANDERS.*

Dr. Alexander Lambert, New York—This is not a common disease in the North. Still, it is not uncommon among transients going through New York and who land in Bellevue Hospital. Some years ago I was surprised to find cases of amebic dysentery developing in people not 25 miles from New York; I have had four such cases in the past five or six years. It has been stated that liver abscesses were more frequent in the North than in the South. So far as a limited experience in a number of cases of amebic dysentery is concerned I have seen abscess develop in a large number.

I have found that high enemata given one week, and quinin the next week, and silver once or twice a day, have given me better results and quicker improvement than followed when I persisted in quinin or silver. In the more chronic cases I have given 1-500 bichlorid solution and run it down to 1-1000 with beneficial results. Salol and castor oil seem to give more satisfaction with some patients. Most of these cases have gone out of the hospital cured unless they died of liver abscess.

In all these cases of amebic dysentery there was one symptom that I have been unable to find mentioned in any textbook, viz., the severe amount of pain in the muscles at night; painful cramps in the muscles were found in every case of amebic dysentery. In the other cases of dysentery this was not complained of. I should like to hear from the Section on this symptom.

Dr. T. S. Dabney, New Orleans—At first I used sulphate of magnesia, but experience has taught me that sulphate of soda by reason of its action on the liver is far more efficacious. I also wish to state that the combination I use has a little morphin added, 1/6 to 1/32 of a grain to the dram; there is also dilute hydrochloric acid and peppermint water, and this combination acts well. If you take six cases of dysentery and use sulphate of soda in three, and sulphate of magnesia in the other three, you will not use sulphate of magnesia again. In conjunction I use acid drinks of dilute sulphuric acid, or nitrohydrochloric acid. All my patients drink this all the time. Experience has taught that the bacillus of dysentery seems to thrive poorly in acid and acid medium; it seems to require an alkaline medium, hence acidulated drinks inhibit the growth of this bacillus.

While in Colombia, South America, in the summer of 1892, I was asked by Dr. Angoula, a native Colombian physician, a close observer of the endemic diseases of his country, to visit the village of Rio Frio, situated in the midst of vast banana haciendas, where a disease, characterized by severe intestinal hemorrhage, was at that time prevailing. In almost every thatched hut we found patients suffering from profuse bloody discharges at frequent intervals. A moderate amount of fever, but not much tormina or tenesmus was present. So great was the loss of blood that the patients seemed exsanguinated. On being asked by the Doctor for the diagnosis and treatment, I politely declined either, and remarked I was the student and he the teacher. His diagnosis was intestinal paludic fever and his routine treatment one gram of the sulphate of quinin dissolved in water acidulated with dilute sulphuric acid, this to be repeated every four hours until the character of the stools markedly changed. On our second visit, six hours later, we found the diagnosis verified by the treatment, for never in my professional life before had I seen such immediate and happy results follow so promptly on the administration of any remedy. I am inclined to believe the acid medium played an important part in the cure.

Dr. T. J. Moore, Galveston, Texas—I believe that there is not only amebic but also bacillary dysentery where I live. During the past four years we have carefully examined every malarial fever case, and, as a result, I am not ready to admit that we have malarial dysentery. I have treated during the past four years several hundred cases of malarial fever and associated with many there has been dysentery, but on closer investigation we have found, in probably all of them, some other cause for the dysentery than the malarial infection. I would rather regard dysentery as one of the symptoms of malarial fever seen occasionally. Hemoglobinuric types of fever with dysentery seem to be more common. We must admit that there is some gastrointestinal disturbances in many cases, but I am not ready at all to admit that we have malarial dysentery. Many cases of amebic dysentery get better on quinin and some better without quinin. During the past three years, at my suggestion, in the wards of the hospital we have been using the fluid extract of chaparro, a Mexican shrub. In the series of cases in which this drug was used, some ten or twenty, there was a rapid disappearance of the dysentery, and also of the amebæ from the stools. This drug is well worthy of trial.

Dr. Lambert has referred to cramps in the muscles of the arms and legs; this is especially true in the severe and acute cases where you find a great number of these amebæ, many containing red blood cells. In the severe cases the amebæ show a disposition to collect within themselves a large number of red blood cells. In the acute form there is another feature, the acute swelling of the mucous membrane which may cause a complete occlusion of the intestines.

Dr. Walter Shropshire, Yoakum, Texas—The cause of this disease has been to me an enigma for many years. Three years ago I had a case in a child nine months old. Severe symptoms were referable to the lower rectum and the disease progressed rapidly. An examination of the feces disclosed amebæ which contained red blood cells. Irrigation of the rectum and colon with quinin caused a disappearance of the ameba. When first examined I found the colon bacillus in large quantities. I called another physician in and he agreed with me in my diagnosis. The colon bacilli persisted, and the disease continued until the child began to vomit. In the vomit were found numbers of these bacilli, but no amebæ. At the autopsy, macroscopically, there was noted the characteristic undermining ulcers of the amebic dysentery. Further up in the tract were found bright red congestion of fresh inflammation. Microscopically there were found the same bacilli throughout the intestinal tract, in the mesenteric glands, liver and spleen. We then decided that this bacillus was the cause of the disease. Specimens were sent to Dr. Smith of Galveston, and he agreed that they were the colon bacilli, but said they were harmless in the intestinal tract. I am firmly convinced, though, that they were the cause of the disease. Since then I have not been able to discriminate between the two, Shiga's and the colon bacillus, and shall appreciate an accurate method of doing so.

Dr. Charles F. Mason, Ft. Sam Houston, Texas—A great many soldiers come to me after they have passed through

* The papers of Drs. Mason and Burns appeared in The Journal, July 25: that of Dr. Knox, July 18.

several hospitals and after they have been recommended for discharge on account of disability; now, after a little experience with the following treatment, we find that these men can be much benefited. First, an anesthetic is given and the sphincter thoroughly dilated in order that a careful examination of the mucous membrane of the rectum can be made; almost always we find a little ulceration in the rectum within five or six inches from the sphincter. These ulcers are apt to be undermined, forming little pouches in the mucous membrane in which a probe can be introduced or hooked, and in which foreign matter as it comes down the bowel may gain entrance. Such ulcerations are treated by slitting them down to the bottom and curetting them or touching them with pure carbolic acid, or both. The bowel is then washed with a normal saline solution and the patient placed in bed and kept quiet on a liquid diet and preparations of milk. Irrigation with normal saline solution are used thereafter once or twice a day. Every case with one exception has been cured and returned to duty.

DR. J. H. M. KNOX, Baltimore—The work was begun last summer at the Thomas Wilson Sanitarium with much skepticism as to the relationship of the Shiga bacillus to the diarrheal cases under treatment. The dysentery organism was isolated in case after case which seemed to be quite identical clinically with the several types of intestinal disorder in infancy which are grouped together as summer diarrhea. The claim is not made that every case of diarrhea in infancy is produced by this bacillus, but our experience at Baltimore last summer would certainly indicate that a large number at least of both the acute and chronic diarrheal disorders of infants are associated with *Bacillus dysenteriæ* (Shiga). It is to be emphasized that the isolation of this organism from the stools or intestinal tract requires some special skill and a bacteriologist well trained in other lines may easily overlook the specific bacillus, as indeed must have been repeatedly done.

It is to be hoped that during the coming summer a very large series of cases will be carefully studied in many localities that it may be determined to what extent the Shiga bacillus is responsible for the widespread infant epidemics which occur each summer. I should like to urge that all those who see these cases and have access to bacteriologic laboratories familiarize themselves with the special technic necessary in isolating the Shiga bacillus and then join in the effort to assist in the bacteriologic study of summer diarrhea. We shall be glad to send cultures from the sanitarium to any who wish to familiarize themselves with the organism.

DR. WM. BRITT BURNS, Memphis, Tenn.—I do not think we are any nearer a definite knowledge of the etiology of dysentery. I am aware that most all authorities at the present time do not agree that malaria has been a causative factor in dysentery. I am also aware that some cases of bacillary and amebic dysentery occur when in unison with the malarial parasite in the blood, but I do not find that those cases respond to treatment rapidly, and I do not believe that the ordinary bacillary and amebic dysentery would respond so readily to the treatment, as I have seen many cases do under the treatment ordinarily used in malarial disease.

DR. H. F. HARRIS, Atlanta, Ga.—I wish to call attention to the treatment of amebic dysentery with hydrogen dioxid, concerning which, I observe, nothing so far has been said. When, in 1891, I saw my first case of this disease, I used the treatment first recommended by Loesch, and since lauded by various writers, which consists in injecting quinin solutions into the large intestine of those afflicted with the malady in question. Although the patient showed absolutely no improvement, I employed the same treatment in the next nine cases that came under my observation, and not in a single instance was there any appreciable effect produced. This led me to make some investigations as to the power of sulphate of quinin to kill the *Amœba coli*, and I was much astonished to find that this substance seemed to exert but little influence on these parasites. In one instance the amebæ remained alive at the temperature of the room for more than twenty-four hours in a supersaturated solution of this substance. It was thus clear that quinin sulphate could not be relied on to produce the death of the amebæ, particularly when they are embedded in the tissues, nor can this substance destroy the numerous bacteria that lie in and around the ulcers and are doubtless largely responsible for many phases of the clinical picture in this disease. Failing to get any results from the quinin injections, I tried almost everything that has been recommended in the treatment of chronic dysentery, and never succeeded in securing results in any way satisfactory. Finally, at the suggestion of a student, I used daily injections of hydrogen dioxid, diluted with water from four to six times, with the result that there was an immediate and most striking amelioration of the symptoms in almost every instance—in every case, I believe, where the solution was brought in contact with the lesion. A remarkable result of this treatment is that blood is never seen in the stools after the first injection in instances where the medicament acts properly. The treatment is continued daily for a week, and after this the number of injections are gradually reduced in number until at the end of from four to six weeks no more are given. Especially at first the injection sometimes causes severe pain, and when this is the case it is well to administer morphin an hour before the treatment is given. It is absolutely necessary that the patient be placed on a strict milk and egg albumin diet, and that he should remain in bed for from two to four months. Occasionally patients recover when these precautions are not taken, but it is unusual. I have only seen muscular cramps in bad cases.

DR. T. B. FUTCHER, Baltimore—I do not recall that any of our patients complained of muscular cramps. This symptom may occur in the southern states, where a severer type of the disease probably prevails.

We have to modify our views considerably concerning the bacteriology of the amebic hepatic abscesses. Cultures have shown that the abscesses are sterile in a much smaller percentage of cases than was formerly believed to be the case. The more frequent organisms are the *Staphylococcus pyogenes aureus* and the *Bacillus coli communis*. The *Streptococcus pyogenes* was present in three of our cases and the *Micrococcus lanceolatus* and *Bacillus pyocyaneus* once each.

In the line of treatment quinin irrigations yielded the best results. The success of this treatment depends largely on the way the irrigations are given. The object sought for is the assurance that the quinin solution reaches the cecum and ascending colon, where the ulcerations are most extensive. The relapses are due to the failure of the drug to reach the amebæ buried in the deeper layers of the submucosa. In one case an infusion of a Mexican herb which had been sent us was tried with fairly satisfactory results.

DR. JAMES M. ANDERS, Philadelphia—It is probably advisable to reiterate the importance of the benefit to be derived from absolute rest until all of the acute symptoms have subsided, whether for a shorter or longer period. The question of diet in this disease is one to which too little attention has been paid. I believe that ipecacuanha is the best single remedy for treatment of this disease, but it is not a specific, and not all patients can take massive doses. One-fourth to one-half grain doses at short intervals will give excellent results in many cases. Saline treatment should not be employed in advanced cases, but only when the patients come under observation early; as the result of a considerable experience with this method I find that if employed in the advanced stages of dysentery it aggravates rather than benefits the condition. The sulphur treatment should especially be given a trial in those cases in which ipecacuanha fails. This agent seems to be well adapted for the subacute or chronic forms; better than to the acute, bacillary form of the disease.

Cathell on Medical Societies.—Independently of the benefits and improvements accruing to the members of medical societies individually, they give a sound and healthy tone to the entire profession, stimulate the growth of medical science, and also generate and keep alive a genuine professional and brotherly spirit that tends to minimize all that is unprofessional.—Cathell.

RECENT INVESTIGATIONS BEARING ON INFECTIOUS DISEASES OF UNKNOWN ETIOLOGY.

LUDVIG HEKTOEN, M.D.
CHICAGO.

(Concluded from p. 409.)

Bacteriologic and microscopic examination of the blood has given no constant results. Nevertheless the injection of a few drops of blood invariably causes death in two or three days. Indeed, the mere insertion of a needle into the blood suffices to carry over sufficient virus to cause death. Fatal infection by way of the stomach follows the mixing of a few drops of blood with the food, and the clearest serum is as infectious as the whole blood. By inoculating a series of animals, one from another, Centanni shows that it does not concern a toxin or enzyme, but a viable virus capable of endless reproduction. He further found that the infectious agent passes through Berkefeld and Chamberland (F) filters in virulent form. Maggiora and Valenti find that the Chamberland filter K under a pressure of 1½ atmospheres holds back the infectious agent.

Lode and Gruber made the observation, confirming it by frequent repetition, that the specific cause, whatever its nature may be, passes through Berkefeld and Chamberland filters. Successive inoculation through a series of animals convinced them also that the cause is one capable of multiplication. Hence the disease is the result of the infection. In a subsequent article Lode states that the filtrates of Chamberland (kind of cylinder not stated) and Hauser filters were not definitely infectious and that the Pukall filter gave uncertain results. Berkefeld filtrates, however, were always as virulent as the unfiltered material.

As stated, culture experiments have not been successful. Various methods have been employed, including Nocard and Roux's intra-abdominal collodion sacs (Centanni).

Spontaneous infection of eggs does not seem to occur. The feces are probably not infectious in the most acute cases, but may be so in the subacute. Maggiora and Valenti declare that the secretions of the nose and pharynx are very virulent in the diphtheroid form of the disease. The exact manner in which spontaneous infection takes place is not clear, but Centanni is inclined to exclude air, dust and insects from the list of possible modes of infection.

While many birds are susceptible to the disease, rabbits and dogs appear to be immune. Young pigeons develop a peculiar labyrinthine vertigo, the semi-circular canals showing inflammatory changes, tending to sclerosis, and designated by Centanni as semicirculitis specifica.

Centanni found that the virus resists the temperature of the incubator (37.5), but heating to 60 C. for one hour destroys the infectiousness of virulent blood. Drying also destroys the virulence, but in tubes closed by melting the ends blood may remain virulent for a long time. The usual disinfectants destroy the virus quickly.

Lode states that decomposition and the admixture of various organisms destroy the virus with marked promptness, but it may remain active for twenty to thirty-three days in the unopened bodies of dead chickens, and dried material from the liver, spleen and brain remains virulent for about four weeks. Sterile filtrates remain active for several days. He finds that heating to 80 C. for thirty minutes destroys the virulence, but that strong sunlight playing directly on the dried infectious material did not render it harmless. Successful efforts to obtain immunity have not been made as yet.

The disease that Maggiora and Valenti had occasion to study corresponded closely to the clinical and anatomical descriptions by Perroncito and Rivolta of the disease named by them exudative typhus, which name Maggiora and Valenti believe ought to be retained. They show that dilutions of the blood up to 1 to 500,000 cause death in doses of 4 c.c. injected intraperitoneally. In the case of filtrates of blood emulsions 4 c.c. of a dilution of 1 to 160 represented the smallest fatal dose. Blood and exudates removed immediately after death or during the last moments of life remained virulent for forty-five days preserved in Pasteur pipettes in the dark. The meat of diseased fowls is probably not dangerous for man, but Maggiora and Valenti assume a conservative attitude in regard to this part. The virus in the epidemic studied by Maggiora and Valenti is, therefore, similar in most respects to that studied by Centanni, but the latter proved pathogenic for ducks and pigeons (Tauben), whereas the former proved harmless for these animals.

Albert Dubois[16] has observed a similar disease quite as fatal in Belgium, the infection being introduced with chickens imported from Italy. Filtrates of emulsions of the liver passed through Chamberland bougies proved virulent in a high degree.

Maggiora and Valenti[17] describe recently an infectious disease of birds (Turdus merles) caused by a microbe that passes Berkefeld filters.

7. *Rinderpest.*—Nicolle and Adile Bey[18] show that the virus of cattle pest ("peste bovine," "Rinderpest") sometimes passes through filters that are ordinarily considered bacteria-proof and sometimes not. This disease is caused by an as yet unknown virus, unknown either because invisible or incultivable, or both, by means of our present methods. Its variable behavior in regard to filtration is explained in part by the kind of filter used. Berkefeld filters are more permeable than the Chamberland filters, and of the latter the cylinder F is more porous than cylinder B. Again, the character of the fluid containing the virus plays a part. Thus a serous fluid appears to hinder the passage of the virus (shown by Nocard and Roux to be true also in the case of peripneumonia) and dilution of such fluid appears to reduce so materially the virulence of the virus as to explain the harmlessness of resulting filtrates. For control of the results of filtration of unknown virus and their significance these authors recommend the use of hydrant water, which they say commonly contains vibrios that have the power of passing through many filters. There are certain facts that indicate that the virus of bovine pest may occur within leucocytes: The blood of infected animals is the most virulent of all fluids in their bodies, and Kolle has shown that the virus is carried down by centrifugalization of both laked and unlaked blood. In blood laked by means of distilled water the leucocytes are regarded as the only elements that escape destruction. The absence of local lesions at the site of injection is also in harmony with the idea that the virus is intraleucocytic. And if the virus is contained within leucocytes it is easy to understand why it does not pass through filters freely and regularly.

8. *Sheep Pox.*—Borrel[19] finds that the virus of clavelée, a pustular disease of sheep not unlike smallpox, and

16. Compt. rend. de Soc. de Biol., 1902, liv, 1162-1163.
17. Mem. de R. Accad. in Modena, 1902, iv.
18. Ann. de l'Inst. Pasteur, 1902, xv, 57.
19. Compt. rend. de Soc. de Biol., 1902, liv, 59 61.

characterized by lesions of the skin, passes through Berkefeld filters, the filtrate being sterile when inoculated in broth, but virulent to sheep. He found, further, that the virus passes through bougie F4 and F5 of the Chamberland filter, but not through bougie F. Borrel regards the inclusions described by Bosc within cells in the cutaneous pustules and in cellular foci in internal organs in clavelée as leucocytes, and he holds, further, that the filterability of the virus is not in accord with the protozoan theory of this eruptive disease. The fact that the virus passes through filters can not, however, be regarded as conclusive proof that the inclusions are not protozoan in character, because it is possible that spore forms may be so minute as to be filterable.

Borrel[20] further points out that water vibrios sometimes pass through filters, especially when the process of filtration is prolonged. Some of these organisms are so minute as to reach the limits of the visible. He also points out that it may take several days at the room temperature before the filtrates are rendered turbid by these water organisms, subcultures in bouillon remaining sterile. Borrel notes further that protozoön, *Micromonas mesnili,* once passed a Chamberland filter.

9. *"Mosaic Disease" of Tobacco.*—Beijerinck[21] has studied the virus of an economically important disease of the tobacco plant ("Mosaik s. Fleckenkrankheit"), marked by decolorization and necrosis of the leaves. This disease is contagious, and is caused by an interesting, filterable virus that can not be seen or cultivated in the usual way. It remains virulent for six months after heating to 70 C. According to Ivanowski,[22] diseased leaves remain infectious after conservation for several months in 95 per cent. alcohol. In discussing the question whether this virus is corpuscular or dissolved ("contagium vivum fluidum"), Beijerinck seems to conclude that it is dissolved and fluid because when infectious material is deposited on the surface of agar, diffusion of the virus evidently takes place without visible change of the agar, the part below the surface becoming infectious, but without any change in the color of the medium or its refraction of light. It is open to question whether this diffusibility of the virus can be regarded as evidence of its being fluid. A minute organism might be able to penetrate into the depths of the agar. When the virus is inserted in the ground in the vicinity of tobacco plants the disease soon makes its appearance in them.

Evidently there is room for further investigation into the nature of this virus.

10. *South African "Horse Sickness."*—Macfadyean[23] found that mixtures of virulent material from horses suffering from "horse sickness" (a disease killing the majority of the horses recently imported into certain districts of South Africa), filtered through Berkefeld and even Chamberland B filters, proved fully virulent and infectious. According to Roux, Macfadyean is the only one to report successful filtration of "invisible" virus through the Chamberland bougie B. Nocard[24] found that the dilutions of the blood remain virulent after passing through Berkefeld filters, but not after going through the Chamberland F. Macfadyean draws the conclusion that the microbe of "horse sickness" is smaller than those of peripneumonia and of foot and mouth disease, which do not pass through Chamberland B.

20. Ibid., 61-63.
21. Centralbl. f. Bakt., 1899. Abt. ii, v, 27-33.
22. Ibid., p. 250.
23. Jour. Comp. Path. and Therap., 1900, xiii.
24. Quoted by Roux, Bulletin de l'Inst. Pasteur, 1903, i, 7-12 and 49-56.

11. *Epithelioma Contagiosum.*—Marx and Stickler[25] investigated the etiology of the so-called "epithelioma contagiosum" of chickens and other fowls. They show that the disease is readily inoculable, and that the virus passes through Berkefeld filters, but not through porcelain filters (Chamberland F). The virus proved to be resistant to drying and exposure to full daylight for several weeks and to a temperature of —12 C. for five weeks. It also withstood heating to 60 C. for three hours, and to 100 C. for one hour if dried and enclosed in vacuum tubes. It may be preserved in glycerin, but 2 per cent. carbolic acid destroys its power. Immunity is produced by a single, well-marked attack. The virus of the diseases in pigeons (Taubenpocken) is translatable to chickens, but it can not be successfully transferred from chickens to pigeons. In connection with this subject reference may be made to the interesting and important work of Leo Loeb and of Herzog on transplantable malignant tumors of sarcomatous nature in white rats. In a recent article[26] Loeb describes a number of experiments on material from these tumors, and in connection with the matter now under discussion it is especially interesting to note that all of his experiments, like those of Herzog, with filtrates of suspensions from tumors passed through Berkefeld filters, gave negative results. In no case did injections of such material cause the development of tumors.

Summary of Filtration Experiments.—From the results of filtration experiments certain infectious diseases of unknown etiology may be separated into two broad groups: (*a*) those caused by filterable virus, namely, foot and mouth disease, peripneumonia, rinderpest, sheep-pox, chicken typhus, horse sickness, epithelioma contagiosum of fowls, and yellow fever; and (*b*) those caused by non-filterable virus, namely, hydrophobia (?), vaccinia and smallpox.

Of the filterable viruses only that of peripneumonia has been cultivated; the presence of the others has been evident only by the pathogenic action of the fluids used.

This enumeration shows that the application of filtration to the study of transmissible diseases combined with experiments on susceptible animals or human beings, has given the investigator most valuable information that in some cases, no doubt, has spared him many fruitless tasks. The demonstration that the causes of yellow fever, of foot and mouth disease, etc., exist in virulent form in bacteriologically sterile filtrates, so far as demonstrable at the present time, would seem to show that it does not concern elements that can be studied with much hope of success by ordinary microscopic and bacteriologic methods. Thus the claims that yellow fever, for instance, is caused by *B. icteroides* are bereft of all support.

INTERPRETATION OF FILTRATION EXPERIMENTS.

We are hardly in position to affirm that size is the only factor that determines filterability or non-filterability of a virus. Attention has been called to the variable behavior of the virus of bovine pest in the filtration experiments of Nicolle and Adile-Bey. Here the kind of filter, the thickness of the wall, and the character of the fluid were found to play an important part. It was pointed out, too, that an intraleucocytic position of the virus would explain the failure to pass through some filters. Then, again, of late have been described visible bacteria that pass through filters such as the Berkefeld and Chamberland, filters originally regarded as im-

25. Deut. Med. Wochenschr., 1902, xxviii, 892-895.
26. Virchow's Archiv, 1903, clxxii, 345-368.

pervious to visible bacteria. Whether this permeability depends on special peculiarities of the organisms in question, such as mobility, elasticity and compressibility, or on special peculiarities of the filters used, has not been determined. In connection with certain experiments in filtering fluids rich in saprophytic organisms, von Esmarch encountered a minute spirillum (*Spirillum parvum*) that readily passes through Berkefeld, Pukall and Reichel filters, as well as Chamberland cylinders (F. controllée). This avirulent organism measures 1 to 3 mikrons in length, and from 0.1 to 0.3 mikron in breadth, closely approaching *B. influenzæ* in size. It is actively motile. I have already referred to the fact that Borrel also met with water vibrios that readily passed certain filters.

William B. Wherry[27] corroborates the findings of Theobald Smith in 1899 that a small, active bacillus causing pneumonia in guinea-pigs passes through Berkefeld filter No. 5. This bacillus is 0.5 mikron wide and about 0.7 mikron long. It did not pass through the larger Berkefeld No. 8, nor Chamberland bougie F. Both this organism and *B. coli communis* grow through filters quite rapidly. Hence a virus passing through Berkefeld filter No. 5 is not necessarily ultramicroscopic.*

The influence of consistence and adaptability on the part of cells subjected to filtration is shown well in the following observation by Bunge (Physiological Chemistry): "The large blood corpuscles of amphibia may be collected in the filter (that is ordinary filter paper), but not those of mammals. This is not due to their minuteness, for they are far larger under the microscope than, for instance, the crystals of a precipitate of sulphate of barium or oxalate of lime, which do not go through the filter. The red corpuscles pass through the filter because, owing to their soft and yielding consistency, they adapt themselves to the form of filter pores." It would be quite reasonable to infer that invisible organisms passing filters are endowed with motility.

Lode and Gruber advanced the idea that bacteria and similar bodies are held back by porcelain and infusorial filters by virtue of force of attraction, rather than on account of the smallness of the pores, whose diameter they claim generally exceeds the size of ordinary bacteria. They further suggest that the invisible bodies that pass through in the case of the various filterable viruses exist as semi-fluid masses, rather than as corpuscular elements like bacteria, and they even go on to intimate that such viruses may be in solution—Beijerinck's "contagium vivum fluidum"—acting after the manner of enzymes, yet capable of reproduction, but only to abandon the idea again because of the absence of demonstrable analogies. It seems to me that the fact that practically all known filterable viruses pass through the Berkefeld filters, whereas many are held back by candles of the Chamberland system, speaks against their theory of surface attraction because Berkefeld filters, being composed of infusorial earth, contain especially extensive surfaces. And then, why should the force of attraction be suspended in the case of the different materials employed in the filtration of these unknown viruses? After all, the size of the pores, being now smaller and again larger than known bacteria, and not at all of uniform diameter, and the physical character of the elements subjected to filtration would seem, for the present at least, to offer more generally applicable explanations of the results of filtration experiments.

And as it is not justifiable to assume that cellular life necessarily ceases at the limits of visibility, it does not seem to me that these experiments with filterable viruses must needs lead to the establishment of new and strange theories of the nature of the contagious elements. There is a relatively far jump between the size of the smallest visible objects and the estimated size of molecules, which again vary greatly in respect to size, and within the ultramicroscopic limits thus defined there may exist a true "mundus invisibilis," some of the inhabitants of which, endowed with metabolic and reproductive faculties, certainly may be the causes of transmissible diseases.

On the other hand, the non-filterability of certain unknown viruses—hydrophobia, variola, vaccinia—may be in itself alone insufficient reason for regarding the particular organisms in question as large enough to be visible. Attention has been given to the possibility that in the case of rinderpest the unseen virus at times may be non-filterable because surrounded by cellular protoplasm. In the case of variola and vaccinia Park's experiments with crushed material indicate, however, that other reasons must be sought for their non-filterability than intracellular position. The facts that Pukall filters hold back or destroy certain complements in serum (Ehrlich and Morgenroth and others), and that many serums with difficulty are filterable when undiluted, indicate that in filtration factors are at work that we now understand but poorly. The filtration of colloidal solutions merits further study, and the entire technic of mineral filtration should be exhaustively investigated.

ULTRAMICROSCOPIC SAPROPHYTIC ORGANISMS.

The probable existence of ultramicroscopic infectious agents has turned the attention to the question whether ultramicroscopic saprophytic forms might not exist also. As pointed out by Lode and Gruber and by von Esmarch,[28] it is rather remarkable that such forms have not been encountered as yet in view of the large amount of work done with various forms of bacterium-proof filters. Von Esmarch's experiments in this line consisted in the filtration of various mixtures, rich in bacteria of all kinds, like ditch water, vegetable infusions, decomposing urine, sputum, parts of cadavers, fecal matter, etc. The clear filtrates thus obtained were used for culture experiments on a large assortment of nutritive solutions kept under aërobic, as well as anaërobic conditions. But his efforts in this way to demonstrate the presence of ultramicroscopic forms all failed. All his mixtures, even after months of observation, remained either clear, or if turbidity or sediments formed, subcultures yielded no indication that this was due to living organisms capable of proliferation. This apparent failure he would attribute to our ignorance of the conditions essential for the life and multiplication of ultramicroscopic or invisible organisms, the actual existence of which he would not deny on the strength of these experiments. In this connection it is interesting to note that virulent filtrates of infectious materials derived from diseases just considered (except peripneumonia) have not shown any macroscopic or microscopic sign of the presence of living organisms so far as that is determinable by present methods. In our laboratory at Rush Medical College Dr. Friedman repeated some of

27. Jour. Med. Research, 1902, viii, 322-328.

* It follows that filtration experiments must be controlled most carefully. Löffler and Frosch used as control *B. florescens;* Nicolle the vibrio of chicken cholera, and Borrel certain water vibrios. Further, that in view of the fact that bacteria may "grow through" filters, all filtration of unknown virus must be rapid.

28. Centralbl. f. Bakt., 1902, xxxii, 561-569.

the experiments made by Esmarch, obtaining only negative results. Whether virulent filtrates contain particles of ultramicroscopic size whose presence may be rendered evident by means of physical methods, such as that described by Siedentopf and Zsigmondy,[29] has not been determined as yet. By this method an intense oblique illumination falls on a small field under certain conditions so that ultramicroscopic particles refract light enough into the objective to produce images, or rather luminous points. The authors succeeded in this way to render visible minute particles of gold incorporated in glass that with the highest magnification of a Zeiss microscope appeared perfectly homogeneous when illuminated in the ordinary way. Mouton[30] has suggested the use of the apparatus in bacteriology. (The use of the method in studying pathogenic agents too small to be seen is spoken of also in an editorial in THE JOURNAL, July 11, 1903, p. 104.)

CONCLUSIONS.

1. Clinical and experimental observations furnish strong evidence, and in some cases absolute proof, that certain transmissible human and animal diseases of unknown etiology are not toxic, but infectious, that is, caused by living organisms, capable of proliferation and metabolic activities.

2. In the case of the human diseases of this group, knowledge is farthest advanced in regard to those that are communicable to animals—hydrophobia, vaccinia and smallpox—and experiments on human beings have shown that the cause of yellow fever occurs in the blood, passes through Berkefeld filters, the filtrate being bacteriologically sterile, according to present methods, and that infection occurs through the medium of mosquitoes (*Stegomyia fasciata*). The etiology of the other strictly human diseases—syphilis, measles, scarlet fever, chicken-pox, typhus fever—remains unknown.

3. Certain morphologic elements in the lesions of vaccinia and smallpox are regarded by some investigators of the highest standing as representing stages in the developmental cycles of protozoa. The causative agents of these diseases do not pass through bacteria-proof filters.

4. The virus of many transmissible animal diseases (foot and mouth disease, peripneumonia, rinderpest, sheep-pox, chicken typhus, horse sickness, epithelioma contagiosum of fowls) passes through various filters ordinarily regarded as impermeable to the smallest known bacteria, the filtrates being virulent, though giving no sign of containing visible corpuscular elements.

5. Whether these invisible, and except in peripneumonia, uncultivable viruses are all ultramicroscopic in size, or invisible also for other reasons has not been settled definitely, but there is much in favor of the view that they are ultramicroscopic in size.

6. Further progress in this field may be expected from the application of methods recently introduced by physicists in order to furnish ocular demonstration of the existence of particles too small to be seen directly.

29. Annalen der Physik, 1903, x, 1.
30. Bull. de l'Inst. Pasteur. 1903. i. 27.

Elevation of the Larynx for Relief of Neuralgia.—Naegeli announces that he has frequently caused almost immediate cessation of cephalalgia and facial neuralgia, as well as forms of long-continued odontalgia, by simply elevating the larynx, holding it well upward for sixty or seventy seconds. This frequently requires to be repeated several times, but quite as frequently one single attempt will prove successful.—*Med. Times.*

TRIGEMINAL NEURALGIA TREATED BY INTRANEURAL INJECTIONS OF OSMIC ACID.

JOHN B. MURPHY, A.M., M.D.
CHICAGO.

June 8, 1903, Mr. A. L. C., age 76 years, retired farmer, presented himself to me for treatment of a long-standing facial neuralgia. He gave the following history:

For thirteen years has suffered from neuralgic pains in right side of face, but they were not very severe or constant until four years ago. At that time he had a severe attack, which he thought was caused by a diseased upper cuspid tooth on right side. The tooth was removed about two months after the onset, and for the six weeks following he was relieved. Pain then recurred and was severe and persistent. Two years ago he had an operation performed on the right superior maxilla, the exact nature of which he does not know. He was free from pain for four months after the operation, but at the end of that time it returned, and has been present, at intervals, ever since. The pain is of severe shooting character, beginning at right ala nasi and radiating toward cheek. He also has some pain in the forehead, just above the right eyebrow, the pain radiating toward temple. General health has been fair for a man of his years.

Previous History.—"Ague," "bilious fever," etc., years ago. Used to smoke and drink moderately. Family history is negative.

Examination shows an old man of rather poor nourishment; lungs negative; heart negative; arteries sclerotic. Urinary examination negative. Slight tenderness over supraorbital and infraorbital divisions of fifth nerve at their foramina of exit. No areas of hyperesthesia or anesthesia and no evidences of tumor or inflammatory processes along the course of either nerve.

In considering the proper treatment to employ in this case, I was at first somewhat undecided. The superficial divisions, excisions or evulsions of the affected nerves at their foramina of exit would give the patient only very temporary relief, lasting, in all probability, only a few weeks or months. The excision of the nerve trunks external to the cranial foramina would have been a formidable operation, considering the poor physical condition of the patient, and would, I think, have given little better ultimate results. The recurrence would have been longer delayed, but just as certain as after the superficial operations. The intracranial division of the superior and inferior maxillary divisions with gutta-percha intervention to prevent re-establishment of nerve trunks (Abbe) was not applicable here, as it was the ophthalmic division that was most affected. The same objection would hold good with reference to Mayo's method of periosteal denudation of the bony margins of the foramina to secure bony occlusion of canal. Excision of the gasserian ganglion or resection of the sensory root within the cranium, was clearly contraindicated on account of the patient's age, the sclerotic condition of the arteries and his poor state of nutrition. An operation which is attended by a mortality of from 10 to 20 per cent. in robust patients is not to be thought of in a man 76 years of age, whose resistance is at a minimum.

Something, however, had to be done, so I decided to try the intraneural injection of osmic acid solution, as recommended by Mr. W. H. Bennett in the London *Lancet*, Nov. 4, 1899. In his paper, Bennett reports ten cases treated by this method, with most gratifying results in all. Eight of these cases were typical spasmodic tic, in one of which Meckel's ganglion had been previously removed and the inferior division resected at the base. In spite of these operations, the pain re-

curred in the buccinator muscle and was intolerable. Of the other two cases, one was a painful amputation-stump and the other a neuroma of the median nerve just above the wrist, following a division of the nerve by a piece of glass eight years previous. Without going into the reports of these cases minutely, suffice it to say that the results were all that could be desired and permanent up to the time the article was written.

The technic of the operation, as given by Bennett, and which I followed, is: The nerve is exposed through a small incision about a half-inch in length, directly over its foramen of exit, the line of incision being horizontal and parallel with the eyebrow, in the case of the supra-orbital branch, and with the normal creases of the face in the infraorbital and mental branches. The nerve is elevated by means of a blunt hook, and from five to ten minims of a fresh 1.5 per cent. solution of osmic acid injected directly into its substance. An ordinary hypodermic syringe and fine needle are used, and the solution injected in several different places, to be sure that every fiber is reached. After this is accomplished, a small amount of the solution is injected between the nerve and its sheath in the bony canal. During the procedure, a small pledget of cotton is held around the needle to absorb the excess of solution which regurgitates and to protect the skin. Wherever the solution comes in contact with the blood or soft tissues in the wound, an immediate blackening results, due to the formation of the hydroxid of osmium. The local action of the osmic acid on the terminal nerve filaments exposed in the wound is probably beneficial, so a small amount of it should be allowed to come in contact with them. After the injection is completed, the incision is closed with horse-hair or catgut suture; primary union follows, and healing is not interfered with by the action of the acid on the tissues.

My case was operated on June 11, 1903, under ether anesthesia. Local anesthesia should be used for this operation in the majority of cases. Bennett's technic was followed to the letter, and all three nerves, supraorbital, infraorbital and mental, injected. The operation lasted only about twenty-five minutes, and the patient came out of the anesthetic in excellent condition; pulse 66, temperature 99.6 F. He was put immediately in a semi-sitting position, as practically all of our patients are after operation, and the administration of fluids commenced as soon as he was awake.

In the afternoon his temperature was 99.8 F., and pulse 64. His pain had entirely disappeared. June 12, p. m., temperature 100, pulse 70; June 13, p. m., temperature 99.8, pulse 62; June 14, temperature and pulse normal; sat up in chair. After this temperature remained normal, he was up and around every day, and the sutures were removed June 17. Wounds healed by primary union. Patient discharged from hospital, with pain entirely gone, June 20. In a late report received from this patient July 21, he states that there has been no recurrence of the pain and that he feels perfectly well.

The modus operandi of this procedure is at the present time not definitely understood. The acid probably acts in one of two ways, or possibly in both: first, by producing a degeneration of the nerve on the proximal side of the injection, toward the ganglion; or, second, by causing a local destruction of the nerve and its terminal filaments. The former seems to me the more likely explanation of the two, first, because the pain does not usually subside completely immediately after the operation, as it does when the peripheral nerves are divided or resected, and as it would if the osmic acid produced only a local destructive effect. Instead, it subsides slowly and gradually, the patient, as a rule, not being entirely free from it for a week or ten days following operation. Second, the relief from pain is permanent, which is not the case after peripheral resection. In one of Bennett's cases there was a recurrence of the neuralgia, but not in the areas supplied by the nerves which he had previously injected. It was located in an entirely different area and yielded promptly to another injection of osmic acid.

Bennett, in his paper, does not describe the changes which take place in the nerves after injection, nor does he give his views as to the modus operandi of the treatment. I am now conducting a number of experiments on dogs, which, when completed, I hope, will throw some light on the subject.

The physician's post-graduate education comes from patients, from books and journals and from societies, which should be supplemented every five or six years by a return to a post-graduate school to get rid of an almost inevitable slovenliness in methods of work.—Osler.

The Obstetrician's Fee.—So long as the practitioner is so poorly paid for the valuable services he renders a woman at the time of her confinement, the woman will be neglected, and much that could be prevented will constantly happen. The average fee for obstetrical service in small towns and villages is $10, this service including attendance at the confinement and one visit during the puerperium. An extra charge is sometimes made for the application of forceps when urgently needed. The patient is not seen during her pregnancy, and in majority of cases not reporting for treatment or counsel until the call is made to the labor. The laborer is truly worthy of his hire, and if ever responsible service was rendered, it is during pregnancy, confinement and puerperium. The average workingman, on wages of $6 a week, can easily afford to lay aside $3 a month during his wife's pregnancy for the payment of the physician. When service is rendered, $25 is a very small fee for the work that *should* be done for a woman during her pregnancy, confinement and puerperium. The responsibility incurred, the care of two lives, etc., are as great as those of the surgeon in a celiotomy, and the fees should be commensurate. The profession is at fault, and with some unanimity of action the fees for obstetrical service could and should be raised.—*Louisville Monthly Journal of Medicine and Surgery.*

Eye Symptoms in Tabes.—During four and one-half years in Uhthoff's ophthalmologic clinic at Breslau, Mann found 165 cases of certain tabes and 200 with one or more suspicious symptoms. In the 165 certain cases the pupil reflex was normal in only one instance. Its absence, therefore, is a more frequent symptom in tabes than even the absence of the knee jerk. About 78.8 per cent. were in the early stages of the affection. Tabes was evident in 67.6 per cent. of the 136 cases during the same period in which the pupil reflex was absent, and general paralysis in an additional 8.8 per cent., while syphilis, with or without cerebral symptoms, was unmistakable in 8.1 per cent. The value of the ocular symptoms in tabes is that they may be evident long before any other manifestations appear. Syphilitic antecedents enhance the probability, but even without these the probabilities are three-fourths in favor of tabes. The pupils were unequal in one patient, an old syphilitic, who complained of slight disturbances in micturition, the legs a trifle anesthetic, the light reflex normal. A year later not a trace of any of these symptoms could be detected, and the man was apparently well, but when examined again, four years afterward, unmistakable signs of tabes had developed, showing that the unequal pupils five years before had been the initial symptom of the affection. Atrophy of the optic nerve was noted in 33.3 per cent. of the 165 patients, and in 27.2 per cent. of these there was ataxia. Mann's article is published in the *Allg. Med. Ct.-Ztg.*, lxxi, p. 635.

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KUSSMAUL'S AUTOBIOGRAPHY.

In 1899 appeared *"Jugenderinnerungen eines Alten arztes,"* in which the distinguished clinician, Professor Kussmaul, delighted his students and friends the world over with pictures of his early days in Heidelberg and of his *Wanderjahre* in other university towns. As an autobiography the work in many respects was unique. The style was charming and the sketches of his old teachers and of the stirring days of '48 proved so entertaining to the profession and the public that five editions were called for within four years. The volume ended with the story of his life as a country doctor in the Black Forest; then a desperate illness (acute paraplegia), gradual recovery, return to Heidelberg—and what seemed to the young doctor with a wife and two children a hopeles tragedy proved to be only the starting point in a career of singular brightness. One thing gave to the work an unusual attractiveness, it ended where biographies, particularly autobiographies, often begin—we saw only the struggles, trials and difficulties of the early years, there was no word of the distinguished teacher or much-sought-after consultant. Every reader felt that he would like another installment of such charming reminiscences.

Kussmaul died May 28, 1902, in his 80th year, suddenly, as he had hoped. Professor Czerny, the distinguished surgeon, has edited *"Aus meiner Docentenzeit"* in Heidelberg, in which he gives an account of his life as a young teacher. Before beginning work he went to Wurzburg to study pathology with Virchow and to take anatomic and chemic courses. A couple of months were spent at the asylum of Illenau, where he became interested in epilepsy, a subject on which he made his well-known researches in 1857, and on which, as we learn from the preface, he was preparing a monograph at the time of his death. An assistant physician was Gudden, who afterward become so well known; of his tragic death while in charge of the King of Bavaria, Kussmaul gives an interesting account. There seems to have been some difficulty in getting permission to teach at Heidelberg, and a most amusing description is given of his habilitation thesis, which pleased neither the faculty nor the authorities. He began to lecture on therapeutics in the winter of 1856-1857, and later on toxicology, psychiatry and legal medicine. Young teachers may read with profit what he says about the difficulties experienced in becoming facile of speech, and of the difference between *Zungenfertigheit,* which is congenital, and *Redefertigheit,* which is acquired. It took much trouble, time and practice before he became a fluent speaker, adopting finally the plan of a skeleton of headings from which the lecture was carefully elaborated beforehand. He quotes from an old friend two golden rules—to give your audience at appropriate places a brief rest, and to hold the hearers with your eyes.

Some of his early work is described, the studies in rigor mortis and his important contribution to the structural anomalies of the uterus. Perhaps the most interesting chapters are those describing the old and young naturalists and physicians of the university, and the social life in Heidelberg; of Kirchhoff, Bunsen and Helmholtz, a group of inspiring teachers hard to match in the early fifties, and of others less celebrated there are delightful reminiscences and anecdotes. One of the little touches from the hand of a master is the story of Johanna Kapp, the disturber of hearts of his student days. The concluding chapter gives an interesting account of the organization of the Association of German Naturalists and Physicians, and of the meetings at Bonn and Karlsruhe.

We regret that we do not see in Professor Czerny's introduction any notice of a continuation of this autobiography. In Erlangen, in Frieberg and in Strassburg Kussmaul took an important part in the development of scientific medicine and he reached a position of the very first rank among the physicians of Europe. But he was more than this—the qualities of heart and head were equal; he was a good as well as a great man.

THE CARNEGIE INSTITUTION AND MEDICAL RESEARCH.

Since the establishment of the above institution by Mr. Carnegie, speculation has been rife among medical men as to what provision, if any, would be made for investigation in the field of medicine. In a recent address, the president of the Carnegie Institution, Mr. Daniel C. Gilman, made very clear the policy to be pursued by the board of directors in this matter. After paying a tribute to the scientific workers who have so notably enriched medical knowledge in the recent past and expressing the conviction that medicine is at the present moment on the threshold of discoveries of the highest importance, Mr. Gilman stated that it was the purpose of the Carnegie Institution to confine its medical work to the study of the normal, and to leave the inquiry into the abnormal to the Rockefeller Institute for Medical Research.

As an example of the kind of problems the Carnegie Institution will attempt to solve, the speaker referred to the subject of nutrition, emphasized the desirability of an extension of our knowledge in that field, hinted that it was one in which very profitable work could now be undertaken and gave the impression that investigators of merit attempting to deal with problems bearing on it would receive liberal support from the board. A begin-

ning has already been made. The services of Dr. Gangee have been secured. This well-known physiologic chemist, having agreed to spend some time in preparing for the board a report in which he will offer an opinion as to the present status of the problems connected with nutrition, and point out the paths along which, in his judgment, research should proceed to yield the most important results in the immediate future.

Nothing was said by Mr. Gilman in the address referred to regarding problems in human anatomy, but there can be little doubt if research in physiology is to be subsidized, that the study of anatomic problems will also be supported. Besides, the liberality of the Carnegie Institution, with regard to the Marine Biologic Laboratory at Wood's Hole, is sufficient proof of the interest of the board in the problems of general morphology. We can be sure, therefore, that the great significance of the unsolved questions in human morphology will not be overlooked. Anatomists tell us that nowhere perhaps could money be better expended than in illuminating some of the obscure regions in human histology, embryology and neurology.

The relegation of the whole domain of pathology to the Rockefeller Institute throws a great responsibility on the latter institution. It is a responsibility, however, which the founder of the institute and its board of directors seems willing, as far as in them lies, to assume. Hitherto the medical profession has had to depend in large part on its own unaided and unendowed efforts when it wished to advance medical knowledge. It is a matter for congratulation that the industry and self-sacrifice of the profession are to be supplemented from now on by the activities of two great research foundations, one directing its attention to the phenomena of the normal human body, the other to the phenomena presented by the human body in disease.

EDISON AND X-RAY INJURIES.

At this somewhat late day, Mr. Edison and, through him, the newspapers have all of a sudden discovered that *x*-rays can cause injuries, and, like many other belated discoveries, the topic is now one of lively interest in the daily press. According to the various newspaper reports, Mr. Edison's injuries are interesting. His left eye is out of focus, his digestion is upset and lumps have formed all through the region of his stomach. He knows it is the result of the *x*-rays, because he held the tube close to his stomach when he was working with *x*-rays five or six years ago. The disease from which he is suffering is of a most mysterious character, and no doctor is able to tell him anything about it; and he ought to have been able to find out, for among the many specialists he has consulted there is one man who has dissected more than four thousand bodies, and if a man who has made four thousand dissections can not tell you what is the cause of lumps in your stomach, who can?

The injuries to Mr. Edison's assistants are of a much more tangible character. Without any doubt they have had *x*-ray burns, but there is nothing to indicate that the burns are not of the ordinary character of other *x*-ray burns. It is probable that his assistant, whose arm had to be amputated, is one of the cases which have been recently mentioned in the literature of epithelioma developing in an *x*-ray dermatitis of long standing. From the character of chronic *x*-ray burns the possibility of epitheliomata developing in such injuries has been pointed out by Pusey, and cases of this sort have been reported by Allen and White, and others.

If we are to believe the newspapers, Mr. Edison does not stop at recounting his strange experience, but readily offers an explanation for it, namely, that the condition is due to the action of the rays on the phagocytes; that the rays paralyze the active phagocytes without actually destroying them—all of which is somewhat bewildering. In view of the careful studies of *x*-ray injuries that have been made by Scholtz, Grouven, Gassmann, Pusey and others, which show very definitely the changes that occur in tissues under the influence of *x*-rays, it would seem that his histologic discoveries are not of serious interest. He has, as far as can be judged by the newspaper reports, found nothing that has not been found before, and offered no explanation that is of any value. He is rehashing in the daily press facts that had been learned by physicians through sad experience seven years ago. The whole thing seems to be a good deal like the promised storage batteries, a useful vehicle for publicity when propelled by the power of a widely known name.

PRACTICAL VALUE OF BACTERIOLOGIC EXAMINATION OF THE BLOOD.

That the bacteriologic examination of the blood in cases of infectious disease has been of scientific value and has modified our conception of many of these diseases is well known. That this method of examination is also of practical clinical value is clearly set forth in an article by Hektoen,[1] in which the results of his own work and those of others are considered from the point of view of their practical application in medicine.

The technic is simply that of obtaining with scrupulous asepsis a few cubic centimeters of blood and immediately inoculating media, e. g., bouillon, with the same, placing in the incubator and identifying by ordinary bacteriologic methods the organisms that may appear. A glass syringe is used, and a vein at the elbow commonly selected. The operation is almost painless. Ordinary bacteriologic training is a prerequisite to the successful application of this method and fairly complete laboratory facilities are essential, but no unusual skill is required.

The results already obtained are seen in the septicemias. Etiologic diagnosis is now possible. This is an absolute essential before specific serum therapy can be

1. Hektoen: The Practical and Scientific Value of Bacteriologic Examination of the Blood During Life. Illinois Medical Journal, July, 1903.

applied. And only by a careful study of many cases with bacteriologic examination of the blood to control the diagnosis can clear clinical pictures of blood infections be obtained. Already something has been accomplished in this line, largely through the bacteriologic study of the blood, as may be seen from reading the recent monograph by Lenhartz.[2] Our views as to prognosis in the septicemias must be somewhat modified. As shown by others and as Hektoen has found in his own work in scarlet fever, the presence of streptococci in the blood does not necessarily mean death.

The results in pneumonia are of value as the pneumococcus may be found in probably all cases. The work of Rosenow with the pneumococcus has been recently noticed in these columns. But of much greater value from the diagnostic point of view is the ability by bacteriologic examination of the blood to recognize typhoid fever before the spots, splenic enlargement, peculiar temperature, curve or agglutination reaction are present. No early physical signs, as in pneumonia, enable typhoid to be recognized before several days of fever have elapsed. By this means, however, it is recognized, and with certainty, often as early as the third day of the fever. And the only positive means of differentiating between the paratyphoid and true typhoid is offered in blood examination.

Physicians too often get the impression that research is wholly and purely of theoretical value. While there can be no higher class of investigation than that carried on for the sole purpose of discovering scientific truth, it is well for us to have the fact called to our attention as in this paper, that from all the enormous mass of laboratory research there is sure to result sooner or later knowledge that can be placed before the physician with the assurance that it is a help in his efforts to recognize and cure disease.

OZONE AND WATER PURIFICATION.

It has long been known that ozone is a highly effective germicide, but the great cost of production and other difficulties have proved for many years a barrier to its use on any large scale. Within the last four years new and interesting experiments on the purification of water by impregnation with air containing a high per cent. of ozone have been conducted in various parts of Germany. These have been carried out with a form of apparatus designed by the famous manufacturing firm of Siemens and Halske. The experiments have been followed bacteriologically by Ohlmüller and Prall,[1] by Schüder and Proskauer,[2] and others. The results have shown that the germs of Asiatic cholera, of typhoid fever and of dysentery can be surely destroyed in the ozone generating appliances under ordinary practical conditions of operation. Small ozone plants have been installed in connection with the water-works at Paderborn and at Schierstein, near Wiesbaden, and are said by Proskauer and Schüder to yield a water very low in bacteria, the number in the raw water being sometimes reduced from 20,000-30,000 to only 8-10. The ozone is generated by electricity, and the amount introduced into the water is so adjusted on the basis of carefully controlled experiments as to afford a maximum of operative efficiency at a minimum of ozone content. The results as stated certainly seem to indicate that for dealing with certain waters and with small town supplies the method is worthy of further investigation.

The item of expense, however, even at its present relatively low figure, is still far from reassuring. According to the published statements,[3] the cost of water purification by the ozone process has not been reduced below about $18 per million gallons, whereas the total cost of sand filtration, a tried and efficient method of water purification, is estimated, including interest and depreciation, at from $7 to $9 per million gallons. It is evident that some experimentation under American conditions will be needed before the treatment of water supplies by ozone can be indiscriminately advocated as applicable to the larger public supplies of this country.

2. Lenhartz: Die Septischen Erkrankungen, Nothnagel's System, Bd. iii, Theil 1, 1903.

1. Arbeiten aus dem kaiserl. Gesundheitsamte, 1902, vol. xviii, p. 417.

2. Zeitschr. f. Hyg., 1902, vol. xii, p. 227, and 1903, vol. xiii, p. 293.

3. Ibid., vol. xiii, p. 307.

MEDICAL CONTINGENT FEES.

In a damage case recently tried in a Colorado court it was brought out in the testimony that the attending physicians testifying for the plaintiff had a contract to accept as their fee a certain percentage of the award in case the suit was successful. The attorneys for the defendant corporation, naturally, made the most of this admission, holding that it was an agreement contrary to good policy and morals, while the physicians, on the other hand, claimed that the transaction was an innocent one; that, as the injured person was poor, she was allowed to contract to pay her bill in this way. There is something to be said on this side, and it does not necessarily follow that the chance of a contingent fee should influence the testimony as to the fact of the physicians. Indeed, we believe it would not, but the whole business has a dubious appearance, and the average layman is apt to put on it the very worst construction. The physician who makes such a contract is put before the public as a promoter of litigation, a sort of medical champertor, by the opposing parties if it comes before the jury, and must suffer all the prejudice that can be thus aroused. While contingent fees are undoubtedly common enough with the legal profession, they certainly are not in the medical, and it would be more in accord with the spirit of the principles of medical ethics to take the chances of losing a fee rather than those of subjecting oneself to the possible interpretations of the other course. There are occasions when one may be too business-like, and this is one of them.

MEDICAL JURIES.

It has been suggested that in criminal cases in which questions of mental sanity or other medical questions

are involved there should be a jury of physicians. Thus can be avoided, it is to be inferred, the scandal of conflicting "expert" testimony (so-called), which is so often used, it is claimed, to befog the jury and embarrass justice. It is assumed that a medical jury would be able to properly interpret the evidence and reach a correct conclusion where an ordinary jury of laymen would fail. This seems plausible, but will hardly bear examination. The plan would fail for the same reason that our present much-criticised usage of expert testimony fails; because it is based on the presumption that every physician is necessarily an expert in every branch of his profession. It is discrediting no one to affirm that an eminent surgeon may be almost as incompetent as a layman in questions of psychiatry, and vice versa, though there may be many individual exceptions to the rule. Medicine is a broad subject, and one who contracts to cover the whole field as an expert will find that he has undertaken to master a pretty considerable fragment of omniscience. Yet there are many who thoughtlessly, we believe, will offer opinions or testimony on subjects that they can not have adequately considered or studied and in which they have had no special experience. This, far more than any intentional dishonesty, has brought expert testimony into disrepute. The assumption that an average panel of medical jurymen would insure a correct verdict in cases where medical points are involved is by no means justified. They would be better able than intelligent laymen to estimate the value of certain kinds of evidence, but there would still be infinite chances for error. The proposed plan would certainly fail to right all the wrongs of the present methods, the real remedy for which is in a more discriminating estimation of what is to be accepted as expert testimony. The advantages of the plan could never counterweigh the reasons of public policy that have practically exempted physicians from jury duty; and we should protest against the imposition of such on a profession that in numberless other ways does more than any other for the public weal. This is saying nothing of the improbability of counsel ever accepting those who are so prominently wanting in the prime requisite of unintelligence.

THE REPORTED "CURE FOR LOCKJAW."

During the past week the papers have circulated reports concerning the discovery of another "wonderful cure," this time in the way of a cure for tetanus. The facts in regard to the matter, as we understand them, are as follows: Several months ago Dr. S. A. Matthews described before the Medical Club of the University of Chicago his experiments with "cell cathartics," as he terms them. His solution is a mixture of sodium chlorid, sodium sulphate, sodium citrate and calcium chlorid, which, when injected into the veins directly, seems to have much the same effect that similar solutions have in the body, causing fluids to leave the cells or interstices in the body, at least there is a great increase in the amount of fluid excreted by the kidneys of experimental animals, which is much in excess of the amount of fluid injected. According to Matthews' experiments, such intravenous infusion will rapidly wash out any toxic substance that may have been introduced, such as morphin, and also bacterial toxins. He performed a series of experiments on rabbits, which seemed to indicate that this solution in these animals was able to remove the toxin even after it had combined with the nervous system and produced symptoms, and to save the lives of many of the animals when the controls died. These results, with certain conclusions, were reported at the meeting that we have mentioned, but, so far as we have been able to learn, have not been published. Attention is called to the fact that Dr. S. A. Matthews is not to be confused with Prof. A. P. Matthews, who is assistant professor of physiologic chemistry at the University of Chicago, the newspaper accounts having given the title of the latter to the former. The name of Dr. S. A. Matthews does not appear in the circular of the university of April, 1903, as connected with the institution, although we understand that he is giving a course in pharmacology during the summer session. This case, which has been reported by the newspapers as cured by the saline cartharsis, is said to have had a long period of incubation and to have started out as a case of chronic tetanus, but after a rather protracted course had seemed to be growing worse, when this treatment was begun. The infusions were repeated frequently, and the boy has recovered. In other words, there is a single case of chronic tetanus that has recovered under this particular form of treatment. It seems much like the recent furor concerning the intravenous injection of formaldehyd in septicemia, but with this difference: formalin intravenous injection was opposed by experimental study previous to the public report, and also by clinical experience, the use of any substance that will increase renal elimination in tetanus is indicated in tetanus, and Dr. Matthews seems to have applied the results of laboratory experiments to a human case. An objectionable feature of the case is the prompt appearance of full accounts of the case in the daily press. Who is responsible for this we do not know, but the natural and proper result is to cause a profound and general scepticism among all physicians. However, such publicity does not necessarily brand the work as unscientific, and we trust that Dr. Matthews may continue his work, and wish him success in some more acute cases. Until such cases have been reported through professional avenues we recommend that the matter be held by the profession *sub judice*.

Medical News.

ILLINOIS.

Gift to Hospital.—Abram Brokaw, Bloomington, has made a donation of $30,000 to the Brokaw Hospital in that city.

Illinois Water To Be Analyzed.—The State Board of Health is about to make a systematic investigation of the water supplies of the different cities of the state for the purpose of discovering whether the water is likely to be prejudicial to health. The water will be collected under the direct supervision of the board, and a careful chemical and bacteriologic analysis will be made of each sample under the direction of Professor John H. Long of the Northwestern University, Chicago.

State Charities.—The quarterly report of the State Board of Charities shows a surplus of $192,294.11. The average number in the state charitable institutions was 11,165. The total per capita cost for maintenance was $40.27 gross, or $37.79 net. The following is the net per capita cost for the quarter in all the institutions: Elgin Insane Hospital, $41.79;

Kankakee Insane Hospital, $36.96; Jacksonville Insane Hospital, $37.65; Anna Insane Hospital, $33.44; Watertown Insane Hospital, $30.91; Asylum for Incurable Insane, $41.13; Asylum for Insane Criminals, $51.17; School for the Deaf, $52.61; School for the Blind, $51.53; Feeble-minded Asylum, $33.98; Soldiers' and Sailors' Home, $29.15; Soldiers' Orphans' Home, $51.04; Soldiers' Widows' Home, $49.91; Eye and Ear Infirmary, $56.97, and Training School for Girls, $42.30.

Chicago.

Will Enlarge Hospital.—Alexian Brothers' Hospital has purchased a plat of land adjacent to the hospital, 485 by 125 feet, for $10,000.

Personal.—Dr. G. Le Roy Brown, has returned from Europe. ——Dr. Ernst Riebel has been appointed an associate member of the County Hospital surgical staff.

General Hospitals Require No Frontage Consent.—Acting Corporation Counsel Fyffe has given an opinion to the effect that general hospitals are not required to secure the frontage consents of residents in the same block in order to build. The officials of Augustana Hospital applied for a building permit for an addition. Hospitals for the insane, inebriates and the treatment of contagious diseases require frontage consents.

Impure Milk.—Out of 760 samples of milk and cream analyzed in the health department laboratory during the week ended August 15, 60 were found below grade. Among these 760 samples from all sources there were 112 taken at the trains—before the milk had come into the possession of the city dealer. Out of these 112 samples four were found below the standard of butter fat and 40 below the standard of total solids.

MARYLAND.

Baltimore.

Personal.—Dr. A. D. McConachie is at Lucerne, Switzerland. ——Dr. Walton Bolgiano is at Asbury Park.——Dr. T. A. Ashby is in Virginia.——Dr. J. B. Crenshaw has returned after nearly a year spent in study at Berlin.——Dr. Samuel Johnston is at Narragansett Pier.

Deaths of the Week.—During the week ended August 15 there were 190 deaths, an annual death-rate of 17.66 per 1,000. This is much below that of the corresponding week of the three previous years. Thirty-five of the deaths were from diarrhea; 6 from typhoid fever, and 3 from dysentery.

Prevalent Diseases.—Scarlet fever and diphtheria are very prevalent, especially in East Baltimore. There were 115 deaths from the former in July and 94 from the latter. The health department will make every effort to prevent their spread on the opening of the public schools in September.

NEW YORK.

Incubator at Coney Island.—The infant incubator which was so successful at the Pan-American Exposition is now stationed at Luna Park, Coney Island. At a recent visit, there were fifteen premature-born children alive and thriving in the hospital.

Influenza.—The State Board of Health has issued a bulletin in which is reviewed the reports on influenza for the first half of the present year. It is stated that more deaths are ascribed to influenza in the first year of life than in the next twenty years, and that only one-fourth of the deaths occurred before the age of 50. The greatest number of deaths occurred between the ages of 70 and 80, and the disease was most prevalent in December, January, February and March. It is to be noted that at all ages, with the exception of the first year of life, more females than males succumb to the disease.

Buffalo.

Personal.—Dr. Grosvenor Trowbridge has returned from a visit to Cayuga Lake.——Dr. Julius Ullman has returned from Atlantic City and New York.——Dr. Roswell Park has taken a trip up the lakes.——Health Commissioner Green is spending his vacation fishing in Northern Canada.

Substitute Internes.—Recently there has been a great deal of agitation in one of the daily papers concerning young internes in the Buffalo hospitals. In one or two instances the medical internes were found to be senior students. It is often customary to have students substitute for internes who are on short vacations. They, however, never have the responsibility of examining or treating cases, but attend to such duties as are required in the laboratory, making urinalyses and blood examinations, etc.

July Statistics.—The monthly report of the Department of Health for July shows an annual death-rate of 16.2 per 1,000. The principal causes of death were as follows: Consumption, 33; cholera infantum, 40; pertussis, 7; typhoid fever, 10; debility, 16; marasmus, 16; cancer, 31; apoplexy, 19; meningitis, 14; tetanus, 1; valvular heart disease, 19; pneumonia, 22; appendicitis, 8; cirrhosis of liver, 4; gastroenteritis, 25; nephritis, 15; diabetes, 8, and violence 43. The total deaths were 513, as compared to 413 for July, 1902.

Milk Waterers Prosecuted.—Twenty-one milk dealers who water milk are being prosecuted by the commissioner of agriculture. The department originates its own cases; agents from time to time unexpectedly examine the milk in peddlers' wagons. If it falls below the test a chemical analysis is made, and if this shows the milk contains more water than is natural suit against the milkman is begun. These suits are tried in the Supreme Court, and the penalty imposed by the law is $50 to $100 for the first offense and from $100 to $200 for the second offense.

New York City.

New Hospital and Dispensary.—A new dispensary and hospital has been established at 347 East 116th street, having accommodations for 20 patients. The following constitute the visiting staff: Drs. Salo Cohn, Reuben Cronson, I. Goldstein, Herman Jarecky, Robert Kunitzer, I. Levin, Louis Lichtschein, J. Mark and Leopold Marcus.

The New Bellevue Hospital.—Negotiations have been going on for some time looking to the purchase of land adjoining the present Bellevue Hospital in order to provide a site for the new hospital building. It is now stated that all obstacles have been removed and that it is expected to begin the erection of the buildings early in the fall. When acquired the total area of grounds is represented by all that tract of land lying between Twenty-sixth and Twenty-ninth streets, First avenue and the East River.

The Infant Hospital of New York was recently visited and found to be most complete in all its requirements. Of especial interest was the steam room for infants suffering from croup or pneumonia. The entire bed is placed in this room, while the nurse watches the patient through a glass partition. It is an excellent suggestion for use in pneumonia and influenza, as well as nephritis of adults. In the laboratory work was being carried out on the bacteriology of summer diarrheas with reference to the Shiga bacillus as the causative factor. There were some summer diarrhea cases in the hospital, but scarcely any of the severer cholera infantum variety on account of the unseasonably cool weather.

Barber-Shop Sanitation.—Although steps have been taken in the past to secure certain sanitary reforms in barber shops, such regulations have been chiefly honored in the breach. The Board of Health now gives warning that after September 1 the new rules will be rigidly enforced. These rules provide that the barber shall wash his hands with soap and hot water before attending any person; that the use of powder puffs shall be abolished; that a towel shall not be used for more than one person without being washed; that sponges shall no longer be used; that mugs, combs, razors, clippers and scissors must be rinsed in boiling water or in some germicide each time after use; that alum or other astringents shall not be used except in the form of powder, and that a copy of the regulations must be conspicuously posted in each shop.

GENERAL.

Committee on Public Health.—Dr. Heman Spalding of the Department of Health of Chicago has been appointed chairman of the Committee on Public Health of the American Medical Association.

All Medical Schools Now Have a Four-Year Course.—It is encouraging to note that while two years ago we reported three medical colleges as requiring only three years' course for a degree, last year there was only one three years' school left, and this year there is none.

Dallas Medical College.—Belated statistics from this Texas school, mentioned in the Educational Number, show that it has a faculty of 30; fees: matriculation $5, annual tuition $75, graduation $25 extra; the enrolment 1902-3 was 213, graduates 30. The next session opens Oct. 1, 1903.

FOREIGN.

International Congress of School Hygiene.—Such prominent men as Baginsky, Hoffa, Eulenburg, Cohn and Hueppe are

interesting themselves in the first international congress for school hygiene. It is planned for next spring at Nuremberg.

"Archives Internationales de Chirurgie."—Professor Ch. Willems of Ghent has issued the first number of this new periodical. The articles are published in the mother tongue of the writer, followed by a summary in four other languages, English, French, German, Italian or Spanish.

Touring Scholarships.—The Touring Club of France publishes in the last *Presse Médicale* a notice to the effect that two medical students, with high honors in their classes, will be given a free bicycle trip with a party touring through the Alps, down to the Mediterranean and home by the Rhone.

The Discoverers of Radium.—Last month the wife of Dr. P. Curie, professor of physics and industrial chemistry at the Paris Ecole Municipale, presented her thesis at the Sorbonne for the degree of doctor ès sciences. Her subject was "Radium," whose properties were discovered by the collaborated research on uranium of this couple.

French Congress of Surgery.—The sixteenth annual meeting of the French Association de Chirurgie will be held at Paris, October 19 to 24, as previously announced. Prof. C. Périer will preside, and Duret, Lille, will deliver the address on "Tumors of the Brain," and Dr. Hartmann on "Exclusion of the Intestine," the two subjects appointed for discussion.

Medal for Cornil.—Professor Cornil of Paris reaches the time limit of his service at the Paris Hotel Dieu this year. He is to be presented by his friends with a medal commemorating his work in the history of pathology and bacteriology. A bronze copy of the medal will be sent to those who subscribe $5, to be sent to M. Alcan, 108 boulevard Saint-Germain, Paris.

Pathogenic Agent of Rabies.—Dr. A. Negri, Golgi's assistant at Pavia, announced last March the discovery of the specific micro-organism of rabies. He now states that he has examined more than 100 dogs with natural or laboratory rabies, and has never failed to find the specific micro-organism in the nerve centers. On the other hand, he has never found it in other dogs.

French Congress of Alienists and Neurologists.—The thirteenth congress convened at Brussels, August 1, and discussed the questions appointed for the order of the day with addresses by Claus, Antwerp, on the first theme, "Catatonia and Stupor"; by Klippel, Paris, on the second, "Histology of General Paralysis," and by Trenel, Saint-Yon, on the third, "Treatment of Agitation and Insomnia in Mental and Nervous Disease."

Grassi's Studies of Goiter and Cretinism.—When Grassi undertook the study of the etiology of malaria he went to reside in a malaria-infested district, where he spent months in collecting and examining mosquitoes. He has now entered on similar research in regard to the etiology of goiter and has taken up his residence in a small village in a valley on the Italian slope of the Alps, Cedrasco, in the Veltlin district. Our readers will remember that one of the large prizes was conferred on him at the Madrid congress.

Prize Offered for Pamphlet on Advantages of Bathing.—The German Public Bath Association offers three prizes of $25, $37 and $50 for the best pamphlets or circulars portraying the advantages of systematic bathing. The one winning the prize will be distributed and placarded for the purpose of educating the masses and also to arouse interest to provide better facilities for public baths. Competing articles should be sent to the office of the association, Karlstr. 19, Berlin N.W., VI., where further particulars may be learned on application.

German Medical Exhibit at the St. Louis Exposition.—The Germans are planning to make an elaborate exhibit of everything connected with medical instruction, especially in respect to diagnostics and therapeutics. Professor v. Bergmann is in charge of the matter, assisted by a committee, which includes Kutner, Kraus, Mikulicz, Orth, Rubner, Waldeyer, Wassermann and others, nearly all of Berlin. A circular inviting co-operation is to be sent forthwith to all the prominent institutes and firms throughout Germany.

Cause of the Pope's Death.—The diagnosis of the physicians, "catarrhal inflammation of the lung, with a hemorrhagic pleuritis," was confirmed by the autopsy. Our Italian exchanges state that with the exception of this one lung and pleura, all the organs were found normal, except for a small patch of atheroma on the aorta. The number of "sovereign remedies," amulets, charms and similar articles, sent to the physicians and to the Vatican from all parts of the world, to be used on the illustrious patient, is almost beyond belief.

Silver Jubilee of Professor Pawlow.—A committee has been formed in Russia to get up a "Festschrift," to contain works on physiology and pharmacology, to be presented in February, 1904, to Prof. J. P. Pawlow on the occasion of the twenty-fifth anniversary of his entering on his scientific career. Professor Ssimanowski has the matter in charge. At the same time a fund will be endowed in Pawlow's name for a prize to be awarded for important works on physiology. Contributions for the endowment fund and for the "Festschrift" may be sent to Dr. Hanicke, Lopukhinskaya No. 12, St. Petersburg.

Circular Warning Against Venereal Diseases.—The German Preventive Association has empowered professors Erb, Jadassohn and Fraenkel to write the text for a warning circular to be sent to all the physicians of Germany for free distribution among their patients. It will point out the dangers of infection, the necessity of early and thorough treatment and the precautions to avoid infecting others. The association also recently voted to petition the government for more stringent measures against charlatans, citing particulars in regard to the harm done by their practices in the domain of venereal disease.

Lister Institute of Preventive Medicine.—A movement was started in London in 1896, the centenary year of Jenner's experiments in proof of the efficacy of vaccination, to perpetuate his name by some suitable memorial. It was finally decided to change the name of the British Institute for Preventive Medicine by substituting the word "Jenner" for "British." It was found, however, that a commercial firm had a prior claim to the name Jenner Institute, and the complications arising were so many and varied that it was finally decided to give up the name. Instead of again assuming the old name, another man was honored and his name perpetuated by calling it the Lister Institute of Preventive Medicine. Jenner's name is also to be perpetuated, as there has been endowed a Jenner memorial studentship in connection with the Lister Institute.

The Approaching International Congress of Ophthalmology.—Elaborate preparations are being made for this congress, which will be held at Lucerne, Switzerland, Sept. 19 to 21, 1904. Only one official subject has been announced for discussion: "The Question of Indemnity as Regards the Value of an Eye, Lost or Injured." Addresses on this subject have been requested from Axenfeld of Freiburg, Sulzer of Paris and Würdemann of Milwaukee. The committee of organization includes Snellen of Utrecht, Barde of Geneva, Dufour of Lausanne, Haab of Zurich, Pflüger of Berne, Landolt of Paris and Mellinger of Basle. The latter is the treasurer, and will send the admittance card on receipt of the fee of $5. Further particulars may be learned from Dr. de Schweinitz, 1401 Locust street, Philadelphia, or Dr. Coote, Quebec, Canada, who have been appointed correspondents for this country. Communications destined for the congress, if received before May 1, 1904, will be published and sent to each member of the congress with his admittance card. The reading out of the papers may thus be dispensed with, and the author will merely state his conclusions, thus giving time for discussions in the mornings and demonstrations in the afternoons. The committee are anxious to bring together at this congress all objects, old and new, relating to ophthalmology. They also plan an official banquet and numerous fêtes and excursions.

Panhellenic Medical Congress.—The second congress of Greek-speaking physicians and surgeons was held at Athens, May 17 to 23, as announced. A large number of communications on anatomy, physiology, etc., were presented, but most of the themes revolved around the study of malaria. Its relations to the circulatory and nervous systems were discussed, with addresses. Triantaphyllides of Batoum has noted 67 cases of cardiopathies in an experience with 12,000 malarial subjects. The endocardium was affected in 39, with lesions of the mitral valve in 23. In 16 the endocardium was ulcerated. In 26 cases the myocardium was affected; the pericardium in 3; the aorta in 1. Manoussos, Athens, regards malaria merely as a predisposing cause for heart affections, phlebitis, etc., but Coryllos, Patras, is dubious, and cited an instance in which a polyphlebitis developed in an old malarial subject, with fever, pains, tenderness and slight edema, all of which disappeared under treatment with the usual measures supplemented by constant use of quinin. Kanellis, Athens, stated that phlebitis frequently occurs consecutive to malaria, and that the latter may induce both functional and organic heart

trouble, although organic lesions are rare. He has observed cases of a malarial aortitis in patches, usually on the ascending aorta, also of malarial aneurism of the aorta, angina pectoris from constriction of the coronaries, and of Raynaud's disease. Maroudhis, Athens, called attention to the great value of lime for extermination of mosquitoes. One part of quicklime to 100 parts of water will kill the larvæ in the water in two and one-half to five hours if pulverized, and if thrown into the water in chunks the larvæ are all killed in twenty-four hours at farthest. The powdered lime forms a coating on the surface which has a supplementary insecticidal effect. Koumoulis announced that cholera germs on dry bank bills all die in less than an hour.

Fifth Brazilian Medical Congress.—This successful national congress was held at Rio de Janeiro, June 16 to 20. The communications were mainly on the subject of tropical diseases and allied topics. Great interest was aroused by the results of serum treatment of plague reported by Dr. Victor Godinho of San Paulo. He is accustomed to administer the anti-plague serum by the intravenous route and in amounts much larger than elsewhere ventured, even as much as 60, 80 or 100 gm. of the serum at once. The effect on the hyperpyrexia is remarkable. The temperature drops several degrees almost immediately. He exhibited a large number of curves showing the benefit derived from the serum treatment in this respect, which practically arrests the disease process. Serum treatment of snake bites was discussed by Dr. Vital Brazil, also of San Paulo, who described important experiences with specific serum prepared at the institute in his charge. It proved much more effective than the control tests with Calmette's anti-venom serum. The members of the congress were so impressed with his success in curing snake bites with this anti-ophidic serum, as he calls it, that a resolution was passed urging the state to appropriate the funds necessary to send him to Europe to compare and make known what Brazil has accomplished in this line. He reported 21 cases in which persons known to have been bitten by venomous snakes and treated with the serum recovered with slight, if any, clinical symptoms, while even a fraction of a milligram of the venom causes severe symptoms in animals. In three of the cases the symptoms developed with extreme rapidity and gravity, but all subsided after injection of 20 to 60 c.c. of the serum. Two hours had elapsed in one case and three in another. He makes three kinds of anti-venom serum, including one for rattlesnake bites. His article is published in full in the *Revista Medica de S. Paulo*, No. 2, 1902, and No. 13, 1903. The *Brazil Medico* is publishing a detailed account of the congress.

LONDON LETTER.

Plague in India.

Plague is becoming more widespread every year in India, and the government is confronted with a very serious problem. The great difficulties in applying measures to check the spread of the disease which are offered by the ignorance and religious prejudices of the natives have been before described in THE JOURNAL. The disease is now widespread over all the most densely populated parts of India excepting Eastern Bengal and Assam. In April last over 30,000 deaths per week were recorded. The nature of the problem to be faced by the government will be realized if it is remembered that in each district of 1,000,000 inhabitants there are four administrative and one medical European officer who are more than fully occupied without any extra plague work. Coercive measures prove futile and have led to wholesale concealment and flight of infected persons to previous uninfected places. Compulsory isolation, evacuation and disinfection, except in the first few cases in any locality, have been abandoned as useless. In their place facilities for voluntary inoculation, for disinfection of infected houses, and for voluntary evacuation are afforded. A huge scheme for the inoculation of 10,000,000 of people in the Punjab was wrecked by the lamentable mishap in November, 1902, by which 19 natives died from tetanus following the inoculation (THE JOURNAL, April 25, p. 1153). A most favorable start had been made, 200,000 natives had been inoculated in the first two weeks, with the aid of a large number of specially imported doctors. After the mishap the inoculations had to be suspended. Later they were resumed, but the harm done was irrevocable. It is indeed remarkable that 300,000 more were carried out. The results, so far, have been satisfactory: the proportion of deaths to cases among the inoculated was 25 per cent., among the uninoculated 60 per cent. The advantages of substituting voluntary for compulsory measures in Allahabad is shown by the following facts: When the disease was established compulsory measures were abandoned and the system was adopted of simply offering advice and assistance. This policy established good feeling between the people and the authorities and at least checked the ravages of the disease. Only 7.5 per cent. of the houses disinfected during 1901-02 had cases of plague in 1902-03, but of 51 infected houses which escaped disinfection 43 showed return cases of plague. In the last season's work in only 0.5 per cent. of disinfected houses did cases recur within the next ten days, and in 0.4 per cent. after ten days. The people are beginning to learn in the dear school of experience the lesson to evacuate their villages as soon as plague appears or as soon as rats begin to die.

The Anti-Malaria Campaign.

The Liverpool School of Tropical Medicine has just issued a most important and practical paper on the prevention of malaria in the tropics. In 1902 the school sent an expedition to the Gambia, which was conducted by Dr. Dutton. Malaria was found very prevalent in the colony. Of the native children examined 80 per cent. harbored malarial parasites in their blood. The liability of infection of Europeans occurred soon after the rains were established, and lasted up till the end of November. Mosquitoes were found to be largely bred by white men on their premises. In one factory yard 6 barrels, 17 tubs and 8 small wells were found to be breeding places of culex, stegomyia and anopheles. During the dry season, November to May, there are no natural breeding places for mosquitoes in Bathurst. The people breed mosquitoes solely on their own compounds. A crusade against mosquitoes has been inaugurated. One hundred and thirty-one cartloads of old tin pots and other rubbish have been removed.

Correspondence.

The Work of Mr. Robert Jones.

LIVERPOOL, July, 1903.

To the Editor:

Liverpool is known to everyone interested in the treatment of deformities as the home of the late Hugh Owen Thomas, whose original and practical mind has left an indelible impression on surgical technics. Carrying on the work in the same building, and inspired by at least an equal enthusiasm, his gifted nephew and successor, Mr. Robert Jones, is conducting one of the most remarkable orthopedic services in existence. This work is well known to specialists, but must be seen to be appreciated, and as it was the writer's privilege, through Mr. Jones' courtesy, to observe the work for several days, these impressions have been jotted down with the feeling that it deserved to be more widely known among the profession at large.

Mr. Jones begins his day after an early breakfast by visiting his patients at their homes or in the various private hospitals where they have been placed. About 11 o'clock he returns to his office, where he passes quickly from one patient to another in the various rooms, spending but a moment with each, but seizing at once with an almost intuitive instinct the nature of the affection and the essential indication for treatment. Small operations, such as tenotomies and mobilization of adherent joints, are often done on the spot, his lively optimism and cheerful tact being in many cases the only anesthetic employed. Sinuses are dressed, fractures splinted, apparatus applied and joints *x*-rayed by several experienced associates, and soon the place is a veritable hive of interested activity, a hopeless labyrinth to one without the clew. A dozen cases are started, none are finished, patients crowd the rooms and wait in corridors and closets, everything to the outsider is hopeless confusion, but one thread after another is picked up by the busy master, one difficulty after another solved on the spot, order is brought out of chaos, and in an incredibly short space of time, each patient had had the proper diagnosis, and the proper treatment applied, and has been instructed about home management and when to call again.

This attempt at a description is a sober, but inadequate, account of what actually takes place. The means used are of the simplest description: five or six types of simple soft steel

supports are used for the ordinary cases, and various sizes of these are kept in stock, so that relief may usually be had at the first visit; these supports are made on the premises, the dressings are as simple as the splints. An orthopedic instrument maker is always in attendance to take orders for more elaborate appliances when needed; no plaster of paris is used. The more serious operative cases are referred to one or another of Mr. Jones' hospital services.

The writer has never seen anything approaching this mastery of the clinical material or of the technical means. This was equally displayed in the work at the Royal Southern Hospital, where Mr. Jones has a surgical service. On his regular operating day, Wednesday, he often exceeds twenty operations. On the Wednesday at which the writer was present he did twenty-six; beginning at 2:30 p. m. he finished at 9:30, doing every operation but one himself, which was done by the house surgeon. The operations were done on a table, which was also used as a stretcher, and by having two of these stretcher-tables and two anesthetists, the operations followed each other with almost clocklike punctuality at an average interval of fifteen minutes, and without any appearance of haste. When one considers that this included dressings in most cases, and that there were three knee resections, and other operations of equal importance, the performance seems little short of marvelous. All the operations but one were undertaken for the relief of deformity or joint disease. Among those of special interest were the excision of large pieces of the adductors of the thigh for spastic paraplegia, excision of the peronei for persistent peroneal spasm, excision of a large diamond of skin from the front of the arm and forearm, with suture of the edges for flail-elbow, excision of a wedge of bone from the top of the foot for severe paralytic pes cavus in an adult, correction of knock-knee and of a hip deformity, the section of the bone being made with a modified Adams' saw, arthrodesis of the ankle with removal of a wedge of bone for paralytic calcaneo-valgus, and several cases of club-foot and flat-foot corrected by the Thomas wrench, in the use of which Mr. Jones is exceedingly expert. Here, also, no plaster was used, simple adjustable splints being in readiness to hold the part in its corrected position. Many of the club feet and rhachitic deformities were sent home the same day.

Here, as in the office practice, the striking thing was the clear and quick appreciation of the gist of the matter in hand, and the instant application of the simple and effective remedy. Another striking feature of the work was the hearty and intelligent co-operation of his associates. Mr. Jones has attracted to himself a group of young men of skill and experience, who vie with each other in their devotion to him and to the work, and whose team play, if I may use the expression, is remarkably effective; there is no question of precedence, the right man is always on hand to do the right thing in the right way. The spirit of the place is as fine as the work and personality of the master. Owing to Mr. Jones' approaching vacation the writer was unable to see his regular Saturday out-patient clinic at the hospital or his free Sunday at the office, where he treats some 7,000 cases on the alternate Sundays of a year, but enough was seen to make an impression that can never be forgotten. HENRY LING TAYLOR.

The Transmission of Yellow Fever.

NEW YORK CITY, Aug. 11, 1903.

To the Editor:—On my arrival from Cuba I perused with great interest the article of Dr. James Carroll on "The Transmission of Yellow Fever," published in THE JOURNAL, May 23, 1903, the replies made to it by Drs. Carlos I. Finlay and Aristides Agramonte, both of Havana, Cuba, and Dr. Carroll's last rejoinder.

I wish briefly to state a few facts on the matter discussed by pointing out the principal differences between the experiments of Drs. Finlay and Delgado, on one side, and the Army Yellow Fever Commission on the other. The contrast is truly remarkable, and fully explains the point in question.

Finlay and Delgado were trying to find in the *culex* mosquito a prophylactic agent by means of which they could make non-immune persons immune to yellow fever, very much as it happens with the vaccine virus against smallpox; and the army commission were trying with the *Stegomyia fasciata* mosquito to produce true yellow fever with all its dangers and natural virulence.

Finlay and Delgado claimed they found that in from two to six days the contaminated mosquito causes an attenuated attack of the disease (the so-called "acclimation fever") which renders immune the person so bitten. The Army commission found that in that space of time nothing at all happens to the person so treated, and that it requires a lapse of from twelve to seventeen days, or longer, for the mosquito to transmit genuine yellow fever, not acclimation fever.

Finlay and Delgado did not say to what sex their culex mosquito belonged. The Army commission distinctly stated that it was the female *Stegomyia fasciata* mosquito, and only the female that transmits yellow fever.

Finlay and Delgado declared that the culex mosquito was one way in which yellow fever can be conveyed from a sick person to a healthy non-immune, leaving to be supposed that the disease might also be transmitted by other means. The Army commission emphatically asserted that the female *Stegomyia fasciata* mosquito is the only and exclusive means by which yellow fever is transmitted from one person to another.

Finlay and Delgado had no idea of exterminating mosquitoes because they wanted them, as a prophylactic agent to render immune the persons liable to get yellow fever. The Army commission clearly and distinctly demanded the extermination of mosquitoes because they were the true agent of propagation of yellow fever. To such a point the army commission affirmed this as to state that "in the absence of the mosquito the yellow fever patient is harmless."

If we are to judge a scientific medical discovery by the statistics presented in its favor, Dr. Carlos I. Finlay has no reason to claim the discovery of the transmission of yellow fever by mosquitoes. He is perhaps entitled to the suggestion, although some claim might be made in favor of Dr. Josiah C. Nott, Mobile, Ala., who in 1848 published an article on "Yellow Fever Contrasted with Bilious Fever. Its Mode of Propagation and Probable Insect or Animalcular Origin," but nothing else.

Out of a total of 87 persons inoculated by mosquito bite by Finlay, he obtained one case which presented a mild albuminuric attack, thirteen cases in which only "acclimation fever" occurred, and seventy-three negative results.

It is true that since then Dr. Finlay has changed his former opinion, as Dr. Carroll well said: "The original theory of Finlay has been variously modified by him from time to time to meet possible contingencies."

A. M. FERNANDEZ YBARRA, M.D.

The Turning Down of the Old Practitioner.

PLYMOUTH, IND., Aug. 8, 1903.

To the Editor:—I notice in THE JOURNAL, Aug. 8, in the report of the Ohio State Board of Registration, that candidate 172, graduate of Columbus Medical College, class of 1878, failed with a per cent. of 65 5/9, and, in fact, all who failed are old graduates with the exception of one, and that one a foreigner. All who passed are graduates of recent date. Now the physician who graduated in 1878, with about a quarter of a century of practical experience to his credit, ought not to be turned down by the Ohio board, or any other state board, and state reciprocity should be so arranged that a physician licensed by the state in which he practices, and endorsed by the medical profession or county or state medical societies, should obtain a license to practice in any state on presentation of his state license and recommendation by the secretary of the state board of medical registration which issued that license showing that he is in every way eligible for registration.

The trouble with the so-called reciprocity is that it has too much red tape. A physician who can legally practice in one state ought to be legally able to practice in another state

without having to submit to the indignity of a technical examination before a board who are not appointed for their qualifications, but for their political influence.

A licensed physician in any state should be able to practice in any state or territory that is under the American flag, and any physician who has legally practiced continually for ten years or more ought not to be questioned regarding his capabilities, but should be considered competent and recognized as such.

T. A. BORTON.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PERSISTENT HEMORRHAGE DURING AND FOLLOWING OPERATION.

MANILA, P. I., July 9, 1903.

To the Editor:—1. In cases of non-coagulability of the blood where an operation has been begun for, say, cholelithiasis, is it possible to arrest the hemorrhage from the incised abdominal muscles, the abdomen not having been penetrated?

2. What would be the proper procedure when excessive oozing is encountered from the incised muscles in a case of operation of cholecystotomy where there had been no penetration of the abdominal cavity—to stop the operation or to enter the abdominal cavity and then, by means of sutures of the cut muscles, stop the hemorrhage?

3. Are deaths common from hemorrhage in cases where only the muscular tissue is involved, such as in an incision for reaching the liver or its adnexa without penetration of the abdominal cavity?

H. W. Y.

ANS.—1. Non-coagulability of the blood and persistent hemorrhage are not necessarily associated conditions. In hemophilia the blood may coagulate firmly after it leaves the vessels, yet fatal oozing occurs from even a slight wound in spite of all effort to prevent. Fatal hemorrhage from persistent oozing has also followed operations on the gall tracts in the presence of jaundice, also in leukemia. The question of whether the incision penetrated the abdominal cavity or only extended part way through the wall would not influence the question of hemorrhage.

2. This question does not admit of a categorical answer. The judgment and experience of the surgeon in charge and the nature of the case would have to determine the best course to pursue.

3. Deaths from hemorrhage in cases mentioned are not common, but may occur in the conditions mentioned in answer to Question 1. The depth of the incision, whether it extended completely or only partially through the abdominal wall, would not influence the result.

State Boards of Registration.

The District of Columbia Board of Medical Supervisors report by Dr. Wm. C. Woodward, secretary, that at the examination held at Washington, July 9 to 14, 1903, the number of subjects examined in was 17; total written questions, 80; percentage required to pass, 75. The examination was partly oral and partly written. There were 25 examined, and 23 passed:

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
379	R.	Columbian University	1903	90.12
377	R.	Columbian University	1903	94.93
375	R.	Columbian University	1903	90.90
398	R.	Columbian University	1903	93.43
396	R.	Columbian University	1903	92.50
391	R.	Columbian University	1903	90.68
390	R.	Columbian University	1903	86.71
389	R.	Columbian University	1903	90.31
384	R.	Georgetown University	1902	88.59
397	H.	Hahnemann Med. Coll., Philadephia.	1903	85.46
393	H.	Hahnemann Med. Coll., Philadelphia.	1903	87.03
387	R.	Howard University	1902	89.31
380	R.	Howard University	1903	81.04
378	R.	Howard University	1903	77.00
394	R.	Howard University	1903	79.59
383	R.	Johns Hopkins University	1903	84.09
382	R.	Johns Hopkins University	1903	87.87
399	R.	Johns Hopkins University	1903	88.28
388	R.	National University (D. C.)	1903	85.40
386	R.	National University (D. C.)	1903	81.56
392	R.	National University (D. C.)	1903	80.78
376	R.	University of the City of New York.	1897	86.47
385	R.	University of Pennsylvania	1895	91.90

FAILED.

381	R.	Howard University	1903	74.78
395	R.	Howard University	1903	74.43

The South Carolina State Board of Medical Examiners, of which Dr. S. C. Baker, Sumter, is secretary, reports the examination held at Columbia, May, 1903, as follows: Number of subjects examined in, 15; total questions, about 125; percentage required to pass, 75; written examination; total number examined, 51; passed, 47; failed, 4.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
2	R.	Medical College of South Carolina	1901	85.4
7	R.	Medical College of South Carolina	1901	94.1
13	R.	Medical College of South Carolina	1901	77.0
17	R.	Medical College of South Carolina	1901	82.5
24	R.	Medical College of South Carolina	1901	82.5
25	R.	Medical College of South Carolina	1901	75.5
31	R.	Medical College of South Carolina	1901	77.1
32	R.	Medical College of South Carolina	1901	79.0
33	R.	Medical College of South Carolina	1901	84.5
34	R.	Medical College of South Carolina	1901	91.1
35	R.	Medical College of South Carolina	1901	91.3
36	R.	Medical College of South Carolina	1901	76.0
39	R.	Medical College of South Carolina	1900	89.1
42	R.	Medical College of South Carolina	1901	75.4
44	R.	Medical College of South Carolina	1901	85.5
50	R.	Medical College of South Carolina	1901	82.1
53	R.	Medical College of South Carolina	1901	91.2
54	R.	Medical College of South Carolina	1901	76.1
20	R.	Medical College of South Carolina	1901	84.4
3	R.	Meharry Medical College	1903	77.0
47	R.	Meharry Medical College	1903	99.4
9	R.	University of Maryland Med. Dept.	1902	82.4
14	R.	University of Maryland Med. Dept.	1903	90.1
18	R.	University of Maryland Med. Dept.	1903	89.2
19	R.	University of Maryland Med. Dept.	1902	87.1
26	R.	University of Maryland Med. Dept.	1903	88.0
38	R.	University of Maryland Med. Dept.	1903	90.2
41	R.	University of Maryland Med. Dept.	1902	85.4
51	R.	University of Virginia Med. Dept.	1901	92.6
5	R.	Atlanta Medical College	1894	76.2
15	R.	Atlanta Coll. of Phys. and Surgs.	1903	89.0
6	R.	Leonard Medical College	1903	85.6
30	R.	Leonard Medical College	1903	83.6
22	R.	Leonard Medical College	1903	81.1
23	R.	Leonard Medical College	1903	84.2
43	R.	Leonard Medical College	1903	77.0
8	R.	Hosp. Coll. of Med., Louisville, Ky.	1902	77.6
11	R.	Woman's Med. Coll. of Pa.	1895	84.5
21	R.	North Carioina Medical College	1903	83.5
49	R.	North Carolina Medical College	1902	85.6
27	R.	Tennessee Medical College	1899	80.0
37	R.	Southern Medical College, Atlanta, Ga.	1895	77.5
40	R.	Maryland Medical College	1903	75.5
4	R.	Med. Dept. University of Georgia	1903	84.6
45	R.	Med. Dept. Univ. of Cincinnati	1902	82.0
48	R.	Coll. of Phys. and Surgs., Baltimore.	1903	88.5
52	R.	Medico-Chir. Coll., Philadelphia	1902	78.5

FAILED.

1	R.	Atlanta Coll. of Phys. and Surgs.	1903	71.2
16	R.	Leonard Medical College	1902	*77.2
28	R.	University of Georgia	1899	64.1
46	R.	Maryland Medical College	1902	71.0

* While this man's general average was 77.2, he made only 46 on practice of medicine.

Deaths.

Andrew Russell Barbee, M.D. University of Pennsylvania, Philadelphia, 1851, Point Pleasant, W. Va., died, August 51, from heart disease, aged 76. He was surgeon in the Confederate service during the Civil War, member of the state senate, president of the U. S. Board of Pension Examiners, secretary of the State Board of Health, etc. While in the senate of West Virginia he was the author of the bill regulating the practice of medicine and surgery, and that creating the State Board of Health.

Thomas J. Yarrow, M.D. University of Pennsylvania, Philadelphia, 1861, died at his home in Philadelphia, August 6, as a result of an injury sustained when thrown from his carriage last October, aged 63. He served in the Union Army during the Civil War.

William H. Amiss, M.D. University of Pennsylvania, Philadelphia, 1853, died at Sperryville, Rappahannock County, Va., August 8, aged 73. During the Civil War he was surgeon in the Army of Northern Virginia, C. S. A.

Ernest H. Lueke, M.D. Western Reserve University, Cleveland, 1898, of Cleveland, was drowned while swimming in Lake Erie, August 5, aged 25.

Adolph Cudell, M.D. Western Reserve University, Cleveland, 1898, of Cleveland, was drowned while swimming in Lake Erie, August 5.

J. W. Shaw, M.D. Saginaw Valley Medical College, Saginaw, Mich., 1901, died at his home in Long Beach, Cal., August 1, aged 37.

John N. Wheat, M.D. Western College of Homeopathic Medicine, Cleveland, 1852, died at Austin, Minn., July 25, aged 86.

John M. Trembly, M.D. Miami Medical College, Cincinnati, died at his home in Butler County, Ohio, July 24, aged 73.

John H. Kinyoun, M.D. New York University, 1859, died at his home in Centerview, Mo., July 27, aged 78.

Deaths Abroad.

Dr. Sigmund Fuchs of Vienna died at Borderbrühl, July 28, aged 44. He was professor of physiology and chief of the Institute of Physiology at Vienna. His name is well known by his numerous contributions to scientific literature.

Dr. Immanuel Munk, an eminent physiologist and chief of the Institute of Physiology at Berlin, died there July 31, aged 51.——**Dr. Leopold Fischer,** privat docent of psychiatry at Heidelberg, died July 30, aged 73.——**Dr. Rudolf Trzebicky,** professor of surgery at Cracow, died there July 22, aged 42. ——**Dr. J. Bougle,** one of the younger set of medical men and journalists at Paris, son and grandson of physicians, died there, July 20, aged 35. He was a collaborator on the *Archives Gén. de Médecine*, and had recently published a large work on the surgery of arteries, veins, lymphatics and nerves.

Dr. Nocard, the famous bacteriologist, professor at the veterinary school at Alfort, France, of which he was the chief for several years, died there August 1, aged 53. His last prominent appearance was at the Antituberculosis Congress at London, where he maintained his views in regard to the transmissibility of bovine tuberculosis to man, combating those advanced by Koch. Nocard's communications to the *Académie de Médecine* and to scientific journals have been important contributions to our knowledge of human and animal pathology and the relations between them. He died after a brief illness, in the midst of active work.

Dr. W. S. Playfair, one of the best-known obstetricians and gynecologists in Great Britain, died, August 13, at St. Andrews, Scotland. He received his degree of M.D. from Edinburgh in 1856, but possessed many other degrees and qualifications, both ordinary and honorary. His text-book on obstetrics has been one of the standards in Great Britain, and his numerous other contributions have maintained his reputation. He has held many high honorary and other positions in his own country, and has been the recipient of high honors from foreign countries. His reputation as a medical teacher was high; he was long connected with the chair of obstetric medicine in King's College. Beside his several obstetric works, which have gone through many editions, he was co-editor with Prof. Allbutt of a "System of Gynecology" published in 1896, and of numerous papers in medical journals, including some on subjects not directly related to his specialty. He is remembered as having had the unfortunate experience of being mulcted $60,000, in a suit a few years ago. It hardly seemed to the medical profession that justice was done him in that case. Of late years he has been less conspicuous, but his death leaves a notable gap among the prominent physicians in Great Britain.

Book Notices.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VI. Illustrated by Chromo-lithographs and 763 Half-tone and Wood Engravings. Cloth. Pp. 1004. Price, $7.00 per Volume. New York: Wm. Wood & Co. 1903.

As volume after volume of the new edition of this magnificent work appears, one becomes more and more impressed with two facts: one is that since the first edition appeared the progress of medicine in all its departments has been most wonderful; the other is that this work represents the medicine of to-day as the first edition reprevented that of its time. This means that much of the old matter has had to be rewritten, and that not a small part is entirely new. Many of the articles in each volume are on subjects that were not thought of fifteen years ago, and some of these are so full as to make important monographs of themselves. This large amount of new matter has made it necessary to reduce the space occupied by some subjects that were then considered important, but which now are of little interest; and not a few subjects that appeared in the former edition are omitted entirely in the present one. But the editorial rejections, as far as we notice, have been wisely made, and nothing of importance is omitted. In a volume as large as this one, covering so many subjects by so many authors, it might seem easy to find something to criticise; but we find nothing. The selection of men to write on the various subjects has been wisely made, and the amount of space allotted to each subject has been made with a due regard to its importance or otherwise. The work, when completed, if the volumes yet to come are as excellent in every way as those which have already appeared, will be the most important and valuable encyclopedia of medicine in the English, if not in any, language.

Bacteriological Chart in Colors. For Free Distribution. New York: M. J. Breitenbach & Co. 1903.

This chart, 17 by 36 inches in size and intended to hang on the wall, shows in sixty colored plates the various pathogenic organisms. The chart, we presume, is not intended to be scientifically exact and true to nature in every case, but rather to call attention to the general characteristics of the organisms illustrated. There seem to be included some organisms of doubtful etiologic relations, or at least which are not yet generally recognized. Nevertheless, the chart is one that will prove of interest and value to the general practitioner.

Obstetrical Nursing for Nurses and Students. By Henry Enos Tuley, M.D., Louisville, Ky., Professor of Obstetrics, Kentucky University, Medical Department. Cloth. Pp. 202. Price, $1.00 net. Chicago: G. P. Engelhard & Co. 1902.

This is a very practical little work. The author evidently fully appreciated the needs of the obstetric nurse and has given us a book that, in a compact form, fully supplies all the information the ambitious nurse will need. The limitations of the functions of the obstetric nurse are recognized, consequently she is not encouraged to assume the rôle of obstetrician as well as that of nurse.

Microscopy and Bacteriology. A Manual for Students and Practitioners. By P. E. Archinard, A.M., M.D., Demonstrator of Microscopy and Bacteriology, Tulane University of Louisiana, Medical Department. Series Edited by V. C. Pedersen, A.M., M.D., Instructor in Surgery and Assistant Anesthetist at the New York Polyclinic Medical School and Hospital. Illustrated with 74 Engravings. Cloth. Pp. 210. Philadelphia and New York: Lea Brothers & Co.

All that is claimed for this work is that it affords a brief but clear presentation of the essentials, a thorough knowledge of which is necessary as a foundation for a sound superstructure. It is a practical little book.

Medical Organization.

Marshall County (Miss.) Medical Association.

This was organized at Holly Springs, July 30, under the guidance of Dr. K. P. Perkins of Batesville, councilor. Dr. R. H. Peal was elected president and Dr. Robert A. Seale secretary-treasurer.

Franklin County (Iowa) Medical Association.

The officers of this new organization are: President Dr. Charles H. Tidd, Geneva; secretary, Dr. J. Clinton Powers, Hampton; treasurer, Dr. Abraham J. Hobson. Nearly all the practicing physicians of the county are members.

Lafayette County (Miss.) Medical Society.

This was organized at Oxford, July 29, with the assistance of Councilor K. P. Perkins of Batesville. Dr. Wade S. Banks, Abbeville, was made president; Dr. F. Baxter Linder, Oxford, vice-president; Dr. Peter W. Rowland, Oxford, secretary and treasurer.

De Witt County (Tex.) Medical Society.

This was organized July 30, half of the eligible physicians of the county participating. Dr. Joseph M. Reuss, Cuero, was elected president; Dr. Wm. C. Swain, Cuero, vice president; Dr. W. R. Gillett, secretary; and Dr. Oscar J. Mugge, Cuero, treasurer.

Titus County (Tex.) Medical Society.

This society was organized at Mt. Pleasant, Aug. 4, under the direction of Dr. Holman Taylor of Marshall, councilor for

the district. Dr. S. R. Crabtree was elected president, Dr. Thomas S. Grissom, vice-president, and Dr. Walter J. Matthews, secretary.

Madison County (Ohio) Medical Society.

At London, July 31, this society was organized with these officers: Dr. H. S. Quinn, West Jefferson, president; Drs. Wm. H. Christopher, London, and A. J. Welsh, Mt. Sterling, vice-presidents; Dr. Albert Strain, London, secretary and treasurer. Dr. Theodore W. Rankin of Columbus was present and made an address.

Harris County (Tex.) Medical Association.

Under the guidance of Drs. John T. Moore, Galveston; Witten B. Russ, San Antonio, and Walter Shropshire, Yoakum, this association was formed at Houston, July 27. Dr. Edward M. Armstrong was elected president; Dr. James H. Bute, vice-president; Dr. J. Edward Hodges, secretary, and Robert T. Morris, treasurer.

Societies.

Medical Society of the Missouri Valley.—The date of meeting in Omaha has been changed from Sept. 17 to Sept. 14 and 15, 1903.

American Association of Obstetricians and Gynecologists.—This association will hold its sixteenth annual meeting at Chicago, Sept 22 to 24, 1903, under the presidency of Dr. L. H. Dunning, Indianapolis. The Auditorium Hotel Annex has been selected for the headquarters, the management of which should be addressed concerning rooms and rates. Dr. J. B. Murphy, 100 State street, is the chairman of the committee of arrangements, and will gladly furnish any information to members and guests on application. Dr. Murphy may also be addressed relating to accommodations at the Auditorium Annex or other hotels.

Massachusetts Association of Boards of Health.—This association was entertained at Gallops Island, Boston Harbor, at its quarterly meeting, July 30, by the Boston Board of Health. This island is the quarantine station of the port. One paper read was by Dr. B. R. Ricards on the value of disinfectants, a report of his experiments in the Boston Board of Health Laboratory. His evidence goes to prove the great efficiency of carbolic acid and allied cheaper products. Prof. Wm. L. Underwood of Belmont, a lecturer at the Massachusetts Institute of Technology, gave a very interesting lecture with the stereopticon on mosquitoes. He has discovered a big mosquito in the woods of Maine which will devour culex and anopheles and leaves man alone. Until its practical usefulness in this way is demonstrated, however, he commended the use of a pyrethrum smudge, much in the same way it is now used for that purpose in Havana, Cuba.

BRITISH MEDICAL ASSOCIATION.

Seventy-first Annual Meeting, held at Swansea, Wales, July 28 to 31, 1903.

(By Our Special Representative.)

(*Continued from page 463.*)

The President, Dr. Thomas Frederick Griffiths, Swansea, in the Chair.

First General Meeting.

The first general meeting of the members was held Tuesday, July 28, at 2 p. m., in the King's Hall.

The financial statement for the year 1902 was presented, showing a profit for the year of about $2,400.

The first annual representative meeting was held at 3:30 p. m., with Sir Victor Horsley as chairman. Among the reports considered at this meeting was the report of the council which dealt with the imperial vaccination league, the *British Medical Journal*, the superannuation fund, scientific grants committee, the special chloroform committee, the medico-political committee, the vaccination acts, etc.

The president's address was delivered at the Albert Hall at 8 p. m. by President Griffiths, who selected for his subject the following:

The Evolution of Antiseptic Surgery and Its Influence on the Progress and Advancement of Bacteriology and Therapeutics.

Among other things he described the growth of antiseptic surgery. He said the architect has been very rightly called into service to further the practical application of Listerism. This is especially to be noticed in the construction of modern hospitals, and in the addition of new operating theaters to old institutions. They are invaluable in surgical work.

Some thirty-six years ago the mortality from major operations in the London hospitals was about 33 per cent. This high mortality, after major operations, is now reduced to about 3 per cent., and, after minor operations, practically to *nil*, as the outcome of Lister's antiseptic surgery.

BACTERIOLOGY AND IMMUNITY.

The brilliant discoveries of Pasteur and the evolution of antiseptic surgery by Lister gave a great impetus to the study of bacteriology, with the result that new and unexpected discoveries were made as to the part played by bacteria in nature. These micro-organisms have a definite and important place in the scheme of nature. They are distinctly separated by gradation from both the vegetable and animal kingdoms. They form a kingdom of their own which may be termed the "bacterial kingdom." Their very existence appears to be antagonistic to both animal and vegetable life. Their object in nature is evidently one of destruction—the breaking up of complex molecules of animal and vegetable substances into simpler combinations. They are Nature's scavengers, and undoubtedly they are the causal agents of all the communicable diseases to which flesh, and not human flesh alone, is heir.

The varieties of bacteria, differing in size, form, action, character and power for good or evil, are almost endless.

A bacterium may have two states or stages of existence. One is the active or vegetative stage, and the other the spore or resting stage. In the latter state, which may be compared to that of a hard nut or seed, it may remain dormant for a long time until the surroundings favor its development into the active state. This, he showed, has an important bearing on the treatment and etiology of specific diseases.

Pasteur's and Davain's discoveries led up to Koch's investigation. Davain discovered bacteria in the blood of animals suffering from anthrax in 1863, thus confirming the observations made by Pollender in 1849. Koch repeated the experiments and finally established in 1876 the causal relationship of bacteria and disease. Tuberculous disease had been proved by Villemin to be inoculable, and in some countries it had long been believed to be infectious, but it remained to Koch to demonstrate, in 1882, that tuberculous disease was due to the agency of micro-organism. He proved that a bacillus played a part in the production of tuberculosis which is analogous to that which is played by torula cerevisiæ (yeast bacillus) in fermentation. The tubercle bacillus feeds, grows, multiplies and produces its toxin at the expense of the surrounding tissues, very much in the same way as the yeast bacillus feeds, grows, multiplies and produces its toxin (alcohol) at the expense of the saccharin solution in which it is placed. The principle discovered by Pasteur in the processes of fermentation and putrefaction was proved, after years of close investigation by Koch, to be absolutely identical in the development of tuberculous disease in the animal body. He demonstrated the bacillus in the tissue, and cultivated the organism outside the body, and observed the formation of the toxin. The same remark may be applied to diphtheria (diphtherization). Diphtheria bacillus grows, feeds, and multiplies on the mucous membrane and there forms its toxin.

THERAPEUTICS.

Both bacteriology and Listerism have greatly helped to advance our knowledge of the action of medicine. Therapeutics have now been raised in many departments from the plane of empiricism to that of science. Peruvian bark, the active principle of which is quinin, was accidentally discovered to be of great value in the treatment of malarial fever. The discovery was the result of observation, but the knowledge

gained was entirely empirical. Prior to the discovery of the hemameba and the observation of its action on the red blood corpuscles, and until the listerian property of quinin was ascertained, we had no idea how the drug acted as a curative agent. It is now evident that it acts simply as an antiseptic in destroying the malarial parasites which are conveyed to the human body by mosquitoes, and it is now very doubtful whether it has any other beneficial action as a therapeutic agent. The world is greatly indebted to Dr. Manson and to Dr. Ross for their discovery of the part played by mosquitoes in the causation of malarial fever.

Salicin.—Very much the same remarks may be applied to salicin, salicylic acid, and the salicylates, which are powerful antiseptics. The discovery that these drugs were specially valuable in the treatment of rheumatic fever was accidental also. It is now acknowledged that rheumatic fever is due to a micro-organism which probably gains access to the circulation through the tonsils or mucous membrane of the pharynx. Sore throat is a frequent precursor of acute rheumatism. It is probable that scarlatinal sore throat predisposes the patient to infection by rheumatic micro-organisms, over which the salts of salicin have a lethal action.

Mercurial salts are the most efficient antiseptic agents we possess in surgical practice, and it may be argued that the therapeutic action of mercury, when administered internally, is to be accounted for to a great extent by its antiseptic property; hence its specific action on syphilis, which is now stated to be a bacterial disease. It has been recognized for many years that mercury is a valuable remedy in tonsillitis, which is also, no doubt, caused by micro-organisms. Dr. Jamieson of Edinburgh pointed out some years since that mercuric chlorid is most valuable as a bactericide in the treatment of scarlet fever.

Other examples were cited.

SANITATION.

Increased infant mortality and diminished birth-rate are two ugly facts which are not to the credit of our country or of modern civilization. The increased mortality among infants is due to diarrhea and enteritis, and it has been found that the increase due to these two causes is seven times greater in towns than in the country. It has also been found that the mortality from diarrhea is much greater among infants artificially fed than among those which are fed at the breast alone or in part. No doubt much of this increased mortality is due to the ignorance and carelessness of mothers and nurses; but it is also an illustration of a defect in sanitary administration due to the optional character of the acts and regulations. There are in existence model rules and regulations for the cleanly and sanitary conduct of dairy farms, which, though they have been approved and sanctioned by the local government board in England, are not adopted, or, where they have been formally adopted, are not enforced in rural sanitary districts. The medical officers of health of our great cities complain that, owing to the neglect of rural sanitary authorities, the milk supplied for consumption, especially in the poorer quarters of large cities, is often either decomposing or putrescent.

Notwithstanding the defects in the administration of the Public Health Act, the country is often under a debt of gratitude to sanitary authorities and medical officers of health for protecting our shores from the invasions of plague and cholera from time to time. The importation of plague to Glasgow and to the London docks, a couple of years ago, is still fresh in our memories, and physicians have not yet forgotten the feeling of relief experienced when they were assured that the causal agents had been destroyed and that the people had safely escaped a terrible calamity. Great credit is due to the sanitary authorities for their promptitude, energy and determination in the performance of their duty on these occasions. The same may be said of our local authorities generally when an epidemic of smallpox, typhoid fever, or some other infectious disease attacks a populous district. Unfortunately the public is apathetic in these circumstances; it must be hard hit, and many lives must be lost, before it wakes up to realize the situation, and give material help to the medical officer. People are indifferent and accustomed to the endemic and preventable diseases persistently destroying a large percentage of the population. This may be attributed to three causes:

1. The absence of a strong central authority.
2. The ignorance, apathy and prejudices of the smaller authorities.
3. The objections and the loud protestations of faddist and conscientious objectors to vaccination, objectors to the Contagious Diseases Act, objectors to the advancement of medicine by experiments, etc.—a class of persons who, regardless of the consequence to others, claim freedom to do as they please in matters pertaining to health, freedom to do what is unjust and wrong, freedom to endanger the lives of others.

He said it is evident that the reform needed is greater central authority and greater power to county councils over public health administration within their respective areas.

The county councils, urban and rural sanitary authorities should be under compulsion to appoint medical officers of health who should be precluded from private practice and should have power to compel the combination of small sanitary authorities into conjoint areas sufficiently large to secure the services of an efficient medical officer who should give his whole time to public health work. The service should be sufficiently tempting to induce some of the best talent in the profession to enter it. One of the duties of the medical officer should be to deliver popular lectures on sanitary questions and hygiene generally, in his district for the purpose of educating the public on the vital importance of observing the ordinary laws of health.

Infective and Infectious Diseases.

The address in medicine was delivered by Frederick T. Roberts, M.D., B.Sc., F.R.C.P., London, who stated that this subject is one that appeals to the entire profession in all its different branches, and by no means least to the general practitioner.

PRACTICAL ETIOLOGY.

The first question to be determined from the point of view of practical etiology is whether a particular disease is infectious, in the true sense of the term, or not? In the next place, it is very desirable, with regard to each individual infectious disease, to have as definite a knowledge as possible concerning its period of incubation; the degree of infectiousness; and the period of infectivity, that is, how long infection lasts in a particular case? In relation to many of the best known affections belonging to this group, these points have been now established fairly accurately, but there is still much to be done in this direction.

The most important and striking advance which has been made in relation to the practical etiology of infectious diseases is in our knowledge of the sources, modes and channels of infection, both generally and with reference to individual members of the group; of personal predisposing conditions; and of the external circumstances which favor or promote their endemic and epidemic prevalence.

The question of the communicability of certain infectious complaints from person to person through the atmosphere is an extremely important one, especially when a number of individuals are aggregated togther; as well as the distance to which the contagium can be thus conveyed, and the agencies which assist in its dissemination. This question is by no means settled in not a few instances. He referred particularly to typhoid fever and smallpox. While typhus fever has always been regarded as a disease strongly infectious from person to person, typhoid fever has been practically dealt with by the large majority of the profession as being free from danger in this way. Now, however, the tendency undoubtedly is, and probably rightly, to be much more careful as regards enteric from this aspect, and there is a growing objection to the admission of typhoid patients into the ordinary wards of general hospitals. Smallpox is still more important. This complaint is highly infectious through the atmosphere, but how far it can be thus carried, particularly from a smallpox hos-

pital or hospital ship, and the influence of winds in conveying the infective agent, is another matter, and may involve troublesome or even momentous consequences. He had noticed in the medical press recently directly contrary opinions on this question, expressed by those who apparently have had equal experience and opportunities of arriving at a practical conclusion. How far emanations from drains, sewers, defective water closets, and the like can produce so-called "blood poisoning" and other indefinite infective conditions, is another question which needs clearing up.

Passing to the more practical results of modern investigations as to infection, he called special attention to the following facts:

1. As a starting point infective micro-organisms have been found and demonstrated in the blood; in certain secretions; in the excreta, urine as well as feces; in the cutaneous structures or shed epithelium; possibly in the expired air; and in specific lesions, morbid products, and discharges from the body of various kinds. Hence we can readily understand how and why most of the diseases with which these organisms are associated are likely to be transmitted from individual to individual; how the infected materials may contaminate fomites, and be thus conveyed far and wide; how they retain their activity in a dried state for an indefinite period, thus rendering apartments or other places infectious; and how they may be "airborne," being carried about by atmospheric currents or winds, and afterwards either inhaled or swallowed by persons, it may be, far removed from the original source of infection, remote epidemics being thus not uncommonly originated.

2. The communicability of certain grave diseases by the contamination of drinking water in different ways, but especially by admixture of infected excreta, is an established fact the importance and far-reaching consequences of which it is impossible to estimate or realize in any adequate degree. Why such contamination should take place is often obvious enough, but it is rather startling to be told that unsuspected and most inviting "spring water" may be a highly dangerous source of enteric fever.

3. One of the most striking additions in modern times to our knowledge regarding the conveyance of infection is in relation to food. In this connection milk and its products stand out very prominently, not only on account of their frequent contamination by infectious materials, probably mainly from the deliberate addition of tainted water to milk, but also because this valuable food may convey organisms directly from diseased animals by whom it is secreted.

4. The rôle which different animals play in the transmission of infectious diseases to man is another aspect of the subject on which modern observations and researches have thrown remarkable light. The relationship in this respect of such diseases as hydrophobia and glanders has long been recognized. The idea of direct infection through the milk or flesh of infected animals is of comparatively recent date. The danger of infection being carried directly by domestic animals, such as birds, cats and dogs from person to person, or perhaps because they themselves are suffering from certain diseases, is not yet appreciated as it ought to be. The rôle played by such unwelcome "large vermin" as rats and mice in relation to plague and probably some other complaints is now familiar to all. Flies, cockroaches and the smaller but too well-known personal vermin may no doubt be instrumental in conveying infection in certain cases, and flies may thus taint food. But the most remarkable and important revelations which modern investigators have given us as to the transmission of infection by animals are those relating to mosquitoes. The discovery and demonstration of the connection between these minute torturers of humanity and malaria, in which Sir Patrick Manson and Major Ross have taken such a prominent part, has already worked incalculable good, and promises in the future to revolutionize the conditions of life in many parts of the world, to the inestimable advantage of the communities who are native to the district, as well as of Europeans whom circumstances compel to reside there. The same statement applies to yellow fever, and probably to other affections prevailing in climates and localities where mosquitoes abound.

5. The question of the relation of infection to soil, place, and particular houses or groups of houses, is a very important one, but about which there is at present much that is uncertain and indefinite, and that needs to be worked out more fully before any positive conclusions can be arrived at with regard to individual diseases.

6. Another most important aspect of infection, from a practical point of view, is the fact that we are every one of us always carrying about in various parts of our bodies microbes, which while habitually innocuous and non-virulent, may under favoring conditions, so far as they are concerned, become extremely virulent, or possibly specific, to our personal undoing; or we may even be harboring in our mouths, throats, noses, ears and thereabouts specific germs by which, quite unintentionally, we are liable to infect others at any time, while we ourselves go scot free.

7. Lastly, he referred to the progress made in our knowledge of the channels of entrance of microbes into the system, and the modes in which they are disseminated.

TREATMENT.

There are certain special questions bearing on the treatment of infectious diseases which he could not pass over without brief comment.

1. *Hydrotherapy and Allied Methods.*—Dr. James Currie of Liverpool strongly advocated and carried out the treatment of fevers on a considerable scale by baths and douches. This treatment fell into practical desuetude, and, indeed, was generally looked on with aversion and dread. In modern times, however, it has not only been revived, but numerous other methods for applying cold to the body, either generally or locally, have been added, not only by means of water, but also of ice and cold air. These methods are now generally recognized and extensively adopted, probably more on the Continent and in the United States than in this country, even in the treatment of many of the ordinary fevers, but especially in the more severe cases; and the local application of ice is strongly advocated in acute pneumonia and other inflammatory infective diseases. While of great value as antipyretics they have other important beneficial actions. Regarding hydrotherapy and allied measures in the treatment of infectious diseases, every medical practitioner ought to be familiar with them, and be able and ready to carry them out when required. The milder methods, such as sponging the skin or applying ice locally, are easily practiced and are often of the greatest service.

2. *External and Local Treatment.*—The treatment of external or local manifestations of particular infectious diseases, such as scarlatina, smallpox or diphtheria, affords legitimate ground for differences of opinion, and it is often puzzling to determine what is best to be done for such conditions when one reads the different methods of treatment advocated by different experienced authorities. The measures to be adopted must be determined very much by the particular views of the practitioner, guided by judgment and discretion, and modified by the special circumstances of each case. Antiseptics and disinfectants are employed with great advantage as local applications for various purposes. How far the light treatment, the *x*-rays, or particular color rays are going to help us, can not be definitely determined at the present time. Just now the subject has come very prominently before the profession and the public, and the "red-light treatment of smallpox," which, however, is by no means a novelty, so strongly advocated by Professor Finsen is attracting special attention, as well as some adverse criticism. What we may expect, also, from that wonderful, newly-discovered element, radium, it is impossible to foretell, but we must be on our guard against accepting statements as to its marvelous curative effects by irresponsible observers.

3. *Vaccines: Serumtherapy.*—What would, no doubt, be generally regarded as the most vitally interesting and important question of modern times bearing on the prevention and treatment of the entire group of infective diseases, is that of "serumtherapy," using the term as an inclusive one, which has

come as the natural outcome of the microbic theory, and is founded, on the whole, on reliable bacteriologic researches and experiments, supported by the results of practical experience in living subjects.

Evolution of Abdominal Surgery.

The address in surgery was given by A. W. Mayo Robson, F.R.C.S. Leeds, who detailed his observations on the evolution of abdominal surgery from personal reminiscences extending over a third of a century and the performance of 2,000 operations.

The rise and progress of abdominal surgery has centered more around ovariotomy than any other branch of work, hence he reviewed the evolution of that operation, calling it the battlefield of abdominal work.

Under perfected technic and a judicious combination of asepsis and antisepsis, ovariotomy has become one of the most successful major operations in surgery, and has paved the way for other equally great triumphs within the abdomen.

It has proved a truly beneficent procedure, and has not only saved thousands on thousands of valuable lives, but has restored to their families sound and healthy very many of the wives and mothers and daughters of nations.

The discovery of the frequency of perforative appendicitis, of perforating gastric ulcer, and of other peritoneal catastrophes is gradually abolishing the term acute peritonitis for the more rational one of acute peritoneal infection, for the treatment of which surgery alone is of any use, and even for it to be of service operation must not be long delayed.

These more rational views of pathology and treatment have originated and developed within recent years, and he could recall case after case, during his student days, in which peritoneal catastrophes ended fatally, where now surgeons should, by timely interference, give a fair chance of life. Could anything show this more definitely than the results of treatment of perforated gastric ulcers, which if operated on at once would would have hardly any mortality, if within 12 hours of rupture have a mortality of 16.6 per cent.; if within 24 hours, 63.6 per cent.; if within 36 hours, 87.5 per cent., and if delayed for 48 hours will only rarely succeed; or to give another example, than the results of surgical treatment of the intestine in typhoid fever, alas too seldom resorted to.

In injuries of the abdomen by penetrating wound, whether stab or bullet wounds, the resulting troubles are from infection, either directly through the instrument causing the injury or by perforation of one of the hollow viscera and escape into the peritoneal cavity of the septic contents; how much more rational it is to consider this as an infection and immediately to set about the removal of the poison and the repair of the damage, if it can be done under conditions favorable to success, than to treat it as peritonitis and rely on so-called antiphlogistic remedies. Few greater triumphs of scientific surgery can be shown than some of the remarkable cases of visceral injury, where stomach, bowel, liver, gall bladder, and other viscera have been perforated, either by bullet or some other sharp instrument, and in which operation has been successfully performed, before infection has had time to occur.

Appendicitis of the acute, perforating, or gangrenous type comes on so suddenly as often to constitute a peritoneal catastrophe, and in a proportion of cases terminates fatally in so rapid a manner that the diagnosis is made only with great difficulty, or not at all. Such cases, when he was a student, went undiagnosed, and death was ascribed to peritonitis simply, a sufficient diagnosis in those days; and it was not till 1886 that anything was heard of this lethal malady, which, though it has slain its tens of thousands, is now, thanks mainly to the labors of Fitz of Boston, who laid the foundation of modern knowledge of the subject, brought under subjection in a very large percentage of cases.

The disease is said to be on the increase, but he is not at all clear as to the truth of this, as there have been buried in literary records for generations, fairly accurate accounts of dangerous inflammations occurring in the right iliac fossa and described vaguely as typhlitis, perityphlitis, paratyphlitis, etc., and both Copland and Burne in 1837 gave accurate descriptions of perforative appendicitis and its consequences.

It is certainly more frequently diagnosed and more scientifically treated than it was, and it is a comfort to know that the operation, when undertaken early, is attended with an encouraging amount of success, and, as shown by Sir Frederick Treves, when treated in the quiescent period it is almost devoid of risk. Arguing from his own experience of operations in the quiescent period in a large number of cases without a death, and from that of many other surgeons at home and abroad, he has no hesitation in saying that had he an attack of appendicitis he should prefer accepting the infinitesimal risk of removal of the organ directly the attack was over to the decided risk of waiting for the next seizure, which might be one of the acute type.

SURGERY OF THE LIVER, STOMACH AND INTESTINES.

After discussing hysterectomy, he turned to the liver and stomach.

The surgery of the liver was until recent years limited to the evacuation of abscesses and hydatids, and it is interesting to note the evolution of the various methods following closely one on the other; of emptying by trocar or aspirator; of opening by caustic or thermo-cautery; of incision *à deux temps;* and, lastly, of the method which we now generally adopt—hepatotomy, or direct incision of the organ after reaching the liver, either through the abdominal parietes, or, if necessary, through the thoracic wall—an operation the credit of which must be given to Lawson Tait.

The surgery of the stomach is still more recent than that of the gall bladder, but unlike gall-bladder work, which was successful from the outset, the way to success in gastric operations has been paved with many failures, and only recently has the surgeon been able to show what can be done in this branch of work.

He is firmly convinced that many deaths are ascribed to cancer when the disease is inflammatory and perfectly curable by the operation of gastroenterostomy without removal of the tumor; this he could prove from his own experience in patients now living and well several years after an operation, which at the time was thought would be only of a palliative nature.

Until quite recently gastric ulcer, except for one or two of its complications, has been considered to be a subject for medical treatment from first to last. The profession is, however, becoming awakened to the fact that it is not the trifling ailment it was once considered to be, and that it should from the first be taken seriously, for it is in the early stages that medical treatment can be employed to the best advantage, and in the later stages that general treatment is so often followed by relapse or by serious complications.

The pancreas had practically received no attention from a surgical point of view up to Senn's classical experimental work in 1886, and even for some time after that the only interest centered around cysts, so that Greig Smith, writing in 1896, said, "The experience of the last ten years has added little to the work of Senn of Chicago." But what do we see to-day? That the subject is of such magnitude as to need a volume of considerable size to adequately deal with its pathology and surgical treatment. He himself has operated on nearly a hundred cases of diseases of the pancreas of various kinds.

Acute pancreatitis is one of the most serious and fatal of diseases, often coming on with startling suddenness, and it is astonishing how it can have escaped the notice of pathologists until so recently. Fortunately surgery has been able to interfere beneficially in some of these cases, especially those ending in suppuration, and as our knowledge of the subject increases we shall be able to do more both in the way of prevention and cure.

The surgery of the intestines provides the most varied and difficult field of work in the abdomen, and as the ordinary methods adopted in general surgery here need modification, the evolution of intestinal surgery has been accompanied by infinite variety in detail.

The interrupted suture at first employed occupied so much time in application that many modifications were soon introduced, and in 1885 Mr. Bishop showed there were no fewer than thirty-three distinct methods of enterorrhaphy, and since probably as many more have been introduced.

In 1887, Senn's plates were employed to facilitate the process of intestinal anastomosis, and he remembered what a great impetus was given to the surgery of the intestinal canal by Dr. Senn's very able paper and demonstration at the International Medical Congress in Copenhagen. In 1892, being dissatisfied with the methods then in vogue, he invented a decalcified bone bobbin shaped like a cotton reel, which would form a temporary splint around which to apply two continuous sutures, one to the serous and another to the mucous margin of the new openings; which method has proved most useful, and he feels sure has ministered to whatever success he has had in this line of work.

The continuous sutures applied over the bone bobbin considerably shortened the time of operation and left the union so safe and secure that in a large number of operations since performed on the hollow viscera, he has continued to employ it with great satisfaction. As illustrating its utility, the series of cases of posterior gastro-enterostomy performed by him up to the end of last year were all done by this method; and, in the four cases that died, the union, as proved by necropsy, was perfect; moreover, he knows that the anastomotic opening has not the tendency to contract that occurs after some of the other methods, and as the bobbin dissolves within two or three days no foreign body remains to cause further trouble. In end-to-end junction of the divided bowel in enterectomy the decalcified bobbin has given him equal satisfaction, and, though from the nature of the cases the actual operative mortality has been greater, yet in no case has the result been due to imperfect coaptation.

In 1892 Dr. Murphy of Chicago invented his well-known metal button, which, since it is employed without previous application of sutures, can be used very quickly, and by its distinguished inventor, as well as in the hands of other surgeons it has been adopted with great success. The two chief disadvantages it presents are, first that it is necessarily associated with sloughing of the compressed and coapted ends of the bowel, next that a foreign body is left in the canal, which sometimes produces ulceration and other troubles, and thirdly that the opening has been found in some cases to contract and necessitate a further operation. Along with many other surgeons he gave it a thorough trial, but soon reverted to the method of suture round a bobbin, and the general trend of opinion is now to rely on simple suturing with or without any mechanical support.

For the rational treatment of intestinal obstruction we owe much, first to the anatomic researches of Sir Frederick Treves, and secondly to his admirable work on the pathology and surgery of the subject.

At the present day the differential diagnosis has been so well worked out, and the technic of operative work so much improved, that no physician or surgeon long delays resorting to operation if relief be not soon obtained, and the results as shown by numerous reports, amply justify the change.

PREGNANCY.

Among the great advances of surgery in the period in question has been the successful treatment of many of the anomalies of pregnancy; for instance, the eminently satisfactory results now obtained in that ancient operation, cesarean section, where at one *séance* two, or sometimes three, lives are saved, and which in the hands of Murdoch, Cameron, Leopold, Sanger, and other operators has been done in recent years with an extremely small mortality, whereas in the large maternity hospitals in Paris during half a century before the aseptic era, although the operation had been done sixty times, in no instance had the mother's life been saved, and in England the operation for similar reasons was condemned absolutely. He knows of no operation that has given greater satisfaction than this one, for the patients are eternally grateful, which is truly the highest reward of the surgeon.

THE SURGERY OF THE KIDNEYS AND URETERS.

The most recent advance in renal surgery has been in the treatment of chronic nephritis or Bright's disease, which was first drawn attention to by Mr. Reginald Harrison, who recommended renal puncture or incision in certain cases of chronic albuminuria, but to Dr. Edebohls of New York must be given the credit of adopting an original operation for the treatment of Bright's disease. He in 1898 deliberately exposed both kidneys, stripped their capsule, and fixed them in position, in a young woman of 26. Frequent examinations during the five years showed in every instance normal conditions, and the patient has recently married and is well. In March of this year Dr. Edebohls reported 51 cases of renal decapsulation, and in 47 of these cases both kidneys were operated on at the same time. Out of this large number, 22 are said to be improving from three to fifteen months after operation.

As yet it is too early to pronounce a definite opinion on the procedure, but it is an undoubted fact that decapsulation does effect some improvement in this serious malady, and it may possibly prove effectual in saving life in those terrible cases where suppression of urine comes on after some trifling operation, such as catheterism, or after a chill, or in scarlatina; just as surgery has effectually stepped in and saved life where suppression was due to obstruction of both ureters. No patient ought to be allowed to die from suppression of urine without the surgical question being considered.

Ureterotomy for stricture and valvular obstruction, leading to hydronephrosis, was an innovation first successfully performed by the late Christian Fenger of Chicago in 1892, and since done by others; for instance, in a case of this kind, where the kidney merely formed a shell over an enormously dilated pelvis, he found the ureter strictured and coming off from the upper part of the dilatation. By dividing the stricture, bringing the edges together transversely, and afterward constricting the large sac by a number of running sutures, the kidney was saved, and has since performed its work satisfactorily.

SEROTHERAPY.

It was hoped that the principle of serumtherapy which has been so eminently successful in the case of diphtheria would also be applicable in the case of bacterial diseases. Unfortunately, however, hopes have not been fulfilled, as not only have the sera thought to be applicable to other diseases failed to do good, but in some cases actual harm has resulted. Nevertheless, the principle is capable of being worked out, and doubtless ere long will be, and he feels sure that it is destined to revolutionize practice in dealing with localized bacterial invasions.

An immense impetus has been given to this line of work by the investigations of Dr. Macfadyean, who, utilizing the discovery of the liquefaction of air made by Professor Dewar, and the intensely low temperature that can be obtained through its employment, has succeeded in grinding up typhoid organisms and liberating the bacterial contents, which can be used as protective vaccines without the danger of introducing living organisms that would tend to intensify and continue the disease.

Of the treatment of streptococcus infection, such as erysipelas and other diffuse inflammations, by the antistreptococcus serum surgeons would probably point to some excellent as well as to other uncertain results; but as improvement in the preparation of the antitoxin occurs, and as their knowledge of when and how to use it is increased, they would be able to calculate on more certain results. At the present time surgeons are finding the injection of the serum of service in immunizing before operating in certain regions, such as the tongue, mouth, throat, and rectum, where asepsis can not be secured with certainty.

In conclusion he said he had tried to show what a close connection exists between the science and art of our profession, and how very necessary it is, if we are to continue our march of progress, that experimental research should not only be untrammeled by factious and unreasoning opposition, but that it should receive greater recognition, encouragement, and support at the hands of the public.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Treatment of Cough.

Pfromm, in *Med. Bul.*, recommends the following combination in the treatment of cough due to an acute bronchitis:

℞. Codeinæ sulph.	gr. 1/16	004
Antimonii et potass. cit.	gr. 1/24	0025
Pulv. opii et ipecac.	gr. 1/12	005
Ext. gentianæ	gr. i	06

M. Ft. capsula No. i. Sig.: One such capsule to be taken every hour until nausea appears; then one every two hours.

The author states that, with this treatment, the cough begins to lose its harshness and the bronchial secretion is increased within thirty-six hours, when the stimulating expectorants should be substituted, such as scilla, ammonium chlorid, ammonium carbonate and terpin hydrate.

In the treatment of chronic bronchitis the derivatives of turpentine are of service. The oils of eucalyptus, santal wood and thyme are also successfully employed in chronic bronchitis. In prolonged and stubborn cases of acute bronchitis the following is valuable in relieving the cough and promoting elimination from the mucous membrane:

℞. Codeinæ sulph.	gr. 1/8		008
Ammon. chloridi	gr. v-x		30-.60
Syr. senegæ	m. xv	1	
Syr. scillæ	m. x-xv		65-1.
Syr. pruni virg. q. s. ad	3i	4	

M. Sig.: At one dose, to be repeated every two or three hours.

In chronic bronchitis the following is advised by the author:

℞. Codeinæ sulph.	gr. 1/4	015
Olei eucalypti		
Terebeni, āā	m. iii	20

M. Ft. capsula No. i. Sig.: One such capsule to be taken four times a day.

Dyspnea in Chronic Bronchitis.

According to Bruhl, in the *Med. Gaz. of Nantes*, the following combination is of service in the treatment of chronic bronchitis of elderly individuals:

℞. Essentiæ anise	gr. xv	1
Aq. ammoniæ	gr. lxxv	5
Alcoholis (90 per cent.)	3vi	25

M Sig.: Five to six drops in water or syrup three times a day.

Antisepsis of the Mouth.

The following combinations are recommended by Miller in the *N. Y. and Phila. Jour.* as antiseptics for the mouth:

℞. Acidi thymici	gr. iii		20
Acidi benzoici	gr. xlv	3	
Essent. menthæ pip.	m. x		65
Tinct. eucalypti	3ivss	18	
Alcoholis	3iii	90	

M. Sig.: Put a sufficient amount in the glass of water to render the water milky and use as a mouth wash; or:

℞. Acidi tannici	3iii	12
Menthol	3ii	8
Thymol	gr. xv	1
Tinct. benzoini	3iss	6
Alcoholis	3iii	90

M. Sig.: Ten drops in half a glass of tepid water.

Ulcer of Stomach.

Gustav Fütterer, in *Northwestern Lancet*, states that round ulcers of the stomach are very difficult to heal as long as anemia is present. Consequently he advises the treatment and correction of the anemia present which may be primary in the form of chlorosis or of a secondary character. He recommends that the juice extracted from four pounds of beef be given daily until the hemoglobin is approximately normal. The patient should be put to bed under the care of a nurse. It is not necessary to resort to rectal feeding when the beef juice is given. As soon as the hemoglobin has reached the proper proportions the beef juice may be omitted and the patient placed on a milk diet and at the end of a month or six weeks the patient may get up and begin taking solid food in small quantities at first. He recommends in some of these cases a solution of silver nitrate, grains five to the ounce, giving a tablespoonful on an empty stomach three times a day.

Variations in the Strength of Digitalis Leaves.

From the observations made by Focke, according to an abstract in *Amer. Med.*, the variations in the strength of digitalis leaves which arise in the drug store are connected regularly with the time of year in which the preparations are sold. The leaves in July and August are, according to Focke, four times as strong as those displaced by them. Until the beginning of October they lose half the strength, until January two-thirds, and until summer three-fourths. He demonstrated the comparative strength of the leaves on animals, observing that poisoning took place more frequently and with smaller doses in the second half of the year. Poisoning occurring in the first half was due to very large doses.

Migraine.

J. R. Clemens, in *Med. News*, highly recommends the use of potassium iodid in the treatment of migraine to the exclusion of all other remedies. He observed that the headache in migraine is very similar to that due to cerebral syphilis, being of a deep-seated, constricted character, with nocturnal exacerbations. He gives it in doses ranging from 5 to 15 grains, three times a day. By this treatment he noticed that the headaches diminished both in frequency and severity.

The following combinations are of value in the treatment of migraine according to Yeo in his *Clin. Ther.:*

℞. Sodii salicylatis	gr. xlv	3
Sacch. lactis	gr. xxx	2

M. Ft. chart, No. vi. Sig.: One powder to be taken every hour at the time of the attack; or:

℞. Caffeinæ citratæ	gr. xv	1	
Quin. bisulph.	gr. xxii	1	50
Sacch. albi	gr. xxx	2	
Olei menth. pip.	gtt. i		06

M. Ft. chart. No. x. Sig.: One powder to be taken three times a day; or:

℞. Antipyrini	3iss	6
Pot. bromidi	3iv	15
Spts. chloroformi	3ii	8
Aquæ camphoræ q. s.	viii	240

M. Sig.: One large tablespoonful to be taken when the attack comes on and a dessertspoonful night and morning between the attacks.

As an aperient in migraine the following:

℞. Quininæ sulph.	gr. xv-xxx	1-2
Ext. aloes aqueous	gr. lxxv	5
Pulv. ext. glycyrrhizæ q. s.		

M. Ft. pil. No. lx. Sig.: Two pills to be taken night and morning.

Opium Habit.

In an abstract in the *N. Y. and Phila. Med. Jour.* occurs an outline of treatment of the opium habit, as carried out successfully by Dr. E. I. Osgood in breaking up the opium habit among the Chinese. He gave four pills daily of one of the following combinations originated by Drs. Macklin and Beebe:

℞. Quininæ sulph.	gr. ss-2/3	03-.04
Ext. cannabis ind.	gr. ss	03
Ext. nucis vom.	gr. 1/3-ss	02-.03
Sod. phosphatis	gr. 2/3	04

M. Ft. pil. No. i. Sig.: One such pill four times a day; or:

℞. Quininæ sulph.	gr. ii	12
Ext. bellad.	gr. 1/6	01
Ext. nucis vom.	gr. 1/6	01
Ext. cannabis ind.	gr. 1/4	015

M. Ft. pil. No. i. Sig.: One such pill four times a day.

Acne and Rosacea.

Dr. T. G. Lusk, in the *Post-Graduate*, states that the first thing to be considered in the treatment of acne and rosacea is

careful regulation of the diet: The withdrawal of such articles as cake, ice cream, pickles, nuts, oatmeal, pastry, greasy foods, such as goose, pork and duck; fried foods, sausages, salt meats, cabbage, cauliflower, turnips; alcoholic liquors in any form; tea and coffee must be taken in limited quantities. The diet, in other words, must consist of wholesome food, properly prepared and thoroughly masticated and the meals taken at regular intervals. The general hygiene of the patient must be carefully inquired into. The bowels should be properly regulated and tonics of iron, arsenic, strychnin and quinin given internally.

Locally, thick oily skins should receive vigorous treatment with the application of tincture of green soap, after which the following ointment should be applied:

℞. Sodii boratis 3ii 8
Ung. aquæ rosæ .....℥i 30
M. Ft. unguentum. Sig.: Apply locally.

By first scraping the face with a sharp-ringed curette the removal of the blackheads is rendered easier by means of proper instruments.

The following antiseptic and stimulating lotion is of value in relieving the condition:

℞. Zinci sulph.
Potass. sulphuret.
Sulphuris precip., āā.....3i 4
Alcoholis q. s.
Aquæ rosæ q. s. ad .....℥iv 120
M. The zinc and potassium sulphuret are each to be dissolved separately in one half the quantity of rose water and then slowly combined with constant stirring; add a sufficient amount of the alcohol to the sulphur to make a thin paste and add to the solution. Sig.: Shake the bottle, and apply thoroughly to the face twice a day.

The following is weaker and may be substituted for the foregoing:

℞. Sulphuris precip.
Tinct. camphoræ, āā.....3i-3ii 4.-8
Spts. etheris.....3iv 15
Alcoholis q. s. ad.....℥iv 120
M. Ft. lotio. Sig.: To be applied twice daily.

The author prefers lotions to ointments for local purposes.

Deep-seated abscesses must be evacuated by incising with a small bistoury, and after expressing out the contents apply pure carbolic acid on a toothpick, and follow this by an application of the foregoing zinc and sulphur lotion.

For deeply-seated nodules the following is of great value:

℞. Potass. carb.
Sulphuris precip.
Glycerini, āā.....3ii 8
M. Sig.: Apply locally only over the nodules. It should never be used on delicate skins. In most cases the application of this ointment renders incision unnecessary.

In the second stage of acne vulgaris after the lesions have been infected by the finger-nails, Sheffield recommends the following lotion:

℞. Sulphuris precip. 3i-3ii 4.-8
Pulv. camphoræ .....gr. x 65
Pulv. tragacanthæ .....gr. xx 1 30
Alcoholis 3ii 8
Aquæ rosæ .....℥i 30
Aquæ calcis q. s. ad 3ii 60
M. Sig.: To be applied externally two hours before retiring and washed off the next morning with hot water.

In the third stage of the disease, when there is a great deal of nodular induration, the following is recommended internally:

℞. Pot. iodidi
Sodii bicarb., āā .....gr. v 30
M. Ft. capsula No. i. Sig.: One such dose once or twice daily until active pustulation occurs, when it should be discontinued.

The lesions in rosacea, according to Lusk, consist of erythema, inflammatory papules and pustules with dilated superficial blood vessels. The inflammation is more diffuse than in acne. The internal treatment of rosacea is practically the same as of acne, except that the mineral acids and bitter tonics are more especially indicated in the former. The zinc and sulphur combination is indicated locally.

In the destruction of the dilated vessels, electrolysis is of greatest benefit. This may be carried out by applying the needle attached to the negative electrode of the battery, and employing a strength of 6 to 10 milliamperes.

Medicolegal.

Liability of Town for Care of Smallpox Patients.—In the case of People vs. Eno and others, brought on the relation of a practicing physician to review the action of a town board on a claim of his, the Fourth Appellate Division of the Supreme Court of New York says that the board of health of the town is a local agency, created by statute for the express purpose of preserving the health of the residents of the town. When so virulent and dangerous a disease as smallpox developed within the limits of its jurisdiction, it was its undoubted duty to take immediate and efficient steps not only to furnish care and attendance to persons afflicted with the disease, but to protect, as far as possible, the residents of the town from the danger to which they were exposed by reason of its contagious and malignant character. To this end it was authorized to incur any reasonable expense, and the expense thus incurred by express direction of the statute became a charge on the town, which was to be audited, levied, collected and paid in the same manner as are other legal charges. It is clear, therefore, the court goes on to say, that, if this physician was employed by the health board, or by any other duly authorized party acting in its behalf, he should be allowed a reasonable sum for the services rendered by him in virtue of such employment. He alleged in his petition that he was thus employed on the 29th day of April by the health officer of the town, and in this he was corroborated by one of the members of the board of health, who stated unqualifiedly that the health officer was authorized by the board to employ the physician, and that he did employ him, and gave him the assurance that he would be well paid for his services. There was also further corroboration of this allegation in the affidavit of a third party, who said that the health physician stated to this physician in his presence that the town board of health had authorized the physician to treat and care for all patients who then had or might thereafter be afflicted with the smallpox, and would pay the reasonable value of his services for such care and treatment. But it seems that, on May 7, in order, as he said, that he might have some definite understanding as to his compensation, the physician sent a letter to the health board, informing it that he would be unable to longer continue his services in connection with the smallpox patients without receiving as his compensation therefor the sum of $10 per day, and that on May 9 the town board of health met and passed a resolution employing him at the rate named in his letter. Under these circumstances the court holds that the town board was not justified in rejecting the physician's claim for charges prior to May 9, but, it being practically conceded that his charge for his services was, under all the circumstances, a reasonable one, he should be allowed for the full amount thereof.

Physical Examination Requiring Rupture of Hymen.—The Court of Appeals of Kentucky says, in Louisville Railway Company vs. Hartlege, that, from a review of the cases in which the question of ordering a physical examination of the party seeking to recover for personal injuries has been before it within the last few years, it appears that the weight of authority favors the right of the party sued to demand a physical examination of the party suing. The decisions, however, recognize that the party sued has no absolute right to have an order made to that end, but that a motion therefor is directed to the sound discretion of the court, and that its exercise will be reviewed on appeal, and corrected in case of abuse; that such an examination may be ordered when the

facts can only be brought to light or fully elucidated in that way, and when it can be made without danger to the life or health of the party suing, or without the infliction of severe pain or offending decency. In this case, two physicians made affidavit that the injury to the party by whom the action was brought could not be objectively determined by an examination of her person, except by exploring the vagina and breaking the hymen, which was intact; that her injuries were to be determined by her clinical history and symptoms alone. In another affidavit they stated that a physical examination could not be made without injury to the party, and would cause her pain, and could not be made without the exposure of her person. The substance of the evidence with regard to her injuries, alleged to have been caused by her being thrown against a seat on the floor of a street car, was that she suffered pain in her side and hip from the time of the injury until the trial; that about a week after the injury she was compelled to go to bed on account of the same, and there remained for two weeks or more, under the treatment of a physician; that previous to her injury she had been in perfect health; that from and after the time she received her injuries to the time of the trial her menstruation periods had been prolonged from two to four or five days, which detained her from her work; that the flow was much greater and painful; and that she had not been troubled with it prior to the injury. Other lady witnesses corroborated her in these statements. The two physicians referred to, as well as two surgeons representing the company, were present, and heard all the testimony with reference to her injuries, and the probable effects therefrom. They testified—the two for her from their examination, and from the clinical history of the case as detailed by the witnesses—that this trouble with her menstruation was probably caused by the injuries received. The other two said that it could not have been so caused or produced. The court says that the record disclosed the fact that the extent of her injuries were substantially disclosed by the means used, and that the drastic measures demanded by the company were unnecessary to that end. The small verdict in this case ($500) was one evidence of that fact. And the court declares that it does not feel authorized, nor does it deem it proper, to reverse the case and order another trial, and have the party's person exposed, suffering humiliation and the loss of the evidence of her virginity, to relieve the company of so small a verdict obtained under the circumstances shown in this record.

Employment of Physician on Board—Duty of Chairman.—The Supreme Court of Minnesota holds, appeal of board of health of village of Buffalo Lake, that a town or village board of health, formed under the provisions of the general statutes, one of whose members is a practicing physician and surgeon, may employ such physician to act for the board in all matters requiring such services. It says that the law requires that one member of every board of health shall be a practicing physician and surgeon, and this requirement was not without purpose. The object of the legislature in incorporating this provision into the law is obvious. It was clearly for the purpose of providing the board with a person competent to treat diseases of a contagious character, and there can be no doubt that it contemplated his employment in all cases where professional services of the kind are necessary. If this were not so the provision requiring a physician to be on the board would be of no purpose or effect. The general rule which prohibits a member of a board or council from employing or contracting with one of the members thereof does not therefore apply. Besides, whether the physician employed by a board of health, under such circumstances as here involved, where the chairman of the board was a physician and was employed by the board to render professional services to smallpox patients under quarantine, is to be compensated for his services from the public treasury, and to what extent, is a question to be determined by the county board of county commissioners, and the local board has no voice or power to act in that behalf. Hence one of the strongest and the principal reason for the prohibitory rule in such cases is absent. But the chairman of a town or village board of health is authorized by Chapter 238, page 378, of the general laws of Minnesota of 1901, in his official name and capacity to present an itemized statement of all expenses incurred by the board in the matter of quarantining persons affected with contagious diseases to the board of county commissioners for allowance, and to conduct all proceedings to enforce payment of the same. When an appeal is taken from the action of the county commissioners to the district court, judgment, the Supreme Court holds, may be awarded in his name as such official, and in cases where the county board disallows the claim, and judgment is obtained in the district court against the county, he must necessarily act as a disbursing officer. Nor does the court consider the situation in any way changed in this case by the fact that the village in which the smallpox patients referred to were quarantined, though under no legal obligation to do so, voluntarily paid to the various persons entitled thereto the amounts due them according to the statement of the chairman of the board of health, it not appearing that such payment was made or received in discharge of the indebtedness. In other words, the court holds that its action in that respect did not release the county. If by such payment the village became entitled to reimbursement, the recovery by and in the name of the chairman of the board of health placed him, as to the judgment or proceeds collected therefrom, in the position of a trustee, and he might be compelled to account to it. The expenses involved in this action having been incurred by the village board of health, in quarantining certain smallpox patients, partly prior and partly subsequent to the passage of the statute above mentioned, the court holds that, under the provisions of that statute, the whole expense was a proper charge against the county. It says that the expense incurred in controlling contagious diseases and preventing their spread among the people is one of a public nature, and properly made, in cases where the persons infected with such disease are paupers and dependent on charity for support, a public charge. The mere fact that the legislature saw fit and proper to shift the burden from the town, village or city to the county would not warrant a division of the expenses incurred, in a continuing case, partly before and partly subsequent to such change in the law.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

August 8.

1 *The Influence of the Roentgen Ray on Sarcoma: Further Observations. William Coley.
2 *Influence of Altitude on Heart Disease: Some Further Remarks and Queries. Robert H. Babcock.
3 *The Psychical Relations of Tuberculosis in Fact and Fiction. (Concluded.) G. A. De Santos Saxe.
4 *The Cause and Specific Treatment of Hay Fever: A Preliminary Report on the Uses of the Toxins and Antitoxins of Professor Dunbar. Emil Mayer.
4½ Malta Fever. C. F. Mason.
5 *Peripheral Paisies Following Manual Replacements of the Congenitally Dislocated Hip. Henry L. Taylor.
6 Rheumatism and Typhoid in Childhood. J. R. Clemens.

1. **Sarcoma and the X-Ray.**—Coley has treated altogether some 30 cases of non-operable sarcoma, which he analyzes, and some of which he reports. He thinks the influence of the *x*-ray is much more marked on this class of malignant tumors than in carcinoma. From personal experience and study of the literature, he does not believe we are justified in using the method in any save inoperable cases. An exception to this rule might possibly be made in sarcoma of the extremity where amputation was the alternative. He believes that in such cases a brief course of the combined *x*-ray and toxin treatment might be justifiable. We have proven thus far that the *x*-rays have a decided inhibitory action on the various forms of sarcoma; in some cases sufficient to cause their entire disappearance, but there is a strong tendency, nevertheless, to local or general recurrence and not enough time has elapsed to warrant a complete cure. Good results can not be expected without prolonged treatment.

2. **Altitude and Heart Disease.**—Babcock reports some peculiar and rather contradictory cases of effects of altitude on cardiac patients, and he asks if we are to seek the explanation of the ability of one patient and the inability of another to endure altitude in the conditions of the blood pressure, or shall we conclude with Regnard that anyone can reside at an altitude of a mile or so after he has become acclimated. He thinks if Colorado physicians would make it a rule to record the blood pressure in newcomers, especially in those showing signs of cardiac dangers, and compare them with the blood pressure of the same persons after accustomation to the altitude, the results would be of value. Consumptives have generally a low tension pulse and yet most of them are able to bear residence in Colorado without serious cardiac embarrassment. He suggests it as his growing belief that if a cardiopath will remain inactive at a high altitude until he is accustomed to the change, he can visit the mountains with impunity. The dangers of travel and residence at high altitudes seem to be greater with the normal individual, who is likely to overdo. The heart becomes more easily overtaxed.

3. **Tuberculosis.**—Saxe's article is concluded in this issue. He discusses the effects of tuberculosis on insanity and quotes from Fanoni as to the criminal tendencies of the consumptives. His summary and conclusions are given as follows:

1. The consumptive exhibits in the average case, traits of mind and of temperament that have been made use of by some of the best writers of fiction in describing the characters of tuberculous persons—traits that are well worth studying, inasmuch as they are directly connected with the disease, although not specifically characteristic of tuberculosis.
2. The psychical and temperamental traits of the average consumptive have not been studied by medical men with the attention which they deserve.
3. The only probable theory thus far advanced as to the causes of the mental and moral degeneration of the consumptive, leading even to criminal tendencies, is that of toxic poisoning of the central nervous system by the products of the tubercle bacillus, resulting in neurasthenia, psychasthenia, hysteria and insanity.
4. The fundamental factors in the psychical make-up of the typical consumptive are the loss of self-control, the rise of brute selfishness, the increase of susceptibility to suggestion, to emotion and to nervous irritation, and the tendency to rapid, nervous and psychical fatigue.
5. There is no tangible proof that the sexual functions are exalted in tuberculosis, but in all probability the sexual irritability is raised in the early stages of the disease and lowered coincidently with the lowering of vitality in the later stages.
6. In all probability there is a connection between tuberculosis and insanity, the tuberculous toxin contributing, with other factors, in persons rendered susceptible by psychical and somatic degeneration, to the derangement of the mind. Any form of insanity may be found in tuberculous persons, and the term "tuberculous insanity" should not be used to designate a type of insanity peculiar to tuberculosis.
7. The criminal tendencies of consumptives have been observed with sufficient frequency to justify an investigation into the medico-legal question of restricting the responsibility of a criminal on the ground that he is tuberculous. Mental and physical degeneration, together with the tuberculous intoxication already referred to, are the chief factors in the make-up of the tuberculous criminal.
8. The euthanasia of consumptives, which has excited speculation, is to be explained on purely physical grounds, the changes in the nervous system being so marked at the time of approaching dissolution as to efface the patient's suffering and render his death easy.

4. **Hay Fever.**—May has experimented with Dunbar's antitoxin and finds it effective on the spring form of hay fever in this country, as well as in Germany. He thinks that the conclusion of Dunbar that spring hay fever is due to the pollen of grasses is supported, and reports his suggestion that the autumnal cases will possibly find a toxin to which they will also respond.

5. **Congenital Hip Dislocation Paralysis.**—Taylor has observed several cases of paralysis of the quadriceps following reposition of congenital hip dislocation, an observation which has also been made by Lorenz. This condition is easily overlooked, and he thinks that possibly it is more common than has been estimated. The prognosis is generally good. Certain forms of peroneal and sciatic palsies, however, of which he has observed cases, may cause more or less trouble. He thinks that the manipulation of reposition should be deliberate and careful, and when serious obstacles to reposition exist, manual force alone should be abandoned.

Boston Medical and Surgical Journal.

August 6.

7 *The Sources, Favoring Conditions and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts. (Concluded.) Theobald Smith.
8 The Element of Torsion in Lateral Curvature of the Spine; Its Place in the Cause and Treatment. Robert W. Lovett.
9 A Criticism of Klemperer's Work on the Condition of Uric Acid in the Urine. Francis H. McCrudden.

7. **Malaria.**—Smith concludes the subject, which was discussed in two previous numbers, with the following summary:

1. There is no evidence that any but the tertian form of malarial fever can be propagated in Massachusetts.
2. The original source of tertian infection must be looked for in the blood of individuals coming from permanently infected localities in our own country and in southern Europe.
3. There is no definite information as to the stage of disease or relative immunity in which mosquitoes may become infected, but analogy with similar diseases of animal life indicate that the gametes are not formed early in the disease, and that relatively immune persons are the most dangerous, especially after fresh exposure, because in them gametes form very promptly without causing much or any clinical disturbance.
4. The dissemination of infection is most easily promoted in our latitude when people live in a crowded condition, unprotected from mosquitoes and near breeding places of anopheles.
5. The decline and disappearance of malaria after importation and epidemic prevalence is in part due to relative isolation of the inhabitants and protection by quinin and from mosquitoes, and in part to the absence of persons partially immunized by long exposure in endemic localities.
6. There is some evidence that sewage pollution in surface waters favors mosquito larvæ directly, through increase in food supply; indirectly, by injuring their enemies.
7. Since malaria may be latent and, hence, unrecognized, and since it is largely a disease of the lower classes, whose movements it is difficult to control, the best method of reaching it is to suppress the mosquitoes whenever possible.
8. Malaria is of sufficient importance to become a notifiable disease.
9. Infants and children exposed should have their blood examined during any disturbance of health.
10. In times of epidemic malaria it may become necessary to make special regulations governing infected persons.
11. It is of great importance that the relation of the widely distributed species, *A. punctipennis,* to the parasite of tertian fever be accurately determined.
12. It is also highly desirable to test the infecting power of fresh cases of tertian fever as compared with relapses and with individuals from malarial countries.

Medical News, New York.

August 8.

10 *Acute Non-suppurative Encephalitis; with Report of a Case. Harlow Brooks.
11 *The Form of the Ureter. Byron Robinson.
12 *A Simple and Rapid Chromatin Stain for the Malarial Parasite. Francis C. Wood.
13 *The Choice of Technic in Operating on Prostatic Obstruction. Charles H. Chetwood.
14 Resection of the Left Pelvis for Osteosarcoma. M. Stamm.
15 The Palliative Treatment of Fibroid Tumors of the Uterus. Augustin H. Goelet.

10. **Acute Non-Suppurative Encephalitis.**—The case here reported by Brooks was one of a girl 19 years of age, without prior bad habits or bad personal or family history, except excessive tea drinking and possibly drug taking for headaches. The postmortem is detailed. There was reflex cerebrospinal meningitis, probably secondary to cerebritis and of the cellular type, as described by Delafield and Prudden. There was also a general non-septic cerebritis of all parts of the cerebrum, most marked in the cortical and motor region with resulting degeneration of the nerve fibers extending into the spinal cord and through the internal capsule, which have their origin in the involved portions of the cortex. There was also an inflammation of the cerebellar tissues in a less marked degree, and slight, probably secondary degeneration of the ganglion cells of the anterior horns. As to the origin of the disease nothing is explained, but he thinks the cause was not infectious. The best way to explain it, he thinks, is by toxins which may have been of bacterial origin, since such conditions are found to follow influenza, but it may have been due to metabolic origin or to the toxic action of drugs. The patient had been in the habit of taking headache powders, and it is possible that these might have caused the disorder, though he does not know of these symptoms being produced by such drugs. The symptoms are such that the cases are probably sometimes misunderstood or credited to hysteria.

11. **The Form of the Ureter.**—Robinson illustrates the various types of ureters, showing the swellings and contractions, which he calls pelvic spindles and isthmuses. Of these the right lumbar spindle is generally larger in women than in men.

12. **Malaria.**—Wood has found the method described below especially valuable in the staining of fresh specimens for the malaria organism:

Fix the preparation for one minute in strong methyl alcohol, wash off in water and stain the slide for a few seconds with a 0.1 per cent. aqueous solution of yellowish eosin. The surplus of the eosin solution should be poured off and a few drops of a 0.2 per cent. solution of methylene azure poured over the slide. The staining will be complete in from one-half to one minute and the slide may be washed with distilled or tap water and dried with blotting paper. . . .

A longer treatment with the azure solution produces a deeper chromatin stain, a shorter treatment produces a stain of less intensity. If a stain of any particular depth is required the whole process may be easily observed under the microscope, selecting a group of leucocytes as a guide. The stain will be seen to gradually color the nuclei of the polynuclears a deep red, and at the proper point the neutrophile granules will be easily visible with a good four mm. dry lens. At the same time the nuclei of the large and small lymphocytes assume a deep red color and the cell bodies of the large forms color a pale blue, while the bodies of the small cells will be a deep blue. At this stage of the process the malarial parasite is of a pale blue color, with deeply red chromatin granules. If the methylene azure has remained in contact with the smear but a short time the red cells will be of a bright pink color, but if the staining is prolonged the red cells become bluish or greenish in color. After prolonged staining with the azure the color of the neutrophile granules generally fades and the bright pink of the eosinophiles is replaced by a bluish tint. For general purposes, therefore, it is best not to stain the slide too long with the methylene azure. . . .

Beginners may mistake the blood plates, which often lie in depressions in the red cells, for malarial parasites, especially as they stain red with the chromatin dyes. The distinction must be made by the differences in morphology. The blood plate is not sharply outlined and the nuclear substance is in the form of an indistinct mass not surrounded by a clear zone, while the small ring-form of the malarial parasite is very sharp in its outline, as is also the chromatic substance, the latter being surrounded by a clear zone and beyond this by the blue ring of the body of the parasite.

He has also been able to make good stains on old slides with this eosin and methylene-blue mixture.

13. **Prostatic Obstruction.**—Chetwood, from his experience in 45 cases, concludes that prostatotomy is less dangerous than prostatectomy. It is the operation of choice in a large number of cases of obstruction, notably those of moderate glandular enlargement or orificial hypertrophy and contracture in which the prime object is removal of the obstruction and depression of the bladder orifice. He also finds that galvano-caustic incisions when combined with perineal cystotomy accomplish satisfactorily the desired result, shorten the operation and minimize the dangers.

American Medicine, Philadelphia.

August 8.

16 *Acute Articular Rheumatism. Thomas McCrae.
17 *Beri-beri or a Disease Closely Resembling It Met in Chinese Fishermen Returning to San Francisco from Alaska. Donald H. Currie.
18 Emotions as Symptoms. Henry S. Upson.
19 Osteitis Deformans; Report of a Case. H. J. Sommer, Jr.
20 An Interesting Case of Pigmentary Degeneration of the Retina (Retinitis Pigmentosa). Walter L. Pyle.
21 The Education of the Young in Sexual Matters: A Lesson in Defeating Quackery. A. Robin.
22 The Ill Health of Jane Welsh Carlyle. George M. Gould.

16. **Acute Rheumatism.**—McCrae reports and analyzes the experience at the Johns Hopkins Hospital during the past year, covering some thirty-seven cases in forty admissions. The chief points noted are the severer type of the disease observed over that of previous experience, the greater proportion of cardiac complications, the long duration of the disease and the mortality. The cultures that were taken were practically negative throughout; the series, therefore, throw no light on the bacterial cause of the disorder. Of the 37 cases, 4 died in the hospital, or 11 per cent., against three deaths out of a total of 270 cases previously treated. The author remarks that the experience of these cases shows that acute rheumatism can kill as well as cripple, and he questions whether the former would not sometimes be the more merciful.

17. **Beri-Beri.**—Currie reports nine cases of what appeared to be beri-beri occurring in Chinamen employed in the Alaskan canning establishments. Four of the nine cases died. He thinks probably 4 per cent. of the Chinamen thus employed were attacked. The vessels which carried them back and forth did no other trading, and, therefore, did not enter into any known beri-beri zone. The cases, therefore, seem indigenous.

Medical Record, New York.

August 8.

23 *Some Comparative Examinations of Breast Milk and Cow's Milk and the Effect of the Addition of Alkalies and Other Antacids to Cow's Milk. Charles Gilmore Kerley, Albert H. Gieschen and George T. Myers.
24 *The Influence of Heredity on the Eye. John E. Weeks.
25 *Treatment of Trachoma. J. Herbert Claiborne.
26 *Electricity in the Treatment of Diseases of the Stomach. E. G. Marshall.
27 *A Contribution to the Study of the Intercostal Phonation Phenomenon and the Litten Diaphragm Phenomenon. Albert Abrams.
28 *Some Dangers of the Hot-Water Bottle as Applied to the Newborn. Douglas H. Stewart.
29 *Artificial Fluorescence of Living Human Tissue. William James Morton.

23. **Milk Examinations.**—Kerley, Gieschen and Myers conclude their article with the following conclusions:

1. Breast milk and cow's milk are both acid.
2. The litmus paper test for milk is unreliable because of the variation in the quality of litmus paper, and the litmus taking part in the reaction and not acting as an indicator.
3. The effect of adding lime water or bicarbonate of sodium to feedings is to retard or inhibit the formation of curds by rennet.
4. The teaching that lime water, bicarbonate of sodium, or carbonate of potassium should be added to fresh milk or feedings simply because they are antacids is erroneous.
5. The addition to milk or feedings of alkalies or salts that become alkaline in solution is an empirical method of aiding digestion by preventing the formation of dense curds that would slowly leave the stomach and be difficult of digestion in the intestine.

24. **Heredity in Eye Diseases.**—Weeks notices the various forms of eye trouble which may be influenced by heredity, including congenital conditions, such as polycoria, epicanthus, coloboma of the iris, aniridia, colobomæ of the choroid, albinism, malformation of the globe, cataract, optic nerve atrophy, retinitis pigmentosa, glaucoma, color blindness, etc. He remarks that the most common causes of eye disease are heredity and syphilis, and enumerates a number of conditions of this latter type.

25. **Trachoma.**—The treatment of trachoma is summed up by Claiborne as medicinal or surgical or a combination of the two. In the non-inflammatory forms characterized by frog-spawn granulations, the operation is expression alone with appropriate after-treatment as indicated. The best instrument, in his opinion, is the Knapp roller forceps or some modification. In the inflammatory form the operation of expression followed by a mild astringent and finally by a copper stick, is indicated as long as granules exist in a reasonable quantity. When the disease has passed the granular and is in the cicatricial stage, copper sulphate alone or in combination is indicated.

26. **Intragastric Electrization.**—Marshall describes his experience with the Einhorn method of intragastric electrization, which he says should not be resorted to except where medicinal and dietetic treatment has failed, but in such cases it will be found of inestimable value.

27. **Intercostal Phonation Phenomenon and the Litten Shadow.**—These phenomena are described by Abrams. The first consists of a distinct elevation of the intracostal space when short words or syllables are uttered by the patient. It is best seen, naturally, in lean individuals, and is best elicited if during phonation the patient closes his nostrils and places the other hand over his mouth so as to partially obstruct the exit of air. Its value is in differentiating lung infiltrations from accumulations in the pleural cavity, but it is not infallible here, as it can not be used in obese patients, when the exudate is compressing the lung, or when pleural thickening and adhesions exist. The Litten shadow is the method of discovering the diaphragm movements. The patient is placed with head and shoulders toward the light, lying on his back, with feet directed toward a window and chest exposed. Cross lights should be eliminated. It can also be shown with a strong light held at the foot of the bed, excluding other lights. The observer stands at the side a few feet from the patient, with his back to the light and observes the lower chest at an angle of 45 degrees. The patient is directed to take deep breaths, and as the ribs rise with each inspiration a short, narrow shadow moves along the axilla from about the seventh to the tenth rib. This is less evident during expiration, and cuts the ribs at an oblique angle. It is best seen in lean individuals of both sexes and is never absent in health, excepting in very fat individuals or those who can not take deep breaths. It permits us to say that in that particular chest region the

diaphragm and lung lie in contact with the thoracic wall and both are freely movable. Its absence would suggest an opposite condition of things, adhesions, emphysema and whatever would displace or make irregular the shadow. He gives a synoptic table of the phrenic shadows in the various conditions where it is diminished, absent or increased. He has tried to exaggerate it by various means and finds if the skin is colored yellow over the area it is much intensified. If nothing else is at hand the use of yellow vaselin will suffice.

28. **Hot-Water Applications to the New-Born.**—Stewart calls attention to the dangers of burning feeble children with hot-water bags, and this accident is not as uncommon as it ought to be. It may frequently be overlooked by the physician, especially if located on the back. He says if the reader will examine every new-born child on the third, sixth and seventh day after birth he will become just as timid as is the writer, and as watchful to see that there is a thick folded blanket above every hot-water bag and a thick folded towel under every ice bag.

29. **Human Tissue Fluorescence.**—Morton finds that administering quinin renders the tissues fluorescent and suggests that it might possibly be of value in cancer cases. Acting on this idea he has, during the last year, been in the habit of administering from 5 to 10 gr. or more of quinin bisulphate about one hour before *x*-ray treatment. While he can not positively affirm it, he believes that the cases thus treated by the combination of fluorescing medicines and the *x*-ray have made more improvement and more certain recoveries than patients not thus treated. He thinks this method, which he calls the *x*-ray histofluorescence, is worthy of trial. He has also used it in some other forms of disease, such as chronic malaria, Hodgkin's disease, lupus, tuberculosis and tuberculous deposits. He has shown the existence of this fluorescence by photographs of portions of the human body treated with quinin either applied locally or hypodermically in a dark room by its own light.

Cincinnati Lancet-Clinic.

August 1.

30 Medical Organization. Brooks F. Beebe.
31 The Use of Sodium Chloride and Oxygen Gas. Brose S. Horne.
32 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

August 8.

33 The Chemical Analysis of the Gastric Secretions. Clement C. Fihe.
34 Cancer of the Rectum; Report of a Case. George J. Monroe.
35 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

August 1.

36 Privileged Communications Between Physician and Patient. L. O. Hocker.

August 8.

37 Pelvimetry by Means of Graphic Reproduction of the Pelvic Canal in the Living Woman. Hugo Ehrenfest.

Brooklyn Medical Journal.

July.

38 Gastric Hemorrhage. Jacob Fuhs.
39 *Hematemesis Following Appendicectomy, with the Report of a Case and Presentation of Specimen and Slides. George R. Fowler.
40 *Tubal Pregnancy, Clinically Considered, with a Plan for Its Early Recognition and Radical Treatment. Walter B. Chase.
41 *The Skin as a Source of Wound Infection. George R. Fowler.
42 A Few Remarks on Some Everyday Ear Cases. J. E. Sheppard.
43 Teratoma of the Ear. William C. Braislin.

39. **Hematemesis Following Appendicectomy.**—Fowler reports a case of fatal hematemesis in an otherwise apparently healthy individual after appendicectomy. Minute ulcerations were found in the stomach, mainly on the lesser curvature. The processes were apparently quite recent, as shown by microscopic examinations, and he thinks that the multiple foci had their origin without doubt in the gangrenous appendix. The toxicity of the appendiceal lesion is responsible for the fatal issue in such cases. The question is whether the emboli bearing staphylococci pass through the pulmonary circulation, and finally find lodgment in the vessels of the gastric mucosa or whether the staphylococci alone were transported to and produced thrombi with subsequent embolism in the vessels. The latter view is sustained by two facts: In one section there was a focus of necrotic tissue containing staphylococci, and the vessels of the submucosa near this area contain recent thrombi, and in another section an exquisite embolus was seen involving a vessel in the mucosa near its bifurcation, the vessel and its two branches containing recent blood clot.

40. **Tubal Pregnancy.**—Chase emphasizes the importance of the practitioner examining a woman liable to pregnancy, bearing in mind the possibility of this condition. In case it occurs and rupture has not taken place the sooner the pregnant tube can be recognized and removed the better. In the cases in which the condition points to recent rupture of the intraperitoneal variety and evidences of hemorrhage are present, immediate operation should be done. It is criminal to leave a woman to chance in such cases. If evidence is present that the rupture is extraperitoneal—into the broad ligament—and the resulting hematoma is moderate in size, waiting for developments may be justified, as nature may possibly take care of the mass. Finally, while it will continue to happen that ectopic pregnancy will show a frightful mortality where no accurate diagnosis has not been made until too late, it is true that with a proper appreciation of the grounds, on which at least a presumptive diagnosis can be made by the practitioner, an increasing number of lives can be saved.

41. **Skin Infection.**—Fowler insists on the importance of skin infection, and gives his own methods. He trims his finger nails as closely as possible consistent with their aid in the tactile sense, and then washes with tincture of green soap and warm water. The spaces between the nails are then scraped with a blunt instrument to loosen the dirt beneath the nails, which has been previously softened by the washing, following this with a special nail brush, consisting of small wire brush stretched in a frame, such as are sold in lengths as smoking pipe cleaners. Then follows the ordinary hand brush properly sterilized, scrubbing the palms, ends of the fingers, including the entire nail. The backs of hands, where eczematous conditions are apt to arise, and the arms as well are cleansed with a folded square of gauze used as a wash cloth. Lukewarm running water is used. All traces of soap are now washed off with a lukewarn 1 to 2,000 mercuric chlorid solution, after which an alcoholic solution of the same strength is used. With the aid of gauze the alcohol is rubbed in and about the matrix of each nail separately. If the hands have been recently exposed to any special infection, such as a pus case, additional precautions must be taken. They should be thoroughly and deeply stained with permanganate and corrosive sublimate solution. A two minutes' immersion is sufficient to stain the hands deeply, after which he decolorizes in a hot saturated solution of oxalic acid. The addition of half an ounce of strong ammonia water to a quart of sterile water makes a solution which will neutralize the acid, after which the ammonia solution is washed off in the bichlorid solution. The hands are again stained in potassium permanganate and mercuric chlorid solution and this stain permitted to remain. During the operation it is of utmost importance, he says, to dip the hands at least every five minutes in cold solution of sublimate. In septic cases bleaching in oxalic acid before the operation is omitted, the hands being simply protected by deeply staining them with permanganate and sublimate solution and permitting this to remain during the operation. This course is also followed in clean cases when the hands have not been recently exposed to a special infection. The stain serves the purpose of preventing the passage of micro-organisms from the depths of the skin of the hands to the surface. The principal points are summarized as follows: 1. The necessity of cleansing the surface and all accessible harboring places for dirt. 2. The necessity for avoiding irritations to the skin of every description and removing those influences which relax its structure and favor the migration of micro-organisms. 3. The protection of the hands from micro-organisms which give rise to suppuration. 4. Frequent disinfection of the surface of the hands during operation. Fowler has little faith in rubber gloves or impermeable applications to the hands.

American Journal of Obstetrics, New York.

July.

44 *Diagnosis and Treatment of Medium Degrees of Pelvic Deformity. J. M. Munro Kerr.
45 *Accouchement Forcé. Robert L. Dickinson.
46 *Abdominal and Vaginal Cesarean Section as Means of Accomplishing Accouchement Forcé. J. Clarence Webster.
47 *Cervical Incisions in Labor. Rudolph W. Holmes.
48 *The Bossi Dilator; Its Place in Accouchement Forcé. J. B. De Lee.
49 *The Effects of the Toxemia of Pregnancy on the Cardiovascular System. Richard C. Norris.
50 A Report of the Major Operations Performed on the Service of Dr. H. D. Nichol, at the Woman's Hospital in the State of New York, from February, 1901, to June, 1902, with Remarks on the Technic Employed. Dougal Bissell.
51 Report of a Case of Tubercular Pyelonephritis, Ureteritis and Cystitis. Weight of Kidney After Removal 18½ Ounces. W. L. Burrage.
52 *Objections to the Vaginal Route in the Treatment of Ectopic Gestation. J. Wesley Bovée.
53 *Concerning the Nature of the Small Cysts Frequently Found in the Peritoneum Covering the Fallopian Tubes. Thomas G. Dickson.
54 Report of a Case of Cyst of the Round Ligament. A. Brothers.
55 *Placenta Previa. John F. Moran.
56 A Plea for the Better Care of Women After Labor. William M. Sprigge.

44. **Pelvic Deformity.**—Kerr reviews the methods of examining for pelvic deformity, giving his own. In certain cases where the difference in size between the head and pelvis is only slight, a decision should be come to only after watching the progress of the labor, especially in primiparæ. What he calls medium degrees of pelvic deformity are "those cases where the C. V. is round about three inches and there are several alternative treatments, forceps, version, induction of premature labor, symphysiotomy and occasionally cesarean section or craniotomy." The factors that should guide us in the decision are: The stage in which the case is seen, whether during pregnancy or after the commencement of labor, the general condition of the mother, the presence or absence of complications, nature of the presentation, and the possibility of rectifying it if abnormal, the condition of the fetal head, the presence or absence of any complications such as malformations, prolapse of the cord or a plural pregnancy. He has never seen a spontaneous birth occur with a C. V. below 3½ inches. Symphysiotomy should be employed only in judiciously chosen cases, though justifiable in such, and is contraindicated in overlapping of the head at the symphysis more than of the slightest degree. With a vera below 3 inches it becomes a last resort, and 2¾ inches is the lowest limit. With 3 inches, however, a good result can be obtained unless the head is too large. With 3¼ inches he would always try forceps first. He thinks the operation should not be performed in persistent breech presentation, and if the fetal heart beat is unsatisfactory. The induction of premature labor would be an ideal operation if the patient were seen early enough in pregnancy, which is not always possible. If we can be sure of the age, it is undesirable to induce before the thirty-fourth week. Craniotomy is justifiable if the child is dead or the fetal heart is feeble and if the patient has been in labor long before coming under care, and there is a probability of her being already infected; even if the child is alive, he thinks craniotomy is the only alternative if one fails to deliver with forceps. It is absurd to say that it is a crime to perforate a living child. It is occasionally quite sound treatment.

45. **Accouchement Force.**—While every case should be studied by itself, the choice of a method where delivery has to be forced is, according to Dickinson, as follows:

For induction in the latter months and for inertia during labor (other causes being eliminated, such as exhaustion, over-distension and malposition of passage or passenger), the bag comes first, then the hand, and the forceps finish their work. For placenta previa, the balloon for the narrow cervix that bleeds when the head will not plug it and, in bad cases, version, since the thigh is the surest tampon. For brisk hemorrhage of detachment of a normally located placenta, the greatest speed, manual or metal dilatation. For the rigid cervix of the early months and the unyielding girdle of the primipara or the gristly hardness of eclampsia, the powerful Bossi instrument is a great boon, and none of its imitators approach it.

He asks for a careful study of the various methods lest the European enthusiasm for the branched dilator go beyond bounds.

46. **Cesarean Section.**—The indications for cesarean section are noticed by Webster, and the technic described. It is advisable in some rare cases of eclampsia or when the eclamptic dies, the fetus being still alive, but its routine practice is unjustifiable. Vaginal cesarean section is to be recommended in cases of eclampsia in pregnancy or in early labor in which the cervix is rigid and difficult to dilate. It is in such conditions a safer and more scientific procedure than Dührssen's incisions or forcible stretching with metal dilators, as it produces a clean incision in the mesial plane of the cervix and lower uterine segment, hemorrhage from which may be readily controlled. In placenta previa abdominal cesarean section was first advised by Lawson Tait, but Webster considers it rarely indicated, and only when some condition exists rendering the ordinary methods hazardous or impossible. In accidental hemorrhage or placental detachment it has been rarely employed and should be considered only when impossible to carry out the other procedures by the vaginal route. Vaginal cesarean section is indicated in cases of accidental hemorrhage with a critical condition of the patient, and it is impossible to rapidly dilate the cervix by the ordinary means, provided a competent operator is at hand. Also in affections of the heart, lungs, kidneys, etc., where the mother is in danger, and rapid delivery is indicated, the vaginal method is preferable. Abdominal operation should not be employed except where the other is impossible. In case of the mother *in articulo mortis* carrying a viable fetus, or after the death of the mother, it should be the duty of the physician to advise immediate cesarean section in the hope of saving the child The abdominal operation is the easiest and quickest in such cases.

47. **Cervical Incisions in Labor.**—The following are the conclusions of Holmes' article in regard to Dührssen's operation:

1. The contributions of Dührssen to the subject of cervical incisions are not sufficiently original to warrant a proprietary right in the nomenclature: Coutouly, Baudelocque, Bedford, Braun and Skutsch did much to develop our knowledge of the subject. 2. Effacement of the cervix is an indispensable prerequisite to the use of incisions. For this reason incisions are especially applicable to primiparæ and often are contraindicated in multiparæ. 3. Incisions are indisputably of value, even necessary in essential indications. In contributory indications their use is a moot question: the judgment of the operator must decide in individual cases. 4. Manual dilatation preliminary to incisions does not secure the best cervical condition for incisions. 5. Incisions always are potentially dangerous; dangers comprise infection, hemorrhage and extensive lacerations beyond the vaginal vault. 6. Use of incisions demands an obstetric armamentarium, assistants and a definite experience in obstetric procedures. 7. The details of the technic may be modified to suit the taste of the operator. 8. The minimum number of incisions to meet the exigencies of the case should be made. 9. Oblique incisions may be proven to be more advantageous as regards the after effects than the usual quadrant cuts. 10. In the absence of hemorrhage or accessory lacerations, it is a moot question whether the incisions should be sewed up or not. 11. Immediate delivery should follow the incisions.

48. **Bossi Dilators.**—De Lee's opinion, based on three cases and the study of many reported cases, is that there is a small field of usefulness for the Bossi dilator where rapid dilatation of the cervix is necessary after effacement. Before effacement, the colpeurynter should be used. It will be more successful in multiparæ. The dilator will also be useful in dilating the cervix where manual dilatation would be successful. It is more aseptic and the operation is not tiring. The instrument is not safe, but requires careful and skilled watchfulness, and one must search for and be ready to repair more or less extensive lacerations. These are greater in primiparæ. It should never be used in placenta previa. It does not replace the colpeurynter, the use of the hand or cervix incisions in all cases.

49. **Toxemia of Pregnancy.**—Norris thinks that some cases of sudden death after labor can be explained by an unrecognized toxemia originating during pregnancy and suddenly declaring itself by what he has termed a cardiac eclampsia, overwhelming the heart.

52. **Ectopic Gestation.**—Bovée has changed his opinion as to the availability of the vaginal route in operations for tubal pregnancy. His reasons for preferring the abdominal route are given as follows:

1. The field of hemorrhage can be more quickly reached by this route, taking into consideration the relative amount of time consumed in cleansing the two routes under anesthesia. 2. The condition can be the more readily treated and the ligation of blood vessels more readily and certainly performed. 3. The danger from

secondary hemorrhage in ectopic pregnancy is markedly less when ligation is practiced than when removal of blood clots alone is practiced. 4. Any other important pathologic lesion requiring attention in suitable cases may be treated at the same sitting. 5. The shock, as a rule, will be less than if the vaginal incision and abdominal incision are both made. 6. The tube can be more readily removed than by the vaginal route. 7. The abdominal route is applicable in all stages of the pregnancy, while the vaginal can not be employed for the later stages. 8. The vaginal incision has no place in the treatment of unruptured tubal pregnancy, while the abdominal incision is the route *par excellence*.

53. **Cysts of the Peritoneum.**—The explanation of the cysts here given by Dickson is that they are dilated lymph spaces, and are associated with those diseases of the tube and generative organs which are capable of interfering with the free circulation of lymph in the tubal peritoneum.

55. **Placenta Previa.**—After a rapid review of the literature Moran reports briefly five cases of his own observation. He thinks no fixed routine of treatment can be adopted in these cases. There is rarely any difficulty in lateral previa. In the marginal, however, it becomes more dangerous and the central variety is always a matter of grave concern. Hemorrhage and sepsis are the greatest dangers, and rupture of the uterus as a third factor may be added in accouchement forcé, especially when an attempt is made to deliver the child with an insufficiently dilated cervix. Thorough asepsis, rupture of the membrane, partial detachment of the placenta, efficient tampon, dilatation of the cervix with Barnes' or McLean's bag and application of forceps should give good results in the majority of marginal cases. Where version is indicated and there is a possible choice between bi-polar and internal version, the former will be the safer procedure for the general practitioner. As regards cesarean section, he thinks further experience will have to determine the indications, but the statistics are not very encouraging.

Cleveland Medical Journal.
July.

57 *Rheumatism in Childhood. Alfred Friedlander.
58 The Laboratory Methods in Ohio's State Hospitals. A. P. Ohlmacher.
59 The Relative Value of Diagnosis. F. C. Gray.
60 *The Treatment of Puerperal Eclampsia, with a Report of Cases. F. S. Clark.

57. **Rheumatism in Children.**—Friedlander notices the characteristics of rheumatism as it occurs in children. He considers that infection is generally through the tonsils. Its clinical manifestations are very different from those in adult life; the arthritic symptoms are not so well marked. Rheumatic purpura is quite common in childhood, and rheumatic nodules occur more often in the rheumatism of children. Another symptom, often of diagnostic import, is recurrent epistaxis for which no cause can be found. While diagnosis in the adult is easy, in children, owing to its atypical course, the symptoms not following in the regular way, and many of the usually prominent ones being absent at times, it may be difficult. The onset of an endocarditis which may be an initial phase of the disease is often very insidious; the continuous fever with slight remissions, though of considerably low degree, not explainable by other definite infection, is one of the most valuable signs of beginning endocarditis we have. We do not have the successive involvement of many joints as in adults. In doubtful cases special attention should be paid to the family history, to the previous history of the patient as regards slight joint stiffness, swelling, so-called growing pains, nose bleed, frequent attacks of tonsillitis, and erythema, and the examination of the heart for signs of endo- or pericarditis and temperature. Rheumatic children do best on a generous dietary with special limitations applied to sugar and starchy foods. Malnutrition is frequently a factor in the cases and milk should be taken in large quantities, plenty of green vegetables and moderate amounts of the more easily assimilated meats. They should wear flannel the year round and avoid exposure to the cold east winds when it is slushy under foot. For actual attacks, the salicylates in combination with bicarbonate of soda are the best treatment. To get good effects the amounts must be rather large. Local applications to the joints are not always necessary. A tendency to frequent recurrence heightens the danger of heart involvement.

60. **Puerperal Eclampsia.**—The treatment of puerperal eclampsia, according to Clark, consists first in the removal of toxins. Failure of the kidneys is our best guide. Mild alkaline waters are our best diuretics. The bowels should be moved freely; phosphate of soda in small doses is an excellent laxative. High injections of saline act by flushing out the bowels. Where the convulsions can not be controlled without terminating labor, the uterus should be emptied. He can not recommend cesarean section. Veratrum viride he finds to be often useful, and calomel in fairly large doses by the mouth and still larger ones by the rectum, is good for controlling convulsions. Chloroform is of value to hold the convulsions in check until other remedies can take effect, but for this purpose it should be used continuously and not intermittently. He reports three cases and insists on the importance of prophylaxis.

Archives of Pediatrics, New York.
July.

61 *A Report of Eight Cases of Pneumonia in Infancy Treated with Antipneumococcic Serum. John Lovett Morse.
62 *Principles of Infant Feeding as Based on the Evolution of Mammals. Henry D. Chapin.
63 *Acetone and Diacetic Acid as a Cause of Persistent Recurrent Vomiting of Children. Edward L. Pierson.
64 A Severe Case of Chorea Complicated by Pneumonia. C. F. Judson.
65 Pharyngeal Croup Relieved by Nasal Intubation (Soft Rubber Tubes). W. P. Northrup.
66 O'Dwyer Intubation Instruments. Added Small Tubes for Infants Under One Year. Exhibition of Modern Complete Set. W. P. Northrup.

61. **Antipneumococcic Serum in Pneumonia.**—In the eight cases here reported by Morse the effect of the antipneumococcic serum was apparently negative. It seemed to have no effect on the course of the disease or its symptoms.

62. **Infant Feeding.**—Chapin studies the evolution of infant feeding based on the evolution of the species, and discusses the various forms of mammalian life and the developmental life of the fetus. He offers the following, which he thinks are of value:

1. An infant undergoes three stages of development and nutrition: Pre-placental, placental and mammary; and should be looked on as attached to the mother in all three. 2. At the beginning of the mammary stage, an infant has only the rudiment of a true stomach. 3. During the period of mammary development the mother first changes the character of the infant's nourishment from colostrum to milk, and then the infant's digestive secretions so change the character of the milk that, as the digestive juices increase in quantity and strength, the work of digestion is not thereby lessened but, rather, increased, as the stronger the gastric juices become, the tougher the milk curds become, owing to the acid combining with the curds. 4. The milks of all animals will produce good tissue. They differ in composition according to the rate of growth of the young animals. Their proteids differ in accordance with the type of digestive tract they are to develop. 5. No known method of procedure will convert cow's milk into human milk. All methods of artificial feeding must have in view the production of food that will adapt itself to the developing digestive tract. All substances, aside from breast milk, are foreign to the infant's digestive tract, and may at times cause disturbance. 6. In artificial infant feeding, certain minimum quantities of digestible proteid, fat, carbohydrates and mineral matters are needed. The mean composition of breast milk will serve as a general guide to the nutritive requirements of infants. 7. Milk must be the basis of an infant's food, not alone because it contains animal proteid, but because it contains the only available form of proteid that possesses the function of developing the digestive tract. 8. The proteid of cow's milk, which was intended to develop a calf's stomach to digest grass, must be modified or adapted to the infant's stomach. 9. This may be done by chemically or mechanically altering the character of the curds, by diluting milk with either alkalies or gruels. 10. When, for any reason, a sufficient quantity of proteid of cow's milk can not be given, it must be supplemented by other forms of nucleoalbumins until the normal quantity can be digested. It is a gross error to feed too low proteids of milk simply to overcome indigestion.

63. **Recurrent Vomiting of Children.**—In the three cases studied by Pierson of psychic or recurrent vomiting of children, he carefully examined the urine and found diacetic acid present either just preceding or in the early stages of the attack. The treatment used was bicarbonate of soda, given rectally, in quantities up to 100 or 125 grains a day. He thinks there is no question but that the attacks are prevented by this treatment, and that acetone and diacetic acid are present in the urine before or in the very early stages of an attack.

American Journal of the Medical Sciences, Philadelphia.
July.

67 A Case of Gunshot Wound of the Brain in which the Roentgen Rays Showed the Presence of Eight Fragments of the Bullet; Localization by Sweet's Method Made Operation Inadvisable. W. W. Keen and William M. Sweet.

68 A Report of Two Cases of Multiple Sarcomatosis of the Central Nervous System and of One Case of Intramedullary Primary Sarcoma of the Spinal Cord. William G. Spiller and William F. Hendrickson.
70 *Histologic Character and Diagnosis of Malignant Neoplasms of the Digestive Organs and Peritoneum. John C. Hemmeter.
71 Syphilis of the Trachea and Bronchi. Lewis A. Conner.
72 The Prominence of the Eyeball and a Method for Measuring It. Edward Jackson.
73 *Localization of Foreign Bodies in the Eye and Their Removal, with Report of Cases. Louis C. Deane.
74 *The Lymphatic System and the Tonsils. Henry L. Swain.
75 *The Indications for Operative Intervention in Middle-ear Suppuration. Barton H. Potts.
76 *A Xiphosternal Crunching Sound. Myer Solis-Cohen.
77 The Cellular Changes in Tuberculous Leptomeningitis. I. B. Diamond.
78 A Case of Paralysis of the Sixth and Seventh Cranial Nerves of the Right Side, with Hemiplegia of the Opposite Side. E. Andrade.
79 Hiccough: Report of a Case. L. W. Atlee.
80 Clinical Gonorrhea without the Gonococcus. A. L. Benedict.

70. Neoplasms of the Digestive Organs.—The subject is discussed at length with reference to the leading articles in the literature. The diagnosis is specially noticed, and its difficulties, which are marked in cases where there are no metastases or other palpable evidences of malignancy. In the conclusion of his article Hemmeter treats of the transformation of gastric ulcer into malignant disease. The practical deductions of the histologic diagnosis which can be made from the studies of Hauser, Fütterer and himself, are that it is possible to diagnose carcinoma or ulcer of the stomach histologically by the characteristic behavior of the true muscularis and the muscularis mucosæ and by the fish-hook form of the fissure presented in the outline of the section through the edge of the ulcer nearest the pylorus. By these features he thinks we are justified in concluding that any gastric adenocarcinoma presenting them has been developed on a pre-existing gastric ulcer.

73. Foreign Bodies in the Eye.—Deane describes a method of locating foreign bodies in the eye and reports cases. According to his experience a scleral incision has been in many cases more satisfactory than trying to extract the substance anteriorly with a giant magnet.

74. The Lymphatic System and the Tonsils.—The importance of the tonsils as introducers of infection is discussed by Swain, who reports a case at some length. He thinks the pharyngeal tonsil is the one most frequently attacked in children, and its inflammations are the most likely to endanger the general system. He does not advocate the indiscriminate removal of tonsils. The practical point is, he thinks, when we operate to be thorough in what we do and always remember that we have still some tonsillar tissue left. The patient has still all the chances of being infected. We have not given an immunity because we have operated, we have only given a lessened liability, and should not dismiss the case as needing no further care.

75. Middle Ear Suppuration.—Cases are reported by Potts showing the points of diagnosis. He reviews the symptoms indicating operation in many of the cases, which are given by him in substance as follows:

1. Profuse and long-continued discharge indicating a possible anterior or mastoid involvement and fluctuating swelling over the mastoid, diagnostic when present, but its absence not contraindicating operation. Edema behind the auricle is more apt to be due to furuncle, and tenderness over the mastoid, especially in the region of the antrum, is of great significance whenever present, but may be doubtful or absent if the outer table is much sclerosed. The inflamed, tender and bulging upper and posterior canal wall is one of the most important signs of all, and its non-relief by treatment is a sure indication for operation, as also is a sinus, whatever its location, leading into the mastoid. Facial palsy is of interest but not important. Epileptiform attacks are unusual, but indicate a possible cerebral pressure. Marked and rapid failure in the health is more apt to be found in adults than children. The temperature is more liable to be elevated in children than in adults. Rapid fluctuations of temperature over a range of several degrees is the most important sign of pyemia. Other symptoms are the slow and thready pulse, out of proportion to the elevation of temperature, irregularity or sluggishness of pupils, rapid failure of health and rigors or convulsions, all signs of intracranial pressure. Tenderness and edema over the occipital are very apt to be present when the sinus is thrombosed. Bacteriologic examinations are not positive, but are important.

76. A Xiphosternal Crunching Sound.—This sound, which has not been noticed apparently in many text-books, is described by Solis-Cohen, who reports cases in which it was observed. It is difficult to describe. Before he selected the present designation he called it "friction-sound," "rough rubbing, clicking sound," "brushing sound," "scraping sound," etc. He is inclined to believe that it is due to white patches in the pericardium, and quotes Roberts from Allbutt's System of Medicine, and Gibson, in support of this view.

Archives of Ophthalmology, New York.

July.

81 Aplasia of the Papilla and Retinal Vessels, with a Peculiar Anomaly at the Macula in Eyes Otherwise Normal. Alexander Duane.
82 *Retinal Rosette Formations of Neuroglia in Inflammatory Processes. Brown Pusey.
83 *Cytotoxins and Sympathetic Ophthalmia. Brown Pusey.
84 On Congenital Cysts of the Eyeball and Their Development. C. Hess.
85 *Asthenopia Dependent on Neurasthenia and Hysteria. H. Gradle.
86 *Double Optic Neuritis Complicating Whooping Cough. William E. Gamble.
87 Periscopic Lenses. A. S. Percival.
88 Polypus of the Lower Canaliculus. S. C. Ayres.
89 *The Extirpation of the Lachrymal Sac; Its Indications and Technic. Arnold Knapp.
90 *The Mental Derangement which Is Occasionally Developed in Patients in Eye Hospitals. Charles J. Kipp.

82. Retinal Rosette Formations.—Pusey describes a case analogous to those already described by Murakami of these rosette formations associated with a pure inflammatory process. In the case reported an acute general inflammation of the globe followed an old irritative process. The rods and cones disappeared while the fibrous structures persisted, and even appeared to be increased. In the midst of these changes the rosettes occurred. He accounts for them by holding that they are due to folds in the retina, probably caused by shrinkage of the bands in the vitreous. He thinks they probably have been seen before, but their resemblance to the rosette formations of tumors has not been appreciated.

83. Sympathetic Ophthalmia and Cytotoxins.—Pusey reports experiments to test whether a heterotoxic serum for the eye can be obtained that might account for the phenomena of sympathetic ophthalmia. His results are negative, but they do not disprove the theory that toxic influences are at work in inducing this condition. There are possibly defects in the experiments which render these negative results inconclusive. He is waiting for an opportunity to try an injection of blood serum from the blood of a patient suffering with sympathetic ophthalmia into the blood of a monkey.

85. Neurasthenic Asthenopia.—Gradle describes the condition of asthenopia frequently met with in hysterical and neurasthenic cases in connection with more or less impaired health, anemia, neurasthenic conditions, etc. In a small proportion the discomfort was started in the illy-nourished and neurasthenic by a low grade of catarrhal conjunctivitis and in a large number of cases there was no error of refraction or insufficiency of accommodation. He speaks particularly of the value of mental treatment in these cases when glasses have failed.

86. Optic Neuritis of Whooping Cough.—In the four cases reported, optic neuritis occurred about the fourteenth day of the convulsive stage in one-half the cases, and in the other two after some weeks or months, the connection not being so manifest. Evidences of cerebral trouble, headache, etc., were present in only two cases. Gamble thinks optic neuritis in these cases is probably intraocular. The conclusions suggested are that optic neuritis complicating whooping cough seems to occur more frequently in girls, all his cases being in girls. It may occur with or without evidence of cerebral complication. The vision may or may not be disturbed. The prognosis as to sight is good when there is no cerebral complication. It seems probable that optic neuritis may result from the direct action of toxins or pertussis on the nerve-head.

89. Extirpation of the Lachrymal Sac.—Knapp enumerates the indications for this operation as chronic purulent dacrocystitis resistant to treatment, repeated attacks of acute dacrocystitis with abscess, whenever the sac is dilated whether the contents can be expressed or not, and lachrymal fistula. Either local or general anesthesia may be employed. He makes an incision just below the internal canthal ligament,

passing down and out along the prominent orbital margin for 1.5 to 2.5 cm. The ligament may or may not be divided. If it should be, care should be taken to join the divided parts at the termination of the operation to prevent the possible sinking in of the caruncle. The incision is carried down through the tissue until the sac is exposed. It is usually recognized by its pale red or bluish-red smooth uniform surface. Hemorrhage in the lower part of the incision may be annoying, but can usually be controlled by retraction and compression. The sac is isolated by blunt dissection from its inner wall, proceeding upward, and the cupola freed. It can be more or less lifted out of the fossa. The outer surface must be separated by cutting with small blunt scissors, the attachment above and outward to the canaliculi being carefully separated. It is cut off as low down in the lachrymal canal as possible, and the canal is thoroughly curetted with a small spoon. Then with reflected light a careful inspection is made for any remaining islet of mucous membrane, granulations, inflamed periosteum, or carious bone, which conditions should all be properly met and radically treated. Special care must be used to see that the top of the lachrymal fossa is perfectly clean. If the bone on the inner wall is diseased and superficial curetting be deemed not sufficient, a free opening should be made right into the nose. This enables the removal of the diseased bone and insures proper drainage. The operation is concluded by the exact approximation of the wound edges with two or three sutures, and the cavity is obliterated by pressure on it kept up in the dressings for the next two or three days. The difficulty varies according to the inflammation and adhesions present. Primary union with obliteration of the cavity can be secured in most cases.

90. **Post-Operative Mental Disturbance.**—Twelve cases are reported by Kipp of mental disturbance following operations on the eyes, occurring in both sexes, but mostly in males; the majority had passed middle age. The recovery was very speedy after the patients could be removed to their own homes. He reviews the literature of the subject, that is the ophthalmologic literature, but finds little by American authors. He thinks the cause of the delirium is largely psychic and due to preoccupation on the part of the patient prior to and after the operation. He calls it homesickness, nostalgia with suicidal and homicidal propensities. He has thus far not used restraint but thinks he may have to in future cases. The quickest way to restore the mental equilibrium is to send the patient home. If this is impossible transfer him to some other quarters and give him the society he is accustomed to as far as possible.

St. Louis Courier of Medicine.

July.

91 *The Operative Treatment of Closed Fractures of the Patella. T. W. Huntington.
92 *A Case of Painless Labor, with Special Consideration of the Cause of this Condition, Arthur N. Curtis.
93 *A Bloodless Case of Placenta Previa. W. G. Moore.
94 Diet in Summer Complaint. William F. Waugh.

91. **Fractures of the Patella.**—Huntington reviews the methods and criticises the subcutaneous suture operation as making no provision for toilet of the synovial cavity or adjustment of the aponeurotic fringes and as not by any means a security against germ infection. His routine method is similar to that described and followed by Stimson and other writers: making a transverse incision about 1 c.c. below the point of fracture, clearing the anterior chamber of clots and serum and sponging with small mounted gauze pads, avoiding irrigation as not only unnecessary, but even dangerous. The aponeurotic fringes are carefully everted and held by snap forceps. Any lacerations in the synovial membrane, which are very common, are carefully repaired by suturing with fine catgut. The fragments are then approximated and firmly held while the aponeuroses are sutured with a No. 2 chromicized gut, care being taken as to adjustment, the needle being carried from without inward toward the periosteum, thence under both edges of the fringe and brought out on the opposite side. It is then reversed and inserted about half an inch from the point of emergence, passing from without inward again under both fringes and out at the same distance from the point of original ingress and tied. This gives a mattress suture, the fringes being supported from below by the two lateral arms of the suture, and prevented from becoming re-engaged between the fractured surfaces. The everted edges of the two margins are thus adjusted so as to unite by a firm cicatrix. Another important end attained, he claims, is the prevention of the outward tilting of the fragments, and the securing of the best possible approximation of fractured surfaces. The external wound is closed by silkworm-gut sutures carried through the everted edges of the aponeurosis and thus obliterating the intervening dead space. Over a voluminous dressing, a plaster-of-paris splint is applied, extending from the upper thigh to the ball of the foot and left in place, unless temperature rises, until time for removal of the skin sutures. At the end of the second week in ordinary cases he would cautiously undertake passive motion. Progress will necessarily be slow until the end of the seventh or eighth week, at which time the normal range of the joint movement will be reestablished. He reports a number of cases, all successful.

92. **Painless Labor.**—Curtis reports a case of painless labor in a primipara with a child weighing eight pounds. The patient was neurotic. He explains the phenomenon on the bases of a peculiar anesthesia of the parts due to this neurotic condition. He alludes to the fact that painless labor may be due to hysteria and considers a condition of hysterical uterovaginal anesthesia, not interfering with normal contractions, as probably the cause in this and other like cases.

93. **Placenta Previa.**—In the case reported by Moore, half of the placenta, with about four inches of the cord, was pushed outside without any hemorrhage, and the patient gave birth to a living child of about seven or eight months' development. The other half of the placenta was found adherent to the os uteri and removed without difficulty or hemorrhage. Moore considers this case unique and explains it on the ground of a central implantation of the placenta, which, being thinner than usual, was sufficiently elastic to allow a small head to be engaged, dilating the os, which acted as a stopper until the placenta ruptured, permitting the body to follow it until delivery was completed.

Iowa Medical Journal, Des Moines.

July 15.

95 The Treatment of Intestinal Obstruction. Charles Woodhull Eaton.
96 *Spurious Tapeworms or Parasitism Due to Undigested Bananas. Walter L. Bierring and Henry Albert.
97 *The Sound of Muscular Contraction. Walter E. Scott.
98 Why Have There Been so Few Results from Original Scientific Research in State Hospitals for the Insane? J. U. Wherry.
99 A Contribution to the Literature of Dislocations of the Shoulder. Lewis Schooler.

96. **Spurious Tapeworm.**—Bierring and Albert noticed a peculiar appearance resembling a parasite which they thought probably might be *Tenia nana*, the smallest known tapeworm, but which Stiles proved to be the tissue from a banana. They give illustrations of the appearances.

97. **The Sound of Muscular Contraction.**—Scott describes the sound of muscular contraction, which he thinks is largely responsible for the general vesicular respiratory sound. He has never seen any allusion to this sound in any article on the subject. He has noticed it especially in tetanus, and its absence may be of value in the diagnosis of muscular degeneration, paralysis, atrophy, etc.

Interstate Medical Journal, St. Louis.

July.

100 *A Contribution to the Therapy of Enuresis. John Zahorsky.
101 *Some Experiences with Local and General Anesthetics. T. C. Witherspoon.
102 *The Blood in Diseases of the Digestive Tract. Albert E. Taussig.
103 Reports on Radiotherapy: 1. Cure of Epithelioma of the Tongue. 2. Result in the Treatment of Axillary Hyperidrosis. 3. A Cream Paste for X-Ray Burns. Martin F. Engman.
104 A Case of Suppurative Parotitis Complicating Pneumonia. C. J. March.

100. **Enuresis.**—Zahorsky notices the various methods that have been employed for urinary incontinence and favors the

cerebral theory of the disorder. The treatment which he has lately followed with considerable success is given by him as follows: Two doses of a diuretic during the day, one at 9 a. m. and the other at 2 p. m., usually the alkaline citrates with spirit of nitrous ether, but he has also used caffein and diuretin, and sodium benzoate. One dose of atropin at night, substituted sometimes by rhus aromatic or antipyrin. He also uses Prendergast's method of cold douching the back. It is too early to speak of positive results, which he promises in a future communication.

101. Anesthetics.—Witherspoon discusses the use of local anesthesia, for which he prefers eucain in most cases. It is not so toxic as cocain and can be sterilized by boiling. It is interesting to notice how little of the drug can be effective. He mentions a case of strangulated hernia operated on with 1/16 of a grain, and he is especially impressed with its effects in partial thyroidectomy. He has also operated with it in cases of empyema with great advantage and used the method in operations on the nerves of the lower extremities. When there is great irritability at the anus and lower rectum he has been rendered the greatest service by injections into the triangular open space at the lower end of the sacrum posteriorly, and in this way has operated on several fissures and fistulas of the rectum. He has tracheotomized the adult three times for the purpose of giving a general anesthetic afterward. In using an anesthetic on the mucous membrane or open surface he relies on cocain, and has no bad effects from its careful use. When general anesthesia is required he prefers chloroform unless contraindicated.

102. Blood in Diseases of the Digestive Tract.—Taussig sums up as follows:

In esophageal affections there is usually no characteristic blood change. In gastric cancer the leucocyte count as such does not always give reliable information. The absence of a digestive leucocytosis, however, is significant, and would be more so if chronic gastritis with dilatation, and especially gastric atrophy, did not produce a similar picture. The latter affection is often characterized by the interesting changes of pernicious anemia. The other gastric affections produce no distinguishing blood changes. Of the intestinal disorders, it is, especially in appendicitis, that the leucocyte count is of value. Here suppuration is characterized by a marked leucocytosis, though this may be absent if the abscess is thoroughly encapsulated. On the other hand, both a mild and a desperately severe case of appendicitis fail to produce leucocytosis.

The blood examination in diseases of the digestive tract, while never giving such precise information as to supplant clinical observation, is often a valuable aid to diagnosis, and should not be neglected.

Southern California Practitioner, Los Angeles.

July.

105 *Treatment of Ununited Fractures of the Femur. LeMoyne Wills.
106 Vaginal Fistulæ. W. W. Beckett.
107 Ectopic Gestation. W. W. Roblee.
108 Clinic Results with Roentgen's Rays. Albert Solland.
109 Child Life or Responsibility to Offspring. Kate Wilde.
110 Proper Hygiene in Our Schools from the Ophthalmologist's Point of View. W. E. Hibbard.
111 Some Observations Made on the Inspection of Schools. L. M. Powers.
112 Important Relations of Blood Pressure to Therapeutics. John A. Colliver.
113 A Study of Immunity, Ehrlich's Side Chain Theory. F. M. Pottenger.
114 The Public School and the Growing Girl. Louis H. Clarke.

105. Fractures of the Femur.—The treatment of ununited fractures of the femur are especially noted by Wills, who reports a case and calls attention to the following points: 1. The futility of any treatment except incision, turning out the ends of the bone, freshening them and suturing with heavy silver wire or clamp. 2. The necessity for absolute immobility of the thigh and leg on body by a plaster spica or bandage from toe to waist. 3. The relaxation of calf muscles by flexion of the knee at an angle of 45 degrees. 4. The importance of equable pressure about the entire limb, especially at the seat of the fracture. In his case too large a fenestra was cut in the plaster bandage for drainage purposes. The result is, he thinks, the slight angularity which was observed.

Medical Fortnightly, St. Louis.

July 25.

115 President's Address, Tri-State Medical Society. Alexander Hugh Ferguson.
116 Report of a Case of Amebic Dysentery in Illinois, with Special Reference to "Acetozone" Treatment. R. L. Kurtz.
117 Torsion of the Testicles. W. W. Williams.

Clinical Review, Chicago.

August.

118 Two Cases of Multiple Neuritis. Sidney Kuh.
119 Pathogenesis of Locomotor Ataxia. (Continued.) G. B. Hassin.
120 Lectures in Gynecology. Franklin H. Martin.
121 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings

Occidental Medical Times, San Francisco.

July.

122 The Cure of Crosseyes. Vard H. Hulen.
123 The Value of Blood Pressure Observations in Surgery. Wallace I. Terry.
124 Typhoid Fever at Palo Alto and Stanford University. Ray Lyman Wilbur.
125 Suppression of the Urine Relieved by Decapsulation. George L. Eaton.
126 Homo Delinquens. (To be continued.) Kund Pontoppidan.

Carolina Medical Journal, Charlotte, N. C.

July.

127 Surgery of the Prostate Gland. A. J. Crowell.
128 Drugs and Whisky Habit and Treatment. S. M. Crowell.

Albany Medical Annals.

August.

129 Report of a Series of Cases from the Maternity Department of the Albany Hospital. William H. Happel.
130 A Case of Lipoma of the Tonsil. Clement F. Theisen.
131 A Note on the Embryonal Glandular Tumors of the Kidney. George Bulmer.
132 Acid Autointoxication Apart from Diabetes Mellitus. James F. Rooney.

American Medical Compend, Toledo, Ohio.

August.

133 Some Practical Thoughts on Infant Feeding. William A. Dickey.
134 The Baby's Cold. Park L. Myers.
135 The Baby; His Rights and Expectations. William W. Pennell.
136 The Wintering of Children. Mark Millikin.
137 Simple Cyst of the Kidney; Diagnosis and Treatment, with Report of Two Cases. Joseph F. Fox.
138 Stammering; Its Causes and Cure. J. S. Hanson.

Medical Herald, St. Joseph, Mo.

July.

139 *Medical Education in the United States. Frank S. Billings.
140 *A Study of a Case of Dual Personality. S. Grover Burnett.
141 A Layman on Antitoxin. E. W. Caldwell.
142 Treatment for Relief of Nasal Reflexes, with Report of Cases. F. W. Dean.

139.—This article appeared in THE JOURNAL, xl, p. 1271.

139.—This article appeared elsewhere. See THE JOURNAL of August 8, ¶53, p. 394.

Medical Times, New York.

August.

143 Malarial Fevers. W. C. Cole.
144 Colles' Fracture. F. D. Cartwright.
145 Uterine Curettage; Its Indications and Technic. W. G. Birchett.
146 Jottings from My Note Book. William Wormley.
147 Venereal Diseases. M. E. Fitch.
148 A Discussion on Nervous Subjects. A. R. Williamson.

Woman's Medical Journal, Toledo, Ohio.

June.

149 Temperature Course Unusual in Two Cases: First, in Woman Preceding Premature Delivery; Second, Case in Premature Infant. Anna E. Blount.
150 Problems in Sanitation. Martha Anderson.
151 The Late Dr. Emily Howard Stowe of Canada. Helen MacMurchy.

Kansas City Medical Record.

July.

152 The Bile Passages. M. P. Overholser.
153 The Early Diagnosis of Pulmonary Consumption and Its Importance. R. O. Cross.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 1.

1 *President's Address, British Medical Association. The Evolution of Antiseptic Surgery and Its Influence on the Progress and Advancement of Bacteriology and Therapeutics. T. D. Griffiths.

2 *Address in Medicine. On Infective and Infectious Diseases. Frederick T. Roberts.
3 *Address in Surgery, Observations on the Evolution of Abdominal Surgery from Personal Reminiscences Extending Over a Third of a Century and the Performance of 2,000 Operations. A. W. Mayo Robson.

1, 2, and 3.—See the report of the British Medical Association, including these addresses, on a previous page of this issue.

The Lancet, London.

August 1.

4 President's Address, The Evolution of Antiseptic Surgery and Its Influence on the Progress and Advancement of Bacteriology and Therapeutics. T. D. Griffiths.
5 Address in Medicine, Infective and Infectious Diseases. Frederick T. Roberts.
6 Address in Surgery, Observations on the Evolution of Abdominal Surgery from Personal Reminiscences Extending Over a Third of a Century and the Performance of 2,000 Operations. A. W. Mayo Robson.
7 *The Causes, Prevalence and Control of Pulmonary Tuberculosis. H. Timbrell Bulstrode.
8 A Case of Recurrent Varioloid Rash Following Vaccination. R. W. C. Pierce.
9 *The Ill Health of Richard Wagner. George M. Gould.
10 The Estimation of Free Hydrochloric Acid in the Gastric Contents. J. J. R. MacLeod.

7. Tuberculosis.—Bulstrode, in his second lecture, gives and discusses the statistics of tuberculosis in Italy, where the figures are apparently lower than in most other European countries, which fact he thinks might be regarded by some persons as affording a strong argument in favor of the adoption of preventive measures, such as were in vogue many years ago in that country. The statistics of Portugal are also given, showing a like decrease, though since 1886 and 1890 there has been an increase in the rate of pulmonary tuberculosis and a greater decrease in other forms, which looks as though there had been some transferment of tuberculosis from one group to another. The figures are of some interest as compared with those of Prussia, which were given in his former lecture. The New York statistics are noticed and compared with those of London, showing that the decrease in New York figures in recent years has been greater than in London, which may in some measure be accounted for by the fact that the scope for decline is less in London than in New York. The records of the American occupation of Havana are interesting, showing a most wonderful decrease in that city under American control. He considers the work of Americans in Havana the most remarkable victory ever achieved by preventive medicine, and quotes the yellow fever statistics to support this statement. In Norway the statistics seem to show a slight increase; perhaps the only country in Europe where this occurs. In England and Wales there has been a slight increase in the rate of fall after 1881 and 1885, but a very marked decline since the 60's. In Australia the death rate from consumption seems to be lower than that of other parts of the world. But while the tendency of pulmonary and other forms of tuberculosis has been downward, that of pneumonia, cancer and heart disease has been on the increase. The fall in the death rate from tuberculosis in Queensland, which is next to the highest rate, is largely due to the decrease in the number of tuberculous natives from the Pacific Islands. There is rather an increase among the whites, and this is almost entirely due to those born in the colony. It is accounted for by Turner in the gradual maturity of the colonists. It is only of late years that many of them have reached the period of early adult life in which the disease claims most of its victims. In Scotland the statistics show a steady decrease. A curious fact is that in the Isle of Man, a sea-girt, wind-swept island, with equable climate and much sunshine, tuberculosis seems to be more common than on larger British islands. Of late years, however, there has been the same decrease as elsewhere. Ireland is another country which does not show a marked decrease in pulmonary tuberculosis, but rather an increase, though the ratio is nevertheless low. This may be largely due to the outflow of the healthiest of the population by emigration. In the conclusion of his lecture he suggests that we should not attribute too much importance to the discovery of the tuberculosis germ. It has not so fundamentally changed the face of affairs as is sometimes maintained.

9.—This article appeared in THE JOURNAL, August 1, p. 293.

Australasian Medical Gazette, Sydney.

June 20.

11 Electric Currents of High Frequency and High Tension and Their Action in Chronic Pulmonary Tuberculosis. William R. Fox.
12 Notes on a Case of Cerebellar Abscess of Otitic Origin. G. T. Hankins.
13 A Case of Cerebellar Abscess: Failure of Respiration During Operation; Recovery. J. H. Phipps.
14 Notes on a Case of Cerebellar Abscess. A. J. Brady.
15 *Notes on Filariasis. J. Flynn.
16 Notes on Filaria and Mosquitoes. Thomas L. Bancroft.
17 The Radical Cure of Hernia in Elderly People. C. MacLaurin.
18 Two Cases of Excision of the Rectum by the Methods of Kraske and Quenu. W. J. Stewart McKay.
19 The Injection of Paraffin Wax in Facial Deformities. Richard Arthur.

15. Filariasis.—Flynn reports his experience with this condition. He seems to hold that filaria has a sort of headquarters in the system and if that can be extirpated the parasites disappear from the blood. He gives a case where excision of a tumor in the left spermatic cord apparently completely extirpated filaria which had persisted in the blood after previous operation on other parts. That filaria can exist in the system without causing any symptoms whatever, he holds, is certain, and there are some interesting facts in regard to the entrance of the organisms. He says, if the mosquito bite is the usual mode of infection why is the disease not more common? One of his patients has been married for six years, and during all that time has been a victim of the disorder. His habits are careless, his house full of mosquitoes and his circumstances far from affluent, yet his wife is free from the infection as well as his cat, horse and dog, which show no signs of the disorder. He has not recognized household infection in any one of his series of cases, and, under the impression that tank water might supply some clue, he centrifuged several gallons of water from tanks containing the filaria mosquitoes, with negative results. As regards treatment, the rational method is to kill the parent organisms in their home or remove them if one can ascertain their abode. In one of his cases alluded to it appeared that he had removed them. It is more difficult, he finds, to meet the embryo in the winter, and he thinks it would be interesting to know what results residence in a cold climate would have on these patients.

Intercolonial Medical Journal of Australasia, Melbourne.

June 20.

20 *The Surgical Treatment of Dyspepsia. Fred D. Bird.
21 Modern Methods of Investigation in Diseases of the Stomach. John F. Wilkinson.
22 *Notes on Some Common Disorders of the Stomach. R. R. Stawell.
23 Alexander's Operation. J. Gerald Sheahan.
24 *The Treatment of Retro-deviations of the Uterus. J. W. Dunbar Hooper.
25 Common Digestive Troubles in Children. A. J. Wood.

20. Surgical Treatment of Dyspepsia.—The operative treatment of dyspepsia in cases of adhesions producing symptoms which can only be relieved by mechanical means is mentioned by Bird, and also adhesions connected with malignant disease. Adhesions also play a prominent part in chronic pancreatitis, which may reveal itself by tumor and be relieved by opening the gall bladder. With chronic pancreatitic adhesions and dyspeptic symptoms later, the resemblance to cancer is close, but even at the time of operation the nature of the condition present may be dubious. The healing of a gastric ulcer may cause dyspeptic symptoms with disability, which may only be relieved by operation. This is one of the most obvious occasions where the surgeon can intervene in long-standing gastric disorder. There are other adhesions in the perigastrium which may give rise to symptoms referable to the stomach, which he has noticed in earlier articles. The further experience of himself and friends only supports the position that he then took. Adhesions of variable causation in the epigastrium engender the symptoms of indigestion. They may produce

epigastric distress on slight provocation or without occasion, rendering the patient a permanent dyspeptic. They may even lead to severe and fatal illness. In one case where he had diagnosed such a condition the patient died from uncontrollable pain and vomiting and postmortem examination disclosed perigastric adhesions as the only apparent cause of death. When medical treatment fails, the surgeon may then intervene. Surgery can cure some cases of intractable dyspepsia easily and with the slightest risk. Others may be much improved and there is always the possibility of discovering malignant disease by operation.

22. **Common Stomach Disorders.**—Stawell notes those cases where there is a so-called functional disorder, nervous dyspepsia, though they may sometimes be associated with slight organic disease as in the dyspepsia of phthisis, which may cause serious derangement of digestion simply due to defective nutrition. Well-regulated rest and large meals insisted on will often relieve such conditions. The examination of the stomach contents should form the basis of diagnosis, but he comments on the neglect of the stomach tube by British medical men. He does not consider excessive tea drinking the cause of dyspeptic symptoms originally, as it is not the intolerable amount of tea, but the diminution of solid food associated with drinking which causes the gastric disturbance. The odorless and tasteless eructations and belching which occurred in one of his cases, comparable to hiccough caused by gastric irritation, are to a considerable extent controllable by voluntary effort. The ordinary eructations are not due to fermentative changes any more than is the "wind" or "hiccough" of infants. If the eructations are markedly acid there usually seems to be a secretory gastric irritability aroused by any particularly stimulating kind of food or drink. This must be classed as a neurosis and should receive the simplest symptomatic treatment by local "antacids." In conclusion he mentions gastric ulcer and chronic gastric catarrh with excessive mucus. The cause of the former is not known, and it may give some difficulty in diagnosis. Where there is doubt there should be some hesitation in the use of the stomach tube. He, however, does not hesitate to treat a suspicious case of gastric ulcer as if this diagnosis was certain. The commonest cause of gastric catarrh is not over-feeding or even improper food, but the abuse of alcohol; complete abstinence is often the very best treatment.

24. **Retrodeviations of the Uterus.**—Hooper criticises the methods of antefixation of the uterus and quotes from authorities, Dudley, Reed and others as to the dangers and impracticability of such methods, especially in child-bearing women. He thinks the most satisfactory results in such cases come from four or five weeks in bed with good nursing and the use of ichthyol tampons with hot vaginal irrigations and massage to reduce the subinvoluted uterus to its normal size, then a carefully adapted pessary and proper treatment for any existing endometritis are far better in uncomplicated cases. They are all, he thinks, that are needed to effect a relief of symptoms. If inflammation of the appendix or adhesions complicate the case, no surgeon would recommend the shortening or fixation operation. He reiterates his conviction that shortening operations such as the Alexander, Kelly and others should never be employed in single women or those who have not reached the menopause, even if we admit their usefulness in uncomplicated cases of retrodeviation in other women.

Indian Medical Gazette, Calcutta.

July.

26 Some Modern Views of Primary Glaucoma. R. H. Elliot.
27 A Note on Anopheles Fuliginosus and Sporozoits. J. R. Adie.
28 The Dissemination of Enteric Fever by Dust. A. R. Aldridge.
29 Cases Illustrating Difficulties in Plague Diagnosis. W. J. Buchanan and W. O. Hossack.
30 Colopexy for Prolapsus Recti. R. D. Murray.
31 Note on an Abnormality of the Radial Artery. Godroy Charles.

Journal of Tropical Medicine, London.

July 15.

32 A Note on the Parasites of a Case of Malignant Malaria, with Discussion on the Development of the Crescent. Malcolm Watson.
33 Tropical Hygiene. (Continued.) W. J. Simpson.

Presse Medicale, Paris.

34 (No. 43.) *Les infections vésicales et le bacille pyocyanique. H. Barth and G. Michaux.
35 Le régime alimentaire des diabétiques. A. Martinet.
36 (No. 44.) Le diagnostic de l'hémorrhagie méningée par ponction lombaire. F. Widal.
37 (No. 45.) *Y a-t-il un botryomycome? F. J. Bosc and J. Abadie.
38 Le tabes, dégénérescence du protoneurone centripète. E. de Massary.
39 (No. 46.) Le diagnostic de la méningite tuberculeuse et la ponction lombaire. Variot.
40 *Résultats durables du traitement des rétrécissements de l'urètre (of stricture of urethra). E. Desnos.
41 Bromatologie clinique de la pomme de terre (of the potato). A. Martinet.
42 (No. 47.) *Les débuts de l'histoire de l'appendicite en France. Howard A. Kelly (Baltimore).
43 (No. 48.) Etude sur l'association de l'appendicite et de la cholécystite avec ou sans péritonite. G. Dieulafoy.
44 Concomitance du goitre exophthalmique et de l'entéro-colite-muco-membraneuse. F. Bernard. Five cases.
45 Seringue double médicale. M. Schachmann.
46 (No. 49.) Vichy. La station 1569 to 1903. E. De Lavarenne.
47 (No. 50.) *Formes curables des hémorragies meningées sous-arachnoidiennes. A. Chauffard and others.
48 (No. 51.) *La cure de déchloruration. F. Widal and A. Javal.
49 (No. 52.) Considérations sur la linite plastique. Vautrin and L. Hoche.
50 (No. 53.) The Causes of the Failures of Digitalis. E. Barié. —Les causes d'insuccès de la digitale.
51 (No. 54.) La leucoplasie linguale. Gaucher.
52 Technique de l'allaitement artificielle. J. Thiénot.
53 (No. 55.) Bed for Preparing Patients for an Operation. F. Jayle.—Un lit pour la préparation des opérés.
54 Eruptions intermédiaires au pityriasis rosé de Gibert et aux séborrhéides psoriasiformes. Quelques généralités sur les faits de passage et la représentation graphique des dermatoses. L. Brocq.
55 Le régime alimentaire dans les néphrites chroniques. A. Mauté.
56 (No. 56.) Les chirurgiens sous Henri II. F. Jayle.
57 *La médecine au musée du Prado, Madrid. H. Meige.

34. **Pyocyaneus Infection of the Bladder.**—Barth describes a case of cystitis following la grippe in which the *Bacillus pyocyaneus* was found in pure cultures. Faltin has also reported similar findings in 4 out of 86 cases of cystitis. In 15 other cases it was associated with other bacteria. Neither urotropin nor salol proved efficient in conquering the infection. Barth's patient took 2 gm. of urotropin daily without banishing the bacilli, and rinsing the bladder with antiseptics likewise failed to dislodge them. But the symptoms of cystitis disappeared under this treatment and the pyocyaneus, although still present, seemed to have lost all virulence and persisted as an ordinary saprophyte.

37. **Is There a Bothryomycosis?**—Bosc gives histologic notes of 4 cases of lesions supposed to be caused by bothryomyces, but he denies this explanation and affirms that the lesions are merely fibro-papillomata secondarily infected with staphylococci.

40. **Treatment of Stricture of the Urethra.**—Desnos proclaims that fine and durable results can be attained by combined progressive dilation with electrolysis with a weak current. He fastens the negative electrode to an ordinary metal sound, with the positive electrode on the thigh. The current is turned on for ten to fifteen minutes, but not stronger than 3 to 4 milliamperes. This procedure is repeated at intervals of six to eight days. In 20 cases thus treated the dilation seemed to be more durable and the most rebellious strictures yielded after a few applications, while the walls seemed to become more flexible than by other methods of treatment.

42. **The Debuts of the History of Appendicitis in France.**—This address by Kelly was delivered before the French Société de Chirurgie in June, and created something of a sensation. Baudouin's witty comment was quoted recently in The Journal in the foreign news column.

47. **Curable Forms of Meningeal Hemorrhage.**—Widal has established the value of lumbar puncture for the diagnosis of meningeal hemorrhage, and Chauffard now enumerates the cytologic and chromatic findings which establish the prognosis. He describes 2 cases in detail which terminated in recovery. Kernig's sign was not found in either, but the aspect of the cerebrospinal fluid was alike in both. At first it contained a large proportion of blood, but in the three or four successive punctures the fluid was seen to lose its blood and

lymphocytosis became pronounced as the fluid grew a limpid yellow. There was no polynuclear phase. The fluid was drawn into 3 tubes each time for better comparison, and the last trace of a clot did not vanish till after the eighteenth day.

48. **The Chlorids in Nephritis.**—Widal has coined the term "dechloridation" to express the treatment of epithelial nephritis by reducing the amount of salt. He found that daily ingestion of 10 gm. of salt by 4 patients affected with arteriosclerosis and interstitial nephritis, caused no disturbances, no edema, nor any discomfort. On the other hand, pronounced edema was produced in 2 out of 3 patients with epithelial nephritis. In a similar case in which the chlorids were determined for 62 days he was able to induce the edema to appear and disappear at will by administration of salt. The degree of the albuminuria followed the fluctuations in the chlorid curves. This patient was a man of 62, and the details of the metabolism while these tests were being made are given in tabulated form. Edema and albuminuria had previously invariably followed ingestion of solid food, and invariably subsided on a milk diet. By adding salt to the milk the edema could be reproduced at will, and by giving solid food without salt the edema could be promptly banished. These abrupt changes were made nine times and always with the anticipated effect. The albumin in the diet is immaterial; it is the salt alone that is responsible for the edema. The latter subsided even on a hearty meat diet if salt were withheld. Salt should not be fed to cows that supply milk for nephritis patients, and the normal proportion of salt in milk might be thus avoided. Temporary dechloridation can thus be accepted as an important factor in the treatment of epithelial nephritis and allows a much wider range of diet.

57. **Medicine at the Prado.**—Meige gives 12 photographs of masterpieces of painting that hang in the famous museum at Madrid, which portray subjects specially interesting from a medical point of view. In some the famous court dwarfs are depicted, in others the alleged extraction of stones from the head, the village barber, tooth-puller, court jester, etc. His list closes with a portrait of Charles V, marked by the adenoid expression and pronounced prognathism noted in all the portraits of his race in the various museums of Europe.

Archiv f. Klin. Chirurgie (Langenbeck's), Berlin.

Last indexed page 470.

58 (LXIX, 3.) *Unilateral Kidney Defects and Cysts in Single Kidney. Winter.—Ueber einseitige congenitale Nierendefecte nebst einem Fall von Nierencyste in der Solitärniere.
59 Ueber das solitäre Adenom der Leber mit Cirrhose. Caminiti.
60 *Appliance for Raising Part of Body. König (Altona).—Hebevorrichtung zur Erleichterung von Operationen und Verbänden.
61 *Lymph Nodes in Salivary Glands. v. Brunn.—Die Lymphknöten der Unterkieferspeicheldrüse.
62 Zur Aetiologie der Bauchblasenspalte (cleft abdomen and bladder). Bockenheimer.
63 Vascular Relations of Sciatic. Hofmann.—Die Gefässverhältnisse des Nervus isch. und ihre Beziehung zur Dehnungslähmung.
64 Substitution of Thumb by Toe. Nicoladoni.—Weitere Erfahrungen über Daumenplastik.
65 Ueber die chirurgische Behandlung des Kallösen Magengeschwürs. Brenner.
66 Knot Formation in Intestines. Wiims.—Mechanismus der Knotenbildung des menschl. Darmes.
67 Ueber Fistein des Duodenums. v. Cackovic.
68 Ein Skoliosen-Redressions-Apparat. Scheffler.
69 (No. 4.) *Murphy Button versus Czerny-Lembert Suture. Neuweiler.—Zur Anwendung des Murphyknopfes.
70 *Ueber cirkuläre Gefäss-Sutur (suture of vessels). Jensen (Copenhagen).
71 Meine Erfahrungen über Lithiasis der Harnwege (urinary passages). Nicolich (Trieste).
72 Prolapsus intestini tenuis et flexuræ sigmoideæ per anum. Moskowicz.
73 Mechanism of Axial Torsion of Small Intestine. Wiims.—Wie entstehen Achsendrehungen (volvulus) des Dünndarmes?
74 *Ueber eine, durch ein chronisch wirkendes Trauma allmählich entstehende Luxatio sterno-clavicularis. Katzenstein.
75 Die Coxa vara als Belastungsdeformität. Blum.
76 Studien und Untersuchungen über Pathologie und Therapie der tuberkulösen Peritonitis. Köppen.
77 *Der isolierte, subkutane Bruch des Os scapholdeum der Handwurzel, ein typischer Bruch (fracture). Lilienfeld.

58. **Operations on a Single Kidney.**—In the case of cysts in a solitary kidney reported by Winter, the patient died after extirpation. He finds 11 similar instances in the literature in which an operation was undertaken on a solitary kidney. In the 7 cases in which nephrectomy was done none of the patients survived, but the 4 treated by nephrotomy all recovered. The lesions were due to stones, an abscess or pyonephrosis in the latter cases.

60. **Appliance for Raising Part of the Body.**—König gives illustrations of the convenient little cross-board which fits into cross grooves in the operating table and can be raised to the desired height by turning a crank.

61. **Lymph Nodes in Salivary Glands.**—Brunn found in 2 out of 23 cases examined genuine lymph nodes embedded in the submaxillary salivary glands.

69. **The Murphy Button.**—Neuweiler analyzes the results as published in 185 reports of operations on the stomach and intestines in which either the Murphy button or the Czerny-Lembert suture was used. He also reviews his own experience in 33 operations from the same point of view. His conclusions are that the suture is in certain circumstances to be preferred to the use of the button, especially in operations on the large intestine, and in lateral anastomosis of the large with the small intestine. Lateral anastomosis of the small intestine is best done with suture, except in case of gangrene requiring resection. The button should not be used in an anterior gastroenterostomy on account of cancer, nor in a posterior for benign stenosis of the pylorus.

70. **Circular Suture of Vessels.**—Jensen's numerous experiments were made principally on horses. He employed the various methods of suturing and bone, ivory or absorbable magnesium prothesis. The results indicate that thrombosis in such circumstances is due to infection, and consequently intervention of this nature should be undertaken only in an aseptic region. A prothesis is no advantage and has the drawback that it narrows the lumen. In his experience the best suture was the U-shaped union which brings a broad surface of the intima on both stumps into contact without narrowing the vessel. He found silk the best suture material for the purpose.

74. **Luxatio Sterno-clavicularis from Tending a Machine.**—Katzenstein's patient and the four other cases on record were lads of 17 or thereabouts whose work compelled them to incessantly reach with both arms and then pull backwards with great strength. The elastic fibers of the capsules of joints are not fully developed at this age and they become overstretched and exhausted with a chronically recurring trauma of this kind.

77. **Isolated Fracture of the Scaphoid.**—Lilienfeld encountered 7 cases of isolated, subcutaneous fracture of the scaphoid in the wrist in a recent series of 128 fractures. In all the fracture occurred from trauma acting on the hand in dorsal flexion and radial abduction. It may be diagnosed from the anamnesis.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

78 (XXIX, No. 28.) *Active Anti-Plague Immunization with Attenuated Cultures. W. Kolle and R. Otto.—Die aktive Immunisirung gegen Pest mittelst abgeschwächter Kulturen.
79 *Ein weiterer Beitrag zur amaurotischen familiären Idiotie, einer Erkrankung hauptsächlich der grauen Substanz des Centralnervensystems. B. Sachs (New York).
80 *Zur Diagnose maligner Brusthöhlengeschwülste intra vitam. A. Feldt.
81 Torsion of Omentum. O. Nordmann.—Ueber intra-abdominelle Netztorsion.
82 *Influence of Heat on Coagulation of Milk. W. Silberschmidt (Zürich).—Ueber den Einfluss der Erwärmung auf die Gerinnung der Kuhmilch. (Concluded.)
83 *Ueber eine Modifikation der Salzwedel'schen Spiritus-Behandlung. Beschoren (Prenzlau).
84 Medical Insurance Practice. Gollmer (Gotha).—Ueber ärztliche Versicherungspraxis.
85 (No. 29.) *Zur Aetiologie und Therapie der Sklerose des Mittelohres. P. Stenger (Berlin).
86 Physiologic Importance of Rhodan. A. Edinger.—Ueber die Bedeutung der Rhodan-Verbindungen für den thierischen und menschlichen Organismus.
87 *Ueber Anurie. E. Apolant.
88 *Zur mechanischen Behandlung der Prostata. Laskowski (Berlin).
89 Connection Between Adenoids and Thorax Deformities. Locwenberg.—Ueber den Zusammenhang von Thoraxdeformitäten und adenoiden Wucherungen des Nasenrachenraumes.

78. **Anti-Plague Immunization.**—Kalle and Otto report from the Berlin Institute for Infectious Diseases that their experi-

ments and tests fail to show any particular benefit from the Haffkine method of immunizing against the plague. They consider the injection of avirulent living cultures of plague bacilli a true and effective means of vaccination. A single injection conferred on laboratory animals complete immunity for months with no phenomena of infection and merely a slight increase of the plague germs at the vaccinated spot. More than 80 per cent. of the rats and 60 per cent. of the guinea-pigs are still completely immune three months since the vaccination. The immunity conferred by the Haffkine method lasts at most only six weeks. The cultures were rendered avirulent by long cultivation at 40 to 41 C.—a particularly non-virulent culture being selected for the purpose. Three loops of this culture could be injected into guinea-pigs without symptoms, that is, more than three thousand times the lethal dose of a virulent culture.

79. **Amaurotic Family Idiocy.**—Sach's article appeared in the *Journal of Nervous and Mental Disease*, January, 1903.

80. **Diagnosis of Malignant Thoracic Tumors.**—Feldt reviews 3 published cases and reports 2 personally observed in which a malignant intrathoracic tumor was diagnosed from particles of tissue in the sputa. He gives cuts of the findings in his cases and affirms that such tumors could be diagnosed more frequently than is the case at present if in suspicious cases hemorrhagic sputa were examined against a black background for small scraps of tissue and the latter investigated by the usual histologic technic.

82. **Influence of Heat on Coagulation of Milk.**—Silberschmidt's research establishes that cow's milk heated too long or too hot entirely loses its property of coagulating under the action of rennet.

83. **Modified Alcohol Compress Treatment.**—Beschoren regards Salzwedel's alcohol compresses as an indispensable aid in the treatment of local inflammatory processes. Even if the phlegmon, panaris or lymphangitis does not retrogress, as usually occurs, the formation of a superficial abscess is hastened and after-treatment facilitated. Salzwedel applies gauze moistened with alcohol to the spot, covered with dry gauze and fastened with a perforated impermeable outer covering. Beschoren has found that the part sometimes smarts with this application, and modifies it by adding to the alcohol an equal amount of a 1 per cent. solution of aluminum acetate. The chemical combination raises the temperature of the fluid several degrees and the application is always soothing. He applies the rubber tissue directly over the moistened gauze and the cotton outside, and recommends this technic as an ideal method of treatment for local inflammatory processes. He reports a few cases in detail.

85. **Etiology and Treatment of Sclerosis of Middle Ear.**—Stenger ascribes many cases of sclerosis of the middle ear to disturbances caused primarily by swelling of the turbinate bones or some other anomaly in the nose affecting the eustachian tubes. Prompt attention to subjective ear symptoms and removal of the primary factor in the nose may arrest the incipient ear affection and relieve it in many advanced cases. He relates two typical instances in which the patients were restored to their business by the relief of the deafness after partial resection of some of the turbinate bones, supplemented by electric massage and catheterization.

87. **Anuria.**—Apolant reports a case of complete anuria for nine, and later for eight days, terminating in recovery. He assumed that a stone had become impacted in one ureter and the other had contracted by a reflex spasm, and administered belladonna on this supposition. The symptoms became alarming the eighth day, and Nitze passed a catheter into the right ureter, allowing evacuation of ten quarts of urine in the first twenty-four hours. The patient was an elderly, gouty subject and the projected nephrotomy might have had serious consequences.

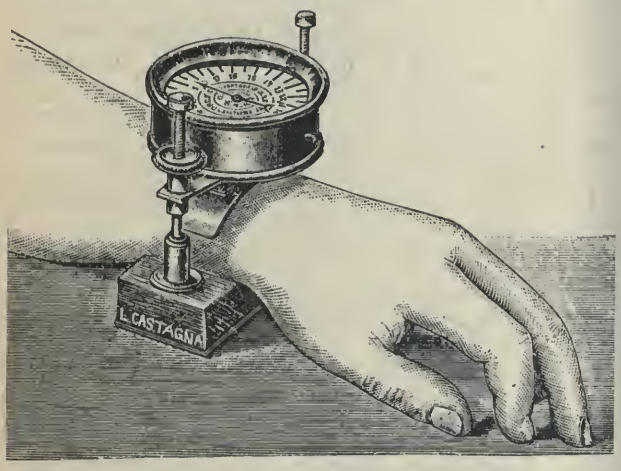
88. **Mechanical Treatment of the Prostate.**—Laskowski gives cuts of two instruments he has devised to apply vibration massage to the prostate through the rectum or the abdominal wall. He also describes another which allows the application of cold at the same time.

Muenchener Med. Wochenschrift, Munich.

90 (No. 24.) *Ueber einen Apparat zur Kontrolle des Pulses in der Narkose. G. Gaertner (Vienna).
91 *Zur Behandlung der Gesichtslagen (face presentations). Anselm.
92 *Das Babinskische Zehenphänomen (toe sign). A. Richter.
93 *Beitrag zur Aether-Narkose. C. Longard (Forst-Aachen).
94 *Eine bösartige Scharlach-Epidemie. Günther.
95 (No. 25.) Study of Effects of Projectiles. Hildebrandt.—Zur Erklärung der Explosions-Schüsse.
96 *Tar for Reduction of Dust in Streets. M. Schottelius and Guglielminetti.—Ueber die Teerung von Strassen zur Bekämpfung der Staubplage.
97 *Die Galvanokaustik in Form des Einstichs zur Therapie der Kehlkopf-Tuberkulose. L. Grünwald (Munich).
98 Ueber Malaria im nordwestlichen Deutschland. A. Köppen.
99 Technisches über das Riva-Rocci Sphygmomanometer und Gaertner's Tonometer. A. Martin. (Commenced in No. 24.)
100 (No. 26.) Simultaneous Appearance of Levulose and Dextrose in the Urine. A. Lion.—Zur Frage des gleichzeitigen Auftretens von Fruchtzucker und Traubenzucker im Harn.
101 Chorea hysterica traumatica. R. Schlüter.
102 Tabes and Trauma. Windscheid (Leipsic).
103 Ueber Hämolyse bei experimentellen Infektionen. O. v. Wunschheim.
104 Softened Buboes in Early Syphilis. M. Marcuse.—Ueber erweichte Bubonen der Frühlues.
105 *Das Antistreptokokken-Serum und seine Anwendung beim Menschen. Menzer. (Commenced in No. 25.)
106 (No. 27.) Simple Means of Testing Phosphorus in Phosphorized Oils. W. Straub.—Eine einfache Methode des Nachweises von Phosphor in Phosphorölen für klinische Zwecke.
107 *Ueber anastomotische Circulation des Herzens. G. Galli.
108 *Die Massage-Behandlung frischer Knochenbrüche (fractures). Jordan.
109 Congenital Absence of Clavicles. A. Gross.—Ueber angeborenen Mangel der Schlüsselbeine.
110 Energy Quotient in the Newborn. H. Cramer.—Zur Energiebilanz beim Neugeborenen.
111 Bruclu, ein neues Gegenmittel beim Morphinismus. A. Fromme.
112 Ueber chronische Dystrophien und Trophoneurosen der Haut im Anschluss an kasuistische Mitteilungen. F. Volhard. (Commenced in No. 26.)
113 Obituary of Anton Bumm.
114 (No. 28.) *Ueber die Anwendung der Morphium-Scopolamin-Narkose in der Gynäkologie. S. Flatau.
115 *X-Ray Shields. G. Holzknecht and R. Grünfeld (of the Röntgenlaboratorium of the k. k. allg. Krankenhaus, Vienna).—Ein neues Material zum Schutz der gesunden Haut gegen Röntgen-Licht und über radiologische Schutzmassnahmen im Allgemeinen.
116 Zur Kenntnis der nach Trauma entstandenen Aorten-Insuffizienz. T. Struppler.
117 *Epidural Injections. A. Strauss.—Meine Resultate der epiduralen Einspritzungen durch Punktion des Sakral-Kanals bei Syphilis und den funktionellen Erkrankungen der Harn- und Geschlechtsorgane.
118 Koplik's Spots in Measles. Aronheim.—Sind die Koplikschen Flecken ein sicheres Frühsymptom der Masern?
119 Choked Disc. Liebrecht.—Zur Entstehung und zur klin. Bedeutung der Stauungspapille.
120 Zur Frage der Ovariotomie in der Schwangerschaft. M. Graefe.
121 *Yohimbin as a Local Anesthetic. C. Magnani.—Zur anästhesierenden Wirkung des Yohimbin (Spiegel).
122 Women in Medicine. L. Stieda.—Ueber die Zulassung der Frauen zum med. Studium.

90. **Pulse Controller for Narcosis.**—Gaertner's experience with chloroforming animals has convinced him that the usual cause of death in narcosis is the depression of the blood pressure. Dogs succumb to chloroform much more readily than man, but he found that invariably the animals could be saved if close watch were kept on the blood pressure and as soon as the pulse became fainter proper measures were adopted. He has also learned that it is impossible to rely with accuracy on even the most skilled digital examination of the pulse, as perception becomes deadened under certain circumstances. For these and other reasons which he details, he regards the little apparatus he has devised as an invaluable contribution to the technic of chloroform anesthesia. It is somewhat on the principle of his ring "tonometer," which is coming into current use. He remarks that Mikulicz has reported three deaths under chloroform of subjects in convulsions. During convulsions the blood pressure is extremely high, and exceptional caution is necessary in this condition, as the narcosis is liable to raise the already extremely high blood pressure to a dangerous height. In one of Gaertner's patients, a man of 76, the average normal pressure was 155, and it rose during the narcosis to 220; and in a woman of the same age it rose from 176 to 215, although the anesthesia was superficial. Such a rise might be fatal in certain conditions.

The blood pressure should always be determined as a routine measure before giving chloroform and a venesection may be indicated. He adds that his pulse controller has been used by a number of operators and in more than 200 operations, and all express delight at the reliability of the instrument and the relief from anxiety it affords, enabling the narcosis to



be safely steered to its conclusion. The language spoken by the apparatus is only imperfectly understood as yet, but time will undoubtedly render some such device as indispensable as the thermometer.

91. **Treatment of Face Presentations.**—Anselm compares the reports of various maternities and shows that expectant treatment has produced fully as good if not better results in the hands of Fehling, Bumm and v. Herff as Opitz's intervention.

92. **The Toe Reflex.**—Richter cites statistics to show that Babinsky's sign was positive in 1.8 per cent. of 500 healthy persons tested. Notwithstanding this occurrence of the sign in a few healthy persons, he regards the reflex as a very valuable presumptive evidence of some disturbance in the function of the pyramidal tracts.

93. **Improved Mask for Ether.**—Longard reports 2,700 ether narcoses in which his mask was used, and in only 2 was there a trace of the stage of agitation. He thinks the latter is due more to carbonic acid gas intoxication than to the ether, and this is avoided with his mask. His experience has shown that there are no contraindications to the use of ether by this method. Only 15 to 30 c.c. of ether are required for women and children, and 40 to 60 c.c. for men. An hour's narcosis requires 75 gm. for women and men and 100 gm. for hard drinkers.

94. **Malignant Scarlet Fever.**—Günther reports an epidemic of 150 cases of this disease, affecting adults mostly, and fatal in less than twenty-four hours in a large majority of the cases. All those in which the brain was affected from the start terminated in death.

96. **Tar to Reduce Dust in Roads.**—The experiments at Monaco and elsewhere with crude petroleum have not proved very successful as the results were not durable. But the application of boiling coal tar produces a coating like cheap asphalt, which has lasted eight months to date and fully answers the desired purpose. The total expense is only $80 for a kilometer of a road 15 feet wide, that is, about $128 a mile, with coal tar $6 to $10 a ton.

97. **Galvanocautery Punctures in Tuberculosis of the Throat.**—Grünwald explains that there is little hope of a cure unless the deep-lying infiltrations are drained. This is accomplished by puncture with the pointed galvánocautery. The immediate relief afforded is surprising, while there is slight if any reaction. He gives cuts of several cases. From two to five punctures are required.

105. **Antistreptococcus Serum.**—The long series of researches described have demonstrated that antistreptococcus serum acts by stimulating phagocytosis and absorption. The best results are attained with large doses in the early stage of acute streptococcus infection. Serum made from freshly cultivated human streptococci is the only one that is effective, but its results on animals can not be applied to man.

107. **Anastomotic Circulation of the Heart.**—Galli reports a case at Baccelli's clinic in which the mouth of the right coronary opening into the aorta had been entirely obliterated by a sclerous neoformation. The closest scrutiny failed to reveal any sclerous alterations in the right heart and only a single sclerous focus in the rear of the left heart. The patient was a syphilitic and had had articular rheumatism twice. Galli gives cuts of the heart showing an anastomosis between the right and left coronaries which explained the lack of nutritional disturbances.

108. **Massage of Recent Fractures.**—Jordan is an advocate of early massage, and states that out of 73 patients, of whom 27 were over 40 years old, 67 recovered complete working capacity after fracture of arm or shoulder, and only 2 are much incapacitated. His principles are: for the upper extremity, massage and mobilization, supplemented by fixation after each massage in case of fracture of a joint or of the shaft without material dislocation. For the leg, massage should be restricted to the joints, in combination with a walking apparatus. In fractures of the long bones of the leg, massage is only a preliminary.

114. **Morphin-Scopolamin Narcosis in Gynecology.**—Flatau tabulates the details of 47 cases in which this method of narcosis was employed, and concludes with the warning that it is unsuitable and dangerous for the majority of physicians, for surgical intervention and especially for obstetric operations.

115. **New Material for Protection Against X-Ray Burning.**—The sheet lead used to protect the sound skin in *x*-ray exposures leaves smutty marks on skin and clothing, looks unsightly and dirty even when new, and soon cracks. Holzknecht has remedied all these defects by having a coating of vulcanized rubber applied on each side of the sheet lead. This rubber-coated lead lasts indefinitely without cracking. He finds the most convenient shape to be a long rectangle with a semicircle cut out at one end. By having a number of these sheets with semicircular openings of different sizes they can be arranged around the part to be exposed leaving an opening of the desired diameter.

117. **Epidural Injections.**—Strauss tried this method in the mercurial treatment of 10 syphilitics, but soon abandoned it as possessing no advantages over the usual methods. But in enuresis, impotence, sexual neurasthenia and allied conditions the results were remarkable improvement or complete cure. In 7 cases of incontinence only one or two injections were required. In 2 cases of nocturnal emissions one was cured and the other much improved by the same, as also 2 cases of impotency. A patient with general sexual neurasthenia was essentially improved, but a second one of this class failed to derive any benefit. He injects 5 to 30 c.c. of a solution of cocain, .01 gm.; sodium chlorid, .2 gm., and distilled water to 100 gm., adding two drops of 5 per cent. aq. carbol. He uses a platinum-iridium needle 6 cm. long and 1 mm. thick with the syringe illustrated in THE JOURNAL of July 25, p. 287. He makes the injection slowly by puncturing the sacral canal, and as it is very tolerant the injection can be soon repeated; one to five days is his average interval.

121 **Yohimbin as a Local Anesthetic.**—Magnani corroborates the testimony of others in regard to the value of yohimbin for local anesthesia. In his ophthalmologic practice he found that it affected the tissues like tropacocain while it resembled cocain in its anesthetic effect.

Hygiea, Stockholm.

123 (No. 4.) Physiologic Action of Alcohol. C. G. Santesson.—Om alkoholens fysiolgiska verkningar.
124 *Leucocytosis in Appendicitis. G. Nilson.—Kasuistikt bidrag till fragan om leukocytosens betydelse vid appendicit.
125 Om transfixion af iris. A. Dalen. Three cases.
126 Our Beverages. E. Almquist.—**Om verkan af smärre alkoholdoser samt om vara läskedrycker.**

127 (No. 5.) *Cancer Research. O. Sandberg.—Studier om Kräftan.
129 *Om operation för symblefaron enligt May. J. Landström.
130 (No. 6.) History of Abdominal Gynecological Operations. F. Westermark.—Om de viktigaste gyn. bukoperationernas utveckling.
131 Tyfold-epidemien i Ronneby, 1901. J. Dahl.
132 *First Aid in Germany and Austria. E. Boman.—Om frivilliga sjukvårdsföreningar, etc.
133 *Psychoses on Foundation of Syphilis. H. Marcus.—Akuta förvirringstillstand pa syfilitisk grund. (Commenced in No. 5.)
134 (No. 7.) Alcohol and Muscular Effort. J. Widmark.—Om sprit och idrott.
135 Diagnosen af cancer ventriculi. E. Rodhe.
136 *Mercurioloija-ett nytt kvicksilferinjektions-medel. M. Möller.
137 *Oleum mercurioli (90 per cent. Hg.). A. Blomquist.
138 Six Cases of Extra-uterine Pregnancy.—Extrauterint hafvandeskap.
139 Campaign Against Tuberculosis. R. v. Post.—Kampen mot tuberkulosen ute och hemma.

124. **The Leucocytes in Appendicitis.**—Nilson reports the details of 17 cases showing the value of the blood count as an aid in diagnosing. In 9 cases there proved to be no suppuration and the leucocytes ranged from 7,500 to 18,000 during the first two days and then rapidly subsided to normal. In only one instance was the number 20,000 to 26,000 for five days. The appendix was obliterated by catarrhal inflammation, but there was no abscess. In the other cases the leucocytes numbered 18,000 to 29,700, and the appendix was found perforated and inclined to gangrene. An abscess in the groin was operated on in one patient, with a leucocytosis of 14,500 to 23,000. The whites still remained above 12,800 and a subphrenic abscess was discovered and evacuated six days later. The whites still continued to rise and reached 21,200, when the appendix was extirpated a week later. The leucocytosis continued and rose to 26,000, but after evacuation of a small gaseous abscess found in the Douglas pouch, the whites dropped to 10,000 in two days after having been continuously in the neighborhood of 20,000 for nearly a month. In 2 cases of diffuse purulent peritonitis the leucocytes reached 27,200 and 40,000.

127. **Cancer Research.**—Sandberg's article is a study of the 2,153 cases of cancer treated at the Sabbatsberg Hospital, 1879-1901. Less than one-third were on male subjects and in half of these the cancer was located in the stomach (315 out of 623 male patients). About 1.71 per cent. of all the male patients received during this period were affected with cancer, and 4.32 per cent. of the women patients, the total number of patients being 71,839. He gives the particulars, remote results after operations, etc. Cancer in the stomach developed without metastases in 52.5 per cent. of the 229 cases in women, and in 54.7 per cent. of the 315 male cases. Metastases were most frequent with cancer in the liver, and they were found in 101 out of 483 cases of cancer of the uterus, and in 131 out of 288 on the mamma.

129. **May's Symblepharon Operation.**—Landström applied in 4 cases the operation suggested by May in 1899. He regards it as the best method to date, although not ideal. The results were extremely satisfactory in his cases, as he shows by photographs.

132. **First Aid in Germany and Austria.**—Boman describes the volunteer "Samaritan" associations in the German-speaking countries and the training of their members in the first aid to wounded persons and in emergencies of various kinds. He urges similar organizations elsewhere.

133. **Acute Psychoses in Syphilis.**—Marcus' article is an exhaustive study of this subject and its literature. He has personally observed 11 cases and analyzes them and 6 others reported by Brewer and Bailey, Jolly, Fournier or others. All recovered under specific treatment except 2. He gives cuts of the autopsy findings in one case, showing the typical circumscribed basal meningitis, etc. His patients were from 26 to 53 years old. There was no hereditary taint or abuse of alcohol in the majority.

136 and 137. **Mercuriol Oil.**—This new preparation of mercury in the form of an aluminum magnesium amalgam, contains 90 per cent. mercury. It is similar to mercuriol, but is an oil and specially adapted for injecting purposes. Möller has used it in thousands of cases and has found it extremely effective with the minimum of symptoms of local irritation.

Russky Vratch, St. Petersburg.

140 (No. 49.) Study of "Secretin." L. B. Popelsky.—O sposobye dyeistvie HCl, etc.
141 Differential Significance of Bronchial Secretions. T. G. Janovsky.—K razpoznavatelnomu zvatcheniyu bronkhialnykh slyepkov.
142 Severe Heart Affections Indication for Artificial Interruption of Pregnancy. J. Y. Jakub.—Bolyezni serdtza, etc.
143 Coagulating Influence of Ferments on Peptone. N. A. Sakharoff.—O svertyvayushtchem dyeistvie brodil na peptony.
144 (No. 50.) Estimation of Impairment of Working Capacity by Eye Traumas. E. P. Braunstein.—Ob umenshenii trudosposobnosti pri povrezhdeniya glaz.
145 Study of Influence of Dyes of Aromatic Series on Digestion. A. I. Vinogradoff.—K voprosu o vliyanii iskustvennykh krasok aromat. ryada na pishtchevarenie.
146 (No. 51.) General Causes of Gastrointestinal Affections. A. A. Trzhetzyesky.—Obshtchiya pritchiny zheludk.-kish. zabolyevanii.
147 Eye Disturbances in Experimental Ergot Intoxication. K. K. Orloff.—Ob ezmyeneniakh pri chron. otravlenii sporynei e cya preparatami.
148 Vaginal Cesarean Section with Cancer of Cervix. F. K. Weber.—Vlagalishtchnoi kesarskoe syetchenie pri rakye sheiki matki, etc.
149 (No. 52-53.) Acute Glaucoma After Cataract Operations. M. I. Auerbach.—Ostraya glaukoma posiye operatzii katarakt.
150 Coincidence of Measles, Röthein and Scarlatina. S. V. Vitlin. —Sovmyestnoe tetchenie ostro-likhoradotchnykh sypei. (Concluded.)
151 (II, 1.) K technikye laparocoeliotomia. V. S. Gruzdeff.
152 Superior Results of Electrolysis in Treatment of Cicatricial Strictures of Esophagus. Y. B. Seidovitch.—Lyetchenie rubtzevyk suzhenii pishtchevoda electrolyzom.
153 Electric Light Treatment of Gynecologic Affections. A. I. Orloff.—O lyetchebnom vliyanii byelova elektritcheskova svyeta (lampotchek nakalivaniya) pri nyekotorykh vospalitelnykh zabolyevaniyakh matki i pridatkov.
154 Potassium Permanganate as Specific Antidote to Acute Morphin and Opiate Poisoning. S. A. Finkelstein.—Kali hypermang. kak spec. protivoyadie pri ostrykh ogravleniyakh morphiem i opiatami.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE LATIN GRAMMAR OF PHARMACY AND MEDICINE. By D. H. Robinson, Ph.D., Late Dean of the School of Arts, and Professor of Latin Language and Literature, University of Kansas. With an Introduction by L. E. Sayre, Ph.M., Professor of Pharmacy in, and Dean of Department of Pharmacy, University of Kansas. Fourth Edition, with Elaborate Vocabularies. Thoroughly Revised by Hannah Oliver, A.M., Assistant Professor of Latin, School of Pharmacy, University of Kansas. Cloth. Pp. 277. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A THESAURUS OF MEDICAL WORDS AND PHRASES. By Wilfred M. Barton, M.D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and Walter A. Wells, M.D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Flexible Leather. Pp. 534. Price, $2.50 net; with Thumb Index, $3.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

DISEASES OF THE EAR. A Text-book for Practitioners and Students of Medicine. By Edward Bradford Dench, Ph.B., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College. With 15 Plates and 158 Illustrations in the Text. Third Edition, Revised and Enlarged. Cloth. Pp. 718. Price, $5.00. New York and London: D. Appleton & Co. 1903.

THE PRINCIPLES OF OBSTETRICS. A Practical Manual for the Student and General Practitioner. By Stanley Perkins Warren, M.D., Portland, Me., Obstetric Surgeon to the Maine General Hospital. Superbly Illustrated by 165 Line and Half-tone Engravings. Cloth. Pp. 385. Price, $3.00 net. New York: William Wood & Co.

KING'S MANUAL OF OBSTETRICS. By A. F. A. King, M.D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C. Ninth Edition, Revised and Enlarged. Cloth. Pp. 628. Price, $2.50 net. Philadelphia and New York: Lea Brothers & Co. 1903.

THE EXACT SCIENCE OF HEALTH BASED UPON LIFE'S GREAT LAW. By Robert Walter, M.D. Vol. I.—Principles. Leather. Pp. 302. Price, $2.00. New York: Edgar S. Werner Publishing Company. London: Kegan Paul, Trench, Trubner & Co., Ltd.

A NURSE'S HANDBOOK OF OBSTETRICS. For Use in Training Schools. By Joseph Brown Cooke, M.D., Fellow of the New York Obstetrical Society. Cloth. Pp. 391. Price, $2.00. Philadelphia and London: J. B. Lippincott Company. 1903.

PLAIN HINTS FOR BUSY MOTHERS. By Marianna Wheeler, Superintendent of the Babies' Hospital, New York. Illustrated by F. M. Miller. Flexible Leatherette. Pp. 54. Price, 35c. New York: E. B. Treat & Co. 1903.

THIRTEENTH ANNUAL REPORT OF THE EYE, EAR, NOSE AND THROAT HOSPITAL OF NEW ORLEANS, LA. Jan. 1, 1902, to Dec. 31, 1902.

Paper. Pp. 64. New Orleans: A. W. Hyatt Stationery Mfg. Co., Ltd. 1903.

FIRST BIENNIAL REPORT OF THE MONTANA STATE BOARD OF HEALTH. From Its Creation, March 15, 1901, to Nov. 30, 1902. Paper. Pp. 114. Helena: Independent Publishing Company.

THE WELCOME PHYSIOLOGICAL RESEARCH LABORATORIES. Founded 1894. Walter Dowson, M.A., M.D., Director. Cloth. Pp. 36.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the two weeks ending Aug. 8, 1903:

Adair, George W., lieut.-colonel and district surgeon-general, is relieved from duty in the Division of the Philippines, to take effect August 31, and will proceed to the United States and report by telegraph to the Adjutant-General of the Army for further orders.

Bosley, John R., first lieut. and asst.-surgeon, now at Fort McPherson, will report at that post for duty.

Brown, Orville G., first lieut. and asst.-surgeon, now at Washington, D. C., will proceed to Fort Monroe for duty.

Brown, W. E., contract surgeon, is granted leave of absence for two months from about September 1.

Chamberlain, Weston P., first lieut. and asst.-surgeon, is granted leave for one month.

Cable, G. L., contract surgeon, is granted an extension of leave for ten days.

Foster, Charles L., first lieut. and asst.-surgeon, now at Fort Myer, will report at that post for duty.

Fanning, George J., contract surgeon, on his relief from duty at Whipple Barracks by First Lieut. Henry D. Thomason, asst.-surgeon, will proceed to his home at Cacatow, Ariz., for annulment of contract.

Geddings, Edward F., first lieut. and asst.-surgeon, is relieved from duty at Fort Brady, to take effect on the return of First Lieut. William Roberts, asst.-surgeon, to duty at that post, and will then proceed to Fort Keogh, to relieve First Lieut. Paul C. Hutton, asst.-surgeon.

Gregory, Junius C., first lieut. and asst.-surgeon, is granted leave for one month, to take effect when he is relieved from duty at the U. S. General Hospital, Washington Barracks.

Hutton, Paul C., first lieut. and asst.-surgeon, will proceed to Pekin, China, and report to the commanding officer of the U. S. legation guard for duty, to relieve First Lieut. Frederick M. Hartsock.

Hartsock, Frederick M., first lieut. and asst.-surgeon, will proceed to the United States and report by telegraph to the Adjutant-General of the Army for further orders.

Hallock, Harry M., captain and asst.-surgeon, now at the U. S. General Hospital, Presidio, is relieved from further duty in the Division of the Philippines, and will proceed to Fort Porter for duty.

Hutton, Paul C., first lieut. and asst.-surgeon, is granted leave of absence for one month.

Jones, Percy L., first lieut. and asst.-surgeon, now at Atlanta, Ga., will proceed to Fort Monroe for duty.

Jones, John F., contract surgeon, is granted leave of absence for one month, with permission to apply for an extension of one month, to take effect on his relief from duty at Fort Washakie.

Kieffer, Charles F., captain and asst.-surgeon, will report to Major William H. Arthur, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for professional examination and physical re-examination for promotion.

Lovering, Robert C., first lieut. and asst.-surgeon, now at Philadelphia, Pa., will proceed to Fort Leavenworth for duty.

Morris, Samuel J., first lieut. and asst.-surgeon, now at Fort Grant, will proceed to San Francisco and report for transportation to the Philippine Islands, where he will report for assignment to duty.

Mabee, James I., first lieut. and asst.-surgeon, now on temporary duty at Presidio, is assigned to permanent duty at that post.

Purnell, Harry S., first lieut. and asst.-surgeon, now at Fort Wingate, will proceed to San Francisco, Cal., and report for transportation to the Philippine Islands, where he will report for assignment to duty.

Pinkston, O. W., contract surgeon, is granted leave for one month, to take effect on the termination of the season of target practice at Camp Stoney Point, N. Y.

Peed, George P., first lieut. and asst.-surgeon, now at Portsmouth, Va., will proceed to Washington Barracks, and report at the U. S. General Hospital for duty.

Porter, Ralph S., first lieut. and asst.-surgeon, now at Chicago, will proceed to Fort Leavenworth for duty.

Palmer, Fred W., first lieut. and asst.-surgeon, now at Brooklyn, Mich., will proceed to Jefferson Barracks for duty.

Pipes, Henry F., first lieut. and asst.-surgeon, now at Fort Barrancas, will report at that post for duty.

Siler, Joseph F., first lieut. and asst.-surgeon, now at Fort McPherson, will report at that post for duty.

Stedman, Chester J., first lieut. and asst.-surgeon, now at Fort Adams, will report at that post for duty.

Smith, Charles F., contract surgeon, is relieved from duty at Fort Leavenworth, and will proceed to his home, Whitehall, Mich., for annulment of contract.

Smith, Charles F., contract surgeon, is granted leave of absence for one month.

Sabin, Wallace E., contract surgeon, is relieved from duty at Fort Apache and will proceed to Vancouver Barracks for duty.

Richards, J. W., contract surgeon, is granted leave of absence for one month on surgeon's certificate.

Ten Eyck, Benjamin L., major and surgeon, having been found by an Army retiring board incapacitated for active service on account of disability incident thereto, his retirement from active service, Aug. 3, 1903, under the provisions of Section 1251, Revised Statutes, is announced. Major Ten Eyck will proceed to his home.

Trenholtz, C. A., contract surgeon, is granted an extension of leave for fourteen days.

Van Kirk, Harry H., contract surgeon, is relieved from further duty at Fort Wingate, and will proceed to Fort Washakie and report for duty, to relieve Contract Surgeon John F. Jones, who will proceed to Fort Schuyler.

Whaley, Arthur M., first lieut. and asst.-surgeon, now at Sault Ste. Marie, Mich., will proceed to Fort Sheridan for duty.

Winter, Francis, captain and asst.-surgeon, is relieved from duty as attending surgeon and examiner of recruits at St. Louis, Mo., to take effect on the expiration of his present leave, and will then proceed to Fort Huachuca for duty.

Wood, Halsey L., contract surgeon, is relieved from duty in the Department of the Columbia, and will proceed to his home, New York City, for annulment of contract.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended Aug. 8, 1903:

Surgeon L. W. Spratling, Asst.-Surgeons C. H. DeLancy and E. M. Blackwell and Pharmacist C. E. Reynolds, detached from the *Columbia* and ordered to the *Hancock*.

Asst.-Surgeon H. L. Brown, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the Navy Yard, Washington, D. C.

Asst.-Surgeons K. Ohnesorg and J. T. Kennedy, ordered to the Naval Academy.

A. A. Surgeon C. T. Grayson, ordered to the Naval Proving Ground, Indian Head, Md.

Pharmacist J. Cowan, detached from the Navy Yard, Boston, Mass., and ordered to the Naval Magazine, Iona Island, N. Y.

Pharmacist E. T. Morse, detached from the Naval Magazine, Iona Island, N. Y., and ordered to the Navy Yard, Boston.

Pharmacist E. May, ordered to the Naval Hospital, Norfolk, Va.

P. A. Surgeon J. A. Guthrie, detached from the *Vicksburg* and ordered to the *Solace*.

Asst.-Surgeon R. H. Michels, detached from the *Solace* and ordered to the *Wilmington*.

Asst.-Surgeon G. M. Mayers, detached from the *Isla de Cuba* and ordered to the *Vicksburg*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended August 8, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, July 25-August 1, 3 cases.
California: Los Angeles, July 18-25, 5 cases.
Illinois: Chicago, July 25-August 1, 4 cases; Danville, July 25-August 1, 1 case.
Louisiana: New Orleans, July 25-August 1, 3 cases.
Maryland: Cumberland, July 1-31, 7 cases, 1 death.
Massachusetts: Fall River, July 25-August 1, 7 cases, 1 death.
Michigan: Grand Rapids, July 31-August 1, 1 case.
Missouri: St. Louis, July 25-August 1, 2 cases.
New Hampshire: Manchester, July 31-August 1, 2 cases.
New Jersey: Camden, July 31-August 1, 1 case.
Ohio: Cincinnati, July 24-31, 1 case; Toledo, July 25-August 1, 1 case.
Pennsylvania: Scranton, July 25-August 1, 3 cases.
Utah: Salt Lake City, July 31-August 1, 2 cases.
Wisconsin: Milwaukee, July 13-August 1, 14 cases.

SMALLPOX—FOREIGN.

Austria: Prague, July 11-18, 2 cases.
Belgium: Brussels, July 11-18, 4 deaths.
Brazil: Rio de Janeiro, June 29-July 12, 14 deaths.
Colombia: Bocas del Toro, July 14-21, 1 case, 1 death.
Ecuador: Guayaquil, July 4-11, 1 death, sporadic.
Germany: Bremen, August 1, 1 case on Steamship Bremen.
Great Britain: Dublin, July 11-18, 6 cases, 1 death; Manchester, July 11-18, 2 cases, 1 death; Newcastle-on-Tyne, July 11-18, 4 cases.
India: Bombay, June 23-July 7, 28 deaths; Calcutta, June 27-July 4, 1 death.
Mexico: Tampico, July 18-25, 1 death.
Russia: Moscow, July 4-11, 4 cases, 3 deaths; Riga, May 1-31, 24 deaths; St. Petersburg, July 4-18, 37 cases, 3 deaths.
Spain: Barcelona, June 20-July 4, 4 deaths.

YELLOW FEVER.

Colombia: Panama, July 13-27, 7 cases, 2 deaths.
Costa Rica: Limon, July 16-23, 9 cases, 4 deaths.
Mexico: Coatzocoalcos, July 18-25, 2 cases; San Luis Potosi, July 13, present; Tampico, July 18-25, 40 deaths; Vera Cruz, July 18-25, 34 cases, 17 deaths; Yucatan, July 15, present.

CHOLERA.

India: Bombay, June 30-July 7, 1 death; Calcutta, June 27-July 4, 27 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, July 19, 1 death.

PLAGUE—FOREIGN.

Africa: Cape Colony, June 6-13, 5 cases, 4 deaths.
China: Amoy, June 20, 50 deaths daily, estimated.
Egypt: Alexandria, June 27-July 4, 4 cases, 1 death; Port Said, June 27-July 4, 1 case; Tantah, June 27-July 4, 2 cases, 2 deaths.
French Indo-China: Tonquin, June 10-23, 5 deaths.
India: Bombay, June 23-July 7, 178 deaths; Calcutta, June 27-July 4, 15 deaths; Karachi, June 14-21, 9 cases, 8 deaths.
Japan: Yokohama, June 20-27, 2 deaths.

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Original Articles.

PNEUMONIA AND PLEURISY IN EARLY LIFE SIMULATING APPENDICITIS.*

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Attention has been recently called in several quarters to the simulation of appendicitis or peritonitis by pulmonary processes, especially pneumonia and pleurisy. The fact that this simulation often occurred has long been known, but is commonly overlooked, and, inasmuch as the diagnosis is certainly at times extremely difficult, and since operation for appendicitis has even been performed when only pneumonia was present, I have thought it of interest to report a few cases of this nature and to quote those of like sort which have come to my notice in medical literature, limiting myself entirely, at least in detailing cases, to the occurrence of the condition in early life. It is, indeed, at this time that the confusion is most likely to happen, although some cases developing later in life are also met in literature.

Of the cases reported here the first two have already been detailed by me in previous publications; the others have not. Two of them occurred in the private practice of Dr. H. R. Wharton, and the notes of them were kindly given me by him.

CASE 1.—Mary Agnes McC., aged 8 years, admitted to St. Agnes' Hospital Oct. 27, 1893, suffering from chorea. On November 15 she became suddenly ill with very severe abdominal pain and tenderness and with such a marked appearance of some grave condition that the resident physician feared arsenical poisoning. The temperature was elevated, the pulse 170, and the respiration from 80 to 90 and very shallow. There was severe abdominal pain, with tenderness. The details of the condition as reported to me made me suspect peritonitis.

I examined her on November 16 and found that the abdomen was very much distended and tender; there was abdominal pain; the expression of the face was anxious, and the legs were held constantly drawn up in bed. The temperature had risen to 102. The rapidity of respiration combined with its shallowness appeared to be dependent on peritonitis, and several physicians who saw her with me agreed that this was the undoubted diagnosis. There was no cough. A physical examination of the lungs was made, however, as a routine, and to our surprise the upper part of the right lung was found to exhibit pneumonic consolidation. By the evening of the next day all abdominal symptoms had disappeared.

CASE 2.—Simon L., 4 years old, admitted to the Children's Hospital January 19, 1899. He was taken acutely ill on the 14th with obstinate constipation, abdominal pain and distension, and tenderness in the right iliac fossa. Cough was not noted, if present. The physician who saw him had already made the diagnosis of appendicitis, but the child was admitted to the medical wards, inasmuch as operation had been forbidden by the parents.

On examination on the 20th the child was found evidently in much pain; had an anxious expression of face, shallow respiration of from about 30 to over 40 per minute, and held the legs drawn up most of the time. The abdomen was not distended, but was tender in the right iliac region and everywhere rigid enough to make palpation difficult. As far as it was possible to determine no tumor was present. The temperature varied from 103 to 105. Except for a few coarse râles, nothing could be detected on examining the lungs in front. Owing to the great distress of the child, and because the diagnosis of appendicitis seemed so positive, the posterior part of the chest was not examined on this date. On the next day, the 21st, pneumonic consolidation of the left lung was easily found. The abdominal symptoms remained unchanged. On the 22d all abdominal symptoms had disappeared. Crisis occurred on the 24th.

In neither of these cases was there apparently any reason to suspect anything but an appendicitis, or a peritonitis secondary to this. In the light of later experience, however, one sees that certain suspicious symptoms were present. The height of the fever in the second case, and, especially the rapidity of the respiration, ought to have rendered me more cautious in diagnosis. It is certain that in the second case the child would have been at once transferred to the surgical ward for operation if this had been permitted by the relations, and that operation might have been done if a more careful examination had not been made.

CASE 3.—Myer M., 6½ years old, admitted to the surgical ward of the Children's Hospital March 17, 1900, supposed to be suffering from appendicitis and pneumonia, having been ill two days. The exact nature of the symptoms previous to admission is not recorded.

Examination on the 18th showed the abdominal walls tense and everywhere tender, especially on the right side, where the rigidity and tenderness were especially marked. The respiration was from 45 to 55, the pulse over 130 and the temperature from 103 to 104. Breathing appeared to be painful. Examination of the lungs showed slight impairment of resonance over the upper lobe of the left lung in front and of the lower lobe behind, yet nothing very characteristic or diagnostically positive was discovered. On the 19th the temperature was 103, the respiration from 40 to 50. The abdomen was distended and tympanitic, and the epigastrium and the region of the appendix were tender on pressure, and the left iliac region to a less extent. Abdominal pain was constantly present, but less than on the preceding day. The expression of the face was that of pain; herpes was present on the lips; the chest was tender everywhere on percussion. No change in the pulmonary condition is recorded. On the 20th the child was much brighter. The abdominal symptoms persisted, and physical signs of pneumonia of the right lung were very positive. By March 21 all abdominal symptoms had disappeared. There were now, how-

* Read before the New Jersey State Medical Society.

ever, evidences of some degree of pneumonia in both lungs, and the temperature was falling. By the 23d it was normal.

This case was puzzling, not so much to determine the presence of a pneumonia, which was suspected before admission, but because it was considered that the disease was occurring conjointly with appendicitis. Operation was considered when he first entered the surgical ward. I was asked to see him on the 19th or 20th, and determined positively the presence of pneumonia. Experience with the earlier cases made me believe that the abdominal symptoms were referred entirely from the lungs. The later course of the disease appeared to render this unquestionable.

CASE 4.—K. S., male, 7 years old, admitted to the Children's Hospital Nov. 2, 1899, under the care of Dr. H. R. Wharton. He had had at various times more or less abdominal pain, but never severe until three weeks previously, when he had a typical attack of appendicitis as regarded by the physicians in charge of him. The symptoms at the time consisted of severe pain and tenderness in the right side of the abdomen, especially at McBurney's point. fever, constipation and restlessness. He recovered partially, but the tenderness is said to have remained. On October 30, three days before admission, he had had a recurrence of pain, and again on November 1. There had been no vomiting at any time. Fever was said to have persisted since the attack three weeks before. On admission the temperature was 103, respiration varying from 32 to 80, and the pulse from 132 to 196. The abdomen was distended, tender and somewhat rigid. These symptoms were especially marked on the right side. There was also bronchial respiration over the entire lower lobe of the left lung. The attending physician had in person taken the child to the hospital in order to have an operation for appendicitis performed. On refusal by the surgeon to do this he became very angry, disputed the diagnosis of pneumonia, said he had brought the child for the sake of operation solely, and would remove him if it was not performed, and used other language more forceful than polite. He was requested to go to the ward to examine the patient himself again. This he did—and then apologized.

By the evening of the same day the temperature had fallen to 99.2. No further abdominal symptoms were recorded, and the pneumonic consolidation rapidly disappeared.

This case hardly needs comment. It shows how absolutely one may be deceived by the pseudo-appendicular symptoms unless careful study of other parts of the body is made.

CASE 5.—Walter E. C., 11 years old, admitted to the Children's Hospital to the service of Dr. Wharton on Nov. 25, 1901. He was taken ill November 22 with vomiting, headache and pain in the abdomen. The latter soon became localized at McBurney's point and continued until the 24th, being so severe that he lay awake crying during the night of the 23d. There was fever and the bowels were constipated. Two well-known physicians of Philadelphia, one of them a surgeon, had seen him and made the diagnosis of appendicitis. On examination in the hospital the temperature ranged from 103 to 104 or more, the respiration from 40 to 55 and the pulse from 95 to 130. There were no certain symptoms of appendicitis discoverable, but a well-developed croupous pneumonia of the base of the right lung was found, and he was transferred to the medical ward to the service of Dr. F. A. Packard. By this time the principal pain complained of had shifted to the right shoulder. There was also pain in the right side and in the epigastrium, but none had been present in the right iliac region since the evening of the 24th. The epigastric pain persisted until the 27th, when the temperature fell by crisis. After this date the pain grew less.

By the time the child reached the hospital the change in the locality of the pain had removed some of the difficulty in diagnosis. It is to be noted that the physical signs of pneumonia were developed at the time of entrance.

The next case is not so characteristic an example of the likeness of appendicular pneumonia to appendicitis. The child was admitted, it is true, for appendicitis, but this diagnosis was promptly corrected.

CASE 6.—Elmer W., 8 years old, admitted to the Children's Hospital May 8, 1900, in the service of Dr. F. A. Packard. He had wakened in the early morning of May 4 with fever and vomiting. Constipation, fever and cough continued from this date. For two days there had been pain in the right side. Examination showed the eyes sunken, the knees drawn up, the abdomen distended but not tender, frequent cough, temperature 103, respiration from 35 to 45, pulse from 140 to 170, pain in the right side of the thorax, and physical signs of pneumonic consolidation of the right lung. The temperature fell by crisis on the 9th.

The only suspicious symptoms in this case were the sunken eyes, distended abdomen and the drawing up of the legs, pointing toward abdominal disease. The diagnosis, however, was unattended by difficulty.

The following two cases were seen by Dr. H. R. Wharton in his private practice, and kindly submitted to me by him.

CASE 7.—Boy 15 years old, seen in consultation, a diagnosis of appendicitis having been made, and Dr. Wharton having been called for the purpose of operating. There were pain in the right iliac fossa and continued high temperature. Examination showed some rigidity of the right rectus muscle, and much tenderness on pressure in the region of the appendix. Further examination, however, showed consolidation of the right lung. The presence of appendicitis was excluded. The abdominal symptoms promptly disappeared, and the child passed through an ordinary case of croupous pneumonia, terminating in recovery.

CASE 8.—Boy 8 years old, who for nearly a week had had severe abdominal pain, particularly in the right iliac fossa. Dr. Wharton was called in consultation on the sixth day of the disease, the diagnosis of appendicitis having been made and operation being desired. The symptoms pointed to disease of the appendix, but it was noticed that the respiration was quite rapid. Examination of the chest revealed the presence of pleural effusion. This later became purulent and ruptured into a bronchus, the symptoms of appendicitis meantime having disappeared. Resection of the rib and drainage of the empyema was required later. Recovery followed.

Cases occurring in children and reported in recent literature have been multiplying so rapidly that I can give but the briefest synopsis of those which have come to my notice. There is no doubt that a careful search of the older literature would show more extended references to the condition, with illustrative cases, than is ordinarily supposed.

1. Fenwick (*Lancet,* 1893, Vol. ii, p. 79) reports 1 case.

Boy of 13 years was suddenly attacked with severe abdominal pain, vomiting and faintness after a long walk. In a few hours he became delirious. On the next day he was found to have fever, with a temperature of from 102 to 106, pulse 36, herpes on the lips, rapid respiration, occasional short, dry cough, considerable abdominal pain and tenderness and rigidity, especially in the umbilical and left lumbar regions. The legs were drawn up in bed. Nothing abnormal was discovered in the chest. Vomiting continued troublesome, and the delirium gave place to stupor. On the third day all the symptoms improved greatly, and dulness at the left base behind, with impairment of the respiratory murmur, was discovered. Improvement continued, and the abdominal tenderness disappeared to a large extent. The temperature reached normal in three days. Later, pleural effusion was found.

Four other cases were reported, all in adults. In all the symptoms pointed distinctly toward inflammation in the abdomen, but the disease appeared to be dia-

phragmatic pleurisy. In two of the cases pleural effusion developed. In another the autopsy showed extensive involvement of the diaphragmatic pleura.

2. Morse (*Annals of Gynec. and Pediat.,* 1897) reports 3 cases.

(A) Boy of 7 years. A blow in the abdomen was followed soon by faintness, nausea and vomiting. The next day nausea, headache, pain in the abdomen, constipation, slight fever and slight abdominal distension and tenderness developed. Examination of the lungs was negative. The abdominal pain and tenderness increased, especially in the right iliac region, with slight dulness there. Respiration and pulse were rapid, the temperature was high, and there was a constant hacking cough. Appendicitis was suspected. On the fourth day of the attack physical signs of pneumonia were well marked over the right lower lobe, the abdominal symptoms disappearing.

(B) Boy of 8 years had headache, slight abdominal distension and tenderness, constipation, rapid respiration and a temperature of 105. Nothing was found in the lungs. Vomiting occurred in the night, and on the next day there was slight cough and the abdomen was much distended and tender, especially on the right side. The examination of the lungs was still negative. Up to the sixth day of the disease the condition was the same. On this date the respiration became more rapid and painful, the cough increased, pain in the chest developed, physical signs of pneumonia of the right lower and middle lobes were found, and all abdominal signs disappeared.

(C) Girl of 3 years, taken ill suddenly with fever and abdominal pain. On the next day she vomited, had continued abdominal pain, but no cough. Seen thirty-six hours after the onset, the temperature was found to be 39.9 C., the respiration and pulse rapid, but nothing abnormal was found in the lungs. On the fourth day of the attack solidification of the left lower lobe was discovered.

Morse considers the occurrence of pneumonia with initial abdominal symptoms not uncommon. He says that the abdomen has been twice opened for appendicitis in children within the past few years by prominent surgeons in Boston when the trouble was really pneumonia. He believes that the sudden onset with high fever and rapid respiration should suggest pneumonia, even in the presence of abdominal symptoms and the absence of cough.

3. Guinon (*Bull. de la Soc. de Paris.,* 1901, p. 77) reports one case.

Girl of 13½ years, had had fever, headache and pain in the right side of the chest for about eight days before admission to the hospital. On the day after admission she exhibited an anxious expression of face, sunken eyes, pain in the right side of the abdomen with tenderness at McBurney's point, little cough, no dyspnea, no physical signs in the chest. The case was supposed to be appendicitis, but firm pressure with the flat of the hand showed no tenderness and no increased resistance, although sudden pressure with the finger-tip gave pain. For two days more the diagnosis remained uncertain, pain persisted and positive signs of pneumonia were found at the right apex. The temperature fell by crisis in the evening, and on the next day the abdominal symptoms disappeared and the physical signs of pneumonia throughout the right lung were positive.

4. Massalongo (*Riforma Medica,* 1901, 711) says that he has observed 4 cases in children of from 5 to 12 years in which pneumonia simulated appendicitis. He recalls 5 cases in which operation for appendicitis was done and the organ found entirely sound, the real disease being pneumonia.

He calls the condition pseudo-appendicular pneumonia and dwells on the difficulty in diagnosis which lasts until after the third or fourth day, by which time the abdominal symptoms lessen and the physical signs of pneumonia are liable to be detected. The pain is projected by way of the sympathetic and the spinal cord to the twelfth intercostal nerve.

5. Richardson (*Boston Med, and Surg. Jour.*-1901, April 17, p. 399) reports 5 cases in children.

(A.) Boy of 6 years, had for three days right lumbar pain, persistent vomiting and headache. On the third day a tense abdomen and right iliac tenderness were found, and the temperature was 105.5: On the fifth day the respiration was 40, the abdomen distended, the legs drawn up, the eyes sunken, and the general appearance bad. A diagnosis of appendicitis was made. On the sixth day the appendix was removed, but nothing of moment was found. Dyspnea and cough then developed, followed by empyema. He says that the case was one of pleurisy simulating appendicitis.

(B.) Boy 4 years old. On the second day there was abdominal pain, cough, and a temperature of 101, and appendicitis was thought of. On the third day pneumonia of the left lung was suspected. There was much pain in the epigastrium and in the left shoulder; the respiration was 42 and the temperature 105. On the fifth day symptoms suggestive of pneumonia, but not positive, were found. On the sixth day there was acute abdominal pain, constant in the region of the appendix. The abdomen was distended but not hard, with dulness in the right iliac region. The pain lasted several days and then disappeared. The final diagnosis was pneumonia of the left lung.

(C.) Girl, 5 years old, suddenly developed abdominal pain, which continued on the next day chiefly in the right iliac fossa, with a temperature of 104.4. Fever and pain diminished after ten days, but a little tenderness remained somewhat longer. About a week later pain and fever returned, appendicitis was thought of, and Dr. Richardson was summoned to operate. He found pneumonia of the right lung and tenderness along the course of the lower intercostal nerves. There had been no suspicion of the existence of pneumonia.

(D.) Boy of 4 years was attacked by cough, restlessness, fever, accelerated respiration, constipation and slight distension of abdomen. Nothing abnormal was found in the lungs. The condition continued, and on the eighth day the child developed abdominal pain, great tenderness over McBurney's point, and rapid respiration. Dr. Richardson was called in on the ninth day on account of suspected appendicitis. He found vomiting, severe abdominal pain, tenderness in the right iliac fossa, distension, but no rigidity. Operation was deferred. On the tenth day pneumonia was discovered, and the abdominal symptoms disappeared rapidly.

(E.) Girl of 7 years had had abdominal pain, fever, rapid respiration and cough for two days. On the third day the cough ceased, and on the fourth day severe abdominal pain developed, which disappeared, but left abdominal tenderness. Appendicitis and peritonitis were suspected. Examination on the fifth day showed tenderness over the appendix, no abdominal rigidity, a temperature of 104 to 105, and respiration of 40. The diagnosis was very uncertain, and operation was delayed. Signs of pneumonia were found the same evening.

Richardson also describes a case in an adult male brought to the hospital for abdominal operation. In a few days pneumonia was found.

He says that in acute right-sided diseases of the thorax the symptoms of appendicitis may be so simulated that a surgeon may be completely deceived. It was only his experience in the first case which kept him from operation in the others. The high temperature and rapid respiration are the most assuring symptoms.

6. Hampeln (*Zeitschr. f. Klin. Med.* 1902, 448) reports 5 cases, all in young adults and showing the most typical symptoms of sudden acute abdominal conditions. Collapse was present in some. In all the symptoms simulated peritonitis or intestinal occlusion.

7. Satullo (*Gaz. degli Ospedali,* 1902, xxiii, 757) reports 3 cases, all in adults. In all there was severe

pain in the right iliac fossa with an exceptionally high temperature, running from 43 to 44 C. at the maximum. It was only after several days of observation that the diagnosis of pneumonia was possible. Satullo designates the condition appendicular pneumonia, and says that pneumonia may begin with symptoms of acute appendicitis and the diagnosis be uncertain for three or four days. Pain at McBurney's point is reflex and is transmitted along the anterior branches of the twelfth intercostal nerve.

8. Barnard (*Transac. Clin. Soc. Lond.*, 1902, xxxv, 122) reports 2 cases in children.

(A). Girl of 11 years, had had some abdominal pain with vomiting during three days. When seen on the fourth day the temperature was 103.6, the respiration 40 and painful; there was tenderness in the right iliac fossa, abdominal rigidity, and constipation. Four days after admission obscure signs of pneumonia of the right base were found. The temperature fell by crisis this day, but rose again, and signs of diaphragmatic pleurisy developed.

(B.) Boy 10 years old, had been ill for two days with abdominal pain and vomiting, following a blow on the abdomen and the lower part of the chest. He was admitted to the hospital for acute traumatic peritonitis. Examination showed the abdomen distended, rigid, tender; the legs drawn up; constipation; a temperature of 99.5, soon rising to 103; the respiration 44, and the throat negative. On the next day undoubted signs of pleuro-pneumonia of the right base were found. Empyema developed later.

Four other cases are reported; one in a girl of 17 and three in men, in which severe abdominal symptoms were produced by pneumonia or pleurisy. In the case of the girl the diagnosis of perforating gastric ulcer had been made, and operation was performed, but no signs of this condition were found. On the next day physical signs of pneumonia of the right base were found. In the case of one of the men operation was performed for supposed laceration of the spleen from trauma, the symptoms being due in reality to a traumatic pleurisy of the left side. The two other cases exhibited symptoms of peritonitis dependent on the presence of pyopneumothorax.

Barnard refers to the fact that the older writers recognized the simulation of abdominal diseases by pneumonia or pleurisy. He speaks of cases reported by Andral and Fagge. He says that the relaxation of the abdominal walls with each inspiration, the rapid respiration, the absence of weak or irregular pulse, the fact that the tenderness is superficial and disappears under firm pressure by the flat of the hand, and the sudden high elevation of temperature speak against peritonitis and for pulmonary disease.

9. Comby and Zielinski (*Arch. de Med. des Enf.* 1902, 741) report 1 case.

Boy of 8 years was attacked suddenly by vomiting, abdominal pain, constipation and fever. On the next day there was a temperature of 39.3 C., an anxious expression of face, pain and tenderness on the right side of the abdomen, no cough, and nothing abnormal in the lungs. On the fourth day vomiting and distension of the abdomen developed. Appendicitis was thought of, but beginning physical signs of pneumonia of the right side were found. Crisis occurred on the seventh day.

The writers caution against an early diagnosis based on what appear to be appendicular symptoms. There should be increased muscular resistance and deep induration to justify the diagnosis of appendicitis.

10. Cozzolino (*Gaz. degli Ospedali*, 1903, xxiv, 45) reports 1 case.

Girl of 3 years was suddenly attacked by high fever, severe abdominal pain, especially on the right side, vomiting and anorexia. Examination on this day showed the child lying on the right side with thighs strongly flexed, great abdominal tenderness and pain, temperature of 39.7 C., pulse 150, rapid respiration, slight dyspnea, dry cough and constipation. She vomited during the examination. Practically nothing abnormal was found in the lungs. After much persuasion palpation of the abdomen was permitted; firm, steady pressure with the palm overcame the muscular contraction, and nothing abnormal was found at McBurney's point. On the next day the pain was slightly less; the cough little worse, and vomiting had ceased, and in the evening characteristic signs of beginning pneumonia of the right base were discovered. Abdominal pain slowly diminished, and disappeared by the sixth day.

He believes that pressure with the flat of the hand is a valuable aid in diagnosis, and dwells on the caution to be exercised in basing an opinion on the ordinary train of symptoms of appendicitis.

It is not necessary to review much further the individual cases or the general observations of the different writers as already quoted. There is evident a decided uniformity in most of the statements. They are in entire accord, too, with what the new cases I have reported show. There is, namely, especially in early life, a well-recognized, long-known, but frequently forgotten, tendency for patients with pneumonia or pleurisy to refer to the abdomen the pain really produced in the chest. This is more liable to happen when the disease is situated in the lower part of the thorax, but there is reason to believe that it may also occur when it has attacked the upper portion. It is also more deceptive when the right side of the thorax is affected, since the right side of the abdomen is then liable to exhibit pain, and the presence of appendicitis is suggested. Combined with the abdominal pain in these cases there is also constipation and abdominal tenderness and distension. These symptoms, together with the vomiting which quite commonly ushers in an attack of pneumonia in childhood, easily produce a clinical picture very closely simulating that of appendicitis.

The distinction is to be made by giving due consideration to (1) the sudden rise of temperature to 103 F. or thereabouts, and the tendency to maintain this degree; (2) the acceleration of respiration, which is out of proportion to the pulse rate or the pyrexia; (3) the relaxation of the abdominal walls between the respirations; (4) the diminution or the disappearance of tenderness on deep pressure with the flat of the hand; (5) the possible presence of cough. Finally, no operation for appendicitis should ever be performed until after a careful, or perhaps repeated, examination of the lungs has been made. All these points will, however, frequently fail to make the diagnosis certain, as the experience of some of the able observers quoted has shown.

Ozena of the Bronchi.—Béclère of Paris has observed several cases of a chronic bronchial affection similar to ozena of the nose. In some cases it was consecutive to measles, whooping cough or influenza, in others it was secondary to nasal ozena. In the majority the nasal passages were normal. All were improved or completely cured by intratracheal injections of peroxid of hydrogen and mentholized oil. Unilateral sclerosis of the lung with dilatation of the bronchi is the usual basis for the affection, as can be determined by radioscopy. If the latter is neglected the symptoms may suggest the erroneous diagnosis of a recurring vomica. The *Bull. Soc. Méd. des Hop.*, for June 25, contains Béclère's communication on the subject.

ABDOMINAL PAIN IN PLEURISY AND PNEUMONIA.*

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That a disease in one part of the body may call forth painful sensation in another part is a matter of every-day observation. Pain in the knee may mean hip-joint disease; the passage of a renal calculus may make pain in the testicle or penis; a gallstone may cause pain referred to the neighborhood of the right scapula; pain in the neck or left arm and hand may indicate angina pectoris and coronary sclerosis. While in pleurisy and pneumonia the pain is usually referred to the chest and to the side affected, it may be referred to points remote from the site of the disease, as to the opposite side or to the abdomen. This fact had not escaped the keen observation of our forefathers in clinical medicine. Laennec[1] speaks of the pain of pleurisy as sometimes shifting its place and "occasionally," he says, "from the beginning of the disease, we have a stitch on the right side and pleurisy on the left." Gerhardt also reports this fact. Huss[2] treated of this subject, explaining the pain on the other side by the occasional anastomosis of right and left intercostal nerves. Barnard,[3] who has lately written of abdominal pain in pleuropneumonic diseases, cites Andral, Watson and Fagge as clearly recognizing the fact that severe abdominal pain might have its origin in the pleura, and be misleading unless care were exercised in the physical examination. While several articles have lately called attention to the danger of confusing pulmonary and pleural diseases with peritoneal, this danger is not touched upon by many writers on diseases of the chest or abdomen, nor has it among practitioners of medicine and surgery the general recognition that it deserves. But the subject is well worth emphasizing. For in these days, when even the recent graduate stands ready to attack the appendix of every individual the moment there is right iliac pain, tenderness and rigidity, with fever, the seriousness of a mistake in diagnosis in a case of this sort is plain. This, then, is my excuse for presenting a subject that is not new.

The lower six intercostal nerves—the anterior divisions of the dorsal nerves—supply the abdominal wall, as well as a part of the parietal and diaphragmatic pleura. An irritation, e. g., from inflammation or pressure, in the course of one of these nerves might readily cause a pain that would be referred to the distribution of this nerve, i. e., to the abdominal wall. In cases of pleurisy how much of the irritation is produced by true neuritis is, perhaps, uncertain. By many intercostal neuritis is regarded as of common occurrence in pneumonia and pleurisy.[4] The eleventh nerve is distributed over the iliac region. Pain here would easily make one think of the appendix if on the right side, or if on the left, perhaps of the rarer left-sided appendicular pains. The other nerves would cause pain referred to the umbilical, epigastric or hypochondriac regions and the confusion that might result when we think of the possible significance of such pain in the way of ulcer of the stomach, gall bladder mischief, pancreatitis, etc., is clearly seen.

This close anatomic nerve connection between the abdominal wall, the pleura and the intercostal muscles is indicative of a physiologically intimate relationship, clearly seen in the common function of the thoracic and abdominal muscles in the act of respiration. Hilton's well-known law declares that the interior of a joint, the muscles moving it and the skin over the muscular insertions are supplied by the same nerve trunks. This law also applies to the pleura, which, he says, can be compared to a joint. And the muscles to be regarded as moving the joint are not alone the intercostals, but the abdominal as well.[5] Not only may pain of pleural origin be referred to the abdomen, but in their effort to lessen pain and to give the joint, i. e., the pleura, rest, the muscles remain quiet and may even be tense. One can readily understand how the tenseness of abdominal muscles, added to pain, may be deceptive because of the close resemblance to the phenomena of abdominal disease. And how strikingly like the picture of abdominal inflammation may be the combination of pain and rigidity when chilliness, fever, rapid pulse, etc., are also present.

There is still another possible explanation of some of the abdominal disturbances that are seen in pleurisy and pneumonia. The phrenic nerve in its course through the chest lays itself open to the attack of a pleurisy involving the pericardial, diaphragmatic or costal surfaces. This nerve is not solely motor. Henle, Luschka and others regard it as a mixed nerve. Van Gehuchten[6] says that in its course it gives off sensory fibers to the pericardium and to the pericardial, costal and diaphragmatic pleura, its terminal filaments furnishing sensation to the peritoneum covering the interior surface of the diaphragm.

Irritation or inflammation of this nerve, as in pleurisy, may perhaps be an explanation of some of the cardiac and gastric disturbances, the collapse and meteorism because the phrenic has communication with the vagus and the splanchnics. The halting movement of the diaphragm, as well as pain referred to the epigastrium and hypochondrium, may likewise be due to phrenic disturbance. Hampeln[7] advocates this view quite strongly, overlooking too much, as it seems to me, the part played by the intercostals in the production of abdominal pain.

It is not necessary to assume in cases of this sort that the inflammation is in the diaphragmatic pleura, i. e., in the part of the pleura anatomically nearest to the abdomen, though undoubtedly this part of the pleura is often inflamed. Rohrer[8] calls attention to the frequent occurrence of inflammation of the diaphragm itself, and believes that to this is due in part the stitch pain, as well as the pain in the abdomen often complained of, especially in children.

Head,[9] who has done so much to explain referred visceral pain, believes that in certain cases there may be abdominal pain when the lung alone is involved without the pleura, e. g., in bronchitis, tuberculosis or bronchopneumonia. He says that through the communicating branches of the seventh, eighth and ninth dorsal nerves, which branches supply the lungs, impulses originating perhaps in a small inflammatory pulmonary focus may be carried up to the posterior root ganglia. From the abdominal wall normal impulses pass from the epigastric

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

1. Laennec: Treatise on Diseases of the Chest, etc., Forbes Trans., p. 450.

2. Huss: Deut. Archiv f. kl. Med., lx.

3. Barnard: The Simulation of Acute Peritonitis by Pleuropneumonic Diseases, London Lancet, clxiii, Aug. 2, 1902, p. 280.

4. Fraentzel: Ziemssen's Encyclopedia, Amer. Trans., iv, p. 632, inclines to the view that was held by Beau that intercostal neuritis is a common accompaniment of pleurisy.

5. Hilton: Rest and Pain, reprint of second edition, p. 252.

6. Van Gehuchten: Système Nerveux, i, p. 460.

7. Hampeln: Zeitschrift für Klin. Med., xiv, p. 448.

8. Rohrer: Maryland Medical Journal, September, 1902.

9. Head: Brain, 1896. Also Brain, 1900.

and hypochondriac regions to these same ganglia. If, through the abnormal impulse coming from the lung, the ganglia have become disturbed in their function, the normal impulses from the abdomen may be distorted, i. e., misinterpreted, into painful impressions. Head tells Barnard (loc. cit.) that he has seen cases of this sort.

Whatever may be the correct explanation of this abdominal reference of the pain in thoracic disease, the fact that such pain may occur should be clearly recognized by both physician and surgeon. While infrequent, it is more than a curiosity, and it is not so rare that it does not deserve a place in the symptomatology of these diseases.

ILLUSTRATIVE CASES.

I wish by brief reference to cases that have come under my observation, and then by reference to the experience of others, to show that this pain may occur, that it may be a misleading symptom, but that by care it generally permits of a correct interpretation.

In the pneumonia of children abdominal pain is common. The sudden onset with severe pain, fever and vomiting, with the tenderness and distension of the abdomen, make the resemblance to local or general peritonitis striking.

A year and a half ago I was called by two physicians to see a child of three to decide as to the advisability of operation for appendicitis. The history was, as I have stated, sudden abdominal pain, vomiting, high fever, tympanitic and tense abdomen. Yet the cough, expiratory grunt and rapid respiration were plain, as were the physical signs of consolidation of the left lower lobe. Later a pneumococcus empyema developed, healing under drainage.

In this case, as so often happens to us all, the attention had been riveted on the part of the body in which the brusque initial symptoms had appeared, and the later symptoms of trouble in another part of the body, though plain to one new to the case, were thus overlooked.

The lobe involved to produce this pain is not necessarily the lower lobe.

Feb. 22, 1902, I saw with Dr. Klein, a girl of seven years, whose pneumonia began with vomiting, pain and tenderness in the right iliac region, temperature 103, and in whom Dr. Klein found the next morning signs of consolidation of the right upper lobe. A typical pneumonia with high fever, 106, and migration to the middle lobe followed. At the time I saw her the upper and middle lobes alone were solidified.

The same abdominal pain in a left upper lobe pneumonia was present in a 6-year-old child seen with Dr. B. H. Chamberlin, March 12, 1902. The mother described it as "cramps in the bowels." In these upper lobe cases the explanation of the reference of the pain to the abdomen may be that of Head, of Hampeln, i. e., through the phrenic nerve, or that the pleurisy and accompanying neuritis may be more extensive than the anatomic boundaries of the lobe that is solid, i. e., may involve the lower intercostal nerves.

While in conversation with physicians, I have found some who expressed surprise at, or even unbelief in the onset of pneumonia with sharp abdominal symptoms. I have found many who regard abdominal pain as an important early symptom of pneumonia in children. Some writers on pediatrics are silent regarding that point. Others clearly recognize it, e. g., Baginsky, Henoch, DeMussy and Bouveret. Holt[10] refers explicitly to it in the following words:

The pain is frequently referred to the loin, the epigastrium or to any region to which the intercostal nerves are distributed.

In a recent case, in a boy of seven years, for the first twelve hours there was intense localized pain in the right iliac fossa, associated with such extreme tenderness as to lead to the suspicion that the case was one of appendicitis.

This will be the proper place, I think, to say a few words concerning pleurisy and pneumonia, coincident with or following abdominal disease. Coincident with or following an appendicitis, a pneumonia or pleurisy may appear, the abdominal and thoracic disease both due to the same cause, e. g., the pneumococcus, or the one being secondary to the other. Gussenbauer showed that from thrombosed veins accompanying intestinal obstruction embolic pneumonic foci could appear in the lung. And lately Sonnenburg[11] has fully discussed the similar embolic origin of pneumonia met with during appendicitis, before or after operation. These cases in which the abdominal pain is accompanied by, and probably due to, definite abdominal disease, do not properly belong in the category of those I am considering. But I mention them as in a given case the possibility of the coexistence of both abdominal and thoracic disease must always be kept clearly in mind, a condition not at all infrequent in tuberculosis, carcinoma or general septicemia.

A few months ago I was called to see a girl of about five years, who was regarded as in too weak and desperate a condition to undergo an operation for appendicitis and peritonitis, from which she was said to be suffering. The case was certainly a puzzling one. I was able to demonstrate clearly an extensive consolidation of the lower right lobe and a portion of the lower left. This had not been overlooked by the physicians. The respiration, temperature, mental condition were suitable for pneumonia. But a severe initial and continuous abdominal pain, a rigid, somewhat tympanitic abdomen and a persistent vomiting made the peritonitis seem probable. Yet careful inquiry into the history showed that within 12 hours of the onset the respiration rate had been 52. Palpation also led me to question the existence of a peritonitis, for with care, and by gentle, steady pressure, it seemed to me that there was less tenderness and less real rigidity than were consistent with the supposed extensive peritonitis. This case, illustrated too, I believe, the truth of Barnard's observation that there is a yielding or softening of the abdominal wall at the beginning of each inspiration in these cases where the pain is of thoracic origin. Medicine and food by the stomach being stopped for a few hours, and opium given, the vomiting ceased. There was in a few days a marked improvement in all respects. But convalescence was slow, with some cough, dullness and râles and signs of delayed resolution. No pus was found by a needle in a suspicious area in the right chest. During this convalescence, for a few days the patient had a distinct rigidity of the lower abdominal wall. A complete recovery ensued, the illness lasting altogether about seven or eight weeks.

I am inclined to regard the case as primarily and even solely pneumonic. Yet it is possible that there was here a simultaneous infection of the lung and peritoneum, or the peritoneum may have been involved after the lung, or vice versa. The slow convalescence with persistent abdominal pain was present in one of Richardson's cases.

Turning now to adults, we find that they may exhibit, though less frequently, the same abdominal pain with pleurisy or pneumonia, and this may simulate a peritonitis.

A young man of about twenty, with sudden abdominal pain and fever had some rigidity in the right iliac region. His physician with whom I saw the case found here a mass concerning whose exact nature he was somewhat in doubt. The possibility of appendicitis was naturally thought of. But he gave a dose of calomel, the mass disappeared, and in twenty-four hours a right lower lobe pneumonia was clearly made out.

10. Holt: Diseases of Infancy and Childhood, second edition, 1902, p. 563.

11. Sonnenburg: Lungencomplicationen bei Appendicitis, Archiv. für Klinische Chirurgie, Bd. lxviii, p. 468.

I once showed a man in a clinic at the County Hospital with right iliac pain and marked friction rubs over the right chest. He had escaped an operation for supposed appendicitis only because he refused to permit it. Several times patients have been sent to the surgical wards from the examining room with the diagnosis of appendicitis when the more careful ward examination by the surgeon has shown the case to be pneumonia. I know of an instance in Chicago where the abdomen was opened for supposed appendicitis, when the whole trouble was a pneumonia unrecognized at the time of the operation, but which had caused symptoms that were regarded as those of appendicitis. I could cite several other cases in which abdominal pain has been a prominent feature in cases of pleurisy and pneumonia sometimes leading to perplexity as to the correct diagnosis. Thus a woman of 37 years with right pleural effusion told me that her trouble began twenty days before with a pain in the "stomach and side." In another case severe pain just above the crest of the ilium was present for two days before definite physical signs of pneumonia were present.

Dr. Bevan, in October, 1901, operated for me on a patient with acute appendicitis, draining a small abscess due to gangrenous perforation of the appendix. There was a slow but apparently complete recovery. From April to June, 1902, the patient was at her work as a nurse. About June 15, 1902, she had pain in the right chest, temperature 99 to 100. To this she paid little attention, but she became greatly alarmed when she had pain in the old region, i. e., at the site of the scar of the operation. Neither Dr. Bevan nor I could find local evidence for suspecting any recurrence of trouble in the region of the appendix. We thought the pain was referred from the chest in which could be clearly made out a pleural friction and the signs of a small amount of fluid. Within a few days all abdominal symptoms cleared up.

Still another case I may mention. A young lady with a large carbuncle of the upper lip, and with the grave constitutional symptoms attending it—the condition is, as is well known, generally due to the staphylococcus and often fatal—developed a severe pain in the right chest. In the latter location a friction rub with a fine crackling râle and a patch of harsh respiration could be made out. Nothing but the pain over the region of the appendix could be found suggestive of appendicitis, at least to Dr. N. S. Davis, Jr., and myself, who both saw the patient several times, though to some the probability of appendicitis seemed strong. The embolic pneumonic focus was evidently the explanation of the pain. There was ultimate recovery, the later history proving no appendicitis.

Twice I have seen pain referred very accurately to the region of the gall bladder, and the patients in both instances were sure there was cholecystitis, a natural interpretation, perhaps, when we consider that the one patient was a medical student and the other a physician, noted for being poor judges of their own ailments. The student had a right-sided pleurisy. The physician, in addition to the pain, had fever, local tenderness, and was jaundiced. He naturally concluded that he had gallstones and cholecystitis, though the whole trouble was clearly, as the sequel proved, a right lower pneumonia. In this case the pain was pretty definitely located at the point where the tenth rib joins the costal arch, close to the crossing of the parasternal line and the tenth rib, the *bouton diaphragmatique* of some writers. It should be regarded as suggestive of pleurisy, especially of the diaphragm, when this spot is the seat of pain or tenderness upon pressure.[12]

A patient whom I saw with Dr. F. S. Hartmann, was, after nearly two weeks, convalescing from an acute rheumatism and alcoholism when he was seized with a sudden excruciating pain in the upper left quadrant of the abdomen. Dr. Hartmann found him tender to pressure in the left hypochondrium; he soon vomited and became tympanitic. He did not, however, go into collapse immediately after the onset of the pain, and there was no marked perturbation of temperature. Three days later when I saw him, the tympany was less, the vomiting persisted and was grumous, there was an extensive pleurisy to be made out over the left chest, with a dullness and harsh breathing suggestive of pneumonia. The patient was rapidly failing, and died a few hours later. While no positive diagnosis was ventured by either Dr. Hartmann or myself, we both looked on the pleurisy as probably secondary to some subdiaphragmatic lesion—perhaps hemorrhagic pancreatitis or localized peritonitis from an ulcer of the stomach.

The autopsy made the next morning by Dr. H. G. Wells revealed nothing in the abdomen to explain the symptoms except a high grade of gastritis with submucous ecchymoses. Capillary oozing explained the blood in the vomitus. The left pleura was, however, the seat of an acute inflammation especially well marked over the diaphragm. The lung was edematous and congested with several hemorrhagic areas the size of a hickory nut. The blood showed a pure growth of a bacillus of the colon-typhoid group. Its exact nature was not discovered owing to an accident to the cultures, though the study of the organism as far as carried out made it seem probable that it was the typhoid bacillus.

Here was a case where the diagnosis should read as follows: Acute alcoholism, acute inflammatory rheumatism, typhoid (?) bacteriemia, acute pleurisy involving the diaphragm.

These cases will illustrate, I think, the importance of this occasional symptom of thoracic disease. That my experience is not unique I know from conversation with other physicians, and a few illustrative citations from the writings of others will be convincing on this point. Janeway[13] says he has several times been consulted in cases of pleurisy or pneumonia, where, because of the neuralgic pains reflected over the lower right abdomen, there has been entertained the idea of an operation for appendicitis. Osler[14] says that twice in cases of pneumonia he has seen the suspicion of appendicitis raised because of the sudden acute onset of the pain, once in the region of the navel, and once lower down on the right side. In discussing typhoid perforation, he[15] says: "Abdominal pain of a severe character in typhoid fever may be associated with an acute pleurisy."

This abdominal pain due to pleurisy I once saw in a typhoid. Because of its sudden occurrence and because of a sudden jump in the leucocytes my interne had naturally suspected perforation. Yet an absence of rigidity and of local tenderness and the presence of a fine pleural friction, with harsh localized breath sounds, led me to wait, and the autopsy two days later showed no perforation, but a bronchopneumonia.

Fraentzel[16] saw two cases of pleurisy that closely resembled peritonitis.

Cozzolino[17] refers to four cases reported by Massalongo last year in which cases of abdominal pain in children had aroused suspicion of peritonitis, though the trouble was intrathoracic. Cozzolino's own case was in a child of three years with symptoms like those of appendicitis, including tenderness over McBurney's point, though palpation that was *"dolce, lenta, graduale"* showed little

12. Hampeln: Loc. cit., p. 455. Zulzer: Munch. Med. Wochenschr., 1898, No. 47. Fowler and Godlee: Diseases of the Lung, p. 670.

13. E. G. Janeway: Remarks on Some of the Conditions Simulating Appendicitis and Periappendicular Inflammation. Medical Record, May 26, 1900.

14. Osler: Practice of Medicine, fourth edition, p. 117.

15. Osler: Lancet, Feb. 9, 1901.

16. Fraentzel: Article on Pleurisy. Ziemssen's Encyclopedia, American Translation, iv., p. 63.

17. Cozzolino: Gazzetta degli Ospedali e delle Cliniche, No. 5, 1903.

pain and no induration. Next day pneumonia was plain. Guinon[18] also in his case found that gentle pressure with the flat hand and not the finger revealed less tenderness and less resistance than the previous complaint of the patient, a 13-year-old girl, would indicate.

Morse[19] reports three cases in children, one of which was called appendicitis and another gastritis, though pneumonia was in each case, as the later history showed, the cause of the abdominal symptoms. He says: "Within a few years the abdomen has twice been opened in children by well-known Boston surgeons for appendicitis when the trouble was lobar pneumonia."

Brewer[20] reports an operation for appendicitis in a woman 30 years old, the abdominal pain, more or less general abdominal tenderness, slight muscular rigidity and distention, with leucocytosis, leading to this diagnosis. The abdomen was opened, but no sign of inflammation was anywhere discovered. The examination of the chest a few days later revealed a circumscribed pneumonia of the right lung, though prior to the operation there were no abnormal chest findings. Two weeks later and after the fever had subsided a small abscess immediately beneath the anterior abdominal wall of the left side, was opened. Brewer thinks that the pneumonic focus had induced the early abdominal symptoms.

He cites another case. A man convalescent from an acute lobar pneumonia, after being free from fever for six days, complained of pain in the right iliac region, vomited and developed fever. As he had years before had what was called appendicitis, a recurrence was naturally suspected. Muscular rigidity and tenderness became marked, the temperature rose, tympanites was extreme and the diagnosis of peritonitis was concurred in by Drs. Janeway, Bull and Brewer, who saw the patient with his physician, Dr. Evans. Because of the desperate condition of the patient an operation was regarded as inadvisable. The autopsy showed a normal peritoneum, a resolving pneumonia of the lower lobe of the right lung, a pneumococcus septicemia. How much of the abdominal pain and other symptoms were due to the pneumonic trouble and how much to the septicemia, it is impossible to say. Yet I cite the case here as an instructive one, and as showing the ease with which peritonitis can be simulated by other conditions.

Barnard's six cases in which abdominal symptoms were prominent, though no abdominal disease was present, deserve to be quoted in full, but lack of time will prevent this. Three were cases of pleuropneumonia involving the base of the lung. In two a pyo-pneumothorax developed, in each case apparently from rupture of a tuberculous focus in the apex of the lower lobe. One was a traumatic pleurisy with broken ribs. In this case the pleurisy was plainly recognized, but so definite were the abdominal signs that the abdomen was opened and found entirely normal.

The most interesting of these cases and one which, as Barnard says, was a most perplexing one, concerned a chlorotic girl of seventeen under treatment for ulcer of the stomach. A sudden violent epigastric pain, vomiting, collapse, rapid pulse, temperature 104.5 F., a tender abdomen, especially in the epigastric region, led to an almost immediate operation for perforated gastric ulcer. Nothing of the sort was found. On the second day after admission a right basal pneumonia was clearly made out, later also in the left base. The autopsy showed double basal pneumonia and right diaphragmatic pleurisy and "in the stomach a shallow ulcer of the size of a sixpenny piece, which was not even near perforation. There was no peritonitis." Surely this was a hard case to diagnose. As Barnard says, the sudden rise of temperature should have excited suspicion of somethinng else than perforation.

Hampeln's five cases are also worthy of careful study, he dwelling not only upon the possible misleading character of the referred pain, but upon the vomiting, tympany, collapse, etc., that he explains on the theory of disturbance of the phrenic nerve with secondary disorder of the vagus and splanchnics. Surgical intervention in some of these cases was narrowly escaped, and only because Hampeln's experience had led him to examine with unusual care for thoracic trouble. Hampeln's cases were, to quote his own résumé, "two fatal cases of foudroyant pleurisy with recovery, one fatal and one favorable case of croupous pneumonia, all in the beginning of the illness, creating the impression of a peritonitis or intestinal obstruction, while the ordinary marks of the real disease were absent, and even the physical examination, at least at the beginning, was negative." (loc. cit., p. 450.)

Dr. M. H. Richardson[21] discusses in a very frank manner the possibility of mistaking acute thoracic disease for appendicitis, citing instructive cases. He makes out the error in diagnosis as often due to the fixation of the thought of the observer on the one part of the body or on the one disease. Arguing from a psychologic standpoint, he says:

For a true perception of the normal relation of things to be temporarily suspended, it is only necessary that the mind for the moment be dominated by a fixed idea. Influenced by a single suggestion or by a chain of suggestive circumstances, the mind may become so possessed of a certain idea that the result will necessarily be distorted and incorrect.

How true this is we all know to our sorrow, in more than single instances. I referred to this point in speaking of the child on whom operation was contemplated for appendicitis. The minds of the two physicians had, as Richardson says, become dominated by the fixed idea of appendicitis, though pneumonia was plainly recognized by both as soon as the possibility of its existence was pointed out. Barnard says the opinion that in his case of traumatic pleurisy there were abdominal complications was largely due to the fact that a few weeks before, with a somewhat similar injury and symptoms, there had been rupture of the spleen with hemorrhage. His mind was drawn, therefore, toward the possibility of a duplicate of this somewhat rare occurrence.

CONCLUSION.

There is little to say in conclusion. Cases may occur in which at first it may be impossible to say whether the trouble is abdominal or thoracic. Each case must be judged on its own merits, and the decision as to immediate operation or waiting, not settled by any hard or fast rule. Certainly in some doubtful cases with threatening abdominal symptoms, it would be better to err on the side of operation and make a laparotomy than to let a possible ruptured appendix, gall bladder, stomach or intestine go untreated for six or twelve hours. An exploratory abdominal incision could, perhaps, be made under local anesthesia or under laughing gas. This would avoid the danger of adding bronchitis, or aspiration pneumonia to an already existing pulmonary inflammation, if such happened to be the primary trouble and the peritoneum is found normal. If peritoneal trouble is found ether or chloroform anesthesia can be added and the reparative surgical procedure instituted.

But with care and circumspection doubt will seldom arise. The main safeguard in the diagnosis is to think of the possibility of a thoracic origin for the abdominal

18. Guinon: Revue mensuelle des maladies de l'enfance, xix, p. 167.

19. John Lovett Morse: Annals of Gynecology and Pediatry, Nov. 1899, p. 143.

20. George E. Brewer: Some Errors in Diagnosing Conditions Resembling Appendicitis, Annals of Surgery, May, 1901.

21. Richardson: Remarks on the Diagnosis Between Acute Appendicitis and Acute Intrathoracic Disease, Boston Medical and Surgical Journal, April 17, 1902, cxlvi, No. 16.

symptoms. It will then be generally found that there is some thoracic pain, as well as abdominal, or there will be cough or expiratory grunt, perhaps a bloody or rusty expectoration, or the respiration will be increased out of all proportion to the abdominal pain and tympany, or, as in Barnard's case, the temperature will rise too suddenly and too high for the supposed abdominal accident. These facts, if observed, will lead one to a careful examination of the chest, which will, in most instances, even early, reveal some loss of motion, friction, râle, dullness or bronchial breathing that discloses the existence of an intrathoracic inflammatory condition, and makes it clear that the abdominal pain is a reflected one. The abdomen in these cases is often pseudo-tender. A light touch hurts. Quiet, steady, deep palpation with the flat hand does not increase the pain. And, as Barnard observes, at the beginning of inspiration there is a yielding of the abdominal wall that is seldom seen in true peritonitis. With care, then, most of these cases can be recognized. I need not repeat what I said at the beginning, that this recognition is important. That truth is self-evident.

I may add that in this paper I have made no reference to other reflections of the pain of pleurisy and pneumonia, e. g., to the neck or to the lumbar region. Nor have I thought it wise to extend the scope of the paper so as to include such thoracic diseases as pericarditis, aneurisms, tumors, vertebral tuberculosis, etc. I have purposely limited myself to a consideration of the abdominal symptoms, chiefly pain, in acute pleurisy and pneumonia, believing that this is the form oftenest overlooked or misinterpreted.

DISCUSSION.

Dr. J. N. Hall, Denver—There are many points of confusion that I do not think Dr. Herrick has touched. I once saw the daughter of a member of our Association concerning whom two physicians and surgeons were in doubt regarding the presence of appendicitis or pneumonia. It proved to be the former. Confusion existed because there was abdominal distension, the liver was crowded up, and there was dulness below the ninth rib; with the compression of the lung there was no bronchial respiration, but crackling râles. In such a case it is extremely difficult to say what the condition is.

There is another point of confusion: With the displaced liver we may have friction which can not be attributed to lung or liver exclusively. In other words, it is difficult to determine whether we are dealing with peritonitis or pleurisy. In many cases the pain may be due to a diaphragmatic pleuritis. Again, you may have a leucocytosis, but this does not help in the diagnosis, because it may be due to pneumonia or to appendicitis. Last winter, in the wards of our county hospital, a man was admitted with a diagnosis of appendicitis; on account of the urgency of the case I was asked to see him at once. Everything seemed to be fairly characteristic of appendicitis, and I did not wish to say positively that he did not have appendicitis. I did not recommend operation, and the next day he developed a pneumonia in the left lower lobe and everything subsided in the abdomen. I do not attempt to explain how this happened unless there was a combination of lower left pneumonia and appendicitis.

Dr. Thomas McCrae, Baltimore—Dr. Herrick has pointed out some pitfalls into which all of us may stumble. I have seen three such cases all admitted to the Johns Hopkins Hospital surgical wards. In a recent one there were marked abdominal symptoms which rather suggested an attack of appendicitis, but the patient had had his appendix removed. The appendix being gone, cholecystitis was suggested. Examination showed a very tender abdomen, the pain increasing with respiratory movements. Examination of the thorax revealed slight dulness at the right base. The next day there was tubular breathing. It is easy to be misled in these cases. The sudden onset of abdominal pain with fever, leucocytosis, and, above all, the marked local signs, all suggest an abdominal condition. Inspection may show diminished respiratory movement on one side, there is tenderness, etc. I agree with Dr. Herrick that a knowledge of the possibilities is our greatest safeguard, and with that a thorough and careful routine examination. The surgeons sometimes suggest that we delay too long before calling them in; but perhaps if they called in the physician oftener they would be saved the mortification of opening the abdomen in pneumonia.

Dr. James M. Anders, Philadelphia—It has been long currently stated that the pain is usually located in the vicinity of the nipple of the side affected, but this is shown by statistics to occur only in 50 per cent. of the cases; the pain is often referred to the base of the chest on the side affected. I have seen a number of instances in which the pain was referred to the abdomen. In two instances the symptoms closely simulated those of a cholecystitis, especially the local manifestations at the beginning. Later the pneumonic features dominated the scene. As Dr. McCrae has stated, the clinical picture very often simulates these abdominal conditions. I can also recall a case in which the pain was referred to the gall-bladder region and in which the patient died, came to autopsy, and a complicating cholecystitis was actually revealed. The diagnosis had been a right-sided pneumonia. During that patient's life the pneumonic symptoms, as is usual, dominated the clinical picture. I can recall another case, seen recently, in which pain was referred directly to the appendicular region. There was considerable rigidity of the right rectus, the abdomen was somewhat swollen, but there was no distinct tumor mass. A diagnosis of appendicitis had been made by two physicians, and it was thought the case ought to be referred to a surgeon for operation. A careful physical exploration of the chest was made, following the golden rule, "in all cases in which there is fever combined with abdominal pain make a careful physical examination of the thorax." A lobar consolidation was revealed. The abdominal symptoms finally disappeared. I believe we may regard the abdominal symptom as an exceptional occurrence after all in pneumonia. In the experience of some the pain seems to be more commonly referred to the lumbar region. It is to be remembered that cases of pneumonia in which the pain is referred to the lumbar region may occur in patients who previously have had a nephrolithiasis. A man aged 62 had nephrolithiasis on two occasions, and more recently a right-sided pneumonia; the pain was referred to the right lumbo-abdominal region. He had marked rigors and a history of a cough, which led to a careful examination of the lungs and the discovery of a right-sided consolidation. The patient insisted that he was suffering from another attack of renal colic on account of the location of the pain. It is most important practically, as Dr. Herrick has suggested, to investigate the thorax before rendering a diagnosis in cases presenting such symptoms as abdominal pains and fever.

Dr. James B. Herrick, Chicago—The diaphragmatic pleura is frequently involved when we have this pain referred to the abdomen; yet it is not necessarily involved. The case that Dr. Hall refers to, where there was a left lower lobe pneumonia, the pain being referred to the right side of the abdomen, is certainly confusing and is not clear of explanation. It is possible there was a slight pleurisy on the right side which was overlooked. It possibly may be attributed to an anastomosis between the terminal filaments of the intercostal nerves of the two sides. Gerhardt and Huss found, in making dissection, an occasional anastomosis between the intercostal nerves of the two sides and explained the pain on the opposite side from this fact. It is possible that some such explanation might explain Dr. Hall's case. Tenderness on pressure is certainly a confusing feature. Yet, in some cases that I have seen the tenderness has not been exactly that which is found in peritoneal inflammation. If we make gentle steady pressure with the flat of the hand rather than with the finger tips we shall often find that the pain is superficial and not of the kind that is found in peritonitis.

This whole subject is an old one and has been referred to by many writers on pneumonia, but it is frequently overlooked. I did not intend to take a crack at the surgeons, but as Dr. McCrae has opened up this line of thought I may say that in talking on this topic of referred abdominal pain with a couple of surgeons one said he had never heard of such a thing and the other said he did not believe it ever occurred. It was largely because of this conversation that I thought a paper on the subject might be timely and perhaps instructive.

THE PASSING OF CHRONIC RHEUMATISM.*

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In response to the question, "Have you ever suffered from rheumatism?" addressed to the ordinary patient over 40 years of age, the physician seldom gets a negative answer. Even younger patients will tell of having had vague pains in their arms or shoulders, or in their knees or ankles, that they consider to have been rheumatic. Popularly, the notion is that rheumatism is one of the ills to which flesh is almost inevitably heir, and, in the course of time, practically every one is supposed to have some touches of it. It is not too much to say, then, that rheumatism is popularly considered to be practically a universal disease. Physicians encouraged this idea, to a certain extent at least, by suggesting that vague pains are rheumatic in origin, or at least agreeing with patients when they say that probably they have rheumatism.

As a matter of fact, many of the irregular practitioners in recent years, particularly the osteopaths, draw their clientele (and it is by no means innumerous), from the ranks of the so-called chronic rheumatics. Most of the proprietary medicines, besides their other wonder-working effects, are advertised to be good for chronic rheumatism, and especially for that fateful condition, the uric acid diathesis, which is supposed to be provocative of chronic aches and pains of many kinds.

To talk, then, of the passing of chronic rheumatism in the sense of the gradual disappearance of the affection during recent years, would seem to be highly paradoxical. Never, more than at the present time, did patients insist on treatment for the relief of pains and aches supposed to be due to chronic rheumatic conditions of one kind or another. That there are many symptom complexes to which the name rheumatism is commonly applied is beyond doubt. How many of these pathologic processes have anything in their underlying basis of causation to justify the name rheumatism is a very doubtful question.

Chronic rheumatism would supposedly be a condition in which some of the pathologic conditions of acute rheumatism persisted, and in which, as a consequence of this persistence, tissue changes of various kinds took place, causing a deterioration of joint structures. As a matter of fact, however, it will be found that while very many patients confess to chronic rheumatism, comparatively few will admit having suffered from the acutely painful red swollen joint, accompanied by fever causing confinement to bed, which characterizes true acute rheumatism. It is now generally conceded that acute articular rheumatism is a specific infectious disease, and while other specific infections, as, for instance, gonorrhea, influenza or typhoid fever, may produce disorganizing conditions in joints, it is a typical sign of acute rheumatic arthritis to go on to complete recovery. When changes in joints remain after acute rheumatism there is always some suspicion of the possibility of secondary infection, or even a doubt as to the original diagnosis, acute articular rheumatism having been the proper one.

A little examination of the cases commonly called chronic rheumatism shows how many disparate conditions are jumbled together under this term. Vague pains of any kind, for which no direct cause can easily be found, are at once called chronic rheumatism. Many of these conditions can be traced to definite nervous and mechanical conditions without much difficulty if careful examination of each individual case be made. I have already pointed out in previous papers that there are at least fourteen different achy conditions which are often called chronic rheumatism, but without any good reason. The most common form of pseudo-rheumatism is the relaxation of joints which occurs in the ankle and is known as flat-foot, or which follows the dislocations of joints producing tissue conditions which make the patients very sensitive for all their after-life to changes in the weather. Just as there are relaxations at the ankle joint, so there may be relaxations of other joints—the knee, the hip and the shoulder—which are apt to cause something of the muscular discomfort that becomes so prominent a symptom of flat-foot, or the use of dislocated joints in which relaxation has taken place.

A second very common form of vague pain usually attributed to rheumatism, occurs in connection with occupation neuroses. There is not a single occupation in which some movement involving the co-ordination of a number of muscles has to be made and frequently repeated, that may not be the source of pains and spasmodic inability to use muscles properly, such as occurs so commonly in connection with writer's cramp, or telegrapher's spasm. These movements need not necessarily be very complicated in order to have this discomfort develop. The lower limbs may be the subject of these occupation neuroses, as in the cases of men who work foot-power presses, or in those who run sewing machines, or even in nervous individuals who have to sweep much and constantly use the broom from one side supporting the weight on one leg, while the sweeping movement is accomplished with the arm. Filers, carpenters, launderesses who iron much, planers, men who have to use hammer and chisel, all suffer from these neurotic conditions, usually more painful on rainy days, and for this reason so commonly called rheumatism.

A third source of vague pains that may, if not carefully investigated, be attributed to rheumatism is neuritis. In persons who are exposed to the weather and who use one set of muscles much more than others, especially if at the same time there is the absorption into the system of such toxic substances as lead or alcohol, there not infrequently develops a neuritis of the nerve supplying the overworked group of muscles. Stonecutters, for instance, who use their deltoid and other shoulder girdle muscles for the purpose of frequently lifting a heavy hammer or mallet, and whose exposure to the elements leads them to take alcohol often in greater quantities than is good for them, develop a neuritis of that branch of the circumflex nerve which supplies these muscles. At first this makes the muscles much more easily tired than before. During this period other muscles in the neighborhood are asked to do more work than usual in order to make up for the paretic muscles. As a consequence, painful, overfatigued conditions develop. After a while, the neuritis continuing, there is

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

almost complete loss of power in the deltoid, and then the man can no longer pursue his occupation.

It must be remembered that the branch of the circumflex nerve which supplies the deltoid muscle at the shoulder also sends certain filaments to the joint structures of the shoulder. These filaments are really trophic fibers, and as a consequence the neuritis set up in them causes a lowering of the nutrition of the joint structures. This, together with the forced disuse owing to the inability to use and co-ordinate the muscles of the shoulder girdle, leads to something resembling degenerative changes within the joints. Points of tenderness develop especially over the head of the humerus, and the absence of synovial fluid may lead to crackling and roughness, so that there is some grating or fremitus when passive movements of the joints are made. It is easy to attribute such conditions to chronic rheumatism and to consider the neuritis in the case as rheumatic in origin and perhaps secondary to the joint changes, if the examiner does not follow out the history of the case carefully and examine what was the real beginning of the pathologic condition.

Some of these neuritic cases run a very insidious course, and it may not be clear for some time what the condition actually is. A very characteristic illustrative case of this kind has been recently under observation. The patient was a painter who did inside work, being occupied mainly with the painting of balustrades, doors, window-frames, and picture-moldings, requiring him frequently to occupy awkward positions and use many movements of the wrist in painting small carved portions of woodwork. He came complaining of vague pains in the forearm, and occasionally in the shoulder, which were worse on rainy days. He had been a painter for nearly ten years, and had never suffered from any symptoms of lead poisoning. There was no blue line on his gums. I concluded that it was a simple occupation neurosis, since the tired feelings that he described, and the tendency not to be able to work after a while, and the fact that the use of the brush in his left hand for a time had caused the development of the same condition, to a slight extent at least, in the other arm, were characteristic of such ailments.

One day he came to be treated for a sprained wrist. He had fallen on his right hand, and there was some effusion into the joints of the wrist. Two days later he appeared with a characteristic drop wrist. This had developed during the night, and his observation with regard to other painters rather led him to suspect what the true nature of the condition was. It is not unusual for drop wrist to develop after some injury to the part, just as it is quite a common story to have the first symptoms of toe drop as a result of alcoholic neuritis follow upon a sprain of the ankle. In both cases it is evident that for some time, probably for months, there has been a slow running, low grade and practically latent neuritis. It can easily be understood, however, how the preliminary manifestations of this would be a fatigue of muscles coming on much easier than before the nervous affection began, and a tendency to neurotic conditions such as occur in occupation neuroses because of the difficulty of co-ordinating complex muscle movements when the nerve paths leading to the group of muscles are disturbed by the presence of inflammatory products.

A certain number of cases of so-called chronic rheumatism here in America which present evidences of degeneration in joint structures following acute attacks of arthritis, are undoubtedly not genuinely rheumatic in origin, but are of gouty nature. Gout is much more frequent in this country than has been considered to be the case. Ordinarily gout is considered an English disease, and we look for English heredity in those in whom we suspect its presence. The absence of such heredity is, in many physicians' minds, an argument against an affection being gouty. Ordinarily, it would be considered, I suppose, not too much to say that gout is at least four or five times more frequent in England than it is in America. As a matter of fact, the comparison of the statistics of patients admitted to Johns Hopkins Hospital in Baltimore suffering from gout with those admitted to St. Bartholomew's Hospital in London for the same affection are in the proportion of only three to four. That is, gout is three-fourths as frequent in this country as it is in England. How difficult it is at times to differentiate acute gout from acute rheumatism may be judged from the confessions of excellent clinical observers, including Professor Osler himself, that only after two or three attacks of supposed acute rheumatism have occurred in a series of years in patients under their observation did they find the gouty nodules in the ears or the tophi in the fingers which proved that former attacks had been gout, and not rheumatism.

Gout is, in this country, earned rather than inherited. It occurs especially among those who are subject to the influence of lead and those who indulge too freely in malt liquors. While our beer is much less likely to cause the condition than the heavier malt liquors of England, there is now no doubt that the increased consumption of even light beer which has occurred in recent years in this country have made many more people liable to gouty attacks than before. As to lead poisoning, it must not be forgotten that besides painters and workers in lead factories, plumbers, typesetters, stereotypers and others engaged in the printing trades are likely to suffer from lead poisoning if they are susceptible to plumbum. The accumulation of lead in the tissues always predisposes to gout and leads eventually to changes in joints which may be described as chronic rheumatism if the real nature of the pathologic condition and its true etiology are not recognized by careful elicitation of the history of the case.

In recent years the condition known as rheumatic gout, or rheumatoid arthritis, or, better than any of these names, since it does not assume a knowledge of the etiology of the condition of which we have not yet described well, arthritis deformans, has occupied much more attention. We now know that this condition may occur in three forms. There is the slow running form, which begins usually as Heberden's nodes, and sometimes, though not always, goes on to involve other joints besides the terminal joints of the fingers, and so causes deforming, disabling deformity. The pathologic basis of this is a true productive osteitis of the ends of the bones near the joint surfaces, which seems to be due to the presence of irritants in the blood. It occurs by preference in nervous people. The acute attack of pain and discomfort in the affected joints, which are noted especially at the beginning of the affection, are likely to be more frequent and more annoying whenever the patient is under emotional stress or suffering from worry for any reason.

The second form of rheumatoid arthritis is usually called osteoarthritis and in contradistinction to the first it occurs more commonly in men than in women; it is seen by far most frequently in elderly male subjects. It

consists of a true osteoarthritis usually confined to the hip joint and spoken of by orthopedists not infrequently as senile coxitis. It may occur also in the joints of the spinal column, producing a certain amount of soldering together of the vertebræ and consequent fixation of the back, which gives a very characteristic gait. Like the affection of a single large joint, this spondylitis deformans may be absolutely confined, as its name indicates, to the vertebral column, and is, in fact, usually so confined. This form of the arthritis deformans may occur in younger subjects than the coxitis deformans already referred to.

Neither of the two forms of rheumatoid arthritis described are likely to be taken for rheumatism by a carefully observant practitioner, though very few patients suffering with these affections come under treatment without being convinced that they are suffering from an affection of rheumatic origin. The third form of rheumatoid arthritis, however, has many symptoms in common with rheumatism, and is undoubtedly one of the main reasons why acute rheumatism is thought to produce chronic pathologic conditions in joints oftener than it really does. This third form of arthritis deformans, called by English observers acute rheumatoid arthritis, is described very well by W. Hale White in the last number of Guy's Hospital Report, Vol, 57, 1902.

This third form of arthritis deformans occurs for the most part in women whose age is usually not far from 20. The disease begins, or is at any rate most prominent, in the proximal phalangeal joints, differing in this from the slow-running form of arthritis deformans which in elderly women begins in the distal phalangeal joints. Acute rheumatoid arthritis is usually strikingly seen in the wrists. It is markedly symmetrical, as a rule, in both hands. The swelling is considerable, and extends beyond the affected joints, so that there is a distinct fusiform swelling about the interphalangeal articulations and a general swelling about the wrist and other joints. Sometimes a creaking may be felt, due apparently to thickening of the synovial membranes. In the course of a very few weeks, as a rule, most of the joints in the body are affected, so that the patient becomes bedfast, and is unable to move fingers, thumbs or wrists, and sometimes not the elbows, shoulders nor even any of the joints of the lower extremities. The joints of the spine are often affected, so that turning in bed is difficult and painful, and the temporomaxillary joint is frequently implicated, so that mastication becomes a matter of great discomfort.

Muscular wasting is so very rapid that it is clearly an extreme degree of genuine arthritic atrophy not dependent on disuse. The wasting is usually seen best in the hand and forearm, but in a bad case all the muscles may become distinctly atrophic. The most interesting thing about the disease is the temperature. There is a daily rise toward evening up to 101 F. or 102 F. Exposed parts of the patient are likely to be covered with sweat, and, as can be readily understood, there is strong simulation of acute articular rheumatism. The points of differentiation from articular rheumatism are quite clear, however. The disease begins in the fingers, gradually affects all the other joints, seldom fails to involve the temporomaxillary joint, and very commonly affects the joints of the spine, which are seldom attacked by true acute rheumatism. The disease runs a definite course, the temperature coming to the normal after three to four weeks. Much immobility and some swelling around the joints remain. Most patients have a distinct tendency to relapses during which the joints are once more swollen and tender as before. After the febrile stage is passed swelling of the synovial membranes and the soft tissues around the joints remains and the muscular atrophy causes disability. This condition may not improve much, and the patient may remain a chronic invalid.

It is easy to understand how cases of this kind, which have been described by such excellent observers as Garrod and Bannatyne, as well as Hale White in England, would give the impression of an acute rheumatism running over into chronic rheumatism. This form of arthritis deformans is, however, a disease by itself, usually following some infectious fever, as influenza, parotitis, tonsillitis or the like, and perhaps itself of specific microbic origin.

It is easy to understand, from all that has been said, what little space is left for so-called chronic rheumatism. There would seem to be a few cases of true acute rheumatic arthritis, or of the subacute variety which produce changes in the joint tissues that are persistent and progressive. There is a growing impression that even of these few cases the majority are due not to rheumatism alone, but a mixed infection, the secondary infection being responsible for the persistent pathologic lesions. Certainly cases of true chronic rheumatism, that is of progressive pathologic changes in joint tissues for which no other cause except rheumatism can be found, are very rare. So much so, very probably, as to constitute them a medical curiosity. Personally, I should like very much to see such a case, for I am free to confess that I have not as yet seen one.

Is it possible, then, that chronic rheumatism is to be discussed without even a mention of the uric acid diathesis. Personally, I see no reason for hauling in a diathesis for which we have no substantial proof. Certainly the vague pains that are usually attributed to the uric acid diathesis or to lithemia are, in my experience, due more to a neurotic constitution as a predisposing factor and overwork of particular groups of muscles usually under unfavorable conditions as a direct etiologic agent, than to any other cause.

This, of course, does not deny the existence of any of these achy, painful conditions, which are so common and so frequently demanding treatment. It does not deny that during damp weather, and in people who work or live in damp locations, there will be a distinct tendency to chronic aches and pains, just as there would be to frequent toothache under the same circumstances. It only transfers these affections from the column of chronic rheumatism, where they are all jumbled together, to the manifest opprobrium of our therapeutics, to separate columns, with regard to some of which we know our therapeutic impotency, but with regard to most of which we are fully aware that massage, rest, local treatment and improvement of the constitutional condition will do much to get rid of the symptoms. If the general public and the majority of the medical profession were once persuaded that chronic rheumatism, instead of being a common ailment, is, indeed, very rare, then there would be less failures of diagnosis, with consequent inevitable failures in treatment and less resort to our osteopathic friends, the enemy, and to the many remedies that are supposed to alter the uric acid diathesis and get rid of chronic rheumatic tendencies.

DISCUSSION.

DR. JAMES TYSON, Philadelphia—Dr. Walsh has essayed a difficult subject, difficult as are all subjects characterized by an unknown or at least inexact pathology. There is confusion between gout and chronic or subacute rheumatism. While I

think it is true that gout is a more frequent occurrence in America than has been supposed, I do feel sure that a great many cases are called gout without sufficient reason. I do not think a diagnosis of gout is justified unless there is or has been podagra, or uratic deposits in the joints or evident hereditary tendency. Heberden's nodosities, regarded as gouty by so many, may be gouty, but more frequently perhaps are a product of rheumatoid arthritis. I wish to urge on my fellow practitioners of medicine an attempt at more precise diagnosis of the two conditions. I am sure that in certain cases in my own experience many years have been required to determine whether a case be one of gout or rheumatism.

I should like to say a word also on the threadbare but still undetermined subject of the uric acid diathesis. I sympathize with Dr. Walsh in this respect, and it is mortifying to note how often rheumatic pains are ascribed to the uric acid diathesis without any reason whatever. It is often a careless expression, and not always intended by those who use it, but it gives an impression to the laity which is erroneous. As Dr. Walsh says, we really do not know what the uric acid diathesis is. There is, however, a clinical complex consisting in a scanty secretion of urine, of high specific gravity, with constant and copious deposits of uric acid and urates which is associated with the uric acid diathesis and is evidence of its presence. But it must be a permanent condition. It has doubtless happened to many of us to note in the morning after a liberal dinner including wines a scanty urine with uric acid deposits, etc., which will wear away after liberal ingestion of water, but this temporary state is not the uric acid diathesis. In the conditions referred to even the ingestion of large quantities of water does not increase the amount of urine secreted, and the tendency to sediments continues. To this condition I think we are justified in applying the name "uric acid diathesis." Such cases are not very numerous, and it may happen that associated muscular and joint pains are the result of it, but one ought at least to be sure of the combination before one asserts the causal relation.

Dr. Thomas McCrae, Baltimore—Dr. Walsh has faced a question that the majority of us have faced frequently, and often with the diagnosis of "chronic rheumatism." The profession is largely to blame for the ideas the public have regarding this condition; we inherited the idea and pass it on. Dr. Walsh brought out a good point when he said that if one made a diagnosis of acute articular rheumatism and, after the attack is over, joint changes persist, then consider a wrong diagnosis; if we did that we would find fewer mistakes.

Dr. Alexander Lambert, New York—This helter-skelter diagnosis of rheumatism has been made for a long time, and my confrères in New York should take a more self-respecting attitude toward these painful affections. Often the diagnosis is easily made. It has for a long time struck me that so-called cases of chronic rheumatism with active tissue changes, ulnar deformities, etc., have nothing to do with rheumatism. It is perfectly true, in my opinion, that many cases began like articular rheumatism which can not be differentiated from it, which later prove to be true cases of arthritis deformans. In my experience this is seen most commonly in young women.

Gout is much more common in New York of late years, and it is certainly more often met with in hospital work than formerly. A great many cases that at first seem to be cases of rheumatism and yet which are treated as gout get well, and this is especially so in women where you get so often this irregular type of gout. That type of real chronic rheumatism is, as Dr. Walsh has stated, one that we must disregard. There are cases of rheumatism which begin as acute articular rheumatism, and before the patient recovers from one attack entirely they may have another acute attack and then run on into a subacute condition that one must look on as chronic, a chronic articular rheumatism. This process runs along a long while and leaves the patients more or less crippled. A great number of mistakes come from calling real gout rheumatism, and the ideas that are so prevalent regarding the uric acid diathesis have much to do with it. I am only too glad to be able to add my protest against this asylum for lazy diagnoses. I think it is firmly believed that the uric acid diathesis, occurring in healthy, vigorous, athletic, strong young men, is the cause of nearly all the woes they are heir to, especially the muscular pains. Whatever causes gout causes uric acid, and uric acid is simply one of the many symptoms. These men were usually 20 years old, and no one would accuse them of being gouty or rheumatic; they were in their prime and in vigorous health, and yet, among such, uric acid deposits in the urine are frequently found.

I wish to thank Dr. Walsh for bringing this subject up, because it is only by such papers and by such discussions can we realize that the so-called cases of gonorrheal rheumatism, scarlatinal rheumatism, etc., are not cases of rheumatism at all, but distinct and definite diseases; all cases having pains in the joints should not be always considered as rheumatic, but they should be clearly differentiated. It is only by so doing that we will be able to be honest with ourselves and arrive at an accurate and scientific knowledge of the subject.

Dr. James J. Walsh, New York—When I called my paper "The Passing of Chronic Rheumatism" I did not mean absolutely no cases of chronic rheumatism existed; I did mean to say that cases of chronic rheumatism were more or less curiosities and well worth studying. Chronic rheumatism is generally thought to be very common. If one should run across a case of true chronic rheumatism we would want a report of it in our journals. What is acute rheumatism? We think it is an acute infectious disease. A number of clinicians think the disease runs a course of from two to six weeks and gets better; they give salicylates, not because it is a specific for rheumatism, but because it lessens the pain and lowers the temperature. Again we have certain joint lesions occurring in gonorrhea, scarlet fever, typhoid fever and intestinal troubles that are accompanied by diarrheas, dysentery, etc., all of which may be accompanied by joint lesions and to which the term "rheumatism" is applied. I wish to enter a plea for a better knowledge of this condition.

It gives me pleasure to hear what Dr. Tyson has said regarding the uric acid diathesis; I think the uric acid diathesis has been overdone when we say that it gives rise to so many aches and pains, etc. If one looks into the literature one will find little authority for thinking the uric acid diathesis a prominent factor in disturbances of metabolism. We must remember that nervous people are more subject to pain than others; they may simply have some discomfort and think they really have pain, and such is particularly worse on rainy days. Dampness is associated with it.

DANGERS ATTENDANT ON ATTEMPTS AT GAINING THE INTERVAL IN OPERATIONS FOR APPENDICITIS.*

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It is strange that medical men in general and anatomists and physiologists in particular claim that the appendix vermiformis has no function, that it is a useless appendage, playing the part of catching any old thing, or furnishing the surgeon opportunity to rake in ill-gotten gain. Ridiculous as it is to compare inanimate things to parts of the human body, it may be well to do so here, in order to state that at such a right-angled junction as is formed by the ileocecal connection, an oil cup would be furnished in mechanics, while in hydraulics, as in a sewerage system, for instance, a manhole would be placed. This appendage apparently has secretory functions by which, it is fair to assume, the natural tendency to pastiness of the residue of digestion, after it comes to the cecum, is so modified that it is ren-

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dered less adhesive; the cecum being the receptacle for the effete fecal mass needs, it would appear, lubricating material, and this assumption indicates the necessity therefor, in order that the fecal current and the propulsion of the mass may not become interrupted. Whether this assumption is based on incorrect reasoning, the physiologic chemist ought to be able to demonstrate.

A normally situated appendix free from disease means to its possessor, other things being equally normal, that he shall be freer than others from the one great danger attendant on life from the cradle to the grave—constipation. Understand that no inference is to be deduced from this statement that constipation is the cause of appendicitis; on the contrary, appendicitis or appendiceal irritation, from which one may suffer a great part of his lifetime before sufficiently extensive involvement takes place to make up the condition known as the "attack," is always productive of constipation; mark the distinction as well as the difference. Constipation seldom, if ever, produces appendicitis. Diarrhea may occasionally do so; these conditions usually are but symptoms of the disease; that they are relieved by non-surgical means is not evidence that they were the cause of, nor that it is cured by such relief.

This brings us to the consideration of the many ailments referred to the gastrointestinal tract during infancy and childhood which are often misinterpreted as "gastric difficulties," "cholera infantum," "cholera morbus," "colic," "gastrointestinal," "intestinal" and "nervous dyspepsia," "liver ailments," "constipation," or even "diarrhea"—for a diseased appendix quite as often causes diarrhea as constipation, and sometimes we note these conditions alternating in given cases. Such "ailments," "difficulties" and "disturbances" are nearly if not always, due to a diseased appendix, the disease condition, located in its mucous membrane, having been produced by some infection, the result of impure food-product, or by the exanthemata, influenza; or, catarrhal inflammation due to cold is as likely to affect the mucous membrane of the appendix as mucous membranes elsewhere, even to the extent of slight superficial ulceration thereof, each attack passing through the various stages on to the process of cicatrization, the appendix itself not showing any marked pathologic change at the time of these repeated ulcerative attacks. Eventually the stenosed or strictured conditions following the inflammatory changes show up as cicatricial contractions and these form more or less perfectly retentive diaphragms which interfere accordingly with the complete emptying of the appendix of its secretions, or its attempts at ridding itself of foreign particles that may be accidentally forced into its lumen; an appendix thus crippled during infancy or childhood, while a menace to perfect health and likewise to life, may not until years after the initial disturbance cause highly dangerous or fatal effects. During these years the symptoms may be of the character known as "digestive disturbances," and the patient may have taken numerous forms of quack nostrums.

In making our diagnoses for appendicitis we should have to contend with but three forms of the disease: the pre-inflammatory, the inflammatory, and the post-inflammatory. Further division and subdivision serve but to confuse and bring about an obscure or doubtful diagnosis which in turn serves to bring about delay until the opportune moment is passed. In our examinations let us not look for symptoms alone at the great risk of misinterpreting them; rather let us look for signs, one sign in particular, that of tenderness.

This sign was pointed out to us years ago by Dr. Charles McBurney of New York City, and it is almost infallible in determining the condition of advancing inflammation of the appendix. As you know, its presence is made manifest by pressure being applied at the point that is known to be the normal site of the base of the appendix when it is involved by lymphangitis. McBurney described it as a point of exquisite tenderness, and his friend, Dr. Lewis A. Stimson, also of New York, named it "McBurney's point." A number of years ago I evolved a process of reasoning from my then somewhat limited knowledge of this subject and accordingly wrote an article which was published in the *New York Medical Journal,* April 18, 1891, page 452. At that time I entertained ideas that somewhat deprecated the value of this sign. Greater experience, however, has taught me to regard it most highly. I felt somewhat diffident of having published this article until about a year ago, when I read the statements regarding this point from the pen of the distinguished surgeon, Sir Frederick Treves. In his article he attempts, without success, to belittle the McBurney point as a sign of appendicitis by stating that he found that the location of the appendix in his postmortem work did not correspond with the "point" as noted in the living subject.

The refinement of the diagnostic sign of McBurney, palpation of the appendix, as given to us by Dr. Geo. M. Edebohls of New York, is the open sesame to the dismal cavern of appendicitis, for by this key, that of palpation of the appendix itself, we can trace its entire outline, and also detect the tenderness caused by disease situated within its walls and this during the pre-inflammatory stage. Hence its exceeding great importance, for on recognition of the relative value of these tests of McBurney and Edebohls and their application and prompt action as a result of the knowledge gained thereby, will depend the relative danger of early as compared with late operation.

The symptoms of acute appendicitis are of so definite a character that "he who runs may read" and the physician listening to the history of one suffering from an "attack" ought to be able to make a diagnosis by telephone and that even at long distance. Had one in his enthusiasm during the discussion of this subject at our last meeting made an appeal for a certain great leader of fashion, then the uncrowned King, to set a pace for the world to follow by having his diseased appendix removed, such disease condition having been interpreted from the daily press reports of his "stomach troubles," "intestinal difficulties," "influenza," and last, but by no means least, "lumbago attacks," how such a one would have been laughed at; and yet any experienced American physician or surgeon would have been warranted in interpreting these reports of the case, even at that time as meaning nothing else but appendicitis, thus making a diagnosis even by cable. The primary danger in connection with appendicitis is that the pre-inflammatory stage of the disease is not detected; this being due to the old time nonsensical ideas, among which that of a tumor of perityphlitic origin is uppermost, having been too strongly entrenched in the minds of many medical men. What a multitude of woes, miseries and sufferings could be swept away were we but to recognize in the infant or child its mildly diseased appendix, which in time, if left to the uncertainty of medical treatment, plus dietary juggling, must come to the inevitable state of diffuse inflammation, when still greater danger be-

comes attached to the situation, and this even though we operate at the very earliest hour of this stage of "attack." If we operate late in the attack, let us not forget that the operation may be followed by hernia, "to plague the patient and vex the surgeon," as Joseph D. Bryant has so aptly said.

The greatest danger of all, however, in connection with the diseased appendix is that of the "wait and watch" method of treatment, consisting of no matter what kind one may suggest, from the most heroic to that of the complete "let alone plan," instead of surgical intervention, until hour after hour has flitted away in the vain and forlorn hope that lost opportunity may return, until we find ourselves facing a problem, the outcome of which is most dubious regardless how well calculated may be its attempted solution. No amount of medical treatment or dietary adjustment can ever make amends for the delay that leads us into such a predicament. Every hour so lost regardless of what one's fancy may choose for him in his attempt at regaining this lost opportunity, the more surely adds its own danger, until danger after danger beset the path chosen so recklessly, as he casts aside the opportune moment for surgical treatment of which, if he take advantage, he will be saved embarrassment, to say the least. Another and very grave danger attendant on attempt at gaining what may seem to be the golden opportunity for surgical interference, or operation during "interim," is that the patient finding that he has recovered from his "attack" believes, and is encouraged by his medical attendant in thus believing, that he may have been "cured," so he flatly refuses to have an operation at this time, favorable and all, though it may seem to him. A number of such cases must have come under the observation of every medical man of considerable experience with patients afflicted with the disease. I have had quite a number; many of them are still miserable; some have died from other attacks, no operation having been performed, while a few have not been re-attacked; their time is yet to come. So that, after all due consideration has been given to the dangers attendant on attempt at gaining the "interim" in the operation for appendicitis, it would seem apropos to here cry "physics to the dogs," and that *immediate* surgical intervention should be the shibboleth of every physician and surgeon! To play on the immortal bard's great creation, the Soliloquy of Hamlet, why should not the sufferer from a diseased appendix say: "Doctor, why not rather *bare* the ills I now have than wait for others that you know not of?"

Treves says what is so well known even here in America, that there will die but about five per cent. of those first attacked by appendicitis! What man among us would be satisfied with a loss by death of five, two, one, or even a still smaller percentage? He also makes the statement that out of one thousand operations for appendicitis, during "interim," he has had but two deaths; so far, so good. The mortality need not be as great as one-hundredth of 1 per cent. if immediate operative measures be resorted to, on recognition of the disease during the pre-inflammatory stage. Why should Treves have had a death at all under such favorable conditions as surrounded his thousand cases? But has he told us how many people died during the process of treatment under which they must have gone, and that at the hands of many doctors, most likely, in order that each one of this apparently great number should get to the goal of his, Treves', ambition—the day of "interim"? If there were not accompanying deaths attendant on this doctoring, great was the feat, and we should know of what it consisted. Will any one here, even our friends Ochsner and Mayo, make any such heroic attempts as trying to get together one thousand cases for interval operation in appendicitis, without death attending at least 2 or 3 or even 5 per cent. of the number, and this even during the "first attack"? Ochsner should make himself more clearly understood here in New Orleans than he appears to have done elsewhere. A short time ago I listened to a report of the meeting held in Saratoga. The reporter took great umbrage when, in discussing his so-called "impressions" of the meeting, I made the statement that Ochsner did not pretend to more than attempt to get his patients in better condition for operation, which he performed as soon as it became satisfactory to him. The gentleman and others, his friends, took issue with me, all claiming that Ochsner "cured," note the word "cured," those cases by treatment, operations not being resorted to but occasionally; in fact, they stated that all of the successful cases reported in his discussion of Deaver's, La Place's and Parker Syms' papers at the Section's last meeting were not operated on at all, but were "cured" by his (?), Ochsner's, method of treatment.

In conclusion permit me to say, Mr. Chairman, that here in the South, and elsewhere, New York, Boston and vicinities, physicians in general are progressive and quite up to date in the management of appendicitis, while it is sad to note that in Pennsylvania, even though it be my own state, physicians, not always of the highest standing, however, point the finger of scorn and rail at passing brothers who stick to the surgical maxim, "Operate, and operate early!" So when Deaver says he has different cases from those seen in Chicago it is the truth, for perhaps in no other place on earth can the sodden, painful, phlegmonous mass typified so graphically in Joseph Price's "Green Groin" be as plentifully seen as in the City of Brotherly Love, and this in spite of Deaver's teaching, the following of which would but revert directly to the contrary of all of this.

DISCUSSION.

Dr. H. D. Niles, Salt Lake City—So long as the large mortality from appendicitis comes from waiting for an opportune time to operate, so long as the small mortality comes from operating when we have the infection within the abdomen, so soon as the diagnosis is made, just so long, it seems to me, that we should operate immediately when we make the diagnosis. If we wait, we are waiting for the development of conditions that no man will now claim he can recognize. I do not mean by that that you can not tell the pulse or the temperature, or that you can not mention other symptoms, but no one can tell how dangerous it may be not to operate or how dangerous it may be to operate. No matter how small within the peritoneal wall, there may be that spurious and dangerous infection from the peritoneal cavity. With these uncertainties and with the expectation of occasionally choosing the wrong time, to me it seems best to operate when I know I have the infection, because I am not certain how long I can safely leave it.

Dr. James B. Bullitt, Louisville—One word in regard to the conception of the author's paper. My impression was that the question was whether or not Dr. Ochsner cures his cases with operation or without operation, and, therefore, I yield the floor to Dr. Ochsner.

Dr. A. J. Ochsner, Chicago—Evidently I have had the misfortune of being misunderstood. Since the Saratoga meeting of this Association I have stated my ideas on this particular point with the greatest possible care in the form of conclusions, which have appeared in the *Medical News* so that anyone who may be interested will have an opportunity in the future to see exactly what my position is regarding this subject. The

same thing has been done in a number of publications, but I have in this one considered every point that has come out in any and all of these discussions. These conclusions were formulated as follows:

1. The mortality in appendicitis results from the extension of infection from the appendix to the peritoneum or from metastatic infection from the same source.

2. This extension can be prevented by removing the appendix while the infectious material is still confined to this organ.

3. The distribution or extension of the infection is accomplished by the peristaltic action of the small intestines.

4. It is also accomplished by operation after the infectious material has extended beyond the appendix and before it has become circumscribed.

5. Peristalsis of the small intestine can be inhibited by prohibiting the use of every form of nourishment and cathartics by mouth and by employing gastric lavage in order to remove any substances of food or mucus from the stomach.

6. The patient can safely be nourished during the necessary period of time by means of nutrient enemata. Large enemata should never be given, for they may cause the rupture of an abscess into the peritoneal cavity.

7. In case neither food nor cathartics are given from the beginning of the attack of acute appendicitis and gastric lavage is employed, the mortality is reduced to an extremely low percentage.

8. In cases which have received some form of food and cathartics during the early portion of the attack and are consequently suffering from a beginning diffuse peritonitis when they come under treatment, the mortality will still be less than 4 per cent., if peristalsis is inhibited by the use of gastric lavage and the absolute prohibition of all forms of nourishment and cathartics by mouth.

9. In this manner very dangerous cases of acute appendicitis may be changed into relatively harmless cases of chronic appendicitis.

10. In my personal experience no case of acute appendicitis has died in which absolutely no food of any kind and no cathartics were given by mouth from the beginning of the attack.

11. The mortality following operations for chronic appendicitis is exceedingly low.

12. Were peristalsis inhibited in every case of acute appendicitis by the methods described above, absolute prohibition of food and cathartics by mouth and use of gastric lavage, appendectomy during any portion of the attack could be accomplished with much greater ease to the operator and correspondingly greater safety to the patient.

I would make the following suggestions for the treatment of appendicitis with a view of reducing the mortality:

1. Patients suffering from chronic recurrent appendicitis should be operated on during the interval.

2. Patients suffering from acute appendicitis should be operated on as soon as the diagnosis is made, provided they come under treatment while the infectious material is still confined to the appendix, if a competent surgeon is available.

3. Aside from insuring a low mortality this will prevent all serious complications.

4. In all cases of acute appendicitis without regard to the treatment contemplated the administration of food and cathartics by mouth should be absolutely prohibited and large enemata should never be given.

5. In case of nausea or vomiting or gaseous distention of the abdomen, gastric lavage should be employed.

6. In cases coming under treatment after the infection has extended beyond the tissues of the appendix, especially in the presence of beginning diffuse peritonitis, conclusions four and five should always be employed until the patient's condition makes operative interference safe.

7. In case no operation is performed neither nourishment nor cathartics should be given by mouth until the patient has been free from pain and otherwise normal for at least four ys.

8. During the beginning of this treatment not even water should be given by mouth, the thirst being quenched by rinsing the mouth with cold water and by the use of small enemata. Later small sips of very hot water frequently repeated may be given and still later small sips of cold water. There is danger in giving water too freely, and there is great danger in the use of large enemata.

9. All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by mouth, as well as the use of large enemata, in cases suffering from acute appendicitis.

10. It should be constantly borne in mind that even the slightest amount of liquid food of any kind given by mouth may give rise to dangerous peristalsis.

11. The most convenient form of rectal feeding consists in the use of one ounce of one of the various concentrated liquid predigested foods in the market, dissolved in three ounces of warm normal salt solution introduced slowly through a soft catheter, inserted into the rectum a distance of two to three inches.

12. This form of treatment can not supplant the operative treatment of acute appendicitis, but it can and should be used to reduce the mortality by changing the class of cases in which the mortality is greatest into another class in which the mortality is very small after operation.

In regard to the first point, I wish to say here, as I have said everywhere before, so long as the infection is within the appendix when I make the diagnosis, I operate immediately if I can obtain the consent of the patient. I have stated the reasons why this should be done over and over again.

There is, however, a time that has been described by Dr. Niles, a time which comes to every surgeon, when we can not say with any degree of certainty that the particular patient under consideration will get well if we operate at once. This class of patients, under the best possible conditions, and with the best possible surgeons, will produce a mortality of from 15 to 30 per cent. if they are operated on at once as soon as the diagnosis has been made. I wish to say that with those cases we do not know what will happen if we operate at once. We do know, however, that in 97 per cent. of all such cases suffering from perforative or gangrenous appendicitis the patient will get well, provided we follow out the plan outlined in the above conclusions, namely, that of washing out the stomach, and giving absolutely no cathartics and no food of any kind by mouth and giving no large enemata until the patient has been normal for at least four days. We have counted the leucocytes and have found in all cases in which this treatment was carried out that the abnormal leucocytosis has decreased. We have found that the pain and the tympanitis disappeared regularly and that the patient's condition has improved systematically, and that although there is still a slight mortality, this has been diminished enormously by this form of treatment, not only in my own hands, but also in the hands of a large number of physicians and surgeons who have carefully carried out all of the details of this plan of treatment. Those who have failed have either permitted the use of a little food by mouth or they have neglected to employ gastric lavage or they have given large enemata.

DR. MILES F. PORTER, Fort Wayne, Ind.—We have operated in the beginning of the attack on several hundred cases and we have not lost a single case. We have counted these cases just as they come into the hospital; not only the cases in an operable condition, but those which died right after they entered the hospital. Some cases should be operated on after they recover from that attack, at a safe period of time. Occasionally we have a death, but we have only had 2 deaths this year out of 130 cases. Neither of these cases should have died, but the one died from pneumonia and the other from shock.

DR. WILLIAM J. MAYO, Rochester, Minn.—I think we are all agreed on one point—the point on which Drs. Murphy, Deaver and Ochsner, and so far as I know almost every prominent surgeon in this country has insisted—that if you can get the case within the first forty-eight hours that case

should be operated on, and the sooner you operate the safer the operation will be. The more experience I have the more convinced I am that this is the proper course to pursue. Now, if you have a case that comes to you in which you believe that the inflammation is still confined within the appendix and the patient is still in a reasonably good condition, I do not care whether it is during the first forty-eight hours, or whether it is during the third, fourth or fifth day, I will operate on that case, because I believe that that case is going to get well. We have, at least out in Minnesota, a considerable number of cases brought to the hospital in which this favorable condition has gone by. The patient is tympanitic, vomiting, with quickened pulse, and we realize that no longer by removing the appendix can you get the material out of the system, and if you operate on this case at this time there will be a very considerable mortality. If you take these cases that show this septic condition (and Dr. Lund has shown us how to take care of some of the worst of them) and put them on the plan of treatment recommended by Dr. Oschner, in a few days the majority will get into a condition in which they can safely be operated on with a mortality of 4 per cent. or less; at least this has been our experience.

Dr. J. B. Murphy, Chicago—I feel that I have for the past two years understood Dr. Ochsner's position as he has stated it here to-day. I feel that the majority of practitioners have not properly interpreted his position, and that Dr. Ochsner has been greatly wronged and injured and maligned by many practitioners. I am delighted to find that we are practically a unit as to what should be done in cases of appendicitis. I do not see wherein we differ at all. There are cases, however, which we can not rescue by operation at the time they are brought into the hospital, which we can reach by operation at a later time. These cases are so small in number, however, in comparison with the whole, and the number will become smaller every day so soon as we understand that the profession is a unit, including Dr. Ochsner, that the cases are all better operated on within the first twenty-four or forty-eight hours, and that we ought to make a diagnosis before that time, and a practitioner will be ashamed to come in with a case after that time has elapsed. He can no longer say, "I have given this patient the 'Ochsner treatment,'" when the patient is presented in a moribund condition.

Dr. R. H. Gibbons, Scranton, Pa.—A bright, pretty girl, 16 years of age, a miner's daughter, was "attacked" during the evening of a Thursday of June last. A physician was called and prescribed for her, stating that she had a "bilious attack." On the following Tuesday I visited her in consultation, finding her abdomen enormously distended. It was recommended that she be taken into hospital that attempt might be made to get her in a more favorable condition for operation. I explained to her family the danger attendant on shifting her over the rough roads in one of the crude ambulances with which we are usually furnished throughout the coal regions, so she was not changed. I tried to have her physician appreciate the importance of keeping from her all forms of drugs, and even food or fluids, and to nourish her, if necessary, per rectum. This was an unsuccessful undertaking. At the end of two weeks, when I was again called. I found her condition was worse, if possible, than on the former occasion. I persuaded her family to have her removed at all hazard to a private hospital several miles distant; this was successfully accomplished. A rigid nursing surveillance was established, nothing was given by mouth, rectal alimentation was instituted. As is often noted to be so, when such patients are treated in this way the distension subsided, the peri-inflammatory exudate largely disappeared and the case assumed an altogether more favorable outlook, of which, when at its height, I proposed taking advantage, intending to operate. The already referred to danger attendant on attempt at gaining the interval opportunity now asserted itself. It was in this way: If the patient has done so well thus far why should she not make an entire recovery; in other words, why operate? These were questions that were put, not only by the little girl herself, but by various members of her family and others interested. While she was in this fairly favorable condition Dr. Robert F. Weir of New York City, while here in Scranton in consultation in another important surgical case, saw her with me, and said, as he had said at the meeting of a year ago, "that it was dangerous to postpone operation in any case." I regret exceedingly that I did not insist on operation at this time, for soon thereafter she was taken with symptoms which manifested themselves as those of pyophlebitis, and nothing whatever had the slightest effect on her condition, she finally dying on the forty-first day of her "attack." Dr. John A. Wyeth, who was in town spending a number of days in expectation of possible operation in a critical case of typhoid, also examined this case, but at a time when she was within a few days of her demise, when every organ in her body appeared to be under the influence of the general toxemia.

Special Article.

THE FOURTH OF JULY, 1903, CASUALTY LIST.

A. THE TETANUS MORTALITY.

Before the Fourth of July celebration began, accompanying the desultory explosions that precede it by several weeks, the daily papers throughout the entire country north of Dixie were full of warnings of what was to be expected. The experience of previous years was retold; how many lives had been lost through the accidents of the Fourth, and how many more had succumbed to the tetanus epidemic that follows in its train. There were countless warnings to parents, both of the dangers in the use of toy pistols and the necessity of proper care of the wounds they might produce. Much advice was given in this last respect that was for the most part good. The responsibility of municipal authorities was pointed out. Attention was called to innumerable ordinances controlling the sale of toy pistols to minors and the discharging of firearms in the limits of the municipality. Assertions were made that if existing laws were properly enforced by the police the events of preceding years could be much modified, if not eliminated.

But all to what avail? Already in Pennsylvania a foretaste of the coming calamity had been furnished by a preliminary outbreak of tetanus following a blank cartridge demonstration on Decoration Day. According to the newspaper accounts, more than a score of deaths had resulted from this cause alone, and the papers of Pennsylvania urged vigorous action on the authorities, and warned the people of the dangers the Fourth would bring. And yet Pennsylvania had the worst epidemic of tetanus after the Fourth of any state in the Union. The part played by the lay press in this particular feature of preventive medicine has been noteworthy, and entitled to the highest commendation. That it seems to have been fruitless is none the less credit, for we can not tell what the result might have been otherwise, and we know of much good that has been done through this warning of the press.

Now that the Fourth has passed, we are counting up its cost. With as general warning as could be given, the tetanus epidemic has come with even worse and more widespread violence than usual. Over four hundred families are mourning the agonizing death of some member, while a few, a very few, anemic, emaciated survivors are convalescing from one of the most terrible experiences that disease can bring. The impossibility

of educating the public, and more particularly its officers, to a state of action is too evident. There is no difficulty in educating the public to a point of horror and indignation that such things should be—but the steps necessary to terminate the wrong are not forthcoming.

Nor has the public alone been warned in vain. Hardly a medical journal in the country failed to speak of the same topic at the approach of the Fourth, and to urge the necessity of thorough surgical treatment of blank cartridge wounds, as well as the desirability of prophylactic use of antitoxin. Yet we now hear the same story of the boy who was taken to the family physician or the dispensary soon after being injured. "The doctor dressed the wound," or "tried to pick out the wad," or "washed it with antiseptics," or "thought it but a trivial injury, and said that it would be all right in a few days." And then comes the sequel that "after lockjaw had set in the wound was opened and it was found that pieces of the wad had remained at the bottom of the wound. These were removed, the wound was cauterized, and antitoxin was given. The boy died in great agony the next morning."

There has been an impression that this year's epidemic has been more severe than usual. However, there has been nothing reliable with which to make comparisons, and the impression has been gained chiefly through newspaper reports. Some of the daily papers, notably the *Chicago Tribune,* have made praiseworthy efforts to keep track of the number of deaths reported to them by the press bureaus and otherwise, but such information is obviously incomplete. There also exist various impressions as to the modes of infection with the tetanus bacilli, the sources of the organism and the nature of the wounds that most frequently introduce them. In order to place this subject on a basis permitting its study from the standpoint of preventive medicine THE JOURNAL has attempted to collect all the information possible concerning this year's outbreak. The total number of cases collected far exceeds the number collected by the various daily papers, because we have been able to secure reports from many small communities that never were put on the press wires. Obviously it has been impossible to verify all the reports we have received, and in order that any errors of omission or commission may be corrected we herewith publish a full list of the names of the victims, arranged according to states. Any additions or corrections that may be made by our readers, which may enable revision of these statistics and render them more valuable for future comparison, will be appreciated. While it is possible that in this list there are a few duplications, and a few cases reported as tetanus that were sepsis, or something else, on the other hand, there were undoubtedly many more cases that were not reported, and many cases have been omitted from the tables because the reports were questionable or unsatisfactory, so that the total, great as it is, is undoubtedly below the actual number of cases of tetanus that followed injuries incurred in Fourth of July celebrations. For purposes of comparison, to be made later, a number of deaths from tetanus caused by other than Fourth of July injuries have been included, but they have not been given numbers in the series:

TABLE 1.

	NAME.	Age.	Cause of Wound.	Site of Wound.	Duration.	Result. (x) is death.
	CALIFORNIA.					
1	Kerr	12	toy pistol	.....	11	x
2	Brown	..	pistol	.....	..	x
	Raffino	..	burn	.....	..	rec.*
	* Not July 4th accident.					
	COLORADO.					
1	Gurley	10	fireworks	.....	..	x
2	Lord	13	toy pistol	.....	..	x
3	Millhouse	11	blank cart.	hand	..	x
4	Fontine	..	blank cart.	arm	..	....
	CONNECTICUT.					
1	Cunningham	14	blank cart.	.....	10	x
2	McGlone	11	blank cart.	hand	12	x
3	Curriesge	7	blank cart.	hand	9	x
	DISTRICT OF COLUMBIA.					
1	Symonds	19	chemical	many	11	x*
	* Explosion of chemicals, buried under mound of dirt.					
	IDAHO.					
1	Maupin	..	toy pistol	hand	12	x
	ILLINOIS.					
1	Crosson	15	toy pistol	hand	7	x
2	Jones, Wm.	8	blank cart.	hand	7	x
3	Koncizka	11	toy pistol	hand	7	x
4	Matejcak	11	toy pistol	hand	6	x
5	Stolls	17	nail	hand	6	x*
6	Brown, Michael	..	blank cart.	hand	7	x
7	Dahlberg	12	toy pistol	hand	6	x
8	Beckmann	9	blank cart.	thigh	8	x
9	Emerich	8	toy pistol	hand	8	x
10	Osborn	12	blank cart.	hand	10	x
11	Johnson, A.	11	blank cart.	.....	19	x
12	Rimek	22	blank cart.	hand	8	x
13	Chalowtek	25	fire cracker	hand	9	x
14	Dolan, Thomas	13	blank cart.	hand	10	x
15	Noston	15	blank cart.	hand	9	x
16	Goad	14	toy pistol	hand	10	x
17	Lau, Emil	12	blank cart.	hand	10	x†
18	Watson	9	blank cart.	hand	10	x
19	Warentbee	16	toy pistol	hand	10	x
20	Winke	11	blank cart.	hand	10	x
21	Weddeman	14	fire cracker	hand	10	x
22	Granger	12	toy pistol	hand	..	x
23	Tarbell	6	toy pistol	hand	..	x
24	Olean	10	toy pistol	hand	..	x
25	Easton	10	toy pistol	thigh	10	x
26	Golden, Jeanette	17	blank cart.	.....	13	x
27	Schmetzer	10	toy pistol	.....	8	x
28	Drake	9	blank cart.	leg	14	x
29	Johnson, H.	12	toy pistol	hand	9	x‡
30	Webb	15	blank cart.	hand	9	x
31	Austin	..	toy pistol	hand	..	x
32	Crow	8	toy pistol	.....	..	x
33	Friese	13	toy pistol	hand	9	x
34	Armstrong	..	toy pistol	hand	12	....
35	Hofden	14	blank cart.	hand	7	x
36	Ludwig	..	revolver	hand	..	x
37	Volk	14	toy pistol	hand	19	x
38	Coppenbarger	8	blank cart.	hand	10	x
39	Blaidsdell	9	toy pistol	hand	..	x
40	Henderson	13	blank cart.	.....	..	x
41	Remington	14	blank cart.	hand	10	x
42	Pelsker	16	blank cart.	hand	6	x
43	Olson	..	blank cart.	foot	..	....
44	Dicks	15	blank cart.	hand	..	x
45	Naretwinski	12	fire cracker	hand	16	x
46	Stanton	13	blank cart.	hand	..	x
47	Swadley	14	toy pistol	hand	..	....
48	Hogan	10	toy pistol	.....	21	x
49	Suchoyda	..	fire cracker	chest	9	x
	Jahns	6	splinter	foot	11	x
	Baiky	..	nail	thumb	13	x
	Ditton	10	nail	foot	..	x
	* Running from cannon fell and nail entered hand. † Exploded between stones. ‡ Shot dirt into hand with toy pistol.					
	INDIANA.					
1	Davisson	11	toy pistol	leg	7	x
2	Winski	11	blank cart.	hand	6	x
3	Newman	12	blank cart.	hand	6	x
4	Dick	15	toy pistol	hand	..	x
5	Hostetler	14	toy pistol	hand	11	x
6	Piper	11	blank cart.	leg	9	x
7	Hlers	12	toy pistol	.....	..	x
8	Allen	..	blank cart.	hand	..	x
9	Kabrich	12	blank cart.	hand	10	x
10	Stephens	11	toy pistol	.....	14	x
11	Fedoras	7	blank cart.	hand	..	x
	Wolf	30	hay fork	.....	..	x
	INDIAN TERRITORY.					
1	Owens	14	blank cart.	hand	8	x
	IOWA.					
1	Anderson, J.	10	toy pistol	hand	..	x
2	Wickman	..	cannon	ankle	10	x*.
3	Anderson, G.	12	cannon	.....	10	x
4	Clark	15	toy pistol	hand	..	x
5	Boeson	8	toy pistol	hand	..	x
6	Phelps	9	blank cart.	hand	10	x
7	Rowley, Atlanta	12	toy pistol	hand	7	x

IOWA—*Continued.*

	NAME.	Age.	Cause of Wound.	Site of Wound.	Duration.	Result. (x) is death.
8	Crisman	9	blank cart.	hand	7	x
9	Hiatt	12	blank cart.	hand	9	x
10	Stamy	13	toy pistol	hand	7	x
11	Gettin	14	toy pistol	hand	7	x
12	Lawhorn	35	blank cart.	hand	12	x
13	Rowland, Gladys	12	toy pistol	hand	10	x
14	Campbell	14	toy pistol	hand	..	....

* Gas-pipe cannon.

KANSAS.

1	McNish	11	toy pistol	hand	6	x
2	Hammond	11	toy pistol	hand	20	x
3	Mumford	13	toy pistol	hand	13	x
4	Goodseal	11	blank cart.	hand	7	x
5	Bennett	21	blank cart.	.....	..	x
6	Ishman	11	blank cart.	.....	..	x
7	Boyle	8	blank cart.	hand	8	x
8	Forbes	..	blank cart.	hand	11	x
9	Horr	15	toy pistol	.....	11	x
10	Kotwitz	45	fire cracker	hand	16	x
11	Miller	..	toy pistol	.....	..	x

KENTUCKY.

1	Schaffer	13	toy pistol	.....	7	x
2	McNichols	5	blank cart.	hand	7	x
3	Runyon	10	blank cart.	hand	6	x
4	Shearer	11	toy pistol	thigh	16	x

MAINE.

1	Lacourse	35	blank cart.	hand	7	x
2	Russell	12	blank cart.	.....	9	x

MARYLAND.

1	Anderson	12	cannon	.....	21	x
	Rodney	..	machine	.....	10	x

MASSACHUSETTS.

1	Brodeur	9	toy pistol	hand	11	x
2	Babcock	14	blank cart.	hand	11	x
3	O'Connell	11	blank cart.	hand	10	x
4	Milbier	7	blank cart.	hand	7	x
5	Foster	11	blank cart.	hand	7	x
6	Landry	15	blank cart.	hand	10	x
7	Becker	10	blank cart.	hand	11	....
8	Pallette	12	blank cart.	hand	8	x
9	Honiper	10	blank cart.	hand	..	....
10	Burden	10	blank cart.	.....	9	x
11	Thomson	9	blank cart.	hand	8	x
12	Ward	10	.....	.....	8	x
13	Powers	15	blank cart.	hand	12	x
14	Bridgewater	34	fireworks	leg	7	x*
15	Lajeunesse	14	blank cart.	hand	8	x
16	Farson	12	toy pistol	hand	8	x

* Died in New York.

MICHIGAN.

1	Daniels	9	blank cart.	hand	5	x
2	Baker	14	blank cart.	leg	..	x
3	Danielson	9	toy pistol	leg	7	x
4	Burke	12	toy pistol	hand	..	x
5	Hathaway	17	toy pistol	.....	9	x
6	De Young	12	blank cart.	.....	9	x
7	Pierson	15	blank cart.	thigh	19	x
8	Salm	10	toy pistol	hand	16	x
9	Hinline	..	blank cart.	hand	7	x
10	Snow	8	toy pistol	hand	8	x
11	Price	13	.....	.....	..	x
12	Ogusbaretz	12	toy pistol	hand	8	x
13	May	14	toy pistol	hand	9	x
14	Randall	9	blank cart.	hand	..	x
15	Miller	11	toy pistol	.....	..	x
16	Traynor	8	.....	.....	..	x
17	Mortenson	19	toy pistol	hand	18	x
18	Vandervelt	14	toy pistol	hand	6	x
19	Gray	19	blank cart.	hand	10	x
20	Hunt	15	toy pistol	.....	8	x
21	Love	6	.....	hand	9	x
22	Finch	18	toy pistol	hand	8	x
23	Stambaugh	12	blank cart.	hand	9	x
24	Webster, Jennie	6	toy pistol	hand	10	x
25	Marshall	10	blank cart.	.....	10	x
26	Parrish	12	blank cart.	hand	11	x
27	Tiaskorpi	30	fire cracker	hand	10	x
28	Clark	..	.....	hand	..	*
29	Norris	..	blank cart.	hand	..	x

* Recovering.

MINNESOTA.

1	Wahlquist	50	blank cart.	finger	9	x
2	Zimmerman	11	file	hand	14	x*
3	Jensen	13	blank cart.	hand	12	x
4	Richards	13	blank cart.	hand	14	x
5	Fullerton	10	blank cart.	hand	6	x
6	Smith	14	blank cart.	hand	9	x
7	Lorenz	12	blank cart.	hand	7	x
8	Graham	11	blank cart.	hand	..	x
9	Fohrman	11	blank cart.	hand	6	x
10	Spearin	9	blank cart.	hand	14	x
11	Roberts	16	.....	.....	12	x
12	Thomas	12	blank cart.	hand	..	....
13	Bassett	9	blank cart.	hand	9	x
14	Soderland	17	blank cart.	.....	..	x
15	Russell	12	blank cart.	.....	..	rec.
	McDermott	4	wagon	foot	..	x

* Using file to enlarge bore of toy pistol.

MISSOURI.

1	Pemberton	7	toy pistol	hand	..	x
2	Smith	14	blank cart.	hand	8	x

MISSOURI—*Continued.*

	NAME.	Age.	Cause of Wound.	Site of Wound.	Duration.	Result. (x) is death.
3	Lease	15	blank cart.	hand	12	x
4	Brennan	18	blank cart.	leg	8	x
5	Zunnstein	8	blank cart.	hand	8	x
6	Hudgens	..	.....	.....	..	x
7	Decker	..	.....	.....	..	x
8	Smith, William	9	blank cart.	hand	8	x
9	Deval	..	.....	.....	..	x
10	Mengerson	..	.....	.....	..	x
11	Roes	14	blank cart.	hand	..	x
12	Harris	..	.....	.....	..	x
13	Bottum	7	blank cart.	hand	..	rec.*
14	Finkelstein	12	blank cart.	hand	12	x
15	Gage	15	blank cart.	hand	..	x
16	Pomeroy	15	blank cart.	hand	11	x
17	Morrison	..	blank cart.	hand	8	x
18	Austin	10	blank cart.	.....	9	x
19	Bennett	22	blank cart.	hand	6	x
20	Ishmal	..	blank cart.	hand	..	....
21	Griswell	12	toy pistol	hand	..	x
22	Burns	12	blank cart.	hand	..	x
23	Magnuson	21	blank cart.	hand	19	x
24	Bland	10	blank cart.	hand	13	x
25	Bonaparte	11	toy pistol	hand	..	....
26	Weiss	..	blank cart.	hand	21	x
27	Williams	24	blank cart.	neck	..	....
28	Helbing	19	blank cart.	hand	..	rec.†
29	Butler	..	.....	.....	..	x

* Large quantities of antitoxin. † Incubation 17 days.

MONTANA.

1	Thompson	..	blank cart.	hand	10	x
2	Passenberger	12	blank cart.	hand	11	x

NEBRASKA.

1	Harris	12	.....	.....	..	x
2	Hill	..	blank cart.	hand	7	x
3	Harms	13	toy pistol	.....	..	x
4	Carey	11	toy pistol	hand	9	x

NEW HAMPSHIRE.

1	Dufraine	11	.....	.....	6	x
2	Dobson	13	blank cart.	hand	8	x

NEW JERSEY.

1	Van Ness, Mrs.	32	fire cracker	hand	8	x
2	Case	12	fire cracker	hand	8	x
3	Pawaro	12	blank cart.	hand	11	x
4	Hanson	12	blank cart.	hand	6	x
5	Hughes	15	blank cart.	.....	13	x
6	Reed	18	blank cart.	hand	8	x
7	Huber	12	blank cart.	hand	..	....
8	McClure	12	blank cart.	hand	..	x

NEW YORK.

1	Maloney	21	.....	hand	7	x
2	Anderson, J. C.	..	.....	hand	..	x
3	Gypson	12	blank cart.	hand	7	x
4	Graham	5	blank cart.	hand	10	x
5	McGill	14	blank cart.	hand	..	x
6	Monaco	14	blank cart.	.....	9	x
7	Horton	23	fire cracker	hand	24	x
8	White, Carrie	17	toy pistol	hand	..	rec.*
9	Bygden	18	toy pistol	hand	..	rec.*
10	Lawrence, J.	10	toy pistol	hand	7	x
11	Kaman	9	toy pistol	hand	7	x
12	Wolfe	9	.....	.....	..	x
13	Sweitzer, Mrs.	..	blank cart.	hand	..	x
14	Young	..	toy pistol	hand	..	x
15	Ward	..	blank cart.	hand	10	x
16	Signor	10	blank cart.	hand	8	x
17	Marks	10	blank cart.	hand	8	x
18	Englehart	14	blank cart.	leg	8	x
19	Dunn	..	blank cart.	hand	7	x
20	Chadwick	8	toy pistol	.....	..	x
21	Fitzgerald	9	toy pistol	abdom.	9	x
22	Bishop	13	toy pistol	.....	9	x
23	Abbott	37	toy pistol	hand	11	x
24	Jacobson	4	toy pistol	thigh	10	x
25	Packingham	24	blank cart.	hand	19	x
26	Messler	8	blank cart.	hand	16	x
27	Ryan	..	toy pistol	hand	..	....
28	Blauvelt	10	toy pistol	hand	7	x
29	Norman	12	cannon	hand	..	x
30	White, James	9	blank cart.	hand	..	x
31	Stark	24	fire cracker	hand	13	x
32	Howcroft	12	toy pistol	hand	18	x
33	Forsythe	16	blank cart.	hand	17	x
34	Van Dyk	18	blank cart.	hand	20	x
35	Rhodes	9	blank cart.	hand	..	....
36	Smith, Milton	..	.....	.....	..	rec.
	Watson, William	12	fall	arm	..	x†

* Antitoxin, intraspinal. † Compound fracture.

OHIO.

1	Detlefsen	16	toy pistol	hand	..	x
2	Simmons	14	toy pistol	hand	19	x
3	Newton	..	.....	.....	..	x
4	Drouth	11	blank cart.	hand	8	x
5	Poole	12	blank cart.	hand	10	x
6	Beans	13	toy pistol	hand	..	x
7	Postmyer	50	blank cart.	hand	9	x
8	Myers	15	toy pistol	.....	13	x
9	Willows	6	toy pistol	hand	11	x
10	Bewley	16	blank cart.	hand	11	x
11	McCrum	17	blank cart.	hand	11	x
12	Ward	13	blank cart.	hand	12	x
13	Ramsey	14	toy pistol	hand	5	x

OHIO—*Continued.*

	Name.	Age.	Cause of Wound.	Site of Wound.	Duration.	Result. (x) Is death.
14	Bemis	12	blank cart.	hand	7	x
15	Howard	15	blank cart.	hand	7	x
16	Montgomery	..	blank cart.	hand	..	....
17	Ragan	..	blank cart.	hand	..	x
18	Tedesco	..	blank cart.	hand	..	x
19	O'Keefe, James	45	blank cart.	hand	21	x
20	Scharnhorst	13	blank cart.	hand	..	x
21	Bassenbach	20	blank cart.	hand	..	x
22	Montkofski	13	toy pistol	hand	20	....
23	Hines	9	toy pistol	hand	..	x
24	Garrity	12	toy pistol	hand	..	x
25	Walker	7	toy pistol	hand	11	x
26	Packingback	..	toy pistol	hand	..	x
27	King	14	dyn. cane	foot	..	x
28	Duguid	10	blank cart.	hand	..	x
29	Raltz	9	blank cart.	hand	10	x
30	Brighmeyer	13	toy pistol	leg	7	x
31	Grenier	17	powder ex.	hand	7	x*
32	Dodeska	9	blank cart.	.....	..	x
33	Grodack, Minna	18	blank cart.	hand	..	x
34	Scoville	8	blank cart.	groin	..	x
35	Raltz	9	toy pistol	hand	10	x
36	Ringle	8	blank cart.	hand	..	x
37	Krautter	12	blank cart.	hand	7	x
38	Grdina	6	toy pistol	hand	..	x
39	Wright	20	blank cart.	hand	11	x
40	Sherman	10	toy pistol	.....	..	x
41	Bentley	10	toy pistol	hand	8	x
42	Burdeen	9	toy pistol	abdom.	..	x
43	Gozdamozitz	25	toy pistol	.....	..	x
44	Hoffman	12	toy pistol	hand	7	x
45	Young	15	toy pistol	.....	6	x
46	Richardson	14	toy pistol	hand	..	x
47	Wilson, William	..	toy pistol	.....	..	x
48	Pifer, William	10	toy pistol	hand	..	x
49	Moore	12	toy pistol	hand	..	x
50	Arnold	..	toy pistol	hand	8	x
51	Lucksinger	14	toy pistol	hand	..	x
52	Bennett	22	blank cart.	hand	6	x
53	Kelley	7	toy pistol	hand	12	....
54	Churchword	..	blank cart.	hand	..	x
55	Weirer, E.	8	blank cart.	back	..	x
56	Litowski	12	toy pistol	.....	14	x
57	Stasko	14	toy pistol	.....	18	x
58	Mathers	34	blank cart.	hand	..	x
59	Frank, B.	13	blank cart.	hand	..	x
60	Keller, A.	11	.....	hand	..	x
61	Butzkowski	11	toy pistol	.....	..	x
62	Wheeler	10	blank cart.	chest	..	x
63	Kiger, H.	17	blank cart.	hand	..	rec.
64	Steiner, Edward	12	bullet	thigh	16	x†
65	Servison	..	toy pistol	.....	23	x
66	Heckinger	..	toy pistol	.....	..	....
67	Brown, D.	..	toy pistol	hand	..	x
	Kassenbrock	7	stick	neck	9	x
	Thomas	40	nail	foot	30	x
	Hollingsworth	..	fracture	leg	..	....
	Beckerton	22	nail	foot	..	....

* Pieces of broken glass entered hand. † Fractured femur with bullet.

OREGON.

1	Wert, C.	13	toy pistol	hand	11	x
2	Struble	14	toy pistol	hand	11	x

PENNSYLVANIA.

1	Pollack	40	toy pistol	hand	5	x
2	Karmel	10	toy pistol	hand	8	x
3	Banks	6	toy pistol	hand	8	x
4	Beam	10	blank cart.	hand	5	x
5	Lafield	12	.....	hand	6	x
6	Monroe	12	shotgun	leg	6	x
7	Johnson, James	13	toy pistol	hand	6	x
8	Breist	7	toy pistol	.....	23	x
9	McHugh	7	toy pistol	hand	14	x
10	Kenny	9	toy pistol	hand	..	rec.
11	Nettle	12	blank cart.	hand	14	x
12	Seeben	9	toy pistol	hand	..	x
13	Hally	8	toy pistol	hand	..	x
14	Hoffmeister	6	blank cart.	hand	6	x
15	Fois	16	toy pistol	.....	..	x
16	Comstock	10	toy pistol	.....	..	x
17	Claridge	15	toy pistol	leg	9	x
18	Habel	12	toy pistol	.....	..	x
19	Ward	19	blank cart.	hand	10	x
20	Innes	10	toy pistol	hand	9	x
21	Kopeckic	6	fire cracker	.....	9	x
22	Brader, Jessie	19	blank cart.	hand	20	x
23	Zeldner	23	blank cart.	hand	9	x
24	White	15	toy pistol	hand	9	x
25	Huber	11	blank cart.	hand	9	x
26	McGuire	10	toy pistol	hand	9	x
27	Ragland	13	blank cart.	hand	8	x
28	Piscioni	18	fire cracker	hand	8	x
29	Wissler	16	blank cart.	hand	8	x
30	Zimmerman	12	toy pistol	hand	8	x
31	Arnold	8	toy pistol	.....	8	x
32	Lee, John	10	blank cart.	.....	8	x
33	Meiley	13	toy pistol	hand	8	x
34	Lamb	12	blank cart.	hand	9	x
35	Roe, David	19	blank cart.	hand	10	x
36	Reinhart	15	.....	.....	11	x
37	Harman, Ira	13	toy pistol	hand	11	x
38	Boasler, Agnes	25	blank cart.	breast	9	x
39	Nelson	6	toy pistol	hand	9	x
40	Carlin	13	toy pistol	hand	..	x
41	Caffrey	14	toy pistol	hand	10	x
42	Snow, Roy	14	toy pistol	hand	9	x
43	Thomas, Lot	17	toy pistol	hand	..	x
44	Steventon	11	toy pistol	hand	8	x

PENNSYLVANIA—*Continued.*

	Name.	Age.	Cause of Wound.	Site of Wound.	Duration.	Result. (x) Is death.
45	Revels	12	blank cart.	hand	7	x
46	Bickerstaff, Ida	26	blank cart.	hand	9	x
47	Corwin, Frank	14	toy pistol	hand	..	x
48	Roe, Wilmer	12	toy pistol	hand	..	x
49	Lavell, Michael	12	blank cart.	hand	..	x
50	Kubelelez	7	.....	hand	8	x
51	Reilly, Thomas	15	fire cracker	hand	11	x
52	Dymond	..	blank cart.	hand	7	x
53	Whiting	15	blank cart.	hand	6	x
54	Gorman	12	blank cart.	hand	13	x
55	Creely	12	toy pistol	.....	14	x
56	Kiefer	..	toy pistol	.....	..	....
57	Wehrman	10	toy pistol	hand	26	x
58	Costello	10	blank cart.	hand	8	x
59	Cohn, Joseph	9	toy pistol	hand	5	x
60	Loughry	9	fire cracker	hand	4	x
61	Rust	13	blank cart.	hand	14	x
62	McCoy	12	toy pistol	hand	13	x
63	Specock	37	toy pistol	hand	20	....
64	Rankin	33	toy pistol	hand	8	x
65	Johnson, Leroy	12	blank cart.	thigh	..	....
66	Hazel	10	toy pistol	hand	..	....
67	McConn	..	toy pistol	hand	..	x
68	Tuskas	12	toy pistol	mouth	..	x
69	Ricca	13	toy pistol	hand	..	x
70	Butler	10	toy pistol	hand	..	x
71	Nagle	14	blank cart.	hand	..	x
72	Longwell	11	blank cart.	.....	10	x
73	Cox	10	blank cart.	hand	..	x
74	Briglia	14	blank cart.	hand	..	x
75	Gosnell	14	toy pistol	.....	..	x
76	McHugh	7	toy pistol	hand	21	x
77	Carrington, Viola	16	toy pistol	hand	20	x
78	Loucks	12	blank cart.	hand	..	rec.
79	Cohen, Harry	8	toy pistol	.....	12	x
80	Carney	10	toy pistol	head	..	....
81	Bittenbender	8	toy pistol	hand	26	x
82	Fauzy	7	blank cart.	hand	21	x
	Weeks	..	machine	.....	30	x*
	Knittel	..	machine	hand	..	x†
	Prosser	14	bruise	finger	..	....
	Smith, Jacob	50	nail	foot	..	x

* Planing mill. † Paper mill.

RHODE ISLAND.

1	Corozza	..	toy pistol	hand	13	x
2	Hansen	..	toy pistol	.....	..	x
3	Pierce	15	cannon	hand	..	....

VERMONT.

1	Limoge	13	blank cart.	hand	8	x
2	Morris	..	blank cart.	hand	9	x
3	Bini	21	blank cart.	hand	16	x

WASHINGTON.

1	Ennis	12	fire cracker	hand	..	x
2	.....	..	toy pistol	hand	..	x*

* Case at Everett.

WEST VIRGINIA.

1	Hayes	18	blank cart.	hand	6	x
2	Kearns	..	blank cart.	thigh	10	x
3	Griffith	..	blank cart.	hand	..	x

WISCONSIN.

1	Brown	9	blank cart.	.....	11	x
2	McGuire	10	blank cart.	hand	8	x
3	Stendler	11	.....	.....	10	x
4	Hinca	12	fire cracker	hand	..	x
5	Sebruck	15	blank cart.	leg	9	x
6	Neahls	11	blank cart.	hand	9	x
7	Fedoras	7	blank cart.	hand	..	x
8	Howard	16	blank cart.	hand	16	x
9	Wesierski	9	toy pistol	hand	..	x
10	Boucha	13	fire cracker	hand	19	x

In this table have been inserted such data as were obtained from the case reports. Those that were not given, or on which there were conflicting statements, have been omitted. The cause of injury is stated as it was reported, but whether the cause is given as toy pistol, pistol, or blank cartridge, it indicates in each case a wound produced by a blank cartridge. Under the heading of duration the figures indicate approximately the number of days elapsing between the receipt of the wound and the death of the patient, for the information obtained often did not give distinctly the number of days of incubation elapsing before the onset of symptoms. In the columns of results, × indicates a fatal outcome.

Distribution.—It will be noted that the Southern states are quite free from deaths of this sort, due to the fact that the blank cartridge celebration of Independence Day is not the custom in the South. A few such

cases follow the Christmas celebration, but as the noise of this celebration is mostly obtained through other means, tetanus is not common. In the Northern states the number varies somewhat according to the population of the states, but by no means strictly so, as will be seen from this table:

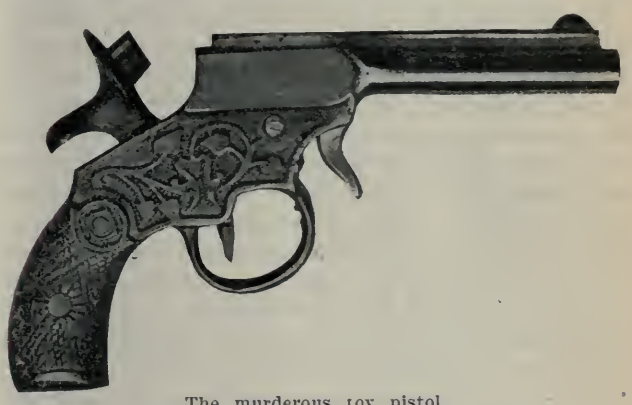
TABLE 2.

Pennsylvania	82	Connecticut	3
Ohio	67	Rhode Island	3
Illinois	49	Vermont	3
New York	36	West Virginia	3
Missouri	29	California	2
Michigan	29	New Hampshire	2
Massachusetts	16	Maine	2
Minnesota	15	Montana	2
Iowa	14	Oregon	2
Indiana	11	Washington	2
Kansas	11	District of Columbia	1
Wisconsin	10	Maryland	1
New Jersey	8	Indian Territory	1
Colorado	4	Idaho	1
Kentucky	4		
Nebraska	4	Total	415

New York had less than half as many deaths as Pennsylvania, and but little more than half as many as Ohio. Massachusetts also is below the number that might be expected from its population. Ohio shares with Pennsylvania a greatly excessive death rate. Otherwise the number of cases bears a fair relation to the population of the states. There are but a few Northern states from which there have been no deaths reported, namely, Wyoming, Utah, North and South Dakota, and Nevada, the small population of each of these states probably explaining the escape. The great number of cases in Pennsylvania and Ohio amounts almost to an epidemic, and no satisfactory explanation seems to have been given.

Age.—The age of the victims is, of course, low, for, with but few exceptions, they were small boys playing with toy pistols. There were a few girls, indicated in the table by the use of the full name, who attempted to emulate the boys, and suffered the penalty. A few adults also were included; they received their wounds in various ways, some, like the boys, through trying to use blank cartridges, some from other sorts of explosions.

Nature of the Wound.—The overwhelming frequency of the blank cartridge wound as the source of tetanus is evident from the tables. Of the cases in which information on this point was obtained there were 358 blank cartridge or toy pistol wounds, and but 29 said to be from other causes. In not a few instances, furthermore, in which the original report gave the cause as firecracker or some cause other than blank cartridge, subsequent information showed that after all the blank cartridge was the real offender, so it is possible that the proportion of cases produced by blank cartridges is even greater than these figures indicate. Reports of injuries by toy pistols have been accepted as indicating wounds produced by blank cartridges, for the reason that all the toy pistol injuries that have been followed up have turned out to be due to blank cartridges. The term "toy pistol" has an indefinite meaning, for it includes both the little affairs used for exploding flat paper caps as well as pistols manufactured for the use of 22-caliber cartridges. As a result many people have come to believe that the paper cap pistol is the offending weapon, which is incorrect. So far as it has been possible to learn, this sort of explosive does not produce any injuries sufficient to cause tetanus. Of the entire series of this year there seems to have been none attributed to paper caps. The toy pistol that most frequently causes tetanus is the flimsy, single-barrelled device, built to fire 22-caliber blank cartridges. It is of extremely cheap construction, selling for 10 to 25 cents generally. Very few cases are due to bursting of the weapon, as seems to be thought by some, but most of them are entirely due to the carelessness of the users, who get their hands in front of the muzzle at the time of the explosion. This accident is favored by the shortness of the barrel, the manner of loading, and the frequence with which the pistol gets out of order through fouling or poor construction. Many of the accidents occur when the pistol is held in both hands in trying to overcome some defect in the mechanism. Many accidents, however, were produced by the better grade weapons, both 22-caliber revolvers, and even by larger caliber weapons. The added complication furnished by the revolving mechanism gives many opportunities for accidents, but their greater expense keeps them out of the hands of small boys to a considerable extent. Of the remaining cases not caused by blank cartridges by far the greater part (17) were due to the explosion of fire crackers, usually giant crackers that lacerated the hands



The murderous toy pistol.

severely. There were also a few from cannons (5), and from burns with fireworks. This subject will be considered further in discussing the etiology of Fourth of July tetanus.

Location of the Wounds.—That nearly as large a proportion of wounds occurred on the hands as were caused by blank cartridges is to be explained as effect and cause. Most frequently, as before mentioned, one hand was placed in front of the muzzle accidentally, and received the wad oftenest in the palm of the left hand. The left forefinger and thumb were next most frequently injured. Not a few boys, however, deliberately placed the muzzle of the pistol against the hand and fired it, supposing that since it contained no bullet it would do no harm. Other boys were shot by their playmates in struggles to obtain possession of the plaything, or in attempting to frighten one another. The greater frequency of tetanus in wounds of the hands is probably not due to a greater danger in such wounds, but to their more common occurrence. Tetanus is as frequent after wounds in other parts of the body as we should expect it to be if occurring in proper ratio to the frequency of location of wounds of these parts, but no figures can be obtained on this point. Tetanus has followed wounds

of the leg, thigh, breast, abdominal wall and even of the mouth.

Duration.—The duration of the disease and its period of incubation in Fourth of July tetanus is very short. We are accustomed to consider, on good grounds, the ninth day of incubation as the turning point in estimating prognosis in traumatic tetanus. Cases with a shorter duration than that seldom recover, whereas, the more prolonged the onset is after the ninth day the better the outlook. By far the majority of the boys with Fourth of July tetanus have not only completed the incubation before that time, but have also completed the disease, and are dead. An incubation of but four or five days, with a duration of the disease of 24 to 72 hours is frequent. We are compelled to believe that incubation is shorter in small boys than in adults, for there seems to be in a rough way such a condition indicated by the figures for this epidemic. Presumably, the tetanus bacillus grows as rapidly in a child as in an adult, and, as it requires less of its toxin to saturate the nervous system of the child, the disease and the termination come sooner. But in any event it is evident that Fourth of July tetanus is of an extremely virulent type, with a short period of incubation and a brief duration. Its virulence is still more fully attested by the results, for recovery is remarkably seldom, so far as it has been possible to learn. In the table cases have been indicated as recovering only when definite information to this effect has been received. A number of cases that were reported as recovering, and also some the outcome of which was never reported, have been left blank. Only 7 have been definitely reported as entirely recovered. Undoubtedly there have been other recoveries, for cases that get well are not so certain to get into these statistics as those that die, but at the best it seems probable that the mortality is more likely to be above 95 per cent. than below it; certainly it is higher than 90 per cent. Whether this extremely high death rate is due to a slight resistance in children, or to a particularly virulent type of infection can not be estimated at this time, but probably both factors exist. Antitoxin was used freely, in several cases intracranially, but in general with little effect. The cases that did recover nearly all had antitoxin, but so many more had it without effect that we believe that it was, as a rule, of little assistance because administered so late in the disease. The chief exception is furnished by two patients of Luckett at the Harlem Hospital, New York, that recovered after the use of intraspinal injections of antitoxin. Luckett lays emphasis on the drainage of as much as possible of the toxic cerebrospinal fluid before injecting the antitoxin.

THE CAUSE OF FOURTH OF JULY TETANUS.

The reason for the existence of Fourth of July tetanus, as we may class these particular cases, is by no means settled, although its determination might seem easy. The question seems to have sifted down to the proposition that the bacilli either are or are not present in blank cartridges. If the former is true it is a simple proposition. But if they are not in the blank cartridges, there are several explanations for the frequency with which the wounds they produce are followed by tetanus to be considered.

The following facts speak in favor of the presence of the infectious agent in the blank cartridge: 1. The remarkable frequence of tetanus from blank cartridge wounds compared with its occurrence after other forms of injury. This has become apparent to everyone. None of the other Fourth of July injuries compares with it, and, although it is impossible to learn in how large a proportion of blank cartridge wounds lockjaw results, yet the impression is obtained that the famous rusty nail wound is far less often the cause of tetanus in proportion to its occurrence. 2. While the opponents of the view of the infectious nature of the blank cartridge consider the dirty hands of the wounded child the source of the organism, yet wounds of other parts are often the site of lockjaw. In the cases in this year's epidemic there are several of wounds of the leg and thigh, a few of the abdomen, one of the female breast, and one of the mouth, in all of which the conditions are quite different from those in the case of wounds of dirty hands. 3. The bacteriologist of the Board of Health of Newark, N. J., has presented the following report:

NEWARK, N. J., July 2, 1903.

To the Honorable Board of Health, Newark, N. J.:

Your attention is respectfully invited to the fact that bacteriologic examination of samples of two different makes of blank cartridges has been made at the Bacteriological Laboratory during the past week with the result that among other germs present in the contents of the shells the bacilli of tetanus were found in large numbers.

The tetanus bacilli found are so typical in shape and the odor so characteristic that there is very little doubt of their identity.

The samples examined were purchased in the open market and the cartridges selected promiscuously from the contents of the boxes.

The frequency with which lockjaw follows accidental wounds received by the explosion of blank cartridges may possibly be explained by the presence of these germs in the materials used in the manufacture of the cartridges.

Further examinations will be made to determine if the tetanus bacilli are constantly present, and also to find whether the germs are in the explosive or in the paper wads used.

R. N. CONNOLLY, M.D., *Bacteriologist.*

If this report should be substantiated, as we shall further note, it stands alone in opposition to many other investigations. So far, we are informed, no inoculation experiments have been made, and organisms producing gas, and morphologically similar to the tetanus bacilli, have been described by Wells in blank cartridges, but they were non-pathogenic.

4. Several possible sources for the bacilli have been suggested. One is that the wads are made out of old rags, of straw swept from stables, or other dangerous material. Another is that they come from the saltpeter, which has been insufficiently purified after being obtained from its source from the droppings of bats in caves, etc.

Opposed to the view that the tetanus bacillus exists in the blank cartridge are the following facts:

1. Numerous careful investigations have been made of this possibility by different investigators, examining all the makes of ammunition on the market, during different years, in different cities, and by different methods, and all of them report unanimously (with the single exception noted) that they have never detected tetanus

bacilli. The investigations that we have found published in available literature are as follows:

TABLE 3.

Name.	Year.	Number Examined.	Method.
Wells	1899	200	Culture and inoculation.[1]
Taylor	1899	135	Culture.[2]
Wells	1900	50	Culture and inoculation.[3]
Boston City Health Dept.	1900	350	Culture and inoculation.[4]
LaGarde	1902	24	Culture and inoculation.[5]
Total		759	

A total of 759 blank cartridges have been examined during three years, and in not one has tetanus bacilli been found. It seems highly improbable that so many cartridges can have failed to contain bacilli if they are present in blank cartridges often enough to explain the frequent occurrence of tetanus after the wounds they produce. A possible source of error lies in the frequent occurrence of organisms resembling more or less closely the tetanus bacillus. These have been described in blank cartridges by Wells and by Bain;[6] each describing a different organism, both of which have considerable morphologic resemblance to the bacillus of tetanus, and also resembling it in being anærobic, so that they might readily be mistaken by a casual examination of smears from the pus or of anærobic cultures. In cultures, however, they show certain differences from the tetanus bacillus, and they are nonpathogenic. This may explain the positive finding in Newark, in which animal inoculations were not made.

2. By no means all of the Fourth of July tetanus cases are produced by blank cartridges. In this year's epidemic among the cases for which we have been furnished with a statement of the method of production, nearly 10 per cent. have been ascribed to other sorts of injuries, where any cause is mentioned at all. Of these, exploding giant crackers are the commonest cause. Of course, these offer much the same possibilities for contamination as blank cartridges, if not more. However, LaGarde, who examined the powder and paper from 30 fire crackers, representing six different kinds, failed to find the organisms. Explosions of cannons, rockets and other forms of fireworks have all caused fatal tetanus.

3. At the same time that tetanus is occurring from Fourth of July injuries it is also resulting from other injuries in the same places. Wells[7] has compiled statistics of the annual tetanus cases of New York, Chicago and Washington, and finds that there is a seasonal curve, the greater number by far occurring in summer. June, for example, furnishes nearly as many deaths as December, January, February and March together. In other words, Fourth of July tetanus accidents come just at the time of year when tetanus is most prevalent. There have been included in our tables a number of cases of tetanus resulting from other than Fourth of July accidents, and, therefore, not included in the summary, which shows that tetanus bacilli are widespread at that time, and may be inoculated from any sort of injury. It is interesting to note that the states with the greatest number of blank cartridge cases, Pennsylvania and Ohio, also furnish the largest number of cases of tetanus from wounds not related to the celebrations of the Fourth. A few special cases of Fourth of July tetanus that are of significance in this connection may also be cited:

A boy in Chicago, running to get away from a cannon that was about to be discharged, fell and ran a nail into his hand. Tetanus followed and caused his death.

In Pittsburg a boy was playing with a toy pistol under a bridge, when a trolley car running over it jumped the track and fell some distance to the ground, killing several passengers. The boy was not injured, but was so frightened that he caught his hand under the descending hammer of his pistol and received a small cut from which fatal tetanus resulted.

A boy in Minnesota, while trying to enlarge the bore of his pistol with a file, drove the tool into the palm of his hand, the wound causing death from tetanus.

In Washington, D. C., where 4th of July tetanus is very uncommon, presumably because the laws are enforced, a young man with a chemical turn of mind, constructed an amateur Mt. Pelee by erecting a mound of earth over a collection of chemicals. The explosion shattered the glass containers and drove several pieces of glass, more or less covered with dirt, into his body. Fatal tetanus followed.

In Rockford, Ill., a boy loaded a toy pistol with dirt and pebbles, and shot the contents into his hand. A pebble was removed from the hand, but no wad, after the onset of tetanus.

These cases are but samples of many that go to show that tetanus bacilli are present in the street dirt and about the persons of the celebrators. As further evidence we have the fact that in all the places where Fourth of July tetanus occurs the disease is more or less endemic, and if not seen in practice it will be found to occur in horses. In studying the Chicago epidemic no difficulty was found in demonstrating the organisms in street dirt in 1900.

4. The manufacture of blank cartridges is so conducted as to cause little chance for infection with the tetanus bacilli. While, of course, no special precautions are taken to keep out the organisms, and, therefore, the materials are by no means sterile, yet there is no step in the process that would particularly favor the presence of tetanus bacilli, as, for example, would be the case if hair were used, as in the wadding of shotgun ammunition. The pasteboard wads of the blank cartridges have always aroused much suspicion, both because they are so often found in the wounds, and because we have distinct impressions of the sort of material the "rag man" used to collect for the purpose of making paper. We are indebted to the Union Metallic Cartridge Company for the following description of the process:

This board is made of new rags and new cuttings of paper, and also sulphite wood pulp. The rags are cooked in soda ash and lime under high pressure, in a rotary boiler for six or eight hours. They are then put into a washer and thoroughly washed for a couple of hours or more and bleached with chlorid of lime and alum. The paper stock is also cooked in the same manner, but without chemicals being put with it—simply boiled under high pressure. The rags after being boiled are let down into draining chests and thoroughly drained before being mixed with the paper stock in the manufacture of the board. No clay whatever is put into the board, and the coloring matter is a very weak solution of anilin blue, the color being set with a little alum. Generally this board is dried in the loft, although when necessary heat is applied.

It is evident that if even so resistant an organism as the tetanus bacillus were present in the original ma-

1. Phila. Med. Jour., June 16, 1900.
2. N. Y. Med. Jour., July 20, 1901.
3. Med. News, June 1, 1901.
4. Report of Boston Health Department, 1900.
5. THE JOURNAL, Amer. Med. Asso., April 18, 1903.
6. Jour. Boston Soc. of Med. Sciences, 1901, p. 306.
7. American Medicine, June 13, 1903.

terial, and there is no apparent reason why they should be present, they could not survive such treatment as here described. As to the powder, LaGarde says:

> The purity of powder is assured by the high degree of heat to which the three ingredients of the powder are subjected before being incorporated in the form of an explosive compound. These ingredients, as is well known, are, saltpeter, 15 per cent.; sulphur, 10 per cent., and charcoal, 75 per cent. In refining saltpeter the saturated solution of the crude material is heated to a temperature of 250 F., the sulphur is fused from the crude brimstone, in order to remove extraneous matter, and the charcoal is obtained from willow wood after being subjected to a high temperature in a retort.

In all the studies of blank cartridges cited above the powder has come in for investigation, and tetanus bacilli never found. If impure saltpeter were a source of danger we should look for the greatest trouble to come from firecracker explosions, for they are, or at least were, prepared with a much more crude powder than the blank cartridges.

The shells are also subjected to a high temperature and to immersion in baths of strong acid and alkali. They, too, have been often examined with negative results.

On the other hand, it is to be borne in mind that there is not sufficient heat generated in the discharge of the cartridge to destroy tetanus bacilli if they were present in the powder or wads. LaGarde has shown, experimentally that the organisms when placed on the wads or in the powder of 22-caliber blank cartridges are not destroyed by firing. Such infected cartridges, when discharged in such a way as to injure rats, caused nearly all to die of tetanus.

From all these facts we may conclude that there is no convincing evidence that blank cartridges contain tetanus bacilli, except possibly as a rare contamination when they have been exposed to dirt. On the other hand, there is ample evidence to indicate that tetanus bacilli are present in the street dirt and on the persons and clothing of the injured people. The most reasonable assumption at this time is, therefore, that the organisms are carried into the wounds from the surface at the time of the accident. This has been the conclusion of LaGarde, Wells and all others who have studied this subject experimentally.

The question to be decided is, therefore, why blank cartridge wounds should be peculiarly dangerous, and to this the most plausible explanation seems to be twofold. 1. The wound is received at a time of year when tetanus bacilli are most prevalent, probably because the street dirt that contains them is widely scattered, instead of being frozen solid as in winter, or wet as in spring. It is also received at a time when the victim is usually particularly well supplied with this dangerous dirt. 2. Blank cartridge wounds offer the most ideal conditions for the development of tetanus of any common wound with which we are familiar. If we consider what are ideal conditions for the development of tetanus it will be seen how true this statement is. Ideal requirements call for the following conditions:

(a) First of all the wound should be penetrating, so that anærobic conditions may obtain. Blank cartridge wounds are nearly all penetrating, especially those that cause tetanus. Often, indeed, they pass through the palmar fascia, and usually the track is well sealed after them.

(b) The penetrating object should carry in any surface dirt present. A nail wound, with its well-known tendency to cause tetanus, can not compare with the blank cartridge in this respect. The wad, usually striking perfectly flat, has a great tendency to punch out and carry before it a disk of skin or of clothing that may oppose it, which a nail would push aside.

(c) Resistance of the tissues should be lessened. Here, especially, the blank cartridge wound surpasses the nail wound. Tetanus bacilli or spores, washed free from toxins, and injected with a minimum injury to the tissues can be destroyed in large numbers by the tissues or blood. Blood clots in a wound are particularly favorable, places for infection. Lwowitch and Strich have each shown that tetanus inoculation in animals is far more effective if made into a hematoma than if introduced subcutaneously, and the latter further found that gunshot wounds were much better inoculation places than even hematomas, the symptoms appearing twice as soon and death ensuing earlier. LaGarde found that burning tissues made them most favorable sites for tetanus inoculation. All animals inoculated in a wound made by burning died from doses of tetanus bacilli that were without effect when inoculated into incised wounds. Therefore, the burning, tearing and bruising of the tissues in blank cartridge wounds is of particular import, and no other sort of wound produces these conditions so well. This susceptibility of burned tissues probably explains the not uncommon appearance of tetanus in burns, whether of Fourth of July origin or not, a fact somewhat at variance with the general rule that tetanus bacilli will not live in surface wounds exposed to the air.

(d) Other bacteria being present to remove oxygen and to destroy tissue resistance also favor tetanus. Blank cartridge wounds, with their large amount of introduction of extraneous material, practically always cause mixed infection.

THE PREVENTION OF FOURTH OF JULY TETANUS.

Our chief object in this work has been the establishment of a basis for consideration of Fourth of July tetanus from the standpoint of preventive medicine. It is for this reason that we have considered to such an extent the question of the source of the infecting tetanus bacilli that cause the disease. We confess that at first it seemed to us that the bacilli *must* be present in blank cartridges, and had that been the case the prevention would have been a simple matter.

In the absence of any positive demonstration of their presence in the cartridge, the other facts that have been recounted concerning these particular wounds seem sufficient to explain their peculiar danger. It is, therefore, evident that we can not secure safety by some modification in the method of manufacture, a thing the manufacturers would be willing to attend to promptly to escape responsibility. The only way to prevent Fourth of July tetanus that can be successful must prevent the use of blank cartridges altogether. The ideal way would be to attack the source of the evil, by prevention of manufacture and importation into the country of blank cart-

ridges. We know of no essential purpose that blank cartridges serve—their occasional use in melodrama and in starting foot races could easily be accommodated in some way not calling for an annual sacrifice of several hundred lives. Presumably, this would be distasteful to the manufacturers, and it is impossible to say in advance what their attitude would be if they were brought face to face with the proposition that they are the sole cause of the unnecessary death of over 400 boys in the United States every year. It would be pleasing to believe that sound business men, such as we know them to be, would be willing to forego a certain amount of income, donating this, if you please, to the cause of public safety. Might it not be well for the American Medical Association to present this proposition in all its significance to the manufacturers? What the possibilities are for legislation in this direction we are unable to say. Might not this matter of the prevention of Fourth of July tetanus be a proper theme for action by the Association at the next annual session?

As for the manufacture of toy pistols, much the same things are to be said. These flimsy contraptions serve no good purpose, and outside of their relation to tetanus there is one particularly bad feature, namely, their tendency to cultivate in young boys the habit of carrying pistols. "The hip pocket arsenal" is one of our great American vices, responsible for many unnecessary homicides and accidents, and it is not imaginative to consider that putting blank cartridge pistols in the hands of boys is a contributing factor to its prevalence and perpetuation. However important the toy pistol itself may be in causing tetanus, it is secondary to the blank cartridge, for many accidents result from ordinary revolvers, and, of course, the cessation of the production of the cartridges carries with it the end of the toy pistol.

Lacking any immediate means of terminating the production of blank cartridges, and while hoping for its speedy accomplishment, we have another tried and proven method of checking these accidents by stopping their sale in each individual city or town. The feasibility of legal intervention here has been shown, for most of the larger cities have ordinances covering this matter more or less adequately, although many of them seem to have become lost through disuse. However, they do exist, and where lacking can be readily provided, for they come into the proper province of the city authority. The difficulty lies in the enforcement. For example, in Chicago such an ordinance is well known to exist, occasional prosecutions having been made under it. Almost annually a mayorality proclamation has been made concerning Fourth of July injuries, and the necessity of suppression of the sale of toy pistols and blank cartridges, and the police are ordered to enforce this ordinance. Yet there is no difficulty in procuring blank cartridges and toy pistols, as we have learned by experiment. This year, when the tetanus deaths began, long after the Fourth had passed, orders were given the storekeepers not to sell toy pistols, and it was found that some dealers were obeying the law. However, there were others who still sold them, with the admonition not to say anything about it, as "the coppers have given us orders we can't sell them." Not until numerous prosecutions have been made can the dealers, chiefly proprietors of small confectionery and notion stores, be frightened into obeying the law. In Philadelphia some attempts have been made in this direction, and the newspapers report that the father of one of the dead boys has brought suit against the man selling the pistol. The inefficiency of municipal authorities is particularly seen in Philadelphia, where a full warning had been given by an epidemic of tetanus after the Decoration Day celebration. Deaths from this celebration were still occurring when the epidemic of the Fourth began. Here, if ever, was the presence of an example and a warning to stir some one to action, but that this action was not forthcoming is evident from the development of perhaps the worst Fourth of July epidemic in the history of the state.

Probably but little can be done by education of the boys themselves. "It isn't Natur'." One writer has remarked that a boy could be shown 200 other boys dying from lockjaw, and that if he were then given a quarter, and the Fourth were coming, he would go out and buy himself a toy pistol and a box of cartridges. This may be exaggeration, but not for all boys. However, there are some who can be reached by instruction, and some sound advice given by their teacher just as school is closing for summer before the Fourth, might save some lives at least.

Education of the parents is evidently called for also, to judge from the number of cases in which the information was given that "the boy's mother dressed the wound herself, thinking it of no consequence." They will probably be reached best through the daily papers, and we wish again to express appreciation of the efforts that the press, almost as a whole, has made. Some papers have conducted a long campaign with an evident sincerity of purpose that is pleasing in contrast to the attitude that has occasionally been taken in relation to some matters of preventive medicine. One great obstacle lies in the fact that a very large part of the cases occur among the children of the illiterate, which also indicates the value of parental control among the better classes. So long as blank cartridges continue to be sold to children, however, education of parents to do their best to prevent their use, and to secure proper treatment of the wounds they may produce, must be continued.

And, lastly, there is room for improvement in the way in which many physicians care for blank cartridge wounds that come to them. There, unfortunately, exist physicians who do not keep informed on either medical or popular progress, and to whom a blank cartridge wound is a blank cartridge wound, and nothing more. At least there have been many physicians who have seen such wounds shortly after they have been received, who have been content with simply dressing the wound, often without even an attempt to remove the wads and other foreign matter contained therein. And often these physicians have occupied positions in hospitals and dispensaries that would seem to indicate their possession of more than average information. With the excellent knowledge that we possess of the bacillus of tetanus and the widespread familiarity with the danger of blank cartridge wounds, such inefficient treatment is censurable. Bain has well demonstrated the efficiency of thorough

surgical technic in preventing tetanus by his report of a case of blank cartridge wound so treated, in the secretions of which tetanus bacilli were demonstrated, and yet tetanus did not occur. Prophylactic use of antitoxin is also to be urged where it is available. Veterinarians have accumulated ample evidence of its efficiency as a prophylactic, which is in marked contrast to its slight power as a curative agent. In man there is also plenty of evidence that it is equally effective, and altogether without harm. It has been used by Taylor for prophylaxis in blank cartridge wounds with complete success. He has used it in many cases, always without harmful results, and with no tetanus, although in other cases where antitoxin was not used tetanus has

most apparent to the public are those which occur during the celebration. Aside from tetanus in the celebration of the Fourth of July this year 60 deaths were caused, 10 persons made blind, 75 persons lost one eye, 54 lost hands, arms or legs, 174 lost one or more fingers and 3,670 received other injuries, making a total of 3,983 persons injured. Adding the deaths from tetanus and from other causes, 4,449 persons are dead or injured. These facts are embodied in Table 4.

This appalling summary is not given as an item of sensational news, but to arouse efforts in the line of prevention. The table speaks for itself, and deductions from it are easily made by anyone. It will, however, add to the value of the table to note the following facts:

TABLE 4.—SUMMARY BY STATES OF JULY FOURTH CASUALTIES.

STATE.	Deaths			Injuries.						Total Persons Dead or Injured.	Causes of Tetanus Cases.		Causes of All Cases Aside from Tetanus Cases.				
	From Tetanus.	From Other Causes.	Total.	Loss of Sight.	Loss of One Eye.	Loss of Legs, Arms or Hands.	Loss of Fingers, One or More.	Other Injuries.	Total Non-fatal Injuries.		Blank Cartridge.	All Other Causes.	Blank Cartridge.	Fire Crackers.	Cannon.	Gunshot.	Powder and Fireworks.
Alabama	.....	.....	.....	.....	.....	.....	.....	2	2	2	.....	.....	.....	.....	.....	.....	2
Arizona	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....	.....	.....	1
California	2	1	3	.....	.....	3	5	89	97	100	2	.....	36	20	16	1	20
Colorado	4	.....	4	.....	1	.....	.....	34	35	39	3	1	17	7	2	.....	8
Connecticut	3	2	5	.....	2	2	2	151	157	162	3	.....	69	38	30	1	18
Delaware	.....	.....	.....	.....	.....	.....	1	1	1	1	.....	.....	.....	1	.....	1	.....
District of Columbia	1	.....	1	.....	.....	.....	.....	1	1	2	.....	1	.....	.....	.....	.....	1
Florida	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	1	.....	.....	.....
Idaho	1	.....	1	.....	.....	.....	2	1	3	4	1	.....	.....	3	.....	.....	.....
Illinois	49	10	59	1	14	7	17	268	307	366	43	6	83	117	37	16	53
Indian Territory	1	.....	1	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....
Indiana	11	3	14	1	4	3	11	127	146	160	11	.....	54	54	15	4	22
Iowa	14	2	10	.....	3	4	5	139	152	168	12	2	52	46	19	6	32
Kansas	11	2	13	.....	1	.....	2	47	50	63	10	1	30	13	1	2	5
Kentucky	4	.....	4	.....	.....	.....	2	24	26	30	4	.....	10	5	5	.....	6
Maine	2	1	3	.....	1	1	3	23	28	31	2	.....	11	13	2	.....	3
Maryland	1	.....	1	1	1	.....	.....	18	20	21	.....	.....	3	12	2	.....	3
Massachusetts	16	1	17	1	7	6	18	588	620	637	14	1	234	187	46	17	132
Michigan	28	3	31	.....	2	2	7	102	113	144	24	1	38	42	12	3	18
Minnesota	14	1	15	.....	2	2	10	128	142	157	14	.....	52	44	22	6	23
Missouri	27	2	29	1	5	.....	1	111	118	147	23	.....	69	16	7	6	13
Montana	2	1	3	.....	.....	.....	.....	2	2	5	2	.....	1	1	.....	.....	1
Nebraska	4	.....	4	.....	.....	.....	.....	42	42	46	3	.....	12	10	3	4	9
New Hampshire	2	.....	2	.....	.....	.....	2	33	35	37	1	.....	6	17	4	3	5
New Jersey	8	.....	10	.....	2	2	8	206	218	228	6	2	43	41	22	32	55
New York	33	8	41	2	9	4	29	437	481	522	29	3	155	149	49	40	66
North Dakota	.....	.....	.....	.....	.....	1	1	8	10	10	.....	.....	1	2	3	.....	4
Ohio	66	11	77	.....	11	8	25	322	366	443	63	2	125	97	39	31	67
Oregon	2	1	3	.....	.....	1	.....	12	13	16	2	.....	7	3	1	2	1
Pennsylvania	80	6	86	3	9	7	16	412	447	533	74	5	128	83	36	46	78
Rhode Island	3	1	4	.....	.....	.....	2	58	60	64	2	1	19	22	4	1	10
South Dakota	.....	.....	.....	.....	.....	.....	.....	4	4	4	.....	.....	.....	.....	.....	.....	3
Tennessee	.....	.....	.....	.....	.....	.....	.....	4	4	4	.....	.....	.....	1	.....	1	2
Texas	.....	.....	.....	.....	.....	.....	.....	2	2	2	.....	.....	1	1	.....	.....	.....
Utah	.....	.....	.....	.....	1	.....	1	21	23	23	.....	.....	7	10	.....	1	6
Vermont	3	.....	3	.....	.....	1	1	40	42	45	3	.....	6	16	4	3	12
Washington	2	2	4	.....	.....	.....	.....	17	17	21	1	1	1	7	2	1	2
West Virginia	3	.....	3	.....	.....	.....	.....	16	16	19	3	.....	6	7	2	.....	1
Wisconsin	10	.....	10	.....	.....	.....	3	177	180	190	7	2	33	65	12	8	49
Wyoming	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	1	.....	.....	.....
Total	406	60	466	10	75	54	174	3670	3983	4449	363	29	1309	1152	397	236	731

followed. His method has been to follow thorough surgical cleansing with injection of 5 to 10 c.c. of antitoxin, repeated in a few days if the wound does badly.

A great help in any future efforts to stop this annual epidemic will be the collection of complete data of all the cases, in a more official and complete manner than it has been done in this paper. This must be the work of either municipal or state boards of health. Such an inquiry has already been started by the Michigan State Board of Health, and it is to be hoped that other states will also take up the matter. There is also need for further study of blank cartridges, since their freedom from tetanus bacilli is still undetermined.

B. DEATHS AND INJURIES ASIDE FROM TETANUS.

Above have been discussed the cases of tetanus incident to the Fourth of July celebration, but the injuries

SOURCE AND RELIABILITY OF STATISTICS.

A detailed list has been compiled of the 4,449 persons dead or injured, giving the name or description of each, the nature of the injury and the cause. These are classified under cities and states, and from this list Table 4 has been prepared. The facts were furnished by the newspapers from the various sections of the United States. Only such cases have been listed as presented names and data, or, in the absence of the name, a case has been included when it bore such marks of identification that it could be distinguished from other cases in the same city. All doubtful cases have been omitted.

Concerning the number of injuries here reported, it is safe to say that not two-thirds, perhaps only one-half, of those occurring in the United States are here presented. In evidence of this fact, it is worthy of note

that the large city of Washington, D. C., is represented by but one case. The newspapers of Philadelphia stated that 500 people were injured in that city in the Fourth of July celebration, and that 380 received hospital treatment; in comparison with this accounts of only 151 were received. In another city the newspapers stated that there were 90 persons injured; the table contains 10. Further, it is evident that the absence of statistics in certain states can not be explained on the ground that accidents did not occur.

This table contains only deaths and injuries directly due to explosives of one kind or another. For example, we have not included several deaths which occurred from fright and from heart disease, nor several deaths occurring in runaways caused by firecrackers. Another death not included is that of a butcher who committed suicide to escape the noise and turmoil incident to the day. Other injuries not included may be illustrated by the following: In the endeavor to escape from firecrackers, cannon, etc., after they had been lighted, several people sustained fractured bones and other severe injuries; one man was killed by a train while putting a torpedo on the track, and a boy while shooting firecrackers on a roof fell five stories and broke his leg.

Because of the paucity of newspaper accounts in certain communities, it may easily have occurred that some of the injuries here cited eventuated in death, blindness or loss of members, inasmuch as the accounts have stated that "the injuries may prove fatal," or "the physicians give little hope of saving the boy's sight."

In the tabulation of injuries, where one person lost an eye and a finger, for example, he was counted in but one column; therefore, the total number of persons who lost fingers exceeds the total at the foot of the table.

Under the heading of "other injuries," it is worthy of note that the following are included: Fracture of the skull, of the leg, of the arm, etc.; loss of hearing, loss of patella, loss of nose, loss of ear, penetrating wounds of lung, brain, abdomen, etc. The majority of injuries, however, were wounds and burns of the face, eyes and hands. All accidents are included that were incapacitating or that required medical attention.

It may occur to someone that perhaps some of the minor injuries recorded in Table 4 later developed into tetanus infection and resulted in death. This is the case. A careful comparison, however, of the cases in the tetanus list with those in the list of injured shows that comparatively few of the former appear in the latter. For this reason and because the list of injured is grossly incomplete, the fact that some few persons are really counted twice in the total number of persons dead or injured is not very important. The reasons for the absence of certain tetanus cases in the list of injured are two: The list of injured is incomplete, and—a very instructive point—the tetanus cases were, in many instances, caused by wounds too trivial to be reported or to be included in the list.

DEATH AND INJURY ABROAD.

These statistics are concerning the United States. Although the national holiday is celebrated in other lands by some few persons, only the following cases of death or injury have been reported: In Ceylon, a British gunner was killed and another was injured by a cannon while firing a salute in honor of the United States. In Canada a boy was injured by a firecracker.

THE CAUSE OF INJURY.

Specification of the causes of tetanus shows that 363 cases were due to the blank cartridge or toy pistol, while all other causes together were responsible for a total of only 29 cases. In comparison with this, the causes of other injuries are divided more evenly between the blank cartridge, the firecracker and the other uses of powder. To make it exact, the blank cartridge caused about 33 per cent. of the non-tetanus injuries, but caused over 92 per cent. of the cases of tetanus.

In other words, the danger of accident in the use of the blank cartridge may not be much greater than from the use of other means of celebration, but the danger of tetanus is shown to be extraordinarily greater when the blank cartridge is used. To make the statistics of more value, it would be interesting, if the facts were available, to know what proportion of those engaged in celebrating do so with the toy pistol, how many with firecrackers, how many with cannon, etc. The injuries from firecrackers are largely from the large variety, from their accidental and unexpected explosion, and especially from the carelessness of persons who held them in their hands while they went off. Many crackers are loaded with dynamite, and persons fail to realize the power hidden in them. Gunshot injuries (bullet wounds) are notably in excess in the cities, because of the number of persons in the cities who carry weapons. The injuries from toy cannons, powder burns and fireworks (for evening display) may be taken as such as have occurred for many years. The increase in injuries of late years may be assigned to the great increase in use of the cannon-cracker and the blank cartridge. These were deadly additions to the boy's armament, and they together caused 2,461 of the 3,825 injuries for which causes were assigned, or over 64 per cent.

In explanation of the column headed "powder and fireworks," it may be said that this includes all the causes not in the other columns. To summarize: Nearly one-half of these injuries were caused by the use of powder, about one-third by fireworks (for evening display), and the remainder of cases in this column were from miscellaneous causes, such as torpedoes, paper caps, chemicals, matches, etc.

The first column of causes, that of blank cartridges, includes blank cartridges and toy pistols, also a very few cases of injury from the use of the cartridge cane. These latter cases are included in this column because they use the blank cartridge or small metal dynamite caps, and the explosion and the injury are almost identical with those caused by the discharge in the toy pistol.

Since the cause was not stated or was ambiguous in the accounts of many accidents, the total number of cases under the heading of causes is less than the number of persons dead and injured.

The causes were plainly stated for 58 of the 60 violent deaths and are as follows: Blank cartridges, 11; firecrackers, 14; cannon, 14; gunshot wounds, 9; powder burns or explosions, 4; fireworks, 3; torpedo, 1; caps, 1; matches, 1. A number of these fatal wounds and many injuries were received by innocent passersby.

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SATURDAY, AUGUST 29, 1903.

THE FOURTH OF JULY CELEBRATION.

The Fourth of July, with its casualties, has come and gone, and we can now count up the cost. Elsewhere in this issue we give a summary of the accidents, so far as reported to us, and a special analysis of the tetanus cases. The truly formidable showing made is well worthy of serious contemplation. We like to consider ourselves a smart people, but there are some facts that are troublesome to this conceit, and the present method of celebrating the nativity of our national independence is one of them. True patriotism is an excellent thing, but no one serves his country by making his nation's birthday a day of peril to life, limb and property. It would be a rash calculation that would estimate that even 50 per cent. of those celebrating the Fourth have any real spirit of patriotism in the act. All that is wanted by them is to make a noise and indulge in a license not allowed on other days. An English writer whose works used to be very popular with boys says, in effect, in one of them that he can gauge the decadence of a people by the amount they spend for fireworks. While we would not exactly endorse his utterance, we certainly consider such expenditures as we have each Fourth as very far from being an index of national intelligence. It is, in fact, a blot on our record. It would be better to abolish the Fourth of July as a holiday, and to keep it only as a glorious tradition, sadly dimmed by recent experience of its celebrations, than to continue the annual sacrifices we now make to its memory.

Two facts stand out in the consideration of the annual holocaust—one is that there was no lack of warning or even of legal prohibition in some sections from which the worst experiences are reported. In Pennsylvania, the state which records the greatest number of toy pistol tetanus deaths, the sale of toy pistols to boys under 16 seems to have been illegal and prosecution of dealers is being urged by the State Board of Health. Lawbreaking followed by homicide, for this is nothing else, is a pretty serious matter, as some of these unscrupulous commercialists may find it. The other fact is that the victims of this annual tragedy are mostly immature boys whose discretion is always questionable and who should be protected by law, if not by parental control, from just such possibilities. It is a massacre of the innocents often in one, and sometimes in the other, sense of the word. "Butchered to make a Roman holiday" is a favorite old quotation that may yet come to need a modern adaptation.

We trust that our readers will utilize the statistics we present this week as an argument for more active repression of the lawlessness which accompanies the annual celebration of our national independence. Warnings have not been brilliantly successful in the past; but by persistent and frequent repetitions they may accomplish something each year, until finally the annual sacrifice is done away with. Four hundred and sixty-six lives sacrificed, 10 persons made totally blind, 95 eyes lost, beside 500 other persons maimed and disfigured for life, is a record that calls loudly for justification, and, finding none, demands termination.

Reprints of the matter, with the tables, will be supplied in any quantity at a nominal price, and should be ordered at once. These may be useful to distribute among those whose duty it is to prevent the dangerous methods of celebrating, viz.: city aldermen, mayors, etc., etc. Any corrections, additions or suggestions as to this matter should be sent at once.

THE PREVENTION AND TREATMENT OF FOURTH OF JULY TETANUS.

We now turn to the chief factor in the mortality—tetanus. With over four hundred deaths from lockjaw as a result of the demonstration of a single Fourth of July—more than the entire loss of life from wounds in a good-sized modern battle—surely it is time for something to be done, for there is no evidence that this year's mortality is any greater than that of other years. The astounding total of 415 cases of Fourth of July tetanus, however, is probably below the actual number, for we have every reason to believe that many more cases have been omitted from our statistics than have been erroneously included. That the total is astounding is probably because this represents the first attempt, with which we are acquainted, to collect the accidents of the entire country into one group. That such a summing up of the fearful results of a Chinese celebration of an American holiday may stir up enough feeling in the proper places to lead to some action toward its termination is our motive and hope in undertaking this work.

There are several parties involved in the crime. First, there are the municipal authorities who have before them laws directed toward controlling the dangerous forms of celebration, which they make inefficient or make no efforts to enforce. Secondly, there are the dealers in toy pistols, who, for the sake of a very trivial income, violate the laws that exist in most cities against the sale of firearms to minors. These two must be considered the primary culprits, for they are acting in violation of laws that have been made for the express purpose of preventing this very unnecessary mortality. Manufacturers of blank cartridges and toy pistols are simply complying with a popular demand, and are not culpable in the same degree as they are violating no laws, although they must appreciate the fact that they hold in their hands the essential means of continuing or ceasing the trouble. As for the parents of the boys, they are usually either ignor-

ant of the actions of the boy, or of the danger of his pastime, and they are often completely unaware of the danger of the blank cartridge wounds.

After going through the reports of all these four hundred cases, and reading all procurable lay press comments and explanations, it seems to us that the only method that offers much hope of success must be directed at the primary seat of the trouble, the blank cartridge itself. Arraignment of municipal authorities and prosecution of dealers in toy pistols and blank cartridges can have but local effects, and the trouble is universal. Our figures show that the blank cartridge is responsible for such a very large proportion of all the cases, over 90 per cent., that control of this danger will leave the rest a relatively simple matter. But how are the blank cartridges and toy pistols to be removed from the Fourth of July program? There are, so far as we can learn, but four manufacturers of blank cartridges in the United States and one in Canada. Whether they can be prevented from manufacturing or importing the perfectly useless blank cartridge or not is a matter to be determined by the proper legislative body. If this can be accomplished we shall be rid of the greatest danger, if not the greatest nuisance of the Fourth. If national intervention is impracticable it is certain that state legislatures can prohibit the sale of blank cartridges and toy pistols within their boundaries—it certainly is as proper a subject for legislation as the cigarette, and there probably would not be as great opposition by commercial interests. Some of the state boards of health are already taking up a study of Fourth of July tetanus, and the results obtained will be valuable, especially as material for directing legislative action.

Until the sale of blank cartridges has been stopped there is much to be done in the way of popular and professional education. Parents must be taught that toy pistols are to be kept out of the hands of children. The fact that a large proportion of the cases of tetanus have occurred in the children of the poorly educated is an indication that parental control is not without effect. They are also to be taught that every Fourth of July wound possesses great possibilities of causing lockjaw, and requires skilful medical care. This instruction they will receive chiefly from the daily papers, but in smaller communities much can be done by the physician. The need of some means for popular information in preventive medicine is illustrated again in this case. And in turn it is to be expected that the family physician will appreciate the gravity of the situation when a boy is brought before him with a blank cartridge wound, no matter how trivial that wound may seem to be. Not only does it demand thorough surgical cleansing, but also prophylactic injection of antitoxin. Fortunately, the incubation of tetanus is so long that unless the case occurs in some unusually isolated community, antitoxin can be procured before the disease has manifested itself, for then, in most cases, serum treatment is of no avail.

It is evident that the treatment of tetanus must be prophylactic, for the returns from these cases of the Fourth show how little has been accomplished in the direction of cure. But a very small percentage of recoveries, apparently under 5 per cent., has occurred, in spite of quite general use of antitoxin. It has been well said that the patient who is just showing tetanic symptoms is not beginning to have tetanus—he is beginning to die from it. The spasms of tetanus are practically the death agonies of an infection that has existed several days before their onset, and experience has shown that tetanus antitoxin is then of but little value. We may look to Fourth of July tetanus to furnish us with much information concerning the treatment of the disease, since these cases constitute such a large and concentrated part of our experience, but so far the results have only served to emphasize the importance of prophylaxis and the futility of curative measures. Surgeons who have carefully cleansed and drained blank cartridge and fire cracker wounds have had few cases of tetanus; surgeons who have also given antitoxin while the wound was fresh have had none.

Perhaps the most promising suggestion in the way of curative treatment is that of Luckett,[1] who has reported two recoveries, and informs us of two more yet unpublished. This is the intraspinal method of antitoxin administration, which has already been used somewhat in Europe. It is much less dangerous than the intracranial method, and seems much more logical. The chief manifestations of tetanus come from the injury of the anterior horn cells of the cord—not from the cerebral cortex where the antitoxin is introduced in the intracranial method. There is much reason for believing that the toxin reaches the cord along the nerve sheaths from the point of injury, rather than by the blood, and it has been shown that the cerebrospinal fluid is more toxic than the blood serum in tetanus. Therefore, intraspinal injection permits of application of the antitoxin where it would seem to be of greatest value, and it also gives an opportunity for letting escape as much as possible of the highly toxic cerebrospinal fluid through the needle, before injecting the antitoxin. On this last point Luckett lays much stress, and it would seem theoretically to be an important factor. At any rate, the brief use of this method has given such excellent results, and it is based on such sound principles, that it should be given widespread trial.

RECENT WORK ON CELL POISON OF ANIMAL ORIGIN.

Few available tissues of the body remain for which some one has not produced, or attempted to produce, a specific cytotoxin by immunization. Théobari and Babès have the latest cytotoxin—a gastrotoxin, produced by injecting the mucous membrane of the cardiac end of the stomach of dogs into goats. A part of their method is unusual, in that they suspended the emulsion of tissue

1. Medical News, April 18, 1903.

in 1 per cent. salicylic acid solution, instead of the normal salt solution which is ordinarily used. The reason for this is not stated, but probably it was to combat the bacteria which no doubt were present in the mucous membrane. Three to four injections of the emulsions, given at intervals of ten to fifteen days, gave a fairly toxic serum, of which 15 to 60 c.c. were injected into the jugular veins of dogs. By way of control, it was found that 60 c.c. of normal goat serum injected similarly produced no symptoms in dogs. Injections of small amounts of the toxic serum (15 c.c.) caused vomiting and hemorrhage into the intestines, some of the animals recovering and others dying. Larger amounts of a strong serum (60 c.c.) caused death in ten to twenty minutes. Necropsies showed lesions limited to the cardiac portion of the stomach and the small intestine. These portions were congested and blood was present in the bowel. Histologically, the peptic glands showed a condition of the cells seen in hypersecretion, particularly after large doses of the serum had been given. Many of the chief cells and lateral cells had lost their granulations and the former are stated no longer to have contained pepsin. The cytoplasm of many cells was uniformly cloudy. In Lieberkühn's glands the cells were often cloudy, and the capillaries underlying the affected surfaces were widely dilated. They concluded that the chief degenerative changes were in the lateral cells. The authors are unable to explain that the small intestine and cardiac end of the stomach should be attacked while the pyloric portion and the large intestine were uninvolved.

This work is interesting, and there probably is no reason why the cells of the gastric mucous membrane should not yield a cytolysin as well as other cells. But so far as one can judge from the article mentioned, the work of Théohari and Babès is too incomplete to justify all the conclusions they have drawn. What most arouses suspicion is that they apparently assign the rapid death in some of their animals to the toxic effect of their serum on the mucosa of the stomach, omitting examination (or at least mention) of the conditions in more vital organs. If the action of the immune serum was selective and specific for the epithelium of the stomach and intestines, it is difficult to see how the slight injury to these structures recorded could produce death in fifteen minutes. There is, indeed, sufficient evidence in their report that the serum was not absolutely specific for the cells of the gastric mucosa. The hemorrhages into the bowel probably could not have been caused by any amount of lysis of the epithelial cells. It has been shown by various investigators that hemorrhages may be caused by many toxins, the result apparently of a solvent action on the endothelial cells of the capillaries by special substances — endotheliolysins, Flexner's "hemorrhagin." It is also not excluded in their work that hemolysin and hemagglutinin were not produced by the immunization. In addition, it may be stated that intravenous injections of other cytolytic sera are able to cause vomiting, and bloody stools and urine. It is not improbable that careful examination of other organs in these experiments would have shown pulmonary or cardiac conditions sufficient to explain the sudden death of some of the animals. Workers with immune cytotoxic sera have noted that a fatal pulmonary edema may occur in a few minutes following the intravenous injection of a large amount of a toxic serum. The exact cause of this edema remains unexplained as yet, but it seems probable that it is due to endotheliolytic effects or embolism of agglutinated red blood corpuscles. The study which Kraus and Sternberg made of the tissues of animals killed by injections of immune hemolytic serum, indicate that other cells than those for which the serum is supposed to be specific, may be injured. They frequently found focal necrosis in the liver and cloudy swelling of the kidneys in their animals. On the whole, recent works of immune cytolysins seem to show that attempts at immunization with one type of cell may yield a serum, which is toxic not only for this cell, but for others also—polytropic, rather than monotropic in its action. That is to say, in terms of the side-chain theory, that particular cell, besides having receptors peculiar to itself, also has some which may be found in other cells. Hence, in immunization, antibodies would be produced for more than one kind of cell. Hence the efforts to produce absolutely specific, cytotoxic antiserum may be quite hopeless, even in cases where it is possible to secure for injection cells of one kind only.

Similar results are noted in immunization with bacteria; for example, immunization with the typhoid bacillus yields a serum which, in addition to agglutinating in high dilutions the typhoid bacillus, will also agglutinate the colon bacillus in higher dilutions than the normal serum. To know that this lack of specificity does exist at any rate makes clear how certain bacterial poisons which have a high affinity for certain tissues are able at the same time to injure other tissues, as in diphtheria for instance.

THE AMEBA OF DYSENTERY.

Now that the study of the pathogenic protozoa has become the order of the day, it is reassuring to find that observers trained along zoologic lines are directing more and more attention to the study of these microörganisms. An interesting example of the progress that can be hoped for from studies of this character appears in the recent work of Schaudinn[1] on the life history of certain ameboid organisms. Schaudinn calls attention to the fact that the group of so-called amebæ is by no means zoologically well-defined, and that it doubtless contains organisms of most heterogeneous character with widely diverse life histories and uncertain zoologic affinities. In the course of studies that have extended over a period of eight years on the parasitic rhizopods of the human alimentary tract, Schaudinn has made the important discovery that the ameba present in

1. Arb. a. d. k. Ges., 1903, xix, Heft 3, p. 547.

healthy individuals possesses a developmental history radically different from that of the ameba found in dysentery; and that, therefore, on purely zoologic grounds, the two organisms must be regarded as quite distinct. For plausible reasons the former organism is newly designated by Schaudinn as *Entamœba coli*, and the ameba of dysentery, by a similar change of nomenclature, is called *Entamœba histolytica*.

The ameba of the normal intestine multiplies both by simple division and by a process that used to be termed spore-formation, but that zoologists now denominate schizogony. The latter phenomenon is preceded in *Entamœba coli* by remarkable nuclear changes. In brief, these consist of ordinary reduction divisions, after which a conjugation takes place between two daughter nuclei that have arisen from the same mother nucleus. Mitotic division then proceeds and the protoplasm of the cyst comes eventually to contain 8 nuclei; finally a division of the protoplasm takes place and 8 small amebæ are formed. A close analogy to this singular process has been observed by Hertwig in *Actinospherium*, where a similar conjugation occurs between two daughter nuclei derived from the same mother nucleus.

The process of reproduction of *Entamœba histolytica* follows a different course. Nuclear division of a regular character is entirely absent or at least has not been observed. Instead, a kind of fragmentation of the chromatin takes place, the remnant of the nucleus itself being expelled from the cyst. Small spherical bodies, 3 to 7 microns in diameter, are formed in the cyst, each of these presumably containing some of the finely fragmented chromatin. Schaudinn showed experimentally that these spores of *E. histolytica* were capable of causing serious intestinal symptoms and lesions when fed to cats. In addition to the great difference between the two species of *Entamœba* in their method of reproduction, an important morphologic difference, already dwelt on by Jürgens,[2] is reaffirmed by Schaudinn. This is the stiff hyaline structure exhibited by the ectoplasm of *E. histolytica*. In this species the outer zone of the protoplasm is always sharply delimited from the inner, and it is apparently the possession of this firmer layer that enables the dysentery ameba to thrust its way into the tissues.

The differentiation of the ameba found in dysentery from the form so commonly present in healthy individuals has heretofore proved a matter of some perplexity, and the apparent identity of the two forms in their ordinary phase has in the past given rise to confusion and misunderstanding. Schaudinn's researches will certainly be welcomed by pathologists as tending to establish the complete zoologic independence of the two species. More confidence than hitherto will be felt in attributing to *Entamœba histolytica* a causal rôle for the peculiar dysenteric disease with which it is associated.

2. Veröffentl. a. d. Geb. d. Militärsanitätswesens, 1902, xx, p. 110.

LEMON JUICE AND TYPHOID FEVER BACILLI.

At the end of the year 1902 and during the early part of 1903, much was published in the medical and lay press regarding the action of lemon juice on typhoid bacilli. Reports from the laboratory of the public health department of one of our large cities claimed that "a teaspoonful of lemon juice to half a glass of typhoid infected water is sufficient to destroy the vitality of the contained germs and thus to prevent their production of the toxin or poison which causes typhoid fever." From the same source the suggestion was also sent out that oysters infected with typhoid bacilli could be rendered innocuous by pouring lemon juice over them. These ideas were eagerly taken up by the daily papers, and as a result many people entertain the false idea that lemon juice in water and on oysters protects them from danger of typhoid fever when these are swallowed.

As has been shown by subsequent observations, the juice of lemons possesses no such germicidal power, as these statements would indicate. W. Johnson[1] has found that typhoid bacilli are capable of increase after exposure of 24 hours to a 2 per cent. solution of lemon juice, and after 20 minutes to a 9 per cent. solution. His results are entirely opposed to the newspaper statements of disinfection by a 1 per cent. solution in an hour or less. W. D. Greene,[2] health commissioner of Buffalo, has just published the results of a series of experiments by the city bacteriologist. They were undertaken to determine the germicidal property, if any, of the mixture known as lemonade. The experiments emphasize the necessity of discriminating between simple inhibition and destruction in all tests of germicidal agents. Typhoid bacilli were not killed by exposure of 45 minutes to a mixture of the juice of one-half a large lemon in a glass of water. Greene concludes that lemon juice in the proportion described is not at all to be depended on in rendering polluted water safe for drinking purposes. As to the ability of lemon juice placed on the surface of oysters to destroy typhoid bacilli deep within the body of the oyster we know nothing, but we have every reason to believe that no such result will occur. It was shown nearly 15 years ago by Kitasato that acetic acid in a strength of 0.2 per cent. and citric acid in a strength of 0.43 per cent. would kill typhoid bacilli in 5 hours, and that much weaker dilutions of the acids would inhibit the growth of the bacteria. The results of the tests on which the reports referred to at the beginning of this article were founded had evidently been misinterpreted, and simple inhibition of growth by the lemon juice which was carried over to the nutrient medium mistaken for destruction of the bacteria.

The fate of the lemon as a preventive of typhoid fever again calls attention to the desirability of submitting the results of scientific investigation to medical societies and publications so that they may be substantiated or disproved before they are rushed before the general

1. Northwest Medicine, May, 1903.
2. Bull. Del. State Board of Health, No. xvi, July, 1903.

public. The public, having once learned of an easy way of preventing typhoid fever by simply squeezing lemon juice into water, or on oysters, will not be so ready to return to the more troublesome procedure of boiling water. Thus the results of years of teaching are lost in part at least on the public in a single day. Another unfortunate result of such experiences is that they place the laboratory which makes the mistake in a bad light before the profession, and subsequent reports from the same source are apt to be received with suspicion.

THE RURAL LABORATORY.

Last week we called attention to the practical value of blood examination, and its great importance as a means of diagnosis and to the simplicity of its technic.

But valuable as is this method and simple as is the technic, it yet requires not alone a training in bacteriology, but apparatus, media, etc., that must constantly be on hand and ready at all times to be brought into use. In larger cities with their medical colleges, hospitals and municipal laboratories there is comparatively little difficulty in finding the man and the appliances close at hand. But what about the "country doctor" and physicians in small towns? How can they, however much they may desire it, make their early diagnosis of typhoid or of pneumococcus bacteriemia by the blood examination? It is well-nigh impossible for the average physician in the smaller town, or in the city for that matter, even though he may possess the requisite knowledge and technical skill, to keep his private clinical laboratory up to the mark, supplied with fresh culture media and stock control cultures, or to watch and follow through carefully a bacterial growth. He must depend on assistance.

The solution of this difficulty lies in one of several directions. The busy practitioner may attach to himself a competent recent graduate who will have charge of the private clinical laboratory. Or the man who is not too busy may be able to attend to practice and to the laboratory work, too. But it will be a rare man who will do this for a long time. A more practicable plan is for several physicians in a small town, or even in adjoining towns, to unite in supporting a small clinical laboratory that shall be in charge of some suitable man, naturally, a recent graduate, but one with good laboratory and hospital training. He may be paid by salary, or in any other way that is mutually arranged. The apparatus may be his own or belong to the physicians who support the laboratory. These are details that can be settled according to local conditions. This communal rural laboratory, within telephonic call of all physicians for miles around, would be an immense help to the country physician and would have an influence that would be distinctly elevating not only on the medical profession of the neighborhood, but on the public as well. A demonstration of the practical value of applied scientific knowledge would arouse in the people an increased interest in medical matters, create a heightened respect for the physician, and bring about a more intelligent discussion of, and action on, matters of personal and public health.

By all means let us have rural laboratories, either private, communal or under the supervision of local or county medical societies. This work county societies in many places could well take up. There is no reason why the city should have a monopoly in the way of examining sputum, stomach contents or blood. There is every reason why in the smaller towns work of this sort should be done, differing from that done in the city only in quantity.

Medical News.

MARYLAND.

Baltimore.

Cocain Addiction Increasing.—Retail druggists say that the demand for cocain is increasing. One pharmacist, whose store is centrally located, is said to take in from $5 to $10 in 5 and 10 cent sales of cocain every night between 11 and 1 o'clock.

Personal.—Dr. Joshua W. Hering has declined renomination as state comptroller, which he has held for two terms.——Dr. A. C. Poole is in Paris.——Dr. Smith Hollins McKim has moved to New York.——H. Barton Jacobs is at Trouville, France.

Scarlet Fever and Diphtheria Increasing.—During the first seven months of this year there were 327 more cases of scarlet fever and 249 more cases of diphtheria than during the corresponding period of last year. The health department claims that this is due to too early release of sick children from quarantine.

Deaths of the Week.—The deaths for the week ended August 22 were 202, a rate of 18.93 per 1,000 per annum. It is notable that cancer comes second on the list of death causes. The following are the principal causes: Consumption, 28; cancer, 15; diarrhea, pneumonia and Bright's disease, each 11; heart disease, 9. Scarlet fever, typhoid fever and diphtheria are prevalent.

MASSACHUSETTS.

Glanders.—Another case of glanders contracted by the owner from his horse is reported from Methuen. It necessitated the amputation of an arm.

Not Proven.—The charge against Dr. J. M. Jones, Bay City, of failure to report a case of contagious disease to the local board of health was not proven, and the defendant was discharged.

Typhoid from Milk.—An epidemic of typhoid fever at Fall River has been traced to the contamination of milk on one route. Apparently the germs entered the milk when the farmer entirely submerged his cans full of milk in a well.

Personal.—Dr. John W. Crawford, Lawrence, is in the Massachusetts General Hospital, seriously ill from septicemia due to an operation wound.——Dr. Thomas B. Shea, Boston, has gone to Europe.——Dr. John Gallagher has been appointed physician to the House of Providence Hospital, Holyoke, vice Dr. William Powers, resigned.

Lowell Water Impure.—The score and more of typhoid fever cases reported in Lowell, Mass., since August 1, are believed to be due to contamination of the drinking water. The city gets its supply from driven wells, but after a large fire recently a check valve failed to work and river water was for a time permitted to enter the city mains.

MICHIGAN.

Personal.—Dr. Frank C. Myers, Kalamazoo, has moved to Spokane, Wash., on account of the ill health of his wife. He has purchased the practice of Dr. John R. Leadsworth.

The Most Dangerous Communicable Diseases.—Including reports by regular observers and others, meningitis was reported present in Michigan during the month of July, 1903, at 5 places; whooping cough at 40 places; diphtheria at 55 places; typhoid fever at 79 places; smallpox at 81 places; measles at

85 places; scarlet fever at 96 places, and consumption at 216 places. Reports from all sources show meningitis reported present at 2 places more; whooping cough at 3 places less; diphtheria at 13 places less; typhoid fever at 14 places more; smallpox at 26 places less; measles at 28 places less; scarlet fever at 13 places less, and consumption at 8 places more, in the month of July, 1903, than in the preceding month.

July Mortality of Michigan.—There were 2,653 deaths reported for July, or 334 more than during the preceding month. The death-rate for July was 12.6 per 1,000 per annum. There were 566 deaths of infants under 1 year, 197 deaths of children from 1 to 4 years, and 711 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 206; typhoid fever, 27; diphtheria, 37; scarlet fever, 13; measles, 12; whooping cough, 38; pneumonia, 82; diarrhea and enteritis, under 2 years, 271; cancer, 138; accidents and violence, 274, including 58 deaths from drowning and 11 deaths from lightning. There were 2 deaths reported from smallpox during the month, and 27 deaths from lockjaw, nearly all of which were due to Fourth of July accidents, caused by the use of toy pistols.

Comparative Prevalence of Disease.—For July, 1903, compared with the preceding month, diarrhea, cholera morbus, intermittent fever, whooping cough, dysentery, cholera infantum and inflammation of brain were more prevalent; and influenza, measles, scarlet fever, pneumonia and meningitis less prevalent. For the same month, compared with the average for July in the ten years, 1893-1902, tonsillitis, scarlet fever, smallpox, diphtheria and inflammation of brain were more than usually prevalent; and neuralgia, diarrhea, consumption, influenza, cholera morbus, intermittent fever, dysentery, remittent fever, inflammation of bowels, cholera infantum, erysipelas and meningitis were less than usually prevalent. Diarrhea, dysentery, cholera infantum and cholera morbus are usually most prevalent during July, August, September and October, but these diseases were from twenty to fifty-seven per cent. less prevalent than usual in the July just passed.

MINNESOTA.

Change of Name.—The Minnesota State Medical Society has filed papers changing its name to Minnesota State Medical Association.

Fire in Medical College.—Damage amounting to about $5,000 was caused by a fire in the basement of the medical department at the state university.

Ames Asks Aid.—Former Mayor Dr. Albert A. Ames, Minneapolis, now under sentence of imprisonment for bribery, has made application for pension on account of injuries received during the Civil War.

Correction.—Dr. Robert F. Lynch, Monticello, writes asking that the error whereby his name appeared in the report of the organization of the Wright County Medical Society as "Albert F." Lynch be corrected. THE JOURNAL printed the name as "Albert F." because it is so given in Polk's Directory, which is, as a rule, correct.

Personal.—Dr. Charles A. Lapierre, Minneapolis, has been seriously ill from an infected wound of the hand.——Dr. John B. Dunn, St. Cloud, has gone to Europe.——Dr. George A. Stevenson, Albert Lea, has returned from a prolonged tour of Europe.——Dr. Charles H. Norred, Minneapolis, has been appointed surgeon to the Minnesota Soldiers' Home.

NEW JERSEY.

Smallpox in Bridgeton.—Smallpox has again appeared in Bridgeton. The treasury is empty and the city council has refused to give the board of health any more money.

Inspect Trenton Dairies.—The Board of Health of Trenton, acting in conjunction with the State Board of Health, has ordered an inspection of all the dairies of the Trenton milkmen.

Attachment Issued on Hospital.—The real and personal property of the Elizabeth General Hospital has been attached for a long-standing debt of $4,393. The hospital is valued at $100,000. Ex-Governor Foster M. Voorhees is president of the institution.

Enforcement of Child Labor Law.—Chief State Factory Inspector Wood has instructed his deputies strictly to enforce the new child labor law, which goes into effect September 13. The new law makes the employment of children under 14 a misdemeanor, punishable by a fine of $200 or imprisonment for one year.

Anthrax.—A serious epidemic of anthrax among cattle is reported in the vicinity of Lower Alloway. Thirty head were buried on Round Island in one day. The law requires their burial six feet below the surface and the use of a layer of lime. The inoculating process is used on cattle as a preventive measure. The board of health enjoins the citizens to observe the law concerning contagious diseases of cattle.

NEW YORK.

Arrests Incubator Proprietor.—An overzealous member of the New York Society for the Prevention of Cruelty to Children caused the arrest of Dr. Martin A. Cooney, proprietor of the infant incubator at Luna Park, Coney Island, for running a baby farm.

Needs Endowment.—Albany Medical College has appealed to its alumni to provide an endowment fund producing at least $5,000 a year for each department, to solve the problem of supporting the laboratories, which has become a question of paramount importance.

Personal.—Dr. Abram T. Kerr, secretary of the Cornell medical faculty, Ithaca, has been appointed health officer of Ithaca, vice Dr. Edward Hitchcock, Jr., on leave of absence.——Dr. Carl W. Walser, has been appointed assistant house physician at the Presbyterian Hospital, Manhattan.

Addition to Medical Library.—The medical library in Stimson Hall, Cornell University, Ithaca, has just received an addition in the form of the medical library of the late Dr. Charles E. Van Cleef, a graduate of Cornell, who died in 1896. This gift consists of about 250 volumes of standard medical works.

Buffalo.

Personal.—Dr. Frederick Preiss has returned after an extended tour of Europe.

Disposal of Garbage.—Commissioner Ward has signed the contract with the Buffalo Sanitary Company for collecting and disposing of the city garbage. Work will be begun September 1. The city will pay about $170,000 a year.

Currents and Water Contamination.—A dozen new floats of an improved order have been placed in the lake near Stony Point by the Health Department for the purpose of studying the effects of currents on water contamination. Mr. Fuller, the water expert from New York, is continuing his research experiments on the water supply of Buffalo.

Emergency Hospital Report.—The first annual report of the Emergency Hospital of the Sisters of Charity shows that during the year the number of patients admitted to the hospital was 1,190; of that number 1,038 were discharged and 100 died. The number of patients who were treated without fee was 330, those who paid partially were 630, and those who settled in full were 235. The total number of cases treated in the dispensary was 2,479 and the total number of old cases treated in the dispensary was 9,688. The total number of consultations was 12,167.

New York City.

Cabot Resigns.—Dr. Follen Cabot, Jr., assistant bacteriologist of the Department of Health, in charge of rabies research, resigned, August 12.

New York Eye and Ear Infirmary.—By the generosity of the late William C. Schermerhorn an ophthalmic ward was added to the hospital, and now his daughters have provided for the furnishing and surgical equipment of this portion of the hospital.

Inspectors Under Fire.—Out of ten medical inspectors of Brooklyn against whom charges were preferred, eight were found guilty. Three of these were dismissed, four were fined and one was censured. The charge in each case was that the inspector permitted houses to be disinfected before the determination of the contagious disease.

Herzog Rating Stands.—The protest of Dr. Alfred W. Herzog as regards his rating on examination has been overruled by the Municipal Civil Service Commission, which has decided that taking into consideration the ratings received by others who tried the examination, there was nothing remarkable in the rating that had been given to him.

Work Lags on Woman's Hospital.—For some time past the work at the Woman's Hospital has been at a standstill save for the use of a very small temporary pavilion. It is expected, however, that work will be begun very soon on the new edifice, which is to be six stories in height, with lecture hall, chapel, private and ordinary wards and a new and thoroughly modern equipment, and which is expected to cost $610,000.

PENNSYLVANIA.

Rabies.—Two persons at West Chester and ten children at Punxsutawney are said to have been bitten by dogs proved by postmortem examination to have been affected by rabies.

Typhoid in Pittsburg.—Between July 1 and August 8 300 cases of typhoid fever were reported to the Pittsburg Board of Health, with 52 deaths, a death rate of 17.33 per cent. On August 10, 17 new cases were reported.

Oleomargarin for Poorhouse Inmates.—In the case of the Commonwealth against the County Commissioners and other officials of the Jefferson County poorhouse at Brookville on the charge of furnishing the inmates of the institution oleomargarin instead of butter, the defendants admitted the charge. The defense raises two questions to be settled by the court: First, the oleomargarin law is unconstitutional; second, a county poorhouse is not such a charitable institution as is contemplated by the law. A penalty of $1,000 fine or two years' imprisonment, or both, is provided for violation of the law.

Philadelphia.

Toy Pistol Prosecutions.—District Attorney Bell has begun prosecution of dealers who are charged with having sold toy pistols to minors. Several dealers, at a recent preliminary hearing, entered bail to answer at court. It is said to be the purpose of the prosecution to bring the cases to trial at an early date.

Isolation Hospital Nearly Under Roof.—The mayor and other city officials recently visited the Macalester farm, the site for the projected new municipal hospital. Sites for the buildings and plans for beautifying the grounds were approved. The one-story structure for the smallpox department with accommodations for about 200 patients, is nearly under roof, and is expected to be ready for the reception of patients next winter.

Impure Beer.—Several retail liquor dealers and bottlers have recently been arraigned before a magistrate charged by Dairy and Food Commissioner Warren with selling adulterated beer. The affidavits allege that the samples of beer analyzed contained salicylic acid. It is the avowed purpose to strike at the manufacturer of impure products, and it is probable that the retailers will simply be held as witnesses against the brewers.

To Succeed Welch.—Dr. B. Franklin Royer, chief resident physician of the Jefferson Medical College Hospital, has been appointed chief resident physician of the Municipal Hospital, and will begin his new duties September 1. Dr. William M. Welch, who for twenty-five years has been physician-in-charge of the Municipal Hospital, is made consulting physician to the institution. The office of chief resident physician is a new one, and city councils will be asked to create the position by ordinance.

The Ball-Park Catastrophe.—By the crowding of a balcony overhanging the street at the Philadelphia Ball Park on August 8, several hundred people were precipitated to the pavement. Many were very seriously injured, and ten deaths or more resulted. Several of the up-town hospitals were taxed to their utmost to care for the victims. The coroner and other city officials are taking great pains to fix the responsibility for the accident. It is claimed that timbers originally strong had become rotten through exposure for several years, but the whole matter remains to be settled by official investigation.

GENERAL.

Plague in Peru.—Bubonic plague has caused 24 cases and 15 deaths at Pacasmayo, Peru.

Yellow Fever in Mexico.—Alarm has been felt along the Texas border over the occurrence of several cases of yellow fever in Mexico. Quarantine was established against a few cities, but no serious outbreak has occurred.

Great Britain to Check Immigration.—The royal commission on alien immigration recommends regulations similar in many respects to those of the United States. No educational qualification is proposed. Provision is made for deportation at the expense of the ship company that brought the immigrant in case of proof of his undesirability during two years after arrival.

FOREIGN.

Personal.—Dr. Peter Martin Keller, Huntley, New Zealand, has been appointed surgeon-captain in the New Zealand volunteer medical staff.

Sixtieth Professional Anniversary.—The Nestor of German alienists, Dr. Lachr of Zehlendorf near Berlin, has recently celebrated the sixtieth anniversary of his entering on the practice of medicine. He was born in 1820, and was one of the founders of the German Psychiatric Society.

Von Leyden's Jubilee.—Prof. E. von Leyden of Berlin entered on his professional career, August 11, fifty years ago, and the anniversary was celebrated by his friends with much ceremony this year. The Berlin University, as is customary, renewed his diploma "with honor," and also those of Drs. A. Hildebrandt, L. Rosenthal and F. Polland, who graduated with him.

Charlatan Ads in the Berlin Papers.—Some time ago we announced that the publisher of three prominent daily papers in Berlin had applied to the local medical association for expert opinion on the medical ads in his papers, stating that he wished to accept only those that met the approval of the profession. The medical society complied with his request with pleased alacrity, but the charlatan ads are beginning to appear once more in his papers, as our German exchanges note in sorrow—possibly the medical experts are away on their vacation, one sarcastically suggests.

Scarcity of Hospital Accommodations at Moscow.—The city of Moscow has numerous hospitals and money has been lavishly given by philanthropic capitalists for model medical schools and clinics. It is with some surprise that we read that in June 1,457 sick persons were turned away from the city hospitals and 207 from the others on account of lack of accommodations. July 1 the total number of patients in the city hospitals was 4,722, and in the others 1,020. As the number of the insane is constantly increasing and the present institutions are already overcrowded, the municipal authorities have recently made arrangements to place the quiet insane patients in private houses.

Scientific Devotion of Roux and Metchnikoff.—Roux and Metchnikoff have succeeded, they believe, in inoculating a chimpanzee with syphilis. It is accepted as such by Fournier, although he remarks that the appearance of secondary symptoms would be still more conclusive. The researches are to be continued, and as the Institut Pasteur, with which these scientists are connected, is not rich enough to supply the necessary material in the line of chimpanzees and other monkeys required for the purpose, Roux and Metchnikoff propose to devote to it the prizes recently bestowed on them. As our readers will remember, Roux received the Osiris $20,000 prize and Metchnikoff a $1,000 prize from the Institute.

The Preventive Circular.—THE JOURNAL has mentioned the German "warning circular" to be distributed by physicians among their patients. It is written by Professors Erb, C. Fränkel and Jadassohn and the text is published in full in the *Allg. Med. Ct.-Ztg.* for August 8, 1903. It contains nine paragraphs, the whole about as long as a column and a half of THE JOURNAL. It states: 1, that sexual abstinence is not injurious to health as a rule; 2, describes the symptoms and contagiousness of gonorrhea and syphilis and their consequences; 3, warns against promiscuous intercourse, and that women may be capable of transmitting the disease without being aware of their infected condition; 4, warns that the most insignificant wound or lesion on the genitals may be the entering point for infection, and should be submitted at once to the examination of some qualified physician, avoiding quacks, nature healers, etc. "The danger of venereal diseases, which is frequently under-estimated and frequently over-estimated, may be materially diminished by appropriate medical assistance. Nearly every case can be completely cured, although a long time may elapse before this can be accomplished." 5. The subject himself is unable to tell when he is cured, and the qualified physician has to examine him again and again through months and years in order to follow the course of the disease and apply treatment at the proper moment. In a separate paragraph the subject is warned that he must not allow himself to be deterred from mercurial treatment by the ads of charlatans. "The general opinion of the medical profession is that it is necessary, extraordinarily effective, and can never do harm in the hands of a trained physician." "He who suspends treatment without the advice of a physician, has only himself to blame if symptoms recur, which may not be until after a long interval. Such neglect is not only liable to injure himself, but may be the means of injuring others." The German code is then cited to show that a penalty of three years' imprisonment or $250 fine may be imposed for personal injury or injury to health, while the penalty is much more severe if the loss of an eye or other important member results from the injury. The danger of infecting others during the stage of incubation is

also emphasized, and the subject is warned always to inform his medical attendants later that he has had a venereal disease. In conclusion the circular cautions that there are no absolutely reliable protecting measures against venereal infection, but at the same time advises the use of some such measure, in regard to which the physician is alone competent to pass judgment. The danger of infection while under the influence of alcohol is commented on, and the extragenital sources of infection. Intimate contact with unknown persons or common use of pipes, razors, dishes, etc., is warned against, and fondling children whose medical antecedents are unknown. All persons with a venereal disease are cautioned in regard to the hygienic measures to prevent extragenital infection of others, as they may spread the disease by lack of care in this respect. These circulars are to be distributed to all physicians of Germany through the mediation of the county and local medical associations or the officials of the sickness insurance societies.

Correspondence.

Notes from Manchester and London.

London, July, 1903.

To the Editor:—Mr. George A. Wright, well known through his excellent work on early excision of the hip, is still active at the Royal Infirmary, Manchester, where the writer found him at work in the operating room. His first case was one of infraorbital neuralgia, which he treated by exposing the nerve and injecting into it a 2 per cent. solution of osmic acid; the results of this method, which does not abolish nerve function, are said to be very gratifying. In a case of extensive sinuses of the ilium, the opening was enlarged, and the sinus curetted and flushed out with turpentine, an application of which Mr. Wright thinks very highly. It is not painful, and does not interfere with primary union. The third operation was the opening of a pulmonary abscess in a young child.

In conversation Mr. Wright said he was treating young children with congenital clubfoot with appropriate tarsectomies, and the double cases with astragalectomy. In tuberculous knees erosion, through a transverse incision dividing the patella, is the favorite treatment. The patella is afterward stitched with silk. Hip cases are treated at first with the Thomas splint, but if after ten or twelve months they have not done well the joint is excised. Mr. Wright does not favor the manual replacement of congenitally dislocated hips on the ground that the acetabulum is usually too defective to assure a permanent result.

Although Mr. Wright has resigned his connection with the Children's Hospital at Pendlebury, about four miles from Manchester, he very kindly gave me a card to the house surgeon, who was most courteous. The Pendlebury Hospital is modern, and is built in separate wards, one story high, connected by roomy corridors, and with ample space between. Thus light and ventilation are abundantly provided, and the children are easily moved on mattresses into the open air. Each ward has 26 beds, and two separate beds for the isolation of contagious diseases. The treatment of hip, knee and talipes cases was much practiced by Mr. Wright. Of two cases of laminectomy for Pott's paraplegia one had improved considerably, the other only as to control of sphincters. One case of double luxation of the hip was in a frame holding the thighs abducted, but although it was four months after the operaton, the patient was still in bed. Knockknees are corrected after supracondylar division of the femur with the Adams saw, but plaster is not applied until a week or ten days later. Tendon grafting for paralytic deformities was frequently practiced.

On reaching London the writer found but little activity at the Royal Orthopedic and National Orthopedic hospitals, as it was the dull season. Each has about 60 beds and a large out-patient service; it is gratifying to learn that there is a good prospect for the consolidation of the two institutions, and for the erection of a large, modern hospital. Some of the surgeons connected with these institutions are very conservative, confining their operative work to tenotomies and bloodless manipulations.

It was, however, the writer's privilege to see Mr. E. M. Little correct a paralytic varus with the Thomas wrench, and also do an improved Phelps operation in another case. The modification consisted in making a v-shaped incision, with the base at the outer border of the sole, enabling the operator to cover over the deep wound.

Of all the London surgeons the writer was most anxious to see Mr. Bernard Roth, who is, perhaps, the foremost representativeof the Purdy gymnastic treatment of lateral curvature of the spine. Mr. Roth demonstrated his work in London, and very kindly invited the writer to accompany him to Brighton, about an hour's run, where he also has a large class. The patients ranged in age from early childhood to advanced life; all were treated by exercises alone, and each in turn passed under the hands of Mr. Roth, who was at all times the center of inspiration. The system is peculiar, as the work is entirely individual, and yet many patients are handled in a short space of time. The exercises, mainly resistive flexion, extension, and rotation of the trunk, and horizontal exercises for trunk and legs are extremely simple, but so planned as to develop the weakened muscles very rapidly. Mr. Roth's practice is to give symmetrical exercises daily for a month, then to ascertain the "key-note" position and to include exercises in this position for two months longer; after this the patient practices certain exercises at home, reporting at long intervals; no supports are used. Careful notes and patterns are taken of each patient, so that progress can be tested. Mr. Roth, like Mr. Jones and other eminent authorities, freely admits that the rotation is incurable, but pain, which he finds in the majority of cases, is relieved, health and vigor imparted, the progress of the affection checked, and in favorable cases the posture improved. With the help of several assistants, Mr. Roth is able to treat some thirty cases in about two hours. Between each set of exercises, the patients rest on benches at the sides of the room; they seem to heartily enjoy the work, a point which Mr. Roth considers essential to success. The strength developed in a short time in the muscles of the back and waist is surprising, but far more wonderful are the energy and skill which Mr. Roth puts into his work, his general control of the class, and the directness of his methods. Practically the only apparatus used are the vertical ladder, the high bench, and the padded bar, but with his hands and these simple appliances Mr. Roth obtains speedy and enviable results.

Henry Ling Taylor.

(New York address, 125 W. 58th Street.)

The Alleged Cure for Lockjaw.

Chicago, Aug. 25, 1903.

To the Editor:—Certain publicity given by the lay press to a case of tetanus recently treated by me, and an editorial in The Journal last week, make the following statement necessary:

In the first place, I disclaim any pretention to the discovery of a specific cure for tetanus or for any other disease. However, during the past year I have made a study of the diuretic effects of certain salt solutions when injected directly into the circulation in mammals (rabbits), and the power of such diuretic saline solutions to eliminate soluble toxins from the body. To prove the theory I chose tetanus toxin, which I found could be eliminated from the body, at least in part, after sufficient time had elapsed for it to set up its characteristic symptoms. I tested this on a number of animals (each animal being controlled) with a large per cent. of positive results.

In the case of tetanus in question I simply carried over my animal experiments to a human being, and in this particular case with positive results. The case was a boy, 11 years old, who had sustained a lacerated wound of the foot. Eight days after the injury tetanus began to develop. The symptoms did not progress very rapidly. I was called to see the boy nine days after the first appearance of the disease, and while the symptoms were pronounced, all the voluntary muscles being in a state of tetanus, I gave the opinion that the disease would probably assume a chronic character. At any rate, I consid-

ered the patient had about as good a chance to recover without as with the intervention of physicians. Four days afterward (the thirteenth day of the disease) I was called again, and found the boy manifesting alarming symptoms of acute tetanus. His whole voluntary muscular system was in a complete tetanus and convulsions were following each other in rapid succession. Pulse 150 and temperature 105. Bowels had been moving involuntarily. In two and a half hours I injected into the circulation 600 c.c. of a solution containing NaCl, Na_2SO_4, $Na_3C_6H_5O_7$, and $CaCl_2$ in the proportions given below. During the injection the pulse fell to 104 and remained so until the following afternoon, when the pulse began to increase and soon reached 140, and convulsions began to threaten the life of the patient again. The treatment was repeated with a like good result, the pulse this time reaching 98. A large excretion of urine followed. The next day the pulse went up to 130, and the treatment was repeated, when the pulse fell to 94 and the temperature to 100 (per rectum). No further treatment seemed necessary, and the boy has steadily improved ever since, now the tenth day after the last treatment.

When I began the treatment the symptoms indicated a fatal termination, and that before many hours, but as I have had opportunity to see at least one case recover from seemingly an acute infection without any treatment at all I must refrain from drawing any conclusions from this case.

Further, let me say, such a treatment of disease partakes of none of the elements of the specific antitoxin treatment of disease. It is simply a cell stimulant, combined with diuresis. I can say, at least, it is a safe treatment and if carried out slowly is certainly beneficial, but not a specific.

The following is the solution:

M/8 NaCl	500 c.c.
M/8 $Na_2SO_4+10H_2O$	250 c.c.
M/24 $Na_3C_6H_5O_7+5\frac{1}{2}H_2O$	245 c.c.
M/8 $CaCl_2+6H_2O$	5 c.c.
	1000 c.c.

This being interpreted gives the following:

℞. Sodii chlorid	7	3125
Sodii sulph	10	06+
Sodii citrat	3	364+
Calcii chlorid	0	136+
Aquæ	1000	00

To get the best effects the injection should proceed very slowly, not more than 3 c.c. per minute.

While as yet nothing is claimed for the treatment, I hope before long to be in possession of sufficient clinical data to either prove or disprove its efficiency, and until such a test is made and published in a *professional* manner, no confidence is to be placed in the treatment. S. A. MATTHEWS, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

NAUHEIM BATHS.

MANSFIELD, LA., Aug. 3, 1903.

To the Editor:—Please let me know the composition, mode of application and indications for the artificial Nauheim baths in chronic heart disease. H. J. PARSONS.

ANS.—The composition of the Nauheim baths is largely chlorid of sodium and chlorid of calcium, at least they are the more active constituents. There are a number of springs that are utilized and the baths are also given artificially to some extent. Bezley Thorne says that the Schott brothers have insisted that similar, if not identical, effects can be obtained from artificial baths, prepared to imitate the Nauheim waters in their principal mineral ingredients. "Thus it is recommended that the treatment should commence with a 1 per cent. solution of chlorid of sodium, and that the strength should be gradually raised to 2 or 3 per cent. For increasing the cutaneous excitation, chlorid of calcium is the salt to be relied on. The initial strength of the bath, with regard to that ingredient, should be 0.2 per cent., approximately that of No. 7 spring, and, by increasing additions, it may be raised to 0.3 per cent., that is, to about the strength of No. 12 spring, and eventually to 0.5 per cent. Such varying degrees of concentration may be obtained by the proportional use of the crystallized Nauheim bath salt, of the mother-lye or of calcium chlorid, and of Mediterranean sea residue, which also contains chlorid of sodium and of calcium in the proportions necessary for the preparations of initial baths, together with traces of bromids and iodids.

"For the production of carbonic acid effervescence the action of hydrochloric acid on bicarbonate of soda may be relied on. As a state of chemical purity is not required by the circumstances of the case, the articles of commerce are sufficient for the purpose. Two ways of employing the reagents are suggested, the one calculated to induce slow and gradual, the other rapid and almost immediate effervescence. In the case of the first, the various salts, including the requisite proportion of bicarbonate of soda, having been dissolved, a bottle containing the acid is laid at the bottom of the bath and, the stopper having been withdrawn, it is moved about from time to time. The bath will be ready for use in two or three hours. For the more rapid production of effervescence the stopper of the bottle containing the acid is loosened but retained in position, the bottle having then been inverted and lowered until its mouth is just below the surface of the water, the stopper is withdrawn and the bottle is moved about so as to diffuse a layer of acid as uniformly as possible over the surface of the bath. By this means the bath will be prepared in about five minutes. It will be useful to employ baths of three degrees of effervescence:

Mild—½ lb. $NaHCO_3$ to ¾ lb. HCl (25 per cent.).
Medium—1 lb. $NaHCO_3$ to 1½ lbs. HCl.
Strong (Sprudel strength)—2 lbs. $NaHCO_3$ to 3 lbs. HCl.

"Except in the case of porcelain baths it is desirable to ensure a slight excess of alkali in order to prevent corrosion."

The indications are, in general, feeble heart action and circulation, lack of vasomotor tone, dilatation. Consult a good work on therapeutics.

DUTY OF PHYSICIAN IN EMERGENCY CASE.

MINNESOTA, Aug. 22, 1903.

To the Editor:—A few days ago a friend of the writer was hurt in a gasolene launch at a lake resort, three miles from town. The injury consisted in a flesh wound in the upper part of leg, five or six inches long. The writer, being the family physician, was telephoned for, but, due to unavoidable detention, could not get there for three-quarters of an hour. On the arrival of the writer he found that another physician, who is on his vacation and who lives in St. Louis, had been called in, as he was living in the next house. This physician had shaved the leg and put on an antiseptic cotton dressing, but, having no instruments, he had to await my arrival. When I arrived, bringing the necessary instruments, bandages, etc., the emergency physician, without any explanation, helped himself to the instruments and proceeded to sew up the wound. This he did without protest from me, as I thought it best not to raise any trouble at the time. An explanation between the two physicians happened later; the St. Louis physician maintaining that, inasmuch as he had started the work, he had a right to help himself to the other physician's instruments and finish; the family physician, however, claims that, inasmuch as the physician was from St. Louis and outside his jurisdiction, had no instruments, and as he had done all he could, he should immediately have withdrawn from the case, leaving it to the family physician to finish. Who is right? L. G.

ANS.—The Principles of Medical Ethics, Article iv, Section 6, is explicit: "When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired, the former should resign the care of the patient immediately on the arrival of the family physician."

WHOLLY SMOKE.

Dr. C. J. Gose, Kinderhook, Ill., sends us the following, with the instruction, if it is not fit for publication, to convert it into smoke:

I've heard of lies, great big lies,
And told a few myself,
But of all the lies I ever heard,
This knocks me off the shelf.

A doctor man once told me this,
(And I thought him very fractious),
"In my time I've been behind
Three weeks in my practice."

EXCLUSION OF PHYSICIAN'S OFFICE FROM RESIDENCE DISTRICT.

ST. LOUIS, Aug. 21, 1903.

To the Editor:—Has the attempt ever been made to apply the restrictions which apply to a trade or business against a physician desiring to regularly practice the learned profession of medicine in a restricted residence district? W. D.

ANS.—Do you mean to ask: Can a physician be prevented from opening an office anywhere he wishes to? Leaving out of account saloons, gambling houses or other businesses that may be decided to be nuisances (for example, a rendering plant), we know of no *legal restriction* that can exclude a business shop from any district, except the *agreement* in lease or deed or otherwise that property is not to be used for certain specified purposes. Since the owner

of property is not a servant of the public, he may refuse to sell or lease to undesirable persons. This has excluded physicians because they were going to open offices, which action was undesired by lessors.

MENTAL STATUS IN PHTHISIS—INFORMATION WANTED.

OKLAHOMA CITY, O. T., Aug. 21, 1903.

To the Editor:—Recognizing THE JOURNAL of the American Medical Association as the principal organ of leading physicians of America, and desiring more authority on the following subject, I wish to ask two simple questions, and will thank in advance as many readers as will kindly state their own experience and cite such authorities as they may have read on the subject, giving chapter and page: 1. Are persons who are afflicted with pulmonary consumption prone to attribute their physical weakness to some other cause than consumption? 2. Are persons so afflicted more easily turned against their dearest friends by designing people than when in a normal state of health? J. L. SHORT.

Marriages.

HERBERT E. MARKWORT, M.D., to Miss Helen Husemeyer, both of St. Louis, August 8.

JOHN JACOB WUERTH, M.D., to Miss Georgia Marion Pitkin, both of Chicago, August 18.

CHARLES D. SHELTON, M.D., to Miss Jessie Ferguson, both of Bloomfield, Iowa, August 5.

ABRAHAM GIVEN SHORTLE, M.D., to Miss Alice Stanley Mitchell, both of Chicago, August 18.

NELSON MERRILL, M.D., Marshalltown, Iowa, to Miss Flora Belle McMahon of Cissna Park, Ill., August 5.

EDWIN A. DAVIS, M.D., Mammoth, W. Va., to Miss May Langhorne Johnson of St. Louis, at Hardine, near Elkins, W. Va., August 6.

Deaths.

George D. Cross, M.D. University of Pennsylvania, Philadelphia, 1889, a leading ophthalmologist of Pennsylvania, assistant surgeon Wills Eye Hospital, and ophthalmologist St. Clement's Hospital, Philadelphia, a member of the American Medical Association, Delaware County Medical Society, Philadelphia Medical Society and the Medical Society of the State of Pennsylvania, died at his home in Chester, Pa., August 8, after an illness of eighteen months, aged 51.

Patrick Carter Lodge, M.D. University of Vermont, Burlington, 1899, whose name was dropped from the roll of the Waterbury (Conn.) Medical Association, after an acrimonious discussion regarding the nature and treatment of smallpox, shot himself in the head, at Waterbury, August 5, and died a few hours later, aged nearly 60.

Francis Marion Powell, M.D. Starling Medical College, Columbus, Ohio, 1875, for more than twenty years superintendent of the Iowa Institution for Feeble-Minded Children, Glenwood, a member of the Iowa State Medical Society, died at Mercy Hospital, Chicago, August 16, after an operation for gallstones, aged 55.

Josiah D. Cotton, M.D. University of Louisville, Ky., 1847, surgeon of the Ninety-Second Ohio Volunteer Infantry in the Civil War, a member of the American Medical Association, and one of the oldest members of the Ohio State Medical Society, died at his home in Marietta, Ohio, August 6, after a short illness, aged 81.

Clarence John Garitee, M.D. University of Pennsylvania, Philadelphia, 1894, an active member of the Philadelphia Pathological Society, Philadelphia Pediatric Society and Philadelphia County Medical Society, died at his home in Philadelphia, August 10, from heart disease, following septicemia, aged 31.

Samuel Bryant Potter, M.D. Jefferson Medical College, Philadelphia, 1854, a member of the American Medical Association, and for several years vice-president of the North Central Ohio Medical Society, died at his home in Fredericktown, Ohio, August 5, from stricture of the bowel, aged 74.

George W. Rolerfort, M.D. Leonard Medical School, Raleigh, N. C., 1889, a member of the American Medical Association, Medical Society of the State of New Jersey, and Essex County Medical Society, died suddenly from apoplexy at his home in Newark, August 6, aged 43.

L. W. Bacon, M.D. Medical School of Maine, Bowdoin College, Brunswick, who retired from practice at Portage, Wis., in 1887, died at the home of his daughters in Minneapolis, August 14, from heart disease, aged 96.

Charles W. Piper, M.D. University of Michigan, Ann Arbor, 1884, of Wurtsboro, N. Y., a member of the New York State Medical Association, died at the New York Hospital from septicemia due to an autopsy wound, August 10, aged 46.

Joseph Muir Corbett, M.B., Ch.B., Glasgow, 1897, surgeon of the Anchor Line steamer *Astoria*, was drowned in the Hudson River, and his body was found August 7. His death is believed to have been accidental.

Burwell G. Abernathy, M.D. College of Physicians and Surgeons, Baltimore, 1880, one of the organizers of the Jefferson County (Ala.) Medical Society, died at his home in Tampa, Fla., July 30, after a long illness.

George Johnston, M.D. Jefferson Medical College, Philadelphia, who retired from active practice about ten years ago, died at his home in Connellsville, Pa., August 9, aged 84.

Moses Bruckheimer, M.D. National Medical College, Washington, D. C., 1868, died at his home in Washington, D. C., August 7, after a short illness, aged 63.

Robert Morrison Rhea, M.D. Jefferson Medical College, Philadelphia, 1868, died at his home in Knoxville, Tenn., from acute gastritis, August 11, aged 60.

T. J. I. Pattillo, M.D., of Lee County, Ga., died at the home of his son in Macon, August 6, aged 71.

Miscellany.

Microbes Suggested in the Year 1726.—Dr. John Knott, Dublin, Ireland, writing in appreciation of "Medical Discoveries by the Non-Medical," which appeared in THE JOURNAL, May 30, 1903, says he ventures "to hope that it may interest some medical readers in the glorious land of freedom which has so long proved the refuge of the Irish race, to peruse some remarks—published in Dublin in 1726—sixty-two years before Samuel Foote's play appeared. The writer was (afterward Sir) Edward Barry, M.D. The following quotation forms the concluding paper of this author's work: 'A Treatise on a Consumption of the Lungs':"

Thus I have endeavored after the most plain, and rational manner, to account for the various Origine, and Progress of this Distemper, through its different Stages: And without forming any deceiving *Hypothesis*, have shewn how a Collection of *purulent Matter* in the *Lungs*, can only proceed from *previous Obstructions* of the *Vessels*, or a *Solution* of their *Continuity:* There is no Disease perhaps which rightly to explain, requires a more universal Knowledge of the *Animal Oeconomy;* and which hitherto has been described after a more imperfect, confused Manner. In this *Treatise* I have proposed rather to lay down a right Account of this *Distemper*, than to examine the errors of others: But, however, I cannot well avoid mentioning the Author of a late *Hypothesis* which some may be more inclined to believe, since no less than *ocular Demonstration* is offered to confirm the truth of it. This Person takes Notice, that *Ulcers* in the *Lungs* when narrowly viewed with *Microscopes*, are covered with several *Insects*, and from thence concludes that they take their first Origine from such *Animalculcs*, which being inspired with the Air, fix their Situation on the *Lungs*, and erode and ulcerate the *Vessels:* And from the same Irregular Way of Reasoning, these *Animalculcs* have been by others supposed the Cause of several Distempers, and particularly such as are *contagious:* But these Appearances may be easily accounted for, as the unavoidable Effects, not the Causes of these Diseases: For it is certain, that there is almost an infinite Number and Variety of such *Animalculcs* perpetually floating in the Air, whose chief Business consists in searching out a Place where they may find Nourishment, and a proper Situation for themselves and their young: But every living Part of a human Body has a perpetual Pulsation, which tho' imperceptible to our Eyes, is sufficiently strong to give the most uneasy Motion to those *Animalculcs* so minutely small; and entirely prevent them from fixing there for any time: But as there is no Circulation in any part that is ulcerated, the Inconvenience of this Pulsation immediately ceases, and the *purulent Matter* sends forth perpetual Steams, fit to nourish them: and by being viscid and adhesive, makes their *Nidus* so secure, that the Motion of the *Vessels* under the ulcerated Part is not strong enough to dislodge them. After the same Manner, the Blasts of Trees and Plants, may be more rationally accounted for, than by bringing small *Animalculcs* and their Eggs so many hundred Leagues to produce these Alterations. For there is a Circulation of *Humours* through every Part of Plants, and Trees, and in their aerial Tubes a more remarkable Pulsation, which is sufficiently strong to prevent these *Animalculcs* (perhaps more minute than such as are observed on *Animal Bodies*) from having a fixed and safe Situation there. But whenever any particular Wind, or Alteration of the Air, by either giving a sudden contraction to their *tender Vessels*, or a *Viscidity* to their *Juices*, produces a *Stagnation*, and thence a *Gangrene*, either in any particular Part, or in the whole, such *Animalculcs* will quickly secure this quiet State, and Nourishment.

State Boards of Registration.

Tennessee Report.—Dr. T. J. Happel, secretary of the State Board of Medical Examiners of Tennessee, reports the written examination held at Memphis, Nashville and Knoxville, March 30 and 31, 1903. (The examinations are held in the three divisions of the state on the same days. The board meets as soon as convenient and passes on the papers.) The number of subjects examined in was 8; total number of questions, 64; percentage required to pass, 75; the total number examined was 150, of whom 88 were graduates; the number passed was 120, of whom 78 were graduates. This shows that 32 per cent. of the non-graduates failed, while only 11 per cent. of the graduates failed. The graduates are listed below.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Vanderbilt University	1903	80
3	R.	Vanderbilt University	1903	86
4	R.	Vanderbilt University	1903	87
6	R.	Vanderbilt University	1903	80
10	R.	Vanderbilt University	1903	85
34	R.	Vanderbilt University	1903	86
35	R.	Vanderbilt University	1903	87
36	R.	Vanderbilt University	1903	83
37	R.	Vanderbilt University	1903	85
39	R.	Vanderbilt University	1903	90
45	R.	Vanderbilt University	1903	75
56	R.	Vanderbilt University	1898	90
2	R.	Tulane University	1901	88
5	R.	Memphis Hospital Medical College	1897	85
113	R.	Memphis Hospital Medical College	1898	75
205	R.	Memphis Hospital Medical College	1903	85
206	R.	Memphis Hospital Medical College	1903	86
207	R.	Memphis Hospital Medical College	1903	81
210	R.	Memphis Hospital Medical College	1903	78
201	R.	Memphis Hospital Medical College	1903	75
220	R.	Memphis Hospital Medical College	1903	91
221	R.	Memphis Hospital Medical College	1903	78
225	R.	Memphis Hospital Medical College	1903	93
226	R.	Memphis Hospital Medical College	1903	86
227	R.	Memphis Hospital Medical College	1903	94
229	R.	Memphis Hospital Medical College	1903	85
230	R.	Memphis Hospital Medical College	1903	92
234	R.	Memphis Hospital Medical College	1903	81
239	R.	Memphis Hospital Medical College	1903	76
243	R.	Memphis Hospital Medical College	1903	78
245	R.	Memphis Hospital Medical College	1903	80
246	R.	Memphis Hospital Medical College	1903	91
216	R.	Memphis Hospital Medical College	1903	77
250	R.	Memphis Hospital Medical College	1903	78
252	R.	Memphis Hospital Medical College	1903	88
7	R.	Hospital Medical College, Louisville	1903	86
134	R.	Hospital Medical College, Louisville, Ky.	1897	75
200	R.	Hospital Medical College, Louisville, Ky.	1901	78
13	R.	University of Nashville	1903	77
17	R.	University of Nashville	1903	84
24	R.	University of Nashville	1903	78
202	R.	University of Nashville	1901	82
14	R.	University of the South, Sewanee	1900	78
25	R.	University of Tennessee	1903	80
26	R.	University of Tennessee	1903	91
27	R.	University of Tennessee	1903	85
28	R.	University of Tennessee	1903	75
30	R.	University of Tennessee	1903	88
44	R.	University of Tennessee	1900	75
59	R.	University of Tennessee	1903	90
111	R.	University of Maryland	1901	92
116	R.	University of Maryland	1899	80
117	R.	University of Michigan	1902	93
130	R.	University of Illinois	1902	75
131	R.	University of Illinois	1902	83
214	R.	University of Virginia	1894	94
255	R.	University of Virginia	1897	98
22	E.	Lincoln Medical College, Lincoln, Neb.	1902	75
32	R.	American Medical Missionary College	1899	85
46	R.	American Medical Missionary College	1902	91
38	R.	Medico-Chirurgical College, Philadelphia	1894	85
109	R.	Medico-Chirurgical College, Philadelphia	1901	83
47	R.	Meharry Medical College	1903	81
48	R.	Meharry Medical College	1903	75
55	R.	Ohio Medical College	1902	78
107	R.	Tennessee Medical College	1903	75
108	R.	Tennessee Medical College	1903	82
110	R.	Tennessee Medical College	1903	88
119	R.	Tennessee Medical College	1903	82
121	R.	Tennessee Medical College	1903	90
126	R.	Tennessee Medical College	1903	89
129	R.	Tennessee Medical College	1903	75
112	R.	Georgetown Medical College	1893	95
115	R.	Atlanta Medical College	1893	76
127	R.	Alabama Medical College, Mobile	1887	81
124	R.	Birmingham Medical College, Alabama	1898	79
218	R.	Louisville Medical College	1903	82
251	R.	College of Phys. and Surgs., Baltimore	1884	75

FAILED.

11	E.	Georgia Eclectic College	1903	48
49	R.	University of Nashville	1903	67
50	(?)	Medical Institute, Marion, Ind.	1896	39
54	R.	College of Phys. and Surgs., Baltimore	1876	70
203	(?)	Central School of Medicine and Science	1901	74
215	R.	Medical College of Ohio	1903	66
224	R.	Memphis Hospital Medical College	1903	73
254	R.	Memphis Hospital Medical College	1903	70

Applicants 231 and 232 were rejected for violating the obligation in giving and receiving assistance.

Medical Organization.

MEDICAL ORGANIZATION METHODS AND BENEFITS.

J. N. M'CORMACK, M.D.

In the report of the Committee on Organization made to the American Medical Association at the St. Paul Session in 1901, and in the valuable paper by Dr. Simmons along the same lines later, particular attention was devoted to the unorganized and almost chaotic condition of the profession of this country as a whole, in spite of the existence of so many national, semi-national and state societies of more or less excellence, to the evils resulting and inseparable therefrom, and to the urgent necessity of a uniform, systematic and universal reorganization as the only possible remedy for these conditions.

That the importance of all this was realized, and that the profession was at last ready and ripe for reform was shown by the prompt and unanimous acceptance of the entire plan of reorganization proposed for the Association itself, and the continuance of the committee with instructions to prepare uniform constitutions and by-laws to be recommended for adoption by all state and county societies. This was still more forcibly shown by the adoption of these in thirty-one states within fifteen months after they were promulgated at the Saratoga meeting, while in several states favorable reports from committees appointed to consider the subject only await the annual meetings of their respective state societies to ensure their adoption. It seems now only a question of time until every state in the Union will have accepted them, and be using the same methods to secure the same results.

If this were all, the bare statement of the foregoing facts would indicate a degree of widespread interest and activity in the medical profession of this country without a parallel in its history. But this is not all. Within all of the states which reorganized in 1902 the acceptance of the new plan was systematically followed up by the organization of county societies, and an increase in total membership and interest quite as remarkable. This interest and enthusiasm was so great that not only the councilors and other officers especially selected for the purpose took up the work with commendable zeal, but that volunteer efforts in the same direction were and are being effectively made by many others who caught the infection.

PERMANENCE.

As a natural result of this general awakening, requests have come from more thoughtful workers of every quarter for information as to how these efforts and this enthusiasm may be so intelligently directed as to make certain that the reform so auspiciously begun may be made both thorough and permanent. It is feared by many that the rapid growth of the movement, and the zeal and enthusiasm responsible for this, may themselves become sources of danger, because of the reaction and apathy likely to follow. A very proper fear is also expressed that the impression will go out that the reform will be complete and the work over as soon as all the states have accepted the new plan, and societies have been organized in every county, and especially that the latter will be left to languish and die as soon as the first sentiment which created them subsides. In the light of history, as well as in the very nature of the problems involved, these fears are well grounded and are entitled to the most careful consideration.

PROVISION AGAINST DANGERS.

That the Association fully appreciated all of these dangers in advance, and made every possible provision against them will be readily shown by such a study of the various constitutions and by-laws of the entire system, from the county societies up to the American Medical Association, as every one should give them who desires to take an intelligent part in this work. In fact, it will be found that under the new order of things one of the chief functions of the higher organizations, within their respective spheres, is to organize, maintain and form a bond of union between the county societies. One of their principal uses and powers will be, through the well-devised delegate system, to collect and concentrate the influence

and represent the opinion of a united profession, as developed and expressed in the county societies, on all the great questions relating to the educational and scientific advancement of the profession itself, or for the protection and promotion of the public health interests of the whole people. Through the same system they may be made equally efficient in radiating and diffusing the spirit of scientific investigation, and the generous emulation and mutual respect and forbearance engendered by the contact of the most advanced and liberal members gathered at the annual meetings, back through the system of delegates and organizations to the most remote society. Through such action and reaction of enlightening and ennobling influences, and the systematic supervision provided through the councilors for every county in every state, aided by THE JOURNAL of the Association and the journals or bulletins in each state, sent free to all members, all possible safeguards are made for the permanency and efficiency of these organizations in theory. With such incentives, instruction and machinery, each state association must deal with the problem within its own jurisdiction on the broad yet painstaking lines which will now be considered.

ESSENTIAL FEATURES IN STATE WORK.

While provision is made for councilor district societies and other details which may grow in importance in the future, there are five essential features in the plan on which both the immediate success and the permanency of the work of each state association depends. Named in the order of their importance they are: 1. The county society, as the unit of organization, and the foundation of, and the door to, everything above it. 2. A council, selected from the profession at large, to represent and act for the Association under well-defined restrictions in the interval of the annual meetings, and whose individual members are charged with the organization, supervision and well-being of the county societies within their respective jurisdictions. 3. A house of delegates, composed of a limited number of specially selected representatives from the county societies, as the business body of the association. To it is committed the duty of fostering in every legitimate way the scientific, legislative and material interests of the profession at the annual meetings. 4. The general meeting, made up of all the members of all the county societies who will attend, which can devote its entire time and attention to the reading and discussion of papers, and reports of scientific research and investigation. 5. A card index register for each county, and for the state, showing at a glance the status and antecedents of each physician of the jurisdiction, reputable and disreputable, including his name and address, and furnishing reliable information as a basis for an official medical directory for each state, by counties, and for the United States. To this list there should probably be added a bulletin or journal published under the auspices of the association, and sent free to all members, as a means of constant communication between the county societies, and between them and the councilors and other officials, as well as for the early publication and wide distribution of the transactions.

COUNTY SOCIETIES.

All of these features or departments are so interdependent as to be essential to the complete and permanent organization contemplated, but it will be perceived at once that the county society is made the bed-rock on which the entire superstructure rests; that it is made the chief function of the individual councilors, provided for every district in every state, to see that these are organized for and kept alive to the best interests of the members composing them, and of the profession as a whole, that the influence of every officer and agency in the entire system is focused on and directed to the same end, and that all these are to be continued until every physician of every county in every state, who can be made worthy of it, is brought under the educational and elevating influence of some county medical society. Such an organization of the profession as this is ideal, but is believed to be entirely possible, if this possibility and the necessity for it is once fully appreciated by the controlling influences in each state.

WHY SO DIFFICULT TO MAINTAIN.

For obvious reasons it has always been easy to induce leading men from widely separated sections to attend and keep up the interest in the national, the state, and even in the district medical societies, but the problems to be faced in making the frequent meetings of local or county organizations, composed of those who have, or at least think they have, competing personal and professional interests, sufficiently interesting and harmonious to secure the requisite attendance, month after month and year after year, are far different. In reality all their interests are mutual. In the best and broadest sense what benefits or hurts one benefits or hurts all. To convince them that this is true is the problem now before the profession. It has been done to a degree in a few states, and in some counties in all the states, and after a large experience the writer feels assured that it is possible everywhere. "What men have done other men can do." The difficulties are on the surface and will disappear in the face of a full recognition of their nature, and of a kind but frank and unsparing discussion.

TROUBLES OF LOCAL ORIGIN.

Widespread as are these difficulties, extending from ocean to ocean, and baneful as have been their effects on every interest of the profession, when reduced to the last analysis it will be found that all of them, large and small, in city or country, are directly traceable to rivalry and jealousy between local doctors who are in each other's way or between competing schools in the same city. A clear understanding of the truth of this proposition is essential to the purpose now in hand. Physicians are the most agreeable men in every community except in their relations with their rivals. They are often like Damon and Pythias with those from a distant city or community, while barely on speaking terms with equally good physicians of their own town or neighborhood. As these conditions largely create and emphasize the necessity for universal local organization, and at the same time, paradoxical as it may appear, constitute the chief obstacle to its accomplishment, they are entitled to a detailed consideration not hitherto accorded them.

RESPONSIBILITY OF MEDICAL COLLEGES.

If we will consider the influence these conditions exert continuously on a young man taking up the study of medicine, from his entrance in school up to his graduation, follow him through his early experience as a practitioner, and then make the application general, we fairly epitomize evils as widely prevalent as they are deplorable. Matriculating in one of our average low-grade schools, three, four or five in a city where there is only room or need for one, all probably without endowment, and run as private commercial enterprises, with the fierce struggle for patronage and existence inseparable from such conditions, he is surrounded more or less constantly throughout his college career, the formative period of his professional life, by an atmosphere of exaggeration, misrepresentation and falsehood, as to other schools and teachers, neither worse nor better than his own. Without an hour's training as to the ethics of his profession, or business methods, or even a suggestion as to the duty or value of society membership, our young graduate leaves his alma mater probably conscious that he is none too well qualified for the duties of his high calling, but anxious to learn, and especially craving the practical knowledge which he believes will come with experience, and from association with his professional brethren.

(To be continued.)

Coleman County (Texas) Medical Society.

This society has been organized according to the plan of the American Medical Association. Dr. Newton Long, Santa Anna, was elected president; Dr. Samuel A. Lowrie, Silver Valley, vice-president, and Dr. James G. Pope, Coleman, secretary and treasurer.

Allamakee County (Iowa) Medical Society.

Physicians of Allamakee County met in Lansing, August 4, and formed a county medical society with the following officers: Dr. L. C. Myers, Rossville, president; Dr. E. J. Gable,

New Albin, vice-president, and Dr. John Huecker, Lansing, secretary and treasurer.

Adair-Russell County (Ky.) Medical Society.

Dr. James G. Carpenter, Stanford, Ky., councilor for the Seventh District, has organized this society in accordance with the suggestions of the American Medical Association, with 15 charter members. The following officers were elected: Dr. Uriah L. Taylor, Columbia, president; Dr. William Blair, Glen's Fork, vice-president; Dr. James R. Walford, Montpelier, treasurer; Dr. James S. Rowe, Jamestown, secretary, and Drs. R. D. Havions, Russell Springs, Joel B. Scholl, Jabez, and W. R. Grissom, Columbia, censors.

Barron-Gates-Polk County (Wis.) Medical Society.

At a meeting of the Barron County Medical Society at Barron, August 13, the organization was disbanded and an inter-county society formed embracing the counties of Barron, Gates and Polk, with the following officers: President, Dr. Olaf M. Sattre, Rice Lake; vice-presidents, Drs. Clark C. Post, Barron; W. F. O'Connor, Tony, and Herbert B. Commett, Amery; state delegate, Dr. Gentz Perry, Amery; censors, Drs. Axel Em Hedback, Barron; Charles R. Hudgel, Ladysmith, and Abraham L. Wells, Clear Lake. The new society will be auxiliary to the state and national societies.

Societies.

American Eclectic-Therapeutic Association.—The thirteenth annual meeting will be held at the Hotel Windsor, Atlantic City, N. J., September 22, 23 and 24.

Medical Society of Virginia.—The thirty-fourth annual meeting will be held in Roanoke, September 15, 16 and 17, under the presidency of Dr. John N. Upshur, Richmond.

Russell Springs (Ky.) Medical Society.—At the annual meeting recently held Dr. Joel B. Scholl, Jabez, was elected president; Dr. Lewis F. Hammonds, Dunnville, vice-president, and Dr. L. D. Hammond, Irvine's Store, secretary and treasurer. The next meeting will be held in Columbia, in August, 1904. The feature of the meeting was an address by the president on "Professional Union," as a result of which the Adair-Russell County Medical Society was organized.

American Pharmaceutical Association.—At the fifty-first annual meeting held at Mackinac Island, Mich., August 4, the following officers were elected: President, Lewis C. Hopp, Cleveland; vice-presidents, W. C. Alpers, New York; A. R. Rohring, U. S. M. and P. H. Service, and Dr. Otto F. Claus, St. Louis; treasurer, S. A. Shephard, Boston; general secretary, Charles Casperi, Jr., Baltimore; reporter on the progress of pharmacy, C. Louis Diehl, Louisville, Ky.; council, Leo Eliel, South Bend, Ind.; George F. Payne, Atlanta, Ga.; E. G. Eberle, Dallas, Tex.

BRITISH MEDICAL ASSOCIATION.

The Seventy-first Annual Meeting, held at Swansea, July 28, 1903.

(By Our Special Representative.)

(*Continued from page 512.*)

On Wednesday and Thursday, July 29 and 30, the representative meeting considered the lengthy report of the council, which, as one item, reported the continued prosperity of the association. At the close of 1902, owing to deaths and arrears of subscriptions, the actual membership showed a certain shrinkage, but signs are not lacking to prove that the new constitution will tend to make the association a more powerful factor in the influencing of legislation for the good of the community and the profession at large, so much so that it is hoped the day is not far distant when every qualified practitioner will feel it imperative to seek membership in the association.

The Imperial Vaccination League.

The council, in view of possible legislation, realizes the great importance of guiding public opinion as to the absolute necessity of vaccination and revaccination, as the only means of stamping out the terrible scourge of smallpox, and has therefore voted the sum of $500 toward the funds of the league to further its campaign in this direction.

The Journal.

The *British Medical Journal* has continued to maintain its place among the leading medical journals of the world. The rapid progress of medicine and the more widespread interest yearly taken by members in clinical and scientific questions, making increasing calls on its space, had led the council from time to time to increase the number of pages in the weekly issue, and at the beginning of 1903 some further space was economically obtained by lengthening the columns, thus allowing more matter on each page. Special arrangements have been made also for the immediate publication of preliminary reports from the scientific workers whose researchers are assisted by the association, through its scientific grants committee. Such preliminary reports, while they will not interfere with the subsequent publication of full details in the most appropriate place, present the double advantage of affording an opportunity to the workers of establishing priority of observation, and to the members of the association of becoming promptly acquainted with the results of the latest scientific investigations and of learning the manner in which the money voted for the advancement of science is utilized.

Scientific Grants Committee.

This committee has made certain amendments of the provisions under which scholarships and grants are given. It is felt that in the future scholars should devote the whole of their time to the research work they undertake, and that scholars should not hold in addition any scholarship worth more than $250. Further, it is considered that the work both of scholars and grantees should be subject to periodical inspection, and that applicants for assistance should produce recommendations as to their fitness for undertaking any proposed research.

Special Chloroform Committee.

This committee has held six meetings since its reappointment. Further work has been carried out with the view of ascertaining the best means of estimating chloroform vapor in air, and reports on this subject have been received from Dr. A. D. Waller. The methods of estimating chloroform in liquids—for example, water, blood, etc.—were also tested, and Mr. A. Vernon Harcourt, F.R.S., presented a report on this matter. At the instance of Dr. Waller, Mr. Wells has investigated this subject by means of vacuum experiments.

Various inhalers for giving chloroform have been studied with the view of ascertaining the percentage dose in air of chloroform vapor delivered under known conditions. A report dealing with the purely practical question of the clinical use of such inhalers was presented by Dr. Dudley Buxton. The committee examined the actual use of certain inhalers, and will report on them.

The special chloroform committee was originally appointed in view of the very regrettable number of cases in which chloroform administration terminated fatally. The original terms of reference were as follows: "To investigate methods of quantitatively determining the presence of chloroform in the air and in the living body"; the ultimate object laid before the council of the British Medical Association by Sir Victor Horsley being to determine, if possible, what is the minimal dose of the drug which would secure an adequate anesthesia for operations, and at the same time not endanger life.

The committee is unanimously of the opinion that the effect of chloroform varies in proportion with the amount of chloroform in the mixture of air and chloroform administered, and with the rate and depth of respiration.

As regards individual differences, there is no doubt that different subjects present varying degrees of susceptibility to chloroform, as notoriously occurs in the case of alcohol; but the committee considers that the vague expression, "idiosyncrasy," ought not to be accepted in explanation of a fatal accident if the method of administration involves considerable fluctuations of the quantity of chloroform absorbed per unit of time.

A considerable amount of time has thus been devoted to the question of dosage, and it is believed that quantities of chloroform varying between 0.5 per cent. and 2 per cent. are sufficient for the induction and the maintenance of narcosis. It will be seen from Dr. Dudley Buxton's and Mr. Tyrrell's observations that for ordinary purposes about 1 per cent. of choloroform vapor is sufficient for maintenance of narcosis.

Any apparatus for continuous administration should afford means of quickly and easily augmenting and diminishing the proportion of chloroform in the mixture of chloroform and air inspired.

The committee continued its examination of the quantitative determination of chloroform in liquids. After trying various plans Mr. Harcourt found that the best results were obtained by using a saturated solution of urea in water, and mixing this with an equal volume of the blood, according to a plan suggested by Mr. Ramsden. By employing this method in two cases the blood remained fluid during the heating and more than 90 per cent. of the chloroform was accounted for.

SUMMARY OF INVESTIGATIONS INTO METHODS.

As regards most accurate methods for determination of the amount of chloroform in air and liquids the committee now is in a position to recommend the following as trustworthy:

(*a*) In air. (1) The combustion method by incandescent wire (Vernon Harcourt's method). (2) Combustion by magnesia or lime.

The committee also further considered the employment of Dr. Waller's oil absorption method and the determination of chloroform in air by the estimation of the density of the mixture.

(*b*) In liquids. Displacement of the chloroform from the liquid by heating it for several hours while air bubbles through and subsequent estimation of the chloroform vapor thus given off.

PROPOSED FURTHER INVESTIGATIONS.

The committee has postponed the estimation of chloroform in the solid tissues and to continue its endeavor to obtain an apparatus which shall deliver a known percentage of chloroform vapor. Further, the committee hopes to determine during the coming year the physiologic effects of the lower percentages.

Finally, by the same plan of research, it may be expected that the important question of accumulation or non-accumulation of chloroform in the tissues during constant chloroform absorption which is under investigation will receive elucidation.

Report of Committee on the Vaccination Acts.

The vaccination committee recommended the following:

1. That revaccination be made compulsory by law, and that it be performed between the ages of 10 and 13 years.
2. That both primary vaccination and revaccination be subject to the same provisions for conscientious objection as in the present vaccination act, but that the procedure for exemption should be more strictly defined in any future legislation.
3. That the vaccination act should be administered directly by a department of the local government board.
4. That in future vaccination legislation no certificate of successful vaccination should be accepted unless it contains a statement as to the number and area of the vesicles produced.
5. That all lymph shall be supplied by government, or by private establishments under government supervision and guarantee.
6. That every private practitioner furnishing vaccination authority with certificates of successful and efficient vaccination, satisfying a standard fixed by the local government board, should receive a suitable fee for each such certificate.

The question of vaccination and revaccination, as well as a compulsory act relating thereto, elicited considerable vigorous discussion in the representative meeting, the matter being finally referred back to the council.

We present herewith abstracts of some of the more important papers read before the various sections of the association.

In the surgical section an interesting paper was presented by Mr. G. H. Makins, London, entitled:

Practical Experience Regarding the Most Satisfactory Methods of Performing Intra-Abdominal Anastomosis.

The following is from the author's abstract of his paper:

A.—WHICH VARIETY OF ANASTOMOSIS IS THE SAFER AND TO BE GENERALLY PREFERRED?

(*a*) Axial (or end-to-end). Gives ideal result both from physiological or cosmetic point of view—one line of suture only with corresponding limitation of area of possible leakage nutrition—cicatricial contraction—diaphragm formation.

(*b*) Lateral anastomosis. Natural method—plane peritoneal surface obtainable: size of communication at the command of surgeon: no danger of diaphragm formation; may be made remote from field of operation.

Three lines of suture needed: risk of leakage from closed ends.

(*c*) Lateral implantation. No risk of diaphragm; two lines of suture only; iso-peristalsis assured.

RESULTS OF AXIAL AND LATERAL UNION RESPECTIVELY.

Axial. St. Thomas' statistics for all causes, 53 per cent. mortality. Littlewood, eleven enterectomies for carcinoma of large bowel, 27.27 per cent. mortality. One stitch failure in eleven.

Von Eiselsberg twelve resections for intussusception followed by axial ileo-colostomy, 25 per cent. mortality.

Lateral safer than axial; more suitable for large intestine; reasons. St. Thomas' recent statistics, 30.7 per cent. mortality.

Schloffer ileo-colostomy, ten cases, mortality 30 per cent. Ileo-colostomy with resection, eighteen cases, with 44 per cent. mortality. Roskoschny, thirty-four short circuit operations, 20.5 per cent. mortality. St. Thomas' resections for carcinoma of large bowel, twenty; axial, twelve, with 50 per cent. mortality and five fecal fistulæ; eight lateral unions, with 25 per cent. mortality. Fuchsig sixteen lateral anastomoses, with 37.5 per cent. mortality; twenty-four axial unions, with 54.16 per cent. mortality.

Gastro-enterostomy general mortality from all causes does not exceed 30 to 40 per cent., and stitch failures much fewer; thus, Schloffer, seventy cases, with no stitch failure; St. Thomas', forty-two cases, with two stitch failures; Mayo Robson, one hundred and three cases, with no stitch failure.

B.—GENERAL CONSIDERATION, AFFECTING ANY METHOD OF OPERATION.

Preliminary preparation; treatment of peritoneal cavity; temporary treatment of opened bowel, with the object of preventing infection; clamps; omental grafts; drainage; after-treatment.

C.—WHAT METHOD OF UNION SHOULD BE CHOSEN?

Requirements of any method of suture. Security; even coaptation of a sufficient peritoneal surface; rapidity in application; avoidance of the production of a diaphragm; protection as far as possible of the structures of the bowel wall itself from infection; the avoidance of any complete perforation of the bowel wall.

(*a*) Suture aided by some means of mechanical support. Mayo Robson's bobbin taken as a type.

(*b*) Coaptation by mechanical devices. Murphy's button taken as a type; advantages; objections to method. Results obtained by Dr. Murphy, 863 operations, with 261 deaths, a mortality of 30.24 per cent.

The author quoted a mass of statistics on all his points.

Vaccination Acts and Smallpox Prevention.

In the section on state medicine the chairman, Dr. John McVail, Glasgow, in his address discussed this subject. He pointed out that medical men had no final responsibility for the action or inaction of the government. Physicians have much less occasion than the public to worry over parliamentary delay in the prevention of smallpox. To medical men the value of vaccination was not a matter of opinion, but of knowledge. He urged that when smallpox threatened the country the local government board should have power to issue special regulations. A matter of great importance was that of the spread of disease by tramps, and it was a question whether in the case of tramps compulsory vaccination should not be made absolute, but at any rate if any regulations were enforced they should be applicable to all tramps in the suspected area, and should not merely apply to "contact" cases. The speaker expressed the view that it was quite possible that the legislature would refuse to exclude vagrants from the operation of the exemption clause. In such a case the only suggested alternative was that tramps should be compulsorily detained. He pleaded that the amplest powers of inspection should be allowed in regard to places infected by tramps, and also of tramps themselves. This, it might be urged, would be an interference with the liberty of the subject, but it would also be most useful in the detection of smallpox. The speaker urged that in cases of outbreak local sanitary authorities should have the fullest powers; at the same time they must not forget that the object of legislation was not to punish antivaccinators, but to promote vaccination. In conclusion he urged the importance of revaccination, and stated that the opponents of vaccination had been allowed to do far too much, while the solid body of opinion in the country that favored vaccination had done far too little.

DISCUSSION.

Dr. Drysdale urged that medical men should do more to inculcate the doctrine that vaccination did prevent smallpox, and also that revaccination was undoubtedly necessary. In support of the latter the speaker pointed to Germany, where epidemics of smallpox were unknown—an immunity which

was due to the fact that children were vaccinated in infancy and again before attaining the age of twelve. The speaker expressed the view that it would be a great advantage if such a custom became habitual in Great Britain.

DR. MOLE, Gower, said he thought the medical profession were agreed that four vaccination marks were more effective than a smaller number. Some mothers considered such a number too severe, and instead of going to a public vaccinator took their children to a private practitioner, who made one mark and perhaps charged one shilling for it. The speaker expressed the opinion that every private practitioner should be supplied with lymph free in the same way as public vaccinators.

DR. T. GARRETT HORDER, Cardiff, urged that the powers now possessed by the boards of guardians should be transferred to the sanitary authorities. If this was done he felt convinced that it would tend to the juvenile population being more effectively protected against the ravages of smallpox. Everyone was aware that a large number of people escaped vaccination, and it was only in the event of an outbreak that these children were discovered. During the year 1901 5,206 births were registered in the borough of Cardiff, of which 503 children died unvaccinated, while of the remainder 3,597, or 76.1 per cent., were successfully vaccinated; 69 certificates of conscientious objections were granted, equal to 1.4 per cent. of births, and 933, or 19.7, were unaccounted for. Referring to the relation of the public vaccination officer to the private practitioner, he would like to point out that the public vaccinators had nothing to do with the framing either of the act or the local government board regulations. For his own part he had always advocated the system of making public vaccinators officials whose sole duty would be to look after the vaccination of the infants residing in the districts to which they are appointed. The speaker strongly urged that all children should be operated on before leaving school. The best and surest way of discovering unvaccinated children was to visit all schools periodically, and have the children's arms inspected. If after several visits it was found that a considerable number were not vaccinated a law should be made providing that no child should be admitted into an elementary school who had not been vaccinated. Any parent who refused to have his child vaccinated or to obtain a certificate of exemption ought to be prosecuted. In conclusion Dr. Horder hinted that private practitioners were apt sometimes to keep their lymph too long a time before making use of it.

DR. JONES MORRIS, Portmadoc, gave some interesting facts regarding his experiences as a public vaccinator in North Wales, and complained of the way in which public vaccinators were often treated by the guardians. In his view, there was no need for the general practitioner to feel envious of the public vaccinator.

DR. EBENEZER DAVIES, Swansea, referred to the recent smallpox outbreak in Swansea. There were some 200 cases, 33 of which proved fatal. They had not much difficulty in the town in regard to active opposition to revaccination, but during the outbreak they had a good deal of difficulty with regard to "contacts," concerning which they could not very well complain. The outbreak emphasized the need of revaccination of persons before they reached the wage-earning age. When they asked the "contacts" to be revaccinated they complained that they could not afford to risk being incapacitated from work by a bad arm. In conclusion the speaker stated that they had 14,000 people revaccinated in Swansea during the outbreak, and not one of these took the disease.

DR. MORRIS, Neath, said he should like to see taken up the question of prevention of smallpox in connection with tramps and common lodging-houses. He thought that the time had come when the government should take more active measures in dealing with the tramp nuisance. They ought to have tramps under a system of passports.

REVACCINATION RESOLUTION.

Ultimately two resolutions were passed. The first, proposed by the chairman, pressed on the council the importance of bringing before members of parliament throughout the country, by means of local deputations and representations, the necessity of further legislation for vaccination and revaccination. The second resolution, proposed by Dr. Drysdale, was as follows:

Considering that of late years there have occurred, in several cities of the United Kingdom, several epidemics of smallpox, while in Germany, since 1875, such epidemics have been unheard of on account of the fact that infants are vaccinated and that children are revaccinated before their twelfth year, this meeting is of opinion that all children should be vaccinated in infancy and revaccinated at the age of 10 or 12.

(*To be continued.*)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Alkalies in Atony of the Stomach.

In this department, August 5, page 387, an outline of the treatment of hyperchlorhydria is quoted from A. A. Jones. We state: "He advises against the administration of alkalies before meals unless there is co-existing atony." A correspondent asks: "Suppose there is atony, what would be the good effects obtained by giving alkalies before meals?" We think our correspondent misconstrues Dr. Jones. We infer that Dr. Jones means simply that if atony exists, alkalies will do less or no harm. We do not understand that Dr. Jones advises alkalies even in atonic cases.

Hemorrhoids.

Preissman, in *Rev. Francaise de Med. et de Chir.*, recommends the following combination containing potassium iodid, glycerin and iodin in the treatment of hemorrhoids:

℞.	Pot. iodidi	gr. xxx	2 |
	Iodi (pure)	gr. iii	|20
	Glycerini	ʒi	30 |

M. Ft. solutio. Sig.: Thoroughly cleanse the parts and apply locally on absorbent cotton. The solution in some cases is applied in greater strength as follows:

℞.	Potass. iodidi	gr. lxxv	5 |
	Iodi (pure)	gr. xv-ʒss	1.-2 |
	Glycerini	ʒi	30 |

M. Sig.: Apply locally.

Acute X-Ray Burns.

Burns produced by the *x*-ray are becoming more and more a grave subject for consideration, as the numbers increase, both on account of the severity of the burns in some cases and the stubbornness to treatment even in the mild cases. Even those who have become most familiar with the *x*-ray have sustained such severe burns as to disfigure them for life.

M. F. Engman, in *Inter-State Med Jour.*, has had occasion to treat several cases of this character, all of which were of the second degree or milder. Infection and ulceration were not present, the chief indications for treatment being the severe itching, to assist repair and to keep the surface aseptic. The following combination was used by him as a dressing, which seemed to be admirably suited to the cases:

℞.	Acidi borici	ʒiss	45 |
	Zinci oxidi		|
	Amyli		|
	Bismuthi subnit.		|
	Olei olivæ, āā	ʒi	30 |
	Aquæ calcis		|
	Lanolini, āā	ʒiii	90 |
	Aquæ rosæ	ʒiss	45 |

M. Sig.: Apply locally to the affected areas on gauze.

The powder should be rubbed up in a mortar with the lanolin. The olive oil and lime water are well mixed and slowly added to the bismuth and lanolin mixture. The rose water should be added last and a creamy paste is the result. One or 2 per cent. of carbolic acid may be added if the pruritus is excessive.

It should be applied on several thicknesses of gauze over which a sheet of gutta percha is placed to prevent evaporation. This paste is cooling to the parts on account of the amount of water present.

Round Worms (Ascarides).

The following outline of treatment is recommended by Pollard in *Med. Record* in the removal of round worms:

℞. Olei chenop. anthel. 3i 4
Ext. spigeliæ et sennæ flu. ....℥ss 15
Santonini ....gr. viii 50
Pulv. acaciæ 3i 4
Syr. rhei arom. ....℥i 30

M. Sig.: Shake and take one teaspoonful an hour before each meal. After the last dose the following should be taken:

℞. Olei terebinthinæ ....gtt. x 65
Olei ricini ....℥ss 15

M. Sig.: To be taken at one dose.

To children four or five years of age the following combinations are of service in the removal of round worms:

℞. Ext. spigeliæ flu.
Ext. sennæ flu.
Syr. simplicis, āā....℥ss 15

M. Sig.: One teaspoonful night and morning; or:

℞. Ext. spigeliæ flu. ....℥ss 15
Santonini ....gr. v 30
Ext. sennæ flu. ....℥ss 15

M. Sig.: One teaspoonful twice a day; or:

Hydrarg. chloridi mitis ....gr. iss 09
Santonini ....gr. ii 12
Sacchari lactis....gr. xv 1

M. Ft. chartula. Sig.: To be given in honey, at one dose to a child three years old or over.

The following combination is sometimes recommended in the form of an enema in the treatment of ascarides:

℞. Olei cajuputi ....m. xx 1 30
Magnesiæ levis....gr. x 65
Mucilaginis 3iv 15

M. Sig.: At one dose in the form of an enema; or:

℞. Liquoris calcis ....℥iv 120
Decoct. altheæ ....℥i 30

M. Sig.: As an enema.

Dipsomania.

The following combination is recommended by Mann in *Med. Record* in the treatment of dipsomania:

℞. Quininæ sulph.
Zinci oxidi, āā....gr. ii 12
Strych. sulph. ....gr. 1/40 0015
Acidi arsenosi ....gr. 1/100 0006
Pulv. capsici ....gr. ii 12

M. Ft. pilula No. i. Sig.: One such pill three times a day.

Copper Arsenite in Enteric Diseases.

Haslam, according to an abstract in *St. Louis Courier of Med.*, ascribes beneficial qualities to the arsenite of copper in diseases of the intestinal tract. He recommends it in typhoid fever, giving it in doses of gr. 1/100 (.0006) every hour. He believes, by the administration of this preparation, that the tongue and mouth show improvement, and that the disease is shortened a few days.

In the ordinary diarrheas he advises the following combination:

℞. Cup. arseniti ....gr. 1/100 0006
Acidi tannici ....gr. 1/20 003
Pulv. opii ....gr. 1/40 0015
Pulv. camphoræ 1/40 0015
Pulv. cretæ comp. ....gr. i 06

M. Ft. capsula No. i. Sig.: One such every three or four hours.

Painful Menstruation.

W. L. Downing, in *Med. Fortnightly*, dwells at length on the pathology and symptoms of disturbed and painful menstruation. Dysmenorrhea, according to the author, may be due either to a neuralgia of the uterus or ovaries, or may be brought about by some mechanical obstruction due to flexion or version of the uterus.

In the neuralgic variety due to uterine irritability cimicifuga is said to produce the most excellent results and to give speedy relief, given as follows:

℞. Tincturæ cimicifugæ ....℥i 30

Sig.: Ten to thirty drops in hot water every hour until relieved; then every three or four hours.

If the pain is due to ovarian irritability pulsatilla is recommended, given in five-drop doses, in hot water, every hour until relieved. These preparations may be begun one or two days previous to the usual time for menstruation.

If mechanical obstruction is the cause due to pathologic changes, preparations must be used, which are anodyne, sedative and antispasmodic in character. In these cases he recommends viburnum prunifolium given in hot water before meals, a few days previous to the attack and administered as often as every hour during the attack. This preparation should be continued three times a day for several weeks.

The bowels must be well regulated by the aid of saline laxatives or a combination of podophyllin and leptandrin, of each gr. 1/4 (.015), is recommended.

Glycerin vaginal tampons applied twice or three times a week are of value in relieving the pelvic congestion and giving comfort to the patient.

A combination containing 10 to 20 per cent. of ichthyol in glycerin is of even greater service applied locally on tampon. He also emphasizes the importance of the vaginal douche in relieving the soreness and tenderness due to cervical ulceration, endometritis, metritis, ovaritis, etc. Two or three gallons of water as hot as can be borne by the patient should be used at night and continued for a considerable length of time. Cervical dilatation must be resorted to, previous to menstruation if narrowing of the internal os be present, and flexions corrected, if possible, when present as a causative factor, by proper supports. If polypi block up the outlet from the uterus, dilatation must be carried out and the polypus snared off.

Furuncle.

The employment of a solution of iodin in acetone is recommended by Gallois and Courcon in *Bul. Gen. de Ther.*, in the abortive treatment of furuncles. Acetone, it is said, will hold three or four times as much iodin in solution as will alcohol, and consequently is more effective. The following combination is used:

℞. Iodi (metallic) 3i 4
Acetone 3iiss 10

M. Ft. solutio. Sig.: Paint the affected area once or twice daily.

In many cases, it is asserted, boils may be aborted by applying the solution early.

Empyroform in Diseases of the Skin.

This preparation, which is a combination of tar and formaldehyd has been used successfully by Neisser, according to the *Ther. de Gegenwart*, in the treatment of the different forms of eczema. It may be used in the form of a paste in five, ten, twenty or fifty per cent. strength combined with zinc or lanolin. The following formula has also been recommended:

℞. Empyroform ....℥ss 15
Talci venet.
Glycerini
Aqua destil.
Spts. vini, āā....3iiss 10

M. Sig.: Shake well and apply locally to the affected parts.

In the form of a tincture, it may be used as follows:

℞. Empyroform 3i-iiss 4.-10
Spts. chloroformi
Tinct. benzoini, āā....℥iss 45

M. Sig.: To be painted over the affected areas.

This preparation is said to possess advantages over the ordinary tar preparations in that it is very grateful to the patient, no irritative symptoms arise, no systemic symptoms of intoxication are present. It is a powerful antipruritic and is odorless. The advantages of this new combination over the ordinary tar preparations are supposed to be due in a great measure to the formaldehyd present.

Medicolegal.

Care Required in Removal of Pauper in Distress.—The Supreme Judicial Court of Maine holds, in the case of Merrill vs. Bassett, that the care to be used in removing a person in distress from one town to another under the pauper law is that care and prudence which a reasonably careful and prudent man would exercise under the circumstances of a like situation. The test by which to determine whether due care and prudence have been exercised by one charged with the duty of removal of a person in distress from one town to another, in ascertaining the ability of the pauper to bear the strain of the journey, is the means employed and effort made to find out, rather than the actual physical condition itself. A day affording proper weather conditions should be selected; the pauper should be furnished with suitable garments to protect her, considering as well her physical condition as also the state of the weather; and suitable conveyance, in a careful and prudent manner, should be provided.

Liability of Railroad in Association for Services.—The Supreme Court of Florida, Division B, holds, in Florida Southern Railroad Company vs. Steen, that, where railroad companies owning and operating their several roads enter into a voluntary association, and a hospital and relief department is formed by the association for the several companies, and such department is operated in connection with the business of each company—employes of each company being required to be members of such department, and to contribute regularly to such department sums deducted from their wages by the company for the privilege of such membership—one of such companies is responsible for the compensation of a physician employed by its employes, in pursuance of the regulations of the department, to treat another employe injured by an explosion in the shops of such company. But a physician employed, in pursuance of the authority conferred by the regulations of the relief and hospital department of a railroad company, to treat an injured employe in an emergency, where the company's surgeon could not be reached, who was employed for no definite period of time, can not recover for services rendered after being notified that his services were no longer needed, as the hospital surgeons were then ready to take charge of the case and properly treat the patient in the company's hospital.

Admissibility of Non-Expert Opinions On Sanity.—In Queenan vs. Territory of Oklahoma, where a non-expert witness, a lawyer who knew the prisoner, charged with murder, quite well, it was ruled, could not state an opinion formed after the killing as to his mental condition at that time, but might state any condition that existed when he saw the prisoner on the day before the killing or any impression that it made on his mind as to the prisoner's condition, the Supreme Court of the United States says that some states exclude such opinions, even when formed at the time. But it is impossible for a witness to reproduce all the minute details which he saw and heard, and most witnesses make but a meager and halting effort. Therefore, in this, as in many other instances, after stating such particulars as he can remember—generally only the more striking facts—an ordinary witness is permitted to sum up the total remembered and unremembered impressions of the senses by stating the opinion which they produced. To allow less may deprive a party of important and valuable evidence that can be got at in no other way. But, on the other hand, to allow more, to let a witness who is not an expert state an opinion on sanity which he has formed after the event, when a case has arisen and become a matter of public discussion, must be justified, if at all, on other grounds. It is unnecessary to lay down the rule that it never can be done, for instance, when the opinion clearly appears to sum up a series of impressions received at different times. It is enough to say that, at least, it should be done with caution and not without special reasons.

Employment by County Physician of Other Physician.—Article 4339 of the Revised Statutes of Texas of 1895 makes it the duty of a county physician to establish, maintain and enforce local quarantine for his county whenever declared by proclamation of the commissioners' court; to furnish supplies, select medical assistants, guards and perform all other duties coincident to a reasonable, economic and consistent quarantine. Article 4340 provides that whenever the commissioners' court of any county has reason to believe that they are threatened with the introduction or dissemination of a dangerous, contagious or infectious disease that can and shall be guarded against by quarantine, they may direct their county physician to declare and maintain said quarantine; to establish, maintain and supply stations or camps for those held in quarantine; to provide hospitals, tents or pest-houses for those sick of contagious and infectious disease; to furnish provisions, medicine and all other things absolutely essential for the comfort of the well and the convalescence of the sick. The county physician shall keep an itemized account of all lawful expenses incurred by local quarantine and his county shall assume and pay them as other claims against the county are paid. But, in the case of Barrett vs. Hill County, an action brought by a physician to recover for services rendered to certain smallpox patients under an alleged employment for the purpose by the county physician, the Court of Civil Appeals of Texas holds that the county physician had no authority to make a contract binding on the county, unless the commissioners' court had declared quarantine. It says that the articles mentioned clearly indicate the purpose not to authorize the county physician to incur liability on behalf of the county in such cases except when quarantine has been declared by the commissioners' court. This limitation on his authority was doubtless prompted by a desire to guard the county against extravagance in these epidemics, which, at best, are expensive enough; and to place all expenditures under the supervision of the commissioners' court.

Classification of Physicians—Right to Practice.—District Judge Bryant, delivering the opinion of the United States Circuit Court in the case of August Busch & Co. vs. Webb and others, says that the question to be determined was, can a state take away from a physician his right to practice his profession because he has some other business than that of medicine? He says that he recognizes the right of the legislature to classify physicians, provided the classification is based on sound public policy, and is a reasonable classification. To illustrate: It would be competent for the legislature to say that no physician who has been convicted of a crime should be allowed to practice his profession, or to pass any other reasonable regulation, although, apparently, it might discriminate against persons in the same class or profession. But the judge says that he apprehends that, wherever such classification is made it must be made on the ground of public policy, and for a reason that would attach to the party thus excluded either moral turpitude or incompetency. Where such classification is attempted, and for such reasons, the court will uphold it. But is it true that the legislature can arbitrarily deprive any citizen of his right to pursue his chosen profession, and to its fullest extent, where the discrimination is made solely because he is engaged in some other lawful business which in no wise attaches to him unfitness to practice his profession or moral turpitude? The physician's calling is one that requires long preparation and scientific information not possessed by people generally, entailing on him much expense and years of close study to qualify himself to properly perform his duties as a physician. His calling is of that nature, being one of confidence. He obtains the secrets of his patients as to physical ailments, of whatever character they may be, and therefore the legislature has the power, on grounds of public policy, to guard strenuously the individuals that are allowed to practice medicine, and they have the right to classify and discriminate for good cause, but that does not carry with it the power of arbitrarily discriminating against any member of the medical profession, unless, as so often stated, it is for incompetency or moral turpitude, which public policy requires should be enforced. Here, there was a graduate of a medical school, whose

main business was that of postmaster, though he still practiced his profession as a physician, who averred that in such practice, in some cases, it was necessary that his patients should be supplied with alcoholic stimulants. And as applied to these facts, the court holds unconstitutional and void that portion of the local option law, Article 3385 of the Revised Statutes of Texas of 1895, which reads: "Provided, that a physician who does not follow the profession of medicine as his principal and usual calling shall not be authorized to give the prescription provided for in this article."

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

August 13.

1 *The Present Status of the Surgery of the Prostate Gland. Paul Thorndike.
2 *Preliminary Report of Five Cases of Renal Decapsulation. J. Bapst Blake.
3 *Rupture of the Quadriceps Extensor Femoris Muscle. Halbert G. Stetson.
4 Report of a Case of Aphasia as a Complication of Measles. Warren R. Gilman.

1. **Surgery of the Prostate.**—Thorndike reviews the operations and concludes that no patient should be allowed to suffer for lack of proper treatment. If there is still a place for the catheter many patients can be made comfortable and kept so by its systematic proper use. But all who can not be thus relieved are fit subjects for operation. The time for operation is as soon as the inadequacy of palliative treatment is shown. The operation of choice is always prostatectomy, but only in persons whose general condition make them fit surgical risks. That is rare after 65 years of age. For all others the Bottini operation can be offered as one attended with little risk to life, short convalescence and a good prospect of such a degree of improvement as will obviate the further use of the catheter.

2. **Renal Decapsulation.**—Five cases operated on by Edebohls' method are reported by Blake, who describes his technic and the method of operating. Two of the cases are practically well, though only some months have elapsed since the operation. Two died respectively in six days and six months after the operation, the latter from tuberculosis of the kidney and general tuberculosis, the former from shock and failure to recover from the operation, for which he was in bad shape. One patient has apparently not improved. In the two cases that are apparently cured, traces of albumin and casts are still found. He thinks if the patients would abstain from alcohol entirely it might be followed by the disappearance of albumin and casts in the urine. In other respects they feel as well as ever, and are following their usual occupations.

3. **Rupture of the Quadriceps Extensor Femoris Muscle.**—This accident is considered rare by Stetson, but still it is likely to occur. He thinks the diagnosis should not be difficult if seen early. If rupture is only partial the tendency is toward recovery under mechanical treatment. If complete the operative method would seem to be preferable, other things being equal. The operation consists in cutting down on the separated ends and uniting them either with silkworm gut, kangaroo tendon or silver wire. If the rupture is too close to the patella for suturing the tendon, the upper portion of the tendon should be sutured to the bone itself. He quotes Walker's conclusions that where the joint is apparently not opened and there is not much effusion and the separated ends can be brought together, mechanical means may be favorably considered and ought to bring about a recovery in most cases in from nine to twelve months. Aseptic surgery in suitable cases, however, considering the age and vitality of the patient, may produce better results. Where the separation is greater than one and one-half inches or mechanical treatment has failed, operation is indicated. The element of time in the operative method is an important consideration. A case is reported.

American Medicine, Philadelphia.

August 15.

5 *Rubella. Frederick H. Dillingham.
6 *Enteroptosis: Its Etiology, Symptomatology, Treatment and Prognosis. (To be continued.) Thomas R. Brown.
7 A New Cholera Vaccine and Its Method of Preparation. Richard P. Strong.
8 *What is Epilepsy? J. W. Wherry.
9 *Treatment of Tetanus by Means of Subcutaneous Injections of Carbolic Acid—Baccelli's Method—with a Review of Seventy-five Cases from the Literature. Douglas Symmers.
10 Congenital Cystic Kidney. Walter E. Toble.

5. **Rubella.**—Dillingham's paper is largely a discussion of the diagnosis of rubella, which he says is sometimes very difficult as regards measles, though not so much so with other diseases.

6. **Enteroptosis.**—Brown gives the history of the subject, the anatomic conditions and the literature as regards theories. He specially notices Keith's contribution in the *Lancet* of March 7 and 14, 1903, and his idea of the relation of enteroptosis to the respiratory function. He roughly classes the theories into three groups, as follows:

1. The condition is congenital and is due to an inherent weakness of the tissues which support the abdominal viscera; such factors as clothing, trauma, disease, etc., are not the primary causes of the condition, but simply contributory causes, which bring out and accentuate the inherited tendency; 2, the condition is due to the pressure of clothing, trauma, weakness of abdominal walls, various diseases associated with marked loss of strength or weight, various spinal and thoracic diseases, pregnancy, and parturition, abdominal tumors of various kinds; in other words, a number of conditions, each of which, however, has as its results the weakening of the various visceral supports, due in some cases to pressure, in other cases to adhesions, in other cases to trauma, and in still other cases to a marked diminution in the supporting power of the abdominal walls; 3, that each of the foregoing may be the primary causes of the condition; in other words, that there is both an acquired and a congenital form of enteroptosis. A careful consideration of the various theories evolved and of the cases of enteroptosis described in the literature and met in our own experience should, I think, make us take this third view. As to the exact way in which the ptosis is produced there are a number of possibilities, but the suggestions of Keith in this connection—that is, that the diaphragm is the most important factor in the production of this condition—should receive most careful consideration.

8. **Epilepsy.**—Wherry remarks that epilepsy is a condition of autointoxication spasm resulting in autoasphyxia. It is the result of a vasomotor spasm causing asphyxia of the brain, and so far as the symptom of epilepsy is concerned, is the same as convulsions occurring in asphyxia from other causes, as in hanging. He says epilepsy is a state of autoasphyxiation from a condition of physiologic strangulation or suffocation, except that the cause manifests itself through obstruction to circulation rather than to respiration. The ultimate effect in both cases is depriving the brain of oxygen. He calls this the explanation of epilepsy shorn of all mystery.

9. **Tetanus.**—Baccelli's method of the treatment of tetanus by subcutaneous injections of carbolic acid is taken up by Symmers, who gives to a large extent the history of the treatment of this disorder by this method, reviewing 75 cases. He says that in all suspicious cases and wherever the bacillus of tetanus is known to exist, the areas should be excised or the extremity amputated; if this is impracticable the wound should be cleansed of all foreign substances and saturated with oxygen by means of hydrogen dioxid or the injection of pure oxygen gas; following which it should be flushed with boric acid or saline solution, followed in turn by potassium permanganate or a 5 per cent. solution of iodin trichlorid. No matter what local treatment is employed, if the wound affects an extremity, care should be used in applying permanent carbolic dressings lest gangrene develop. In establishing drainage moist iodin gauze should be employed whenever expedient. Impermeable dressings, dusting powders and caustics should never be used and such wounds should never be incised. A subcutaneous injection of antitetanus serum should be given in every case where development of tetanus is more than a remote possibility. The use of blank cartridges, firecrackers and similar creations should be more stringently regulated. In addition to the general management of the case, the patient should receive subcutaneous injections of carbolic acid along the tracks of the great nerve trunks, the injections being commenced as soon as the diagnosis is made. The body should be further fortified by the administration of the acid by the

mouth or rectum, or both, and it should be pushed to the utmost physiologic limit. Antitetanic serum should be combined with carbolic acid, and if possible given according to the method of Jacob: 5 or 10 c.c. of cerebrospinal fluid is withdrawn by a hollow needle cautiously inserted into the subarachnoid space between the second and third lumbar vertebræ, following which 5 c.c. of antitetanic serum is allowed to flow slowly in under very gentle pressure. The foot of the bed is then elevated and allowed to remain so for at least half an hour. If this can not be done the serum should be administered subcutaneously frequently and in full dose, choosing the track of the great nerve trunks after inserting the needle near or even into the sheath of one or both of the sciatic nerves, keeping the patient under chloroform so that pressure or stretching of the sheath may not increase the number of convulsions or the degree of pain. Intracerebral and subdural paths are valuable only in certain cases and no more certain than the methods described. Intravenous injection is the least rational of all because the antitoxin going directly into the right heart becomes aërated as it passes through the lesser circulation and is deprived of some of its potency. This objection has been applied to subcutaneous injections, but is still more decided as regards the intravenous method. Lastly, that absolute quiet be maintained and the use of carbolic acid, antitetanic serum and the nervous sedatives be continued for several days after the complete subsidence of spasm.

Medical News, New York.

August 15.

11 *A Review of Some of the Recent Literature of the Etiology, Pathology and Prophylaxis of Hydrophobia. Fielding L. Taylor.
12 *Hydrophobia: Symptoms and Diagnosis. William Broaddus Pritchard.
13 *Rabies. H. D. Gill.
14 *Best Methods to Prevent Hydrophobia. Follen Cabot.
15 Adenoids in Relation to Audition and Cerebration. James F. McCaw.
16 *Chronic Leg Ulcers. F. Ward Langstroth.
17 *Some Phases of Cranial Surgery. Gilbert G. Cottam.

11, 12, 13 and 14. **Hydrophobia.**—Taylor gives the general facts as to the etiology, pathology and prophylaxis of this disorder. He notices the pathologic lesions described by Van Gehuchten and Nélis and the advantages of the test. The importance of muzzling dogs and the use of early cauterization are insisted on, and prophylactic inoculations by the Pasteur method and their good results described. He thinks that the Tizzoni and Centanni or the Italian method of serumtherapy promises much.

Pritchard dwells particularly on the hysterical form of hydrophobia and its diagnosis from the genuine type of rabies, and points out the conditions which are more or less constant. The pseudorabies inoculation period is apt to be much shorter or longer than the true disease. Symptoms developing within a day or two after a bite are almost certainly hysterical. The order of sequence is sometimes different. There is no first or second stage, and the patients develop at once the convulsive symptoms and are apt to bark and snap, which is not the case with the genuine form. If the symptoms in any case last over seven or ten days it is almost conclusive of the non-existence of the genuine disease. It should be remembered that the pseudo-form has been fatal. Other conditions that may simulate the disorder are tetanus, though the diagnosis is generally easy, and certain cases of insanity.

Gill describes the symptoms of the furious and dumb forms. He thinks the present regulations are inefficient as regards the prevention of this disease, and criticises the Society for the Prevention of Cruelty to Animals for its practices, especially the gathering of dogs in a covered wagon to fight and bite each other, which may tend to directly spread the disease. He advocates the destruction of worthless, ownerless and vagrant dogs, and the efficient muzzling of all dogs that run in the streets and public places. The results which have been obtained by muzzling justify its enforcement. He gives the examples of England and Prussia as regards this point, and concludes with the following:

For absolute public safety the following measures are suggested: 1. To place the city dog handling under proper medical or veterinary jurisdiction; 2, to prohibit all dogs from running at large unless muzzled or, at least, muzzle all dogs in infected areas; 3, to provide separate compartments in the wagon and at the pound for each dog; 4, to provide safe and proper places for the keeping of dogs suspected of having rabies, especially if they have bitten other dogs or a person; 5, every dog bitten by a rabid animal should be destroyed, or quarantined for at least one year.

Cabot thinks that strict regulations are necessary, and it is an error to suppose that the furious type is the common one. The usual one is the dumb type, the bite of which is equally dangerous. The micro-organisms of rabies, he thinks, are fermentative in character, lying localized for at least twenty-four hours, and then infecting the system by way of the nerves and not directly by the blood. The extent of the wound is of much less importance than its position and after-treatment; a scratch may convey the infection. In the case of wounds about the face and exposed parts an anesthetic should be used if necessary and the wound scrubbed out with a brush and green soap, followed by bichlorid of mercury, 1 in 1,000, as if for an operation. Then fuming nitric acid should be carefully applied by means of a pointed glass rod and the wound dressed surgically. If no general anesthetic has been given he usually uses cocain first after scrubbing, then pure carbolic acid followed by fuming nitric acid. This should be done as early as possible, but he has found by careful experiments on guinea-pigs that it is of value even after twenty-four hours. If we can not obtain nitric acid, the actual cautery is the next best. Nitrate of silver is a very poor caustic, and should not be used. Simple scrubbing and cleansing out the wound with soap and water had some effect, saving 31 per cent. of his infected guinea-pigs. Treatment begun even after forty-eight hours is of some value, and when done within twenty-four hours, and properly, he believes it to be of more value than the Pasteur method. The dog in all cases should be kept alive and watched for a week, and if it remains well then there is no danger. If it dies, the brain should be preserved for examination and inoculation tests made. He does not describe the Pasteur method, but shows that the preliminary treatment of the wound also is to be taken into consideration when deciding on the number of Pasteur injections. He says, in conclusion, that if the disease develops do not give up hope, as one case has been known to recover. This was reported by Gowers, and Cabot considers it possible.

16. **Leg Ulcers.**—The treatment of these ulcers, most frequently due to varicose veins, are described by Langstroth. He gives a few simple rules to follow: 1. Insist on the importance of proper differential diagnosis, which is too often neglected. 2. Avoid all ointments and pastes, relying on aseptics or often, in this condition, antiseptics. 3. Always consider the local and general constitutional treatment. 4. Do not give up the case. The ulcer that will not heal is rare. In varicose ulcer we should remove the cause as far as possible. The radical and palliative treatment may be gained from any work on surgery. Therefore, only two measures are mentioned here: radical treatment, which should be considered only when the operation has entirely healed, and bandaging. He would not use a spiral reverse on the leg because it gets out of place. A properly-applied figure eight of the foot and leg, making all pressure on the up-turns, gives the best results. In very sluggish ulcers, curette the surface and incise the edges. In varicose ulcer of the chronic sluggish type, elliptical incisions around the parts will release the tension. They should be done under aseptic or antiseptic precautions. They cut the fibrous tissue and allow the formation of new capillaries and also allow the ulcer to contract toward its center. Solutions applied to ulcers, on sterile gauze, are the best applications, and he gives several formulæ for these. The saturated boric acid solution is useful where the ulcers readily become inflamed, but it is rather mild for most cases. Alum acetate in saturated solution is useful in chronic cases that have become suddenly inflamed. A 5 to 10 per cent. ichthyol solution in water is also useful. Chronic ulcers must be stimulated in order to heal and more blood must be brought to them. Some of the milder caustics may be em-

ployed at the time of dressing. Silver nitrate, brushing over the wound surface with 40 grains in solution in an ounce of water, or touching the granulated surface with the stick, is sometimes valuable. Rest in bed with elevation of the part is often useful, but should be employed as a last resort for people that have to get around about their daily work. Massage and douches of alternate hot and cold water are useful in all cases. When the ulcer has become healthy and the granulations reach close to the surface, the parts may be strapped with strips of zinc oxid plaster, ¾ in. wide, applied alternately from opposite sides, beginning below and extending well above the ulcer and not allowing the ends to meet within an inch or more. They may be left in place for a week or ten days. Skin grafting is sometimes useful, but not so much so as in cases of burns or acute conditions. If the ulcer has healed a Randolph elastic bandage should be worn indefinitely and the leg doused with cold water and rubbed with alcohol every night and morning. The constitutional treatment consists in hygienic measures, such as regulation of the diet and bowels, tonics, sometimes arsenic, etc. Syphilitic ulcers readily respond to local specific treatment. Creolin solution (half an ounce to a pint of water) is useful in overcoming the odor and removing the slough. Instead of solutions in some cases it may be well to try dusting powders, etc. The formulæ given are those for red wash, Lassar's paste, and balsam of Peru gauze.

17. **Cranial Surgery.**—Cottam remarks on the difficulties of localizing diagnosis and the value of exploratory operation in some of these cases, the avoidance of chemical antisepsis and the necessity for the most careful asepsis. The objects to be accomplished are limitation of the infection, hemostasis and relief of pressure. If this can be done through the ordinary opening, what is the use of making it larger, as is often advised? In no case should the scalp be stitched in an open fracture if the stitching interferes with the drainage in the slightest degree. Simplicity in technic is insisted on. The trephine, he urges, is an obsolete instrument, and in its place are the chisel, the ronguer and the DeVilbiss device. With these in practical hands anything can be done. They do not get out of order or break. He also puts in a word for the osteotegumentary flap as the simplest method of entering the skull for the relief of middle meningeal hemorrhage, growth or abscess or for purely exploratory purposes.

New York Medical Journal.

August 15.

18 *The Significance of Jaundice as a Symptom in Disease of the Biliary Tracts. John B. Deaver.
19 *Regicides; Sane and Insane. E. C. Spitzka.
20 *Phlegmasia Alba Dolens and Its Treatment. Herbert M. Stowe.
21 *Chronic Gastritis. A Clinical Study of 600 Cases. G. W. McCaskey.
22 Double Extra-uterine Pregnancy. Swithin Chandler.

18. **Jaundice.**—The points particularly emphasized by Deaver are: 1. Jaundice is absent in the majority of cases of gallstone disease. 2. Jaundice following acute gastrointestinal symptoms means a catarrhal condition of the ducts, and may be followed by suppurative cholangeitis, with marked jaundice and other symptoms. 3. Jaundice following chronic gastrointestinal symptoms is usually due to chronic pancreatitis with induration and enlargement of the head of the pancreas with or without gallstones after excluding malaria. 4. Acute obstruction of the common duct by stone furnishes the common symptoms usually diagnosed. Chronic impaction is followed by the intermittent type of jaundice without gallbladder enlargement or by no jaundice whatever. If the icterus becomes intense, fever, sweating and chills of suppurative cholangeitis will denote infection. When a patient dies in a condition of intense jaundice we speak as if a cholemia was present. Deaver thinks most of these cases die of infection and not from retention of the bile *per se*. Cholemia he defines as a train of symptoms usually beginning suddenly and ending fatally in a few days, of which the most prominent are jaundice, acute prostration and delirium or coma. The dammed-up secretions compress the liver cells and the retained bile has a deleterious effect. Fatty degeneration or necrosis follows, and with the overgrowth of connective tissue, interstitial hepatitis is produced. The bile itself, the products of the diseased liver cells and the infection of micro-organisms make altogether an autointoxication of which the exact effect is not easily comprehended. We have also various gastrointestinal disturbances such as anorexia, constipation, symptoms of nervous influences, such as disturbances of sight, like the phenomenon of yellow vision, pleuritis, slow and small pulse ascribed to involvement of the nervous apparatus, etc. The excretion of bile pigment by the kidneys must cause disease of their epithelium, and if persistent produce necrotic changes. In the early stages with a slightly yellow tinge; the urine may give no reaction to bilirubin. In the more advanced stages with marked jaundice, the absence of this reaction would indicate the relief of the obstruction. Lastly, there is a certain predisposition towards hemorrhage; epistaxis, hematemesis or intestinal hemorrhage may occur. The system may in time become accustomed to the bile, and any organic symptoms be lacking. There is no direct treatment of icterus. In inoperable cases we can relieve the itching and promote diuresis and diaphoresis in the acute form. In operative conditions, calcium chlorid in 20 or 30 gr. dose three times a day seems to have some effect in preventing hemorrhage. This post-operative bleeding is most frequently met with in jaundice due to chronic pancreatitis and malignant disease of the pancreas. After operation calcium chlorid may be administered per rectum, 30 or 40 gr. every four hours with a full dose of opium. Deaver pleads for a careful study of the icterus cases so as to be able to form a diagnosis as rapidly as possible and call for surgical consultation before the damage has become too great.

19. **Regicides.**—Spitzka's article is to be continued. In this installment he seems to think that the ordinary type of political assassin is decreasing with higher culture, and that there will be comparatively few sane regicides among the Anglo-Saxon, Germanic or French population in the future. We will have to look to the Italian, Balkan and Iberian peninsulas for the sane assassins of the future. His views as to the proportion of sane regicides are well known from his former publication, and he seems to believe that at the present peril is in the organized anarchists in civilized countries. The economic conditions met with have little to do with it. The promotors and actors in the assassination of prominent people are not suffering from economic conditions themselves. They are more often anarchist enthusiasts with the common misguided ideas about tyranny and freedom, and are not insane.

20. **Phlegmasia Alba Dolens.**—The mechanism of this trouble which is generally held to be due to thrombophlebitis is studied by Stowe. He thinks there is some probability in the hypothesis of Tilbury Fox that obstructive lymphangeitis is the hitherto unknown factor which enables thrombophlebitis in this case to produce the well-known symptoms. He thinks a reasonable position is to take the middle ground and say that thrombophlebitis is the primary cause. Increased activity of the lymph following occlusion occurs in weakened vessels producing thrombosis in a manner similar to its production in the veins. This, of course, applies only to the main vessels. The condition of the blood is to be taken into account. The treatment is mainly summed up in prophylaxis; proper care during pregnancy, putting the patient on small doses of calcium chlorid for three or four weeks prior to the expected labor and carefully inspecting the conditions immediately following placental delivery and carefully guarding against lacerations. He has found the best results for perineal protection in delivery on the side, keeping the head pressed against the sphincter, gradual dilatation of the pelvic outlet and delivering the head between pains. Asepsis is the ideal condition; when that fails we may have to fall back on thorough antisepsis. When phlegmasia dolens has occurred in spite of care, the patient should be put to bed and kept quiet and the limb raised on an inclined plane six or seven inches and enveloped in a compress of gauze retained by a roller bandage. During the acute stage much relief can be obtained by keeping the

compress as hot as can be borne. No massage should be allowed early in the disease. For the pain morphin in some form is at times indispensable; when not so severe, other drugs may be substituted. The bowels should be kept open by salines. Cardiac tonics are often indicated. When the subjective symptoms have ameliorated measures should be taken to remove the semi-solid matter from the tissues. Gentle massage and the use of dry hot-air as early as possible, which is, he thinks, one of the best measures of all. Potassium iodid or protoiodid of mercury is to be given for weeks and months. Calomel in small doses is also of advantage.

21. **Chronic Gastritis.**—McCaskey has studied the conditions as to the acidity in this disorder, and thinks that it is possible that primary hyperchlorhydria may play an etiologic rôle in its production. He does not think the condition can be excluded in the diagnosis on the ground of increased HCl. He finds that a slight majority of his patients are males and between 20 and 40 years of age. Nearly one-half the cases are farmers and housewives, about 72 per cent. follow indoor occupations, but the majority of them active ones. He calls attention to the frequent latency of the disease and to the defective motor power of the stomach, which he thinks plays an important part in the disorder. The treatment consists in careful attention to nutrition, which is generally below par, elimination, moderate gymnastics, deep breathing, hydrotherapy, general faradism, etc. Of local treatments, lavage is the simplest and most abused of all the methods. It is only advisable when there is a considerable amount of mucus or other debris. Electricity is of great help, and he would use faradism with intragastric electrodes. Another method of great value is the use of finely divided medicaments, using the Einhorn apparatus for concentrated drugs and Turck's nebulizer for the milder applications. He has also found Turck's gyromele, as lately modified by the inventor, of much value. Electric vibratory massage applied over the stomach, which may be distended with air, is also of advantage. Care should be taken against over-treatment and careful individual treatment applied in every case.

Medical Record, New York.

August 15.

23 *Consideration of Mammary Cysts in the Differentiation of Breast Tumors. Robert Abbe.
24 *Prostatic Hypertrophy and Its Radical Cure. William P. Herrick.
25 *The Causation of Cancer and Its Treatment without Operation. Robert Bell.
26 *Pathology and Treatment of Pneumonia. John North.
27 The Principle of Life and Cognate Things. Joseph Clements.
28 An Unusual Case of Empyema of the Antrum of Highmore. Sidney Yankauer.

23. **Mammary Cysts.**—Abbe holds that mammary cysts are much more common than is generally thought. They are frequently diagnosed as malignant, and treatment by extirpation recommended, when it is unnecessary, on the ground that if not malignant the gland is likely to become so. Formerly he himself considered them as degenerative, but of late years it has been his custom to test the nature of the tumor by aspiration before making an absolute diagnosis. Reviewing his private practice in eight years he has seen 41 cases of mammary cyst and 56 of scirrhous tumors, besides a number of innocent inflammatory adenomas, and he thinks this is not far from the average surgical experience. Two points have impressed him in this series of cases: 1. The differential diagnosis, which can be said to be easy and absolute, and 2, the cure, which can also be said to be easy and absolute. He calls attention to the deceptive hardness, which renders it impossible sometimes to determine the cystic character of the tumor without exploratory aspiration. When the tumor is found to be cystic, the withdrawal of fluid in the great majority of cases seems to be sufficient for a cure. In only 2 of his 41 cases was the cyst refilled and secondary aspiration required. He thinks it is the duty of every surgeon to test the nature of each doubtful hard tumor with an aspirating needle thrust quickly into its very center, sterilizing the skin by a moment's friction with alcohol. The results in satisfaction to the patient and practitioner, he thinks, will be all that can be desired.

24. **Prostatic Hypertrophy.**—The various methods of operating on an enlarged prostate are reviewed by Herrick, who describes the methods and discusses their merits. In conclusion he says:

1. These cases must be judged more or less individually.
2. When chronic posterior urethritis and prostatitis exist, these should receive appropriate treatment, the catheter used to withdraw residual urine, and the result carefully watched.
3. In patients in whom operation has become too hazardous, we must endeavor to improve their general condition, and, if necessary, do aspiration or perineal cystotomy under cocain, endeavoring to prepare them for radical operation or alleviate their symptoms. Advanced arteriosclerosis should also be carefully considered.
4. Our responsibility is in recognizing and properly urging operation when indicated; if it is refused we have done our duty, and the patient must abide the issue with such means as remain.
5. Palliative operations should rarely or never be done from their hazardousness and inefficiency.
6. Prostatic hypertrophy is now curable by means of an operation which, though serious, is not hazardous when undertaken in proper time and manner. Failure of palliative treatment, of course, gives hope alone through operation, but should be anticipated rather than persisted in. In general infection, especially if repeated, as in irritable cases, obstructive cases unless promptly relieved by its sound and under observation, if residual urine is increasing despite catheterization, or the patient's general health is being impaired, all indicate the time for operation.
7. Anatomically, and now surgically, the simple perineal is the direct and preferable route. Rarely suprapubic exploration or lithotomy may be advantageously added to it.
8. As statistics accumulate, we believe that radical cure may further anticipate the course of the disease.

25. **Cancer.**—Bell holds that cancer, or the elements of cancer, are present in every normal individual. The cancer entity is in its original state a normal cell, which from circumstances is altered in character and assumes a new rôle of existence, losing its benign attributes, becoming aggressive and cannibalistic, preying on its neighbors. He draws attention to the fact that epithelioma invariably retains its epithelial character, and, under conditions of enfeebled general health, may take on a malignant form, though often innocent in its first beginnings. The importance of the thyroid body to the epithelial elements is mentioned. His theory of cancer is that intestinal toxins affect this organ, disturb the balance of nutrition and set up a morbid process. He sums up the treatment in the administration of thyroid gland, supplemented by measures to destroy the saccharomycetes in the intestinal tract, which are almost invariably present in cancerous subjects, and to prevent the perpetuation of their effects on the enterotoxins. In conjunction with thyroid extract it is, therefore, advisable to administer the salicylates in one form or another, and also to relieve constipation. The diet should be modified so as to be composed largely of milk food, thyroid extract administered in 5-grain doses three times a day, and along with this, 10 to 15 grains of salicylate of sodium, and local applications used to remove all sources of irritation. If the disease has not advanced too far he thinks the condition will yield to this treatment. In conclusion he sums up the predisposing causes of cancer in the following:

1. Persistent and prolonged retention of feces containing an undue proportion of decomposing albuminous material, from which enterotoxins are derived, and by absorption conveyed to the blood.
2. The blood thus contaminated produces a depraved condition of the nervous apparatus, thereby handicapping the functional activity of the various organs, interfering with cell metabolism, and eventually culminating in anemia in young persons, or cachexia in the elder.
3. If the functions of the thyroid gland are at fault, these toxins, which otherwise would be neutralized, remain in a position capable of producing serious mischief.
4. If saccharomycetes are present in the blood, this toxic material is liable to undergo chemical changes, resulting in the formation of uric acid, when uricacidemia will result.
5. The presence of these toxins in the blood, alone or combined with uric acid, exerts a pernicious influence on cellular structures, and confers on them a predisposition to take on a malignant metamorphosis.
6. Prolonged or repeated irritation of a part is liable to rouse into malignant activity cells which otherwise would have remained dormant.
7. The vitiated condition of the blood by prostrating the physiological vitality of the various organs and cellular structures and paralyzing the *vis medicatrix naturæ* affords every facility for the new growth to establish its identity and increase its area at the expense of its environment.

26. **Pneumonia.**—North holds that our great death rate in pneumonia is due to the antiphlogistic treatment of the disease. Pneumonia is not properly an inflammation, and should not be treated as such. A light nutritious diet, and the use of quinin in 2-grain doses every two hours in the beginning to diminish leucocytosis may abort the disease if begun

promptly in full dose at the beginning. He would also use ammonium chlorid and aconite in minute doses, which is of great value. Opium or its derivatives is also used throughout the disease. He prefers svapnia to other forms, given in 1/10-grain doses every two hours, stimulating the respiratory center and acting as an expectorant. Large doses should never be given. Heroin in 1/12 grain doses is sometimes very valuable. Alcohol, strychnin, nitroglycerin, digitalis, veratrum, salicylates, creosote, derivatives, saline injections, etc., are all useful in pneumonia if used in the proper stage or to combat complications as they arise. Warm applications, cold packs and cold sponging are called for in almost every case, depending on conditions and circumstances.

Cincinnati Lancet-Clinic.

August 15.

29 *The Relation and Co-relation of Gynecologic and Nervous Affections. Chauncey D. Palmer.
30 Deafness and Results. E. L. Mather.
31 *Mercurial Injections in Syphilis. William F. Bernart.
32 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

29.—See abstract in The Journal, xl, p. 1529.

31. **Syphilis.**—Bernart advocates the method of mercurial hypodermic injection in syphilis on account of its accuracy, the conciseness with which the therapeutic and physiologic lines can be drawn, the absence of gastric and kidney troubles, the rapidity of its action and its practical painlessness. The objections to it have been the alleged occasional fatality, the production of irritation and the necessity of its being carried out under the direction of a physician. The first two of these he considers of small importance and as likely to be raised against any method of treatment whatever. The fact that it requires the close personal attention of a physician is, in his opinion, one of its strongest recommendations. The alleged painfulness is, he thinks, under proper use absent. The preparation which he recommends and which he finds most useful is the following:

Mercuric chlorid	.50	(7 7/10 grs.)
Sodium chlorid	.25	(3 4/5 grs.)
Boiling distilled water	25.00	(6 1/4 drs.)
When cool add:		
Carbolic acid	.15	(2 1/10 grs.)

Of this 1 min. equals 1/50 gr. of mercuric chlorid, 1/100 gr. of sodium chlorid, and 1/160 gr. of carbolic acid. It can be given as high as 20 min., but usually 5 min., given daily, will give sufficiently rapid results. The carbolic acid readily controls the pain, and in a 5 min. injection the patient only receives 1/32 gr.

In choosing the site of the injection the post-trochanteric, he thinks, is most desirable. Several cases are reported.

St. Louis Medical Review.

August 15.

33 Personal Experience in the Treatment of Typhoid Fever. George R. Highsmith.

Therapeutic Gazette, Detroit.

July 15.

34 *Remarks on the Treatment of Paralysis Agitans (Parkinson's disease). J. Madison Taylor.
35 A Case of Large Aortic Aneurism Treated by the Introduction of Gold Wire and Electrolysis, Followed by Cerebral Embolism; Recovery. Julius L. Salinger.
36 The Therapeutic Uses of the Preparations of Benzoin. H. R. Coston.
37 *Cow's Milk Kumyss as a Nutrient in Disease. E. F. Brush.
38 Summer Complaints of Children. Samuel A. Visanska.
39 *Conservative Treatment of the Antrum of Highmore. Preston M. Hickey.
40 Poisoning by Camphor; History of Case; Recovery. Charles Stanley White.
41 *A Pharmacological Study of an Aseptic Preparation of Ergot Devised for Hypodermic and Internal Administration. E. M. Houghton.

34. **Paralysis Agitans.**—The treatment of paralysis agitans as suggested by Taylor is the use of carefully directed movements, passive and active, to overcome contractures and loosen the joints, education in voluntary movements, almost solely of the extensors in the arms and the flexors in the legs, but not neglecting other muscles. These should be instituted gradually. Great attention should be paid to the hands and feet. He sums up his treatment in that it consists in trying to overcome the growing apathy; to induce systematized return to normal activities; to use all gentle and yet forceful means to secure elasticity to the tissues, and finally, to stimulate the circulation in the spinal cord by graduated pressure on the spinal areas, thus restoring reflexly many of the fibers of the cord to function and improving others. Care and persistence on the part of the physician and the co-operation of the patient are essential. He does not prophesy a cure in these cases, but great improvement has been obtained in some very severe cases, warranting the hope that still better results can be obtained.

37. **Kumyss.**—Brush finds kumyss of special value in diseases of the digestive organs, such as catarrh, chronic diarrhea and in many cases of dyspepsia. It is the most grateful and useful food in continued fevers and in the convalescence from typhoid and pneumonia. In consumption it is invaluable, especially in the beginning stages. It is useful in chlorosis, anemia and prolonged lactation and all conditions of defective nutrition. He quotes the experience of other physicians as to its value in summer complaint of children and badly nourished cases. It is particularly useful in alcoholism and delirium tremens. The dose varies. The amount for the adult is the largest that can be taken without discomfort. In continued fevers the dose should be all that the patient requires for nourishment and to quench thirst. For infants the dose is correspondingly small, in some cases beginning with a teaspoonful.

39. **Antral Disease.**—Two cases are reported by Hickey, who offers the following conclusions: 1. Acute inflammation of the antrum when due to nasal infection should be treated conservatively for the first two weeks. 2. The constringing effect of adrenalin offers us a valuable and non-toxic agent in reducing swelling about the hiatus semilunaris. 3. When severe symptoms occur the proper position for favorable drainage from the natural outlet should be insisted on.

41. **Ergot.**—Houghton reports experiments made with ergot resulting in a new preparation which was made to obtain in solution as large a percentage of the sphacelinic acid and cornutin and other constituents of this type and rejecting as large an amount of the irritating and depressing principles as possible. This was produced by percolating through various media and throwing out by proper precipitants the undesirable constituents, checking the process by testing the filtrates and precipitates, giving them to roosters, observing the blackening of combs, etc., and the amount of irritation by hypodermic injections in guinea-pigs and studying the abortifacient effect on pregnant animals. The resulting product was a clear, transparent, light amber fluid representing one part by weight of the crude drug; of the same strength as the U. S. P. fluid extract. To act as a preservative a small quantity of chloretone was added, also for its local anesthetic properties. The substance thus produced is called ergone. He thinks it possesses the great advantage of being less toxic than the pharmacopeial preparation of ergot or Bonjean's extract. It is aseptic, non-irritating when given internally or subcutaneously, and physiologically active, at the same time being less toxic. Further clinical trial will be required to show its therapeutic value.

Canadian Journal of Medicine and Surgery, Toronto.

August.

42 *The Treatment of Chronic Empyema. A. Primrose.
43 A Case of Tubercular Laryngeal Stenosis Treated by Tracheotomy. J. Price-Brown.
44 The X-Ray in Sarcoma, with Case. Charles R. Dickson.

42. **Chronic Empyema.**—Primrose reports cases treated by drainage and insists on the importance of this being as efficient as possible if much is to be gained by the procedure. He has not much faith in irrigation, and believes that it is liable to be dangerous. Many cases will be carried to a successful issue if drainage is maintained. He advises whenever pus is discovered in the pleural cavity to get rid of it in the early stage of the trouble by free drainage. Where this has had a fair trial and cure is not effected, Schede's operation of thorax resection should be undertaken if the general condition of the patient warrants it.

New Yorker Medicinische Monatschrift.

June.

45 *Typhus Abdominalis and Trinkwasser. A. Selbert.

45. **Water Supplies and Typhoid.**—Seibert's article is a study of the effect of filtration of water supplies on the occurrence of typhoid in various cities, which he illustrates by the graphic method in a very striking way. Especially is this marked in the case of some German cities like Hamburg, Hanover, Berlin and Breslau, where the sudden drop in the ratio of typhoid mortality is very remarkable. He concludes from his study that all lakes, rivers and brooks which exist in populated parts of the United States and Germany have been long infected with the typhoid bacillus, and that the chief carrier of the typhoid germ into the human body is the water supply of the town. All towns, therefore, which are compelled to depend on lakes, rivers and water courses for their water supply should avail themselves of the benefits of central sand filtration.

Texas Medical Journal, Austin.

July.

46 *Appendicitis: Ochsner's and Deaver's Methods Compared. W. J. Matthews.
47 Nephritis in Summer. William F. Waugh.
48 Experience vs. Theory. L. L. Loggins.

46. **Appendicitis.**—Matthews is a strong advocate of Ochsner's method of treating appendicitis, delaying operation if the attack has already lasted forty-eight hours, until all acute symptoms have disappeared for at least two weeks, and then removing the appendix. Under his system of rectal alimentation and stomach washing he thinks we are able to save even desperate cases. The statistics show well in its favor.

Alabama Medical Journal, Birmingham.

July.

49 *Auto-Intoxication and Its Relation to Disorders of the Nervous System. Benjamin Leon Wyman.
50 Traumatic Aneurism of the Femoral Artery. R. P. Huger.
51 The Clinical Uses of the Microscope. J. N. Baker.
52 *One Hundred Consecutive Cases of Myoma of the Uterus. Guy L. Hunner.
53 Glioma of Retina, with Report of Case. Allen A. Greene.
54 The Proper Management of Cases of Labor. W. H. Bell.
55 Illustration of the Circulation of the Uterus, Oviducts and Ovaries by the X-Ray and Bromide Method. Byron Robinson.
56 Hypertrophy of Tonsils. E. B. Hardin.

49. **Autointoxication in the Nervous System.**—The various autotoxins and autotoxemias are noted by Wyman, especially regarding their effect on nervous disorders. He finds as a result of his study that some autotoxin is an etiologic factor of very great importance in many functional nervous disorders, producing symptoms either by lessening, retarding, perverting or arresting the functional capacity of the nervous center, or by interference with the transmission of nerve impulses, involving both the central and peripheral neurons. Repeated and chronic autointoxication may lead to actual organic disease.

52. **Myoma of the Uterus.**—The 100 cases that are analyzed by Hunner occurred in the service of Dr. Howard A. Kelly during the former's term of eighteen months as resident gynecologist from Jan. 1, 1901, to April 1, 1902. Some of them are detailed. The following operations were performed: Myomectomy, 19; panhysteromyomectomy, 14; supravaginal hysterosalpingo-oöphoromyomectomy, 40; supravaginal hysteromyomectomy, leaving one or both ovaries, 16; vaginal myomectomy, 5; vaginal hysteromyomectomy, 6. Nine cases were treated by the method of bisection. There were 6 fatalities. In 5 of them the tumor was complicated by serious pelvic inflammatory disease. One died on the sixth day from septicemia; one on the third day from peritonitis, and one the fourth day from iliac vein thrombosis with embolism carried to the pulmonary artery; one died in ten hours from shock, which was noted before the operation; one and possibly two of the cases could have been saved if more time had been taken and the tumors removed by slow dissection. He says, while he does not undertake to draw conclusions, he thinks that if we meet in a brief record of 100 cases such a record of suffering, sterility, miscarriages, extrauterine pregnancy, hemorrhage, anemia, malignant growths, infections and deaths, one would not wonder as to his radical position as regards myoma. He does not say that he would operate in every case, but he thinks as our knowledge of the seriousness of the condition increases the indications for operating will expand.

Quarterly Journal of Inebriety, Hartford, Conn.

July.

57 *Inebriety a Disease. Lewis D. Mason.
58 *Are the Questions Relating to the Nature, Effects, Uses and Abuses of Alcohol as Existing in Fermented and Distilled Liquors Political Questions, to Be Settled by Votes at Ordinary Elections, or Are They True Questions Concerning the Public Health and Morals, and Therefore to Be Dealt with by the Sanitary Authorities and Courts of Justice? N. S. Davis.
59 Infantile Alcoholism. L. G. Robinovitch.
60 The Correlation of Alcoholism, Crime and Insanity. C. A. Drew.
61 Hyoscin in the Treatment of Morphinism. T. D. Crothers.
62 History of the International Anti-alcohol Congresses and the Temperance Movement on the European Continent. A. Forel.

57. **Inebriety a Disease.**—Mason pleads for the consideration of inebriety as a disease, not a vice, of the individual and its consideration on the same plan as insanity by the state and public.

58. **Alcohol and Public Health.**—Davis' article is a plea that alcohol should be treated as a poison, its use to be dealt with by the law as is the case with other poisons. He says the same methods of investigation applied to ether, morphin, cocain, etc., are fully credited and promptly acted on, but that in the case of alcohol the greed for pecuniary profits outweighs the regard for human welfare. As long as the contest can be kept in the field of politics these reasons will prevent anything more than temporary or partial success in the strife against alcohol. He does not say that the success in any case would be complete any more than it has been in regard to murder, theft, etc., but these occur less frequently than would be the case if laws for their direct suppression were not in force, instead of their regulation by licensing persons to do all the killing, stealing, etc., on payment of a certain amount to the public funds.

Buffalo Medical Journal.

August.

63 Some Curiosities of Medical Practice. Chauncey P. Smith.
64 *A Theoretical Note on the Vital and Toxic Theories of Cancer, and Their Bearing on the Parasitic Theory. G. H. A. Clowes.
65 *The Medical and Surgical Treatment of Bright's Disease. Charles S. Jewett.
66 Clinical Notes on Dysemia. Louis J. Gravel.

64. **Cancer.**—The theories of cancer are reviewed by Clowes, who attempts to show that the parasitic theory is not in any sense incompatible with various toxic or chemical theories, and that the production of the toxins generally recognized as playing an important part in this disease may be most readily attributed to some form of intracellular parasite. This explains the constant stimulation of cancer cells and the selective action of the toxins for one particular cell to the exclusion of others, and the apparent impossibility of infecting healthy individuals with cancer blood.

65. **Bright's Disease.**—The various treatments of Bright's disease, especially the surgical treatment suggested by Edebohls, are noted by Jewett, who offers the following tentative conclusions:

1. In certain cases of acute nephritis operation may be of use in relieving suppression of urine, pain, or hematuria; it may, perhaps, hasten recovery and aid in the prevention of chronic nephritis.
2. In hopeless cases of chronic nephritis, decapsulation will sometimes relieve distressing symptoms and prolong life.
3. Should the results claimed by Edebohls be duplicated in the practice of various operators, and should the supposed reparative results of his operation be confirmed by future autopsies, then the possibility of operative cure of certain cases of chronic nephritis must be admitted.

Maryland Medical Journal, Baltimore.

August.

67 The Origin, Purpose and Working Methods of the Medical Milk Commission. Henry L. Coit.
68 *The Use of Antitoxin in Diphtheria Associated with Pregnancy. J. Elmond Kempter.
69 *Two Minor Communications from the Clinical Laboratory. Thomas R. Brown.

68. **Antitoxin in Pregnancy.**—Kempter reports a case of diphtheria in a woman eight months pregnant which was treated by antitoxin with the usual good results. He thinks this is the first case recorded in which antitoxin was used during pregnancy and a healthy child was born at term. He suggests the possibility of production of immunity in a child by the use of antitoxin in the mother.

69. **Salt Solution Enemata and Leucocyte Counting.**—Brown suggests the value of salt solution enemata, especially after renal operations, on account of their diuretic effect and reports experiments. As a result of these it has been the custom in Dr. Kelly's private hospital to use the following method in all cases where the kidney has been operated on: A pint or more of normal salt solution is administered by rectum every six, eight or twelve hours, according to the needs of the case, for a number of days after the operation. This has caused in 6 cases of nephrotomy and 12 or more of nephropexy in which the plan has been adopted a very free secretion of urine. Convalescence has been more comfortable and nausea and headache markedly diminished. The method is so simple and so easily carried out that he thinks it should be incorporated among the general procedures in the after-treatment of all cases operated on under general anesthesia.

In the same article he reports a number of cases of appendicitis in which the leucocyte count was used, illustrating its value as distinguishing cases of peritonitis, autointoxication, constipation, hyperchlorhydria and intestinal obstruction. Peritonitis is always accompanied with leucocytosis, excepting in intense infections, and intestinal obstruction is associated with it when inflammatory processes or beginning gangrene exist. Autointoxication with constipation and intense hyperchlorhydria are not associated with the leucocyte increase, and are to be treated on medical not surgical lines, hence the absence of leucocytosis may be of real value in distinguishing whether or not post-operative surgical interference is advisable, especially in anemic patients or those with an atonic condition of the gastrointestinal tract or those in whom the intestines had been handled a great deal. The leucocytosis of infection must not, of course, be confused with the transient post-anesthetic leucocytosis, especially if ether has been employed. He reports the conclusions of King on post-operative non-septic leucocytosis, noticed in THE JOURNAL, xxxix, ¶49, p. 723.

Western Medical Review, Lincoln, Neb.

July.

70 Medical Inspection of Schools. S. R. Towne.
71 *The Treatment of Scarlet Fever: Its Complications and Sequelæ. H. M. McClanahan.
72 The Acute Heart Disease of Children. H. Winett Orr.
73 Ectopic Gestation, with Special Reference to Diagnosis. Georgiana Grothan.
74 Dystocia. A. B. Somers.
75 The Business Side of Obstetrics. Mary A. Quincy.

71.—This article appeared in THE JOURNAL, July 4, 1903, page 31.

Texas Medical News, Austin.

July.

76 *The Poisonous Snakes of Texas, with Notes on Their Habits. J. D. Mitchell.
77 *Tropical Diseases: The Importance and the Opportunity for Their Study in Texas Imposes the Obligation to Provide the Facilities for Training Medical Men in Their Prevention, Diagnosis and Treatment. John T. Moore.
78 Tubercular Peritonitis. J. E. Gilcreest.

76. **Poisonous Snakes of Texas.**—Mitchell describes the poisonous snakes of Texas, of which he enumerates 12, all with one exception belonging to the crotalus family or pit vipers, which includes the rattlesnake and copperhead. The exception, *Elaps fulvius,* which seems to be not uncommon there, is a deadly poisonous snake, though seldom so considered as it is not aggressive.

77. **Tropical Diseases.**—Moore's chairman's address in the Section on Practice of Medicine of the Texas Medical Society is a plea for the establishment of an institute or chair for instruction in tropical diseases, which, he says, are likely to occur in Texas. That state, he shows, has some special advantages for their study.

Medical Age, Detroit.

July 25.

79 Ocular Evidences of Kidney and Liver Disease. F. E. Sampson.

International Journal of Surgery, New York.

August.

80 Gunshot Wounds of the Abdomen. Henry Janes.
81 A Brief Résumé of Pelvic Abscess; Its Diagnosis and Mode of Attack; with a Short Narrative of Five Cases Illustrating Points in the Diagnosis. Thomas H. Manley.
82 The Technics of Amputations. R. H. Cowan.
83 Operation for Complete Laceration of the Perineum without Leaving Stitches in the Bowel. C. E. Cantrell.
84 The Surgical Assistant. Abdominal Operations. (Continued.) Walter M. Brickner.
85 Excision of Entire Colon; Death. Emory Lanphear.
86 Report of a Case of Senile Gangrene. B. N. Stevens.
87 Gunshot Wound of Mother and Child Thirty-three Hours Prior to Delivery. W. H. Wiley.

Journal of Advanced Therapeutics, New York.

August.

88 On the Administration of Strong Galvanic Currents to Patients. Robert Reyburn.
89 Newman's Portable Galvanic Battery. Robert Newman.
90 X-Ray Therapy. William L. Heeve.
91 The Treatment of Insolation on Heat Stroke. Curran Pope.
92 Mechanical Vibrations as a Physical Agent in the Treatment of Disease. Frederic H. Morse.
93 Psychic-Therapy. J. Holcomb Burch.

Mississippi Medical Record, Vicksburg.

August.

94 Address Before Mississippi Department of Public Health. C. Kendrick.
95 Report of a Case of So-called Sporadic Scarlatina. Fred M. Brougher.
96 Treatment of Extreme Urinary Retention. E. Forrest Hayden.

Toledo Medical and Surgical Reporter.

August.

97 Medical Trades Unionism. Charles M. Harpster.
98 Report of a Case of Empyema. Frank Warner.
99 A Method for Removal of the Prostate Gland. Hal C. Wyman.
100 Neglected Opportunities of Boards of Health. C. O. Probst.

Fort Wayne Medical Journal-Magazine.

July.

101 Obstruction of the Bowels; Report of a Case, with Remarks. L. H. Dunning.

Pennsylvania Medical Journal, Pittsburg.

July.

102 Pulmonary Tuberculosis; Etiology and Symptoms. John E. Scheifly.
103 Sanatorium Treatment. Elwell Stockdale.
104 The Diagnosis and Prognosis of Early Pulmonary Tuberculosis. Charles H. Miner.
105 The Home Treatment of Tuberculosis. Walter Davis.
106 Inguinal Hernia. J. F. Davis.
107 Phototherapy and Radiotherapy, with Report of Cases. Russell H. Boggs.
108 A Case of Perityphlitis. L. B. Kline.
109 Debatable Points in the Treatment of Appendicitis. W. D. Hamaker.
110 Neurasthenia. T. M. T. McKennan.

Wisconsin Medical Journal, Milwaukee.

July.

111 The Present Status of Surgery of the Stomach. William J. Mayo.
112 Digestion in Infancy. Albert W. Myers.
113 Chronic Appendicitis; Report of Two Cases with Obscure Symptoms. L. H. Prince.

Colorado Medical Journal, Denver.

May.

114 Appendicitis in Children. Frank S. Churchill.
115 Gleet; What Is It and How Can the General Practitioner Successfully Treat It? Donald Kennedy.
116 Epilepsy Following a 5-grain Dose of Camphor Monobromate; Report of a Case. H. A. Lord.

Columbus Medical Journal.

July.

117 The Physician and His Ideals. Rev. Carl Gregg Doney.
118 Eczema. J. B. McComb.
119 Enlarged Tonsils, a Cause of Middle Ear Catarrh. C. P. Linhart.
120 Congenital Hypertrophy of the Pylorus. William D. Inglis.
121 Fractures of the Clavicle. William L. Dick.

Medical Examiner and Practitioner, New York.

July.

122 Incidence of Nervous Disease in Life Insurance Examinations. Harold N. Moyer.
123 Physical Signs of Arteriosclerosis. Charles L. Mix.
124 Life Insurance and Medical Examinations from a General Agent's Standpoint. James L. Ferguson.
125 A Study on Light. J. Mount Bleyer.
126 Open Fractures of the Shafts Involving the Articulations. Thomas H. Manley.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 8.

1 A Discussion on the Vaccination Acts and the Prevention of Smallpox. J. C. McVail.

2 The Midwives' Act of 1902. J. Ward Cousins.
3 *The Spread of Enteric Fever and Other Forms of Illness by Sewage-polluted Shellfish. Arthur Newsholme.
4 *River and Seashore Pollution as It Affects Shellfish. (To be continued.) J. T. C. Nash.

3. **Shellfish Infection.**—Newsholme notices the more recent outbreaks of typhoid, etc., attributed to shellfish, and reviews the evidences. The clinical evidence is supported by the ability to exclude other known causes and the topographical evidence by tracing the molluscs to their original layings and the changes that have been made. The bacterial and chemical evidence is of last and least importance. He suggests legislative regulation and control of the supply and the sale of these articles of food.

4. **Shellfish Pollution.**—Nash takes up the same subject and points out how the purification of sewage may extend the dangers.

The Lancet, London.

August 8.

5 *The Causes, Prevalence and Control of Pulmonary Tuberculosis. H. Timbrell Bulstrode.
6 *The Development of Insanity in Regard to Civilization. Robert Jones.
7 Pernicious Anemia, Following Parturition. William Elder.
8 A Case of Septicemia. F. J. Strong Heaney.
9 Cicatricial Constriction of the Abdominal Wall and of the Left Thigh Attributed to Compression of the Umbilical Cord. C. O. Hawthorne.
10 Observations on Mastication. Harry Campbell.
11 An Analysis of the Vaccination Statistics of the Metropolitan Asylums Board for 1901 and 1902. J. E. Sandilands.
12 A Note on Colotomy and Colectomy. F. T. Paul.
13 *Can the Respirable Products of Human Waste Hinder Development and Lower Vitality? John Hartley.
14 *Ichthyol in the Treatment of Pulmonary Disease. James Burnet.

5. **Tuberculosis.**—Bulstrode in this third lecture reviews the sanitarium system and the laws as regards notification in different countries, putting Germany at the head of the rank in its efforts of combating tuberculosis. He says if the compulsory notification of tuberculosis implies all the discomforts usual with the notification of contagious diseases, it would be improper. The only way is to have consumption in a special category by itself. He thinks in this case there will be no great difficulty in obligatory notification. He doubts, however, whether it is advisable to include other than pulmonary cases under this rule. Another important matter would be the preparation of facilities for bacteriologic examinations, still others, the education and examination of school children, the control of expectoration, etc. He does not have full confidence in resort to the sanatorium movement. As a curative agent these institutions are almost indispensable and in prevention they largely curtail the prevalence of the disease by education, but there is still a large margin of danger in the patients that leave these institutions. The mere isolation of early cases in a sanatorium is not a panacea.

6. **Insanity.**—Jones points out how the stress of modern civilization and the tendency to urban concentration has increased insanity. While the present system of education has raised the general intelligence, it has destroyed the individuality to a large extent. Altruism is lessening. The well-to-do classes are more self-indulgent, and as to the improvement of the workingman's condition he thinks it has drawbacks as well as advantages. Higher wages seem only to increase discontent and the socialist tendency is one leveling down and crushing individual attempts to rise. He thinks that alcoholism in women is increasing. With the progress of civilization he says insanity is not only on the increase, but the occurring varieties are less curable. The physique of the urban population has deteriorated. The statistics of recovery are less favorable today than they were twenty-five years ago. Serious as the case may be we can not hope for or expect relief from the great financial and economic burden of providing accommodation for the insane in the future. If relief is to come it will be in some great change affecting the physical as well as the mental health of the masses of the people.

13. **Bad Air.**—The evil effects of vitiated atmosphere are insisted on by Hartley, who thinks that the respiratory products of human waste in the atmosphere go a long way to injure the public health. The idea of the perfect wholesomeness of atmosphere is, he thinks, possibly a mistake. We flood our rivers and pollute the sands of our health resorts with the sewage and we ventilate our sewers in narrow streets and alleys at the road level, and as to our sleeping rooms, most of us do not ventilate them at all in clearing out waste products. He says one is led to question whether the ills usually ascribed to the high pressure of modern civilization may not be more justly laid to the toxins given off by our crowded population.

14. **Ichthyol in Tuberculosis.**—The value of ichthyol in the treatment of tuberculosis is described by Burnett, who gives his experience. He does not claim to have cured his cases, which were 13 in number, all of the ordinary slow progressive type. Eleven were distinctly improved. Only 2 failed to show any beneficial results, and these were of the advanced type with both lungs extensively involved. The first sign of improvement was in the cough, improvement in sleep and lessening of expectoration followed. Gain in weight was not observed until the patients had been under treatment for a considerable period, but in every case there was marked nutritional improvement and food was taken with greater relish. All the gastric discomforts previously present had left. Age did not seem to count much in the treatment by this method. The amount given was 8 to 20 grains four times a day; he gave it in capsules containing 4 grains, and in every case he started with 2 capsules four times a day and increased the amount until five were taken at each dose. This seems a large amount, but is tolerated when the drug is taken in this way. He does not consider that it acts as an antiseptic to any great extent, but it has a direct effect on general nutrition, acts as a vasoconstrictor and relieves and removes congestion and inflammation. His firm conviction is that it is a distinct anti-inflammatory agent, but is also to some extent an antispasmodic. He finds it absolutely free from irritating properties so far as the stomach is concerned.

The Practitioner, London.

August.

15 The Treatment of Gout in Carlsbad. B. London.
16 *Some Points on Metabolism in Gout; with Special Reference to the Relationship Between the Uric-acid and the Phosphoric-acid Elimination in the Intervals and During Acute Attacks. Thomas B. Futcher.
17 *An Inquiry into the Causation of Tuberculosis in Children. Cecil Price-Jones.
18 Variations in the Technic of Cataract Extraction as Performed in Some Continental Eye Hospitals. R. H. Elliot.
19 Peripheral Neuritis of the Alcoholic Type. Leonard Williams.
20 The After-Treatment of Empyema in Infants. S. Vere Pearson and P. Lockhart Mummery.
21 The Present Position of Our Knowledge of Diseases of the Pancreas. B. G. A. Moynihan.
22 Tropical Diseases; a Review of Recent Work. R. Tanner Hewlett.
23 Cases with Comments. A Case of Threatened Puerperal Eclampsia, Edward Ellis. A Case of Double Hare Lip, with Absence of Nasal Septum, S. Davidson.
24 Enteric Fever and Infected Blankets. Louis C. Parkes.

16. **Metabolism in Gout.**—An analysis of the case reported by Futcher suggests, he says, the close parallel relation between uric acid and phosphoric acid excretion in gout, and favors the view that both are products of nuclein disintegration. In the quiescent intervals both phosphoric acid and uric acid are markedly reduced below normal. Two or three days after the acute arthritic symptoms commence the phosphoric acid and uric acid gradually increase until they reach the average normal output, or even its upper limit and fall again as the acute manifestations subside.

17. **Tuberculosis in Children.**—The point chiefly made by Price-Jones is that alimentary tuberculosis, so-called, is not necessarily from the ingestion of milk, but more probably from human tuberculous bacilli. He thinks it would be advisable to have bacilli causing alimentary tuberculosis isolated and studied to determine whether they are always the same organism and what relation they bear to organisms found in milk from cows with tuberculous udders and to other so-called varieties of tubercle bacilli.

Journal of Tropical Medicine, London.

August 1.

25 *Notes on the Genus Stegomyia (Theobald) and Its Distribution. F. V. Theobald.

25. **Stegomyia.**—Theobald describes the genus *Stegomyia* and its various species with their distribution, pointing out the characteristic features of *Stegomyia fasciata*, which is the most important of the species owing to its wide distribution and abundance. Only three species may be said to be abundant: *notoscripta*, which is common in parts of Australia; *scutellaris*, abundant in India, the Malay states, China, Japan, etc., and *fasciata*, probably originally an American species, but spread almost all over the world. There is only one other species, *sugens*, that is at all widely distributed, and that is rare. He thinks it probable that the two next abundant species after the fasciata may also, under favorable conditions, become transmitters of the yellow fever germ and carriers of the disease.

Archiv f. Klin. Chirurgie (Langenbeck's), Berlin.

Last indexed page 526.

26 (LXX, No. 1.) *Ueber die subphrenischen Abszesse mit Bericht über 60 operierte Fälle. Grüneisen.
27 *Ueber Pneumokokken-Peritonitis. Jensen (Copenhagen).
28 *292 Operations for Urinary Calculi. Dsirne.—Bericht über 292 Blasensteinoperationen.
29 *Zur Frage der Behandlung der tuberkulösen Peritonitis. Friedländer.
30 Die Luxation des Nervus ulnaris. Momburg.
31 Operative Treatment of Occlusion or Constriction of the Intestines. Prutz.—Ueber die Enteroanastomose, speziell die Ileokolostomie, in der Behandlung der Verschlüsse und Verengerungen des Darmes.
32 Contraction of the Mesentery. Brehm.—Ueber die Mesenterialschrümpfung und ihre Beziehungen zum Volvulus der Flexura sigmoidea.
33 (No. 2.) Zur Früh-Operation der Appendizitis. Bornhaupt.
34 Hepatic Syphilis from Surgical Standpoint. C. G. Cumston (Boston).—Eine kurze Betrachtung der Lebersyphilis vom chir. Standpunkt.
35 *Experimental Study of Increase or Diminution of Germs in Accidental Wounds Treated by Aseptic and Antiseptic Methods. Gontermann.—Exp. Untersuchungen über die Ab- und Zunahme der Keime, etc.
36 *Experimental Research on Suture and Transplantation of Blood Vessels. Höpfner.—Ueber Gefässnaht, Gefässtransplantationen und Replantation von amputierten Extremitäten.
37 *Zur Technik der osteoplastischen Amputation. Frommer.
38 Results of High Incision. Wieting and Cassape (Constantinople).—Resultate des hohen Steinschnittes.
39 *Treatment of Anthrax with Collargol in Intravenous Injection. v. Baracz (Lemberg).—Zur Behandlung des Milzbrandes mit intravenösen Injektionen von löslichem Silber (Kollargolum) und über die Anwendbarkeit anderer löslicher Silberpräparate zu intravenösen Injektionen.
40 *Die Behandlung der Decanulements-Schwierigkeiten bei tracheotomierten diphtherie-kranken Kindern, mit bes. Berücksichtigung der "retrograden Intubation." Busalla (Altona).
41 Gangrene of Cecum from Distension. Kreuter.—Dehnungsgangrän des Coekum bei Achsendrehung der Flexura sigmoidea und bei Abknickung des Blinddarms.
42 Ueber Atresia ani congenita und die damit verbundenen Missbildungen. Stieda.
43 Askaris im Ductus choledochus. Choledochotomie. Neugebauer.

26. **Sixty Subphrenic Abscesses.**—Körte regards the pleural mode of intervention, with resection of ribs, as the best means of operative treatment of a subphrenic abscess. It affords better facilities for drainage, especially if the pleura is already infected. In case it is not infected the costal pleura may be sutured to the diaphragmatic pleura with a Volkmann suture, as he has done in 14 cases. Infection followed in only 4. He operated by the pleural route in 41 of his 60 cases. In 19 he opened the abscess from below, either from the front, side or lumbar region. In 27 the abscess proceeded from the appendix, in 9 from the stomach, in 2 from the biliary passages, in 4 from the pleura, in 1 from the pancreas, in 5 from the spleen, in 3 from echinococcus cysts in the liver, in 2 from a rib, and in 4 from the kidney. Of the total 60 cases only 40 recovered. He reviews the particulars in detail.

27. **Pneumococcus Peritonitis.**—Jensen announces that his numerous experiments on guinea-pigs inoculated in the abdomen with pneumococci have established that neither phagocytosis nor the bactericidal properties of the serum are the principal means of defense against pneumococcus invasion of the abdomen. Absorption is the main reliance of the organism. He found pneumococci in the blood in four minutes after they had been introduced into the peritoneum. Resistance to peritoneal infection is, therefore, the task of the general circulation, in which the entire organism shares. He reviews 20 cases from his own practice and 86 he has found in the literature, with 134 articles on the subject. His conclusions are that the peritoneum is most frequently infected with pneumococci from the intestines. He discovered these germs in the feces in several instances. A simultaneous or preceding pneumonia was only exceptionally noted. In children pneumococcus peritonitis is usually of the circumscribed, favorable variety, but in adults the diffuse form prevails and a concomitant pneumonic process is more frequently noted.

28. **Operations for Urinary Calculi.**—Dsirne has performed sectio alta in 106 and sectio mediana in 186 cases in the last eight years. The mortality has been 95 per cent. in the former and 1.6 per cent. with the latter. In after-treatment it is very important to keep the urine acid, and this he accomplishes by administering sodium salicylate and salol. If the urine is normal he sutures at once; if not, he inserts a permanent catheter, unless the patient is a young child. With much altered urine he drains the bladder through the perineal wound. He rejects sectio mediana for small children as it is impossible to work through the bladder outlet without injuring it, as also in case of stones too large to be extracted in this way.

29. **Tuberculous Peritonitis.**—Friedländer rather scoffs at the idea that laparotomy has a curative action in this affection. Many cases recover spontaneously, and a laparotomy may be useful to remove a stagnating exudate after the inflammation has subsided, and also to evacuate a pus pocket. To prevent a subsequent fistula adhesions should be spared as far as possible.

35. **Dry Asepsis Versus Moist Antisepsis.**—This communication from v. Bergmann's clinic is valuable testimony in favor of dry asepsis. For treatment of accidental wounds dry iodoform gauze deserves the preference, as it absorbs blood and secretions while at the same time having a destructive action on bacteria. The number of germs diminished much more rapidly in suppurating wounds under dry than under moist dressings. Many accidental wounds with large quantities of germs heal with no symptoms of inflammation.

36. **Surgery of Blood Vessels.**—From the same clinic extensive experiments on dogs are reported, undertaken to test the value of Payr's absorbable magnesium prothesis. The results were all favorable when the artery was over 3 mm. in diameter. Smaller than this the experiments always resulted in thrombosis. Höpfner commends the prothesis for injuries of large vessels in which more than one-half of the circumference is involved. He also reports successful transplantation of the carotid artery into the femoral, and *vice versa*, on the same animal and from dog to dog. Attempts to transplant a vein into an artery always resulted in aneurismal dilation of the vein and thrombosis. Experiments with transplantation of vessels from one species into another also all failed. He reports further that an amputated hind leg was sutured into place again, the artery united by a circular suture. In 2 dogs gangrene followed, but in a third the animal survived, succumbing the eleventh day to chloroform.

37. **Technic of Osteoplastic Amputation.**—The flap of bone and periosteum in an amputation according to Bier frequently sloughs off. Frommer thinks that if the skin is included in the flap the better nutrition ensures better results. He describes 30 cases thus treated, with faultless stumps.

39. **Collargol in Anthrax.**—Baracz reports 3 severe cases of anthrax that yielded with surprising promptness and completeness to intravenous injection of collargol. Experimental anthrax in rabbits, however, did not seem to be modified by this treatment. He attributes this inefficacy to the smallness of the doses, and insists that larger amounts can be administered than those hitherto employed. He tested on dogs all the other preparations of colloid silver, concluding that collargol is of them all the most harmless and the most effectual. No by-effects were observed except the inevitable chill.

40. **Retrograde Intubation.**—Busalla describes 3 cases of granuloma formation or protrusion of the tracheal wall, preventing the discarding of the tracheal tube. He succeeded in inducing atrophy of the granuloma, etc., by adopting v. Cackovic's method of retrograde intubation, that is, inserting a rubber drain, 4 cm. long, through the tracheal wound, one

end passing into the trachea, the other end into the larynx, and held in place by a silk thread tied around the middle of the drain and fastened to the neck.

Beitraege zur Geb. und Gyn. (Hegar's), Leipsic.

Last indexed XL, page 1687.

44 (VII, No. 2.) *Tier Suture of Abdominal Incision. R. Werth (Kiel).—Ueber die Etagennacht der Bauchwunde.
45 Correlations of Sexual Glands and Sex Determination. A. Hegar (Freiburg i. Br.).—Korrelationen der Keimdrüsen und Geschlechtsbestimmung.
46 *Ueber die Tampon-Drainage der Beckenbauchhöhle bei Laparotomien. A. Döderlein (Tübingen).
47 *Zur Frage der Drainage bei Laparotomien. H. Fehling (Strasburg).
48 Lacerations of Uterus During Pregnancy. Balsch (Tübingen). —Ueber Zerreissungen der Gebärmutter in der Schwangerschaft.
49 Embryologic Study of Formation of Allantois. H. Knoop (Leyden).—Ueber eine frühzeitige amniotische Missbildung, nebst Bemerkungen über das Wachsthum der Eihäute nach dem Frucht-Tode und die Bildung der sogen. freien Allantois.

44. **Tier Suture of Abdominal Wall.**—Werth has examined lately 393 patients out of his total of 1,338 laparotomies. In 279 the operation had been performed from one to fifteen years previously. Hernia had followed in 13 of the 393, but in only 5 was it a cicatricial hernia, and in these cases there had been suppuration of the laparotomy wound. He always uses "cumol catgut" and keeps his needles in pure lysol. In 19 cases no adhesions were found at a second laparotomy, while in 17 they were noted.

46. **Tampon Drainage After Laparotomies.**—Döderlein has drained through the posterior vaginal vault 161 times in 754 laparotomies, draining through the abdominal incision in only 12. His operative mortality was 3.7 per cent. The mortality in 593 cases not drained was 2.3 per cent., and of the others 8.7 per cent., the difference due to the severity of the lesions. The most unfavorable results were observed with suppurative processes.

47. **Drainage After Laparotomy.**—Fehling prefers abdominal drainage, and resorts to the vaginal only after a Werthheim operation or colpotomy. He drains by Mikulicz's technic, and reports that he used it in 36 out of 327 laparotomies, his total mortality being 4.5 per cent.

Hospitalstidende, Copenhagen.

Last indexed page 137.

50 (XLVI, Nos. 19-20.) *Laryngeal Tuberculosis in Case of Pregnancy. N. Godskesen.—Strubetuberkulosen under Svangerskab og Fødsel.
51 *"Side" Adenoid Vegetations and Instrument for Their Removal. J. Möller.—Om Sidevegetationerne i Naesesvaelget samt Beskrivelse af et Instrument til deres Fjaernelse.
52 (Nos. 21-22.) *Experimental Cancer Research. C. O. Jensen. —Exp. Undersögelser over Kraeft hos Mus.
53 (No. 23.) Ulcus simplèx vesicæ. S. Nordentoft.
54 (No. 24.) *Treatment of Lupus with Refrigeration. P. Sorensen.—Behandling af Lupus med Frysning.
55 (No. 25.) Et Tilfaelde af Endarteriitis obliterans hos en 32 aarig Mand. V. Christiansen.
56 Leukocytæmi og Appendicitis. E. Müller.

50. **Laryngeal Tuberculosis in Pregnancy.**—Godskesen reviews 55 cases, only 24 of which have been previously published, and analyzes his own material, which is included. On the basis of these experiences he formulates the principles for procedure as induction of abortion in the early months of the pregnancy, and later, careful supervision with tracheotomy at the right moment. The dangers of pregnancy in case of laryngeal tuberculosis are shown in the series of 31 previously unpublished cases which he has collected, including 1 reported by V. Pleth of Chicago. The death of the mother soon after delivery is mentioned in all but 5 or 6, and in only 7 did the child survive. The pregnancy ran its course to term in 25 out of 46 cases. In 26 the child was delivered alive, and in 23 instances it proved to be healthy. The patients died undelivered in 3 cases and abortion occurred in 5. In 8 delivery took place four to six weeks before term, in 2 of these artificially induced. The insidious beginnings of laryngeal tuberculosis and its rapid development under the influence of pregnancy should rouse the physician to be on the alert at the slightest symptoms attracting attention to the throat, especially in patients who have apparently recovered from a tuberculous throat or lung lesion. In 26 cases the laryngeal tuberculosis commenced during the pregnancy usually during the first half. In 7 cases the affection had existed prior to the pregnancy, but had caused no alarming symptoms until then, and in the others the pregnancy did not seem to materially affect the lesion in the throat. The lungs were involved in nearly all the cases, but the throat lesion was predominant. In 35 local treatment or an endolaryngeal operation was alone attempted. In 2 a tuberculous circumscribed tumor was successfully removed. Tracheotomy was done in 8, laryngo-fissure in 3 and subhyoid pharyngotomy in 1. The tracheotomized patients were in the fifth or sixth month one each, and 2 each in the seventh, eighth or ninth month of the pregnancy. Three died soon after the abortion or delivery; 2 were dismissed in comparatively good health after delivery; 2 died nearly two years later from the progress of their tuberculosis and one is still alive after eight years. These results are encouraging, as this operation is undertaken only in the severer cases. There is no doubt but what more of the children might have been saved if tracheotomy had been done more frequently.

51. **"Side Adenoids."**—In 200 operations for adenoids undertaken at Mygind's clinic during the last year, the vegetations were what he calls "side adenoids" in 9 cases. In his private practice the number was 11 in 120. Some of the patients were 30 to 40 years old. The symptoms seem to be about the same as with the ordinary vegetations. He gives cuts of a couple of adenotomes especially adapted for reaching these "side adenoids." They seem to resist the tendency to atrophy more than ordinary vegetations.

52. **Experimental Cancer Research.**—Jensen has continued his studies of malignant tumors on white mice and now announces that he has succeeded in transmitting through 22 generations a tumor growth originally derived from cells of a melano-sarcoma on a horse. He gives photogravures of one of the mice showing the external aspect and the dried specimen of one of the tumors, which swelled the animal to nearly twice the normal circumference of the body back of the front legs. He also gives 14 cuts of the histologic findings. They indicate a pronounced carcinomatous structure, but there was no evidence of metastasis. The tumors continued to grow until the animals died from cachexia or from ulceration of the testicles. The tumors were transmitted from one generation to another by transplantation, and the transplantation was successful in 40 to 50 per cent. of all the attempts on white mice, but failed on other animals except on a few ordinary mice. There was not the slightest evidence in favor of a parasitic action.

54. **Treatment of Lupus with Refrigeration.**—Sorensen reports that he has treated 6 cases of lupus to date with a freezing application, spraying the parts with ethyl chlorid, as practiced by Detlefsen. Such remarkable improvement was obtained that he thinks we can rank the Detlefsen with the Finsen method of treating lupus as a notable progress. He regards the Finsen as the standard method, but in cases in which a course of Finsen treatment is impracticable, the freezing method enters on its rights. It is peculiarly adapted for private practice. The sittings are daily at first, then with longer intervals.

Upsala Laekareforenings Foerhandlingar.

57 (VIII, Nos. 3-6.) *Traumatic Injuries of the Semilunar Cartilage in the Knee. E. Bovin.—Om traumatiska menskrubbningar i knäleden.
58 *Diagnosis of Lung Affections. I. Hedenius.—Bidrag till lungsjukdomarnes diagnos och Kasuistik.
59 Oxidation Processes. T. Thunberg.—Om de fysiologiska oxidationsföreteelserna.
60 *Saline Infusion in Acute Anemia. F. Zachrisson.—Kliniska studier öfver den intravenösa och subkutana saltvatteninfusionens värde vid akut anemi.
61 Ar Unverrichts s. k. familiära myokloni en klinisk entitet, som eger berättigande inom nosologien? H. Lundborg.

57. **Traumatic Injuries of Meniscus.**—Bovin has found in the literature reports of 163 cases of total or partial extirpation of the meniscus on account of traumatism. He tabulates the details of 148 of them; all but 26 were cases of rupture. He further gives the complete history of 10 cases he has personally observed and treated. He also gives his conclusions in regard to the physiology and anatomy of the meniscus from the study of 15 fresh and 36 formalin-hardened specimens. He affirms that

the meniscus is not a rigid and unyielding body, but changes its shape and position under the influence of traction and pressure. Twelve photogravures accompany the comprehensive article. The median meniscus is found injured much more frequently than the lateral, and isolated rupture of the capsular insertion was the most frequent of all. A recent injury of the meniscus is often mistaken for an internal sprain or contusion with hemarthrosis or for acute traumatic synovitis. An old injury may be mistaken for a free or pedunculated body in the joint or other lesion. The slightest suspicion of recent injury of the meniscus imposes the necessity of immobilization and bed rest for three or four weeks after the dislocated cartilage has been replaced. In chronic cases an operation will usually restore normal function to the joint. An old injury of the meniscus left to itself is liable to seriously compromise the function and entail chronic synovitis, and possibly arthritis deformans. The meniscus was sutured in 39 cases, and in 6 there was recurrence. Infection and ankylosis occurred in 2 and protracted convalescence in 1. The longer manipulations required for suture increase the probabilities of infection. Effusion requiring tapping a few times followed in one case. In 2 others the movements of the joint were somewhat restricted, probably from the longer mobilization required after suturing than after extirpation. Bovin resorted to suture only once. This was a case of recurrence of the disturbances after partial resection. The fragment of the meniscus that had been left was sutured to the capsule with perfectly satisfactory results.

58. **Diagnosis of Lung Affections.**—Hedenius warns that we must not rely too much on the physical signs in diagnosing tuberculosis. He mentions that the muscle sounds in the esophagus are liable to deceptively simulate râles, and describes a case in which the physical signs indicated apical catarrh, and a "congestion bronchitis" was found localized in the apex, but no traces of tuberculosis could be detected. Death had occurred in consequence of heart disease, and special care is necessary in determining the significance of the physical signs in the lungs in case of heart disease or with emphysema or curvature of the spine. In another case he describes the *Streptococcus longus conglomeratus* was apparently alone responsible for the symptoms and lesions, bronchopneumonia with multiple abscess in the lungs, diffuse sero-fibrinous pneumonia and empyema at three points in the wall of the thorax, suggesting actinomycotic infection. An abscess was also found in the thalamus opticus.

60. **Saline Infusion in Acute Anemia.**—In this second part of Zachrisson's study he reviews 20 cases he has found on record in which saline infusion proved a life-saving measure in acute anemia. He comments with surprise on the fact that all but 2 were published by American or English writers, and also on the invariable success of the measure. The unsuccessful cases are probably not published, he adds. He reviewed 7 cases from his own experience in the first part of his article.

Gazzetta degli Ospedali, Milan.

Last indexed page 70.

62 (XXIV, No. 44.) *Sulle sostanze estrattive riduttrici delle urine nella pellagra ed in altri stati morbosi. L. Lucatello.
63 *Auto-emolisi da alcool. S. Mircoli and A. Gervino.
64 Sul fenomeno dell' agglutinazione del sangue (of the blood). E. Gilardoni.
65 (No. 47.) *Applicazione all' uomo del siero antipneumonico Tizzoni-Panichi. L. Panichi (Bologna).
66 Granulazione iodofile e granulazione eosinofile. Tarchetti.
67 *Contributo allo studio delle cause di morte improvvisa nei bambini. G. Segadelli.
68 *Treatment of Pyemia with Iodized Milk. G. Santoro.—Sulla cura della pioemia col latte iodato Sclavo.
69 (No. 50.) *L'intervento chirurgico nelle nefriti mediche. D. Maragliano.
70 Influence of Ichthyol on Elimination of Sulphur in the Tuberculous. G. Radice (De Renzi's clinic, Naples).—Influenza dell' ittiolo sulla eliminazione dello zolfo nei tubercolotici.
71 *Il guaicolo nella parotite epidemica. M. Ragazzi.
72 Emoglobinuria dei malarici. A. De Blasé.
73 (No. 53.) Contributo alla casuistica della sieroterapia antistreptococcica. A. Montini.
74 E. Maragliano's Address at Madrid Congress on Tuberculosis.—La lotta e la immunizzazione dell' organismo contra la tubercolosi.
75 (No. 56.) La causa della malattia dominante nei polli (in poultry). G. Catterina.
76 Anemia infantile post-vaccinica. M. Bellotti.
77 *Sulla sutura delle arterie. A. Salomoni.
78 *Sulla siero-terapia della tubercolosi polmonare. F. Piera.
79 Un caso acuto di tetano reumatico. A. Bussi.
80 (No. 59.) *La fisiopatologia del pancreas in rispetto al diabete ed alla glicosuria. N. De Dominicis.
81 (No. 62.) *Diagnosi della tubercolosi incipiente. S. Ceraulo.
82 *Tuberculosis Cured by Intercurrent Infection. T. Silvestri.—Può la tub. polm. arrestarsi e guarire per li sopraggiunzere di una nuova infezione?
83 Situs viscerum inversus. A. Lamari.
84 (No. 63.) *Clino-psycho-terapia dell' isterismo e della neurastenia nella pratica ospitaliera. S. Arnaud.

62. **Reducing Power of the Urine in Diagnosis.**—Lucatello tabulates the fluctuations in the reducing power of the urine in different diseases, and urges wider use of this simple approximative test of the elimination of the extractives. He illustrates the Bufalini apparatus for the purpose, which is a modification of Gerhard's.

63. **Auto-Hemolysis from Alcohol.**—Mircoli noticed in a certain hard drinker that sudden suspension of liquor was followed by hemoglobinuria, which vanished at once when the man resumed his alcohol. Tests on some rabbits also showed that the serum was blood-stained after ingestion of a small amount of alcohol daily for three months. There was no hemoglobinuria, but the proportion of urobilin was abnormally high. He thinks that the alcohol causes hemolysis, but that the rabbit kidney, being comparatively healthy and vigorous, transforms the bilirubin into urobilin. This occurred also in the hard drinker first mentioned, except when his exhausted and probably pathologic kidney missed the accustomed stimulus of its daily quantum of alcohol. The rabbit blood under the influence of the alcohol also lost its coagulating power almost entirely. These effects of the alcohol on the blood are not direct, as *in vitro* it does not dissolve the reds nor prevent coagulation. They suggest that alcohol should be avoided when there is a tendency to hemophilia.

65. **Antipneumonia Serum.**—Tizzoni's serum is derived from rabbits, and he has had only a small quantity at his disposal. The results of its application in 7 clinical cases are described in detail. It was given by intravenous injection and never produced the slightest inconveniences of any kind. The smallness of the dose prevented any disturbance of the circulation. His subjects were from 14 to 42 years old, and the injections were commenced the second to the fifth day of the disease. In three patients there were malarial antecedents. The beneficent action of the serum was unmistakable, rendering the entire syndrome milder, the expectoration looser. The softening effect on the sputa and its easier expulsion resemble the effect of antidiphtheria serum on the false membranes. All of the patients injected before the fifth day showed marked benefit, but one not treated until the fifth to seventh days did not seem to be affected.

67. **Causes of Sudden Death in Infants.**—Segadelli argues to prove that reflex inhibition from a mild gastro-intestinal catarrh may be a cause of sudden death in an infant, and describes a case which he thinks belongs in this category. The catarrhal affection had been so slight that it had failed to attract attention and was revealed only at the autopsy.

68. **Iodized Milk in Pyemia.**—Professor Sclavo of Siena prepares an iodized milk by adding iodin and albumin to milk freed of its fat, and sterilized. It can be administered by the mouth or by subcutaneous injection, and has proved a remarkably effectual means of giving iodin, especially in local tuberculosis, exophthalmic goiter, digestive disturbances, etc. The Italians attribute to iodin the property of augmenting the organic resisting powers, enabling the tissues around a local lesion to maintain a more effectual defense. Sotis states that Sclavo's iodized milk promptly benefited 2 patients with chondroperichondritis and 1 with laryngeal stenosis, in the latter case rendering the projected tracheotomy unnecessary. It also aided in the cure of 2 cases of chronic suppuration of the ear, and Ferreri reports great advantage from it in sclerosis of the middle ear, syphilitic or otherwise. Other examples of the benefits from iodized milk in intoxication from an acute or chronic infection are being constantly reported, and Santoro here describes 2 cases of pyemia in which

the patients completely recovered after a daily injection of 10 c.c. of the iodized milk for 24 to 50 days.

69. **Surgical Treatment of Medical Nephritis.**—D. Maragliano reviews the work that has been done in this line, and prophesies a brilliant future for the operation of nephrolysis as possibly equally effective while much less serious than nephrotomy. He adds that no clinical experiences with it have yet been published.

71. **Guaiacol in Mumps.**—Grande has reported great relief from inunctions of the inflamed glands with a salve of 1 gm. guaiacol to 10 gm. each of vaselin and lanolin. Ragazzi corroborates the prompt benefit from its use; the pain subsides and the general symptoms become rapidly attenuated.

77. **Suture of Arteries.**—Salomoni mentions that Matas' method of suturing arterics closely resembles the method he reported in 1900 after long experimental testing. He aims to bring the endothelium on both stumps into extensive contact, passing the needle from without into the vessel on one lip, and from within outward on the other.

78. **Serum Treatment of Pulmonary Tuberculosis.**—Piera has used the Maragliano serum extensively, and states that his and others' experience has shown that serum treatment will cure all the cases of circumscribed tuberculosis, without cavities, and with or without fever. Also the diffuse forms of superficial inflammation, even although apparently very severe. The diffuse forms with infiltration are also curable under prolonged treatment, but the forms with cavities are not curable by this means.

80. **Physio-Pathology of the Pancreas.**—De Domenicis concludes his monograph with the statement that the destruction and elaboration of sugar may occur independently of the pancreas, indicating that other organs participate in these processes. Total destruction of the pancreas entails severe disturbances in the metabolism owing to the loss of this important factor in the processes of digestion. The liver suffers particularly from its loss, and secondarily the nervous system.

81. **Diagnosis of Incipient Tuberculosis.**—Ceraulo calls attention to the frequency of palpitations and of phosphaturia in commencing tuberculosis. He noted the former in 7 out of 11 cases, and the latter in 9. He did not find enlargement of the glands in the axilla as constant as these other signs.

82. **Tuberculosis Cured by Intercurrent Infection.**—Silvestri describes 3 cases which he thinks justify him in the assumption that a secondary streptococcus invasion of the lungs following a recently-established tuberculosis, rendered the tissues unfavorable for the tubercle bacilli. The consequence was that the latter died out, and when the patients had recovered from their streptococcus infection the tuberculosis was extinguished.

84. **Isolation, Bed-Rest and Psycho-Therapy for Neurasthenia, Etc.**—Arnaud lauds in high terms what he calls "Déjerine's modification of the Weir-Mitchell treatment." He has coined the term "clinopsychotherapy" for it and relates numerous instances to prove its value, even in a public hospital, for treatment of hysteria, neurasthenia and allied conditions. The psychotherapy is the most important feature, and its influence is amazingly enhanced by the other measures, as has been proven in 200 cases thus treated at the Salpetrière Hospital at Paris.

Medizinskoe Obozryenie, Moscow.

Last indexed XL, page 1618.

85 (LVIII, 19.) Mania. P. B. Gannushkin and S. A. Sukhanoff.—K utcheniyu o manii.
86 K kasuistikye oslozhenenii aneurismi aorty. P. S. Usoff.
87 *Patent Foods for Artificial Feeding in Surgical Practice. S. B. Vermel.—O primyenenii iskusstvennykh pitatelnykh, etc.
88 (No. 20.) *Treatment of Tuberculosis in Syphilitics. A. P. Langovoi.—O primyenenii protivosyphilititcheskova letcheniya u bolnykh, stradayushtchikh odnovremenno tuberkuiezom i syphilisom.
89 Theoretical Study of Possibility of Applying Chemical Rays in Ophthalmology. A. A. Maklakoff.—Vosmozhnost primeneniya chem. lutchei svyeta v ophtalmologii.
90 Seventeenth Annual Index of Russian Medical Literature. Year 1901. Alphabetically arranged by subjects.
91 (No. 21.) *Treatment of Cancer in Pregnant Uterus. V. V. Uspensky.—Terapiya raka matki, oslozhennova beremennostyu.
92 Differentiation of Endometritis Dolorosa. D. L. Tchernekhovsky.—O rasposnavanii endometritis dol.
93 Case of Syphilitic Arthropathy in Tabes. I. A. Russloff.—K kasuistike zabolyebanii sustavov u tabitikov.
94 *Unusual Forms of Tabes. M. Lapinsky.—O ryedko vstryetchayushtchikhsya formakh spinnoi sukhotki.
95 *Treatment of Certain Forms of Chorea Minor with Antistreptococcus Serum. P. A. Preobrazhensky.—Lyetchenie vittovoi piyaski protivostreptokokkovoi syvorotkoi.
96 (No. 22.) *Nervous-cerebral Form of Grippe. V. T. Veiyamovitch.—K kazuistikye nervno-mozgovykh form grippa.
97 *Treatment of Cancer of Pylorus. T. Rose.—K operat. lyetcheniyu raka privratnika.
98 (No. 23.) *Cholelithiasis. S. B. Vermel.—K kasuistike zheltchnokamennoi bolyezni.
99 *Pathology of Broad Ligaments. I. M. Lvoff.—K patologii shirokikh svyazok.
100 (No. 24.) *Symptomatology of Cerebral Syphilis. V. V. Muravieff.—K simptomatologii mozgovovo syphilisa.
101 Seven Cases of Congenital Hernia of Brain. D. E. Gorokhoff.—Sem slutchaev vrozhdennikh mozgovikh grizh (cephalom).
102 *Value of Mineral Waters in Cholelithiasis. M. I. Radkevicz.—Znatchenie mineralnykh vod pri letchenii cholelitiaza.

87. **Patent Foods After Surgical Operations.**—After operations on the gastrointestinal tract the question of feeding is of great importance. Vermel is convinced that the artificial foods on the market, such as somatose, sanatogen, tropon, etc., are useful only when given in combination with fats and carbohydrates, as they consist mainly of albumin. The patients are unable sometimes to tolerate them in large quantities, and small amounts fail to supply the necessary quota of calories. He prefers the ordinary articles of diet, milk, cream, eggs, alcohol, meat juice, sugar, etc., in the right proportions to supply the needed fat, albumin and carbohydrates. This method in his clinic has given the best results.

88. **Treatment of Associated Syphilis and Tuberculosis.**—The differential diagnosis between syphilis of the lungs and pulmonary tuberculosis is difficult, but differentiation is liable to be still more difficult when the two diseases are associated. Opinions differ as to treatment of this combination of syphilis and tuberculosis. Zakharin, Hiller and others believe that antisyphilitic treatment is dangerous in this case, but Neisser, Potain, Pospeloff and others advocate it. Langovoi reports 2 cases which prove the correctness of the latter view. The first patient was a man of 47 who contracted syphilis at 22 and tuberculosis of the lungs at 44. He was treated with potassium iodid—20 to 30 grains daily for two weeks with thirty inunctions of gray ointment, 45 grains daily, and after twenty-five days five inunctions of 60 grains each and then seven of 80. The general condition and all the symptoms improved under this treatment. The red corpuscles increased from 4,220,000 to 5,800,000 and the hemoglobin from 70 or 75 per cent. to 85 and 90 per cent. The cough and dyspnea subsided, but the tubercle bacilli were still found in the sputa. The antisyphilitic treatment had evidently done no harm and had much benefited the patient. The second patient was a man of 33, who entered the clinic on account of complete aphonia. The laryngoscope disclosed an ulcer on the right vocal cord assumed by one specialist to be of a tuberculous nature, while another diagnosed it as syphilitic. There was a history of syphilis contracted twelve years previously, and followed four years later by slight hemoptysis suggesting tuberculous infection of the lung. Symptoms of tabes dorsalis were also apparent on careful examination. The treatment consisted in inunctions of mercurial ointment of 50 to 80 grains each for fourteen days, with potassium iodid at the same time, 20 to 30 grains a day. All treatment was then suspended for two weeks, after which the inunctions were resumed, 80 grains daily, with potassium iodid internally for eighteen days. Examination of the larynx then showed the complete cicatrization of the ulcer, while the voice had returned to normal, and all traces of the tabetic symptoms had vanished. It was assumed that the patient had presented a syphilitic polyneuritis and meningitis, which induced compression of the nerve roots and this had been the cause of the tabetic symptoms. As the polyneuritis and meningitis improved under the antisyphilitic treatment the symptoms subsided.

91. **Treatment of Cancer in Pregnant Uterus.**—Uspensky has found that cancer in a pregnant uterus is especially

liable to involve early the pelvic glands, and, hence, prompt and radical surgical intervention is particularly necessary in such cases. The complication with pregnancy does not modify the indications. Vaginal extirpation is preferable, he thinks, and can be done up to the third or fifth month without reducing the size of the uterus. Up to the fifth or seventh month evacuation of the liquor amnii is usually sufficient for the purpose, but later than this the fetus must be extracted. If viable, vaginal cesarean section is indicated, followed by total extirpation of the uterus.

94. **Unusual Forms of Tabes.**—Lapinsky, in 5 cases, noted paralyses or pareses of the arms or legs as the initial symptoms of tabes, before sensory disturbances developed.

95. **Antistreptococcic Serum in Chorea.**—A girl of 18 exhibited a violent form of chorea minor, accompanied by retention of urine, temporary paralysis, aphasia and mental disturbances. As arsenic, chloral and bromids failed to relieve, and as streptococci were found numerous in the blood, treatment with antistreptococcic serum was attempted. After thirteen to fifteen injections the symptoms abated and the patient recovered. A slight relapse was cured by Fowler's solution. The marked benefit from serum treatment in this case suggests that chorea minor may in some cases be due to infection and that the blood should be examined as a routine measure and polyvalent antistreptococcic serum used in appropriate cases.

96. **Nervous-Cerebral Forms of Grippe.**—The action of the grippal toxin on the brain substance is liable to induce intermittent fever and also pulsus tardus from its influence on the vagus center. These two symptoms are characteristic of la grippe, Velyamovitch believes, and reports a case to confirm this opinion.

97. **Operative Treatment of Cancer of the Pylorus.**—Rose urges prompt operation and reports two cases. In the first the patient was still in good health fifteen months after resection of the pylorus, rapidly recovering after the operation. In the second case gastroenterostomy was performed and the symptoms were relieved for fifteen months, after which slight evidences of recurrence of trouble were manifest. Free hydrochloric acid appeared in the stomach contents after intervention in both cases, and the lactic acid disappeared.

98. **Cholelithiasis.**—In one of the 3 cases described, the gallstones had developed under the influence of malaria, the parasite being found in the blood, and all symptoms vanished under quinin sulphate, 9 grains a day, supplemented by Fowler's solution. In another case the gallstone affection had lasted unrecognized for fifteen years, until the patient evacuated 3 gallstones in the feces and 146 more in the twenty following days, all without colics. A fistula had evidently formed between the gall bladder and duodenum. The patient had no further disturbances. About three weeks before voiding the stones the patient had taken six calomel powders of 2.75 grains each in the course of a day, and this had been followed by a mild course of specific treatment, as syphilitic antecedents were suspected. Five leeches and some Spanish flies had been also applied to the gall-bladder region. In cases in which small stones are suspected surgical intervention should not be considered unless medical treatment fails to produce good results soon. The differentiation is the chief difficulty.

99. **Pathology of Broad Ligaments.**—Lvoff reports 2 cases of fibroma of the broad ligaments, the surrounding organs intact, and 2 of echinococcus cysts in these ligaments. All were treated by extirpation of the affected ligament, with most satisfactory results. The ligament and fibroma in one case were removed through a posterior colpotomy, in another through a lateral colpotomy on the corresponding side. The echinococcus cysts were removed by a laparotomy in one case, supplemented in the other by posterior colpotomy on account of a concomitant parametritis.

100. **Cerebral Syphilis.**—In the 2 cases described mercurial and iodid treatment, supplemented by local blood-letting (Spanish flies to the neck) produced great improvement. In each case there were marked disturbances in the memory. This symptom is characteristic of Korsakoff's psychosis. Muravieff believes that it indicates a syphilitic affection of the brain.

102. **Value of Mineral Waters in Cholelithiasis.**—Radkevicz is convinced that mineral waters are fully as important as operative treatment for the cure of cholelithiasis. Surgical intervention does not exclude the possibility of relapses, but followed by treatment with mineral waters, it ensures a complete cure.

New Patents.

Patents of interest to physicians, July 21-August 11:

735660. Formaldehyde fumigator. Leon Feval, New Brunswick, N. J.
735670. Stethoscope holder. William Jones, Denver.
735276. Vaginal syringe. John R. Lane, New York City.
735542. Spirometer. Henry T. Lyttleton, Marshall, Texas.
735396. Machine for grading tablets. James M. MacDonald, Detroit.
735400. Surgical instrument. Richard P. McCully, Brooklyn.
735135. Invalid bed. William McLennan, Ogdensburg, N. Y.
735141. Surgical apparatus. George A. Ogle, Catonsville, Md.
735581. Therapeutic apparatus. Adrian Pollacsek and B. Beer, Vienna.
735591. Depurator. Lloyd H. Richards, El Paso, Texas.
735325. Hernial truss. Carl Weck and F. Weck, Grafrath, Germany.
735687. Electrotherapeutic apparatus. Scheuyler B. Zink, Portsmouth, Va.
735851. Therapeutic apparatus. Gerald L. Abell, Oakland, Cal.
736059. Device for administering anesthetics. George L. Bennett, Chicago.
736072. Arm rest for crutches. Harry S. Cole, Newtonsville, Ohio.
735860. Device for preventing flat feet. Catharine L. Darby, Brooklyn.
735723. Nebulizer. Thomas De Vilbiss, Toledo, Ohio.
735959. Respirator. Eugene Folkmar, Charlottenberg, near Berlin, Germany.
736086. X-ray tube. Robert Friedlander, Chicago.
735968. Massaging implement. Julius J. Grobe, Chicago.
736250. Making hemoglobin preparations. Friedrich Hanssen, Altona-on-the-Elbe, Germany.
735876. Hot water bottle. Joseph Holland, Akron, Ohio.
736111. Inhaling apparatus. Theodor Kautz, Bad Reichenhall, Germany.
736328. Sterilizable surgical instrument case. Helen P. Wilson, Vanwert, Ohio.
734213. Hot water bag. Joshua Barnes, Smithtown Branch, N. Y.
734252. Lung testing apparatus. Paul von Boeckmann, New York City.
734159. Stethoscopic instrument. Robert C. M. Bowles, Boston.
734302. Siphon filler. Henry Carmichael, Malden, Mass.
734229. Fumigating and disinfecting device. George F. Hardinge, Vineland, N. J.
734323. Bottle closure. William Harrison, Redhouse, W. Va.
733977. Massage apparatus. Francis G. Lagerstrom and A. G. Anderson, Salina, Kas.
734270. Eye shade. Orlando B. Lester, Washington.
734238. Depurator. Augustus W. Ottignon, Seattle.
12133. Reissue. Massage machine. Charles Pfanschmidt and J. Siefert, Chicago.
734498. Dilating bougie. Friedrich R. Bachler, Oxnard, Cal.
734663. Ointment or pill slab. William Bower, Olney, Ill.
734849. Making sulphuric acid. Gustave Gin, Paris.
734586. Obstetrical instrument. Hiram Mendenhall, Audubon, Iowa.
734926. Artificial foot. William F. Mumberg, Chicago.
734952. Massage apparatus. John A. Reade, Jr., Chicago.
735043. Sanitary pocket cuspidor. John Tobin, Brooklyn.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending August 15:

A. A. Surgeon P. L. Cooke, detached from the *Chesapeake* and ordered home to wait orders.

Surgeon J. M. Edgar, detached from the *Wabash* and ordered to the Asiatic Station with a detachment of marines, leaving Washington August 24.

Surgeon G. B. Wilson, detached from the Naval Hospital, Chelsea, and ordered to the *Wabash*.

Asst.-Surgeon R. W. Bachmann, detached from the *Solace* and ordered to the Naval Station, Guam.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the fourteen days ended Aug. 6, 1903:

Assistant Surgeon-General W. J. Pettus, granted leave of absence for twenty days from August 10.

Surgeon H. W. Austin, granted leave of absence for one month from August 6.

Surgeon H. R. Carter, granted leave of absence for one month from August 4.

Surgeon J. B. Stoner, granted extension of leave of absence for one month from August 1.

Surgeon J. M. Gassaway, granted leave of absence for two months from August 10.

Surgeon Fairfax Irwin, granted leave of absence for two months from September 5.

Surgeon D. A. Carmichael, to proceed to Washington, D. C., and report to director of the Hygienic Laboratory for special instructions.

P. A. Surgeon B. W. Brown, granted leave of absence for fifteen days from August 12.

P. A. Surgeon J. M. Eager, detailed to represent the service at the International Congress of Hygiene and Demography at Brussels, Belgium, Sept. 3-8, 1903.

P. A. Surgeon H. W. Wickes, granted leave of absence for one day, August 15.

P. A. Surgeon L. L. Lumsden, relieved from temporary duty at San Juan, P. R., and directed to proceed to Vineyard Haven, Mass., and assume temporary command of service during absence of Surgeon D. A. Carmichael.

P. A. Surgeon J. A. Nydegger, relieved from duty at Sault Ste. Marie, Mich., and directed to proceed to the Immigration Depot, New York, N. Y., and report to Surgeon G. W. Stoner for assignment to duty.

P. A. Surgeon J. F. Anderson, to proceed to Marietta, Conewaga and Swiftwater, Pa., and Baltimore, Md., for special temporary duty.

Asst.-Surgeon C. E. Decker, placed on waiting orders from August 1.

Asst.-Surgeon W. K. Ward, granted leave of absence for ten days from August 25.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence, on account of sickness, for fifteen days from July 15.

Asst.-Surgeon T. F. Richardson, to proceed to Tampico, Mexico, for special temporary duty.

Asst.-Surgeon C. E. D. Lord, to proceed to Seattle, Tacoma, Port Townsend and Sumas, Wash., Victoria and Vancouver, B. C., Portal, N. D., and Winnipeg, Manitoba, for special temporary duty.

Asst.-Surgeon C. W. Wille, to proceed to Baltimore, Md., and assume temporary command of the service during the absence, on leave, of Surgeon H. R. Carter.

Asst.-Surgeon L. P. H. Bahrenburg, on the arrival of A. A. Surgeon Norman Roberts at Chicago, to proceed to New Orleans and report to medical officer in command for temporary duty.

Asst.-Surgeon A. M. Stimson, granted leave of absence for seven days from July 28, 1903, under paragraph 191 of the Regulations. Granted extension of leave of absence for seven days from August 5.

Asst.-Surgeon W. K. Ward, granted leave of absence for two days from July 30, 1903, under paragraph 191 of the Regulations.

Asst.-Surgeon A. D. Foster, to proceed to St. Louis and assume temporary command of the service during the absence, on leave, of Surgeon J. M. Gassaway.

Asst.-Surgeon Norman Roberts, to report to medical officer in command at Chicago for duty and assignment to quarters.

Asst.-Surgeon G. L. Collins, to proceed to the Immigration Depot, New York, and report to Surgeon G. W. Stoner for duty.

Asst.-Surgeon H. G. Ebert, to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon W. M. Wightman, to report to medical officer in command at San Francisco quarantine for duty and assignment to quarters.

Asst.-Surgeon H. M. Manning, to proceed to Stapleton, N. Y., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon F. C. Smith, to proceed to the Immigration Depot, New York, and report to Surgeon G. W. Stoner for duty.

A. A. Surgeon B. J. Brown, Jr., granted leave of absence for two weeks from August 4.

A. A. Surgeon J. M. Delgado, granted leave of absence for seven days from August 5, under provisions of paragraph 210 of the Regulations.

A. A. Surgeon F. Duffy, granted leave of absence for ten days from August 12.

A. A. Surgeon C. M. Frissell, granted leave of absence from August 6 to 18.

A. A. Surgeon R. S. Primrose, granted leave of absence for fifteen days on account of sickness.

A. A. Surgeon W. L. Savage, granted leave of absence for thirty days from August 6.

A. A. Surgeon P. N. Barnesby, granted leave of absence for one month from August 6.

A. A. Surgeon W. A. Klimmet, granted leave of absence for two days from July 25, 1903, under paragraph 210 of the Regulations.

Pharmacist F. A. Southard, on being relieved by Pharmacist C. R. McBride, to proceed to Washington, D. C., and report to the director of thee Hygienic Laboratory for duty.

Pharmacist M. H. Watters, granted leave of absence for twenty-two days from August 15.

Pharmacist C. R. McBride, to proceed to New York (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Pharmacist Henry Gahn, detailed to represent the service at the fifty-third annual meeting of the Pharmaceutical Association, to be held at Mackinac Island, Mich., August 3. Reassigned to duty in the Purveying Depot, effective July 17.

Pharmacist A. M. Roehrig, detailed to represent the service at the fifty-third annual meeting of the Pharmaceutical Association, to be held at Mackinac Island, Mich., August 3.

Pharmacist W. L. Stearns, reassigned to duty at the Purveying Depot, effective July 17.

Pharmacist R. H. Gibson, granted leave of absence for seven days from July 29, 1903, under paragraph 210 of the Regulations.

Pharmacist L. W. Ryder, granted leave of absence for fifteen days from August 1.

Pharmacist M. H. Watters, relieved from duty in the Hygienic Laboratory and assigned to duty in the Bureau. To report to chairman of board of examiners at Washington, D. C., Aug. 10, 1903, for examination to determine his fitness for promotion to the grade of pharmacist of the second class.

Pharmacist L. P. Hall, granted leave of absence for thirty days from August 20.

BOARDS CONVENED.

Board convened to meet at Washington, D. C., July 27, 1903, for the consideration of the request of Asst.-Surgeon C. E. Decker to be placed on waiting orders on account of physical disability. Detail for the board: Assistant Surgeon-General A. H. Glennan, chairman; Assistant Surgeon-General L. L. Williams; Assistant Surgeon-General H. D. Geddings, recorder.

Board convened to meet at Washington, D. C., July 27, 1903, for the physical re-examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Board convened to meet at Washington, D. C., August 10, 1903, for the examination of Pharmacist M. H. Watters to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

APPOINTMENTS.

Norma Roberts, Pennsylvania; George L. Collins, Massachusetts; Harvey G. Ebert, Washington; William M. Wightman, California; Herbert M. Manning, District of Columbia, and Frederick C. Smith, Minnesota, commissioned as assistant surgeons (recess) in the Public Health and Marine-Hospital Service.

Charles R. McBride, Ohio, appointed pharmacist of the third class, Aug. 7, 1903.

PROMOTION.

G. W. Iltis, pharmacist of the third class, promoted to be pharmacist of the second class, effective April 24, 1903.

REINSTATEMENT.

William C. Phillips, reinstated as pharmacist of the third class.

SUSPENSION.

Pharmacist H. E. Davis, suspended from duty and pay for a period of thirty days from July 27, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 15, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, August 1-8, 4 cases.
California: Los Angeles, July 25-August 1, 1 case; San Francisco, July 26-August 2, 3 cases.
Massachusetts: Fall River, August 1-8, 1 case, 1 death.
Michigan: Detroit, August 1-8, 3 cases.
Missouri: St. Louis, August 1-8, 6 cases.
Nebraska: Omaha, August 1-8, 1 case.
New Hampshire: Manchester, August 1-8, 1 case.
New Jersey: Camden, August 1-8, 4 cases.
Ohio: Cincinnati, July 31-August 7, 2 cases; Dayton, August 1-8, 3 cases; Toledo, August 1-8, 1 case.
Pennsylvania: Allegheny, August 2-9, 5 cases, 1 death; Altoona, August 1-8, 1 case imported from Virginia, via Washington City; Carbondale, July 24-31, 2 cases; McKeesport, August 1-8, 4 cases.
Utah: Salt Lake City, August 1-8, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, July 18-25, 3 cases.
Ecuador: Guayaquil, June 24-July 4, 1 sporadic case.
Colombia: Bocas del Toro, July 20-28, 1 case.
Great Britain: Bristol, July 18-25, 1 case; Leeds, July 18-25, 9 cases, 1 death; Liverpool, July 18-August 1, 12 cases, 2 deaths; London, July 11-25, 19 cases; Manchester, July 18-25, 7 cases; Nottingham, July 11-25, 10 cases.
India: Bombay, July 7-14, 14 cases; Calcutta, July 4-11, 1 case.
Mexico: City of Mexico, July 26-August 2, 7 cases, 4 deaths; Tampico, August 1-8, 2 deaths.
Netherlands: Amsterdam, July 25-August 1, 1 case, 1 death.
Russia: Moscow, July 11-18, 2 cases.

YELLOW FEVER.

Colombia: Panama, July 27-August 3, 3 cases, 1 death.
Costa Rica: Limon, July 23-30, 2 cases, 2 deaths.
Mexico: Tampico, July 24-August 8, 35 deaths; Vera Cruz, July 24-August 8, 91 cases, 29 deaths; Victoria, August 10, 1 case, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, June 13-20, 9 cases, 8 deaths; Provinces, June 13-20, 368 cases, 319 deaths.

CHOLERA—FOREIGN.

India: Bombay, July 7-14, 1 death; Calcutta, July 4-11, 35 deaths.
Straits Settlements: Singapore, June 13-20, 6 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, July 29, 1 death.

PLAGUE—FOREIGN.

Australia: Queensland, Bundaberg, June 1, 1 case.
China: Hongkong, June 17-26, 52 cases, 47 deaths.
Egypt: Alexandria, July 5, 1 death; Port Said, July 13, 7 cases; Tantah, July 9, 4 cases.
India: Bombay, July 7-14, 68 deaths; Calcutta, July 4-11, 15 deaths; Karachi, July 5-12, 2 cases, 2 deaths.
Mauritius: July 2-16, 11 cases, 10 deaths.

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Original Articles.

SKIASCOPY AS A METHOD OF PRECISION.*

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DENVER, COLO.

It is difficult to realize how one may understand the theory of a method, and may employ it habitually in practice, and yet may attain results of insignificant value, as compared with what might easily be reached by a little more exactness. The difference between a loose method and a method of precision may be nothing in theory and trifling in detail, but enormous in practical usefulness. A scientific method becomes a method of precision, and attains practical value by comparatively slight modifications, but these may be made or adopted very slowly.

We can better understand how slowly by looking at the history of a diagnostic procedure that is now generally relied on. It is more than three hundred years since the invention of the thermometer. About two hundred years ago it was perfected in practically its present form by Fahrenheit. Yet physicians still in active practice remember the work of Andral and Wunderlich which made thermometry a method of precision in practical diagnosis, and led to its general adoption.

Take the clinical thermometer as we have it to-day, and the literature which now gives significance to its readings; but use it with neglect of a few precautions necessary to accuracy, and the observations made with it would be worthless. Drop precision from any modern method of examination and what a farce it would become. In no branch of modern science is minute exactness of greater importance than in the measurement of the refraction of the eye.

Skiascopy has been much written about and practiced of late years. It has given results that justify this. But by attention to certain details that would render it a method of precision, its practical value would be increased ten-fold. Skiascopy is a method of physical measurement. It is capable of exactly the same certainty as measurement by the rule or balance; and upon the same condition, exactness. Such statements as it "is not trustworthy when subjective methods are possible with intelligent people," or "it is sometimes misleading," indicate merely the carelessness with which it has been used. If your thermometer be falsely graduated, or your tape measure stretches freely, and you do not know enough about them to appreciate the dangers of such inaccuracies, you may be misled by them. If you measure by skiascopy the periphery of a dilated pupil, never used in vision, and do not know that its refraction is totally different from that of the visual zone at the center of the pupil, you may be misled by skiascopy. The shadow test is trustworthy enough. It is ignorance, haste, carelessness, inexactness that are untrustworthy.

It was inevitable that this method of examination should pass through a period of development. The ophthalmoscope, which came as near being a complete discovery as any we have had, has grown enormously in practical value since its introduction. For skiascopy this stage of development has not yet passed, but it has gone far enough for us to place the shadow-test among our methods of precision. The time for being content with a general comprehension of its theory, and teaching it in a rude, diagrammatic way has passed. Recognition of it as a practical test should be given henceforth only as it takes the form of a method of precision. If one has no tape measure he may estimate length by spanning with his hand or counting paces. If the conditions for accuracy are for the time impossible, one may practice approximate skiascopy. But it should be recognized that this is not all that skiascopy might be.

The first step toward rendering skiascopy a method of precision is the shortening of the distance between the patient and surgeon. We do not try to recognize the diplobacillus or the gonococcus with a magnifying power of two hundred diameters or less. Why should we try to practice skiascopy at the distance of one meter, where it is impossible to recognize appearances which must be recognized in order that the skiascopic determination of the refraction shall be accurate?

The shadow-test is practiced with a pupil of from 4 to 8 mm. in diameter. A letter inscribed in a circle of that size would be recognized at a distance of 2 to 4 meters in a good light. With the strongest illumination of the pupil the movements of light and shadow can be recognized readily at the same distances. But the strongest illumination is not available for accurate skiascopy. The conditions which give the most brilliant reflex from the pupil differ essentially from those under which the refraction can be exactly measured. As the point of reversal is approached the illumination of the pupil becomes feeble, and for a fair approach to exactness, say within 0.25 D., the light in the pupil becomes so feeble that the direction of its movement can not be recognized at one meter, even when the movement extends over the whole width of a pupil 6 or 8 mm. in diameter. Skiascopy at one meter can not be certain. The correctness of measurements made at that distance can not be relied on. They may be accurate by chance, but they are not accurate with certainty.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

Moreover, in the great majority of eyes, the movement of light and shadow has to be determined, not in the area of the whole pupil, but in an area much smaller, a circle of 3 to 5, instead of 6 to 8 mm. in diameter. Then in this smaller circle one has to watch the movement of a comparatively dim light area, while around it a larger and more brilliant area is also moving. The folly of getting so far away that it is difficult or impossible to recognize this important central movement, has greatly lessened the practical value of the shadow-test.

The reasons that this folly has continued so long, and has been so general, are not difficult to imagine. If you wish to make skiascopy a method of precision, you must be careful as to all its details. The source of light must approximate as closely as possible a mathematical point. The distance between surgeon and patient must be measured exactly. But if the surgeon goes far enough away from the patient's eye, it makes very little difference whether his source of light be large or small, and he need not measure the distance from the patient at all, but merely guess at it or make a fixed deduction.

If skiascopy is not to be a method of certainty and precision, but only a rough and approximate test, the loose, easy, careless way of practicing it will answer. But it ought to be generally understood that this loose method no more exhausts the possibilities of skiascopy than did the old methods of the alchemists exhaust the possibilities of the chemical examination of urine.

The time will surely come when our profession will appreciate the value of an objective method of exactly measuring refraction, and will hold in light esteem the scientific judgment of a generation that failed to appreciate that value. But until such a method of precision is appreciated, not even the most reasonable and obvious of its essential conditions is likely to be generally observed.

The need of measuring the distance between surgeon and patient has already been alluded to. When the distance is so great that a foot added to it will mean but 0.25 D. difference in the refractive power, such measurements are unnecessary. But when a single inch means more than 0.25 D. of refractive power, the need for exactness is obvious.

The size of the retinal light area obtained with a certain source of light is inversely proportioned to its distance. If the source of light be kept of the same size and brought nearer to the patient's eye, the delicacy of the test will be diminished rather than increased because of the enlarged retinal light area. A source of light I cm. in diameter, used at ten inches, will be as inaccurate as a source 4 cm. in diameter, at one meter. For working at one-quarter meter we must reduce the diameter to 2.5 mm. or less. The need to give the sight-hole a sharp edge and circular form is generally appreciated. It becomes even greater as skiascopy is rendered a method of precision.

The reduction in the size of the source of light renders necessary a reduction in the sight-hole, to prevent the reflected light point from being largely or completely swallowed up in it. The sight-hole should be not more than half the diameter of the source of light. Of course, with such a sight-hole its freedom from reflection, which should always be aimed at, is essential.

When skiascopy has been developed and modified in these respects, still other things assume practical importance. The room must be thoroughly darkened. The more delicate movements of the faintly illuminated area in the pupil can only be perceived when the surgeon's retina has become adapted to a faint light. Then, too, this faint illumination must not be overcome by reflexes from the trial lenses in front of the patient's pupil. The light must be so thoroughly cut off that no reflection of the surgeon's hand, or face, or other object can interfere with the watching of the pupillary movement.

To get the rays entering through the patient's pupil accurately focused on the retina, the source of light has to be brought as close as possible to the mirror, and this position brings it also comparatively close to the patient's face. When the distance between surgeon and patient is reduced to 12 inches or less, this renders worth while a double metal shade, which will prevent unpleasant heat from the flame.

To fix exactly the principal meridians of astigmatism, special arrangements are required. The correcting cylinder turned to its proper meridian often serves the purpose. But for higher degrees of astigmatism (more than 0.50 D.) the wire stretched in front of the pupil, as suggested by Finch, is more satisfactory.

So many of these points must be attended to if we would render skiascopy a method of precision, and so interdependent are they, each losing most of its value when not used in connection with the others, that it seems proper to recognize a special form of the shadow-test as exact skiascopy. This we can do while fully appreciating that in essential theory and general character it is identical with the shadow-test in general. It is distinct in the sense that perimetry is distinct from measuring the field of vision with the fingers or by other methods; or as the refraction of the ophthalmoscope is distinct from the original Helmholtz or Liebreich ophthalmoscopes.

We would indicate by the term exact skiascopy:

The working at a distance of one-quarter to one-half meter.

The accurate measurement of the distance.

The adaptation of the source of light and the sight-hole to this distance.

Care to bring the source of light close to the conjugate focus of the retina.

Means of fixing exactly the direction of the principal meridians.

Control testing, by departure both ways from the lens' strength, focal distance, or meridian fixed on.

And, in general, precision and exactness in every detail.

Such a method of examination is capable of sufficient accuracy for ordinary practical purposes. It will fix the error of refraction within one-quarter diopter, and in many eyes within one-eighth diopter, and the direction of astigmatism within 5 degrees when the astigmatism amounts to 0.75 D. or over, and within 15 degrees when it is only 0.25 D.

In recognizing the fact that skiascopy will not determine the refraction of all eyes with equal accuracy, it must be remembered that this is true of all methods of measuring refraction, and most true of those that give the most exact results, especially the subjective test with trial-lenses and test-letters.

It is not admitted that skiascopy is in this respect inferior to other methods. As a matter of fact, it can be relied on more completely than any other method now in use. Having made the skiascopic examination, one can judge far better of the amount of confidence to be placed in its results, than he can judge of the value of the

results obtained by the subjective methods or with the refraction ophthalmoscope. The illuminated pupil shows not only a certain error of refraction; it shows also whether the refraction is the same throughout its whole area, or throughout a definite visual zone. If this be not the case, so that some uncertainty attaches to the measurements made in any particular case, exact skiascopy reveals this fact also, and thus guards against undue confidence in its own findings.

DISCUSSION.

Dr. O. A. Griffin, Ann Arbor, Mich.—Subjective tests are certainly unreliable in a great many instances, and to secure satisfactory results other methods must be employed. When we remember that 90 per cent. of ametropes are astigmatic, one-quarter diopter or more; that a sphere will improve vision in astigmatic conditions up to about one-half of the measure of the error, and that normality of sight does not exclude the existence of small refractive errors, especially astigmatic, we must depend on a more reliable method than that furnished by the uncertainty of a patient's judgment.

It is important, as Dr. Jackson has indicated, that we follow the method in all its details in order to secure accurate results. I often find refractionists disappointed with the method simply because they do not understand how to use it. Instead of watching the movements of the shadow in a small central area, they observe the cornea as a whole. In some cases where there is an unusual amount of spherical aberration the scissors-like movements of the shadow will prove annoying, when the peripheral movements should be ignored, as the rays do not pass through this area when the pupil is normally contracted.

I am somewhat surprised that Dr. Jackson discredits the accuracy of results obtained at one meter. I make all my estimations at that distance, and in the majority of instances can easily differentiate between a quarter and eighth diopter of error. There are cases where we meet with opacities of the media or sufficient irregular astigmatism to interfere with the test; but fortunately these conditions are rare, and do not interfere enough to condemn the method.

It is, I think, in the correction of strabismic ametropias that skiascopy proves of exceptional value. If strabismus is produced by ametropic conditions, then it is imperative that these errors should be corrected early. If one depends solely on subjective tests, as is too often the case, the ametropia can not be properly estimated until the child becomes old enough to read, by which time an irreparable amblyopia has often occurred, whereas with the skiascopic test the condition can be corrected as soon as it shows itself. I have often employed the method in refracting children of tender years, and think it exceedingly fortunate that we have such a reliable objective test at our command. The statistics show, I believe, that fully one-third of strabismic conditions can be remedied by an early correction of the ametropic condition alone. If this be true, the importance of objective tests can not be overestimated.

Dr. Harold Gifford, Omaha—I do not understand why the author speaks of the visual "zone." Why not call it visual area instead of visual zone. This area is not a belt around a sphere, as that name would indicate, and the area is often not even circular.

Dr. Wm. H. Wilder, Chicago—Although I appreciate the value of the method of skiascopy advocated, and while there is no question of the method being the most accurate means of testing the refraction, it seems to me in most cases an unnecessary refinement because of being more laborious. I am sure that anyone with care and skill at a distance of one meter can get as close as a quarter diopter to the refraction of almost every case. I feel satisfied whenever I am within a quarter diopter of the actual truth. That is close enough for all practical purposes, for with that you can prescribe with safety in children unable to read. Of course, the subjective test at the reading chart is the final one. I make use of the concave mirror, with the light behind the patient's head. The error is only slight at a meter as compared with that which may occur at a distance of 20 to 30 centimeters.

Dr. C. W. Hawley, Chicago—I think perhaps some will misunderstand Dr. Jackson's paper. I do not believe he means that for practical work the examination must be done with the accuracy of which he speaks, but that he is pointing out the manner in which it must be done in order to correspond scientifically with other methods of accuracy. I know it can be depended on. A distance of one meter is what most of us use, but we find that sometimes we must get a little nearer or a little further away; that is a matter learned only by experience. As to the correction of one's own error of refraction, that is a matter of special importance to older men. A man who is a presbyope must correct that condition up to the distance at which he works. That I have learned by my own practical experience. While in London a certain physician gave it up in disgust, and I have never known until the last few years why he did so; it was because he was a presbyope and had not corrected that condition. When I became a presbyope I began to get very inaccurate, and could find no reason for it, when it dawned on me one day to correct my presbyopia, and it was a revelation to me. At about the same time I taught one of my friends to use the method. He was very much like my friend in London and was about to throw it aside. I asked him if he had tried using his glass correcting his presbyopic condition, and he said he had not. He had his lens placed at the back of his mirror and now does retinoscopy with pleasure and accuracy. Place on the back of your mirror a little frame for the lens, or have a permanent lens correcting the presbyopia at the distance at which you ordinarily do retinoscopy attached to the mirror. Those who have a large amount of astigmatism and hypermetropia must, of course, do the same.

Dr. Edward Jackson, Denver—With reference to the point raised by Dr. Hawley as to the correction of presbyopia, of course the correction of one's own error is only important as giving him distinct vision. When we attempt to use the method with accuracy we work up to the limit of visual acuteness and must have perfect vision to get the best results. As for myself, I have trouble with the ocular muscles more than with the accommodation. I find the illuminated pupil getting off on the brow or cheek as seen with the other eye. I have sometimes thought of adapting a prism behind my mirror as Dr. Hawley has adapted the lens. A small amount of presbyopia may give trouble.

As to Dr. Gifford's remark about the visual zone, I think zone may be used to designate that kind of an area. It is a circle within a circle. It is a circular area around the axis which I refer to as the normal visual zone.

As to the matter of working at a distance of one meter: You can not be sure of the amount of astigmatism within a quarter diopter at that distance. You may determine it in many eyes, but not in all. If you want to be accurate in every case it will be worth while to use the method which can be most accurate and most easy. At a half meter or less you can recognize everything more readily. The observed pupil is three or four times the area that you get at one meter. Perhaps the most important thing is the fixing of the axis of astigmatism, especially of low degrees. For that we have no other method approximating in exactness this method of skiascopy.

Local Treatment of Rheumatism.—Testimony is accumulating in our European exchanges that the local application of the methoxymethylester of salicylic acid has a remarkably soothing effect on rheumatic pains. In cases of rheumatism due to getting chilled the pains are banished by rubbing the part with a teaspoonful or tablespoonful of the drug, either pure or in a 50 per cent. oily solution. In obstinate cases of rheumatism it effectively supplements internal salicylic medication and relieves even chronic, hopelessly rebellious cases. It has not proved effective in neuralgia, but has been very useful in the declining stage of acute articular rheumatism, etc. It is put on the market under the name of Mesotan.

RETINAL DISEASE LIMITED TO THE REGION OF THE FOVEA.*

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CHICAGO.

In the course of years there have come under my observation five instances of disease of the retina sharply limited to the fovea and its immediate neighborhood. As I am not aware of any similar observation on record the cases seem to me to be worth reporting on account of their diagnostic interest. The only analogous disease resembling this affection is the central retinitis with scotoma caused by sunlight; for instance, while watching an eclipse. Since the cases observed by me were alike merely in localization, but different in clinical course and presumably in etiology, I see no object in generalizing, but shall only comment on the individual observations.

ACUTE CENTRAL RETINITIS WITH RECOVERY.

CASE 1.—Mr. N., a man of 45 years, in good health except for some dyspeptic symptoms, had complained lately of beginning presbyopia. He awoke one morning and saw a shadow in front of the left eye with slightly blurred sight. Two days later I found the sight in left eye 20/50, in right eye normal with a weak cylinder. He drew the brown shadow in the form of a horizontal ellipse with sharp outline extending about 3 deg. to the temporal and 6 deg. to the nasal side of the point of fixation. Within the scotoma all colors appeared faded. The fundus was not absolutely normal in both eyes. The papillæ were more injected than normally in both eyes and their edges not sharply defined. The central area of both retinæ showed a number of barely visible minute white but not glistening specks irregularly scattered. In addition, there was seen in the left eye and not in the right, a distinct though faint cloudiness of the region around and especially above the fovea. Media normal. Pilocarpin was ordered once a day, and a mild purge of calomel every second day.

Within the next ten days the shadow grew fainter, although it expanded a trifle at first. His sight rose to 20/30. The retinal cloudiness cleared visibly. About one week later (2½ weeks after the onset) the eye seemed to him normal. Three months later the retina of the left was as normal as that of the right eye. Both still showed the few white specks, but the optic discs were practically normal. His sight, corrected by cyl. +0.75, was 20/20 minus. No relapse after several years.

The lesion in this case was evidently an exudate in the anterior layers of the retina. For a shadow seen subjectively, or in other words, a positive scotoma, can only be caused by an opacity anterior to the sensitive layer of the retina. The retinal infiltration as seen by the ophthalmoscope appeared more diffuse than the sharply-defined scotoma. It seems logical to call the lesion a central circumscribed retinitis. Nothing could be ascertained as to its cause or the reason of its localization. It is impossible to say to what extent the recovery depended on the treatment. My general experience in various forms of neuritis and retinitis leads me to credit the calomel largely for the success, while I have lost all faith in the efficacy of pilocarpin.

ACUTE CENTRAL RETINITIS WITH RECOVERY, BUT SUBSEQUENT RELAPSE.

CASE 2.—Mr. S., active business manager, in good health, 55 years old, noticed one day a small brown shadow before the right eye with a heavy feeling and slight blurring. Two weeks later I found the left eye normal subjectively and objectively. The sight of the right eye was barely 20/40, while it had formerly been 20/20 minus with cyl. +05D. He draws on paper the circular outline of a shadow of about 4 deg. radius. The center of the retina of the right eye showed two oval spots, one above the other (like a figure 8), each about one-sixth of a papillary diameter, yellowish, sharply defined, but very faint and surrounded by a zone slightly darker than the rest of the fundus. Fovea as such not visible.

After a dose of calomel and the use of dark glasses vision rose to 20/30 in two days. He was unable to tolerate iodin, but took a few more doses of calomel. Within two weeks the shadow was gone, vision was normal and the morbid figure in the retina could scarcely be recognized.

Eighteen months later the same shadow reappeared in the right eye and vision again dropped to 20/30. The ophthalmoscope showed a yellowish discolored spot again involving the center of the retina, more irregular in outline than before, about one-fourth papillary diameter with more pigment granules in it than formerly. Again the shadow and blurring disappeared almost completely in two to three weeks under the use of calomel every second or third day, but the fundus lesion did not change. He told me subsequently that his vision was normal, but that a very faint shadow was still noticeable. I got no opportunity, however, to examine him with the mirror.

The comments made on Case 1 apply equally to this patient. The lesion, however, appeared different ophthalmoscopically, probably on account of some changes in the retinal pigment epithelium. The following case resembles Case 1 more closely, but unlike the other two, did not end in recovery:

CASE 3.—Mr. B., 40 years of age, healthy and with negative history, claims to have noticed a shadow with blurring about six months ago. He was treated by another oculist without improvement. The affected eye (the other being normal) has V.=20/50. He describes a gray shadow nearly crescentic and just below the point of fixation. It did not seem to be quite 5 deg. wide as indicated on the perimeter. The retina showed a fairly circumscribed grayish cloudiness, approximately semicircular, upward from the visible fovea. I did not see the patient again.

In all these instances the lesion was evidently of inflammatory origin and involved only one eye. The next case, however, showed symmetric lesions in both eyes. Neither the nature nor the time of occurrence of the disease could be learned, since only its permanent residues were seen.

CASE 4.—Mrs. S., now 37 years old, has always had poor sight, especially in the evening. Either eye has but 20/200 vision. According to all objective as well as subjective tests cyl. —2.5D. axis 110 deg. with sph. +0.75D. corrects the right eye perfectly and C.—1.75D. axis 90 deg. with sph. +0.75D. the left, but with this correction she scarcely reaches 20/100. The only anomaly shown by the ophthalmoscope is a very faint but unmistakable central lesion. The fovea as such is not recognizable in either eye, but on central fixation the foveal region, about ¼ papillary diameter, is seen a brighter red than the rest of the fundus, perhaps more so by reason of contrast, as this light red area is surrounded by a narrow zone of abnormally dense pigmentation.

The poor sight of this patient could not be accounted for by any optic reason, but is evidently explained by damage done in the center of the retina by some former possibly pre-natal disturbance. There was neither a positive nor a negative scotoma demonstrable, but simply imperfect function of the foveal region with integrity of color sense and of peripheral acuity of sight.

The last observation pertains to an insidious degenerative disease, also limited to the exact center of the retina.

CASE 5.—Mr. S., 42 years old, and in perfect health, was seen in October, 1894, on account of slight asthenopia and imperfect sight. The findings were: R. E., V.=20/70, with —0.75D. and cyl. —0.5D. axis 100 V.=20/30; L. E., V.=20/80, with —1.5D. and cyl. —1.D. axis 60 V.=20/20 minus, which glasses were given. Four years later slight failure of the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

right eye caused him to return, when the corrected sight was found to be only 20/40. In 1899 it was not quite 20/50, without any change, however, except presbyopia in the left eye. At all these occasions a painstaking ophthalmoscopic examination, however, without dilatation of the pupil, revealed no anomaly. In November, 1901, after an interval of seven years, the sight of the right eye with full (unchanged) correction had sunken to 20/70. On dilating the pupil the only lesions to be seen were slight opacity in the extreme periphery of the lens and two spots each under ⅛ papillary diameter, one occupying the site of fovea, the other almost adjoining it. The spots were poorly defined, faint yellow in color, with scarcely noticeable increase of retinal pigmentation at the periphery.

There was in this case at no time any sudden disturbance of sight. The lesion was evidently of degenerative character, and of slowly progressive nature.

DISCUSSION.

DR. W. L. DAYTON, Lincoln, Neb.—The first two or three cases mentioned by the essayist simulate the changes at the macula that may occur with senility. The age of his patients, however, would not naturally warrant us in assuming this, yet I do not remember that he spoke of the refraction. It is possible even at that age that a very hyperopic eye might have some influence on this condition inasmuch as the changes in the fovea from senility undoubtedly occur in the nerve and pigment epithelium of the retina, and it appears to me possible for such changes to occur in the cases stated. I had a case somewhat similar to this third one under observation several years ago; a case of pernicious anemia, where the spot appeared to me as if it had been a hemorrhage of long standing—not black, but more of a reddish brown. The patient succumbed to the pernicious anemia. In retinal disease limited to the macula lutea there are a number of conditions that should be carefully studied. There are cases where foreign bodies have entered the vitreous and where some weeks afterwards there appear changes in the macula. This is important, too, because we may have to deal with the condition from a medico-legal standpoint, as bearing on accident insurance, etc. The changes may not appear until some weeks after injury, or extraction of a foreign body. We may find no evidence of foveal disturbance, and then after the eye has assumed its normal condition find changes about the fovea. We may think that we have to deal with a malingerer, and then a month or so later these macular changes be very evident. I have in mind a case where such changes about the fovea occurred, yellowish-white in appearance, three months after the injury. Then, as Dr. Gradle has said, there are changes in the macula in retinitis due to the effect of electric light, and there we get a similar condition. There is another condition that I would mention in this connection, and that is where there is but little disturbance of vision and where the ophthalmologic appearance is that of small white dots. This condition may not reduce vision to more than 20/25, and yet present this peculiar appearance. I have never been satisfied as to what the condition is.

DR. LEARTUS CONNOR, Detroit—I have observed a somewhat different case, in a physician 40 years of age. The history showed at a previous examination a healthy eye, until within two weeks of the time I saw him, when suddenly in his left eye central vision disappeared; peripheral vision was normal. A peculiarity he described was this: that this spot which he saw was alive, and he described and drew on paper the various movements observed subjectively; their outline was oval in shape, progressing from the center toward the border in all directions. The drawing I made from the ophthalmic picture corresponded with that made by the patient. Two months later his central vision had become 20/200 and was apparently improving. Evidently it had involved the entire structure of the retina and the cellular elements were in a state of activity during that period. Whether treatment had any effect or not I do not know. He had been a perfectly healthy man with no constitutional taint, but he had overworked while neurasthenic.

DR. C. W. HAWLEY, Chicago—I was much interested in the paper because it calls to mind three cases I had thought of reporting. The conditions about the macula are not exactly like those described by Dr. Gradle, except in one case. The three cases occurred in ladies and came under my observation some two or three months apart. The conditions about the macula were very much like those which occur in albuminuric retinitis less the hemorrhages. I treated the first case for some time and without much improvement. It finally passed into the hands of an irregular practitioner, was treated for constipation and the patient returned home cured, the macula having returned to its normal condition. The next case was similar and I turned it over to a general practitioner, with the same result. He treated the intestinal tract and the condition cleared up. The third case was very much the same, and all three were treated as to the intestinal tract. No investigations were made as to what the nature of the poison was, but I am sure the condition resulted from the intestinal poisoning.

I understand that Moses Gunn has described some cases very similar to these. I am sure Dr. Gradle's success is due to the doses of calomel he gave.

NEUROGLIA TISSUE AND EPENDYMAL EPITHELIUM IN TERATOID TUMORS.*

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BOSTON.

(From the Sears Pathological Laboratory of Harvard University, and the Pathological Laboratory of the Boston City Hospital.)

In pathology the advances by which our knowledge of any subject is obtained often take the form of a wave. An epidemic occasions renewed interest and furnishes abundant fresh material; a new technical procedure stimulates investigation and invites the reëxamination of accumulated material: the result is a series of contributions revealing new facts concerning the subject. Such a period of activity was inaugurated in the study of neuroglia tissue by the publication in 1895 of the staining methods of Weigert[1] and of Mallory.[2] Since then has come most of our knowledge of this tissue. Many investigators have been engaged on its problems, and other staining methods have been introduced, but none of these differential methods appears to have been applied to any extent in the examination of similar elements in teratoid tumors. In a teratoma of the ovary, some features of which have already been published,[3] a large amount of neuroglia tissue was found. This finding occasioned the investigation of other tumors of this class with particular reference to neuroglia elements. As in these tumors structures related to neuroglia occur and by the application of various neuroglia staining methods other elements than neuroglia fibers are brought out, it has seemed well to consider all of these in this study. Hence neuroglia fibers, neuroglia cells, ependyma, dots and fibers which stain by the neuroglia staining methods and retina-like structures will here be described and their significance discussed.

Teratoid tumors have from earliest times received much attention. A great variety of forms has been de-

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

1. Weigert: Beiträge zur Kenntniss der normalen menschlichen Neuroglia, Frankfurt a. M., 1895.

2. Mallory: Ueber gewisse Färbereactionen der Neuroglia, Centralbl. f. allgemein. Path., 1895, vi, 753.

3. Christian: Ependymal Epithelium as a Constituent of a Teratoma, Medical Reports of the Boston City Hospital, 1902, xiii, 161; Boston Med. and Surg. Journal, 1902, cxlvii, 673.

scribed and all kinds of tissue, including the elements of the central nervous system, have been found in them. Their rate of growth and the symptoms due to their presence in various regions have been investigated. The contributions made to the various aspects of the subject have been reviewed repeatedly and it is not necessary to do so again at this time when it is our intention to consider mainly the histology of the neuroglia and of the ependymal epithelium in some of these tumors.

There were available for this study twenty teratoid tumors preserved in a way suitable for the application of neuroglia staining methods. Of these, 18 were from the ovary, one from the lung, and one from the anterior mediastinum. The tumors vary much in size and shape. Some consist of a single cyst with a solid ingrowth; some are solid cystic structures; others a combination of the two. All contain islands of bone and cartilage, some teeth. In six neuroglia was found. Of these, tumors 1, 2, 4, 5 and 6 arose in the ovary, tumor 3 in the lung. However, the possible presence of neuroglia in the others can not be denied, as it is manifestly impossible to exclude small areas of neuroglia except by serial examination of the tumor and this for such large tumors would be excessively laborious. For this reason and owing to the comparatively small number examined, these observations have no statistical value as to the frequency of the presence of neuroglia elements in teratoid tumors. They do show, however, that this tissue is of quite frequent occurrence in tumors not specially selected for complexity of structure.

Material from all of these tumors was fixed and preserved in 10 per cent. of formaldehyd. From some material was fixed in Zenker's fluid and preserved in 80 per cent. alcohol. Material fixed in formaldehyd was stained by Mallory's phosphotungstic acid hematoxylin method,[4] Mallory's modified fibrin method,[5] and Huber's modification of Benda's method of staining neuroglia.[6] That fixed in Zenker's fluid was stained by Mallory's anilin blue connective tissue stain[4] and the acid fuchsin potassium permanganate method very recently introduced by Mallory.[7] A number of variations and modifications of these methods were also employed and gave some interesting pictures. Besides these, alum hematein and eosin, or eosin and Unna's alkaline methylene blue were used. As many of these methods as possible were utilized in the study of each tumor.*

Neuroglia tissue is most abundant in tumor 1. The tumor consists of a single large cyst, with epidermal lining and an equal amount of tissue containing innumerable cysts, varying in size from very minute ones to those measuring several cm. in diameter. Between the cysts the neuroglia is scattered in masses of varying size and shape. None of these exceeds 1 cm. in greatest diameter. Most are very much smaller. Many of the areas are sharply circumscribed from the surrounding connective tissue. Into others strands of connective tissue penetrate or, on the other hand, a band of neuroglia makes its way for some distance from an otherwise sharply contoured mass into the surrounding connective tissue. Less often there is so intimate an intermingling along the border of the two tissues that the limits of the neuroglia can with the greatest difficulty

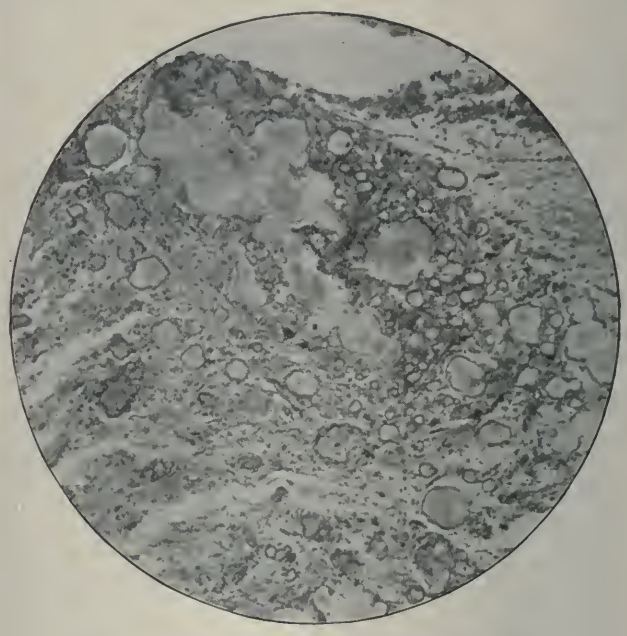

Fig. 1.—Corpora amylacea in neuroglia tissue.

be made out. In some sections single fibers or groups of several parallel fibers which resemble neuroglia fibers are found in the midst of connective tissue. These fibers are either fine or coarse, and have the same general direction as the surrounding connective tissue fibers. They may bear no relation of continuity to any mass of neuroglia tissue, and may be unaccompanied by any cell dif-

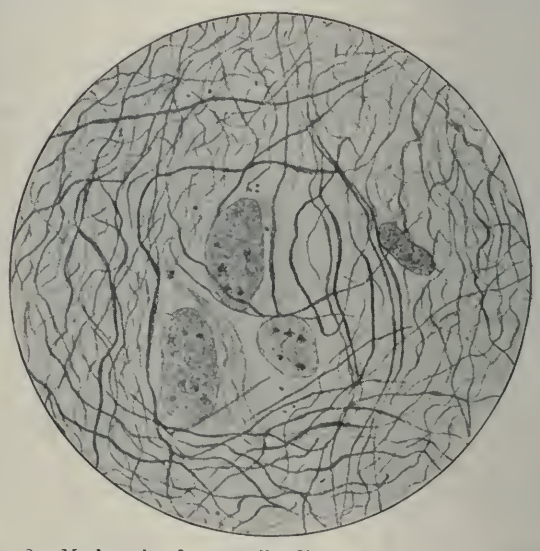

Fig. 2.—Meshwork of neuroglia fibers, some coarse, some fine. Four neuroglia nuclei, two of which are eccentrically placed in a distinct cytoplasmic body. In the cytoplasm of one of these is a "dot" near the nucleus.

fering in appearance from the ordinary type of connective tissue cell.

The relation of the neuroglia to the cysts varies. Many neuroglia masses are entirely separated by connective tissue from the cysts. Others abut on or project into cysts. Some cysts are completely surrounded

4. Mallory: A Contribution to Staining Methods, Jour. of Exp. Med., 1900, v, 15.

5. Mallory and Wright: Pathological Technique, Philadelphia, 1901, 328.

6. Huber: Studies on the Neuroglia, Am. Jour. of Anat., 1901, i, 45.

7. Mallory: A Hitherto Undescribed Fibrillar Substance Produced by Connective Tissue Cells, read at a meeting of the Am. Assoc. of Pathologists and Bacteriologists, Washington, D. C., May 14, 1903; to appear in Journal of Medical Research.

* Weigert's method of staining neuroglia was tried, but satisfactory results could not be obtained. This may have been due to the fact that the tumors were not hardened soon enough after removal from the body or that the reagents used by me differed in some way from those originally employed by Weigert. On this account deductions made by me in regard to neuroglia staining methods are not to be taken as applying to the Weigert method.

by neuroglia. There may be a large cyst with a comparatively thin layer of neuroglia about it or cysts of varying size may lie in the midst of large masses of neuroglia. Where the neuroglia is adjacent to a cyst it may be naked or covered by epithelium. The epithelium covering the neuroglia is of two general types. The one is flat cuboidal and lies immediately on neuroglia fibers, though none penetrates between them; the

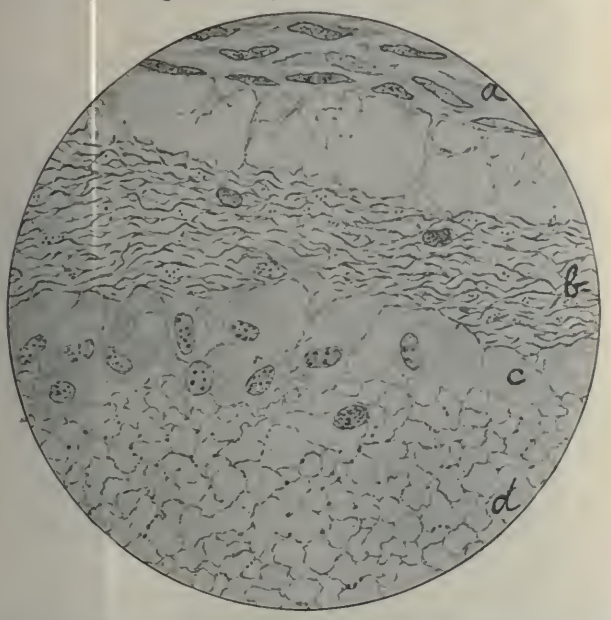

Fig. 3.—Neuroglia tissue. (*a*) Band of surrounding connective tissue. (*b*) Band of quite fine neuroglia fibers in general, running longitudinally and enclosing few cells. Between (*a*) and (*b*) there is a space due to shrinkage of tissue. (*c*) Layer of large neuroglia cells with eccentric nuclei. (*d*) Loose meshwork of fine neuroglia fibrils enclosing few cells. In this figure the dots represent cross sections of fibers.

other is of high cylindrical type, and between these neuroglia fibers often penetrate to a varying distance. Between these two types of cells are intermediate forms.

Tumor 1 shows greater complexity of neuroglia structure than the others. In tumor 2, with the same division into a large cyst and a solid portion, as in tumor 1, much less neuroglia is present. The solid portion of this tumor consists largely of small irregular cavities

Fig. 4.—Coarse neuroglia fibers ending in an expanded foot adjacent to a hyaline band of connective tissue. From base of so-called rosette.

and spaces, into which project papillary processes covered by high cylindrical epithelium containing goblet-like cells. In this respect it resembles a papillary adenocystoma of the type which is very common in the ovary. Besides this structure, in a few places are small cysts whose walls are lined by neuroglia. Tumor 3 shows numerous cysts, but the neuroglia tissue bears no close relation to these. It is sparingly present as small, irregular masses lying in connective tissue and sometimes abutting on a cyst.

In tumor 4 the neuroglia is present in relatively large masses. In one of these masses there is a central elongated cavity, which is not lined by epithelium. From this larger mass, bands of neuroglia extend into the surrounding tissue. In many places there is a very intimate intermingling of neuroglia and connective tissue fibers. In other places the two tissues are sharply demarcated. Tumors 4 and 5 each consist of a large

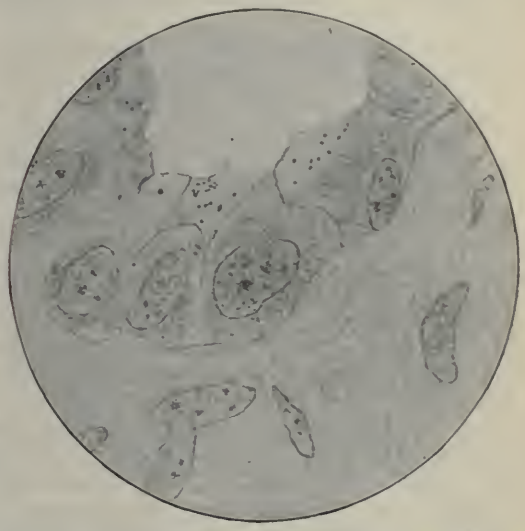

Fig. 5.—Part of a cyst lined by irregular cuboidal cells. In inner border of these are groups of "dots." In vicinity of cyst there is no neuroglia tissue. Section cuts cyst obliquely.

cyst, whose wall is not very thick. In this wall lie small, rounded masses and elongated bands of neuroglia. In one of the tumors numerous corpora amylacea of irregular size and shape are present in the neuroglia tissue (Fig. 1). In tumor 6 a single mass of neuroglia measuring 3 to 4 mm. in diameter is seen.

In the smaller neuroglia masses of all these tumors blood vessels are generally not present. In the larger masses they are found in moderate number and surrounded by a slight amount of connective tissue.

The appearance of the neuroglia in different areas is

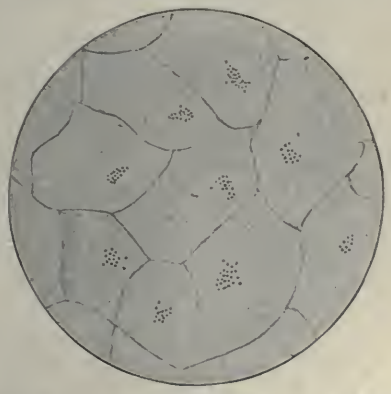

Fig. 6.—Groups of "dots" situated in the central end of cells lining a space. Section cut so as to give a view looking down on the top of the cells. Pale halo about some of the groups.

very various. The fibers differ in size and direction, the cells in form and frequency, and these differences are combined in an almost endless variety of ways. On the one hand we have masses of cells with but few fibers, on the other hand masses of fibers with infrequent cells. In neither extreme is the picture similar to that found normally anywhere in the central nervous system,

though both resemble types of gliomata. The most frequent arrangement is a coarse irregular meshwork of fibers, some fine, some coarse, crossing each other in all directions (Fig. 2). Scattered among these fibers cells are rather infrequent.

Instead of this arrangement, in many places, especially at the periphery of neuroglia masses, there is a more regular compressed meshwork of fibers having, in general, a parallel course (Fig. 3, b). Here nuclei are less frequent. Where these fibers are fine, the structure resembles that of the normal subpial and subependymal neuroglia.

A further modification in this direction results in bands of fibers, almost all of which run in the same direction and have practically a parallel course. In one or two instances these fibers are quite coarse and are interspersed with cuboidal cells roughly arranged in columns. This bears a slight resemblance to the arrangement of cells and fibers sometimes seen in tendons.

In places, instead of the interlacing fibers at first described, we have a finer meshwork of more delicate fibers and rather indefinite granular material, with nuclei widely scattered and generally having but little cytoplasm (Fig. 3, d). This arrangement of neuroglia fibers is similar to that found in many parts of the cerebral cortex.

The individual neuroglia fibers do not vary in diameter in different parts of their course and do not branch. Different fibers vary greatly in size. Some are very fine, others coarse, and some appear as narrow bands. In many areas the fibers are of approximately the same size (Fig. 3). In some the fine and coarse are mingled together (Fig. 2). For most fibers no definite method of ending is apparent; they apparently end abruptly or pass from the level of the section. Some, like those in the so-called rosettes, to be described later, end by an expanded foot applied to connective tissue (Fig. 4).

The cells, like the fibers, present a variety of appearances. Many have rather small, deeply staining, round nuclei, about which little or no cytoplasm can be made out (Fig. 3, b). Some, on the other hand, have abundant cytoplasm, though when the cytoplasm is abundant the nucleus is apt to be larger, oval or slightly irregular, and vesicular (Fig. 3, c). The larger nuclei contain a distinct rounded chromatin mass, besides scattered fine granules. Some nuclei are elongated or even spindle-shaped; where they have a narrow cytoplasmic zone around them they resemble the cells of dense connective tissue. A few of the larger cells possess two or three nuclei. Sometimes the smaller cells are closely packed in a rich network of fibers. At other times the large cuboidal or irregular cells lie close together, separated only by an occasional fiber (Fig. 3, c). In some places the picture is one of closely packed polygonal or elongated epithelial-like cells, with very few intervening fibers.

A number of the cells possess protoplasmic processes, but these are not very prominent. The fibers may be widely separated from the cytoplasm of a cell, and their closest relation appears to be one of contact, rather than of continuity. The cells have no cell membrane, and, whether round, oval, cuboidal, or irregular, their cytoplasm is rarely sharply demarcated, but gradually fades out at the periphery.

What is of particular interest is the presence in very many of the cells in the areas of neuroglia tissue of small dots, staining in the same manner as the neuroglia fibers. Often there is but one (Fig. 2). Sometimes there are two lying close together. Very frequently there are five to fifteen scattered in the cell or grouped together. They may have any position in the cell; sometimes they lie close to the nucleus, sometimes remote. Many times they are surrounded by a halo staining more palely than the general cytoplasm. Very rarely short rods, instead of dots, occur. These same

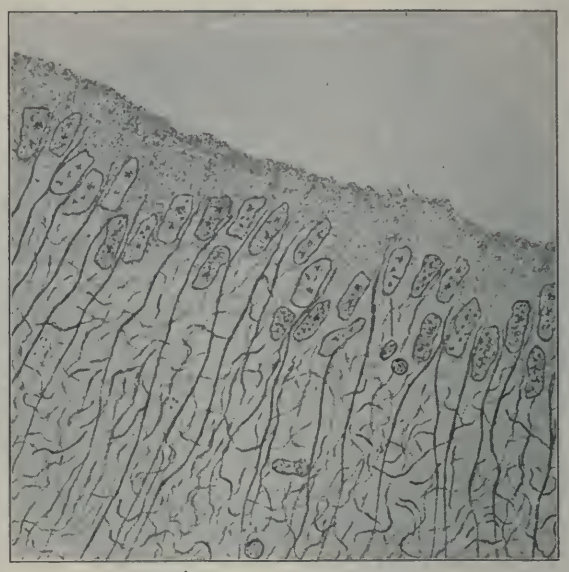

Fig. 7.—Ependymal epithelium lining a large space. Neuroglia tissue, with many rather coarse fibers perpendicular to ependymal layer and extending a short distance between the ependymal cells. From a preparation not stained by a method suitable for the demonstration of ependymal dots.

dots occur also in the epithelium of the cysts of the first tumor. Here they occur in the inner border or between the nucleus and inner border of the cells (Fig. 5). They can be best seen when the section cuts the cyst so that a view of the top of the cell is obtained (Fig. 6). The cysts which these cells line vary in size. They may be

Fig. 8.—A simple rosette.

minute, representing a small space or lumen in a group of cells, or they may be large. The cysts may have neuroglia in close proximity, or none be adjacent. In some cysts neuroglia fibers penetrate between the lining cells (Fig. 7). Of these cells some are low and cuboidal, and others high and cylindrical. Not infrequently in cili-

ated cells rows of these dots are situated at the base of the cilia. In others they are not present.

In tumor 1 are peculiar structures which deserve attention from their vague resemblance to retina and from their containing fibers which stain like neuroglia fibers. These partially fill some of the cysts. In their simpler form they consist of a rounded mass with a pedicle but little smaller than the mass (Fig. 8). The outer portion of this mass is made up of closely packed round or oval nuclei, sometimes deeply staining, sometimes vesicular with one to three rounded chromatin masses. The cytoplasmic bands of these cells are ill-defined, and be-

Fig. 9.—A more complicated rosette.

tween some of them fibers staining like neuroglia fibers can be traced. As the central and basal portions are approached there are fewer nuclei and more fibers. At the base there are almost no nuclei and many coarse fibers (Fig. 4). Most of these coarse fibers are parallel in direction and end against connective tissue by a fairly definite expanded foot. The connective tissue in this portion is frequently in the form of a hyaline band (Fig. 4), sometimes gently undulating, sometimes quite convoluted. Instead of this band there sometimes is a mass of indefinitely fibrillar or ill-defined hyaline connective tissue. In the region of the base there is always a layer of high cylindrical epithelium which passes by gradual transition into the epithelium lining the cyst. The ingrowth and fusion of several such masses produce more complicated structures (Fig. 9). The cysts in which they occur are almost always partially or completely lined by epithelial cells, which are filled with fairly coarse granules of brown pigment. This pigment resembles that found in the retina. The structures themselves resemble in many places the rosettes of gliomata retinæ, and, for need of a better word, may be called rosettes. They have similar small, round nuclei. The coarse neuroglia fibers ending in apposition to a connective tissue band suggest the fibers of Müller. Their occurrence in cysts lined with pigmented epithelium adds further to the analogy.

The mode of development of the structures described above can apparently be traced. At first there is a proliferation of the epithelium at one point in a cyst, resulting in a thickened layer of cylindrical cells, between which fibers staining like neuroglia appear (Fig. 10). The fibers and cells increase in number, and at the same time the connective tissue proliferates and pushes the mass into the cyst cavity (Figs. 11 and 12). The fibers grow mainly toward the base, while the cellular portion remains toward the center. In some cysts several such ingrowths are found (Fig. 13), and it is probable that in this way the more complicated masses are formed. Many variations in complexity are seen, and forms representing different stages of development appear in the various sections.

Discussion.—Nowhere in the central nervous system do we have such an intimate intermingling of neuroglia and connective tissue as in these teratoid tumors. In the brain and cord the separation between pia and cortex is usually sharp. Gliomata, as a rule, are in juxtaposition to surrounding white or gray matter or to pia, and so do not lie in very intimate contact with mesoblastic tissues. The nearest approach to these conditions is where vascular radicles, accompanied by a small amount of connective tissue, penetrate nerve tissue from the pia, and where the connective tissue of the choroid plexus abuts on neuroglia. In case of the teratoid tumors this mingling of the two tissues often occurs at points where no vascular radicles penetrate, but seems due rather to a coincident growth of adjacent foci of two tissues of different germ layer origin, with an overlapping, due to irregularity in rate of development. Such an explanation seems more plausible than that we have the one tissue invading preformed tissue of the other kind in the way a malignant tumor invades adjacent structures.

Moreover, there are present fibers in connective tissue remote from definite neuroglia masses. These stain in a manner identical with the neuroglia fibers of the larger masses, and in size, absence of branching, and undulating course present no differences from many fibers seen in them and in gliosis and gliomata. Their isolated presence in connective tissue seems difficult of explanation. At first it was assumed from their staining properties that they were to be considered of undoubted neuroglia origin. It was thought that their presence in connective tissue might be explained by their arising as an offshoot from a neuroglia mass, with which they were originally connected, and from which later in the growth of the connective tissue they had become separated. Another possible explanation is that early in the development of the tumor a small group of neu-

roglia cells became separated in the midst of connective tissue elements, formed their specific intercellular substance and then disappeared. Either theory would explain their present position, assuming that they are true neuroglia fibers, that is, fibers formed by neuroglia cells. Of this we have no proof, except the morphology

Fig. 10—Early stage in formation of so-called rosette—a local thickening of epithelium of a cyst with formation of fibers between cells.

of the cell, the relation of the fiber to the cell and the staining reaction of the fiber. The former, in many cases, is by no means definite, and in this connection no cell resembling neuroglia cells are present. Doubt as to the latter arose from the following: In some of the teratoid tumors, in which no neuroglia occurs, there

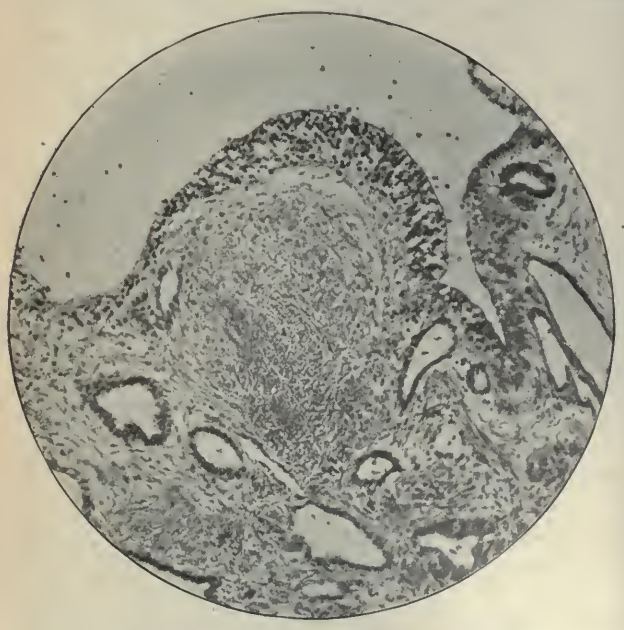

Fig. 11.—Beginning of pushing forward of epithelium by connective tissue formation at base.

are present about sweat ducts fibers staining in the same way as neuroglia fibers, with both the phosphotungstic acid hematoxylin and modified fibrin methods (Fig. 14). While these studies were in progress, Dr. Mallory, investigating connective tissue and smooth muscle, found fine fibers which stain red by the acid fuchsin potassium permanganate method, in sharp contrast to very abundant unstained fibers. This method also stains sharply true neuroglia fibers, and suggests a possible further resemblance in staining reaction between neuroglia and certain connective tissue fibrils.

To test this analogy three specimens of carcinoma of the breast, in whose stroma Dr. Mallory had found the red staining fibrils very abundant, were fixed in either formaldehyd or alcohol. To these were applied the phosphotungstic acid hematoxylin, modified fibrin, Benda's and Huber's methods of staining neuroglia. With all of these fibrils were found, which, from their holding the stain and, to a certain degree, their relation to cells, might be confused with neuroglia. From this it is evident that there are connective tissue fibers which do not readily decolorize after these staining methods and whose identification can not be based solely on staining reaction, since they at times stain in a manner similar to neuroglia fibers.

From this evidence it appears that the fibers scattered in the connective tissue of the teratoid tumor staining

Fig. 12.—More definite pedicle of connective tissue capped by mass composed of cells and fibers.

in the same way as neuroglia are not of necessity of neuroglia origin. Their true nature at present is indeterminate. In some places they are probably neuroglia, in others not.

Dots, staining in the same way as the neuroglia fibers, have been described as occurring in many of the cells of these tumors. The question as to their significance naturally arises. Similar dots or short rods have previously been described by Weigert in the normal ependyma,[8] by Storch in cells lining small spaces of a glioma,[9] by Benda,[10] by Mallory,[11] and by Lewy,[12] in the neuroglia cells of gliomata and by myself[3] in a teratoma (tu-

8. Weigert: Bemerkungen über das Neurogliagerüst des menschlichen Centralnervensystems, Anat. Anzeiger, 1890, v, 543.

9. Storch: Ueber die path. anatomischen Vorgänge am Stützgerüst des Centralnervensystems, Virchow's Arch. f. Path. Anat., etc., 1899, civii, 127 and 197.

10. Benda: Path.-anatomische Bemerkungen zu dem zweiten vorstehenden Fall A. Fraenkel's, Deutsch. Med. Woch., 1898, 476.

11. Mallory: Three Gliomata of Ependymal Origin; Two in the Fourth Ventricle, One Subcutaneous Over the Coccyx, Jour. of Med. Research, 1902, viii, 1.

12. Lewy: Ueber Centralkörperchen in Gliomen, Virchow's Arch. f. Path. Anat., etc., 1903, clxxi, 236.

mor 1 of this report), both in the cells lining cysts and those scattered among neuroglia fibers. Various meanings have been attached to them. Weigert in his first paper regarded them as an interrupted cuticular layer. Mallory considered the dots as possible evidence of the ependymal origin of the gliomata studied by him. I,

Fig. 13.—Several ingrowths into a cyst.

concurring in this view, attached a similar import to their presence in a teratoma. Lewy looked on them as centrosomes, but regarded the presence of groups of them in neuroglia cells as an inheritance from ancestral ependymal cells, and the ring or rosette arrangement of some as a probable rudimentary cilia formation. In considering the different views, certain facts have been brought out which do not readily harmonize with them, though at the same time it has not been possible to determine definitely the nature and significance of these

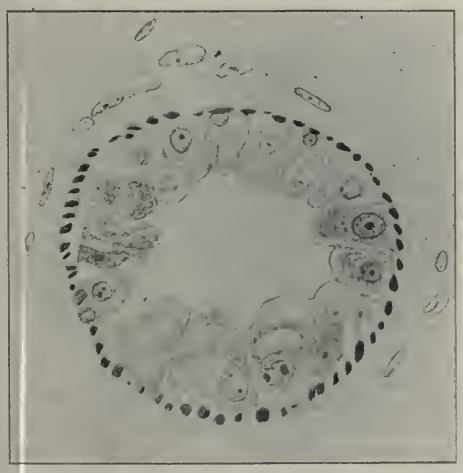

Fig. 14.—Sweat duct in teratoid tumor, showing cross section of coarse longitudinal fibers lying between true basement membrane and epithelial cells. These stain with neuroglia stains.

dots, and the attempt to advance any new hypothesis regarding them will not be made.

The earlier view of Weigert that they are a cuticular arrangement no longer seems tenable since the dots are found irregularly scattered through the cytoplasm of cells lying in the midst of large areas of neuroglia fibers and lining no space or lumen.

Are they centrosomes? They can be stained by methods used for demonstrating centrosomes as the iron hematoxylin method. Multiplicity of centrosomes has been described by Heidenhain in bone marrow giant cells. We have studied these dots in the ependyma of a series of pig fetuses from 18 mm. to 17½ cm. in length, and in several early human fetuses, using the phosphotungstic acid hematoxylin staining method. Here they are almost always present as a row or group adjacent to the spinal canal or ventricle. At this time nuclei are situated generally at some distance from the central space and its bordering dots, and dots are not found except in this arrangement. Mitoses of the cells in this region are common, and the dividing nuclei often approach near the space at whose border the dots are grouped. Yet there is no apparent change in the dots, nor are any dots seen associated with the mitoses. This does not seem to favor the view that the dots are centrosomes.

That they bear no close relation to the formation of neuroglia fibers, whose staining reactions they have, is shown by their presence in the fetuses studied at a time much before the fibers show any evidence of their presence.

The dots are already present in an 18 mm. pig, when, according to Hardesty,[13] differentially staining neuroglia fibers appear first in pigs from 16 cm. to 21 cm. in length.

The dots do not appear to be closely associated with cilia, since they were absent in some ciliated cells, and occurred in some non-ciliated cells. They are not always present in cells which originate from ciliated cells, as they could not be demonstrated in an adenocarcinoma of the uterus.

Can the presence of these dots be considered evidence of the ependymal character and ancestry of a cell? Dots were not found in most parts of these tumors except in neuroglia cells or cells lining cysts, and presumably of ependymal character. They were not found in several carcinomata of the breast or in a malignant adenoma of the large intestine. Dots very similar were found in the high cylindrical epithelium of that part of one tumor described as resembling a papillary adenocystoma of the ovary. Dots similar, but slightly larger, were found in some sweat ducts in these teratoid tumors and in those of a specimen of normal skin. Larger granules staining similarly with Mallory's phosphotungstic acid hematoxylin were found in the pancreas, but dots were not present in the kidney of this case, nor were they found in the fetal organs of the 18 mm. pig. This shows that dots, if not identical with those occurring in true ependyma, yet staining similarly, occur in cells undoubtedly of different nature, and so the mere presence of such dots in a cell or group of cells can not be considered diagnostic of the ependymal character and origin of these cells. When they do occur in cells which offer other evidence of a central nervous system origin, it seems justifiable to regard their presence as adding evidence in favor of the view that the cells containing them bear a genetic relation to ependyma. This is true for cells which line cysts and are in close relation to neuroglia tissue and for cells which are embedded in neuroglia fibers. Where the cells line cysts and bear no close relation to neuroglia, such a conclusion does not seem justified, and their nature remains undetermined.

13. Hardesty: The Neuroglia of the Spinal Cord of the Elephant with Some Preliminary Observations on the Development of Neuroglia Fibers, Am. Jour. of Anat., 1902, ii, 81.

CONCLUSIONS.

From the preceding work the following conclusions may apparently be drawn:

1. Neuroglia is a common constituent of teratoid tumors.

2. Its structure in them is very varied, simulating many known forms.

3. Neuroglia is more intimately associated with mesoblastic tissues in teratoid tumors than elsewhere.

4. In such tumors occur isolated fibers and groups of fibers which stain like neuroglia, but whose nature can not be determined by the staining reactions of Mallory. Huber and Benda, since these methods may stain other fibers than neuroglia fibers.

5. In many cells of these tumors occur small dots or groups of dots which have similar staining reactions to neuroglia fibers.

6. The presence of these dots in cells, though not absolutely diagnostic, may be considered as evidence in favor of the ependymal origin of the cells in which they occur.

Finally, it is with great pleasure that I acknowledge the very many valuable suggestions made by Dr. F. B. Mallory and his interest in this study. To Dr. J. A. Sampson of the gynecologic department of the Johns Hopkins University I am indebted for a number of these tumors, and to Dr. W. H. Lewis of the anatomic department of the same institution for the series of fetal pigs.

DISCUSSION.

DR. L. HEKTOEN, Chicago—Are the rosette bodies which you have described to be regarded as imperfectly developed eyes?

DR. H. A. CHRISTIAN, Boston—The analogy of these structures to eyes was considered and there is a great deal in favor of this view. The occurrence in many of these cysts of pigmented epithelium, the fibers which suggest Müller's fibers, and the small round nuclei which are very common in imperfectly formed retinæ, are all in favor of that theory; but there is no proof of what they are, and this is a mere opinion. However, I regard them as possibly an attempt to form eyes.

HEMOGLOBINURIC FEVER.

ITS CAUSES AND TREATMENT, WITH ESPECIAL REFERENCE TO THE USE OF QUINIA.*

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YOAKUM, TEXAS.

In presenting this subject for your consideration, we do so because of the diversity of opinion concerning it, hence evident need for more thorough study and discussion. Our consideration must leave out many of the features and characteristics of that arch mimic of all diseases, malaria, and be confined to that disease characterized by hemoglobin in the urine and due to malaria in some of her protean manifestations, discarding for the time Yersin's supposed discovery of a specific cause other than the malarial plasmodium, and all other theories and suppositions born of efforts to account for this peculiar manifestation.

In making an effort to clear up some of the uncertainty enveloping the subject, and to arrive at the truth concerning this disease, it was determined to depend, not alone on the individual conclusions of those who saw the disease, influenced no doubt by former teachings and impressions, but to get as thorough report of cases as possible, and view them, their cause, treatment and results, singly and collectively, drawing conclusions from recorded facts, and not by one individual or from one point of view, but by men of many localities, teachings and impressions.

Accordingly 2000 blanks for report of cases were printed, which provided for a thorough report of all features that we are to consider here, together with some others that are desired for future consideration, and with a letter requesting a report of cases were mailed to the physicians of southern and eastern Texas and Louisiana, selecting localities where it was presumed the disease most prevailed. Of those requested, 81 replied; 40 of whom could not report cases, while 41 reported 173 cases, to which I added 29 cases of my own, making a total of 202 cases reported by 42 observers. Many of those reporting had treated many times the number of cases reported, but owing to the lamentable fact that no case book was kept, they were unable to make even a partial report on others.

Of those cases reported many features of the disease were unreported on, owing to the fact that in most instances the patient was in the rural districts, so far from the attendant's office that frequent and proper observations could not be made; and when the patient was seen many of the accoutrements necessary for proper observation were not at hand. Therefore, in tabulating and reporting on the different features observed, it will not be of the whole 202 cases, but of that number on which these features were reported.

Of the 202 cases collected there were 61 cases treated without methylene blue or with less quinia than 15 grs. per diem, which is practically no quinia, of which 26.2 per cent. died and 73.8 per cent. recovered; while 112 were treated with 20 grs. or over of quinia, of which 16.9 per cent. died and 85.1 per cent. recovered; 4 were treated with methylene blue, with 1 death and 3 recoveries.

Of the cases treated without methylene blue or quinia 30 per cent. had hemorrhage from other organs than the kidneys, occurring on the second, third and fourth days, evidencing a non-subdued condition of the malaria and its recurrence, involving other organs; of these 50 per cent. died, two during the chill following the hemoglobinuric attack, and one during the second chill thereafter.

Of those treated with quinia, 9.8 per cent. were so affected, with 3.6 per cent. fatality. It thus appears that quinia effects not only a lower death rate, but also lessens the percentage of recurrent paroxysms. In those cases treated with quinia your attention is invited to the following facts which bear on the adequacy of the dosage: Of 50 cases treated with 20 to 30 grs. per os, 22 per cent. died; while of those given 30 grs. or over in the stomach, 16 per cent of the 43 died; and of those given 40 grs. or over only 8.6 per cent. of the 35 died. Of the 19 cases treated with quinia hypodermically, only one case or 5.26 per cent. died, and that one within 48 hours of the onset, of toxemia, due to the paroxysm had before treatment was begun. There were 12 cases reported where the urine became darker upon the administration of quinia and three where it became darker when quinia was withdrawn. Of the total of the non-quininized patients, 9.8 per cent. died of uremia, while of the 19 deaths among quinia patients, 8.9 per cent succumbed to uremia. While uremia occurred in 16 per cent. of those treated with less than 30 grs. by the stomach, it occurred in only 2.8 per cent. of those treated with 40 grs. or over by the stomach, and not at all in those treated with quinia hypodermically. The average illness of those treated without quinia was 9.66 days and of those

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

treated with quinia, 5 days. Of the men reporting on the point, 29.41 per cent. believe quinia may and does produce hemoglobinuria, while 70.59 per cent. believe that it does not. The largest dose of quinia that seemed to produce hemoglobinuria was 40 grs., while the largest which did not produce it was 100 grs. The average largest dose that seemed to produce hemoglobinuria was 13 grs., while the average largest dose that did not produce it was 52.6 grs. The smallest dose that seemed to produce hemoglobinuria was 4 grs. and the average 6.4 grs., while about 15 per cent. of cases occurred when no quinia had been given for 24 hours or over. The total average dose that seemed to produce hemoglobinuria was 9.7 grs. per day.

In each case here estimated, the subject had been living in a violently malarious locality three months or longer, and most of them for years. In all save one there was history of malarial paroxysms immediately preceding the pernicious or black water form, and in all a previous malarial development. The number of men reporting blood examinations was 4. Number of cases, 12; parasites found in 5 cases, not found in 7.

The following conclusions are justified:

1. This disease always occurs in persons suffering repeated attacks of malaria (this was so in every case reported).

2. It nearly always follows one or more mild paroxysms of malaria at the proper time for its next exacerbation (there was but one exception to this reported).

3. It has all the characteristics of malaria, chill, fever and sweat.

4. Where adequate examination of blood is made, the hematozoa of malaria are found (it was so in 41 per cent.).

5. Its habitat, that of most violently malarious districts (all cases reported were so) are sufficient to establish malaria as a causative agent, if not the only one.

To the present there is no claim for a cause other than malaria worth more than a passing notice, except the one which is maintained by about 30 per cent. of those reporting, namely, that quinia produces it, to which claim we invite your careful and scrutinizing attention.

To establish the cause of any disease we must apply the agent to the subject and have, as uniform result, the disease. But if there are two agents suspected as causative which applied together produce the disease, but applied separately to the same individual the one produces it, the other never, we can attribute only to the one a causative place and to the other an accidental presence.

Such is the case before us. Malaria, taken as a cause and applied without quinia to an individual of such tendency, hemoglobinuria results in 15 per cent. of the cases before us. Quinia had been applied to probably all of the cases before us without the presence of malaria and no hemoglobin appeared in the urine. Then in 85 per cent. of them malaria and quinia were both applied to the individuals, hemoglobinuria resulting. Which produces it?

Physiologically quinia acts on the blood, nerves and small vessels. On the blood it inhibits the oxygen-carrying power without causing separation of the hemoglobin from the corpuscle. On the nerves it is, first, a stimulant, then as the dose increases a depressant till it suspends the function of some of them entirely, as the optic and auditory, and in lethal doses, those governing the heart.

On the blood vessels it acts as a vasoconstrictor, increasing blood pressure and toning up those areas where from malarial toxemia there is a stasis, as in the brain in some forms, and the gastro-intestinal tract in others, and in the case before us, in the kidneys. And, like all such remedies, when increased sufficiently it ceases to act as a stimulant to the vasoconstrictor muscles and acts as a paralyzant of them, hence a dilator of the vessels, this occurring just as the lethal dose is reached, which, added to the suspending of the function of the vagus, causes such lowered blood pressure that death soon ensues.

Reviewing these effects of quinia it is indeed difficult, if not impossible, to conclude logically that it can produce hemoglobinuria. To consider it from an experimental standpoint, we observe that the deaths produced by quinia have been due to its effects on the nervous and circulatory systems, with never an occurrence of hemoglobinuria. If quinia is capable of producing this condition at all, it looks strange that lethal doses have never produced it, while those who believe it capable of doing so attribute the production to an average daily dose of 9.7 grs. Thirty of the cases before us had the disease without the exhibition of quinia and of those who were taking quinia when the hemoglobinuria developed, in 89 of the 108 under increased dosage it disappeared. Indeed, it appears to me that one must be a fit subject for homeopathy to conclude that quinia, having produced the disease in 108 cases, would cure it in increased dosage in 89 of them. Again, in those where quinin might be supposed to produce the disease it were untenable logic to maintain that removing the cause would result in an increased death rate, while increasing the cause would diminish it, as 26.2 per cent. is to 16.9 per cent.

Of those reporting, the maximum dose of quinia given without producing hemoglobinuria, the largest dose was 100 grs., and the average 52.6 grs., and of those reporting the largest and the smallest dose that seemed to cause hemoglobinuria, the largest dose was 40 grs. and the smallest 4 grs., or an average of 9.7 grs. per day. Now, in the face of reason, can we maintain that 9.7 grs. of quinia will produce the condition when 52.6 grs. fail to produce it?

Those cases where quinia has seemed to produce hemoglobinuria have invariably been in persons known to be malarially infected, where the disease seemed mild and quinia was administered to eradicate it. Carefully considering these cases, we will note that of 1000 cases so treated probably in 950 cases the disease disappears, one develops the hemoglobinuric form, one the comatose form, three the enteric form, while 45 will return still in the mild form. There is unquestionably as great a percentage that develops the comatose form, due to peculiar determination of the disease to the brain, and three times as great a per cent. that develops the enteric form, due to the determination of the disease to the intestinal tract, as there is of the hemoglobinuric form. Now, if the quinia produced the hemoglobinuric type, did it not also produce the comatose and enteric forms? And how about the 45 returns of the mild form? Did quinia produce them also? Is it not as rational to attribute the one to quinia as the other? Or is it not a fact that in all of the cases which recurred, the remedy had failed to effect the cure and the disease continued, in some assuming a more pernicious form, in others continuing the mild type? It appears that such is the case and that its assuming certain forms as it grows severer or its selections of certain organs on which to exercise its severest toxic effect, is one of individuality or peculiarity of the subject and not of the remedy. If quinia is to be eschewed in treating the one form, hemoglobi-

nuric, should it not be shunned in the others, comatose and enteric? Yet I dare say that no man in this assembly would have the temerity to withhold quinia, the only specific, in the comatose or other pernicious forms of malaria.

Another strong evidence that it is the individual peculiarity that determines the hemoglobinuric form, is the fact that this form recurs again and again in the same individual and is prone to run in families, while seldom indeed an individual who has suffered an attack of hemoglobinuria develops a pernicious malarial attack other than the hemoglobinuric form. Why is it thus, if not due to the individual peculiarity?

Another error in the conclusion that quinia produces hemoglobinuria is the fact that in the vast majority of those cases quinia is withheld during the greatest pyrexia of the preceding attack, or to wait the action of calomel, and is administered too late to prevent the pending paroxysm; this growing more severe assumes the hemoglobinuric form, or, if it has already become hemoglobinuric, the urine that has partially cleared during the interval becomes darker, which is attributed to quinia. In this connection permit me to say that in every case seen where quinia had been administered and might be supposed to play a part in producing hemoglobinuria, the paroxysm occurred at the regular time for the exacerbation of fever and with chill and rise of temperature, just as occurs when the disease is left to malaria alone; and in those cases reported by others, even where black water occurred as often as three times, the increased color of the urine marked well the time for recurrence of malarial paroxysm in approximately 20 per cent. occurring on alternate days, 75 per cent. on successive days and 5 per cent. twice daily, just as we find malaria acting in other forms than this.

Bearing in mind the established fact that the malarial parasite is most easily killed by quinia in its younger existence, it is easy to understand that withholding the drug through the stage of high fever or till the effect of calomel is had, will permit the growth of the plasmodium to such a size as to be decidedly more resistant to quinia, and to allow it to go on to sporulation, thus producing another paroxysm which may be pernicious, even hemoglobinuric, and still there be enough quinia in the blood to kill the young parasite as it is set free in the plasma, thus explaining some of the spontaneous cures without further administration of the drug.

Another error in quinin therapy of this disease, to which your especial attention is invited, is inadequate dosing. The estivoautumnal parasite, the one most commonly producing this disease, is far more resistant to quinia than other forms, and it, like all forms of animal life, becomes habituated to any poison till it can withstand even ten times the dose necessary to kill when not so habituated. In all violently malarious districts, such as this disease prevails in, and especially in every chronic malarial subject, there is, without exception, in this country, a partial saturation of quinia for a considerable time, if not by quinia prescribed as such, then by quinia in the form of the numerous patent chill tonics, which have for their base quinia; hence the malarial plasmodium in this disease has, to some extent, become a quinin habitué, and only vastly increased doses prove toxic. Personally this has been observed many times; in one instance, 25 grs., given hypodermically to a year old child suffering from the enteric form, although administered 8 to 20 hours prior to the pending paroxysm, failed to prevent it and the little fellow died during the chill. You will observe that only 8.6 per cent. died where the dose was 40 grs. and over, while 22 per cent. died with 30 grs. or less.

Your attention is called to another point of error in quinin therapy in other forms of malaria as well as this, and it is by far the most important point of all—that of failing to get the drug into the blood. It is adequately proven and generally conceded that the malarial parasite destroys its host, the red blood cell, on sporulation, thereby setting free into the plasma what hemoglobin it has not consumed, there to remain until the liver has converted it into bilirubin. This, frequently repeated and in excessive quantities in the pernicious types, overwhelms the liver with work till its function is almost, if not quite, suspended, and a stagnant portal circulation results, hence the *vis-a-fronte* causes a passive congestion of the stomach mucous membrane and a cessation of its functions, both secretory as to hydrochloric acid and absorptive. The first of these conditions evidenced by alkaline vomitus, would prevent the solution and absorption of quinia put in the stomach in other than an acid solution, were we able to keep it there, while the abolition of the absorptive function would prevent the taking of quinia into the blood were we able to maintain an acid solution on the stomach; or more accurately speaking, the blocked portal circulation would prevent its entrance to the general circulation and its application to the parasite. So quinin dosage by the stomach is in many instances but a method of deceiving ourselves in the belief that we have applied this specific in a case where it is needed, while in fact the drug has never reached the blood where the parasite lives.

Just here your attention is called to the fact that all the cases where quinia was thought to be the cause of hemoglobinuria have been cases where it was given by the stomach and by men who depend on the stomach administration, while not a case receiving hypodermic administration developed the disease and none of the men who depend on the hypodermic method attribute the disease to quinia; the death rate under the hypodermic method being 5.2 per cent., while that under stomach administration is 20 per cent. This, taken in connection with doubtful ability to saturate the blood through the stomach in pernicious forms, seems quite significant.

It is claimed that hemoglobinuria is the manifestation of an idiosyncrasy for quinia. Yet no case of unquestioned freedom from malaria has been observed to develop hemoglobinuria from quinin administration, and in every case observed and reported the patient had taken quinia for other troubles and mild forms of malaria without the development of hemoglobinuria. If quinia produces it in severely malarial subjects, why not in mild and non-malarial ones?

Those cases attributed to quinia are not experimentally produced or based on physiologic or pathologic facts, but on purely paracelsian empiricism. Are we justified in adopting this method of reckoning against such preponderating evidence to the contrary in this age of enlightened and logical therapy?

The commonly accepted symptoms of cinchonism may and do cause us to err in our efforts to cinchonize our patients by the stomach, for of tinnitus aurium, nausea, relaxed and moist skin, dilated pupils, generally accepted as indicating quinia in the blood, the two former are most depended on and least reliable. In fact, I do not believe them due to quinia in the blood at all, but to the application of quinia to the end organs of the

nerves in the stomach mucous membrane. They are like the urticaria due to gastric irritation, a manifestation of the irritation of those nerves by quinia. Not infrequently violent complaint of those symptoms has been made during the stomach administration of quinia and by changing to the hypodermic method, even with an increased dose, the complaint has ceased. You will pardon a brief report of a case in this connection which illustrates the fact. Mrs. C., a malarial cachectic of repeated recurrent attacks during the last 12 months, was suffering quotidian malarial paroxysm. Quinia sul. was prescribed morning and night in gram doses after Koch's method. The paroxysm occurred next day at the usual hour. Quinia was increased to three grams daily; the next morning the paroxysm was on time and hemoglobinuric. She was complaining vehemently of cinchonism and insisted that no more quinin be given, as it was doing no good, and making her sick. Now, one who in the least feared quinia as a cause of hemoglobinuria would have discontinued it when the disease assumed the hemoglobinuric form under 45 gr. doses, but the method of administration was changed to hypodermic and 20 grs. given every 4 hours, or 100 grs. per day, and the symptoms of cinchonism largely disappeared, the urine cleared, and the patient made rapid recovery.

In this case, as in several others equally as emphatic, the symptoms of cinchonism complained of disappeared under the increased dosage when the drug was removed from the mucous membrane of the stomach, and what some would have considered hemoglobinuria produced by quinia, disappeared under vastly increased doses when it was put directly into the blood. The only rational conclusions to be drawn from such cases are, first, the quinin applied to the gastric mucosa produced the symptoms called cinchonism and that its removal permitted the symptoms to subside; second, that the quinia had never been absorbed and carried into the blood, and therefore had not killed the parasite, whose ravages continued till quinia was so applied and terminated their career.

Summing up the evidence for and against quinia as a cause for this disease, we have:

Of the physicians reporting, 29.4 per cent. affirm it.	Of the physicians reporting, 70.59 per cent. deny it.
When quinia is suspended in treatment, 73.8 per cent. recovered.	When quinia is administered 83.1 per cent. recovered.
Distinct recurrences of attacks after the first appearance of black water in non-quininized patients, 9.8 per cent.	Distinct recurrences of attacks after the first appearance of black water in quininized patients, 4.4 per cent.
Per cent. of cases occurring from quinin alone, no per cent.	Per cent. of cases occurring from malaria without quinin, 15 per cent.
Per cent. of cases where quinin was thought to aggravate, 5.9 per cent.	Per cent. of cases where quinin was thought not to aggravate, 55.4 per cent.

With such preponderating evidence against quinia as a causative agent, that portion of the subject is left with you.

TREATMENT.

In taking up the treatment of this disease I shall be as brief as possible, giving the greater time, first, to those methods on which we differ; second, to those thought most important; third, those not in common use—dwelling but little on those measures of common acceptance and usage among us.

The inter-relation of cause and treatment, or the dependency of the one on the other, has caused in considering the first the foreshadowing of the most important feature of this portion of our subject. If the disease is due in part or whole to malaria, the treatment should be to remove the cause by administering quinia, the specific, in a manner sure to reach the parasite in the blood, and in sufficient dose to kill with certainty.

In dangerous diseases like this we should never reverse the order of the old Latin maxim, *"curare, cito et jucunde." "Curare"* should stand first; and in selecting methods of administration the one surest to carry the remedy to the parts desired should without exception be our choice, so long as imminent danger to life is not incurred—hence, intravenous or hypodermic administration should be resorted to in medicating a patient suffering from this trouble.

In dosage of quinia one should steer well on the side of the drug, remembering that the parasite is of that type most resistant to quinia, and as a rule has become to some extent habituated to the drug. Bearing these facts in mind and taking for our base the dose that ordinarily proves efficient in other forms of malaria, an average of 30 grs. daily, we would take for an average dose in this condition, 40 grs. intravenously or hypodermically per day, until the next period for an exacerbation is safely passed, and continue it in half that dose until the second expected exacerbation is safely passed, when it should be discontinued for three or four days, and repeated in 20 to 30 grain doses every four to six days till five or six weeks are passed without a paroxysm. In the primary administration of the remedy one should remember that the older the parasite the greater its resistant power to quinia; therefore the sooner it is administered after the parasite has sporulated (the onset of the paroxysm) the easier it is killed and the surer is one to prevent the next paroxysm, which in pernicious malaria frequently means death to the patient.

Since Ivanoff,[1] by a careful study of the effects of quinia and methylene blue on the malarial parasite, has proven that quinia has its greatest affinity or toxic effect for the chromatin or nucleus of the plasmodium, which constitutes nearly the whole of it soon after hatching, and loses it as the achromatic zone accumulates around the nucleus as the parasite grows older and larger (a fact well proven clinically long since); and that methylene blue has greatest affinity for the achromatic zone (nicely portrayed by Romanovsky's method of staining), it behooves us to remember methylene blue in cases where we are called so late that quinia alone might fail to prevent the pending paroxysm, and to combine then the methylene blue in 3 to 6 grs. doses, two or three times daily. Another characteristic of methylene blue that recommends it in these cases is its sedative effect on the nervous system as portrayed by Hughes and Lovelace,[2] where of 22 cases of acute mania treated with it 16 received natural refreshing sleep. Of four cases of this disease reported treated by methylene blue there were three cases, or 75 per cent. recovered. Of the 19 cases reported treated with quinia hypodermically only one death is reported, and that occurred within 48 hours, showing that it was the result of the paroxysm had prior to any treatment, and not after quinia or any other remedy might have prevented it.

The tardiness of the effect of arsenic as an antiperiodic practically puts it out of consideration in conditions so pernicious, and its tendency to irritation of the renal epithelium also contraindicates it. There is no other drug whose mention in this connection is worthy of our time.

Considering other conditions for treatment, the inactivity of the liver stands first and a cholagogue is certainly indicated, for the presence of free hemoglobin in

1. Deutsche Med. Wochenschrift, May 2, 1901.
2. Phila. Med. Jour., March 22, 1902.

the plasma would alone, if undisturbed, soon prove fatal, to say nothing of the stagnant portal circulation obstructing nutrition and medication intended to alleviate other conditions. Calomel is certainly one of the best, if not the best, cholagogue and its inoffensiveness to the mucous membrane of the stomach commends it highly in this trouble where nausea is a predominating feature, hence calomel in small doses, often repeated (¼ gr. every half hour) is a favorite and justly so, and I would add 1-20 gr. of hyd. bichlorid hypodermically every five hours till the liver is well aroused, with massage of the liver or mustard plasters over it to the point of thorough redness of the skin. Of the 200 cases reported all save one were treated with calomel as a cholagogue and I note that the greater one's experience with this disease the more urgent is his advocacy of calomel.

Certainly to unload all effete material from the bowels and stimulate their eliminative function would add to the chances of our patient, and enemas of hot solutions of sulphate of magnesium accomplish this quickest and surely, together with stimulating diaphoresis, a valuable means of eliminating much undesirable material from the blood and relieving the irritated kidneys of some tax. To allay the nausea and vomiting, iced champagne has proven most efficient in my hands, with ice cold beer a close second, the former adding stimulation and the latter both stimulation and diuretic effect to its credit. While large drafts of very hot water have often proven very efficacious as a stomach sedative, as well as a diaphoretic and stimulant, one of my advisers strongly urges this as the most important treatment of all. So soon as the stomach is in a condition to appropriate it, nutritious fluid food should be given at regular and proper intervals. For the kidneys, hot fomentations over the loins or perhaps counter-irritants with mild diuretics should be given, every effort being made to save the kidneys any irritation and labor. The intravenous injection of large quantities of normal salt solution serves well to stimulate over the depression, and assists in eliminating poisons from the blood, and in one case reported, where entire suppression of urine had occurred, it started up the renal secretions and the patient recovered when apparently he was doomed. Stimulants and tonics hypodermically in liberal doses should be used to maintain the vital functions, and here strychnia stands first. So soon as the expected paroxysms are safely passed, ferruginous and bitter tonics per os are to be given, steam baths and sweat baths are recommended and have to commend them the greatest relief of the kidneys by their diaphoretic action.

The time and space required to enumerate writers and practitioners who have assisted in these efforts are too great to allow their recital, hence the omission of a bibliography.

DISCUSSION.

DR. WILLIAM KRAUSS, Memphis, Tenn.—One can not study diseases by any rules of logic, but we can discuss that way. The reader of the paper states that, among about 170 cases reported, the blood examination was made in 12, and 7 of these 12 did not show the malarial parasites; if that were so, I should like to know why he cinchonized these 7 patients? About 12

Daily dose of quinia; how administered	20–30 gr. Stomach		30–40 gr. Stomach		40 gr. and up. Stomach		20–30 gr. Hypod'rmically.		30–40 gr. Hypod'rmically.		40 gr. and up. Hypod'rmically.		15 gr. or less, or no quinin.		15–20 gr. Uncertain.		Methylene blue.	
Manner, cause and time of death	Uremia within 48 hours.	Toxemia within 48 hours.	Uremia after 48 hours.	Asthenia after 48 hours.	Uremia within 48 hours.	Toxemia within 48 hours.	Uremia after 48 hours.	Asthenia after 48 hours.	Uremia within 48 hours.	Toxemia within 48 hours.	Uremia after 48 hours.	Asthenia after 48 hours.	Uremia within 48 hours.	Toxemia within 48 hours.	Uremia after 48 hours.	Asthenia after 48 hours.	Uremia within 48 hours.	Toxemia within 48 hours.	Uremia after 48 hours.	Asthenia after 48 hours.	Uremia within 48 hours.	Toxemia within 48 hours.	Uremia after 48 hours.	Asthenia after 48 hours.
Deaths with hemorrhage from kidneys alone	.	1	7	2	.	.	1	1	.	.	.	2	.	.	.	.	3	1	1	2	.	1	1	3	.	.	1	.
Deaths with hemorrhage from other organs and kidneys	.	.	1	.	.	1	.	.	.	.	1	.	.	.	.	.	1	3	3	2	.	1	3	1	.	.	.	.
Recoveries with hemorrhage from kidneys only	37				4				30				8				4				3				36				9				3			
Recoveries with hemorrhage from other organs and kidneys	2				. . . .				2				. . . .				. . . .				3				9				. . . .				. . . .			
Total number of cases treated	50				8				35				8				5				6				61				19				4			
Number and per cent. of recoveries	39 cases or 78%				4 cases or 50%				32 cases or 91.4%				8 cases or 100%				4 cases or 80%				6 cases or 100%				45 cases or 73.7%				9 cases or 47.4%				3 cases or 75%			
Number and per cent. of deaths	11 cases or 22%				4 cases or 50%				3 cases or 8.6%				. . . .				1 case or 20%				. . . .				16 cases or 26.3%				10 cases or 52.6%				1 case or 25%			
Per cent. of deaths in quinin treatment by stomach and hypodermically	18 cases or 19.3 per cent.								1 case or 5.26 per cent.																				. . . .				. . . .			
Per cent. of deaths in each treatment	19 cases or 16.9 per cent.																								16 cases or 26.2%				. . . .				1 case or 25%			
Number and per cent. of cases with hemorrhage from other organs	9.8 per cent.																								29.5				. . . .				. . .			
Average duration of illness	Treatment with quinin—5 days.								Treat't without quinin—9.66 days.																											
Opinions of reporting physicians	70.6 per cent believe quinin does not produce hemoglobinuria.								29.4 per cent. believe quinin does produce hemoglobinuria.																											

years ago I attempted, by proxy, to study this disease and found in a very short time that it was exceedingly unsatisfactory. Then I attempted to place myself in touch with gentlemen in the vicinity of Memphis, requesting them to wire me when they had such cases and I would take the first train to them. This also proved to be unsatisfactory. I then decided to abide my time until I could get a visiting service in a local hospital where I could study the disease properly from beginning to end. I think it is illogical to attempt to classify the mortality according to the treatment, irrespective of the pathologic conditions; whatever remedy we use should be given to overcome the pathologic conditions or to remove the etiologic factors which may be present in a given case. Judging from the character of the cases reported he evidently saw cases of the intermittent variety, accompanied by chills and fever, and such cases are exceedingly rare during the season of the estivo-autumnal parasites. They are found in the spring and early summer and are very transient. In his cases he found the parasites persisting through the attack. It is proper to cinchonize such cases.

What is the pathologic condition to be found in such cases? It is a steatosis of the kidneys and liver, a rapid breaking down, and, if present, a disappearance of the malarial parasites. The treatment must be directed to that end. What is the pathology of the blood? There is a hemolysis. If you have studied the subject of hemolysis only very superficially you

know that it requires a specific immune body and a complement to produce it. The normal mechanism of this in malarial infection is probably for the destruction of infected red blood cells. There is a later storage of a surplus of this specific body; the complement may be produced either by quinin or a new superadded infection—either, then, may be the occasion of an attack. This is where the question of administration or non-administration of quinin comes in. In the majority of the cases the hemolysis effects the destruction of the parasites. The subsequent temperature may be a guide; as a rule, the present malarial infection may be ignored. The doctor has stated that only small doses of quinin produce the hemoglobinuric fever, and in one case he produced it with 90 grains; if that is a small dose I should like to know what he considers a large dose.

Last summer, during my illness, there were admitted to St. Joseph's Hospital 21 cases of malarial hemoglobinuria, and all were treated with hypodermic injections of quinin; two recovered. On the other hand, I have now an unbroken series of 21 cases without a death. The main point is, avoid cinchonizing these patients. Take such measures as you can to prevent fatty changes taking place.

DR. FRANK A. JONES, Memphis, Tenn.—A few days ago I heard Dr. Osler say: "Tuberculosis is the captain of the men of death." I should like to paraphrase that expression, and say: "Tuberculosis is the captain of death and malaria is his first lieutenant."

We have in our midst to-day a quartet of men who have been working in malaria. One of these is Dr. Krauss, and there is no man in this country who understands malaria better than he. Then we have among us another gentleman whom we all know and greatly respect, and who has written a book on malaria; I refer to our chairmain, Dr. W. S. Thayer. Again, we have another gentleman of brawn who has been brought up in a country district, at a little flag station, but yet who has the best equipped laboratory in Mississippi; I refer to our secretary, Dr. James B. McElroy. One is a wheelhorse; the other an Ajax. Then, too, I ask that Dr. Sutherland of Mississippi, another man who has done much on this subject and a man whom all greatly respect, be asked to address this Section.

DR. H. L. SUTHERLAND, Rosedale, Miss.—This subject has been frequently discussed and the principal feature of discussion always is as to the advisability of the use of quinin. I think there is one proposition on which we all agree, namely, that in the presence of an active estivo-autumnal infection we should use quinin. It seems to be the general opinion that "the existence of the hemoglobinuria itself, or the presence of some other toxic substance in the blood" (Thayer) destroys the parasites and renders the administration of quinin unnecessary and therefore harmful; but, in my observation, this is not always true. The use of the microscope should then govern, in these cases, the use of quinin. But, unfortunately, only a very small percentage of physicians practicing in sections where hemoglobinuria occurs have a practical knowledge of the use of the microscope, and therefore must find some other method of determining the treatment.

After the appearance of hemoglobinuria, my first attention is directed to elimination, and I do not give quinin in the first twenty-four hours; if the fever continues high, I give 15 or 20 grains of quinin or two ounces of Warburg's tincture. If the patient has taken quinin preceding the attack, I am not in a hurry to give more, but rather await the result of what he has taken. I can better illustrate by citing two cases in point: In August, 1901, I saw a case with a temperature of 101, and next day 102, and the third day 104.8, when I gave two ounces of Warburg's tincture, and his temperature dropped to 101. I repeated the dose and his temperature became normal, and on the fifth day of the disease there were a few estivo-autumnal organisms present.

Oct. 25, 1902, my son had a chill and in the next forty-eight hours took 48 grains of quinin. Several hours after the last dose he had a chill with fever, which soon subsided and I gave no more quinin; in thirty hours after the last dose of quinin he had another chill with hemoglobinuria, but his temperature did not go over 102, and in another twenty-four hours his urine had cleared and temperature was normal. I supposed he had had sufficient quinin prior to the hemoglobinuric attack to kill the malarial organisms. A blood examination made by Dr. Krauss of Memphis, October 31, showed "very active estivo-autumnal infection," and I began the administration of quinin again. These two cases prove, to my mind, that in some cases at least quinin should be given, while, perhaps, in a majority of cases, they get along better without it; and I have adopted the rule that where the fever following hemoglobinuria continues high after tewnty-four hours, or from a temperature as low as 101, its tendency is to go higher each succeeding day, I give quinin, and following this rule I find I give it in about half of my cases.

DR. JAMES B. MCELROY, Stovall, Miss.—I agree with the reader of the paper in the statement that hemoglobinuric fever is, in the majority of cases, due to malarial infection. That parasites are not always found in the peripheral circulation is due to several circumstances. Stephens and Christopher think it is due mainly to the fact that quinin has usually been administered previous to the occurrence of black water. This is undoubtedly true, but I have seen at least one case in which parasites were present previous to the attack; no quinin was administered previous to nor during the course of the disease, and the parasites disappeared a few hours after the onset. I have surmised that this is due to the fact that in the extreme hemolysis which takes place the cells of low resistance will naturally be the first to be destroyed, consequently the cells containing parasites are usually first destroyed. The parasites, being set free in the plasma, soon die.

I have observed more than fifty cases of this disease and in 19 cases have made repeated blood examinations. In only 5 of these have parasites been present, estivo-autumnal in 4 and double tertian in 1. The malarial nature of the remaining 14 was demonstrated by the leucocytic variation and pigmentation characteristic of malaria, and by the character of the febrile attack previous to the development of black water.

As to the relation of quinin to hemoglobinuric fever, in a few instances black-water fever develops in the course of a malarial infection in which no quinin has been administered, as in the case just referred to. But in the majority of cases it occurs in the course of an old malarial infection in which quinin has been administered. And my experience is in accord with the findings of the malaria commission to the royal society, which concludes that black-water fever is of malarial origin, but that it is not a malarial attack *per se;* that in the majority of cases quinin is the immediate causative agency. I have never seen a pure quinin hemoglobinuria, though it undoubtedly has occurred.

The few experiments which have been made *in vitro* to determine the hemolytic effect of quinin in these cases have, so far as I know, been negative. Recently I have been making some experiments along this line which, though limited, indicate that quinin has a hemolytic action on the blood of these cases.

As to treatment, occasionally in cases of intermittent hemoglobinuria—and I may say that such cases are comparatively rare in my experience—quinin used cautiously may be of benefit. But as a rule in the cases of continuous hemoglobinuria I do not think that quinin should be administered. In the first place, it is not indicated, as the parasites are not usually present, and when present its administration has aggravated the condition in my experience, as the two following cases will show: In the first case of the series of the 19 cases referred to above, parasites were observed during the course of the disease, on the third day when the urine had begun to clear. Following Bastianelli's rule, I determined to administer quinin. Seven and a half grains were given hypodermatically and four grains ordered per os every four hours. Two hours after the first dose the urine became black, suppression and death following during the night. Whether this was due to the sporulation of a new group of parasites or to the quinin administered, I am unable to say.

In case number ten of the series, parasites were observed during the course of the first day of black water when the

urine was clearing. Quinin was administered and a few hours afterward black water returned with an aggravation of all the symptoms. Quinin was immediately discontinued, and the patient recovered.

Dr. W. S. Thayer, Baltimore—There is little of value that I can say which has not already been said by those who have had much more experience with this condition than I. Hemoglobinuric fever does not occur in Baltimore. Those cases that I have seen I have visited at distant points—in Virginia, Tennessee and North Carolina. My knowledge on the subject has been obtained mainly from literature. One should remember that hemoglobinuria is not a symptom proper of malaria; it is a condition for which malaria opens the way; its remarkable limitation to special malarial districts is also well known. But one should further remember that hemoglobinuria occurs as well in a variety of other infectious diseases. It may complicate typhoid fever, yellow fever or smallpox. In malaria it may occur at the height of an acute paroxysm when parasites are present in the circulation. In many cases, however, the malarial attacks disappear on the first outbreak of hemoglobinuria, and parasites can no longer be found in the blood. Again, the condition occurs in patients who have recovered for a greater or less length of time from their acute malaria and are in a condition of postmalarial cachexia. This is often the case. In certain parts of this country the disease is met with more frequently in the late fall, at about the time of the beginning of frosts. I believe that it is fair to state that, in the majority of cases, within twenty-four hours of the onset of the attack of hemoglobinuria, the parasites of malaria are not to be found in the blood. If the case, however, be left to itself relapses of the malaria will follow sooner or later in many instances.

Quinin is of no more value in the treatment of the hemoglobinuria as such which occurs in connection with malaria than it would be in hemoglobinuria connected with such diseases as yellow fever or typhoid fever or smallpox. Quinin is of value in removing the ultimate cause—the malarial parasite; it is of no value in the treatment of the immediate conditions on which the hemoglobinuria depends. If the parasites do not disappear from the blood it seems to me that we are bound to administer quinin. If, in a given case, one suspects that the patient has pernicious malaria and microscopic examination of the blood is impossible, quinin should certainly be given at the onset of the trouble. If, however, after twenty-four hours no parasites are present in the blood it may be better to postpone quinin treatment until later.

With regard to the deleterious effects of quinin: True quinin hemoglobinuria must be of the greatest rarity in this country. Cases have been reported, especially in Sicily, in which the most minute doses of quinin have produced violent attacks of hemoglobinuria, cases in which there can be no doubt as to the nature of the condition. These instances depend probably on individual susceptibility.

With regard to the method of administration of the drug it is hardly worth while to speak. Quinin acts most promptly when given intravenously, and the dihydrochlorate gives excellent results when thus administered.

Dr. Walter Shropshire, Yoakum, Texas—With regard to the assertion by Dr. Krauss that I studied hemoglobinuria by proxy, I want to say that no one examined these cases but myself. I reported 29 cases in the series, and I had some I did not include because many of them were rather indefinite—I could not give in them a fair and honest consideration of the subject. Among the 29 cases there were but 2 deaths. In one of these a physician asked me to attend a patient for him, but refused to allow me to treat the case in my own way. This patient had a mild paroxysm every morning for three mornings and then hemoglobinuria. I had promised this physician to give the patient calomel and withhold quinin until it acted. I saw this patient at 4 p. m. one day and I realized the mistake in giving him calomel and not quinin till after it acted, for scarce time for the calomel to act remained before the next paroxysm was due, but I had promised to treat the case according to the physician's expressed wishes, and I gave him calomel. Of course it did not prevent the next paroxysm. When I returned home I asked that physician never to send me to another of his cases instructed. The next morning this patient had another paroxysm, entire suppression of urine and a fatal end followed.

The other fatal case was one in which there was a distinct nephritis present. He died on the sixth or eighth day in spite of the use of quinin. Thus out of 29 cases only 2 deaths were recorded, and one due to the non-use of quinia.

The pathology of the disease has been overlooked. Ewing reports examinations of kidneys after death in one case, and he said he was unable to find or demonstrate the parasite in the peripheral circulation, but at autopsy the kidney capillaries were found to be filled with them. In every case at autopsy in the pernicious form the parasites are found in the spleen and the brain in comatose forms, and stomach and intestines in the choleric or enteric forms.

If the parasites are to be found congregated in such situations in forms when symptoms are referable to it, why not in the kidneys in this form? The fact is they have been where autopsy was had and adequate examination made in reference to the non-appearance of the parasites in the peripheral blood. I should like to refer the secretary to one of his own cases, where it was found on the third day that the peripheral blood contained them after repeated negative examination. It has been noted that in the pernicious form of the fever the parasite seems to leave the peripheral circulation and invades the central circulation and organs, hence we can not depend on examination of the blood from the peripheral circulation as a guide to our therapy in this form of disease.

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AN EASILY DETACHABLE PLASTER-OF-PARIS CAST.

CHARLES O. BECHTOL, A.B., M.D.
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It is the purpose of this paper to present a method of applying plaster of paris to fractured limbs which we believe to be new. The earlier idea of good treatment for a fracture was absolute immobilization. This was brought about by splints made of numerous materials and by bandages made stiff with various substances, i. e., white of egg, starch, and dextrin. Plaster of paris was first used for this purpose in Spain, but Kluge of Berlin, in 1829, first made a careful study of the application of plaster to fractures. This method of complete, long immobility of a part, accompanied sometimes by a too tight bandage, brought occasional loss of limb, constant stiffness of neighboring joints and atrophy of muscles and numerous unfavorable and unpleasant conditions.

The most radical departure from the old methods is expressed by Lucas Championnière in his "Traitement des Fractures par le Massage et la Mobilization" and by his followers. They believe that complete immobilization only prevents the first pain and friction of the broken ends of bone; that it imperfectly restores form; that subsequent swelling may reproduce deformity and that it does not favor callous formation or bony union. M. Canay proved that the broken bones of a dog if absolutely immobile would not unite and that human ribs, which can not be put entirely at rest, are the quickest to heal of any bones of the body. The treatment of fractures with massage and mobilization is limited to those cases which are not compound, have no large blebs and which have no great mobility or tendency of the deformity to recur. Its field is evidently narrow even if the patient could be under close enough observation to make its application possible.

The ideal treatment comprehends the best of each of these two widely different methods, i. e., absolute immobility during a part of the time to insure perfect position of the ends of the bones and normal lines and the ability to quickly remove an absolutely immobilizing apparatus that the parts may be inspected, massaged, hot water be applied and passive motion performed. A home-made splint requires more time in

the making and in the application than a good cast and it is at best an awkward, unsightly thing, which is constantly working out of place. The fracture-box requires the patient to remain in bed and is used now only in cases where the swelling is unusual or large blebs are present. Factory-made splints never fit. There is a class of perfect-fitting, detachable splints, made by impregnating layers of cloth with plaster cream, which approaches perfection. Some of these are applied anteriorly, some posteriorly and still others used as side splints and held in position by a roller bandage. The best of this class is the Bavarian splint, but it, like the others of its class, is objectionable because of the time consumed in

Figure 1.

the making (at least one hour) and the amount of plaster scattered about.

The author's cast was designed while he was a house physician at Alexian Brothers' Hospital, Chicago. It was used satisfactorily by him on about forty cases and is still being used by his successors. This cast is applicable to any part of an extremity where a splint or a cast can be used.

Figure 2.

For convenience a cast for Pott's fracture is described. The foot and leg are covered with a stocking or sheet cotton and a Gigli wire saw applied in the median line, anteriorly and posteriorly—these to be held in place by an assistant who also holds the fractured leg in the proper position. (Fig. 1.)

A few turns of the plaster bandage are then taken around the leg to hold the saws in place. A third saw is then applied along the sole of the foot and secured by a few turns of the bandage. (Fig. 2.)

The assistant can now busy himself with keeping the parts in proper position and alignment. The cast is then completed by applying successive turns of the plaster bandage, rubbing each turn smooth until it is in the closest possible contact with the one directly under it. It is well to make this cast a little thicker than the ordinary circular cast and care is necessary to make the portion over the foot and around the heel of equal strength as the rest of the cast. The only precaution necessary is to keep both ends of each saw free and avoid bending the saws at a sharp angle.

By the time the last bandage has been put on and the cast made smooth by rubbing with the flat of the hand, it will be hard enough to saw off. It need not be dry. A suitable handle or a small nail is attached to the loop in the end of the Gigli saw and by pulling the saw steadily until it moves freely the cast can be cut through in about ten seconds, leaving

Figure 3.

two straight edges. Fig. 3 shows the second stroke of the saw. The posterior and foot saws are removed in a similar manner and an ordinary roller bandage is put around the cast while it is still in position on the leg to hold the two halves together.

Figure 4.

If a stocking is used it must be split with a pair of scissors along the saw cut before the cast is removed and it then forms a good lining. If sheet cotton is used the leg should be covered by a new layer before reapplying the cast to take up the space occupied by the old cotton and form a comfortable lining.

This cast meets all the requirements of the modern treatment of fractures and has the double advantage of ease and rapidity of both application and removal. It is especially suited to Colles' fracture, because of the ease with which such a perfect-fitting splint can be made and the readiness with which it can be removed for inspection, massage and hot applications.

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STREPTOCOCCI AND THEIR RELATION TO SPECIFIC DISEASES.

When bacteriologic methods were first applied to the systematic study of human diseases, it was soon learned that streptococci were widely distributed in connection with various morbid processes. Control investigations in connection with normal individuals showed them to be also commonly, if not constantly, present on various mucous surfaces of the body, especially those of the mouth and throat. When more exact bacteriologic methods had been elaborated and the streptococci, which were isolated by the plate method, were studied as to their tinctorial, cultural and morphologic peculiarities, it was thought by careful investigators that the streptococci coming from different diseases could be distinguished by certain characteristic properties. On further study, however, it was found that these properties were not constant, but could be acquired or lost by each of the supposed forms. With the advent of agglutination and immunization tests for the detection and differentiation of bacterial species, it was hoped that if different forms of pathogenic streptococci existed they might be separated by these means.

From reports published by various investigators, we were led to believe that our hopes had been realized. By the application of these methods of study, Fritz Meyer claimed to have differentiated a variety of streptococcus which was characteristic for acute articular rheumatism, and which was the actual cause of this disease. He concluded that by agglutination phenomena the human streptococci can be separated into absolute varieties. For many years it has been known that streptococci are frequently associated with many of the complications of scarlet fever. Baginsky and Sommerfeld found them in the heart's blood and bone-marrow in almost every fatal case, and they appeared to be almost ready to assign them to a causal rôle in this disease. Moreover, Moser now applied agglutination tests to the streptococci cultivated from cases of scarlatina, and concluded that the scarlatinal streptococci were undoubtedly different from those found in other human diseases, such as erysipelas, sepsis, phlegmon, etc. Both Moser and Baginsky claimed to obtain favorable results in cases of scarlatina by the injection of antistreptococcic sera. The serum employed by Moser was obtained from horses which had been injected with cultures of streptococci obtained from cases of scarlatina and without previous passage through animals. Baginsky's serum was prepared by Aronson by the injection of horses with streptococci which had been rendered very virulent by manifold passage through mice. Each author claims special virtue for his own serum. Just as we were in high hopes that at last there was something tangible in our means of separating varieties of streptococci and in combating their effects in human disease, further studies have apparently shown that our expectations were without foundation. The statement of Baginsky that streptococci are constantly present in the blood in cases of scarlatina has been found to be untrue, except in cases terminating fatally after the third day of the disease. In a series of 100 cases in which a bacteriologic examination of the blood was made during life, Hektoen[1] found streptococci in only 12. Deneke examined the blood bacteriologically in a long series of fatal cases of scarlatina. In cases dying during the first 3 days of the disease, he found streptococci only once, but in cases which terminated fatally after the fifth day, streptococci were always present. He holds the idea that streptococci have any essential causal relation with scarlatina to be untenable. Rumpel has used Aronson's serum in 6 severe cases without a recovery, and Deneke has used it in 6 cases without any convincing benefit.

Aronson[2] has recently published some extensive observations on these matters. He has immunized a large number of horses with individual streptococci from various human diseases, the bacteria not having been previously passed through animals, and he has tested the agglutinating and protective properties of the sera from these horses on a great variety of streptococci. He concludes that it is impossible to determine the origin of any streptococcus culture by microscopic examination, by cultural methods, or by agglutination and immunization methods. He is unable to consider the streptococcus as the cause of so typical and characteristic a disease as scarlatina, but admits that it is the cause of most of the severe complications. He states that there is no specific scarlatinal serum, but urges the use of his antistreptococcic serum to combat complications. These observations appear to upset all our ideas as to streptococci which are characteristic of scarlatina and rheumatism. They also show that Aronson's serum which has been used by Baginsky is not to be considered as a specific scarlatinal serum as has been supposed to be the case by many. We are left with only a specific treatment for streptococcus infections in general, which must be subjected to further trial by impartial observers before it can be placed in its final place among our means for combating disease. Our experience in this connection is similar to that in many others. Certain bacteria have often been described as causes of diseases on insufficient data, and without accurate and discriminating observations. Control observations have too often been omitted, and can not be too strongly insisted on in all scientific investi-

1. THE JOURNAL A. M. A., March 14, 1903, 685.
2. Deut. Med. Woch., 1903, No. xxv, 439.

gations. The cautions we urged in our recent editorial[3] regarding extraordinary precaution in the whole technic of the agglutination test are especially apt here. Streptococci have been most elusive in escaping all efforts to obtain accurate knowledge as to their mode of action and to learn any means of overcoming their effects. Present failures must serve to stimulate further study with confidence that in time the difficulties which have so far been unsurmountable will be overcome.

PRIVATE PRACTICE AND HOSPITAL PRACTICE.

If one looks about him and considers the changes which are taking place in medical education, it is easy to see that there is a growing sentiment in favor of the extension of the plan of employing as teachers in medical colleges men who are not engaged in private practice. In the better medical schools the chairs of anatomy, physiology and pathology are already filled with men who devote their whole time to teaching and investigation. We understand that one of the Eastern universities has recently appointed a physician to the chair of internal medicine on the condition that he cease to do private practice and devote himself entirely to the work of the hospital and school. A leading university in the Middle West has advocated strongly the employment of two kinds of professors on its clinical staff, first, professors who give all of their time and energies to the university hospital and medical school, and, second, professors who give a part of their time to the hospital and medical school and the rest of it to private practice.

The advantages of having both kinds of professors in the clinical faculty are sufficiently obvious. Experience in the fundamental branches has shown clearly the advantage to the medical college of having men who, unworried by the cares of private practice and unfatigued by the labor the latter entails, have plenty of time to teach their subjects adequately to medical students and beside to pursue original investigations which contribute to the advancement of science in their particular fields. There can be no question that internal medicine, surgery and obstetrics will be better taught than they are now and that more rapid advances in diagnosis, prognosis, pathogenesis and treatment will be made when scientific men are similarly related to the clinical branches in our universities. Such men, paid salaries large enough to permit them to live respectably and maintain their families properly, could divide their time between the wards of the university hospital on the one hand and the hospital laboratories and library on the other, making observations in the former which would lead to the planning and carrying out of experimental work in the latter. The results of the laboratory work in turn would become applicable to improvement in the methods of study and treatment in the wards. The hospitals so used would probably be comparatively small and especially designed for purposes of investigation; only a few diseases need be studied at any one time, as the investigator prefers to confine his experimental researches to a rather small area for purposes of concentration and intensive study rather than to distribute his attention in any given period over too wide a range. Workers in such research hospitals would not wish to be hampered by too much teaching; they would prefer to be influential by the example they set of thoroughness and originality in procedure rather than by precept. They would gather about them the more advanced and more capable students and lead them into the higher walks of clinical study. By publication of the results of their own observations and experiments they would extend their teaching to other cities and to other lands far beyond the group of students in the school which employed them.

Great as would be the power of a few men of original ideas with strong personality in such research hospitals, the medical school would need also the teaching which the private practitioner of the better sort is so well prepared to give. For private practice is very different from hospital practice, at any rate as the latter exists at present. The hospital physician sees chiefly people who are very sick, men and women who are confined to bed with acute or severe chronic disease. Only in the outpatient department of the hospital does he see the minor ailments with which private practice has so largely to deal; further, in that department the cases are those of charity patients whose slight ailments differ largely from those from which the more well-to-do classes suffer, and when they are the same the treatment has to be very different, perforce, for the poor from that employed for those who are able to pay. The private practitioner is appealed to by men and women in active business or social life in the beginnings of disturbances; his patients are very often not incapacitated, but they are not well; they desire to be told how to correct their lives, what to eat, how much exercise to take and the like. While it is true that the physician in private practice when a teacher in a medical school can not show these patients to his pupils any more than the hospital teacher can, still he sees such patients daily and he can tell his students about them and give them at least some inkling of the best way of handling them. The systematic, vigorous, scientific training of the investigator in the research hospital can thus be most profitably supplemented by the intuition, tact and experience of the successful private practitioner.

3. THE JOURNAL A. M. A., Aug. 8, 1903.

COMPULSORY POSTMORTEMS.

Every physician must have experienced the feeling that is expressed in the following from a daily newspaper editorial. It is entitled "Compulsory Postmortems—They Would Weed Out Criminally Ignorant Doctors and Add Vastly to Medical Knowledge":

When a human being dies this should be the first thought in the mind of the lawmaker and of the bereaved relatives: how can this death, which now causes individual sorrow, be made

useful to all human beings? How can it be made a defense of others in future?

Every doctor will tell you that invaluable information is lost because a sentimental feeling forbids making postmortem examinations. The fond relatives can not bear the thought of an operation being performed on the body of one that they loved. It is useless to tell them that the death is mysterious, that an explanation of its cause might save many lives. They think of nothing but the particular individual now dead. Out of sentiment for the one that has gone beyond help they refuse to help others.

The objections to postmortems are mainly sentimental, but to a certain extent they are fostered by religious beliefs. The same mistaken notions which have led an English bishop to declare against cremation induces many people at the present time to consider an examination of pathologic tissues sacrilegious and resist it with all the power they can exert. We believe, with the editorial quoted, that public opinion should be educated in this matter. "Almost everybody," it says, "now submits the corpse of his friend without hesitation to the process of embalming, which is a repulsive and almost utterly useless postmortem operation." The fact that a little knowledge of the conditions might be of utmost value to the living is never considered by the public, and yet it is a curious fact that when insurance companies demand an examination there is little difficulty in securing permission. Such is the power of self-interest as opposed to sentiment and religious objections.

What the editorial says in regard to the weeding out of unfit physicians by exposing their mistakes is in part true, though it would be unfair to say that mistakes are confined to the ignorant and unfit. The best of us make mistakes, and we desire postmortems in order to avoid making mistakes in the future. Therefore, any facts that the postmortem reveals which are contrary to the expressed views of those treating the patient before death should be given wide publicity before the medical profession. To give them to the public, however, would, in some cases, work an injustice. Still it would not be a serious harm and competent honest physicians could easily live down any possible temporary discredit that it might bring them.

The editorial further urges that compulsory autopsies would do away with much of the present antivivisection agitation by rendering vivisection useless. This argument has some force, though autopsies could not altogether fill the place of animal experimentation, and we believe that the same sentiment which opposes vivisection would oppose making postmortems a means of adding to knowledge. In the main, however, the article quoted in part contains so much good sense that we are glad to endorse it. We wish that every dubious diagnosis could be verified or corrected by an autopsy. The information obtained in such a case would be invaluable, especially in our larger centers where competent operators could be obtained. There is no true physician, we believe, but who would welcome such a regulation. Something, however, can be done in the way of public education as to the necessity and uses of the postmortem examination and more perhaps than by actual regulatory enactment.

ANOTHER DANGEROUS USE OF CELLULOID.

A dealer in London was recently arrested for selling so-called amber and gold cigarette holders which were retailed at the price of 6 shillings and produced at the cost of a shilling or less from celluloid and gilt metal. Celluloid is a useful substance, but it has its drawbacks. Its employment as a cigar holder seems to possess about as many drawbacks as any other use that might be suggested; it is not long since we read of an unfortunate Parisian whose celluloid nose blew up. We are afraid that some of these cigar holders will be found a source of danger to their possessors. The old-fashioned trick of loading pipes and cigars with gunpowder is humane in comparison with the possibilities of a practically guncotton cigar holder held in the mouth and ignited from a partially burned cigar or cigarette. We wonder how many "amber" celluloid cigar holders are in use and how soon we shall hear from them.

CAT GRAVEYARDS.

It is reported in the daily press that a society for the prevention of cruelty to animals in a leading Eastern town is promoting the establishment of a cemetery for dogs and cats and is soliciting subscriptions therefor. The city where this society exercises its function is already notable as the only one in the country containing a well-built—and we believe it is also well-endowed—asylum for homeless cats. While we do not object to zoöphily when it does not interfere with more important matters, it does seem to us that there is danger of overdoing this sort of thing. While so large a proportion of our own species suffers from neglect, and needs care in hospitals and asylums and lacks the means of decent burial, to establish hospitals and cemeteries for dogs and cats seems to us a *reductio ad absurdum* of benevolence. All animals should be humanely treated and, when they can not be cared for, should be mercifully killed to prevent suffering or abuse; some even, in memory of lives they have saved, deserve more, but a cemetery for dogs and cats will be pointed out as a curiosity and a proof of human folly rather than an evidence of intelligence or of humanity.

HYPNOTISM AN ANESTHETIC FOR MAJOR OPERATIONS.

The successful amputation of a limb under hypnotism is reported[1] in a patient suffering from necrosis of the bone and severe ulceration of the leg. In a previous operation the patient bore the anesthetic badly and hence wished to be relieved of the necessity of taking another. Hypnotism was used as a last resort. The operator refused to work unless the means for anesthesia were at hand, but fortunately their use was not required. The patient went through the operation successfully, and the temperature at no time was above normal. Recovery was uneventful except for a slight hemorrhage and sloughing of a portion of the flap, which was not accounted for. While we believe that hypnotism as a therapeutic remedy has long passed its heyday, its occasional use will doubtless still be heard from and may be—like other seldom-used but once-in-a-while-effi-

1. The Lancet, London, August 22.

cient remedies—found of value. We must take into account the fact that susceptibility to hypnotism is very variable, and while fifty or sixty years ago large numbers of cases of operations under this method were reported in India, it speedily passed out of use. Few operators, we venture to say, would ever now rely on it. As the *Lancet* says in its comments on the case, it can only be regarded to some extent as a curiosity, though the issue was favorable.

PHYSICIANS' COMMISSIONS ON REFILLED PRESCRIPTIONS.

The Journal has received through a correspondent a copy of a circular letter sent out by a drug manufacturing firm, which we do not care to advertise here by a name, proposing to allow physicians 10 per cent. commission on the refills of prescriptions of the firm's preparations. They argue that the physician is entitled to something on the refilling of his prescriptions, but, under the usual practice, he alone of the trio—manufacturer, retailer and prescriber—does not profit. It is easy to see how the manufacturer hopes to increase his profits if the physician will only co-operate. The professional aspect of the transaction is another thing. No matter how excellent the products of this firm may be, and we know nothing about them, no ethical physician would accept a commission for prescriptions and much less we should say for their unauthorized repetition, as is implied in the circular letter referred to. It is only a bid for more business, with a rather cleverly devised trap for physicians included. If the ethical argument is not sufficient, those who are incapable of fully appreciating its force may also consider the fact that advertising proprietary remedies and encouraging the public into the practice of self-dosing with them, as is suggested by the circular, is a bad practice financially for the physician and physically for the patient.

Medical News.

CALIFORNIA.

In Memory of Dr. Gardner.—In memory of the late Dr. Matthew Gardner, San Francisco, and to show the high respect they bore him, the San Francisco County Medical Society, at its meeting, August 11, passed resolutions.

State Board Election.—The State Board of Medical Examiners has elected the following officers: Dr. Dudley Tait, San Francisco, president; Dr. Lewis A. Perce, Long Beach, vice-president; Dr. Charles L. Tisdale, Alameda, treasurer, and Dr. George G. Gere, San Francisco, secretary.

In the Toils.—"Dr." H. G. Wright, Cloverdale, was fined $100 for practicing medicine without a license in that town.——Ma Too Ting of Stockton, twice tried for practicing medicine without a license and on whose case two juries have disagreed, has been discharged.——"Dr." Myers, an optician of Hanford, found guilty of impersonating an agent of the State Board of Health and sentenced to 100 days in jail and a fine of $100, has been surrendered by his bondsmen, and is in jail in Fresno.

Physicians Injured.—Dr. William D. McDougall, San Jose, was seriously injured in a runaway accident, July 24.——Dr. Malek A. Southworth, San Jose, who was injured July 3, is rapidly recovering.——Dr James H. McLeod, Santa Rosa, was thrown from his buggy, July 7, sustaining a strain of the arm and a severe scalp wound.——Dr. Charles E. Turner, Vallejo, was thrown out of his buggy in a runaway accident, August 7, and fell on his back, causing concussion of the spine.

Personal.—Dr. Thaddeus S. Up de Graff, Pasadena, has returned from a trip round the world.——Dr. Dwight H. Trowbridge has been made a member of the Fresno Board of Health, vice Dr. George H. Aiken, resigned.——Dr. William F. Snow, Stanford University, has been appointed deputy health officer of Santa Clara County during the absence of Dr. Ray L. Wilbur in Europe.——Dr. W. R. T. McLain, Los Angeles, sailed for Europe, August 19.——Dr. and Mrs. Norman H. Morrison have returned to Los Angeles, after a trip to Hawaii.——Dr. Silas Johnson, Los Angeles, has returned to his work as a medical missionary on the west coast of Africa.

GEORGIA.

Georgia to Kansas.—Dr. Middleton L. Perry, Milledgeville, has been appointed superintendent of the new state hospital for epileptics at Parsons, Kan.

Hospital Staff Elects Officers.—The staff of Griffin Hospital has elected Dr. Robert H. Taylor, chairman; Dr. Thomas J. Collier, vice-chairman, and Dr. Joseph M. Thomas, secretary and treasurer.

State Board of Health Bill a Law.—The governor signed the State Board of Health bill, August 17. The bill provides for a board of eleven members, one from each congressional district, with a secretary whose office shall be in the capitol. The secretary is to receive a salary of $2,000 a year. The board elects its own president. The members receive no salaries, but are paid $5 a day when in attendance on meetings.

Appoints State Board of Health.—Governor Terrell has appointed the following members of the State Board of Health: Drs. F. M. Ridley, La Grange; Willis F. Westmoreland, Atlanta; Robert M. Harbin, Rome; Giles Hathcock, Belton; Charles Hickes, Dublin; William W. Owens, Savannah; Augustus P. Taylor, Thomasville; Millard S. Brown, Fort Valley; Howard J. Williams, Macon; Samuel C. Benedict, Athens, and James B. Morgan, Augusta.

ILLINOIS.

Personal.—Dr. Thomas W. Curry, Streator, has returned after an absence of five months in Europe.

Hospital Opened.—The new St. Mary's Hospital, Rockford, remodeled and newly equipped, is now open.

New Hospital for Evanston.—A new hospital, to be called the Grove House for Convalescents, is to be established in North Evanston. The building will cost $5,500 and will be ready in the early spring.

Smallpox Hospital Out of Commission.—After having maintained a smallpox hospital for two months, the authorities of Libertyville, Lake County, have decided that the town is free from smallpox, and have closed the hospital.

Magnetic Healers Held.—In the case of "Drs." Parker and Hall, the alleged magnetic healers, Judge Green, sitting at Pekin, has held that they are not entitled to their release, thereby intimating that the state has a case against them of sufficient strength to warrant their being held to await the action of the grand jury.

Chicago.

Assaulted While Saving Life.—While working to save the life of a woman who had swallowed carbolic acid Dr. William H. Crowley was attacked and beaten by a man. It was later alleged that the man was concerned in the woman's reason for attempted suicide.

Smallpox More Fatal.—The Department of Health reports that smallpox is of a more serious type this year than last. In 1902 there were 338 cases with only 5 deaths—a mortality rate of less than 1.5 per cent. Thus far this year there have been 346 cases and 45 deaths—a mortality rate of 13 per cent.

Medical Colleges Taxed.—The board of review has decided that medical colleges operated for profit shall be taxed on their equipments. Rush Medical College was taken under advisement; Hahnemann Medical College was not taxed; Chicago Homeopathic Hospital was taxed on $4,000, and the American College of Medicine and Surgery, Bennett Medical College and Jenner Medical College on $2,000 each.

Dearborn Medical College.—A new evening medical college held its opening exercises, September 1. Judge R. S. Tuthill delivered the opening address. About 175 students make up the initial enrollment. Dr. L. Blake Baldwin is president of the college and Dr. James L. Wells, secretary. The college building is that formerly occupied by Bennett Medical College, and later by the Chicago College of Pharmacy. A clinical building is now being erected.

Personal.—Dr., Mrs. and Miss Hotz have returned from a visit to Yellowstone Park.——Dr. Charles H. Parkes has returned after a year in Europe.——Dr. Joseph P. Smyth, has been elected high medical examiner of the Independent Order of Foresters.——Dr. and Mrs. Arthur D. Bevan are spending August in the White Mountains.——Dr., Mrs. and Miss Chew will return from Europe early next month.——Dr. and Mrs. Philip S. Doane have returned from Harbor Point, Mich.——Dr. Henry H. Everett has returned from a ten weeks' trip through New Mexico.——Dr. J. F. Bichn has been appointed assistant city bacteriologist, vice Dr. L. A. Kiernulff, resigned.

The Typhoid Situation.—The Department of Health reports that physicians are asking for far more laboratory examinations of suspected cases of typhoid fever than formerly. The disease is not on the increase to any extent. An investigation of twenty-two recent cases in the "ghetto" of the Nineteenth Ward was made by Medical Inspector Dr. Palmer Findlay, who reports that in sixteen families, where positive information could be obtained, untreated (unboiled) hydrant water was habitually used. No connection could be established between the cases and the milk supply. The sanitary conditions—including plumbing, vaults and closets—were "O. K.," "clean" or "fair" in fourteen cases and "bad," "full" or "in a filthy condition" in eight cases. The dense ignorance and unclean European habits of the denizens were the only obvious causes of the excess of the disease in this district.

INDIANA.

Gift to Hospital.—In accordance with the wish of her husband, the late Dr. William C. Eichelberger of Terre Haute, Mrs. Eichelberger has given all his surgical instruments and medical books, safe, office fixtures and furniture to the Union Hospital.

Dr. Brayton's Illness.—Dr. Alembert W. Brayton, Indianapolis, editor of the *Indiana Medical Journal*, who has been ill for several weeks, was operated on for abdominal abscess, August 25. The operation was successful, and Dr. Brayton is expected to make a rapid recovery.

Personal.—Dr. George D. Kahlo has succeeded Dr. Allison Maxwell as dean of the Central College of Physicians and Surgeons, Indianapolis. Dr. Maxwell will retain the chair of clinical medicine.——Dr. John A. Martin, La Fayette, surgeon at the Soldiers' Home, has resigned.

Deferred Union of Medical Colleges.—It is said that no further progress has been made in the proposed amalgamation of the Medical College of Indiana and Central College of Physicians and Surgeons. No definite conclusion has been reached, and it is said that each college will hold a separate session this year. Each college has issued its catalogue for the coming session.

In Trouble.—Mrs. Effie Watson, Martinsville, has been fined $25 for practicing medicine without a license. She is alleged to have practiced "cycopathy."——"Dr." Frank J. Sazofsky, also of Martinsville, has been fined $25 for practicing medicine without a license.——"Dr." James Charles, a manufacturer of electrical appliances of Richmond, has been indicted by the grand jury for practicing without a license.——An itinerant of Van Wert, Ohio, was recently arrested in Shelbyville for practicing without a license and selling medicine on the street, and was released on giving bond for his reappearance.

Disease and Death in July.—The regular monthly bulletin of the State Board of Health says:

The health for July throughout the state is slightly better than in the preceding month, and was also better as compared with the corresponding month of last year. Diseases of the digestive tract were most prevalent. There was a great decrease in smallpox, as compared with the preceding month and with the corresponding month of last year. The order of prevalence of diseases was as follows: Diarrhea, cholera morbus, rheumatism, cholera infantum, typhoid fever, dysentery, tonsillitis, intermittent fever, bronchitis, scarlet fever, inflammation of bowels, measles, whooping cough, pleuritis, pneumonia, diphtheria and croup, erysipelas, influenza, puerperal fever, cerebrospinal meningitis.

There were 104 cases of smallpox with 4 deaths reported in 21 counties. In the corresponding month of last year there were 502 cases reported, with 15 deaths in 46 counties.

An interesting fact in conjunction with deaths by violence appears in the report from Evansville, where 10 persons were killed by mob violence. There were, in all, 13 murders during the month. The suicides numbered 30; males, 22; females, 8. The accidental deaths numbered 159. The deaths from tuberculosis numbered 360; males, 147, and females, 213. The married persons between the ages of 18 and 40 who died of the disease, leaving orphans, was 98. One hundred and fifty-two mothers died and 44 fathers, leaving 196 children under the age of 12. The total number of deaths from all causes for the month was 2,765, an annual rate of 12.9 per 1,000. The rate in the corresponding month last year was 13.6 per 1,000. By certain ages the deaths were: Under 1 year of age, 541, or 20.7 per cent. of the total; from 1 to 5 years, 214; 5 to 10 years, 55; 10 to 15 years, 75; 65 and over, 679, 26 per cent. of the total. By comparison with the same month last year we find the deaths of children under 1 year of age were greater. The percentage for June, 1902, was 19.6 per cent. of the total deaths. Some important causes of deaths were as follows: Tuberculosis, 362; typhoid fever, 63; diphtheria, 13; scarlet fever, 12; measles, 6; whooping cough, 14; pneumonia, 77; diarrheal diseases, 313; influenza, 11; cancer, 108; violence, 102; smallpox, 4.

IOWA.

Eye Doctor Bound Over.—J. Edmund Wilson, an "eye doctor," who was arrested at Clarion, August 14, for practicing medicine without a license, has been bound over to the grand jury under bonds of $300.

Dr. La Force Improving.—Dr. D. A. La Force, one of the pioneer physicians of Ottumwa, was taken seriously ill while attending the G. A. R. reunion in San Francisco, and was in so dangerous condition that his son, Dr. William B. La Force, was telegraphed for. He is now reported as greatly improved, and is considered out of danger.

Personal.—Dr. Lewis Schooler, professor of surgery and clinical surgery in Drake University Medical Department, Des Moines, has resigned.——Dr. Earl Rice, Roland, has been seriously ill with blood poisoning following an operation wound.——Dr. Montrose Conley, Boone, has been appointed an interne in the Cook County (Ill.) Hospital for the Insane, Dunning.——Dr. James G. McAlvin, Grundy Center, will go abroad for a year's study.——Dr. Lawrence W. Littig, Iowa City, has been appointed lecturer on nervous diseases in the University of Iowa College of Medicine.

Cherokee Hospital Report.—The State Hospital for the Insane at Cherokee, opened August 15, 1902, had at the end of a year 619 inmates, 347 men and 272 women. The proportion of recoveries was 26 per cent., and of mortality 6.5 per cent. Of those who died, 24 per cent. were more than 70 years old. Since the opening of the inebriate department, Oct. 10, 1902, 151 males and 3 females have been admitted. Of these 28 escaped, and with 61 paroles, one death and transfers only 35 remained at the time of the report. Of the 154 patients, 118 used whiskey; 18, alcohol; 13, beer, and the remainder cocain or morphin.

KENTUCKY.

Dysentery Epidemic.—Dysentery is reported as epidemic in the Polkville neighborhood.

Verdict Against Physician.—In the case of G. B. Bailey against Dr. W. M. Lottridge, Newport, wherein $10,000 damages was claimed for alleged malpractice in the care of a broken leg, a jury awarded the plaintiff $2,000.

Personal.—Dr. Joseph M. Mathews, Louisville, has resigned from the faculty of the Hospital College of Medicine, and will devote himself to private practice.——He has been succeeded by Dr. George A. Hendon, formerly assistant to the chair of surgery.

House-to-House Inspection.—Health inspectors under the direction of Dr. Maverell K. Allen, health officer of Louisville, are making an inspection of the sanitary condition of every house in the city. The reports of the inspectors will be filed with the health officer, and will be kept up to date.

College Improvements.—The trustees of Central University have sanctioned the expenditure of about $15,000 for remodeling the building of the Hospital College of Medicine, Louisville. Two new laboratories and new amphitheaters and section rooms are to be built, and the grounds of the school are to be beautified.

Where They Spent Their Vacations.—Dr. Joseph M. Mathews, at Harbor Springs, Mich.; Dr. Lewis S. McMurtry, in Canada; Dr. Thomas Hunt Stucky, at Atlantic City; Dr. Henry Enos Tuley, at Reserve, Wis., fishing; Dr. John G. Cecil, on the Pacific Coast and Yellowstone Park; Dr. Curran Pope, at Michigan resorts; Dr. Orville Kennedy, at Grayson Springs, Ky.; Dr. J. Rowan Morrison, at White Sulphur Springs, Va.; Dr. James S. Chenoweth, in Maine, and Dr. J. B. Marvin, at Cape Cod, Mass.

LOUISIANA.

Low Mortality.—The mortality in New Orleans for the first week in August was at the annual rate of 14.66 per 1,000 for whites and 21.98 for negroes, or a total rate of 16.60.

Personal.—Dr. Jefferson D. Bloom, house surgeon of Charity Hospital, New Orleans, for more than seven years, has resigned.——Dr. C. Jeff Miller has been elected to the chair of surgery in the New Orleans Polyclinic.

Bad Milk.—Numerous complaints have been made of the milk supply of New Orleans. Several cases of poisoning from tyrotoxicon and from adulterated milk have been reported. The City Board of Health has preferred charges against a number of milk dealers and proposes to adopt a vigorous campaign for a pure milk supply.

Sewage and Water System for New Orleans.—The work of constructing the vast system of sewage, water and drainage, which is to place New Orleans abreast of the best sanitated cities of the world, and which is to cost, roughly, $18,000,000, is already well in hand. The great undertaking is to be finally completed within the next five years. The movement which culminated in this great work followed the epidemic of fever in 1898. The system is to be fully described and illustrated in THE JOURNAL in a few weeks.

Charity Hospital Staff.—At a recent meeting of the board of administrators of the Charity Hospital, Dr. J M. Batchelor was elected house surgeon, to succeed Dr. J. D. Bloom, who resigned after a service of sixteen years. Dr. J. A. Danna was promoted from second to first assistant house surgeon, and Dr. S. W. Stafford was elected second assistant. It was determined by the board that in the future the second assistant should be selected by competitive examination. The term of house surgeon was by resolution limited to six years. The board also adopted resolutions denying the truth of the rumor as to its policy in regard to the Sisters of Charity. The latter are not to be disturbed in any way.

Mitigate Quarantine Regulations.—At a conference of the state quarantine officials of Louisiana, Alabama and Texas, held recently in New Orleans an agreement was reached, which will greatly mitigate the quarantine regulations controlling travel and commerce from Cuba to ports on the Gulf of Mexico. The following was the resolution adopted:

Resolved, That on and after August 6 all uninfected vessels from clean Cuban ports be admitted to free pratique after thorough inspection at the quarantine station, including taking the temperatures of all on board, disinfection of soiled clothing and containers and other suspected articles, either by steam heat or formaldehyd, and that passengers from Cuban ports be permitted entry without further restrictions, provided that each passenger furnishes a certificate from the chief medical officer of the Cuban port of departure stating that said passenger has resided not less than five days in Cuba prior to sailing from that island. Agents of steamship lines in Havana, on delivering their tickets to passengers, shall instruct them to place all their soiled clothes and linen in a separate bag, trunk or box in order to simplify quarantine regulations at the home port.

Should any soiled clothes and linen be found among unsoiled clothes and linen the whole package shall be disinfected.

The vessel may be disinfected at the direction of the quarantine authorities.

MISSOURI.

Due to Floods.—The death rate of Kansas City for July was the highest in the history of the city, 324 deaths having been reported. Of these, 24 were caused by typhoid fever, due to unsanitary conditions following the recent flood and the drinking of impure water.

Bacilli in Street-Car Sweepings.—The St. Louis Transit Company has begun a scientific investigation of the sweepings from street cars to discover a means of keeping the cars sanitarily clean. Bacteriologist Stolpher has submitted a report showing that as the result of his examinations of car sweepings for a week, all the cars contained tetanus and tuberculosis bacilli.

Professor Acknowledges Fraud.—Dr. Frank O. Reynolds, professor of bacteriology, microscopy and hematology in Ensworth Medical College, St. Joseph, and curator of the college museum, on account of his acknowledged connection with "the New York Hospital Company of St. Joseph," a fraudulent scheme, was requested to tender his resignation, promptly did so, and it was as promptly accepted.

To Prosecute Unlicensed Physicians.—The chief of police of St. Louis, on request of the health commissioner, has instructed each patrolman to get the names and addresses of all physicians on his beat. When the returns are complete the lists are to be sent to the health commissioner, who will sort out those known not to be reputable. Those who are found to be practicing without having complied with the state laws will be prosecuted.

NEW YORK.

New Hospitals at Albany.—Two new hospitals will be built at Albany, one a smallpox hospital, the other a pavilion for the reception and care of patients suffering from contagious disease.

For Dr. Richardson's Place.—Dr. William A. White, first assistant of the Binghamton State Hospital, has received from the Secretary of the Interior the appointment as superintendent for the Government Hospital for the Insane at Washington, D. C., vice Dr. Alonzo B. Richardson, deceased.

Buffalo Personals.—Drs. John H. Mesmer, E. J. Meyer and Henry Buswell have gone to Northern Canada on a fishing trip. ——Dr. James W. Putnam has returned from Magnolia.——Dr. Frank W. McGuire was appointed gynecologist to the Buffalo German Hospital, vice Dr. Herman E. Hayd, appointed surgeon. ——Drs. Irving M. Snow and Lillian Craig Randall are in Europe.

To Examine Condemned Criminals.—Governor Odell has appointed Dr. Eugene H. Howard and Dr. Arthur W. Hurd medical superintendents of the Rochester and Buffalo State hospitals, respectively, to examine the mental condition of Patrick Conklin, awaiting execution at Sing Sing. Dr. Henry E. Allison of Matteawan and Dr. Morris G. Ashley of Middletown were also appointed to examine Clarence Equar, awaiting execution at Auburn state prison.

Radium and Blindness.—Dr. Almon Jenkins and Mr. W. J. Hammer, an electrical engineer, are engaged in some interesting experiments with radium on a blind girl. That the optic nerve of this child is practically dead would seem to be shown by the fact that it is stated that the child saw nothing when magnesium ribbon was burned before her eyes, yet it is claimed that under the conjoined action of the *x*-ray and radium the child declared that she saw light. While there is no likelihood that these experiments have any practical bearing, they are of interest in connection with a study of the marvelous properties of the new substance radium.

Pure Water for Ithaca.—The turbine pumps which deliver water to the new Fulton plant of the Ithaca Water Company were set in motion, and the citizens of Ithaca and the students of Cornell are assured of an abundant supply of pure water. Although tests had been in progress in the plant several days, no announcement was made until yesterday that it was ready for operation. Six months ago Cornell loaned to the Ithaca Water Company $150,000 for the building of the purification plant, and work has been continuous since. The water, as soon as delivered to the receiving wells, is charged with a solution of sulphate of alumina, which forms a white, flaky precipitate. The water is then passed into coagulating basins, where 70 per cent. of its impurities settle. It is then passed through six filters of a capacity of 3,000,000 gallons daily.

OHIO.

Hospital Gets Library.—Dr. James C. Culbertson, Cincinnati, editor of the *Lancet-Clinic* and member of the board of education, has given his medical library of over four hundred bound volumes to the City Hospital medical library.

Personal.—Dr. Peter Donnelly, Toledo, has been appointed a member of the local board of health.——Dr. Guy H. Williams has been appointed assistant physician at the Columbus State Hospital, vice Dr. Ralph Holmes, who has accepted a similar position at the Ohio Hospital for Epileptics, Gallipolis.——Dr. and Mrs. Charles J. Shepard, Columbus, sail for Europe on the *Molkte*, October 1.

Almost Free from Smallpox.—Dr. C. O. Probst, secretary of the State Board of Health, announced, August 20, that Ohio was practically free of smallpox. There was then only one place in Ohio that had anything bordering on an epidemic, there being 18 cases at Massillon. Cleveland has discharged the last patient from the pest house and is free from the pest for the first time in many months.

New Hospital in Cleveland.—A new hospital has been opened in Cleveland under the name of "The Mt. Sinai Hospital of Cleveland, Ohio," by philanthropic Jewish citizens. It is strictly non-sectarian. It is well equipped to accommodate thirty-five patients, with ward and private beds. The staff is made up as follows: Surgeons—Drs. George W. Crile, Carl A. Hamann and Frank E. Bunts; gynecologists—Drs. Marcus Rosenwasser, W. Lincoln and John J. Thomas; orthopedic surgeon—Dr. Walter G. Stern; pediatrists—Drs. Nathan Weidenthal, and McMichael; eye—Dr. William E. Shackelton; nose and throat—Dr. Henry B. Stotter; skin—Dr. Samuel Rigelhaupt; nervous diseases—Drs. Moritz Lowenthal and Isidor Belkowsky; internal medicine—Drs. Arnold Peskind, Friedman. Emanuel Rosenberg, Louis Robecheck, David B. Steuer, Alfred S. Maschke, Daniel Heimlich, Kaplin, Isador J. Propper, Maurice Budwig and Myron Metzenbaum. Dr. Bunts is president and Dr. Stern secretary.

PENNSYLVANIA.

Typhoid in Schuylkill County.—An epidemic of typhoid fever is reported in Schuylkill county, there being many cases at Ashland, Pine Grove and Pottsville.

Dogs Quarantined.—The State Live Stock Sanitary Board, because of evidence of rabies existing among the dogs of Columbia County, has ordered all quarantined for a period of 90 days.

Dairyman Fined.—A dairyman at Mahanoy City, pleading guilty of using formaldehyd in milk, was recently fined $100 and costs amounting to $19.64; and a Locust Valley farmer for using ice in his milk was fined $62.50, including costs.

Philadelphia.

Phipps Institute.—The educational work of the Phipps Institute was opened on August 25 by Dr. Ward Brunton, one of the physicians of the institution, who gave to a lay audience a lecture on "The Cause and Prevention of Tuberculosis."

Public Playground.—The thirty-five playgrounds, mostly school yards, which have been open in different sections of the city during the summer under the auspices of the Board of Education, closed August 28. The total attendance for July was 158,646. This seems a practical contribution to the health of the children of the poor.

The New Filtering System.—Chief Hill of the filtration bureau has published a series of results of recently completed sand filters of the new system being installed. The results are the best ever attained by such methods. On August 8 the Schuylkill river water showed 42,000 bacteria per c.c.; one of the Lower Roxborough filters reduced the number to 12, while the poorest showing was 68 to the cubic centimeter. This filter system will be described in THE JOURNAL in the near future.

Reports of Contagious Diseases.—The Department of Public Health and Charities, to facilitate the report of contagious diseases, has sent to each physician postal cards properly printed for such reports. A circular letter accompanies the cards asking special aid of the profession in stamping out smallpox. To this end a request is made that all cases of chicken-pox be reported, and that especial influence be exerted toward having all persons vaccinated who are not so protected. The office of the bureau of health will hereafter be open night and day and never closed. In order to impress the public with the necessity of vaccination, the bureau is distributing a circular, citing a number of concrete examples of the manner in which vaccination protects. Among other examples cited, it is pointed out that of the 2,600 smallpox patients admitted to the Municipal Hospital within the last two years there was not one person who had been recently successfully vaccinated.

GENERAL.

Leprosy Scare in Porto Rico.—The people of this island are much alarmed over the discovery that fowls, produce and other articles were freely brought from the leper settlement to San Juan. The regulations of the settlement were said to be very lax.

The Reed Memorial Fund.—The committees appointed for the purpose by the American Medical Association, the American Association for the Advancement of Science, and the Congress of American Physicians and Surgeons met, August 15, in Bar Harbor, together with friends of the late Major Reed, M.D., U. S. A. Representative men were present from different parts of the country, and letters were received from various members of committees already appointed to promote the collection of a memorial fund in grateful commemoration of Dr. Reed's services in connection with yellow fever. Important suggestions were presented from President Eliot, Dr. W. W. Keen, Prof. J. W. Mallet and others. Dr. Daniel C. Gilman, chairman of a committee appointed by the American Association for the Advancement of Science, presided, and Dr. Stuart Paton acted as secretary. Among those who took part in the conference were Dr. W. H. Welch of Baltimore, Dr. Janeway of New York, Dr. Abbott of Philadelphia, Dr. Herter of New York, Dr. Barker of Chicago, Dr. Putnam of Buffalo, Dr. Fremont Smith of Bar Harbor and Dr. Sajous of Philadelphia, and beside these medical gentlemen, Bishop Lawrence of Massachusetts and Messrs. Morris K. Jesup, president of the New York Chamber of Commerce, John S. Kennedy, president of the Presbyterian Hospital of New York and William J. Schiffelin of New York. The following conclusions were reached: That an effort should be made to raise a memorial fund of $25,000 or more, the income to be given to the widow and daughter of Dr. Reed, and after their decease the principal to be appropriated either to the promotion of researches in Dr. Reed's special field, or to the erection of a memorial in his honor at Washington. Arrangements were made for the publication of circulars explaining this movement, and asking co-operation not only from the medical profession, but from all liberally disposed individuals who appreciate the value of Dr. Reed's services to mankind.

FOREIGN.

The Next International Dermatological Congress.—The fifth congress will meet in Berlin, Germany, September 13 to 17, 1904. The following subjects have been selected by the officers of the congress for discussion: "The Syphilitic Affections of the Circulatory Apparatus," "The Diseases of the Skin in Anomalies of Metabolism," and "Epitheliomas and Their Treatment." Dr. James Nevins Hyde, 100 State St., Chicago, has been appointed secretary for America.

The First German Total Abstinence Congress was opened, August 8, with simultaneous subsidiary societies of teachers, women, clergymen, etc. The Berlin correspondent of the *Muenchener Med. Woch.* notes that there are no special branches of total abstaining physicians, and rather offers his congratulations that the number of abstainers among German students is something hardly more than one-tenth of 1 per cent. Nevertheless he states that at the same time with the Total Abstinence Congress a general meeting of the world-wide Good Templars Order was held, which in Germany at the present time has some 625 lodges with almost 20,000 members and has in late years added nearly 4,000 to its membership.

LONDON LETTER.

Dinner to Mr. Jonathan Hutchison.

A complimentary dinner has been given to Mr. Jonathan Hutchinson on his seventy-fifth birthday by the members of the profession. Sir H. G. Howse, late president of the Royal College of Surgeons, presided, and covers were laid for 154 guests. In proposing the health of Mr. Hutchinson the chairman said that he was a professional of 53 years' standing, and the astonishing virility and vitality he had shown within the last two or three years was not an unfitting part of his career. Who among them, he asked, would, at the age of 73, undertake a long journey to South Africa in search of facts which might damn or support an hypothesis, and who would subsequently undertake a similar journey to India? Though the occasion was Mr. Hutchinson's 75h birthday, they still hoped to see more of his work, for he was still capable of studying facts which would be useful to the profession in the future. Sir Joseph Fayrer, who also spoke to the toast, remarked that he had always read Mr. Hutchinson's books with profit, and had learned to look on him with profound respect. What had struck him most was the energy with which Mr. Hutchinson had pursued his studies up to his 75th year with fidelity of conscience and with the true scientific spirit, always striving to ascertain what was right simply for the sake of right. Mr. Hutchinson, in response, referred to the healthy feeling and pride he felt in knowing that he had gained the esteem of so many influential friends. Such recognition helped him on in his work. This, of course, was not the highest motive, but though one should be actuated by high motives it was no harm to have them reinforced by lower ones. He thanked Sir Joseph Fayrer for mentioning fidelity to conscience. This he had been brought up in from his youth by the Society of Quakers, among whom the one dogma was conscience. Turning to the question of leprosy he related how, when visiting Robben Island (near Cape Town) he saw 500 persons confined for life because the medical profession were too indolent to pay proper attention to facts. Leprosy was not contagious, and yet on Robben Island were confined the children of white parents condemned to association with Kaffirs and Hottentots. Therein lay a motive for work in what remained to him of life—to render the profession alive to its duty with regard to leprosy. Poetry had always inspired him with motives for dry scientific work. He always tried to act up to the motto of the German poet, "Keep true to the dream of your youth." He also quoted with approval the view of a Swedish writer as to the distinction between fame and immortality. Fame consisted merely in having one's name known and diffused about, but immortality consisted in having one's work taken up and carried on by one's fellows, though one's name might be forgotten.

The Professorship of Surgery at the University of Cambridge.

Mr. Howard Marsh, surgeon to St. Bartholomew's Hospital, has been appointed professor of surgery in the University of Cambridge in succession to the late Sir G. M. H. Humphry, since whose death seven years ago the professorship has been suspended.

Correspondence.

Notes from Paris and Berck.

Paris, August, 1903.

To the Editor:—Berck-sur-mer, a health resort on the Normandie coast, is best known outside of France through the work of Dr. L. Calot in the treatment of tuberculous and deformed children. On Dr. Calot's invitation the writer drove directly to his private hospital, a fine large building on the elevated drive facing the broad, sandy beach, where a fleet of some fifty dark fishing smacks was stranded. The hospital is managed by sisters of charity, and is very complete in all its appointments; the rooms are large, and most of them connect with balconies, where the patient can pass his time in the open air if unable to go to the beach. Most of the children, however, play on the beach; many who are unable to walk being carried out and placed on mattresses on carts. While much less use seems to be made of mechanical supports or of operative treatment than is the rule with us, the chubby appearance and ruddy faces of the children testified to the beneficial effects of this mode of life.

Dr. Calot begins his daily clinic at 4 p. m. in a spacious and well-appointed building connected with the hospital. There is a series of roomy offices and operating rooms and waiting rooms, affording every facility and convenience. A feature of the work is the injection treatment of tuberculous joints, glands, abscesses and sinuses. Cold abscesses are never opened; joints and glands are never excised, but are injected with iodoform-guaiac and camphorated naphthol every three or four days. The hips and spine, however, are not well suited to the injection treatment. Inflamed joints are immobilized in plaster splints, in which a window is cut for access to the joint, and if the case is acute the patient is kept recumbent. By these means combined with the sea air and sunshine many cases are cured without suppuration. Dr. Calot's method of forcible correction of the kyphotic spine was at one time very largely practiced, but is now used in a much milder form, even by its author. A corrective jacket was applied during suspension in the ordinary way and without anesthesia; the jacket, however, reached over the shoulders and included the neck, chin and occiput. While the plaster was hardening manual pressure was made over the kyphos. Afterward a large fenestra was cut in front and behind, the posterior opening being stuffed tightly with a large quantity of cotton, which was bandaged on. Dr. Calot believes that he is able in this way to exert a great deal of pressure on the kyphos without danger of a pressure sore. Dr. Calot has modified the technic of the replacement of congenital hip dislocation, by adding a strong inward rotation after the hip is reduced, either at the same sitting or a few days later, by which means he believes the head is forced more strongly and exactly into the acetabulum. His cases are all *x*-rayed in the operating room at the time of operation, and as in Liverpool and Paris. The finished plate is shown "while you wait." A long plaster spica is applied with the knee flexed, and the patient does not walk. In one case examined the patient was walking without support after five months' treatment, and by palpation, measurement and *x*-ray the reduction seemed perfect. As a rule treatment is over in five or six months. The writer left much impressed with Dr. Calot's kindness, earnestness and skill, and with the value of the open air and beach treatment of bone and joint tuberculosis.

In Paris the writer was so fortunate as to meet both Professor Kirmisson and Dr. Redard, both well known in America by their work and writings. Dr. Redard, who has just been distinguished by the red button of the officer of the legion of honor, devotes two mornings a week to the orthopedic service at the Furtado-Heine dispensary, a large, modern building in the Rue Delbet. Through Dr. Redard's extreme kindness, the writer was present at a private operation for manual replacement of a congenitally-dislocated hip in a rather thin girl of twelve. It was surprising to observe that the movements were made with great deliberation, with pauses between the different steps, and with no manipulation of the adductors, which readily yielded to the steady stretching, and in less than twenty minutes the hip was in place, without violence, bruising or injury. The ease and skill with which this was done were a revelation. It was noticed that during reposition the thigh was strongly flexed. The short spica is left off in five or six months.

Dr. Kirmisson, who occupies the chair of surgery of children in the University of Paris, spends several hours every morning at the fine new Hôpital Trousseau. He studies his cases very carefully, and impresses one by his good sense, moderation, and excellent judgment. He is opposed, as a rule, to the excision of joints in children, treats tuberculous abscesses and sinuses by the injection of iodoform-ether, and when there is acute disease keeps the patient in bed. Professor Kirmisson is not enthusiastic about tenoplasty in infantile paralysis, but thinks highly of arthrodesis. He spoke of the lack of careful reports of final results. In the manual replacement of congenital hip luxation, Professor Kirmisson lays great stress on reduction over the inferior border of the acetabulum, which he believes is much easier. It is effected by extreme flexion followed by external rotation, after the hip has been brought down and the resistance of the adductors overcome in the usual way.

After the work at the Trousseau, Professor Kirmisson goes each Wednesday to his ambulant clinic at the Hôtel Dieu, as he says, to observe the results of other methods of treatment. Curiously, on the day when the writer was present, three adults whose hips had been excised in childhood presented themselves. Everyone was horribly crippled, with a short, weak, deformed and nearly useless leg, and furnished a strong argument for Professor Kirmisson's conservatism. In answer to a question as to the use of passive movements in a sensitive joint, he said avoid all rough and violent movements, and if gentle movements are painful desist. "If you wish to ankylose a joint, hurt your patient." The writer feels under great obligation to Dr. Calot, Dr. Redard, Professor Kirmisson not only for their kindness and many personal attentions, but for the many valuable ideas he received from them.

Henry Ling Taylor.

Medical Contingent Fees.

Chicago, Aug. 26, 1903.

To the Editor:—In the August 22 issue of The Journal of the American Medical Association is an account of a damage case recently tried in a Colorado court which furnishes The Journal with an item for editorial comment under the heading "Medical Contingent Fees." It was admitted by the physicians for the plaintiff that the fees were contingent, that is, that they were to receive a certain percentage of the amount recovered for their services. The attorneys for the defendant corporation made the most of this admission and took the ground that it was contrary to good policy and morals. The physicians claimed that the transaction was an innocent one, that as the injured person was poor she was allowed to contract to pay her bill in this way.

Such a case as this brings up the whole vexed question of medical expert testimony, which furnishes such a fruitful theme for medical addresses and articles. Some few years ago the writer of this letter examined one of the yearly volumes of the *Index Medicus* and found 252 titles dealing with various phases of this problem.

The compensation of the medical expert witness is one of some difficulty. In certain states of the union it has been held that an expert, meaning by that one who gave open evidence and of necessity who had to specially qualify himself to

advise the court in such matters, was entitled to a fee commensurate with the time and effort necessary. Other courts have held, notably Illinois, that an expert medical witness could not refuse to testify because he had not been compensated. The courts in this state, in accordance with that of most states which have rendered decisions along this line, have held that while the physician or other expert could not refuse to testify providing he had an opinion, yet there was no way in which he could be compelled to form an opinion. He could not be made to examine facts nor to consult books nor, indeed, to set his mental machinery in operation so that he would have an opinion on a given set of facts. It will be seen that such a limitation of the decision practically makes it impossible to get expert testimony in our courts unless it is paid for. In almost every case to be of much value a physical examination of a patient must be made or there must be a careful study of a personal history or other matters, and this will not be undertaken by a physician unless it is with the understanding that he is to be compensated for the time that is required. Primarily it will be seen that all courts have recognized the necessity of opinion testimony and the fact that it requires time and effort to prepare it, and for this reason the one who gives it is entitled to a higher compensation than ordinary witness fees. Cases occasionally arise like that which is commented on by THE JOURNAL, in which a poor person is a litigant. It is probable that he can not pay his physician for the medical services, and if he is able to do that, there are many worthy litigants who would not be able to adequately compensate experts for going into court to properly present their case. It is manifestly optional with the physician whether he shall give a person credit for the amount of his fees. If he does so, and the person is very poor, it is evident that his compensation will depend on the fact of recovery. This is an unavoidable conclusion growing out of the nature of the transaction.

The chief objection against the method followed in the Colorado court is that the physicians agreed to take a certain percentage of the amount recovered. This is clearly bad practice; the amount of time required in preparing a case and in testifying is not greater where a large verdict is recovered than where a small one is obtained. The charge in all such cases should be for time, and should be based on the amount which the physician receives for similar service in which the fee is not contingent. If the amount of the fee is agreed on beforehand, there surely can be no objection if the physician chooses to wait for his fee. But to make the amount of the fee depend on the amount recovered, that gives the transaction the character that it ought not to have. On the other hand, to insist that every plaintiff should pay his expert witnesses for their services before they were allowed to testify would throw a burden on many worthy plaintiffs which in many instances would prevent their properly presenting their cases in court.

The whole subject of expert testimony in general and of medical expert testimony in particular is one that is sadly in need of revision. The enormous increase in personal injury litigation, the character of attorneys engaged in this class of work, and the kind of medical testimony which is frequently heard in our courts can not but lead to the view that some change in the near future will be necessary. Just what that change ought to be it is difficult to say. Of necessity there must be some statutory alteration, but these changes should be made with the utmost care, as any interference with the practice of our courts in a drastic manner is often more harmful than beneficial.

HAROLD N. MOYER, M.D.

The Alleged Cure for Lockjaw.

CHICAGO, Aug. 29, 1903.

To the Editor:—Through an error, I gave the wrong quantity of sodium chlorid in the formula which I used in the case of tetanus, described in THE JOURNAL, Aug. 29, 1903, page 566. The strength given is not dangerous, but is not advisable. The correct formula is:

R.	Sodii chloridi	3	656+
	Sodii sulphatis	10	06+
	Sodii citratis	3	364+
	Calcii chloridi	0	136+
	Aquæ	1000	00

The formula preceding this—the m/8, etc., formula—was correct. S. A. MATTHEWS, M.D.

State Boards of Registration.

Indiana Examination Questions.—The following were the questions used for the examination of candidates to practice medicine at the semi-annual examination of the Indiana State Board of Medical Registration and Examination, at Indianapolis, July 14 to 16, 1903, as furnished by Dr. W. T. Gott, Crawfordsville, secretary.

ANATOMY.

1. Describe the palmar fascia. 2. Give the origin, course and distribution of the internal iliac artery. 3. Give the names of the muscles of the palmar region. 4. Describe an artery. 5. Give the relation of the ureters to the pelvic organs in the female. 6. What abdominal viscera has ligamentous attachment to the diaphragm, and give the names and location of the ligaments? 7. Give the names and a description of the lobes of the lungs. 8. Describe the ligaments of the uterus. 9. At what situation can the subclavian artery be compressed from the surface? Give the anatomic relations that make this possible. 10. Name the muscles of the larynx.

PHYSIOLOGY.

1. Describe the pulmonic circulation. 2. Define (*a*) anastomosis, (*b*) metabolism, (*c*) anabolism, (*d*) catabolism. 3. What is the composition of the chyle? 4. Describe the lymphatic circulation. 5. What is the normal amount of urine voided by an adult in twenty-four hours, and what physiologic conditions cause a variation from this amount? 6. How would you proceed to make a blood count? 7. What are the five chief functions of the stomach? 8. Describe the nerve control of the urinary bladder. 9. What are the chief factors concerned in stimulating the secretion of gastric juice? 10. How would you make a quantitative analysis of the gastric juice?

OBSTETRICS.

1. Give causes, symptoms and treatment of inversion of the uterus. 2. Name one or more causes of hour-glass contraction of the uterus. Give treatment. 3. State most common cause of morbid retention of the placenta. 4. When should cesarean section be performed? 5. Give probable cause and treatment of puerperal mania. 6. Give treatment of puerperal septicemia. 7. Describe the kyphotic pelvis. 8. How long should the mother keep her bed after labor? 9. Describe Sylvester's method of artificial respiration. 10. State best method of inducing premature labor when it is designed to save the child's life.

GYNECOLOGY.

1. Name the physiologic periods of woman. 2. Give the principal procedures in local treatment. 3. Give preparation for aseptic abdominal operation, (*a*) preparation of the operator and assistants, (*b*) preparation of the instruments, etc., (*c*) preparation of the patient. 4. Define hypodermoclysis, giving technic of operation. 5. Give etiology, pathology, diagnosis and treatment of acute metritis. 6. Give indications for curettage and describe operation. 7. Give indications for hysterectomy and describe operation. 8. Give differentiations of tubercular and gonorrheal cystitis. 9. Give differentiation of renal and ovarian cysts. 10. Give diagnosis and operation for urethrovaginal fistula.

MATERIA MEDICA AND THERAPEUTICS (REGULAR).

1. Name the route by which medicinal agents may be introduced into the organism. 2. Name a medicinal agent which (*a*) raises blood pressure, (*b*) lowers it, and give the physiologic action of each. 3. Name a medicinal agent which increases the renal function, and give an indication for its use. 4. Name a medicinal agent which increases the function of the skin, and give an indication for its use. 5. Define (*a*) decoction, and (*b*) infusion. 6. Give the derivation of quinin and its therapy. 7. How does ergot arrest uterine hemorrhage? 8. Write a prescription for an expectorant suitable for the first stage of acute bronchitis. 9. Write a prescription for a general tonic. 10. Write a prescription for an emetic.

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC).

1. Name two therapeutic remedies, one of which will contract the pupil and the other dilate it. 2. Give indications when you would give the following remedies, stating dose of each: Asclepias; 3, oenantha: 4, solanum car; 5, hydrastis; 6, cuprum; 7, colocynth; 8, apocynum. 9. Give indications for an acid—an alkali. 10. Write a prescription for an irritative cough, such as is often found associated with measles.

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC).

1. Chloroform—give therapeutic action. 2. Chimaphila umbellata—give habitat and indications for use. 3. Chelidonium—name three special centers of action. 4. Carbo-vegetabili—give therapeutic individuality. 5. Capsicum annuum—give therapeutic individuality. 6. Cantharides—name special centers of action. 7. Cannabic sativa—give anecdote and special centers of action. 8. Bryonia alba—give therapeutic individuality. 9. Pharmacology—define. 10. Kali bichromicum—give effects on mucous membranes.

THEORY AND PRACTICE OF MEDICINE (REGULAR).

1. Give predisposing cause, pathology, symptoms and prognosis of arteriosclerosis of the cerebral arteries. 2. Give predisposing cause and symptoms of cerebral hemorrhage. 3. Give exciting

cause and physical signs of croupous pneumonia. 4. Give predisposing cause and treatment of pulmonary hemorrhage. 5. Give physical signs of pleuritic effusion. 6. Give exciting cause, symptoms and treatment of typhoid fever. 7. Give common cause, symptoms and treatment of gastrointestinal catarrh in infants. 8. Give exciting cause, symptoms and pathology of epidemic cerebrospinal meningitis. 9. Give pathology and diagnosis of Bright's disease of the kidneys. 10. Give diagnosis and treatment of cystitis.

THEORY AND PRACTICE OF MEDICINE (ECLECTIC).

1. Give diagnosis, complications and sequela of scarlatina. 2. Give etiology, pathology and treatment of pericarditis. 3. Give treatment of a child 2 years old who has taken one-half grain morphia sulphas. 4. Give treatment of chronic tonsilitis and adenoids of the pharynx. 5. Give etiology, diagnosis and treatment of Addison's disease. 6. Give treatment for la grippe. 7. Give causes and treatment for chorea. 8. How would you treat a case of arsenical poisoning? 9. Give pathology and diagnosis of mitral stenosis. 10. Give cause and treatment for uremic poisoning.

THEORY AND PRACTICE OF MEDICINE (HOMEOPATHIC).

1. Define Hodgkin's disease. 2. Give diagnosis and morbid anatomy of diabetes mellitus. 3. Give etiology and diagnosis of nephritis. 4. (*a*) What is an aneurism? (*b*) Give the physical signs of aneurism of the aorta. 5. Give symptoms and treatment of arteriosclerosis. 6. Define and give treatment of enuresis. 7. State common cause and treatment of endocarditis. 8. Define hydro- and pneumo-thorax. 9. Describe chronic interstitial pneumonia. 10. Give cause and morbid anatomy of cirrhosis of the liver.

CHEMISTRY.

1. What is the usual reaction of normal urine, and to what is it due? 2. Give two reliable tests for albuminuria. 3. Give the antidotes for carbolic acid poison. 4. What elements are found in all animal and vegetable substances? 5. What is the chemical antidote for arsenical poison? 6. If you were called to see a patient who had taken a large dose of tincture of iodin what chemical antidote would you give? 7. What is an oxidizing agent? Name three. 8. What is a reducing agent? Name two. 9. What is urea chemically? What is the average daily amount excreted in the urine? 10. Define a ptomain.

SURGERY.

1. Classify dislocation of the hip joint. 2. Give the indications for surgical intervention in gastric ulcer. 3. Give differential diagnosis between a sarcoma and gumma of the testicle. 4. Give the signs and symptoms of a fracture of the shaft of a long bone. 5. Differentiate between obstruction to the common bile duct by a gallstone and by a carcinoma of the head of the pancreas. 6. Give method of reduction of subcoracoid dislocation of the shoulder joint. 7. Give indications for trephining in fractures of the skull. 8. Give differential diagnosis between mechanical ileus and acute general peritonitis. 9. Briefly describe the treatment of strangulated hernia. 10. Give the immediate treatment for acute retention of urine from an enlarged prostate.

PATHOLOGY.

1. Describe the macroscopic and microscopic appearance of the kidney in interstitial nephritis. 2. Describe an aneurism. What condition is essential for the development of an aneurism? 3. Define (*a*) telangiectasis, (*b*) edema, (*c*) necrosis, (*d*) gangrene. 4. What is the pathology of locomotor ataxia? 5. Describe three kinds of crystals found in the urine. Under what conditions are these present?

BACTERIOLOGY.

1. How would you pasteurize milk? Why is the process repeated three times? 2. Give a method of differentiation between the tubercle and smegma bacilli. 3. How would you thoroughly disinfect your hands? 4. How would you test the blood for Widal's reaction? 5. How is it conclusively demonstrated that a certain microbe is the cause of a certain disease?

HYGIENE.

1. Define hygiene. 2. What hygienic measures are most efficient in the prevention and treatment of pulmonary tuberculosis? 3. What hygienic measures are essential to the prevention of typhoid fever? 4. What hygienic measures are essential to the prevention of gastrointestinal catarrh in children? 5. Describe the proper hygiene of the sick room?

HISTOLOGY.

1. Define histology. 2. Give histology of muscle. 3. Give histology of an artery. 4. Give histology of the skin. 5. Give histology of a pulmonary air cell.

RHINOLOGY.

1. What are the causes of fetid discharge from the nose? 2. Name the congenital deformities of the nose? 3. Mention the forms of rhinitis. 4. Give the treatment of epistaxis. 5. Give the treatment of acute coryza.

MEDICAL JURISPRUDENCE.

1. How would you distinguish between an incised wound made before and after death? 2. Define (*a*) expert witness, (*b*) ordinary witness. 3. Define rigor mortis. To what is it due? 4. What organ is generally the first to undergo putrefaction? 5. What organ is generally the last to undergo putrefaction?

OPHTHALMOLOGY.

1. How would you test acuteness of vision? 2. Give test for color blindness. 3. Define conjunctivitis neonatorum; give causes, symptoms and treatment. 4. Define iridectomy, and state under what conditions you consider the operation necessary. 5. When should enucleation be performed? Describe operation.

OTOLOGY.

1. Give topography of the sound-conducting apparatus. 2. Give method of examination of the middle ear. 3. Give etiology, diagnosis and treatment of mycosis of the external ear. 4. Give diagnosis and treatment of strictures of eustachian tube. 5. Otosclerosis —give etiology, diagnosis and treatment.

LARYNGOLOGY.

1. Give the physiology of the larynx. 2. Give the differential diagnosis of syphilitic laryngitis. 3. Give symptoms and treatment of elongated uvula. 4. Give treatment of neoplasms, of the cavity of larynx. 5. Describe edema of the larynx and give proper treatment.

DERMATOLOGY.

1. Define tinea favosa; give synonym and treatment. 2. Describe scabies and give treatment. 3. What is epithelioma? 4. Give diagnosis of lupus erythematosus. 5. Give the etiology of lichen ruber.

Maine Report.—Dr. A. P. K. Meserve, secretary of the Maine Board of Registration of Medicine, reports that at the examination held at Portland, July 8 and 9, the number of subjects examined in was 14; total questions, 106; percentage required to pass, 75; 48 applicants were examined, all of whom passed. There was also one licensed by reciprocity with New Jersey, without examination. The examination was partly oral and partly written.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
515	R.	Medical School of Maine	1903	89.3
521	R.	Medical School of Maine	1903	88 5-7
522	R.	Medical School of Maine	1903	82 5-7
523	R.	Medical School of Maine	1903	84
525	R.	Medical School of Maine	1903	87 1-7
526	R.	Medical School of Maine	1903	92 5-7
527	R.	Medical School of Maine	1903	87
530	R.	Medical School of Maine	1903	89.8
535	R.	Medical School of Maine	1903	89.5
536	R.	Medical School of Maine	1903	88.6
539	R.	Medical School of Maine	1903	95 6-7
543	R.	Medical School of Maine	1903	88 6-7
545	R.	Medical School of Maine	1903	89 4-7
547	R.	Medical School of Maine	1903	91
549	R.	Medical School of Maine	1903	92 6-7
552	R.	Medical School of Maine	1903	93.6
554	R.	Medical School of Maine	1903	93 1-7
555	R.	Medical School of Maine	1903	90 1-7
558	R.	Medical School of Maine	1903	94 5-7
559	R.	Medical School of Maine	1903	96 1-7
516	R.	McGill University, Montreal	1903	87.2
538	R.	McGill University, Montreal	1901	87 5-7
551	R.	McGill University, Montreal	1902	93 2-7
517	R.	Coll. of Phys. and Surgs., New York	1886	90 1-7
533	R.	Coll. of Phys. and Surgs., Baltimore	1903	87 5-7
557	R.	College of Phys. and Surgs., Boston	1902	77
561	R.	College of Phys. and Surgs., Boston	1903	86 2-7
518	R.	Bellevue Hosp. Med. Coll., New York	1897	94 4-7
519	R.	Medical Dept., University of Vermont	1888	86 2-7
520	R.	Harvard University Medical School	1877	86.6
528	R.	Harvard University Medical School	1901	92 5-7
542	R.	Harvard University Medical School	1902	97
548	R.	Harvard University Medical School	1899	91 3-7
550	R.	Harvard University Medical School	1903	90
524	R.	Laval University, Montreal	1902	86 6-7
...	R.	Laval University, Montreal	1901	*
539	R.	Jefferson Med. College, Philadelphia	1902	87 1-2
556	R.	Jefferson Med. College, Philadelphia	1902	90.7
532	R.	Maryland Medical College, Baltimore	1903	90 6-7
537	R.	Maryland Medical College, Baltimore	1903	78.5
534	R.	Baltimore Medical College	1903	93.9
553	R.	Baltimore Medical College	1902	83
544	R.	Baltimore Univ. School of Medicine	1903	83 6-7
540	R.	Vanderbilt University, Tennessee	1903	80
541	R.	Johns Hopkins Med. Coll., Baltimore	1903	94 6-7
546	R.	Dartmouth Medical School	1888	75
560	R.	Univ. of the South, Sewanee, Tenn.	1901	89.5
529	H.	Hahnemann Med. Coll., Philadelphia	1892	86 6-7

* Oral examination only.

Wisconsin Report.—Dr. Filip A. Forsbeck, Milwaukee, secretary of the Wisconsin Board of Medical Examiners, reports the examination held at Madison, July 14 to 16, as follows: Subjects, 18; total questions, 110; percentage required to pass, 75, and not below 60 per cent. in more than one branch; written examination; total number examined, 53; passed, 43; failed, 10.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
225	R.	Detroit College of Medicine	1903	87.3
226	R.	U. of Bishops' College, Montreal	1903	82.7
227	R.	University of Minnesota	1903	87.1
270	R.	University of Minnesota	1902	82.6
228	R.	Coll. of P. and S., Univ. of Illinois	1903	84.4
231	R.	Coll. of P. and S., Univ. of Illinois	1903	80.8
232	R.	Coll. of P. and S., Univ. of Illinois	1903	89.1
233	R.	Coll. of P. and S., Univ. of Illinois	1903	84
234	R.	Coll. of P. and S., Univ. of Illinois	1903	90.1
244	R.	Coll. of P. and S., Univ. of Illinois	1903	90.7
253	R.	Coll. of P. and S., Univ. of Illinois	1903	84
258	R.	Coll. of P. and S., Univ. of Illinois	1903	83.8
259	R.	Coll. of P. and S., Univ. of Illinois	1902	81.7
263	R.	Coll. of P. and S., Univ. of Illinois	1903	89.2
265	R.	Coll. of P. and S., Univ. of Illinois	1903	89.2
269	R.	Coll. of P. and S., Univ. of Illinois	1903	87
230	E.	Bennett Medical College, Chicago	1902	80.3
235	R.	Rush Medical College	1903	76.3
236	R.	Rush Medical College	1903	85.7

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
237	R.	Rush Medical College	1893	89.5
245	R.	Rush Medical College	1903	87.5
246	R.	Rush Medical College	1903	87.6
247	R.	Rush Medical College	1903	84
249	R.	Rush Medical College	1903	85
250	R.	Rush Medical College	1903	87.6
272	R.	Rush Medical College	1903	79.9
273	R.	Rush Medical College	1903	84.9
274	R.	Rush Medical College	1903	85.6
238	R.	Jefferson Medical College	1902	78.1
262	R.	Jefferson Medical College	1903	88.4
239	R.	Johns Hopkins Medical School	1903	91.9
240	R.	Johns Hopkins Medical School	1903	92
241	R.	Northwestern Univ. Medical School	1902	92.2
248	R.	Northwestern Univ. Medical School	1903	92.3
251	R.	Northwestern Univ. Medical School	1903	85.5
252	R.	Northwestern Univ. Medical School	1903	86.2
266	R.	Northwestern Univ. Medical School	1903	86.6
268	R.	Northwestern Univ. Medical School	1903	75
243	H.	Hering Medical College	1903	85.7
256	O.	American School of Osteopathy	1903	83.5
257	O.	American School of Osteopathy	1903	83.2
267	H.	Chicago Homeopathic Medical College	1903	79.5
279	R.	Chicago Medical College	1877	75

FAILED.

229	E.	Bennett Medical College	1903	*78.2
242	H.	Hahnemann Medical College, Chicago	1903	72
260	O.	Still College of Osteopathy	1903	*77.4
261	O.	Still College of Osteopathy	1903	72.1
277	O.	Still College of Osteopathy	1903	66
278	O.	Still College of Osteopathy	1903	63.2
264	R.	Northwestern Univ. Medical School	1903	75.9
276	R.	Detroit College of Medicine	1903	67.5
255	R.	Harvey Medical College	1901	58
271	R.	Illinois Medical College	1902	70.3

* Conditioned.

Indiana Report.—The Indiana Board of Medical Registration and Examination reports the examination held at Indianapolis, July 14 to 16, 1903, as follows: Number of subjects examined in, 18; total number of questions, 130; percentage required to pass, 75, and not less than 40 per cent. in any branch and not less than 50 per cent. in two subjects; written examination; total number examined, 106; number passed, 91; failed, 15.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
56	R.	Hospital Coll. of Medicine, Louisville	1903	85
75	R.	Hospital Coll. of Medicine, Louisville	1903	78.1
77	R.	Hospital College of Med., Louisville	1903	77.8
78	R.	Hospital College of Med., Louisville	1903	89.1
80	R.	Hospital College of Med., Louisville	1903	87.3
81	R.	Hospital College of Med., Louisville	1903	86.3
92	R.	Hospital College of Med., Louisville	1903	87.2
93	R.	Hospital College of Med., Louisville	1903	85.3
57	R.	Coll. of Phys. and Surgs., Baltimore	1892	81
68	R.	College of Phys. and Surgs., Chicago	1902	89.4
72	R.	College of Phys. and Surgs., Chicago	1903	86
73	R.	College of Phys. and Surgs., Chicago	1903	85.6
152	R.	College of Phys. and Surgs., Chicago	1903	84.9
91	R.	College of Phys. and Surgs., St. Louis	1903	82.4
104	R.	College of Phys. and Surgs., St. Louis	1903	85.3
160	R.	College of Phys. and Surgs., Keokuk	1885	†76.4
58	R.	Louisville Medical College	1903	81.6
113	R.	Louisville Medical College	1903	86.1
114	R.	Louisville Medical College	1903	80.7
116	R.	Rush Medical College	1880	78.1
123	R.	Rush Medical College	1903	93.4
126	R.	Rush Medical College	1903	89.9
129	R.	Rush Medical College	1903	90
130	R.	Rush Medical College	1903	91.7
135	R.	Rush Medical College	1903	97.5
136	R.	Rush Medical College	1899	94
61	R.	Medical College of Ohio, Cincinnati	1903	86.3
62	R.	Medical College of Ohio, Cincinnati	1903	88.3
70	R.	Medical College of Ohio, Cincinnati	1903	80.3
120	R.	Medical College of Ohio, Cincinnati	1902	76.7
150	R.	Medical College of Ohio, Cincinnati	1903	81.6
131	R.	Medical College of Indiana	1903	78.5
133	R.	Medical College of Indiana	1903	85
134	R.	Medical College of Indiana	1903	83
63	R.	Washington University, St. Louis	1901	87.2
64	R.	University and Bellevue Hospital Medical College, New York	1903	87
74	R.	University of Kentucky	1903	85.6
85	R.	University of Kentucky	1903	80.8
88	R.	University of Kentucky	1903	82.7
89	R.	University of Kentucky	1903	89.7
140	R.	University of Kentucky	1903	80.6
145	R.	University of Louisville	1903	83.6
146	R.	University of Louisville	1903	87.3
147	R.	University of Louisville	1903	83.7
65	H.	Dunham Medical College, Chicago	1901	85.4
66	H.	Chicago Homeopathic Medical College	1894	84.8
69	R.	Long Island College Hospital	1888	91.5
71	R.	Kentucky School of Medicine	1903	82.1
97	R.	Kentucky School of Medicine	1903	86.4
98	R.	Kentucky School of Medicine	1903	83.2
99	R.	Kentucky School of Medicine	1903	84.8
100	R.	Kentucky School of Medicine	1903	86.2
101	R.	Kentucky School of Medicine	1903	87.8
102	R.	Kentucky School of Medicine	1903	82
105	R.	Kentucky School of Medicine	1903	80.7
108	R.	Kentucky School of Medicine	1903	86.1

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
112	R.	Kentucky School of Medicine	1903	82.3
141	R.	Kentucky School of Medicine	1903	85
76	H.	Hering Medical College, Chicago	1903	80.5
82	E.	Eclectic Medical Institute, Cincinnati	1903	80.7
83	E.	Eclectic Medical Institute, Cincinnati	1903	84.5
154	E.	Eclectic Medical Institute, Cincinnati	1903	82.8
155	E.	Eclectic Medical Institute, Cincinnati	1903	84.7
90	R.	Miami Medical College	1903	76.6
94	H.	Homeo. Med. Coll. of Mo., St. Louis	1903	80.8
95	H.	Homeo. Med. Coll. of Mo., St. Louis	1903	82.7
96	R.	Jefferson Medical College	1902	86.1
153	R.	Jefferson Medical College	1903	87.1
156	R.	Jefferson Medical College	1903	87.5
107	R.	Barnes Medical College	1903	83.5
111	R.	Grand Rapids Medical College	1903	89.2
118	R.	Harvey Medical College	1903	85.6
119	O.	American School of Osteo., Kirksville	1903	77
122	R.	Laura Memorial Med. Coll., Cincinnati	1902	84.5
124	H.	Cleveland Univ. of Med. and Surg.	1897	89.6
125	H.	Hahnemann Medical College, Chicago	1903	87.6
144	H.	Hahnemann Med. Coll., Philadelphia	1903	87.3
127	R.	Baltimore Medical College	1903	86.9
128	R.	Baltimore Medical College	1903	88
132	R.	Ohio Medical University, Columbus	1903	81.6
161	R.	Ohio Medical University	1897	†77.4
137	H.	Pulte Medical College	1888	79.4
138	R.	Columbian Univ., Washington, D. C.	1901	86.6
139	R.	University Med. College, Kansas City	1903	82.5
142	E.	Bennett Medical College, Chicago	1903	91.2
143	E.	Bennett Medical College, Chicago	1903	89.2
148	R.	Tulane University, New Orleans	1903	88.5
149	R.	Detroit College of Medicine	1893	83.7
151	R.	Marion-Sims-Beaumont Medical College, St. Louis	1903	76.9
157	R.	Medico-Chirurgical Coll., Philadelphia	1902	84
159	R.	Cincinnati College of Med. and Surgery	1890	‡75.4

FAILED.

59	E.	American College of Medicine, Chicago	1903	*
60	R.	College of Phys. and Surgs., Keokuk	1887	*
67	O.	Central Institute, Chicago	1903	*
79	R.	Central Coll. of P. and S., Indianapolis	1903	79.3
84	R.	Kentucky School of Med., Louisville	1902	†77.6
110	R.	Kentucky School of Med., Louisville	1902	†76
158	R.	Kentucky School of Med., Louisville	1901	†74.6
86	E.	Eclectic Medical Institute, Cincinnati	1903	74.2
87	E.	Eclectic Medical Institute, Cincinnati	1903	76.5
103	E.	Eclectic Medical College, Indianapolis	1903	72
106	R.	Columbus Medical College	1882	63.6
109	R.	Louisville Medical College	1903	73
115	R.	Louisville Medical College	1901	†75.9
117	R.	University of Louisville	1903	73.5
121	O.	Am. School of Osteopathy, Kirksville	1902	72.4

EXPLANATIONS.—O. Osteopath. * Did not complete examination. † Second examination. ‡ Third examination.

Marriages.

S. WILSON DODGE, M.D., mayor of Fairbury, Neb., to Miss Giles.

HENRY W. WALKER, M.D., to Miss Claire Johnson of Macon, Ga., August 19.

CHARLES C. CONSER, M.D., to Miss Emily L. Baker, both of Baltimore, August 20.

EMMA L. SCHOLZ, M.D., to F. H. Aldrich, M.D., both of Belview, Minn., at Waukegan, Ill., August 18.

RICHARD ARNETT WILLIAMS, M.D., Knoxville, Tenn., to Miss Cora Ella Morgan of Memphis, Tenn., August 25.

JOSEPH V. LONGFELLOW, M.D., Urbana, Ohio, to Mrs. Vilette Ward Hopkins of Rawlins, Wyo., at Cincinnati, August 24.

Deaths.

Phenett Coe Barker, M.D. College of Physicians and Surgeons, New York, 1860, ex-president of the Medical Society of the State of New Jersey, and of the Morristown (N. J.) Board of Health; founder and medical director of the Morristown Memorial Hospital and dean of the local medical profession, died at his home, August 21, from angina pectoris, after an illness of two days, aged 68.

John Hyde, M.D. Hahnemann Medical College, Philadelphia, 1840, formerly a member of the Texas Rangers and a surgeon in both the Mexican and Civil wars, died from "senile debility," after an illness of two years, August 20, at his home in Terre Haute, Ind., aged 77. He retired from active practice about twenty years ago.

William A. Boyce, M.D. Medical College of Virginia, Richmond, 1903, of Kelford, N. C., died at the Protestant Hospital, Norfolk, Va., at which he was an interne, August 5, after an

illness of one week, from septicemia due to infection of a thumb while dressing a wound, aged 25.

Charles F. Hildreth, M.D. Harvard University Medical School, Boston, formerly surgeon at the New Hampshire State Prison, Concord, and surgeon both in the Army and Navy during the Civil War, died at Manchester, N. H., August 18, from diabetes, aged 71.

Horatio F. Mintern, M.D. Arkansas University, Little Rock, 1899, a member of the Arkansas Medical Society, and the Little Rock Medical Society, died at his home in Pendleton, Ark., August 15, from malaria fever, after an illness of several weeks.

Ira Ellis Caspar Wister Smith, M.D. Atlanta (Ga.) Medical College, 1866, died at his home in Palmetto, Ga., August 17, after an illness of several months, aged 61. He represented his county in the state legislature for several terms.

Allen R. Thompson, M.D. Albany (N. Y.) Medical College, 1899, of Troy, N. Y., while suffering from melancholia due to a long illness, committed suicide by cutting his throat at Edgemere Inn, Asbury Park, N. J., August 22, aged 48.

Jonas Deisinger, M.D. University of Pennsylvania, Philadelphia, 1867, died at his home in York, Pa., August 13, from cancer of the face, after an illness of six years, aged 70. He was a member of the York County Medical Society.

Albert H. Brown, M.D. Jefferson Medical College, Philadelphia, 1903, interne at the Home Hospital, Augusta, Me., died at the City Hospital, Augusta, August 13, from tubercular meningitis, after an illness of two weeks, aged 23.

John M. Evans, M.D. Indiana Medical College, La Porte, Ind., 1846, founder and first mayor of Evansville, Wis., and at one time a member of the state legislature, died at his home in Evansville, August 23, aged 83.

Ephraim Bateman, M.D. Jefferson Medical College, Philadelphia, 1831, the oldest physician in Cumberland County, died at his home in Cedarville, N. J., August 20, from paralysis, after a long illness, aged 73.

Newton C. Harris, M.D. Albany (N. Y.) Medical College, 1857, assistant surgeon in the 155th New York Volunteer Infantry in the Civil War, died at his home in Schuylerville, N. Y., August 6, aged 70.

Samuel W. Skinner, M.D. Yale University, New Haven, Conn., 1846, surgeon and breveted colonel for meritorious service during the Civil War, died at his home in Toledo, Ohio, August 16, aged 83.

Washington West, M.D. McDowell Medical College, St. Louis, 1866, for two years a surgeon in the Navy, and afterward a resident of St. Louis, died from apoplexy after an illness of six days, aged 73.

Richard E. Brown, M.D. Jefferson Medical College, Philadelphia, 1863, a surgeon in the Army during the Civil War, died at his home in Mount Holly, N. J., August 7, from heart disease, aged 63.

Michael F. McGrath, M.D. College of Physicians and Surgeons, New York, died from consumption at the home of his brother in Fishkill Landing, N. Y., August 11, after a long illness, aged 35.

Stephen W. Seaman, M.D. Medico-Chirurgical College of Philadelphia, 1899, died at his home in Lenhartsville, Pa., August 11, from peritonitis, after an illness of one week, aged 28.

Emma Virginia Morton Baker, M.D. Woman's Medical College, Philadelphia, for ten years assistant physician at the Maine Insane Hospital, Augusta, died recently from paralysis, aged 50.

John Gleises, M.D. Bellevue Hospital Medical College, New York, 1877, of New York City, died at his summer home Brookside, near Saratoga, from "dropsy," August 14, aged 50.

J. A. Lovett, M.D. Central College of Physicians and Surgeons, Indianapolis, 1880, died from tuberculosis at his home in Goodland, Ind., after a lingering illness, August 4, aged 64.

Nathaniel L. Bunce, M.D. Cleveland Medical College, 1851, a pioneer practitioner of Marshalltown, Iowa, died at the home of his niece in Los Angeles, Cal., August 11, aged 74.

James Curry Ford, M.D. University of Louisville, 1878, died at his home in New York City from cancer of the throat, August 22, after an illness of nine months, aged 68.

John Henry Martin, M.D. University of Maryland, Baltimore, 1862, who practiced in Baltimore until a year ago, died at his home near Aberdeen, Md., August 20, aged 69.

John Irwin Arrington, M.D. University of Nashville, Tenn., 1863, died at his home in Nashville, August 19, aged 69. He retired from active practice two years ago.

Samuel O. Bryan, M.D. Louisville Medical College, died at his home near Mooleyville, Ky., August 2, from typhoid fever, after an illness of two weeks, aged 44.

Benjamin H. Howlett, M.D. College of Physicians and Surgeons, Baltimore, 1878, died at his home in Brogueville, Pa., August 14, after a long illness, aged 56.

William Z. Morgan, M.D. Kentucky School of Medicine, Louisville, 1892, died at his home in Princeton, Ky., August 17, from paralysis, after a long illness.

William P. Sharkey, M.D. Hahnemann Medical College, Philadelphia, 1875, died suddenly from heart disease at his home in Philadelphia, August 18, aged 62.

William H. Jett, M.D. University of Louisville, 1862, surgeon in the Federal Army, died suddenly at his home in Munfordville, Ky., August 17, aged 66.

P. W. Fox, M.D. Tennessee Medical College, Knoxville, 1895, died at his home near Beaver Ridge, Tenn., August 18, after an operation for appendicitis.

Hartwell C. Tompkins, M.D. University of Vermont, Burlington, died at his home in Knowlesville, N. Y., August 5, after a short illness, aged 75.

Thomas L. Phillips, M.D. Georgia College of Eclectic Medicine and Surgery, 1891, formerly of Atlanta, Ga., died at Springfield, Utah, August 13.

C. W. Miles, M.D. Bolingbroke, Ga., died at the home of his father in Griffin, Ga., August 15, from typhoid fever, after an illness of five weeks, aged 24.

James McGarry, M.D. McGill University, Montreal, 1858, died at his home in Niagara Falls, South, Ont., August 13, from gangrene of the leg, aged 69.

Richard C. Johnson, M.D. University of Louisville, 1884, died at his home in Morganfield, Ky., July 28, from dysentery, after an illness of ten days.

John W. St. Clair, M.D. Miami Medical College, Cincinnati, died at his home in Milton, Ind., August 13, after several months' illness, aged 61.

Charles E. Pierce, M.D. Eclectic Medical Institute, Cincinnati, 1878, died suddenly from heart disease at his home in Little Rock, August 19.

James E. Brown, M.D. Memphis (Tenn.) Medical College, 1858, died at his home in McKenzie, Tenn., August 13, from heart disease, aged 68.

George Ewing Connell, M.D. Howard University, Washington, D. C., 1879, died at his home in Irwin, Va., July 28, after a long illness, aged about 60.

Furman W. Runyan, M.D. Atlanta Medical College, 1887, died at his home in Austell, Ga., August 12, from uremia, after a short illness.

William H. Poindexter, M.D. University of Nashville, 1860, died from paralysis at his home in Bells, Tenn., August 17, after a long illness.

Arthur R. Barry, M.D. University of Georgetown, Washington, D. C., 1861, died at his home in Weatherford, Texas, August 4, aged 64.

Ernst Roesel, M.D. Missouri Medical College, St. Louis, 1887, died suddenly from heart disease at his home in Pequot, Minn., August 5.

Charles F. Baker, M.D., of Rawson, Ohio, died at his home in that place, July 26, from tuberculosis, after a long illness, aged 35.

John Harrington Vandiver, Jefferson Medical College, Philadelphia, 1845, died at his home in Talladega, Ala., August 17, aged 86.

John Denison Kenyon, M.D. Albany (N. Y.) Medical College, 1857, died suddenly at his home in Westerly, R. I., August 12, aged 69.

J. N. Barnett, M.D. University of Louisiana, New Orleans, 1857, died at his home in Little Rock, Ark., August 14, aged 69.

John Hursey Pool, M.D. University of Pennsylvania, Philadelphia, 1859, died at his home in South Mills, N. C., July 29.

Humphrey G. Hendrick, M.D., of Talladega, Ala., died at the home of his brother in Eureka, Ala., August 11, aged 78.

Robert J. Dearborn, M.D. College of Physicians and Surgeons, Chicago, died at his home in Morrisonville, late in July.

Andrew J. Hartman, M.D. University of Louisville, 1881, died at his home in Myers, Tenn., August 4, aged 55.

Mary K. Gale Warren, M.D. Boston University School of Medicine, 1877, died at her home in Boston, July 31.

August Trafton, M.D., 1876, died at his home in Dixon, Cal., August 15, after an illness of six weeks, aged 78.

Gotthold Pape, M.D. New York University, 1880, died, August 1, at his home in Hoboken, N. J., aged 61.

George T. Cauthorn, M.D., died at his home in Bedford City, Va., August 8, after a long period of invalidism.

Deaths Abroad.

Emma Constance Stone-Jones, L.S.A. London 1889; M.B., C.M., Trinity College, Toronto, died recently at Melbourne, Victoria, Australia, aged 46. She is said to have been the first qualified woman practitioner in Australasia.

Dr. Karl Hofmann, professor of physiology and anatomy at Leyden, aged 62.——**Dr. Ladreit de Lacharriere** of Paris, founder of the *Annales des maladies de l'orcille et du larynx*, and honorary chief of the National Institute for Deaf Mutes. ——**Dr. Chalot,** professor of surgery at Toulouse.——**Dr. Jean Roger,** inspector general of the conseil sanitaire maritime et quarantenaire in Egypt.

Carl Maydl, M.D., professor of surgery at Prague, died at his country seat, August 12, from the effects of heart disease, aged 50. Maydl commenced his career as assistant to E. Albert and accompanied the latter from Innsbruck to Vienna. His monographs on subphrenic abscesses and jejunostomy are now classics, and he succeeded in accomplishing what John Simon and Thiersch had only partially realized, that is, a permanent communication between the bladder and rectum in cases of exstrophy of the bladder. He had been long at work on a Manual of Special Surgery, and the first part has been published.

Miscellany.

THE ST. LOUIS EXPOSITION.

Plans for the Elaborate Pathologic Exhibit—Hospitals to Show Details of Their Operation.

THE HOSPITAL EXHIBIT.

The hospital exhibit of the St. Louis Exposition, 1904, is to be in the department of social economy, under the section of charities and correction. This exhibit will be displayed in the Palace of Education and Social Economy, which has a very prominent location.

Here are to be shown models of grounds and buildings, architectural drawings, photographs, charts and statistics relating to the hospital and its management. The exhibit is divided into the following subjects for elaboration by different hospitals, dispensaries, nursing schools, etc.:

1. Classification of disease.
2. Cause of disease.
3. Prevention of disease.
4. Relation of disease to crime and pauperism.
5. Evolution of the doctor.
6. Gallery of eminent physicians and surgeons.
7. Relief on the battlefield.
8. Evolution of general hospital.
9. Architecture of general hospital.
10. Model operating room.
11. Sterilizing, anesthetizing and drug rooms.
12. Diet kitchen.
13. Clinical laboratory.
14. Pathologic laboratory.
15. Pathologic exhibit (a scientific medical exhibit).
16. Display of medical instruments.
17. Ambulances.
18. Ambulance adjuncts.
19. Emergency hospitals.
20. Infectious hospitals.
21. Hospitals for consumptives.
22. Hospitals for deformities (instruments and appliances).
23. Ear and eye infirmaries.
24. Maternity hospitals.
25. Hospitals or wards for the care and treatment of inebriates.
26. Hospitals for the treatment of morphin, tobacco and other such habits.
27. Other special hospitals.
28. Leper colonies.
29. Hospital construction.
30. Sanitariums.
31. Medical aid by missionaries.
32. Dispensaries.
33. The evolution of the nurse.
34. Gallery of famous nurses.
35. The visiting nurse.
36. Nurses' handiwork.
37. Training schools for nurses.
38. Gallery of eminent philanthropists.

THE PATHOLOGIC EXHIBIT.

Some of the best pathologists and anatomists are preparing a scientific classification for a pathologic exhibit. As now contemplated diseases will be grouped according to organs. Each gross specimen (as lung, heart, brain, liver, etc.) will be duplicated by a normal anatomic specimen. Each pathologic specimen will be accompanied by a microscopic slide where possible, showing the micro-organism causative in the production of the disease. When dissection of the normal would elucidate the medical or surgical field, the same will be present, dissected properly and preserved and mounted in the most approved way. Models, photographs and statistics will accompany the pathologic specimens.

The department announces that the object of the pathologic exhibit is to indicate as succinctly as possible the rise, progress and present status of our knowledge of disease in man and the domestic animals. The choicest pathologic specimens from the various medical centers of the United States, when properly exhibited according to the final plans, will form an object lesson in this department of science never before seen in this country. The exhibit will represent the work of specialists in histology, embryology, bacteriology, physiology and dissection. To make the exhibit more effective and at the same time more utilitarian for the physician, library and reading-room facilities are to be found in connection with the same. To insure greater interest in diseased tissues and organs, a series of dissections illustrating many points in the normal anatomy of man and the domestic animals will help to complete the exhibit.

It is deemed wise to classify (1) in general; (2) in particular. In the former, organs irrespective of disease are grouped; in the latter, the organic classification is subordinate to diseased structures. As previously stated, according to the special classification, diseases or diseased parts regardless of organ or part of body in which found, characterize this classification, such as tumors, fractures, skin diseases, etc.

Exhibitors are not required to comply with every feature of the arrangement set forth under the general classification, although this is earnestly desired when circumstances permit. Where an exhibitor sends in, e g., a pneumonic lung only, the department will see to it that the other features, such as slides and normal anatomy, are properly cared for. Parties competing for prize dissections illustrating normal anatomy inform us of the region to be dissected.

To set forth the scheme of the general classification in its proper form let us illustrate the essential features by an analysis of one organ, as, e. g., the lung. In this department will be exhibited normal and diseased lungs arranged for study as follows:

1. Dissections showing normal human lungs.
2. Dissections showing normal domestic animals.
3. Microscopic slides, normal.
4. Pathologic specimens, gross.
5. Pathologic specimens, microscopic.
6. Cultures and culture processes.
7. Charts, devices and stereopticon views.
8. Books and reprints on anatomy, histology, bacteriology and pathology of pulmonary diseases.

Colleges, hospitals and individuals are asked to furnish approximate lists of the specimens which they will exhibit. Correspondence should be opened up at once with Alvin E. Pope, St. Louis, superintendent of the section on charities and correction.

Book Notices.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M.D., Chicago; Alexander D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thomas G. Morton, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London;

with Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. Volume II, Thirteenth Series. Cloth. Pp. 311. Price, $2.00. Philadelphia and London: J. B. Lippincott Company.

This work, properly a serial in book form, will be found full of practical instruction, like all the others of the series which we have seen. The subjects considered in the present volume are: "The Summer Diarrheas of Children, Disease of the Pancreas, Treatment, Practice of Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, and Ophthalmology," and under each of these heads are valuable papers by well-known authors, among whom may be included Professors Conn of Middletown, Conn., Cotton, Deaver, Gay, Goffe, Bouchard and Landolt of Paris, and other names hardly less familiar. These are themselves sufficient assurance of the merits of the articles, and the work, taken as a whole, is a series of brief but valuable monographic papers on the subjects that it includes.

A MANUAL OF PRACTICAL ANATOMY. By the Late Prof. Alfred W. Hughes. M.B., M.C., Edin., F.R.C.S. Edin., F.R.C.S. Eng. Professor of Anatomy, King's College, London. Edited and Completed by Arthur Keith, M.D., Aberd.; F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College. In Three Parts. Part III. The Head, Neck and Central Nervous System. Illustrated by 12 colored plates and 204 figures in the text. Cloth. Pp. 387. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

The same general plan is carried out in Part III as in the foregoing parts. It contains 12 colored plates and 204 figures. A notable feature of this part is the repeated reference that is made to the surgical importance of many of the structures of the head, neck and central nervous system. The surface markings of the brain is dwelt on and given due consideration. The surgical anatomy of the head receives considerable attention, and the different regions from which the lymphatic glands receive their supply are mentioned. More attention is given than in ordinary books to the anatomy of the ear, and here again many references are made to surgical procedures. The description of the spinal cord is rather brief, but the brain receives the attention it deserves. In the dissection of the cranial nerves the author claims that it is more convenient to consider the last first and the first last, and he seems to carry out the plan to apparent advantage. Altogether the division of the subject of dissection into three different parts has many advantages which would be apparent to any student trying to work and at the same time care for a large unwieldy single volume.

SELECTED PAPERS ON OPERATIVE AND CLINICAL SURGERY. By the Late William Stokes, M.D., M. Ch. (Univ. Dub.); F.R.C.S.I.; Knt., Surgeon in Ordinary to Her Majesty Queen Victoria in Ireland. Edited by William Taylor, B.A., M.D. (Univ. Dub.), F.R.C.S.I., Surgeon to and Lecturer on Clinical and Operative Surgery, Meath Hospital and Co. Dublin Infirmary. With a Memoir of the Author by Alexander Ogston, M.D., Regius Professor of Surgery, University of Aberdeen. Cloth. Pp. 484. Price, 10 Shillings. London and Dublin. Bailliere, Tindall and Cox. 1902.

This work consists of a collection of the articles written during the past thirty-five years by the late Wm. Stokes, and edited by Wm. Taylor. All the articles have appeared elsewhere in the various medical journals at the time they were written, with the exception of the two South African papers added by Mr. Taylor. Most of the chapters are so old, some of them even antedating the antiseptic era, that they can have little more than a historic value. Collectively they illustrate fairly well the progress of surgery from early Listerism down to recent times.

MEDICAL JURISPRUDENCE. A Manual for Students and Practitioners. By Edwin Welles Dwight, M.D., Instructor in Legal Medicine, Harvard University. Series Edited by V. C. Pedersen, A.M., M.D., Instructor in Surgery and Assistant Anesthetist at the New York Polyclinic Medical School and Hospital. Cloth. Pp. 249. Philadelphia and New York: Lea Brothers & Co.

This little volume is intended only as a brief compendium of the facts in connection with legal medicine which every practicing physician ought to know. As such, and as a work for students, it is not exhaustive, but in the main it gives a very fair and reliable summary of the principal facts. A notable omission, however, is that of the biologic blood test, which certainly ought to be included in every work coming out in 1903. The part devoted to insanity is necessarily brief and hardly sufficiently complete for this day. Aside from these, and possible one or two other minor points, the book is one to be generally commended.

Association News.

REPORT ON THE SCIENTIFIC EXHIBIT

Of the American Medical Association, at New Orleans, May 5-8, 1903.

By Frank B. Wynn, A.M., M.D., Chairman.

The fourth Scientific Exhibit of the Association was most successfully consummated, despite obstacles which for a time threatened a favorable outcome. The remoteness of New Orleans from sources of material and a three-month period in which to accomplish the work, cast a gloom over those deeply interested in the continued success of the movement. Too much can not be said in praise of those who came nobly to the rescue at a critical time. On the roll of honor are twenty-eight persons who labored faithfully, without money and without price, for the common good of the profession and the success of the meeting. Among them are those distinguished both in the scientific and practical fields of medicine, as well as young men fired with enthusiasm for the higher ideals of the profession.

In a perusal of the subjoined report it will be noted that 16 well-known colleges, hospitals or public institutions are represented and 11 private collections. The analytical reader will observe as conspicuous features three research exhibits and the general tendency of contributors to the grouping of specimens in illumination of particular phases of pathology. This is in response to the gradually evolved policy of the committee.

Lack of efficient demonstration has long been recognized by those having the matter at heart as the weak point of the exhibit. Many specimens extremely valuable as practical object lessons, remain impotent on the shelves unless intelligently demonstrated. As long as five years ago the writer, in a letter to THE JOURNAL, strongly advocated systematic demonstration in connection with the presentation of state society exhibits. It is just as important for national collections if the greatest degree of instructive efficiency is to be attained. It was hoped in the outset that exhibitors would see to the demonstration of their own contributions. Few, however, have been able to give so much time. The plan has also been tried of attempting to secure a large demonstration corps of medical students and young physicians resident in the place of meeting, who should alternate in escorting small delegations of visitors about the exhibit. But it was found impossible to secure a sufficient number of competent men willing to give the necessary time. The solution of this perplexing problem has come naturally in the reduction of the size of the exhibit and its specialization. In this way demonstration becomes simplified and less laborious.

The particular phases of pathology or other scientific branch of medicine illuminated in the exhibit from year to year should be varied according to the topics prominently before the profession and likely to command conspicuous attention in the Section meetings. In consonance with the ideas expressed there were shown at New Orleans very complete series illustrative of the following: Anomalies and pathologic conditions of the heart; tuberculosis in the various organs and structures of the body; amebic dysentery with sequels and intestinal lesions of tuberculosis and typhoid for purposes of differentiation; malaria; fibroid tumors; ectopic gestation; surgical diseases of the kidney; pathologic conditions of the bladder and prostate gland; renal and vesical calculi; otologic and neurologic groups. Effort was made to have these series demonstrated before the interested sections in conjunction with related papers to be read. The idea met with warm reception on the part of Section officers generally, but crowded programs made its consummation difficult of accomplishment. For the coming meeting at Atlantic City, however, it may be definitely stated that demonstrations of particular series of the exhibit will be conducted by persons of distinction, scheduled for specific hours and days on the published program.

M'GILL UNIVERSITY: GEORGE ADAMI AND M. E. ABBOTT.

1. Ruptured Tubal Gestation, Third Week.—Age 26; two full-term children, last one being 4 years of age. Menstrual history: Began at 12; regular; scanty, only lasting one and one-half days. Complaints on admission: Sudden, severe pain in the lower abdomen

and fainting on Dec. 1, 1902, lasting until operation on the third. Last regular period Nov. 15, 1902, but since then any exertion would cause flow. Nauseated two weeks and had two chills the day before operation. Pulse weak, thready, 168; respirations, 44, labored; temperature, 98 2/5. Operation Dec. 3, 1902. Abdominal cavity contained a large quantity of fluid blood. Recovery.

2. Tubal Pregnancy. Rupture in Early Weeks.—Aged 26. Last labor eight months previous. Last regular period June 13, 1900; menstrual flow from May 17 to June 3, with severe pains in abdomen, persisting until June 13, when they became very severe and collapse developed. Pulse, 115; respirations, 44. Abdominal section. Recovery.

3. Ectopic Gestation.—Specimen a five and a half months fetus, which had remained in the abdominal cavity seventeen years, having been killed by application of electricity. Fetus now represented by a mass bent on itself, the bones of vertebral column, ribs, one upper extremity and part of cranium still plainly made out. Patient aged 55. In 1885 right tube found to be seat of gestation of five and one half months. Gestation was checked by application of electricity. For eight years the patient was well, but for the past nine she has had recurring spasmodic pains, growing worse and worse. Abdominal section Dec. 13, 1902. Recovery.

4. Fetus, Sac and Tube. Ectopic Gestation, Five and One-half Months.—Patient aged 30. Complained on admission of epigastric pain, vomiting and weakness. Pulse, 160; respirations, 36; temperature, 98.8 F. Last menstruation Jan. 26, 1901. Usual signs and symptoms of pregnancy marked. During night of July 3 was seized with paroxysms of epigastric pain and vomiting, followed in some hours by a chill. On July 4 had three fainting spells. Pelvic examination revealed a soft cervix, to which was attached a firm globular mass. Neither ballotment nor rhythmic contractions could be felt. Operation July 4, 1901, revealed fetus floating in free blood in the abdominal cavity. Recovery.

5. Tubal Pregnancy. Ruptured in Third Month.—Enlarged uterus and appendages; the right tube enlarged to form tumor size of an orange; laid open to show placental tissue, fetus and cord *in situ*. Fetus apparently dead some time. Pelvic hematocele and septic peritonitis. Patient aged 32; amenorrhea and morning vomiting for three months; severe crampy abdominal pains, with bloody vaginal discharge for three weeks before death from septic peritonitis.

6-9. Ruptured Tubal Pregnancies.

10. Section Through Pelvic Organs, Showing Multiple Fibromata Uteri, with Calcification.

This beautiful exhibit was solicited as a special feature in illumination of ectopic gestation, which was one of the topics prominently considered by the Section on Obstetrics and Diseases of Women. It was the second contribution of McGill University to the Scientific Exhibit of the Association, and testifies most forcefully to the scientific spirit and friendly cooperation of our Canadian colleagues.

CINCINNATI HOSPITAL AND CINCINNATI ACADEMY OF MEDICINE: HORACE J. WHITACRE, ASSISTED BY J. C. BUTTEMILLER AND MARION WHITACRE.

In conformity with the suggestion of the committee the following contribution was arranged to illustrate chiefly one phase of surgical pathology, viz., surgical diseases of the kidney.

Nos. 11-78. Group I. Surgical Diseases of Kidney.—68 wet specimens, showing the following range of lesions: Contracted kidney; large white kidney; rupture of kidney (nephrectomy); cystic kidney (four varieties); pyelitis; hydronephrosis, from stone in ureter, from hypertrophy of prostate, from cancer of the vesical ends of both ureters, and from stricture of urethra; pyonephrosis (eight specimens); stone in pelvis of kidney (several varieties of stone); tubercular kidney; sarcoma of kidney; retroperitoneal sarcoma and carcinoma.

Especially beautiful in this group were two congenital cystic kidneys; also the series of tubercular kidneys. One specimen showed a definitely circumscribed tuberculous mass in one end of the organ; another great numbers of miliary tubercles; another multiple caseous foci varying in size from a pin-head to a large pea; a fourth was reduced to shell one centimeter thick; in a fifth the capsule formed a sac filled with caseous matter, but no demonstrable tubercular tissue; and a sixth constituted a tumor the size of a child's head.

Nos. 79-104. Group II. Calculi.—Removed from the pelvis of the kidney, from the middle of the ureter, from the vesical end of the ureter and from the bladder. Fifteen of these loaned by Joseph Ransohoff; others by J. C. Oliver, N. P. Dandridge and William Judkins.

The specimen of pyonephrosis with stone in the pelvis of the kidney presents some features of unusual interest. First a stone weighing six and one-half ounces was removed by operation; four weeks later the kidney was removed, as the patient did not improve. Later it was found that the kidney of the opposite side was totally destroyed and contained a large stone.

Nos. 105-110. Specimens of Ectopic Gestation.—Presented by Charles L. Bonifield and John Miller.

No. 111. Embolism of Left Coronary Artery.—This case occurred in the practice of Paul Millikin of Hamilton, Ohio. The patient, a young man, died with marked symptoms of angina pectoris. The necropsy revealed a ruptured chorda tendineæ protruding from the mouth of the vessel, while on the end within the artery was a small thrombotic mass completely occluding the vessel.

Not only from a pathologic standpoint was this collection most excellent and instructive, but in an artistic way as well. Most were Kaiserling preparations, mounted with great care. It was the third contribution from Cincinnati to the National Exhibit and constitutes a forceful example of the stimulating effect of the exhibit in awakening local interest in practical pathology. Three years ago the showing of Cincinnati at St. Paul was meager; at Saratoga decided improvement was noted; and the superb collection presented at New Orleans reflected great credit on the profession of Cincinnati, and gives proof of substantial progress in the field of practical pathology.

MEDICAL DEPARTMENT TULANE UNIVERSITY: O. L. POTHIER.

Nos. 112-219. Photographs.

This excellent array of photographs was designed to show more particularly the diseases prevalent in the colored race, such as keloid, leucoderma, elephantiasis, etc. One beautiful picture was of a most extensive case of pemphigus in the negro, followed by cure. Another photograph was of a case of pseudohermaphrodism, presenting a most interesting history. The individual was 45 years of age when admitted to the female wards of the Charity Hospital of New Orleans. He had always supposed himself a woman, and had always lived among women. It was by accident that the physician in charge discovered that the condition was simply hypospadias. The man refused to put on male clothing, and when transferred to the male wards took the first opportunity offered to run away.

No. 220. Double-Headed Monster.—A noteworthy specimen from a colored woman. She had traveled some distance from the country with one of the heads born. When admitted to the Charity Hospital the case was supposed to be one of twins which had become locked. As the first child (?) was dead, amputation of the head and shoulder was performed. Recognition of the monster came only with the birth of the other part. An examination of the monster revealed four lungs, two hearts, two stomachs, two duodenums for a distance of about an inch, after which they fused, and single intestine. There were two kidneys, one liver, one spleen, and the organs of reproduction single. The body showed two heads, two spinal columns, two spinal cords, fusion taking place at the sacrum, two arms and two legs.

No. 221. Elephantiasis of Penis.—The subject was a negro who presented no other evidence of the disease. The organ measured twelve inches in length and fourteen in circumference.

Nos. 222-235. Miscellaneous Gross Specimens.

The collection gave ample evidence of the richness of the field for the study of pathologic conditions more or less characteristic of the negro. New Orleans offers in the Charity Hospital a wealth of material which under the present efficient pathologic dissection will yield valuable results in the near future.

MEDICAL DEPARTMENT, UNIVERSITY OF TEXAS: W. S. CARTER.

Nos. 236-255. Apparatus.—Some twenty pieces for physiologic experimentation, largely constructed in the Harvard laboratories under Professor Porter, and partly devised in the laboratories of the University of Texas.

Nos. 256-315. Tracings.—Six books, very neatly made by students of the university and grouped as follows:

(*a*) Frog's heart and circulation: showing influence of cold and warm physiologic salt solution on heart beat.

Peculiarities of heart muscle: staircase contractions after first ligature of Stannius; latent and refractory periods; maximum contraction with minimum stimulus; separate contractions from tetanizing current, etc.

Innervation of heart: augmentation of heart beats from stimulation of sympathetic; stimulation of vagi and crescent normally and after application of nicotin; crossed action of muscarin and atropin on ganglia of heart, etc.

Blood pressure in aorta: effect of cardiac inhibition of reflex vasoconstriction by stimulating a sensory nerve and the fall of pressure from destroying spinal cord.

(*b*) Circulation in mammals: showing effect of bleeding and transfusion on blood pressure. Effect of chloroform and ether respectively on the circulation and respiration; influence of artificial respiration after respiration stops.

The effect of stimulating the great splanchnic in the dog before and after cutting the vagi; stimulation of the (*a*) central and (*b*) peripheral ends of the cut splanchnic.

Stimulation of the depressor nerve before and after section of the vagi (rabbit).

Effect of adrenal extract, of peptone, of cutting spinal cord high up, Traube-Hering curves, etc.

(*c*) Respiration: effect of inflation and collapse of the lung on respiratory activity; apnea; stimulating a sensory nerve; stimulating the trigeminus and superior laryngeal (causing inhibition); stimulation of the vagi with feeble and strong currents; effect of section of vagi on the frequency and depth of respiration, etc.

(*d*) Muscle and nerve experiments: showing myogram with drum at fast speed and tuning fork waves making hundredths of a second; extensibility and elasticity of muscle; effect of heat and cold on myogram; heat rigor; effect of load on myogram; influence of veratria and suprarenal extract on muscle twitch; analysis of tetanus, showing tracings with 8, 16, 24, 40 and 50 stimuli per second; fatigue curves; electrotonus—effect of galvanic current on the irritability and conductivity of nerve, etc.

The foregoing is sufficient to acquaint the reader with the fact that physiology as taught at the State University of

Texas is abreast of the leading institutions of the country and keeping pace with the commercial progress of the "New South."

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL: WINFIELD S. HALL.

No. 316. Frog-Board Myograph.—An inexpensive and convenient myograph, an improved ergograph, especially adapted to work in general physiology and pharmacology. Its advantages over other similar instruments are: 1. The muscle-nerve preparation can be made in at most one-fourth the time required for the classic preparation. 2. The muscle and nerve are not exposed to atmospheric changes. 3. The circulation of the tissues is not disturbed. This has the advantage (*a*) of permitting the study of the action of drugs on muscle tissue under normal conditions, (*b*) of studying fatigue without the accumulation of fatigue products under abnormal conditions.

No. 317. Manometer Tambour.—A modification of the classic manometer apparatus. A small tambour was joined to the distal end of the manometer by a piece of pressure tubing and supplied with a delicate tracing lever, capable of magnifying the movements of the membrane ten to twenty times, as desired. With the surface of the tambour not larger than 15 mm. and the mercury meniscus not less than 3 mm. in diameter, the most beautiful arterial pressure tracing can be obtained, showing not only the respiratory and percussion waves, but the dicrotic wave clearly superimposed on each cardiac wave.

(To be continued.)

Medical Organization.

MEDICAL ORGANIZATION METHODS AND BENEFITS.

J. N. M'CORMACK.

(Continued from page 569.)

HOW DISSENSIONS GROW.

His location chosen, say in a community where there are two physicians already, he is fortunate if he is not met at the threshold, the most sensitive and impressionable period of his life, with ill-concealed sneers, or complete ostracism by those already established in practice, which will grow if he succeeds, or rapidly disappear if he proves a failure. With time, and an arm's length acquaintance which can not be avoided entirely, he will probably learn that one or both of his professional neighbors practically dropped their studies at graduation; that they receive little or no new literature except the free copy advertising journals; that they have no proper equipment for the emergency surgery they must do, or pretend to do, while time was habitually given over to petty professional bickerings and contentions sufficient to have made both of them scholars of no mean attainments in medicine as well as in general knowledge, had it been utilized in single, or better still, in joint study. Although they constantly need each other's advice and help as no other men ever can do, he is likely to find that this spirit of envy and jealousy, pitched on a plane low almost beyond conception, not only deprive them of these, but so divides them and impresses the community as to greatly lessen the respect and confidence due both of these otherwise worthy men, as well as the great profession which they alone represent in that community. He will find that they often quarrel about diagnoses in which both were wrong; about patients who would not pay either of them, or about violations of the code which neither of them have read; that each is afraid to collect his hard-earned fees for fear the other will inherit some of his offended patrons; that ambition for excellence in surgery or other special work is dwarfed by the fact that one will send for consultation, or send his surgery, to a distant town or city rather than ask the assistance of his neighbor, and that even their families are so estranged as to be deprived of social relations and pleasures of which both are most deserving. In a word, our graduate is likely to find that this canker of envy and jealousy which clings to our otherwise noble profession with such tenacity, and blights and curses, and curses and blights, all to which it clings, not only bars or makes all advancement difficult, but so interferes with all the social and other interests and purposes of the profession as to destroy his ideals of life. Gradually the dominant bias of his college life begins to assert itself, and with no society influence to correct the evils, or even to furnish him the opportunity of learning that his competitors are well-meaning men personally, who were stunted and misshapen by the same process to which he is being subjected, our graduate, whose horizon was probably never large, but certainly susceptible of enlargement, will be in great danger of becoming the victim of his environments, and grow smaller and smaller with the years, until he becomes a physician only in name.

POVERTY AND OTHER ILLS CAUSED.

It is mainly this spirit and the resulting conditions which cause so much poverty in the profession, interfering with it in every business aspect, just as the loss of public respect and confidence directly traceable to it accounts for most of the difficulties in securing needed medical and health legislation and in enforcing such laws when enacted.

And this is no fancy sketch. Let him who doubts its fidelity to truth try to induce some physician of the same community, somewhere outside of the long organized sections, or the occasional nature's nobleman, as an exception to prove the rule, to speak in real kind and unstinted praise of each other. It has become such a custom for physicians to refer to each other in terms of detraction, or by damning with faint praise, that one is disappointed in going to a strange community not to hear it, and always, whether in the country between two physicians, or in the city between two factions, whether done with the clumsiness of the boor or the finish of the scholar, back of it may be seen the same hideous monster of personal envy and jealousy which has dominated our profession for ages like one of the demons of mythology.

That such glaring and hurtful evils should fasten themselves on a great, noble and really learned profession like ours, generation after generation, and make its dissensions a by-word and term of reproach in common speech and literature, has been difficult for many to understand. As men and citizens, its individual members will bear favorable comparison with any and all other classes. They do more for the poor, more actual Christian charity, every day in the year than all the churches, preachers, Christian Endeavors, Epworth Leagues and similar institutions combined. They can and do live in peace and amity with everybody in the community except each other.

REASONS FOR THESE CONDITIONS.

On investigation it will be found that this is a condition common to all unorganized vocations whose members lead segregated lives. It is a recognized fact in history that the inhabitants of islands are suspicious and sensitive. This seems to be equally true of most individuals who live apart from their fellows from any cause. Until the prevalence of the community-of-interests idea induced systematic organization, the rivalry between local bankers was proverbial, and until the day of ministerial associations, with the weekly meetings, and opportunity for acquaintance and agreement as to matters of policy and public concern, and at least decent and respectful tolerance as to essentials, the condition of the ministry was worse. Instances might be multiplied indicating each similar vocation. On the other hand, lawyers have always lived together in peace and plenty. This is not because they are better men, or that their profession is a broader one, but for the reason that in the ordinary pursuit of their calling they are brought into constant contact with each other, come to know each other, and, being worthy men in the main, mutual respect and tolerance for each other's faults and shortcomings grow up naturally and unconsciously. In addition, every term of court is a free training school, with a constant and almost ideal attrition of mind against mind. Those who do not study go to the rear and lose out. Those who do not polish off their angles get them knocked off. After the hard words and fierce conflicts, sometimes unavoidable when earnest men contend over serious and weighty matters, which physicians would treasure up and pout about for years, rolling and trolling them on the tongue as dainty morsels long after they were barred by every statute of limitation, being encouraged to do so by other kindred spirits and custom, lawyers or their professional friends usually effect an immediate reconciliation, go arm-in-arm to the nearest cafe to bury the chance enmity in a lunch, julep or cocktail, and are only the better friends for having tried each other's metal.

(To be continued.)

Harrison County (Miss.) Medical Society.

This society met at Biloxi, August 12, and perfected reorganization.

Delaware County (Ind.) Medical Society.

At a meeting held in Muncie, August 13, the society voted to reorganize under the plan recommended by the American Medical Association.

Leon County (Fla.) Medical Association.

This association was organized at Tallahassee, August 7, with the following officers: Dr. William E. Moor, president; Dr. Henry E. Palmer, vice-president, and Dr. C. M. Ansley, secretary, all of Tallahassee.

Yolo County (Cal.) Medical Society.

Pursuant to call of Dr. Walter E. Bates, Davisville, the physicians of Yolo County met at Woodland, August 13, and organized a county medical society, electing Dr. Walter E. Bates, Davisville, president, and Dr. Fairchild, secretary.

Boone County (Iowa) Medical Society.

Medical men of Boone County met at Boone, August 18, to organize a county medical society in affiliation with the state and National organizations. Dr. William L. Pollock, Boone, was made temporary chairman, and Dr. Myers, temporary secretary.

Codington County (S. Dak.) Medical Society.

On August 5, fourteen physicians met at Watertown and took the first steps toward the organization of a county medical society to be in affiliation with the state and National organizations. Permanent organization is to be effected September 15.

Orange County (Texas) Medical Association.

Dr. Benjamin F. Calhoun, Beaumont, councilor for the Southeast District, met the physicians of Orange County at Orange, August 4, and delivered an address on organization, after which the society was reorganized in conformity with the regulations of the state and National associations.

Hill County (Texas) Medical Association.

The Hill County Medical and Surgical Association met at Hillsboro, August 12, and reorganized as the Hill County Medical Association, in accordance with the requirements of the new state organization. The officers are Dr. George D. Bond, president, and Dr. J. M. Martin, secretary, both of Hillsboro.

Lamar County (Texas) Medical Association.

This association was recently organized at Paris with the following officers: Dr. W. G. McCuistion, president; Dr. John B. Chapman, vice-president; Dr. Alexander H. Lindsay, secretary; Dr. James M. Hooks, treasurer; Drs. Thomas Moody, and Joseph F. Clark, all of Paris, and John F. Dyer, Chicota, censors.

Floyd County (Ga.) Medical Society.

On August 4 this society was organized at Rome, in accordance with the plan suggested by the American Medical Association. The officers elected are: Dr. Ross P. Cox, Rome, president; Dr. Levi P. Hammond, Rome, vice-president; Dr. James C. Watts, Cave Spring, treasurer, and Dr. William J. Shaw, Rome, secretary.

Jackson County (Texas) Medical Association.

On July 28 the physicians of the county met at Edna and organized a county medical society, with the following officers: Dr. Joseph M. Richmond, Edna, president; Dr. J. C. Dobbs, Ganado, vice-president; Dr. Oliver H. Radkey, Manor, secretary and treasurer, and Drs. Robert E. L. La Bauve, Edna, John L. Lincecum, Victoria, and W. H. Minton, censors.

Collin County (Texas) Medical Association.

The Collin County Medical Association, at its meeting in McKinney, August 11, perfected its reorganization under the auspices of the state and National associations, with the following officers: President, Dr. James N. Mendenhall, Plano; vice-president, Dr. Austin T. Bryant, McKinney, and secretary-treasurer, Dr. Orville H. Kirkpatrick, McKinney.

Perry County (Miss.) Medical Society.

The physicians of Perry County met at Hattiesburg, August 20, and organized a county medical society, with the following officers: President, Dr. Charles W. Bufkin; vice-president, Dr. Robert B. Stapleton; secretary and treasurer, Dr. John J. Stevens; censors, Drs. Theophilus E. Ross and Walter W. Crawford, Hattiesburg, and Dr. Prentiss A. Carter, Augusta.

Black Hawk County (Iowa) Medical Society.

At a meeting of physicians of the county at Waterloo, August 17, Dr. Elmer E. Dunkelberg was elected chairman and Dr. Edward R. Shannon, secretary, both of Waterloo. After the plan of reorganization recommended by the American Medical Association had been explained the society was organized with the following officers: President, Dr. Elmer E. Dunkelberg, Waterloo; vice-president, Dr. John H. Crippen, Waterloo; secretary, Dr. William H. Bickley, Waterloo; treasurer, Dr. Will L. Hearst, Cedar Falls, and censors, Drs. Daniel W. Crouse, Waterloo, Frank H. Cutler, Cedar Falls, and M. R. Balliet, Laporte City.

Organization Work in Texas.

Although Texas is our largest state territorially, and its fifteen councilor districts cover immense and sparsely settled areas, some of them remote from railroads, the report of organization work is of the most encouraging nature. The counties, of which there are about two hundred and forty, are rapidly organizing, and it is safe to say that a majority of the 5,000 legalized physicians of the state will be officially represented in the house of delegates at the next annual meeting of the state association. This gratifying situation is due in some measure to an aroused general sentiment, which favors without qualification the splendid scheme of organization proposed by the American Medical Association. When occasion demands the councilor receives the active support of the best men of his district. They go with him to remote counties, and assist in their organization, at great sacrifice to their private interests. Moreover, the experienced and able secretary of the state association, who is serving in Texas with conspicuous ability the higher ends and aims of the great enterprise to which the medical profession of the United States is committed, watches and aids every important detail of the work of each district, and keeps the entire situation intelligently open to the profession. Let states less hopeful, but more fortunate in respect of location and means of communication, take courage and push along the good work in like manner.

Societies.

COMING MEETINGS.

Medical Society of the Missouri Valley, Omaha, Sept. 14-15.
Medical Society of Virginia, Roanoke, Sept. 15-17.
Medical Society of the State of Pennsylvania, York, Sept. 22-24.
American Association of Obstetricians and Gynecologists, Chicago, Sept. 22-24.
Colorado State Medical Society, Denver, Oct. 6-8.
Medical Association of the District of Columbia, Washington, Oct. 6.
Idaho State Medical Society, Boise, Oct. 8-9.
Mississippi Valley Medical Association, Memphis, Tenn., Oct. 7-9.
Vermont State Medical Society, Bellows Falls, Oct. 15-16.
New York State Medical Association, New York City. Oct. 19-22.

North Texas Medical Association.—This association has filed amendment to charter embracing the counties of Fannin, Hunt, Grayson, Tarrant, Johnson, Cooke, Delta, Hopkins, Kaufman, Rockwall, Collin, Denton, Dallas and Ellis.

Wabash County (Ill.) Medical Society.—This society met at Mount Carmel, August 4, and elected Dr. W. B. Moon, Bellmont, president; Dr. George C. Kingsbury, Mount Carmel; Dr. John B. Maxwell, secretary, and Dr. Sereno W. Schenck, treasurer, all of Mount Carmel.

Dallas County (Ala.) Medical Society.—At a meeting held August 6 in Selma, Dr. Henry D. Furniss, Selma, resigned as president, and was made an honorary life member; Dr. Barney

B. Rogan, Selma, secretary, was elected president, and Dr. Ira C. Skinner, Selma, secretary.

Mississippi Valley Medical Association.—The twenty-ninth annual meeting will be held in Memphis, Tenn., October 7 to 9, under the presidency of Dr. Edwin Walker, Evansville, Ind. The sections will meet at the Gayoso and the Peabody. Dr. John L. Jelks is chairman of the committee of arrangements.

Southern Minnesota Medical Association.—At the annual meeting in Winona, August 6, the following officers were elected: Dr. Christopher Graham, Rochester, president; Drs. William F. Milligan, Wabasha, and Frank W. Dimmitt, Red Wing, vice-presidents, and Dr. William T. Adams, Elgin, secretary and treasurer. The 1904 meeting will be held in Rochester.

BRITISH MEDICAL ASSOCIATION.

Seventy-first Annual Meeting, held at Swansea, Wales, July 28 to 31, 1903.

(By Our Special Representative.)

(Continued from page 572.)

Ocular Changes in Relation to Renal Disease.

MR. EDWARD NETTLESHIP contributed a paper on this subject. Although much is already known about the eye changes in renal disease, he said information is still needed, both from ophthalmologists and physicians, on several points, and he suggested the following heads as furnishing matter suitable for discussion:

1. Does albuminuric retinitis ever occur in primary acute nephritis other than the kidney affection of pregnancy?

2. Cases of retinitis from lardaceous disease of the kidneys and from nephritis due to inflammation of the bladder, ureter, or pelvis of the kidney should be recorded.

3. The retinitis of pregnancy. Cases of this are desired: (a) In which it is known that the kidneys were diseased before the first pregnancy; (b) in which there is positive evidence that they were sound. It seems that most of the cases of pregnancy retinitis occur between the ages of 30 and 40, after several pregnancies and several attacks of pregnancy dropsy, and that the prognosis for life is better than in ordinary renal retinitis. These facts harmonize with the other evidences that the kidney disease induced by pregnancy is a peculiar and often recoverable affection. All cases of pregnancy retinitis should be examined for signs of established chronic nephritis. The propriety of inducing premature labor may depend partly on the diagnosis in this respect.

4. Age and sex. If all cases of renal retinitis (except those due to pregnancy) are counted together without reference to age the males are found to be nearly twice as numerous as the females, the proportions being about the same as for chronic nephritis. But when the retinitis occurs early in life the sex proportions seem, from the scanty material available for comparison, to be almost reversed. All cases of renal retinitis in young subjects should be recorded.

5. Recognizing two chief factors in the production of renal retinitis—the state of the blood and the state of the retinal blood vessels—all cases are asked for in which a condition of visible disease in the retinal arteries without evidence of kidney disease has been followed sooner or later by unequivocal signs of chronic nephritis.

6. Do the characters of the retinitis in different cases, as has been recently asserted, justify any inference as to the kind of nephritis (chronic interstitial or chronic parenchymatous) from which the patient is suffering? Attention is here called to the importance of watching the course of the retinal disease from beginning to end, and of distinguishing between the two kinds of white opacities: the soft-edged, white, or grayish white patches in the nerve-fiber layer, and the brilliant, intensely white, sharply-defined patches composed of confluent dots situated in the deeper layers and often arranged in the familiar radiating pattern around the yellow-spot.

7. When retinitis occurs in both glycosuria and albuminuria, to which of these is it due? Retinitis in diabetic persons, whether their urine contains albumin or not, occurs later in life than albuminuric retinitis, but the relative liability of the sexes is about the same as in the ordinary albuminuric retinitis (excluding pregnancy cases).

8. Other points needing elucidation: The influence (a) of scarlet fever and (b) inherited syphilis in producing the chronic renal disease leading to retinitis; (c) the occurrence of renal retinitis in only one eye; (d) cases in which more than one attack of retinitis has been seen and watched through, with special reference to the changes left by the first attack, and to the effect of retinal atrophy on the characters of a second attack; (e) when pigment spots are left by renal retinitis, why are they so often found at the periphery of the fundus? (f) the cause of the night blindness occasionally met with in renal retinitis; (g) the nature and ophthalmoscopic appearances of the choroiditis said to occur in some cases of albuminuria; (h) the nature of the white, opaque thickening of the coats of arteries and veins seen after some cases, and of the appearances resembling retinitis pigmentosa after others.

The Management of Pregnancy Complicated by Uterine Fibroids.

DR. AMAND ROUTH, London, read a paper on this subject. After an introduction, the danger of the complication is discussed, and it shows that with modern methods the maternal mortality has been greatly diminished.

As to the effect of pregnancy on the fibroids it is doubted whether individual fibroids rapidly enlarge during pregnancy, and also whether marked atrophy usually takes place during involution. The tendency to degeneration of the fibroids, and the danger arising therefrom, especially as regards infection during the puerperium, is dwelt on, as well as the tendency of submucous fibroids to become extruded and necrotic.

In reference to the effect of fibroids on pregnancy, the view is taken that sterility is not often caused by fibroids, and if present is due to changes in the endometrium and to altered relation of tube and ovary. It is further shown that abortion is not often induced by fibroids unless they are submucous. Fetal malpresentations and placenta previa are shown to be frequent. Uterine inertia is not usual, but delay in labor is the rule. Postpartum hemorrhage is frequent. Obstruction to the birth of the child often threatens, but is almost consistently absent at labor owing to the spontaneous elevation of the pelvic fibroids during the last few weeks or days of pregnancy. Sepsis with secondary infection of the fibroids is a great danger in the puerperium.

Concerning the treatment, in all cases an expectant treatment is indicated unless there are urgent symptoms. (a) Before fetal viability, gentle attempts may be made to replace a pelvic fibroid. Induction of abortion should be abandoned. If urgent pressure symptoms supervene, myomectomy becomes the ideal operation for subserous fibroids, and failing that, hysterectomy. The indications for the two operations are discussed. (b) After fetal viability, reposition of an obstructing fibroid may be tried, leaving radical treatment for a later date. The danger to the mother of delivering a child by forceps, version, or embryotomy is insisted on. If a cervical fibroid be present it may be dealt with by vaginal enucleation as an alternative to panhysterectomy. In all other cases of obstructing fibroid, abdominal section is required, and as a first step the child must be delivered by cesarean section.

Subsequent alternative procedures are enumerated by the author as follows: 1. Cesarean section alone—this would rarely be the right treatment. 2. Sterilization of the patient by oöphorectomy, with the hope that atrophy of the fibroids would follow, would now rarely be considered a satisfactory operation. 3. Myomectomy. Sometimes this operation is indicated, but should always be preceded by cesarean section. 4. Abdominal hysterectomy. Preference is given to the supravaginal operation, with retroperitoneal treatment of the stump by Baer's or Chrobak's method, and to panhysterectomy by Doyen's method. One ovary at least, if healthy, should be retained.

Two successful cases at full term of supravaginal hysterectomy with retroperitoneal treatment of the stump were reported.

During the puerperium, if fibroids become infected from uterine sepsis, a prompt panhysterectomy, he believes, may save the patient's life.

Trypanosomiasis.

Sir Patrick Manson discussed this subject. After referring to the history of the subject and its importance, he discussed the following points:

1. *Examination of Blood for Tropical Micro-organisms.*—For an examination of the blood in the tropics, in addition to enumeration of the different kinds of blood corpuscles, three classes of micro-organisms have to be kept in view. Each of these demands its special method of preparation of the blood film and special magnifying power. The search for (a) filariæ is best conducted in thick, unfixed dehemoglobinized, anilin-dye stained films with a low magnification—½ inch to ¾ inch objective to ¾ inch objective; for (b) trypanosomes a thinnish, fixed anilin-dye stained film with an ⅛ inch to a ¼ inch objective; for (c) malaria parasites and bacteria a very thin, fixed and stained film with a 1/12 inch immersion lens.

2. *The Clinical Features of Trypanosomiasis.*—In the European (a) irregular fever, (b) fugitive patches of erythema, (c) irregularly distributed cutaneous and subcutaneous edema, (d) muscular debility, (e) rapid pulse, (f) history of painful inflamed bite. These seem to be constant. Additional but apparently not invariable or absolutely characteristic features are enlargement of the spleen, mononuclear leucocytosis and affections of the eye.

In the native, judging from some of Dutton's cases, the trypanosome may give rise to no obvious clinical symptoms.

3. *Possible Relationship to Other Diseases.*—An association with sleeping sickness has been pointed out by Castellani and confirmed by Bruce. Castellani, by indicating the frequent presence of the parasite in the cerebrospinal fluid and blood, and Bruce, by showing their invariable presence in all the considerable number of cases which he has examined at Entebbe, have adduced presumptive evidence in favor of regarding the trypanosome as the cause of this disease. Although such evidence points to such an inference, it can not be said to be conclusive. The occurrence of the parasite in the cerebrospinal fluid, that is, in close relationship with the seat of sleeping sickness—the nervous system—is a strong argument for the hypothesis; but the mere concurrence of the parasite and the disease in a limited number of cases coming from a very limited district must not be given too much weight.

He has shown for the Congo, and Low and Castellani for Entebbe, that a similar concurrence obtains in the cases of filaria perstans, but we now know that there are districts where filaria perstans is rare and sleeping sickness common, and vice versa; it is possible that when fuller investigation has been made into the distribution of the trypanosome we shall learn that a similar non-correspondence in the distribution of the latter parasite and this disease may obtain. Against a specific relationship of the trypanosome to sleeping sickness are the facts that the parasite has not given rise to the disease in Europeans, and that the parasite has not been found in sleeping sickness on the Congo or in West Africa. The former objection might be explained by the assumption suggested by Castellani that the trypanosome hitherto found in Europeans is a different species to that found in sleeping sickness; the latter objection, and it is one which is quite entertainable, might be explained by the probability that so far the blood in Congo sleeping sickness has not been critically examined for trypanosomes in a sufficient number of cases.

On the other hand, it is quite conceivable that the trypanosome of the African bears the same pathogenic relationship to the European that the trypanosome of the African wild game bears to exotic domestic animals; that is to say, that whereas the native man and beast are immune in a pathogenic sense to the native trypanosome, the exotic European and European domestic animals are not so. Such a theory seems to be more in harmony with the epidemiology, symptoms, and pathology of sleeping sickness than that enunciated by Castellani and endorsed by Bruce.

Certain obscure tropical fevers should be studied with an eye to a possible trypanosoma etiology, notably hyperpyrexial fever of West Africa and kala-azar of India and elsewhere.

Before much progress in this direction can be made, better and surer methods must be devised for determining the presence or absence of trypanosomes. We must have more easily applied microscopic methods, and, above all, we must find some easily available susceptible animal.

4. *The prognosis of trypanosomiasis* is not necessarily bad; that of sleeping sickness is always so. This is another argument against regarding sleeping sickness as a trypanosoma disease.

5. *Treatment* as yet must be conducted on general principles—rest and tonic influences.

6. *The prophylaxis* will be surely indicated so soon as we know what animal probably, judging by analogy and a small number of facts, one of the Tabanidæ is of the inoculating agent.

(*To be continued.*)

CANADIAN MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held at London, Ont., Aug. 25 to 28, 1903.

The President, W. H. Moorhouse, M.B., London, in the Chair.

This meeting was a very interesting and profitable one, and over 300 physicians were in attendance. A summary of some of the scientific papers follows.

Address in Medicine—The Lymph Circulation in Modern Medicine.

Dr. H. A. McCallum, F.R.C.P., delivered the address in medicine. He pointed out that the lymph circulation during the last decade has assumed enormous importance in the physiologic world. Twelve years ago Heidenhain experimented with different agents to determine their effect on the amount and character of the lymph coming from the thoracic duct; he was able to influence its quantity and quality.

From his experiments he concluded that the endothelial cells of the capillary wall acted as a secretive filter. Many physiologists from physiologic evidence have arrived at a separate conclusion that lymph depends on tissue activity; as an illustration, a limb in perfect repose gives no lymph from the lymph ducts; massage, active or passive movement, is at once followed by a free flow. The quiescent animal, it is now agreed, gives lymph from the thoracic duct, almost wholly obtained from the viscera.

In order to arrive at a clear comprehension the modern anatomy of the lymphatics should be considered. Ranvier, Sala, W. G. McCallum and Florence R. Sabine have separately agreed that the lymphatic system is a modified portion of the circulatory system; that it grew backward from the subclavian vein by the process of budding, gradually invading the tissues; that the ends of the lymphatics are blind, like the lacteals, and that they had no physical connection with the tissue spaces. Certain tissues, like cartilage and cornea, are not invaded by lymphatic capillaries.

These anatomic facts disprove all lymph circulation theories, since they prove that lymph is a double circulation composed of tissue juices and the lymphatic or absorbent circulation.

The lymphatic circulation is independent, the interchange on the part of lymph is to rid itself of offensive material and certain secretions as defensive proteids and to obtain in exchange from the blood nutritive material and oxygen.

The two great forces of lymph circulation are glandular activity and the muscular system. The great amount of the involuntary muscular tissue due to its wide area was shown to exist in the skin, modern research on the relation of the skin to internal viscera was pointed out, and the sympathetic pain reflected from the viscera could be palliated by a reflex act from the skin to the viscus; the lung reflex of Abraham was an example.

The importance of the skin as an external body connecting with all forms of impressions was pointed out, we would not

possess a heat regulating mechanism if it were not that impressions could wake up the laboratories of the body. The application of cold, heat, sunshine and fresh air are primal forces, and they act on external body world as in treatment of phthisis, the cold bath treatment of typhoid and the massage treatment of malnutrition. If the skin is so potent, how great must be the influence of the central nervous system in influencing vital activity in the way of training the patient to cease complaining to minimize sufferings and to alternate periods of alertness and absolute repose.

The importance of the lymphatic circulation in the solution of unsolved medical problems and its ancient character were pointed out. It is a field of inquiry that will be enriched in the future.

The Physiologic Generation Cycle of Woman.

DR. JENNIE G. DRENNAN, St. Thomas, Ont., said that we can see in the process of evolution that structure is determined and preceded by function and function by environment. Thus in the generative system changes due to changes in environment occur. Adaptation and heredity are the two factors which cause the changes wrought by evolution. Thus evolution works both backward and forward. The physiologic generative cycle is comprised of three factors, ovulation, pregnancy and lactation. These follow each other in physiologic sequence, one being completed before another begins. Every physiologic process is accompanied by a physiologic hyperemia, and so during the different periods the circulation is increased in that organ, which is functionally active. If from any cause a larger amount of blood is directed to a non-active organ the active organ is deprived of some of its normal blood supply and its function is lessened.

Ovulation, with its attending sexual excitement, is to the mammal what blossoming is to the plant, an evidence on the part of each that a seed is ready for impregnation. Fecundation normally should follow ovulation, then pregnancy and lactation. This is the physiologic cycle in mammals, and the primitive human female. But in the woman of civilization this cycle is interrupted by a lesser, a monthly, one, consisting of ovulation and menstruation. This is a pathologic condition arising from non-adherence to natural law. In primitive woman this lesser cycle occurs only occasionally and does not interfere with the larger circle, but as the scale of civilization is ascended the reverse is the case. Civilization precedes menstruation. Every menstruation is the sign of a disappointed pregnancy. The human female has thirteen of the periods in a year; why this frequency in an animal whose offspring requires longer time for development *in utero* and for sustenance after birth? Should one not naturally expect ovulation to occur at much longer intervals? Such would be the case if natural law had been and were now obeyed; if an adaptation to a pernicious environment had not occurred.

In mammals and primitive woman ovulation occurs at distinct periods of the year and at no other time. Mating with the primitive woman was much like that of the brute creation now; as soon as she was sexually mature she married and entered on the physiologic cycle of a mammal, one factor of this cycle following another as night follows day and day night. As she nourished her child about two years, the length of the cycle would be about three years. Primitive peoples do not produce large families.

In the married aspirant to civilization a disrespect to natural law has arisen, and error has been handed down. As a race becomes more artificial in its mode of life it becomes a more sexually-inclined race; every factor in life is then sought as a source of pleasure. The sexual element becomes adapted to the new state of life; the function of the ovary is increased and ovulation becomes a monthly phenomenon and the lesser cycle predominates.

The Size of the Pupil as an Aid to Diagnosis.

DR. J. T. DUNCAN gave this classification:

A. Pupil may have pupils evenly contracted. This may indicate: (1) locomotor ataxia, (2) meningitis and encephalitis (early stages), (3) chronic inflammation, cervical cord, (4) apoplexy of pons, (5) epileptic fits (early), (6) uremia, (7) tobacco amblyopia, (8) retinitis, (9) opium poisoning, (10) use of myotics.

B. Pupils may be evenly dilated: (1) paralysis of both third nerves (post-diphtheritic), (2) intracranial tumors (late), (3) intracranial effusions, (4) irritation cervical sympathetic, (5) acute inflammation, cervical cord, (6) premonitory of locomotor ataxia, (7) after epileptic fits, (8) cataracts, (9) amaurosis, (10) acute mania or melancholia, (11) mydriatics.

C. Pupils may be unequal, then we suspect: (1) locomotor ataxia, (2) general paralysis of insane, (3) unilateral lesion of third or sympathetic nerve, (4) pain in branch of fifth nerve, (5) old iritis, (6) carotid aneurism or tumor of neck, (7) use of a myotic or mydriatic in one eye, (8) unilateral cranial lesion, (9) acute glaucoma (unilateral).

I. The pupils are contracted and fixed: In list A we exclude uremia, meningitis and encephalitis, retinitis, tobacco amblyopia. The remaining conditions can be differentially diagnosed.

II. Pupils are evenly dilated and fixed: Rare. Present in (1) amaurosis, (2) use of mydriatics, (3) complete paralysis of both third nerves.

III. Pupils are uneven but fixed: This usually points to locomotor ataxia or general paralysis of insane.

Surgical Treatment of Hallux Valvus and Bunion.

DR. JAMES NEWELL said, in this paper, that in hallux valgus the great toe is outwardly deflected, uncovering head of first metatarsal bone, and base of phalanx is dislocated outward, resulting in tissue hypertrophy and often false bursæ. Palliative treatment is of little use; it consists in the wearing of a proper fitting shoe and keeping the great toe in position by some mechanical means.

Cases with well-marked deformity and pain require an operation. The technic must be thoroughly aseptic, not forgetting the cleansing of the skin between the toes of the patient. Incision should be made along inner side of great toe with its center over the bunion, excise the false bursa if present, deepen incision and retract the tissues, open joint and divide the ligaments. Insert a small metacarpal saw, dividing the head of the metatarsal bone just behind articular cartilage, sawing through from above, downward and backward. With bone forceps trim off sharp edges and remove exostoses. Wound is stitched with silkworm-gut sutures, a pad of cotton is placed between great and second toes, a sheet-iron splint with an upturned piece to separate great and second toes and foot and leg bandaged. Passive motion is began in third week and splint removed in four weeks. The results of the operation are ideal.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Local Anesthesia.

The following simple method of producing local anesthesia is noted in an abstract appearing in *Med. Age*, in which a solution composed of adrenalin chlorid and cocain is used in the following proportions:

℞.	Sol. adrenalin chloridi	♏ii	8 |
	Cocainæ hydrochlor.	gr. v	|30
	Aquæ	ʒss	15|

M. Sig.: Fold lint into four layers and saturate it with the foregoing solution and place it on the positive electrode of a galvanic battery. A large negative electrode should be applied elsewhere, and a current of 15 to 30 milliamperes gradually turned on and continued for 15 or 20 minutes. The surface should then be washed with ether, when superficial operations

may be performed without pain and with no loss of blood. [The strength of the adrenalin solution is not given, but either 1-1,000 or 1-5,000 may be used.]

Foisy, in *La Presse Méd.*, combines the foregoing solutions as follows:

℞. Sol. cocainæ (1-200) 3iiss 10
Sol. adrenalin chloridi (1-1,000) ....gtt. x 65

M. Sig.: To be used locally in the necessary amounts.

In opening a felon or a painful boil he employs a weak solution of cocain, probably 15 drops of a 1 per cent. solution of cocain mixed with 4 or 5 drops of adrenalin. In cases where free incision or the removal of morbid tissues is necessary, such as incision of a carbuncle or removal of suppurating lymphatics, the following is used:

℞. Sol. cocainæ (1-200) 3v-vi 20.-25
Sol. adrenalin (1-1,000) .....gtt. 10-15 65-1.00

M. Sig.: To be used locally.

Cancer.

G. Mohn, according to an abstract in *Medicine*, states that he has obtained positive results in the treatment of ulcerating epitheliomas by simple applications saturated with adrenalin. By this application the hemorrhage decreased, the pain was relieved and the general health improved. In his opinion the growths were markedly retarded in their progress for a considerable length of time. In relieving the pain produced by cancer of the stomach, Robin, in *Rev. Med. du Canada*, recommends the following combination:

℞. Cocainæ hydrochlor. .....gr. 3/4 05
Codeinæ .....gr. 3/4 05
Aquæ calcis .....ʒv 150

M. Sig.: One teaspoonful every hour until relieved.

Facial Erysipelas.

W. F. Rodue, in the *Surg. Clinic*, recommends the following combination in the treatment of facial erysipelas:

℞. Ichthyol 3ii 8
Etheris 3i 4
Collodii .....ʒv 20

M. Sig.: Apply locally with a camel's-hair brush two or three times daily.

According to the author this solution checks the spread of the disease and quickly relieves the pain. In those individuals who are asthenic he prescribes tincture of ferric chlorid internally and in suppurative cases calcium sulphid.

Darlin advocated the use of collodion, claiming that this dressing diminished the temperature of the part, and by compression interfered with septic absorption.

The following combinations are of value, according to *Merck's Archives*, in the local treatment of erysipelas:

℞. Resorcin 3i 4
Ichthyol 3ii 8
Ung. hydrarg. .....ʒi 30
Lanolini .....ʒi 30

M. Sig.: Anoint the parts freely, cover with oil silk and apply light dressing; or:

℞. Acidi picrici .....gr. x 65
Etheris q. s. to dissolve.
Aq. destil. .....ʒiii 90

M. Sig.: Paint over the affected area two or three times daily.

The following combination containing creolin and iodoform has also been prescribed with good results:

℞. Creolin 3ss 2
Iodoformi 3ii 8
Lanolini 3v 20

M. Ft. unguentum. Sig.: Apply locally with a camel's-hair brush and cover with gutta percha.

The following, containing lead and opium, is a common remedy, which acts very efficiently in some cases:

℞. Plumbi acetatis 3i 4
Tinct. opii .....ʒi 30
Aquæ q. s. ad.....Oi 480

M. Sig.: Shake the bottle, and apply on lint thoroughly saturated with the lotion.

Urticaria.

Balzer, according to the *Internat. Med. Mag.*, has found that a solution of menthol, thymol and carbolic acid is of service as a local application in the treatment of urticaria.

He either employs them in a 2 per cent. solution in alcohol or aromatic vinegar or combined as follows:

℞. Acidi thymici .....gr. xv 1
Acidi phenici .....gr. xxx 2
Alcoholis .....ʒvi 180

M. Sig.: Apply locally.

When the eruption is persistent and a prolonged treatment is required, he prescribes it in the form of an ointment. In urticaria caused by contact with insects he has found the application of ichthyol the most useful preparation. The treatment, however, must not be entirely local, but the careful regulation of the diet and attention to the digestive tract is of equal importance.

Anal Fissure.

The following outline of treatment, according to *Amer. Med.*, is recommended in the treatment of fissure of the anus:

The constipation should be combated by the administration of a teaspoonful of castor oil in the morning or a teaspoonful of the following powder in a small amount of water before retiring:

℞. Magnesiæ (calcined)
Lactose, āā 3v 20
Potass. bitartratis
Sulphuris (washed), āā.....3iiss 10

M. Sig.: One teaspoonful at bedtime in a little water.

At 11 o'clock in the morning an enema of linseed water or hot marshmallow water may be given. When the pains are less severe, these may be substituted by an enema of a decoction of krameria (20 parts to 1,000).

The following combinations should be used as ointments locally:

℞. Ext. krameriæ .....gr. xxx 2
Ext. opii .....gr. viiss 50
Cocainæ hydrochlor. .....gr. xii 75
Ung. populi .....ʒi 30

M. Ft. unguentum. Sig.: Apply locally night and morning; or:

℞. Ext. belladonnæ .....gr. xv 1
Plumbi acetatis (neutral) .....gr. xlv 3
Adipis .....ʒi 30

M. Ft. unguentum. Sig.: Apply locally. The following suppositories may be used as a substitute for either of the above:

℞. Iodoformi .....gr. ii 12
Ext. opii .....gr. 1/3 02
Ext. belladonnæ .....gr. 1/6 01
Ol. theobromæ.....gr. xlv 3

M. Ft. suppos. No. i. Sig.: One may be used at night and another in the morning if necessary. Forced dilatation should be practiced and locally cauterization with the silver nitrate stick every few days.

Medicolegal.

Simulation as to Pain Subject for Expert Testimony.—The Court of Civil Appeals of Texas says that, in the personal injury case of McGrew vs. the St. Louis, San Francisco & Texas Railway Company, where the party suing had been thrown from a buggy in consequence of the frightening of a horse which she was driving, that there was much evidence in the record to the effect that she was not injured to the extent claimed, and that some of her pretended injuries were feigned and simulated. One of the attending physicians who examined her injuries, and treated her for the same, testified that he had employed certain tests to ascertain whether she could feel pain in her limbs. Then he was asked whether or not she was simulating the absence of pain when the tests were applied. The court holds that it was error not to admit this evidence, the question asked, and the proposed answer

thereto, being, in its opinion, the subject of expert testimony —a matter peculiarly within the province of the physician.

A Profession is Property—Regulation of Practice.—The Supreme Court of New Jersey holds, in State vs. Chapman, that a calling, business, or profession chosen and followed is property. The legislature can not destroy it by statute without providing for compensation, any more than it can authorize the taking of real estate for a public use except on compensation. But it is within the power of the state to place reasonable regulations on the business or calling of any person. The laws regulating dentistry are of later enactment than those regulating the practice of medicine, but the principles underlying their legality are the same. And it is within the power of the state, under the police power, to impose by statute reasonable restrictions as to registration and the obtaining of a certificate of authority to engage in the practice of dentistry, and to make it a misdemeanor for a person to practice without first obtaining such certificate. The New Jersey act of March 17, 1898, entitled "An act to regulate the practice of dentistry in the state of New Jersey, and to repeal certain acts now relating to the same," is not an act taking or destroying property, but is a reasonable regulation of the practice of dentistry in that state. The act does not impair vested rights, nor is it in its criminal provisions an *ex post facto* law.

Power of President and Manager to Employ Physician.—The Court of Civil Appeals at Kansas City, Mo., holds, in the case of Evans vs. the Marion Mining Company, that the company's president and general manager had authority to bind it for medical services rendered by a physician in attending one of its employes, hurt in the course of his work through the negligence of the company. The contrary contention, it holds, was not supported by the cases cited therefor, it not appearing in them that the injury happened through the negligence of the company sought to be held liable, while, on the other hand, the officers representing the companies were of much inferior grade to that of president and general manager. In this case, it says, it must be assumed that the employe was injured through the negligence of the company. It was, therefore, liable to him for the damage occasioned by the injury, including the expense of a physician. It was directly interested in seeing that such injuries were not made worse by lack of medical attention, and that the suffering and other ill consequences should be lessened in every proper way. Its president and general manager, who was necessarily in charge of its general interests and welfare, was certainly not acting outside his duties when he was doing that which was lessening the damages for which he found it had become liable.

Duty of Railroad in Selecting Physician—Evidence.—In the case of Poling vs. the San Antonio & Aransas Pass Railway Company, where it was sought to recover damages for the loss of sight of an eye, alleged to have been occasioned by the negligence of the company in the selection of the physician who treated the case, the Court of Civil Appeals of Texas holds that there was no error in excluding evidence offered by the party suing to prove that the physician never stood an examination for license to practice medicine in Texas. It says that as to whether the physician stood an examination before the board of medical examiners that issued him a certificate authorizing him to practice medicine was immaterial to any issue in the case. The certificate was issued to him, and as to whether the board acted irregularly in its issuance could not be made a subject of inquiry in this case. Nor can the court perceive on what principle it could be contended that a publication in a local newspaper of the proceedings of the medical board of examiners of that judicial district could be admitted in evidence in this case, such publication being purely hearsay, and there being no evidence introduced or offered tending to show that the company had any knowledge of it, either at the time or after it employed this physician. Taking up the instructions given the jury, the court finds no error in telling them that, all of the evidence showing that the company derived no profit from the retention of the 50 cents per month hospital fund from each of its employes, neither had it designed same for profit, the only measure of duty owing to the party suing, an employe, by the company, arising from its agreement to furnish him with medical attention when needed, was the use of ordinary care to select, employ, and retain a competent physician as its local physician for the treatment of the party suing and its other employes in cases of sickness or injury. If they believed that the company selected, employed and retained this physician as its physician at that place, and that in selecting, employing and retaining him it used ordinary care—that is, the care that an ordinarily prudent person would have used—to select a competent physician they would find a verdict for the company, whether the physician treated the eye of the party suing properly or not.

Physician Immediately, Continuously, Wholly Disabled.—In the case of Brendon vs. the Traders' and Travelers' Accident Company of New York, it appeared that the party suing, a physician, while obliged to stand in a crowded street car, and while holding on to a strap, was, by the car starting suddenly to go around a curve, swung violently around, his weight resting on his left foot, which was held in place by the feet of other people, and his knee was twisted and strained. He felt quite a little pain at the time and a few blocks further on he transferred to another car and went to his home. The knee continued quite painful, and commenced to swell that evening. He put on cold applications and remained at home. This was the 18th of the month. In the morning the pain and swelling continued, but he made a necessary visit to a patient near by, and then returned home, and there remained. The next day the knee was still more swollen and painful, and he could scarcely move it at all. On the 21st its condition was such that he was obliged to go to bed and have it treated. A physician was called, and the knee was put in splints, and kept immovable and bandaged. He remained in bed for nearly three weeks. The First Appellate Division of the Supreme Court of New York holds that the accident "immediately, continuously and wholly disabled" him from performing any and every kind of business pertaining to his occupation, within the fair intent and meaning of an insurance policy. It says that the fact that his sense of his professional obligation to his patient led him to make a visit when he was in a crippled and substantially disabled condition was not sufficient, in and of itself, to show that he was not continuously and wholly disabled. The injury had been sustained. It affected him immediately. The disability attached immediately, and was progressive and continuous. If the insurance did not cover such a condition, it was of little value; and to allow an insurance company to receive large premiums and escape liability in these circumstances would be to sanction the perpetration of a fraud on its policy holders. His failure to make any claim for the first three days, in that he claimed for total disability for three weeks from the 21st only, may have been a waiver of the insurance for that time, and it was some evidence to be considered by the jury on the question of whether his disability was immediate; but he was not estopped thereby from claiming immediate, continuous and total disability, in order to recover the insurance for the period for which he had presented a claim, which was more favorable to the insurance company than the facts warranted.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

August 22.

1 *Case of Splenomedullary Leukemia Successfully Treated by the Use of the Roentgen Ray. Nicholas Senn.
2 *The Management of Cases of Pulmonary Tuberculosis in the Dispensary. James A. Miller.
3 Secret Poisons and Their Uses in Ancient Times. J. W. Wainwright.

4 *Purpura Hemorrhagica Fulminans, with Report of a Case. Henry G. MacAdam.
5 *A Study of a Scarlet Fever Epidemic. Alfred C. Haven.
6 *A Preliminary Report on Some Experiments with the McGraw Elastic Ligature. M. S. Kakels.
7 Poisoning with a Small Dose of Quinin. M. Goltman.
8 Strangulated Oblique Inguinal Hernia in a Child Eleven Days Old; Operation. J. Hutchings White.

1. **Splenomedullary Leukemia Cured by Roentgen Ray.**—Senn states that he has seen many cases of the different varieties of leukemia, but the case which he describes in detail is the only one that has recovered. He attributes this exceptional result entirely to the prolonged use of the *x*-ray. He adds that he has so far not seen a single case of either carcinoma or sarcoma benefited by Roentgen treatment, but the curative power of the *x*-ray in pseudo-leukemia and genuine leukemia promises to accomplish what heretofore has not been obtained by any kind of medication. It seems to prove that, etiologically at least, both conditions are analogous, or at any rate closely allied. The case described was that of a foreign-born Jewess, 29 years of age, with typical splenomedullary leukemia, rebellious to all measures. The case appeared hopeless when, as a last resort, the *x*-ray treatment was commenced, Feb. 3, 1903, about three weeks after her admission to the hospital. The spleen, the lower end of the sternum, and the epiphyseal extremities of the long bones were exposed to the action of the rays daily for from ten to twenty minutes. During the course of the treatment the use of the *x*-ray had to be suspended for a day or two on several occasions owing to a high temperature and other symptoms of intoxication. The constitutional symptoms became very prominent at the time the spleen first presented indications of progressive decrease in its size, about three weeks after the beginning of the treatment. The blood examinations were repeated at intervals of a few days, and it was noticed that improvement kept pace with the reduction in the volume of the spleen. The first decided changes observed were the gradual disappearance of the myelocytes and eosinophiles, and the return of the erythrocytes to their normal shape. Examination of the blood made April 12 showed no myelocytes, and only a very few eosinophiles and very little poikilocytosis. March 12 the patient left the hospital, but was treated daily in the outdoor department. The spleen was so enlarged at first that it simulated a pregnancy at term, but retrogressed to its normal outlines as he shows in a photograph of the patient. He adds that there can be no longer any doubt in regard to the microbic origin of leukemia or to the anti-microbic action of the Roentgen ray. The transillumination of the affected bones undoubtedly accomplished its share in destroying the microbes of the general infective process, as the pain and tenderness disappeared entirely, as well as the occipital headache, during the early part of the treatment. He believes that the microbes of the splenomedullary leukemia are very susceptible to the destructive action of the *x*-ray, as the response to this treatment is very prompt and often violent, followed by a speedy return to normal of the spleen, medullary tissue, and the histologic constituents of the blood.

2. **Management of Pulmonary Tuberculosis in the Dispensary.**—Miller outlines the measures in vogue at the Vanderbilt Clinic, New York, to treat the tuberculous who are unable to go to a sanatorium. Two weeks of absolute rest are enforced, and if there is fever, this rest should be strictly in bed. When they resume work they are instructed to avoid all unnecessary exertion or exercise, to rest at odd moments whenever possible, and to rest absolutely after working hours. The occupation is changed if necessary. When a determined effort is made it is often possible to effect a very fair "rest cure" even while a patient is in active occupation, and perhaps supporting a family. Milk and raw eggs are the main reliance for superalimentation. He gradually accustoms his patients to the ingestion of two or three quarts of milk and from six to ten raw eggs every day, in addition to a regular diet of simple food. The increased expense of such a diet is borne by the patients or by the Charity Organization Society. In medication he prefers to err, if at all, by too little medication rather than by too much. These measures are supplemented by inspection and regulation of the homes, for which the services of a regularly trained nurse are the main reliance. She visits, makes her report, instructs the family and calls the attention of some charitable society to its needs if required. In 35 cases treated on these principles, 22 patients have increased in weight an average of four pounds to a maximum of twelve pounds; 7 of the 22 were early cases, 5 were moderately advanced, and 10 were advanced cases.

4. **Purpura Hemorrhagica Fulminans.**—MacAdam reports what he calls the first case on record of purpura hemorrhagica treated with adrenal gland preparation. The patient was a child of five. In half an hour after the purpura was recognized the child was almost moribund and had vomited several pints of blood. The case looked hopeless. Twenty drops of adrenalin solution were administered internally in a tablespoonful of water. At the end of fifteen minutes the child regained consciousness. A little color appeared in the cheeks and the pulse was perceptible at the wrist. Ten drops of adrenalin were then given and the patient continued to show evidences of improvement. For three days she received ten minims of adrenalin every three hours in orange-juice, no nourishment being permitted. At the present writing, he adds, she eats and sleeps well, apparently none the worse for her narrow escape, and but for a slight anemia, is as well as ever.

5. **The Lake Forest Scarlet-Fever Epidemic.**—Haven states that there were only 2 deaths in the 108 cases reported. The sore throats, which he considered the manifestation of scarlet fever in immunes, were the most prolific source of the spread of the contagion, also the fact that many of the cases were exceedingly mild. Fully one-third of all the cases were young adults, over 15 years old, and no age up to 40 seemed exempt. A house-to-house inspection was instituted. Every case was promptly isolated and the patient not allowed to regain his liberty until all desquamation had ceased, after which the place was fumigated by formaldehyd gas and steam and the disinfector empowered to burn mattresses and whatever else he deemed wise to destroy. A temporary auxiliary hospital was organized for scarlet fever and the hospital ambulance was fumigated each time it was used. No children were allowed on the streets, all visiting and public gatherings were positively forbidden, and special police sworn in to see that all regulations were obeyed. The epidemic vanished more quickly than it appeared, after lasting about ten weeks.

6. **The McGraw Elastic Ligature.**—Walker's conclusions in regard to this elastic ligature, given in The Journal, xl, p. 166, with five cuts, are confirmed by Kakels' experimental research on a number of dogs. He found it the quickest of all known methods of anastomosis, and states there is no loss of blood except the slight amount produced by the Lembert sutures on the serous surfaces. It is as simple as, if not simpler than the Murphy button, and there is absolutely no escape of intestinal contents, and therefore no exposure to infection of the peritoneum from this source. There is no shock, on account of short exposure and little handling of viscera, and very few lesions are made. There seems to be a uniform coaptation of peritoneal surfaces of the entire circumference of the approximated ends. The bowel seems to have been cut through without sloughing. McGraw states that three or four days is sufficient time to provide for a free opening, but his experience does not confirm this. The cutting through was only partial in 2 dogs killed the third and fourth day after entero-enterostomy, while in 3 gastroenterostomies there was only commencing severance the fifth day. The failure to cut through he attributes to too thin a ligature and to the greater thickness of the dog's stomach and intestine than that of man. For man it would be safer to use a ligature of 3 or 4 mm. thickness, and we should not hesitate to take more than an inch and a half of tissue in the ligature (especially in gastroenterostomies), as the more tissue and the thicker the ligature, the more pressure will be brought to bear and the quicker it will cut through. Barring the disadvantages caused by its slow action in cutting through, he qualifies this ligature as superior to all other methods of intestinal approximation.

Medical News, New York.

August 22.

9 *Cardioptosis. Albert Abrams.
10 Management of Breech Presentations. E. M. Thomas.
11 *Amber Yellow Glass in the Examination and Treatment of Eyes. H. H. Seabrook.
12 *The Treatment of Chronic Catarrhal Deafness (Otitis Media Catarrhalis Chronica). George W. Hopkins.
13 *The Clinical Value of Blood Pressure. H. Richardson.
14 *Tying and Care of the Umbilical Cord. Albert S. Harden.
15 The General Practitioner and His Relation to Early Surgical Operations. E. B. Montgomery.
16 *Other Causes than Syphilis for Paresis. H. Preston Sights.

9. **Cardioptosis.**—Abrams reviews his experience with voluntary cardioptosis, cardioptosis associated with ptoses of the abdominal viscera, the cardioptosis of accommodation, and primary essential cardioptosis. He says of the latter:

It may often be present without subjective symptoms. In other instances a feeling of weight or oppression is experienced in the lower chest which is referred by the patient to the lower sternal region or epigastrium associated with epigastric pulsation and dyspnea. The latter is intensified by exertion. The upper portion of cardiac dulness, superficial and deep, will be found to be lower than normal. The apex beat is with difficulty palpated and, in lieu of the punctated beat, a diffuse one is felt. Auscultation may or may not elicit cardiac murmurs and, if present, they are greatly influenced by posture—a certain posture will bring them in evidence, whereas another posture will cause their evanescence. The murmurs are probably accidental and dependent on the malposition of the heart. The pulse suggests diminished tension of the arterial wall; it is soft, readily compressible and its dicrotic character is clearly brought out in the sphygmogram. The pathognomonic signs of cardioptosis are elicited by skiascopy. The long axis of the heart appears to be practically parallel with the surface of the diaphragm; the boundaries are poorly defined and deep inspiration does not bring into evidence the clearly-defined space between the heart and the diaphragm. This posture of the heart could be assumed if the midriff were abnormally high, as in abdominal distension, yet, if the long axis of the heart were measured, it would be found by describing the distance of the axis on the chest wall, that it would extend higher in the thorax than would a normal heart. The highest anatomic point of the heart is represented by the left auricle, which is at the lower border of the sternal insertion of the second rib, its lowest point is at the upper border of the sixth costal cartilage or in the fifth intercostal space just within the mammary line. Measurement of the long axis of the heart in cardioptosis would show that the heart lies lower than normal. The site of the normal heart is influenced by respiration and attitude. In cardioptosis there is little or no respiratory or attitudinal dislocation.

Treatment is limited to the wearing of a good fitting abdominal support with pressure exerted in the upper abdomen. In cardioptosis associated with Glénard's disease, exercises having for their object strengthening of the abdominal muscles and the diaphragm often yield excellent results associated with massage, faradization and hydrotherapeutic procedures. He has seen no benefit from medication.

11. **Yellow Glass in Examination and Treatment of Eyes.**—Seabrook relates tests with photochromotherapy of the eye, having found that there was less congestion, lacrimation, photobia and pain in examined eyes, when an amber yellow glass lens was used than without it. Vision is not impaired by the yellow glass, chromatic aberration of the eye is corrected by it, and dazzling reflections are softened and modified. The sphincter of the iris is not contracted so much by yellow as white light. The indications for the use of yellow glasses in the treatment of asthenopia and ocular neuralgias are easy to determine. The most beneficial results might perhaps be expected in that class of cases having diminished vision and hyperesthesia of the retina, and he reports three such cases confirming this assumption. His experience with these and other ocular affections shows conclusively that amber yellow glass has certain advantages for the ophthalmologist and good effects on the internal structure of the eye in certain conditions. He uses in examinations a bi-convex lens of white glass split and cemented on a plain glass of medium light amber yellow. For patients he orders amber yellow glasses. He had no experience of their use in "summer conjunctivitis" when he wrote, but believes they will prove particularly soothing in this case, protecting against irritation and improving vision.

12. **Treatment of Chronic Catarrhal Deafness.**—Among other constitutional causes of this condition Hopkins mentions that disordered digestion aggravates and perpetuates a large proportion of cases. Gout is another factor sometimes overlooked, as also typhoid fever. He has lately been experimenting with an electric douche applied to the entire intra-tympanic cavity. The promptness with which relief follows this electrolytic-cataphoric application is sometimes remarkable. He found iodin cataphoresis a valuable adjuvant in certain selected cases, the auditory canal being filled with iodin solution and a cataphoric electrode applied, anode direct to the tympanum. His experience with superheated air has also been favorable. Scores of cases which had obstinately resisted every other form of treatment slowly, but gradually, retrogressed under the application of superheated air to the tympanum until marked improvement in hearing and relief of tinnitus resulted. He believes that the superheated compressed-air treatment, when indicated and judiciously employed, in conjunction with such other measures as may be indicated, will give results which would be utterly unattainable without its aid.

13. **Clinical Value of Blood Pressure.**—Richardson describes the instrument introduced by Hill and Bernard, proclaiming that it is exact and eliminates the personal equation in observation. It consists of a rubber bag connected with a dial graduated in mm. Hg. The bag is securely and tightly fastened around the arm or leg of the patient, and air pumped into the bag till the pressure is sufficient to close the artery; the point of closure being indicated by the cessation of the oscillations of the needle of the aneroid. To obtain the mean pressure, the air is allowed to escape from the bag until the maximum oscillation of the needle occurs, at which point the pressure in the artery and in the bag are the same. It requires very little practice to become familiar with the instrument. There are two pressures in the arterial system which can be estimated by this instrument, viz., the maximum or force of the systole and the mean or the pressure in the artery. As the arteries collapse if empty, it is evident that the force required to obliterate them when full will represent the force of the blood driven into them by the heart. He calls attention to the high mean blood pressure as an important early, diagnostic sign of Bright's disease. It may be determined even before the apex beat has moved to the left. He describes the variations in the blood pressure induced by different affections, as he determined them with this instrument, claiming that from the clinical standpoint, the observation of the maximum and minimum blood-pressures and their relation to one another is of immense advantage, not only as an indication for treatment but also as a measurement of progress.

14. **Care of the Umbilical Cord.**—Harden uses tape and has never seen hemorrhage or laceration of the cord in 500 cases in which it was tied with tape. In 35 cases in which silk was used, he noted 5 cases of laceration and 5 of hemorrhage. After cleansing the region he draws over the cord a piece of sterile gauze, 4x4 inches doubled, with a small slit in the center. He pulls the cord through this by the strings of the ligature and pushes the gauze down on the abdomen, then draws it up over the cord and cuts the ends of the tape. This plain dry dressing can be left untouched until the cord falls off, and does not offer a culture medium for germs as when salves, etc., are used.

16. **Other Causes than Syphilis for Paresis.**—Sights argues that the prevailing cause of paresis is an overworked mind centralizing the mental energies without relaxation, whether in worry over financial troubles or over syphilitic infection or a concentration of the mental forces in any single avenue of life. Mental worry and nervous strain precipitate the disease in susceptible individuals, especially in those who are sensitive, with an inherited pessimistic tendency.

Boston Medical and Surgical Journal.

August 20.

17 Memorial Meeting to Morrill Wyman. Henry P. Walcott and others.
18 *The Surgical Treatment of Gastric Ulcer. John C. Munro.
19 *The Medical Treatment of Gastric Ulcer. Hubert G. Wilbur.

18. **Treatment of Gastric Ulcer.**—Munro pleads for the more intimate association of the internist and the surgeon in the study of gastric ulcer. The physician does not yet fully appreciate that an operation performed on the average patient with a mortality so small that it may practically be disregarded, becomes serious or even unjustifiable if done in the presence of persistent hemorrhage, prolonged sepsis, starvation,

absorption of ptomains, etc. To determine whether there is a condition amenable to medical treatment the physician must experiment to a certain extent. If he succeeds, well and good; if he fails, he must be willing to seek the co-operation of the surgeon, or better, he should have sought it early in order that both should study the case and both should learn, each from the other's findings. The following types he regards as best considered as surgical: probable cases of relapsing acute hemorrhage; cases with hemorrhage if persistent and causing anemia; perforation; recurrent ulcer, pure and simple, attended with dyspepsia and starvation; pyloric obstruction; adhesions following ulcer or independent of it; scar contraction of the body of the stomach, and some cases of intractable dyspepsia, perhaps originating in an ulcer, and for which no definite pathology is known.

19. **Medical Treatment of Gastric Ulcer.**—Wilbur refers in the course of this article to the tendency of anemia to induce gastric ulcer. Experiments on animals have shown that gastric ulcer develops from much slighter irritation and heals more slowly when the animals have been rendered anemic than when the blood is in its normal condition. In chlorotic females it would be wise to regulate the diet to avoid very hot things, coarse foods, highly acid and highly seasoned foods, also avoid corsets and tight clothing. Occupation may have its effect in the causation of ulcer. Seamstresses, typewriters, tailors and clerks, who lean against a machine or desk, are all liable to ulcers. In case of perforation, surgical interference is at once demanded. If the surgeon is not at hand, give morphia subcutaneously to quiet peristalsis and relieve pain, and brandy and coffee by enema to sustain the heart. Hemorrhage occurs in about half the cases. In repeated and profuse hemorrhage Dreschfeld advises turpentine. He gives it in capsules or in emulsion. He cites several cases of hematemesis rebellious to the usual measures, the patients pulseless and blanched, in which the first dose of turpentine arrested the hemorrhage. It is well borne by the stomach.

American Medicine, Philadelphia.

August 22.

20 *Enterostomy, with Report of Cases. J. M. T. Finney and Omar Pancoast.
21 *Enteroptosis: Its Etiology, Symptomatology, Treatment and Prognosis. (Continued.) Thomas R. Brown.
22 *Course of Diseases During Pregnancy. E. Castelli.
23 *Treatment of Typhoid Perforation, with Report of a Case. William C. Voorsanger.
24 *Etiology of Dysmenorrhea. J. Thompson Schell.
25 *A Successful Treatment for Morphinism, with Report of Case. J. Ben. Jones.

20. **Enterostomy for Drainage and Nourishment.**—After the loop of bowel is brought out and opened, a rectal tube is inserted first in one direction and then in the other, for several feet each way. This allows escape of gas and feces with less risk of soiling the peritoneum than by other methods. The special indications for enterostomy considered in the article are: 1, temporary drainage of a distended intestine, allowing it to regain its normal tone in cases of functional paralysis of the bowel of septic or other origin, especially in those cases following appendicitis with peritonitis. 2. To enable one to nourish a patient whose stomach and rectum are for any reason irritable and unable to retain or absorb a sufficient amount of nourishment. The operation of enterostomy, when quickly done under local anesthesia, is a comparatively slight one and causes little disturbance to the patient. The relief afforded thereby often enables him to withstand, later, more radical measures. The amount of fluid that can be given in twenty-four hours by this means and retained is surprisingly large. Finney calls attention not only to the advantages of relieving the distended intestine, but insists that the intestinal fistula once established should be looked on more as a mouth than as an anus. It should be used for irrigation of the intestinal canal, for the nourishment of the patient and for the introduction of cathartics. He has often noticed that food introduced into the intestinal canal through the fistula had of itself a stimulating effect on peristalsis. He reports seven cases in detail, some followed by postmortem examination, as the enterostomy was undertaken as a last resort. It always caused great relief and postponed the inevitable fatal termination, and saved several otherwise doomed patients. The fistula usually closes spontaneously.

21. **Enteroptosis.**—Brown describes in this part of his article the symptoms of enteroptosis in general. He says:

> There may be absolutely no symptoms associated with the condition on the one hand, and this is especially so in the acquired cases, while on the other hand we may have symptoms of the most aggravated type of neurasthenia, to which are added various abdominal symptoms due to displacement of the various viscera, such as indigestion, constipation, pain in various portions of the abdomen, a feeling of a lack of abdominal support and many other symptoms.
>
> Among the more important objective symptoms may be mentioned a flattened abdomen, or one flattened in the epigastric region and distended below the level of the umbilicus, sensitiveness to pressure near the tenth rib, a cord-like transverse colon, through which the pulsation of the aorta can be distinctly felt, while in all cases a careful examination of the abdomen reveals the displacement of several of the viscera. Some authors insist that pain and fatigue in the early afternoon and in the very early hours of the morning are important, because these hours correspond in general to periods of duodenal digestion, while in the severe cases many describe marked nervous crises, hysteria, insomnia and despondency.

He discusses the frequency, etiology, symptomatology, treatment and prognosis of enteroptosis, gastroptosis, nephroptosis and hepatoptosis, quoting extensively from international literature.

22. **Course of Diseases During Pregnancy.**—Castelli concludes his paper from the number of March 28, studying diseases of the respiratory apparatus during pregnancy and also diseases of the liver and kidneys. He states that the physician must bear in mind that there is a diminution of hemoglobin in the blood during pregnancy, and with this diminution there is a corresponding lessening of oxidation or respiratory power of the blood and an increase in the carbonic acid discharged by the lungs. In chronic nephritis the death of the child from placental changes is so common that consideration for the life of the child must be always subsidiary to the interests of the mother. He believes that the danger to the mother increases and the hope of giving birth to a living child diminishes, the earlier the lesion of the kidney manifests itself in pregnancy. If nephritis is shown in the earlier period of pregnancy, the chances of recovery and of a living child are problematic, while if the pregnancy is stopped in time, the recovery of the mother is certain. He advises intervention between the fifth and sixth months. Waiting, while of no advantage to the fetus, may prove a great danger to the mother. In regard to tuberculosis he remarks that athrepsia, as a rule, is produced by the tuberculous mother, whose infection was not sufficient to kill the fetus in intrauterine life.

23. **Typhoid Perforation.**—Voorsanger lays stress on the white blood count in the diagnosis of typhoid, attaching as much, if not more, importance to it than to the Widal reaction. The leukopenia occurs during the first few days, and is always very positive, being, as a general rule, between 3,000 and 5,000. A rise always means a complication. In the case of perforation described the only symptoms were the dropping temperature, the high pulse and tympanites.

24. **Etiology of Dysmenorrhea.**—Schell emphasizes that the origin of dysmenorrhea may be local or pelvic, general or constitutional, or merely reflex, or it may be due to a combination of two or more of these causes.

25. **Hyoscin Treatment of Morphinism.**—Jones reports the particulars of a case treated with wonderful success according to the method advocated by Dr. Geo. E. Pettey. His principle is that morphinism is due to autotoxemia, and the chief cause of the phenomena known as withdrawal symptoms is the presence of this toxic matter in the system and not the drug itself. When the system is cleansed of the accumulated effete material, autotoxemia overcome, and the portal system disengorged, morphin can be at once withdrawn without shock, collapse, or danger to life, and the suffering subsides in a few days. He gives purgatives, hyoscin and strychnin and sodium hyposulphite. Jones also witnessed ten other patients thus treated. There was no appearance of collapse, heart failure or other untoward symptom in any case, and there was an entire absence of the nervous symptoms usually encountered. The patients slept almost normally from the very beginning of

treatment. The details of Pettey's method were published in THE JOURNAL recently, xl, p. 1757.

New York Medical Journal.

August 22.

26 *Relation of the Anesthetist to the Patient and to the Surgeon; with Some Interesting Experiences, on which This Paper is Partly Based. S. Ormond Goldan.
27 *The Iodin Treatment of Puerperal Sepsis. W. R. Pryor.
28 *The Treatment of Papilloma of the Larynx in Children. J. E. Summers, Jr.
29 Regicides; Sane and Insane. (Continued.) E. C. Spitzka.
30 The Treatment of the Summer Diarrhea of Children. W. C. Rucker.

26. **Relation of Anesthetist to the Patient and to the Surgeon.**—Goldan pleads for complete equality ethically, professionally, materially, between the anesthetist and the surgeon. Many surgeons, he thinks, lose sight of the fact that the anesthetist, both by education and training, is their professional equal, and he relates a number of incidents from his own experience which show the abuses that still prevail in many quarters. The only right for their existence is usage and the non-assertion of the anesthetist. Through the ignorance of the patient and many years of bad custom the surgeon assumes charge of the entire operation instead of informing the patient that he operates and others anesthetize. The anesthetist owes it to the patient and to himself that he should examine the patient before the operation. He is liable to discover valuable points in regard to the anesthesia by this examination, and the relation of the anesthetist to the patient being thus direct, he receives what he is justly entitled to and no more—the full credit for his own work and a fee accordingly. The highest medical standard, he argues, allows that the medical man is entitled to a maximum fee in every case treated. In many instances this would be a burden to the patient and, knowing this, the practitioner follows the beneficent plan of charging in keeping with the financial circumstances of his patient. In a word, he does not overcharge the rich, but he undercharges the poor. The operator, in case of a particularly important patient, labors under a greater responsibility, and he charges accordingly. The same should, and must, obtain with the anesthetist, and the signs indicate, Goldan believes, that this equality between the two is becoming recognized. In his experience the patients do not object to remunerating the anesthetist directly. When requested to send in his account to the operator he does so only as a matter of courtesy, and sees no reason why the charge should be less than if sent directly to the patient.

27. **Iodin Treatment of Puerperal Sepsis.**—Pryor found streptococci in the uterine cavity in 36 out of 37 cases examined and in the entire number these cocci were found in the serum, lymph or free pus in the posterior cul-de-sac. He is convinced that this corroborates his assumption that puerperal sepsis is the result of a streptococcic puerperal septic lymphangitis. Treatment should be along the lines of sterilization of the original lesions, and inducing absorption by the infected lymphatics of some potent, harmless antiseptic, supplemented by measures to promote the eliminative functions. He used to curette the infected uterus and open up the cul-de-sac, concluding by packing them both with an abundance of iodoform gauze "in order to drain away something." He found, however, that there was nothing to drain away except serum, and yet the cases recovered beautifully. He had builded better than he knew, and later researches have demonstrated that the fine results attained were due to absorption from the gauze. The iodoform gives up its iodin, partly in obedience to the influence of heat and partly from the chemical action of the blood serum. Local iodism is produced, and this sterilizes the pelvis, while the iodin absorbed by the lymphatics appears in the urine in an average of five hours, sometimes as early as two, showing that it has a systemic effect as well. He accompanies this massive gauze packing with saline per rectum or intravenously to facilitate the elimination of the iodin and of toxins by the kidneys. He has thus treated 37 cases; 27 had not previously been operated on, and only 1 died, while 10 had been curetted before coming into his hands and 3 died. He is now engaged on research to determine whether this local and general iodin sterilization may not be obtained through the infected lymphatics in some still simpler manner.

28. **Treatment of Papilloma of Larynx in Children.**—Summers lauds tracheotomy as the most available remedy for this condition. Intubation is a failure and the justifiability of laryngotomy is questionable. The general practitioner, he thinks, can make the diagnosis and the services of a specialist are not required.

Cincinnati Lancet-Clinic.

August 22.

31 *Eye Strain and Its Results. S. C. Ayres.
32 Eye Strain from the Standpoint of the Physician. E. W. Mitchell.
33 Eye Strain from the Standpoint of the Neurologist. Philip Zenner.
34 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

31. **Eye Strain and Its Results.**—Ayres relates several pointed illustrations showing the physical effects possible from eye strain. One patient, a lad of 15, suffered invariably from nausea in a crowded room or on attempting to study. Another, a child of 6, suffered daily from nausea, which came on while playing and subsided when he reposed. As he did not use his eyes for reading, the influence of school life was not a factor. In another case severe choreic symptoms entirely disappeared under correction. A fourth patient was a woman of 33 who had suffered from nausea, headache and dyspepsia and had been treated for stomach trouble for five years. The relief by the adjustment of glasses was immediate and permanent. All the patients were cured of these symptoms by proper correction. Decided improvement was likewise obtained in a child of 7 presenting ametropia, muscular unbalance, nervousness and mild choreic symptoms.

St. Louis Medical Review.

August 22.

35 Diphtheria and Its Treatment. George D. Lynch.

Northwestern Lancet, Minneapolis.

August 1.

36 *Bullet Wounds in Modern Warfare. Arthur A. Law.
37 The Relation of the Medical Profession to the Enactment of Legislation on Questions of Public Health. Richard O. Beard.
38 The Function of a City Hospital. H. M. Bracken.

August 15.

39 Commercialism and the Code. J. F. Bond.
40 Enterectomy for Gangrene from Strangulated Hernia. G. R. Curran.
41 Report of a Case of Eclampsia. William F. Wilson.
42 Asepsis of the Cord. Harry Morell.
43 Pneumonia. Victor I. Miller.

36. **Bullet Wounds.**—From a study of modern high velocity military bullets, Law advises to refrain from meddlesome treatment of the wounds. Dressings should be less frequently changed on the field for fear of infection. He also notices the peculiar lack of susceptibility of the blood vessels to wounds, and the rarity of external primary hemorrhage. Lodgment of the projectile is relatively frequent, on account of the range of fire, but attempts at removal should be abstained from unless it causes trouble. Primary amputations are rarely necessary except with shell wounds or great infection. Fracture cases do as well as those in civil practice. Infection from the undeformed bullet is rare. Head wounds are among the most fatal class of cases and require most frequently operative interference. Joint wounds are among the most favorable class, and generally leave perfect function. Thoracic wounds, unless immediately fatal, recover with few complications. Tetanus and gangrene are exceptional. Abdominal perforating wounds constitute the most serious class and should not be operated on. He considers the high velocity steel-jacketed projectile as a step towards the end of all wars. It disables the enemy with the minimum of death, suffering and maiming, and impairs the subject less for future life after his return home.

American Journal of the Medical Sciences, Philadelphia.

August.

44 *Chronic Cyanosis, with Polycythemia and Enlarged Spleen: A New Clinical Entity. William Osler.
45 *An Aspect of Modern Pathology. Simon Flexner.
46 *Concerning a Possible Etiologic Factor in Tobacco-alcohol Amblyopia Revealed by an Analysis of the Urine of Cases of This Character. G. E. de Schweinitz and David L. Edsall.

47 Sitophobia, Inanition and Their Treatment. Max Einhorn.
48 *Bacteriology of the Blood. Randle C. Rosenberger.
49 *Sublingual Growth in Infants. Samuel Amberg.
50 Primary Retroperitoneal Sarcoma. Howard J. Williams.
51 *The Constitution of Normal Prostatic Secretion. Heinrich Stern.
52 *Rheumatism vs. Muscular and Joint Pains. James J. Walsh.
53 *Orthostatic Albuminuria and Movable Kidney. G. A. Sutherland.
54 *Cold as a Causal Factor in the Blood Changes Due to High Altitude. John Weinziri.
55 Observations on a Case of Diabetes Terminating in Coma. Stuart Hart and William J. Gies.
56 A Case of Diaphragmatic Hernia; Death from Acute Distension. T. L. Chadbourne.
57 A Case of Mycosis Fungoides Symptomatically Cured by Means of X-Rays. James P. Marsh.
58 Report of Cases of Poisoning by Fruit of Ricinus Communis. W. N. Bispham.

44. **Chronic Cyanosis with Polycythemia and Enlarged Spleen.**—Osler describes a group of cases which has been elsewhere noticed by him as a new clinical entity. (See editorial, THE JOURNAL, May 23, 1903, page 1442.) He reports several other cases from the literature, and gives them a thorough analysis. He says with our imperfect knowledge of the physiology of polycythemia it would be premature to discuss at any length the pathology of this remarkable group of cases. What is needed is:

1. A careful study of all forms of chronic cyanosis with polycythemia, particularly those associated with heart disease and emphysema. (It is to be noted that the cases here reported have the highest blood count on record, much higher than the average in congenital heart disease or in dwellers at great altitudes.) 2. A more accurate study of the blood in this class of cases—the volume, the viscosity, the state of the plasma and the serum, the amount of hemoglobin, the specific gravity, and the diameter of the corpuscles. As increased viscosity of the blood, with resulting difficulty of flow, seems the most plausible explanation of cyanosis, it is especially important to test the viscosity by accurate physical methods and to determine the relation of the number of corpuscles to the viscosity of the blood. 3. The relation of the splenomegaly to the cyanosis and polyglobulism should be carefully observed. It man not be anything more than the effect of the chronic passive congestion. Future investigations will determine whether we have here in reality a new disease. The clinical picture is certainly very distinctive: the symptoms, however, are somewhat indefinite and the pathology quite obscure.

45. **Cytolysins, Autolysins, Etc.**—Flexner's article discusses the properties of blood serum, the study of agglutination, its relation to thrombosis, the presence of a special substance in certain venoms and poisons, such as some snake venoms and ricin, for which he proposes the name of "hemorrhagin" and looks on it as a cytolysin for endothelial cells and blood vessels. He refers to experiments by Noguchi and himself in modifying viper venom to remove the locally destructive effect and still leave the hemorrhagic principle by which immunity may be established. He next takes up the cytotoxins of blood serum, discussing them at length and also the autolysis of the organism, which he believes should be largely credited to the leucocytes.

46. **Alcoholic Amblyopia.**—Seven cases are reported by de Schweinitz and Edsall, which seem to them to point to the probability of the correctness of Horner's view that the amblyopia is due to toxemia set up by gastric indigestion and metabolism.

48. **Bacteriology of the Blood.**—After a review of the literature and a report of personal observations, Rosenberger says that bacteriologic examinations of the blood in the living may afford valuable information for diagnosis and intelligent treatment. This is particularly true in cases where antitoxic and bacteriologic sera are indicated. Special care as to technic is a pre-requisite; special media should be used in certain cases, as in gonococcal infection, etc. Postmortem examination of the blood should not be relied on to determine the nature of the infection as the results are often misleading and untrustworthy. In enteric fever in 535 cases the typhoid bacillus was shown to be present in the blood in over 80 per cent. Schottmüller's plea that all cases of enteric fever should be regarded as bacteriemias seems justifiable, as observers agree that bacteria can be found in the blood before a positive Widal reaction. This fact would seem to place this procedure as a diagnostic method in advance of the other and also seems to prove that the disease is often, if not always, a blood infection. He also considers that proper identification of the bacteria present in septic processes would reconcile discordant views as to the therapeutic efficacy of the antistreptococcic sera. He thinks there is also a possible future for bacteriologic examination of the blood as an aid in the diagnosis of tuberculosis and syphilis.

49. **Sublingual Growths in Infants.**—The first case apparently reported in an American in this country is detailed by Amberg, who discusses the condition, which has been observed in Southern Italy under the name of Riga's disease. The growth under the tongue is undoubtedly a product of an inflammatory process. Its etiology, however, is obscure; the bad hygienic conditions of the mouth may be of importance. The idea, however, that the sublingual growth is an integral part of a definite serious disease does not seem well supported. It is likely that not all affections of the frenulum included under this head are of uniform pathologic character. The diagnosis is easy and the prognosis generally favorable.

51. **The Prostatic Secretion.**—Stern gives a careful analysis of the prostatic secretion, including a special enzyme which has been discovered in it, and shows that it is as yet impossible to single out the specific importance of the prostatic fluid. Possibly it is due to its enzyme exhibiting coagulating properties; maybe to the phosphorus containing lecithin or maybe to some of the nucleoproteids whose importance has still to be determined or to a combined action of any or all of them or to some other factor altogether. There is no doubt, however, as to its physical importance as a vehicle for suspension and the preservation of the spermatozoa. The secretions, however, of other organs, of course, assist, and he thinks it will not be far from the truth in assuming that apart from an eventual specific chemico-enzymic potency, the secretion of the prostate gland is of importance in overcoming the quiescence of the spermatozoa, and in effecting that state of osmosis in the seminal fluid which is essential to fecundation.

52. **Rheumatism vs. Muscular and Joint Fatigue.**—Walsh points out that many cases diagnosed as rheumatism are really cases of muscular fatigue, and shows how this may occur in scoliosis and in hysterical and tubercular joints and in the lungs where the pains are likely to be considered pleuritic. The matter is of importance since the use of depressing antirheumatic remedies is contraindicated in these cases. The treatment of the latter group consists not in the use of analgesics, especially the coal-tar products, but of gentle rubbing and massage and of limitation of exercise of the patient so as to prevent the overuse of respiratory muscles that is sure to be called for if, with one lung practically at rest, the patient attempts any of the ordinary efforts that before were so easy of accomplishment. Resting the parts and tonic treatment are almost always of benefit in all these cases, or exercises to equalize the strength of the muscles.

53. **Orthostatic Albuminuria.**—This condition, which has been described as cyclic albuminuria, albuminuria of adolescence, etc., is discussed in its relation with movable kidney by Sutherland, who reports 15 cases. All of them, he thinks, occurred in patients with a lowered vascular tone and probably venous congestion in the kidneys, altered nutrition and glomerules producing albuminuria. Displacement of the kidney aids the process and the cessation of albuminuria in the reclining posture is best explained by the restoration of the kidney to normal position in this attitude. He mentions that he has met with more cases of movable kidney among forty cases of orthostatic albuminuria than among all the other patients examined at a children's service during fifteen years (15 in 40 cases).

54. **Cold and Blood Changes.**—Weinzirl some time before called attention to the fact that the increased counts of red corpuscles at high altitudes are temporary, and suggests that the temperature may have much to do in their production. He reports experiments on rabbits taken out of a warm basement and carried to a cold temperature and their blood examined. He offers in conclusion the following:

1. Cold is an important factor in accounting for the blood changes due to high altitude. That cold is the only factor, however, is not maintained. 2. In general the specific gravity, the hemoglobin, and the volume of cells follow the increase or decrease of the red blood cells, although this is not invariably the case. 3. Although the data are too few for a final conclusion, there is no evidence that

a decrease in the size of the cells accompanies an increased cell count. The contrary, however, is indicated, and this factor probably varies directly with the others.

Medicine, Detroit.

August.

59 Adenoma and Angioma of the Kidney and Some Allied Tumors. W. Ramsay Smith.
60 *An Attempt to Obtain a Uniformly Active, Sterile and Non-Irritating Preparation of Digitalis for Subcutaneous and Internal Administration. E. M. Houghton.
61 Case of Perforating Ulcer of the Duodenum; Operation Thirty-two Hours After Perforation; Death from Peritonitis. Bayard Holmes.
62 A Case of Amebic Dysentery in Illinois, with Special Reference to Acetozone Treatment. Russell L. Kurtz.
63 Congenital Sincipital Encephalocele. Mortimer Frank.

60. Digitalis.—Houghton describes the experiments made in testing a new non-alcoholic digitalis preparation, for which he claims the following advantages: It does not produce pain or irritation at the point of injection. It is readily absorbed and produces typical digitalis action when given per rectum, internally, hypodermically or intravenously. It is aseptic and remains so if the container is kept stoppered, and is convenient and ready for immediate use, either internally or hypodermically, without dilution. The paper gives illustrations and tables of the experiments.

Journal of Nervous and Mental Disease, New York.

August.

64 *Myoclonus Multiplex and the Myoclonias: Report of Cases and an Attempt at Classification. Charles L. Dana.
65 Chronic Progressive Hemiplegia, with Remarks on Two Cases of Unilateral Paralysis Agitans without Tremor. Hugh T. Patrick.
66 The Work of a Neurological Dispensary Clinic. Smith Ely Jelliffe and L. Pierce Clark.

64. Myoclonus Multiplex.—Dana groups myoclonus under the head of:

1. Myoclonia of Friedreich, or peripheral type, including myokymia. 2. Myoclonia of the functional or hysterical type. 3. Myoclonia of the convulsive tic type, this last type being characterized by many associated spasms, choreic and tonic. 4. Myoclonia of the degenerative chorea or "familial," or myoclonus-epilepsy type, which is closely related with the third. 5. Myoclonia of the type of the infectious and symptomatic choreas. Although there is sometimes a mixture or fusing of the above groups, they are essentially different disorders and, as a rule, can all be easily recognized and easily distinguished from each other. All cases of paramyoclonus multiplex reported as such can be grouped in one or the other. Hence there is no need of that much misused term.

Four cases are described representing each of these types. He reproduces the account of the original case of paramyoclonus multiplex of Friedreich.

Journal of the Michigan State Medical Society, Detroit.

August.

67 The Surgeon: His Opportunities and Responsibilities. Frederick W. Robbins.
68 Fibromata as Complications of Pregnancy. Reuben Peterson.
69 Obstetrics in General Practice. F. A. Grawn.
70 *Excision of Hemorrhoids. William L. Dickinson.
71 Prevention of Gynecic Evils. J. A. Porter.
72 Bilateral Cystic Disease of the Kidneys. H. E. Randall.

70 Hemorrhoids.—Dickinson's method of treating hemorrhoids is, in the case of external piles, to make them as nearly aseptic as possible and then to inject a 5 per cent. solution of nirvanin. Then grasping with the forceps, the hemorrhoid is elevated well up and with scissors curved on the flat, the tumor is cut off close to its base. The base is curetted in order to remove every vestige of the hemorrhoid. The hemorrhage is usually slight and controlled by pressure; if not, hemostatic forceps can be used for a few minutes. When it has stopped, the two sides of the incision can be united with fine catgut, dusted with iodoform and a sterile gauze pad applied and held in place by a T-bandage. It is well to keep the patient recumbent for a few days until the parts are healed. In case of internal hemorrhoids, he operates by dilating the sphincter and applying four Platt's T-forceps, pulling down and outwards with the aid of two assistants, exposing the mucous membrane of the bowel for the distance of an inch or an inch and a half. Each internal hemorrhoid in turn is grasped by forceps, elevated as much as possible and cut off with the scissors, curved on the flat, the long diameter of the incision longitudinal to the bowel. The base of each hemorrhoid is curetted and the hemorrhage stopped with a hot water compress; then dust the parts with orthoform, iodoform and boracic acid. The T-forceps are removed and the lower end of the rectum is packed with a strip of iodoform gauze, two inches wide and two or three yards in length, which has been lubricated with sterile vaselin. The latter makes it easier to remove. It should be removed in twenty-four hours if the patient complains, but as a rule not until after forty-eight hours. When it is removed, hydrogen dioxid should be injected, thus loosening the gauze, and a stream of warm sterile water is allowed to flow over the part. The rectum is daily irrigated with sterile warm water and then injected with half an ounce of olive oil, containing five grains of iodoform. The patient's bowels are moved on the third day by magnesium sulphate. It is not necessary to suture internal hemorrhoids, and when treated in this way they are not very painful. The patient is confined to bed only about a week. The pad and T-bandage are used and make it more comfortable for the patient. He has never had a case of secondary hemorrhage when operating by this method.

The Physician and Surgeon, Detroit and Ann Arbor.

May.

73 *The Choice of Methods in the Treatment of Cancer. G. Betton Massey.
74 *The Necessary Co-operation of Heredity and Bacteriology in the Production of Disease. Owen C. Brown.
75 *The Climatologic Treatment of Tuberculosis. Ethan H. Smith.
75½ Daily Study of Foods Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. (Continued.) Ephraim Cutter.

73. Cancer.—Massey claims that the massive cataphoric diffusion of mercury under general anesthesia is the most satisfactory way of reducing an accessible growth. The nascent oxychlorids of mercury and zinc are dissolved from electrodes thrust within the growth, causing immediate, sterile necrosis of the growth proper, and sufficient dispersion of the germicidal salts beyond its apparent limits to sterilize the surrounding tissues for an inch or more. All the morbid cells are killed *in situ*, those in the growth coming away as an inodorous slough, while the cells in the surrounding sterilized zone are absorbed as débris. When it is understood that this can all be done in one-half to two hours with practically no after discomfort, he considers we have in it an ideal method for the eradication of the cancer. The choice between this method and the *x*-ray is important in inoperable cases. As a general rule, he thinks the combination of the two methods is desirable, the cataphoresis first, followed by the *x*-ray as soon as the slough comes away, which is in one to three weeks. The destruction and aseptic removal of the growth enables the deeper penetration of the *x*-rays, and prevents the absorption of toxins during the radiation of large growths. In inaccessible cancers, such as those in the nose, mouth, vagina, uterus or rectum, the cataphoric method will have to be depended on alone as a rule.

74. Heredity and Bacteriology.—The object of Brown's paper is to show the co-operation of heredity and bacteriology in the production of disease. He assumes a double tendency in all living beings to variation on the one hand and to conservatism on the other, the latter being what we know as heredity. These tendencies apply equally to disease. They may be dormant in the system for generations. Certain attributes, developments and diseases common to both sexes and certain functions may be arrested by the development of functions peculiar to each sex. They may reappear in the offspring, or be reawakened when the functions of development that had arrested their growth have discontinued their activity. Diseases following developments of structure caused by increased functional activity are as readily transmitted as such increased structural developments. Bacteriology is concerned with environment; bacteria can not be the sole producers of disease. Heredity and bacteriology are mutually dependent and must co-operate if they are to become active in the production of disease.

75. Tuberculosis.—Smith criticises the various climates of the mountainous regions of the west, holding that the altitude in some is too high, while others are too dusty and liable to excessive range of temperature, storms, etc. In Arizona, for example, the conditions are poor for a large class of cases. In California, he thinks the climate has a large range. Some

parts are good for one class and others for others. Many patients receive benefit from traveling with a camp wagon from north to south, and *vice versa*, according to the season. He has known, however, of pulmonary tuberculosis patients going to Alaska and returning well. In all these cases the patients had a good digestion. Where the digestion is impaired the case is hopeless. He insists in conclusion on the importance of fresh air and open-air life. The latter, in tents, is possible for almost any tuberculous patient the year around.

American Gynecology, Baltimore.

July.

76 *Uretero-cystostomy. J. Wesley Bovée.
77 *Indications for and Most Satisfactory Methods of Bringing About Premature Labor and Accouchement Forcé. J. Whitridge Williams.
78 *Should the Uterus Be Removed When the Ovaries and Tubes Are Removed in Cases of Double Pyosalpinx, When Operating Through the Abdomen? Matthew D. Mann.
79 *An Operation for Retroversion; Cuneiform Shortening of the Broad Ligaments. Harris A. Stocum.
80 *The Condition of the Pelvic Lymphatics in Carcinoma of Uterus. Emil Ries.
81 The Electrothermic Angiotribe in the Removal of a Large Suppurative Tubo-ovarian Mass, with Resection of Four Inches of Colon and End-to-end Anastomosis. Andrew J. Downes and J. M. Fisher.
82 *Should the Uterus Be Removed When the Ovaries and Tubes Are Removed in Cases of Double Pyosalpinx, When Operating Either Through the Abdomen or Vagina? Charles P. Noble.

76.—See abstract in THE JOURNAL, xl, p. 1597.

77. **Accouchement Force.**—Williams would not employ premature delivery in cases of deformed pelves, but would rather let them go to term and then, if necessary, perform cesarean section as safer both for the mother and child. In cases of toxemia of pregnancy, eclampsia and placenta previa he considers accouchement forcé indicated, and in eclampsia it is imperatively demanded both theoretically and by practical experience. His experience with eclampsia numbered 30 cases, and the conclusions are briefly summarized as follows:

If the cervix will admit one finger or can be readily dilated sufficiently to do so, accouchement forcé by Harris' method, using the fingers, is a safe and justifiable procedure, if effected slowly. If the cervix is cartilaginous in consistency and apparently offers an insuperable obstacle, it would be more conservative in hospital practice to resort to cesarean section, while in private practice better results will be obtained by palliative treatment rather than by attempting immediate delivery.

In the toxemia of pregnancy he has had to resort to the method in 13 cases, and concludes that in such the pregnancy should, if possible, be terminated by the employment of the bougie or Champetier de Ribes' bag, accouchement forcé being reserved for the very exceptional cases in which danger of the onset of eclampsia is so imminent that very rapid delivery is urgently indicated. In placenta previa he thinks if the child is viable and in good condition and the parents are particularly desirous of saving it, Champetier de Ribes' balloon may be introduced and complete dilatation of the cervix obtained by making traction on it either by means of the hand or a weight. However, this is slightly more dangerous to the mother than bipolar version. In 34 cases accouchement forcé was undertaken for the sake of the child or mother in patients who were already in labor, the indications being hydramnios, pyelonephrosis, intense cystitis, one each, danger to the fetus as shown by sudden change in the pulse rate, or prolapse of the cord in 7 cases, and in 24 very prolonged labor as manifested by exhaustion and marked and persistent elevation in maternal pulse rate or fever. All of the mothers recovered while 28 per cent. of the children perished. He thinks after labor has set in, excepting in cases of placenta previa, accouchement forcé may be undertaken with comparative impunity whenever imperatively necessary. Only 3 deaths occurred in his 87 cases that might be attributed to the operation. Two of these were due to rupture of the uterus, 1 from infection, and there were 7 others where deep tears of the cervix required an immediate operation to control the hemorrhage. He does not believe in the Bossi method of dilatation excepting in very experienced hands, and with Harris' method he cautions against going too fast, as is the tendency. Better results will be obtained by prolonging the operation.

78. **Hysterectomy.**—The question whether the uterus should be removed with the tubes and ovaries is treated of by Mann, who thinks that when the tubes and ovaries have been removed the uterus is unimportant to the patient and she is better off without it. He does not think there is much sentimental feeling in regard to its removal. He ends with quoting Henrotin's dictum: "In any operation for septic conditions of the female generative organs which demand the removal of the tubes and ovaries, hysterectomy should also be performed unless there are contraindications forbidding it."

79. **Shortening of the Round Ligaments.**—The title of this article explains itself, but the details can best be understood by reference to the illustrations. Various methods, such as taking out a wedge-shaped piece from the broad ligaments, buttonholing them, etc., are fully illustrated, there being many modifications according to the needs of the case. He, however, suggests for the whole class of cases the title "Cuneiform shortening of the broad ligaments."

80. **Pelvic Lymphatics.**—Ries proposed the removal of the pelvic lymphatics in case of cervical carcinoma as early as 1895, and has employed the procedure since that time. He finds a number of conditions associated with carcinoma in these glands, and describes the various stages of their invasion by malignant growth. Glandular carcinoma is frequently associated with other conditions, not necessarily always connected with carcinoma, such as the production of epithelial ducts in the lymphatic gland, which he described in his first case operated on. He thinks they may possibly be due to remnants of the Wolffian body embedded in the lymphatics on the posterior pelvic wall. Another condition observed was large cell hyperplasia, which may also occur in tuberculosis, and even in other conditions. He thinks it represents a condition of growth with the nature of which we are not thoroughly familiar. He has also found hyaline degeneration of the connective tissue trabeculæ associated or otherwise with carcinoma, and has frequently found typical hemolymph glands. He believes in the reformation of lymph glands after they have been destroyed or removed, and that they may occur anywhere in the connective tissue. The hemolymph glands, with their direct connection with the blood currents, afford a new explanation of how carcinoma may form metastases.

82. **Hysterectomy.**—Noble's opinion in regard to the removal of the uterus in case of pus tubes is similar to that of Mann. He points out the superiority of the operation over removal of the uterine appendages alone.

Medical Review of Reviews, New York.

July 25.

83 *A Clinical and Bacteriologic Study of a Number of Outbreaks of Dysentery in which "Dysentery Bacilli" Were Found. William H. Park, Edward K. Dunham and H. M. Carey.

83. **Dysentery.**—Park, Dunham and Carey give the results of their study of the dysentery bacillus, from which they have deduced the following conclusions: At least two distinct varieties of bacilli are found in the intestines of those suffering from dysentery and colitis which have not as yet been met with in other conditions. They differ from each other in certain cultural characteristics (indol formation and mannite fermentation), and also in their agglutinating reaction. Different cultures made at widely separated places, though agreeing in their agglutinating reaction with most sera, still differ from each other when tried with various normal animal sera. Though Martini and Lentz are right in their statement that the Shiga type differs from Flexner's Manila Baltimore type in cultures and agglutinative reaction, yet they seem to be altogether wrong in concluding that any one type is more a factor in dysentery than the other. Indeed, the Deycke bacilli from Constantinople dysentery, which approached the colon type in cultural characteristics, can not be overlooked. The authors think it probable that Shiga, if he carries his cultural and agglutinative tests as far as necessary, will find that not one but several varieties are present in the intestines of different and perhaps the same patients in Japan as well as in the United States. The use of more accurate agglutinative tests along with additional culture media has shown that in different epidemics the bacilli found vary so greatly from the

Shiga cultures that it can hardly be determined whether or not it can be brought within one single dysentery group.

Canada Lancet, Toronto.

August.

84 *Surgical Treatment of Nephritis. Alexander H. Ferguson.
85 *The Washing Out Plan; the Good It Fails to Do; the Harm It Does. Alexander Haig.
86 Rational vs. Empirical Therapeutics. J. O. Todd.
87 The Medical Witness Under Examination. W. R. Riddell.
88 Appendicitis from the Standpoint of the Country Doctor. John W. S. McCullough.
89 Contagious Diseases in Their Economic Relationships. P. H. Bryce.

84.—This article appeared in THE JOURNAL of July 4, p. 8.

85. The Washing-Out Plan.—Haig protests against the adoption of the washing-out plan in nephritis and other conditions, especially those of uric acid disease. He thinks in Bright's disease the better treatment is the cutting off of all fluids, putting the patient on even as little as a half pint of fluid in twenty-four hours. He calls the idea of washing out the system silly and unphysiologic.

Proceedings of the Pathological Society, Philadelphia.

June.

90 A Museum Jar, with Improved Devices for Sealing and Labeling. W. M. L. Coplin.
91 Cystic Degeneration of the Mamma, Showing Transformation into Scirrhous Carcinoma. A. G. Ellis.
92 Hemorrhagic Gastritis Due to Pyloric Lodgement of Swallowed Laryngeal Pseudomembrane. A. G. Ellis.
93 Heart Showing Chronic Tuberculosis of the Pericardium, with Involvement of the Myocardium. A. G. Ellis.
94 A Series of Specimens: Adrenals Containing Cells Resembling Those of the Liver, etc. Randle C. Rosenberger.
95 Ovarian Dermoid Containing Thyroid-gland Tissue. Brooke M. Anspach.
96 History and Postmortem Notes from a Case of Gallstones. M. H. Fussell.

Denver Medical Times.

August.

97 The Animal Suture; Its Value in Aseptic Surgery. Henry O. Marcy.
98 Three Cases of Nerve Destruction in the Eye Treated by Hypodermic Injections of Strychnia. Henry La Motte.

Medical Herald, St. Joseph, Mo.

August.

99 Code of Ethics, A. M. A., Adopted at the New Orleans Meeting.
100 Raising the Standard for Medical Students and Physicians. W. S. Thompson.
101 Treatment of Diarrhea of Adults. George H. Candler.
102 Diagnosis of Diastolic Heart Sound. LeRoy Crummer.
103 The Diagnosis of Gallstones. A. L. Wright.
104 Report of Uses of X-Ray in Chronic Eczema, Acne, Cancer, etc. W. L. Kenney.

Medical and Surgical Monitor, Indianapolis, Ind.

August 15.

105 Cesarean Section on a Dwarf Four Feet Two Inches in Height. W. H. Link.
106 Consumption and Its Relation to Life Insurance. Allison Maxwell.
107 *Excision of Hemorrhoids. William L. Dickinson.
108 A Case of Noma Complicating Typhoid Fever. A. H. Caffee.
109 Treatment of Acute Dysentery. W. Byford Ryan.
110 A Practical Note on the Use of Adrenalin Chlorid in Operations for Adenoids. J. F. Barnhill.
111 Hemorrhage of Typhoid Fever Treated by Calcium Chlorid. Samuel E. Earp.

107.—This article has appeared elsewhere. See abstract 70 above.

International Medical Magazine, New York.

August.

112 Some Cases of Infant Feeding. Alfred Hand, Jr.
113 Treatment of Epilepsy. Luther C. Peter.
114 Disturbances of the Vasomotor Mechanism as a Factor in Diagnosis and Therapeutics. John P. Arnold.
115 Treatment of Eczema. George P. Katzenstein.
116 Rupture of an Aneurism of the Thoracic Aorta. M. H. Fussell.
117 A Case of Cerebral Abscess. George C. Stout and Herbert Fox.
118 Note on the Place of Sugar in the Diet of Dyspeptics. Boardman Reed.

Merck's Archives, New York.

August.

119 The Rôle of Lecithin in Pathology and Therapeutics. Horatio C. Wood, Jr.
120 Rhus Toxicodendron and Rhus Poisoning. (Continued.) J. M. French.
121 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

Louisville Monthly Journal of Medicine and Surgery.

August.

122 Digitalis. John G. Cecil.
123 Cardiac Tonics; Indications and Contraindications, with Special Reference to Digitalis. Thomas Hunt Stucky.
124 Some Uses of the Suprarenal Extract in Eye, Ear and Throat Practice. Samuel G. Dabney.
125 A Rapid Method of Blood Examination for the General Practitioner. F. H. Montgomery.
126 The Significance of Albuminuria. Orville A. Kennedy.

Medical Summary, Philadelphia.

August.

127 Treatment of Sunstroke. L. G. Doane.
128 Fistula. George J. Monroe.
129 Dysentery. J. A. Burnett.
130 A Report of Cases (Sciatica, etc.). Louis J. Pons.
131 Diagnosis; an Illustration. William H. Burgess.
132 Grindelia Robusta; Best Way to Use Quinin, etc. J. A. Burnett.
133 Podophyllum Peltatum. Andrew J. Mann.
134 Astringents in Summer Complaint. William F. Waugh.
135 Iron and How I Use It. Ben H. Brodnax.
136 Preventive Medicine. Silas Hubbard.

Medical Bulletin, Philadelphia.

August.

137 Paralysis Following Typhoid Fever; Tobacco Poisoning. John V. Shoemaker.
138 Suppuration of the Antrum of Highmore. E. B. Gleason.
139 Cesarean Section Indicated in a Face Presentation with Chin Directly Posterior. W. Frank Haehnlen.
140 The Treatment of Some Phases of Gastritis. George W. Pfromm.
141 Malignant Endocarditis. Albert E. Roussel.

Atlanta Journal Record of Medicine.

August.

142 The Prevention of Diarrheal Diseases in Infants. Robert W. Hynds.
143 Report of Interesting Operative Cases at Presbyterian Hospital. E. C. Davis.
144 The Action on Mucous Membranes of Silver Salts, with Especial Reference to Some of Their New Organic Forms. Arthur G. Hobbs.
145 Phrenology and Life Vocations. E. G. Ferguson.

Memphis Medical Monthly.

August.

146 Medical Organization and the Mission of the County Medical Society. James S. Rawlins.
147 Malignant Diseases of the Larynx. Richmond McKinney.
148 Therapeutic Value of the Roentgen Rays. William Krauss.
149 Traumatic Meningitis. Robert W. Tate.
150 Treatment of Menstrual Derangements. J. Smithline.
151 Malarial Hematuria. W. S. Robinson.

New England Medical Monthly, Danbury, Conn.

August.

152 *The Erotopath in Society. Charles H. Hughes.
153 Practical Experiments in the Treatment of Anemic Conditions. Fritz Euler-Rolle.
154 Investigations of Antistreptococcus Serum. F. Meyer and L. Michaelis.
155 *Medical Education in the United States. Frank Billings.
156 A Novel and Efficacious Method of Treatment in a Case of Typhoid Fever. Honore J. Cote.
157 On the Disinfectant Value of Kresamin (Ethylendiaminetrikresol) and Its Therapeutic Employment in Diseases of the Skin. Heinrich Eckstein.

152.—This article has appeared elsewhere. See THE JOURNAL, xl, title 66, p. 738.

155.—This article appeared in THE JOURNAL, xl, p. 1271.

Oklahoma Medical News, Oklahoma City.

August.

158. Etiology of Arthritis Deformans. H. B. Decherd.
159 Vesico-Vaginal Fistula. A. K. West.
160 Gonorrhea in the Female. G. W. Taylor.
161 Dysmenorrhea. Y. S. M. Roberts.

Occidental Medical Times, San Francisco.

August.

162 Some Clinical Chest Cases, with Fluoroscopic Reports. C. Miner Cooper.
163 The Treatment of Thoracic Aneurism by the Introduction of Wire and Galvanism, with the Report of a Case. Raymond Russ.
164 Indications and Counterindications for Prostatectomy. Louis Bazet.
165 Acute Suppurative Osteomyelitis. Emma S. Merritt.
166 Ascites Due to Syphilitic Cirrhosis of the Liver Treated by Epiplopexy. (Continued.) Minora E. Kibbe.
167 Homo Delinquens. Knud Pontoppidan.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Lancet, London.

August 15.

1 *The Causes, Prevalence and Control of Pulmonary Tuberculosis. (Continued.) H. Timbrell Bulstrode.
2 *Infantile Scurvy. W. S. Colman.
3 *The Action of Hemolytic Sera. Robert Muir.

4 A Problem in Medicolegal Psychology. J. S. Mackintosh.
5 A Rare Case of Intestinal Obstruction Resulting from a Kick in the Right Iliac Region. Gilbert Kempe and E. Kempson Brown.
6 *Results Obtained at Mundesley Sanatorium in the Treatment of Pulmonary Tuberculosis. F. W. Burton-Fanning and W. J. Fanning.
7 *The Treatment of the Summer Diarrhea and Vomiting in Infants. H. T. Hicks.
8 *Successful Treatment of Sporadic Dysentery by Aplopappus Baylahuen. William Fingland.
9 A Case of Traumatic Tetanus Treated with Antitoxin; Death. H. S. Elworthy.
10 The Treatment of Congenital Phimosis. J. F. Woodyatt.

1. **Milroy Lecture on Tuberculosis.**—In concluding this series of lectures, Bulstrode states that England has about sixty institutions, public or private, at which cases of pulmonary tuberculosis may be accommodated. The number of beds is probably under 2,500, outside of workhouses and infirmaries. He describes four typical sanatoriums in detail, with their workings. The one at Westmorland has accommodations for 24, and 21 of the beds have been appropriated by various local authorities in the county at a rate of about $300 (£60) per annum for each bed. As these are never all filled, "outsiders" are taken in at a charge which provides a slight margin of profit. The usual length of stay in the early cases is twelve weeks, in the moderately advanced eighteen weeks, and in the quite advanced cases twenty-four weeks. The curative value of the institution is diminished by the presence of the advanced cases which, although staying some six months in the institution, are of but little use, in a working sense, thereafter. Of the 91 patients treated during the last two years, 53 are at work, 17 at home and 21 have died. This includes 45 "cavity cases" and 46 "consolidation cases." He gives statistics to show that the expense to the state would be much less if incurable cases were placed in separate institutions. He advocates as the most important measures for the control of pulmonary tuberculosis as a matter of public health: 1. The education of older children in the principles of health and the periodical physical examination of all school children, with a view of improving the health of those prone to tuberculosis, or who may already be suffering from the disease in an unrecognized, though not unrecognizable, form. The direct and indirect results which would accrue from this would soon make themselves felt in the direction of an unwillingness on the part of people to occupy slums or to dwell in places where the sun rarely penetrates. It would also result later in the election of representatives who would be more alive to the importance of the public health aspect of their duties than is always the case at present. 2. Some such system of compulsory insurance against sickness and invalidity as obtains in Germany and which, it is important to note, makes for the provision of sanatoriums, the support of those threatened with illness and the general well-being of the poorer classes. 3. Better housing and improved conditions of employment of the working classes.

2. **Infantile Scurvy.**—Colman thinks that certain toxic substances may be formed in milk by the various modes of preparation, or in other provisions, which may favor the occurrence of hemorrhagic lesions. The products of decomposition (not necessarily offensive) are possibly subordinate factors in the production of scurvy, although the essential one is the absence of sufficient fresh vegetable and animal food. The treatment in children consists solely in rectification of the diet, for which he advises, in addition to fresh milk and cream, a potato soup made by cooking a potato without peeling, passing it through a sieve and then pouring over it a cupful of boiling milk and adding a little sugar if the child likes it sweet. The limbs should be placed between sandbags if badly swollen, to keep them from being moved, or the hand and forearm may be bandaged to the side. Treatment of accompanying rickets should be postponed.

3. **Action of Hemolytic Sera.**—Muir's research was undertaken in order to study more closely than has been done the combined relationships of the immune-body and the complement, and the possibility of dissociating these substances singly or together after they have combined. The sera used in most of the experiments were those of rabbits, immunized against the red corpuscles of the ox. He found that the immune-body and the complement differed markedly from each other in their mode of combination and the firmness of union. The immune-body can be in part separated before hemolysis from red corpuscles containing multiple doses, but the complement after its union with the cells can not be separated again.

6. **Sanatorium Treatment of Tuberculosis.**—Burton-Fanning reviews two years' experience at the Mundesley Sanatorium, and reiterates the importance of the early recognition of pulmonary tuberculosis. If adequate measures are taken in the very earliest stages of the malady we may hope to restore some 75 per cent. of our patients to more or less lasting fitness for work. In about 90 per cent. of these favorable cases the disease is sufficiently mastered to allow of the patient's life being indefinitely prolonged, but the maintenance of his ascendancy over the bacillus depends on his living by rules based on careful observation of individual requirements and powers. He must expend in other ways no more energy than can safely be spared by the forces required to keep his malady in check, and he must take no liberties with health. The supreme importance of these and other principles of sanatorium treatment is apt to be lost sight of by those who rely on mere change of climate in the treatment of consumption.

7. **Summer Diarrhea and Vomiting in Infants.**—Hicks believes that babies with this summer complaint suffer and die mainly from thirst. Their intestines extract water from the circulation and the circulation from the tissues, while the fluid supply is cut off by the damaged alimentary canal refusing to tolerate the input. All treatment then is directed against the cause, to clear out by the least irritating means the toxins which are the primary cause, and at the same time to introduce a fluid that can be retained and absorbed. Drugs have shown themselves to be of very doubtful assistance in his experience with one exception—oleum ricini, and this seemed most effective given in one initial aperient dose followed after a day by a course of from six to eight six-hourly dram doses of the mistura olei ricini, B. P., with the addition of sodium bicarbonate 2 grains to each dose. Ordinary cases generally respond to the following treatment: After a warm bath, with the child's head hanging over the side of the cot, the stomach is washed out with slightly alkaline water. When this comes away clear, there are passed down the tube one dram of oleum ricini and an ounce or two of albumin mixture with a dram of beef juice or raw meat juice. If the food is rejected small quantities are given even as frequently as a dram every quarter of an hour. If the baby continues to be sick the beef juice is omitted, and if vomiting still persists, all feeding by the mouth must be stopped and intracellular infusion of normal saline solution adopted. In the severe cases the saline solution is commenced at once, about four ounces every six hours with—if absolutely necessary—the addition of a very little brandy. Infusion of a small amount is more beneficial than one of half a pint or more, and it is important to infuse extremely slowly; washing out of the stomach must be left until the patient's condition permits it, but small enemata of normal saline solution have proved decidedly beneficial. If brandy has to be ordered it is administered hypodermically. Babies are bathed twice a day, moving them as little as possible. Except for the bath the baby is kept in absolute seclusion in a curtained bed. Another point in treatment is the thorough scrubbing and disinfecting of the nurse's hands after having attended to the infant. By infecting the food with even the smallest particle of fecal matter, the sickness, which has just been stopped with great difficulty, may be started again. Another experience which he has had in obstinate cases of habitual vomiting is that some infants will not reject their food if it is introduced by the nasal tube. The formula for the "albumin mixture" mentioned is: To the beaten whites of two fresh eggs, one pint of cold, sterile, normal saline solution is added, the whole then stirred and strained through muslin. In chronic cases he has found a malt soup very satisfactory. This is made by mixing 13 drams of wheat flour with 12 ounces of cow's milk, straining through a hair sieve. In another vessel 3 ounces, 2

drams of extract of malt are dissolved in 24 ounces of water at 122 F. and to this is added 2.5 drams of an 11 per cent. solution of potassium carbonate. The two preparations are then mixed and boiled up quickly. Babies can be kept on this food for three weeks.

8. **Dysentery Cured by Aplopappus Baylahuen.**—Fingland describes three cases cured by an extract of a plant indigenous in South America, called locally hysteronica. It belongs to the class of balsams. The curative effects of the drug were so conspicuous that he believes it is liable to prove a specific for sporadic dysentery.

British Medical Journal, London.

August 15.

11 *An Inquiry Into the Relations of Vaccination to Infant Mortality and Acute Concurrent Infantile Diseases. J. M. MacKenzie.
12 Security of Tenure of Office of Sanitary Officers. Joseph Groves.
13 The Appointment of a Minister of Public Health. Frank G. Bushnell.
14 *Physical Degeneration in Children of the Working Classes: An Inquiry Into Its Causes and Suggestion for Its Remedy. Herbert H. Tilswell.
15 *Three Cases of Excision of the Cecum. F. T. Paul.
16 A Case of Purulent Pericarditis of Unusual Duration in a Child. J. A. Coutts.

11. **Relation of Vaccination to Infant Mortality and Acute Concurrent Infantile Diseases.**—Mackenzie tabulates the statistics of 987 infants less than one year old living and dying in a certain district. Of this number 706 had been vaccinated. The tables show that the death rate among the unvaccinated, especially in the early months of infant life, was far in excess of that among the vaccinated. He does not claim that vaccination will keep babies alive, but the facts demonstrate that it does not kill them. The probable explanation of the lesser mortality is that the weaklings are not vaccinated. Experience has shown also that the vaccinal process acting concurrently with another disease is modified in its onset and ushered in by no shock. There is nothing to be observed corresponding with the rigors of adults or the convulsions of infants at the onset of acute disease, and the general course is milder. Measles, scarlet fever, whooping cough and influenza seem to be favorably modified by the vaccinal process, while the latter is unusually mild. In cases of congenital syphilis the pocks were slower in their development, and took longer to scab and heal up. Contrary to the other diseases, the influence of zymotic enteritis seems to be unfavorable. Unsanitary dwellings, overcrowding and filthy habits are immensely more dangerous to the recently vaccinated than the presence of such diseases as scarlet fever, measles, whooping cough and influenza. Mackenzie has also noticed that vaccination is liable to excite dormant eczema and impetigo. Ill health, particularly anemia, is a very common cause of insusceptibility; let anemia be corrected and the child will soon be successfully vaccinated. He concludes with the question which he does not attempt to answer: Granted that acute concurrent diseases modify the vaccinal process, tone down the symptoms and delay the evolution of the pock, does it follow that in these cases it also modifies the protection which vaccination affords?

14. **Physical Degeneration of Children of the Working Classes.**—Tidswell affirms that the standard of health among the school children in the large towns of England is not so high as it ought to be at the present day, considering the advances in sanitation, etc. He says that he has frequently been impressed with the expressions of the children coming out of school. Only a few had an expression of joy and happiness. The majority had a sad, careworn, haggard look, suggestive of mental strain. He urges systematic medical inspection, a medical officer attached to each school, who shall inspect each class as it assembles to detect infectious or other diseases in the early stage, who shall examine the eyesight, hearing and general condition of each child and keep a report of the same, who shall visit any pupil at home in case of sudden illness and give certificate to same. In the end such a measure would be true economy; it would save a vast amount of suffering and help to raise the standard of national health.

15. **Excision of Cecum.**—Paul operated on 3 out of 6 cases of cancer of the cecum observed since Christmas. Nearly all the cases of chronic stricture of the large bowel, in his experience, have been at one time regarded as cases of stomach derangement, sometimes even when the stricture was in the rectum. The earlier symptoms are dyspeptic in character and vomiting after food is not infrequent. Later, when colic is marked, the intestinal origin of the mischief should be apparent, though it is often not recognized until obstruction occurs. The recognizable symptoms really depend on the amount of obstruction offered by the growth and its detection on palpation. Obstruction more than trebles the danger in colectomy. The location of the tumor is rendered difficult or impossible, operation is prolonged and impeded, and the chance of infecting the peritoneum is increased, in addition to the depressing effect due to the absorption of toxins developed in the bowel during the period of obstruction. To have a fair chance the surgeon should undertake the resection before obstruction supervenes. The cut end of the colon sometimes sloughs from interference with the circulation from removal of the mesentery, and this is a strong argument in favor of bringing out the ends of the bowel and establishing a temporary artificial anus. He used to suppose that enlarged mesenteric glands in the vicinity meant an ultimately hopeless prognosis, but two of his patients who presented them are still in good health, one after two and a half and the other after four and a half years. In conclusion he describes his last three cases and a new clamp for removing the spur. The blades are 3 inches long, curving out at the ends, and the compressing force is regulated by a spring and screw nut. The slough is produced in twenty-four to forty-eight hours.

Revue de Chirurgie, Paris.

Last indexed XL, p. 1470.

17 (XXIII, 5.) *Varices lymphatiques au cours de la grossesse. T. Tuffier.
18 Désarticulation de la hanche pour sarcome du femur. Technique opératoire. E. Quénu and Desmarest.
19 *Résultats des opérations libératrices du nerf radial à la suite des fractures de l'humérus. P. E. Launois and F. Lejars.
20 *Les occlusions intestinales par coudure de l'angle colique gauche. L. Berard and M. Patel.
21 *Du traitement opératoire des plaies du diaphragme. C. Lenormant.
22 *De la dilatation dite idiopathique du gros intestin. P. Duval.
23 (No. 6.) Des atrophies osseuses calcaires consécutives à un traumatisme. A. Imbert and J. Gagnière.
24 De la diminution de la distance sterno-crico-idienne comme signe d'effacement de la colonne cervicale. A. Fasquelle.
25 Fibrome du corps thyroïde. X. Delore.
26 *Method of Reaching Abscess in Liver. P. Mendes.—Sur un procédé pour aborder les abcès sousdiaphragmatiques du foie.
27 Un cas de cyste du pancréas avec remarques sur la pathologie et le traitement chirurgical. C. G. Cumston.
28 La chirurgie au Congrès de Madrid.
29 (No. 7.) *Actinomycose du foie (of liver). M. Auvray.
30 Contribution à l'étude de l'exclusion de l'intestin. Vautrin.
31 Calculs biliaires dans le canal cystique, dans le canal choledoque et dans l'épaisseur de la paroi antérieure de la vésicule biliaire. M. Peraire.
32 Gangrènes et phlegmons gazeux sans vibrion septique. J. Régnault.
33 Contribution à l'étude des ruptures de l'urèthre male, surtout au point de vue de leur traitement. De Viaccos. Four cases.

17. **Lymphatic Varices During Pregnancy.**—Tuffier relates a case of a lymphangioma in the right inguinal-crural region in a woman of 40, in the fifth month of pregnancy. The tumor had rapidly increased in size, and knowing the almost fatal gravity of infection of lymphatic varices he extirpated the tumor under spinal cocainization by his present technic (using a 12 per cent. solution diluted in the cerebrospinal fluid). Two small, transparent vesicles were discovered in the region six months later, relics and testimony, he considers, of a preexisting ectasia of the lymphatics, which under the stress of the pregnancy had developed into large varices.

19. **Results of Operations Liberating the Radial Nerve After Fracture of Humerus.**—Launois and Lejars describe and illustrate a case in which the radial nerve was enclosed in a sheath of new bone formation, entailing paralysis, hard edema and painful contraction of the hand. An operation to free the nerve was undertaken four months after the fracture, and function was gradually restored, the cure being complete by the end of eight months. Blencke has recently published statistics of 68 similar operations to liberate the radial nerve after heal-

ing of a fracture. In 41 the cure was complete; in 6 nearly so; in 8 there was marked improvement, and in 3 slight improvement. In only 7 cases were the results negative. In 3 the outcome was not known. This is a proportion of cures or improvements in 58 cases, or 85.3 per cent. Intervention should be early, although excellent results have been obtained even at a late date. If neuritis develops or a sclerous perineuritis, the longer the delay the more serious the resulting injury of the nerve. Another reason for operating early is the progressive atrophy of the muscles, stiffness of the joints and trophic disturbances which constantly progress. It is advisable to undertake massage and exercises of the joints when first seen, without waiting for the operation. A long interval elapses after intervention before any result is apparent. Usually from four to six months passes before restoration of function, after either liberation or suture of the nerve. The patient should be warned that he will not note any difference before six months, and even later than this, success should not be despaired of. Polaillon's patient was operated on six weeks after the injury, but voluntary movements were not possible until two years later, and the arm then regained its normal strength. Blencke's personal case seems to be a remarkable exception to this rule. On account of a typical radial paralysis, four months after the fracture the nerve was exposed. It was found encased in cicatricial tissue, which pressed it against a projecting point of bone. It was liberated and the surface of the bone leveled, with almost complete restoration of function in forty days. The operation should remove all traces of the fibrous sheath, cicatricial tissue or bone growth encroaching on the nerve. The bony canal in one case was 5 cm. long, in another 4 cm. In Blencke's statistics the nerve was torn across in 12 cases; in 10 it was sutured, with complete success in 7 and improvement in 2 others. Restoration of function was complete after two months in 1 case; after seven in 1; nine in 1; ten in 2; a year and a half in 1, and two years in 1. Trendelenburg found the gap between the stumps too long for suture in 3 cases, and brought them together by shortening the humerus. In one instance the gap was 7 or 8 cm., and he resected 5 cm. of the bone "en escalier"—staircase fashion, after which the bone and nerve could be sutured without difficulty. Function was restored after ten months. In the 2 others the nerve was not torn, but was so degenerated that a segment of 4 to 6 cm. was excised. The results were equally fine in one case, but sufficient time has not elapsed in the other for complete restoration. Wölfler has reported a similar operation with no benefit nearly three months afterward, but complete motor restoration was realized by the end of the second year. The cicatricial focus must be excised, as recurrence is liable. Wölfler had to operate three times on one of his patients. Final success was attained after enveloping the nerve in strips of epidermis taken from the thigh. Launois does not approve of the introduction of a foreign body to protect the nerve, believing that better results will be obtained by extensive extirpation of the cicatricial focus. Ollier used to advocate detaching a strip of periosteum where the bone approaches the nerve. It may be advisable to level the bone or chisel a groove in it. Reisinger has in 2 cases sucessfully transferred the nerve to a groove in the soft parts. In one instance he cut a flap in the triceps and brought it down over the nerve, in the other he hollowed out a groove in the muscle and, after placing the radial in the groove, sutured the two edges above it. There was suppuration in one case with expulsion of several sequestra, but by the end of eleven months functional restoration was complete.

20. **Occlusion of Intestine from Kinking of Left Angle of Colon.**—Berard and Patel have observed at Lyons a case of occlusion of the intestines caused by sinking down of the colon each side of the left angle, which was held in place by the ligaments. As the gut droops the angle, instead of being rounded, becomes sharp and the gut folds on itself, almost or entirely closing the lumen. The lesser the width of the suspending ligament the sharper the angle becomes. Pain at the seventh or eighth rib seems to be the only sign which indicates an obstruction at this point. If the occlusion is not total, injections of oil and other medical measures may relieve, and the symptoms sometimes subside after a copious evacuation of the bowels. To avoid recurrence, the stools should be regulated, and as there is usually general enteroptosis and nephroptosis a large, double, well-fitted Glénard belt may be found useful. In one of the two personal cases described this belt is proving a true medical colopexy, removing all disturbances from this cause. In case of a laparotomy for occlusion if no neoplasm or constricting bands are found, this essential occlusion at the splenic angle should be thought of. When discovered it may be cured by lateral entero-anastomosis or colopexy, or both combined. Two other cases found in the literature are also cited.

21. **Treatment of Wounds of Diaphragm.**—Whenever there is a probability that the diaphragm has been involved in a wound, it should be opened up through the thorax and the wound sutured. By this simple intervention hernia later is prevented. Lenormant has thus treated 2 patients and tabulates 8 others treated by a laparotomy and 21 operated on by way of the pleura like his own cases. There were 5 deaths in the first group and only 3 deaths among the 23 in the second group. He gives the details of the entire list of 31 cases.

22. **Idiopathic Dilatation of Large Intestine.**—Duval is prosector at Paris and his extensive monograph is concluded from the March and April numbers. He has collected 48 cases of Mya's congenital megacolon, Hirschsprung's disease, or idiopathic dilatation of the large intestine as it is variously called, including some that have been published in this country. In 4 the condition was congenital and in 38 it dated from early infancy. In 5 only it was noted later, at the age of 15, 24, 32 or 50 and "in an adult." The colon in Formad's case contained 47 pounds of fecal matters; in Fütterer's the colon measured 66 cm. in circumference and had a capacity of 16 liters. Medical treatment should be perseveringly attempted, large daily injections carried into the colon and purgatives avoided except possibly oil. Electricity and massage may be useful, but only one case is on record in which daily stools were obtained by these measures. Hirschsprung reported benefit after six months. Failures are frequent. In the 15 cases in which surgical intervention was attempted 4 deaths occurred. Colopexy proved successful in 2 out of 4 cases in which it was tried, colectomy in 2 out of 5, and colostomy in 2 out of 4.

26. **Method of Reaching Abscess in Liver.**—Mendes reports a case cured by evacuating the abscess in the liver by a parapleural transdiaphragmatic operation. He recommends this method as allowing perfect drainage while absolutely avoiding immediate pneumothorax and infection of the peritoneum. He turned back a flap of bone and soft parts corresponding to the seventh interspace, and then resected the eighth and ninth ribs. The pleura was detached and pushed out of the way and the exposed diaphragm was incised for 5 cm., allowing the escape of 423 gm. of pus. The parts were swabbed and two large drains carried into the focus. The drains were expelled by the ninth day and the last traces of the wounds healed in less than a month.

29. **Actinomycosis of Liver.**—Auvray states that potassium iodid has failed to benefit the cases of actinomycosis of the liver that have been published, but still it should always be given a trial, using as much as 6 to 10 gm. a day. In 6 cases an operation was undertaken, in 4 a laparotomy, a lumbar incision in 1, and through the thorax in another. None of the patients were saved.

Beitraege Zur Klin. Chirurgie (v. Bruns'), Tuebingen.

Last indexed XL, page 288.

34 (XXXVII. 1-2, Esmarch Festschrift.) *The Wounded in the Wars of the Fifteenth and Sixteenth Centuries. C. Brunner.—Die Verwundeten der alten Eidgenossenschaft.

35 *Curvature of Leg After Resection of Knee in Children. F. Hofmeister.—Die Verkrümmungen des Beines nach Kniegelenksresektion im Kindesalter.

36 *Involvement of Appendix in Hernia. B. Honsell.—Isolierten Bruchelnklemmung des Wurmfortsatzes.

37 *Primary Cancer of Extremities. M. v. Brunn.—Ueber den primären Krebs der Extremitäten.

38 *Relations Between Suprarenals and Growth. P. Linser.—Beziehungen zwischen Nebennieren und Körperwachsthum, besonders Riesenwuchs.

39 Fibroma in Jaw. C. Blauel.—Ueber zentrale Kieferfibrome.
40 *Pseudo-Appendizitis. H. Küttner.
41 *Healing of Tendon Wounds and Defects. R. Seggel.—Histologische Untersuchungen über die Heilung von Sehnenwunden und Sehnendefekten.
42 *Permanent Healing of Unpedunculated Skin Flaps. W. Braun.—Dauerheilung von ungestielter Hautlappen.
43 *Gastrointestinal Surgery. H. Lindner.—Zur Magendarmchirurgie.
44 *Resection of Large Intestine at Several Sittings. Goeschel.—Mehrzeitige Resektion des Dickdarms.
45 Zur Pathologie und Therapie der Revolver-Schuss-Verletzungen. Ossig (Breslau).
46 Plastic Operations for Defects in Skull. v. Hacker.—Ersatz von Schädeldefekten durch unter die Kopfschwarte verschobene und umgeklappte Periost-Knochen-Lappen bezw. Periost-Lappen.
47 Zur Technik der Operation grösserer Hämangiome und Lymphangiome. W. Müller.
48 Serofibrinöse Peritonitis nach akuter Enteritis, durch Laparotomie geheilt. O. Langemak.
49 Invagination of the Appendix. D. Ackermann.—Ueber die Umstulpung des Processus vermiformis und ihre Beziehung zur Intussuszeption.
50 Cyst-Formation in Tumors. E. Ehrich.—Ueber glattwandige frische Cysten in Geschwülsten.

34. The Wounded in the Wars of the Fifteenth and Sixteenth Centuries.—Brunner's article is a comprehensive illustrated, historical review of the treatment of the wounded and of military medical and surgical affairs generally in the various campaigns of Europe before 1600. His facts and illustrations are derived from old chronicles, paintings, frescoes, stained glass windows, etc., and form a most interesting portrayal of the conditions then prevailing. The wounded were abandoned to the conquerors. The first attempt to depart from this barbarous practice seems to have been by the Swiss at the battle of Marigniano during the early part of the sixteenth century. In their defeat they carried their wounded away with them.

35. Curvature of Leg After Resection of Knee in Children.—Hofmeister was able to examine 107 of his little patients from one to seventeen years after resection of the knee. He found severe curvature of the leg in 44 per cent. and medium in 72.7 per cent. Only 16.8 per cent. were absolutely and 27.1 comparatively straight. The tendency to curvature diminished with the age of the subject. Between 3 to 8 the percentage was 64.6 per cent. of severe curvatures, while from 9 to 13 it was only 27.2 per cent. He attributes the curvature and physiologic weakness of the bones to the weight of the body and the traction of the flexor muscles. Prolonged after-treatment is necessary in prevention, and he believes that it would be advisable to detach the flexor muscles from the thigh when knee resection is undertaken on children under 8.

36. Isolated Involvement of Appendix in Hernia.—Honsell has observed 4 and collected 79 cases of this condition in the literature. He advocates removal of the appendix under these circumstances, even if sound, as it is liable to be injured and entail appendicitis later.

37. Primary Cancer of the Extremities.—Brunn reports from Tübingen a number of cases, bringing the total statistics of the clinic to 46 cases, with 35 per cent. permanent recoveries. Metastasis in the lymph glands is rare, but still sometimes occurs. Several inoperable recurrences were due to this cause. Most of the cancers developed on a chronically inflamed soil, but a few after a single trauma. The right upper extremity was the most frequent site. The number of permanent recoveries is about the same after mutilating and conservative operations, if the successfully operated recurrences are included. He reviews in conclusion 145 cases not included in Volkmann's statistics.

38. Relations Between the Suprarenals and Growth.—Linser argues to prove that the thyroid, hypophysis, thymus, suprarenals and sexual glands are intimately connected and may mutually influence and functionally supplement each other. Also, that there is a connection between these glands, and especially the suprarenals, with growth. In giant growth there is usually a tumor in one or more of these glands, while in dwarf growth there is usually hypoplasia or aplasia. He describes 2 cases which apparently confirm this view.

40. Pseudo-Appendicitis.—Küttner found the appendix and its surroundings completely normal in 3 cases deceptively simulating appendicitis and operated on after subsidence. He is convinced that such cases occur more frequently than is appreciated. Helminthiasis, colics, oxyurides in the appendix, and gases distending the ileocecal region are liable to simulate appendicitis, and muscular resistance in the region may be due to circumscribed contraction of the rectus muscle. The curative effect of many operations in which the appendix is found histologically sound is probably due, he thinks, to severing of certain nerve branches or possibly only to the rest in bed, change of diet and suggestion.

41. Healing of Wounds and Defects in Tendons.—The danger of secondary stretching imposes prolonged immobilization in the treatment of severed tendons or tendon wounds in general. Whether four weeks is enough Seggel considers dubious, from his experience on guinea-pigs. Even forty days are not a long enough interval to ensure safety in functional use of the parts. The tendon sheath plays an important part in the healing which proceeds much more rapidly when the sheath is uninjured. Regeneration of defects does not occur until after reactionary hyperemia, and does not seem to be influenced by the presence of a foreign body, but to be the inherent property of the cells.

42. Healing of Unpedunculated Skin Flaps.—Braun shows by the results obtained in several cases that unpedunculated skin flaps may heal perfectly in place and stand the severest strain, as, for instance, on the heel.

43. Nervous Symptoms Cured by Operation for Colitis.—Lindner has observed several cases of neurasthenic and hypochondriac conditions entailed by chronic colitis and completely cured by an operation on the colon. He regards them as neuroses from chronic obstipation.

44. Resection of Large Intestine in Several Sittings.—Goeschel has operated on 4 cases by this gradual method. One was a carcinoma of the cecum, one of the colon, one of stenosis of the colon by a chronic, hemorrhagic infarct and one a tumor on the adnexa grown to the cecum and appendix. After resection of the intestine he found the continuous bath very useful.

Centralblatt f. Chirurgie, Leipsic.

Last indexed XL, page 1544.

51 (XXX, 19.) *Treatment of Cavities in Tibia and Calcaneus. C. Bayer (Prague).—Zur Behandlung der Knochenhöhlen in der Tibia und im Calcaneus.
52 (No. 20.) Zur Statistik der Ethylchlorid-Narkose. G. Lotheissen (Vienna).
53 Eine neue Säge (saw). V. E. Mertens.
54 (No. 21.) *Mobilisierung des Duodenum und Eingriffe am Gallensystem. H. Lorenz (Hochenegg's clinic, Vienna).
55 *Unilateral Exclusion of Duodenum in Case of Perforating Ulceration on Posterior Wall of Descending Portion of Duodenum. A. A. Berg (New York).—Einseitige Ausschaltung des Duodenum, etc.
56 (No. 22.) *Massage of Heart. D. G. Zesas.—Ueber Massage des freigelegten Herzens beim Chloroform-Kollaps.
57 *Ueber Penis-Amputation. E. Hopmann.
58 (No. 23.) *Die Gastroenterostomie mit Gastrostomie nach Rutkowsky. A. Hammesfahr.
59 (No. 24.) Protection of Patient, Physician and Manufacturers Against Röntgen-ray Injuries. Albers-Schönberg (Hamburg).—Schutzvorkehrungen gegen Schädigungen, etc.
60 (No. 25.) Reply to Berg, Above. M. v. Cackovic (Zagreb, Croatia).
61 *Adrenalin und Lokal-Anesthesie. F. Honigmann.
62 (No. 27.) Retroduodenale Choledochotomie zur Entfernung von eingekeilten Gallensteinen aus dem retroduodenalen und papillären Teile des Ductus communis. A. A. Berg (New York).
63 (No. 28.) Zur Technik der Paraffin-Prothesen. F. Franke.
64 (No. 29.) Eine neue Modification der Maydl'schen Operations-Methode bei congenitaler Blasen-Ectopie (of bladder). J. Borelius (Lund).

51. Treatment of Cavities in Tibia and Calcaneus.—Bayer transforms the cavity into a broad shallow groove, pushing back the soft parts to allow the bone to be modeled to the required shape, rounding the sharp edges of the bone on each side of the groove. The two flaps of skin and periosteum on each side are then turned down over the edge of the bone on each side and fitted into the groove, which they cover except for a strip down the center. A roll of gauze is then laid in the groove on top of the turned-over flaps, held in place by a few interrupted sutures taken in the skin, which also draw the flaps closer together. They heal in place under the pressure of the roll of gauze much more rapidly than by any other method of treatment, and the gap in the center of the groove

soon skins over. The outer dressings are not renewed for eight to ten days.

54. **Mobilization of Duodenum for Intervention on Biliary System.**—Lorenz has been testing on the cadaver Kocher's suggestion of mobilizing the duodenum described in THE JOURNAL, xl, p. 613. He finds it simple and easy of accomplishment while the benefit is great, and commends it as a valuable aid for cholecystenterostomy, rendering the latter an easier operation even than a cholecystogastrostomy. It also allows the choledochus to be brought nearer the surface. Its most important use, however, is to allow free access to the retroduodenal portion of the choledochus.

55. **Treatment of Fistula in Descending Portion of Duodenum.**—Berg points out that the lack of peritoneal covering at this point of the intestines renders the repair of a perforating ulcer here a difficult matter. He suggests treating this condition by establishing a gastrojejunostomy and tying off the pylorus with a tobacco-purse suture. This would prevent the escape of chyme through the fistula, while retaining the benefits of stomach digestion. (The priority for this operation is claimed by Cackovic in No. 25.)

56. **Massage of Heart in Chloroform Collapse.**—Zesas states that massage of the exposed heart is theoretically contrary to what we know of the mechanical action and physiology of the organ. In practice, also, no permanent successes have been recorded. He disapproves of it and believes that better results will be attained by devoting the entire attention to the usual measures of resuscitation. About a dozen cases have been reported in which massage of the heart was tried and he adds another to the list, remarking that it dates from the 80's and was thus the pioneer of all. The patient was a robust man of 40 who wished to be relieved of a goiter that interfered with swallowing and breathing, otherwise perfectly healthy. Niehaus was the surgeon. The chloroform narcosis proceeded normally, but, before the operation commenced, the respiration and heart stopped and all measures, including resection of ribs and rhythmical compression of the heart, proved ineffectual to resuscitate the patient.

57. **Amputation of Penis.**—Hopmann describes the success of the Bardenheuer method of amputation as evidenced by a patient seen recently nine years after the penis had been amputated on account of cancroid. There has been no recurrence and the method absolutely prevents stricture. The principle of the operation is to leave the urethra, detached from surrounding tissues, projecting for 2 cm. from the stump. The skin flap is then sutured around the base of the urethra without including the urethral mucosa in the suture. During the healing process the edges of the projecting portion of the urethra curl over outward, thus producing a wide and permanent orifice. Four other cases in which this method has been followed show equally favorable results.

58. **Rutkowsky's Method of Gastroenterostomy with Gastrostomy.**—Hammesfahr has combined these two operations, as suggested by Rutkowsky, and confirms the latter's statements in regard to the simplicity of the intervention and the prevention of the vicious circle. His experience now includes 12 cases of chronic stenosis of the pylorus or an ulcer or carcinoma at this point, operated on by this technic, and he has always been gratified with the results.

61. **Adrenalin and Local Anesthesia.**—Honigmann reports experiences which confirm Braun's announcement in regard to the way in which the addition of adrenalin to cocain immeasurably enhances the anesthetic action of the latter.

Centralblatt f. Gynaekologie, Leipsic.

Last indeed XL, page 1688.

65 (XXVII, 19.) *Treatment of Indentations of Skull in the Newborn. P. Baumm (Breslau).—Behandlung der Schädelimpression bei Neugeborenen.
66 Zur Anwendung des Bossi'schen Dilatators. Jentzer (Geneva).
67 Der Schultz'sche Nadelhalter (needle holder). Schneli (Frankfurt a. M.).
68 (No. 20.) *Zur Physiologie der Befruchtung, Parthenogenese und Entwicklung. A. Schücking (Pyrmont).
69 Ein neues Pessarium zur Behandlung grosser inoperabler Genital-Prolapse. W. Rosenfeld (Vienna).
70 (No. 21.) Beitrag zur Kasuistik der Adenomyome des Uterus. H. Füth.
71 Ueber Fermente im Liquor Amnii. J. Bondi.
72 (No. 22.) True and Simulated Extrauterine Pregnancy. K. Kober.—Zur Frage der wahren und vorgetäuschten Extrauterin-Gravidität.
73 Two Cases of Repeated Tubal Pregnancy. K. Reifferscheid.—Zwei Fälle von wiederholte Tubargravidität.
74 (No. 23.) Fracture of Clavicle in Delivery in Head Presentation. N. Muns (L. Meyer's service, Copenhagen).—Klaviknlarfrakturen Neugeborener bei Geburt im Schädellage.
75 *Buried Circular Ligatures of Vagina in Retroflexio Uteri. A. Schücking.—Versenkte circuläre Vaginalligaturen bei Retroflexio uteri.
76 Extirpation of Pregnant Uterus in Woman Nearly 56. Geyl (Gineken).—Exstirpation der schwangeren Gebärmutter einer nahezu 56 jährigen Frau.
77 (No. 24.) Essential Principles in Protection of Perineum. v. Budberg (Dorpat).—Wesentliche Grundsätze bei Dammschutz und Expression.
78 *Ueber Anesthol, Ein neues Narkoticum. W. Foerster.
79 (No. 25.) *Dependence of Hyperemesis Gravidarum on Hysteria. B. Feinberg.—Die Abhängigkeit der Hyp. grav. von Hysterie.
80 *Retroflexio-Operation. S. A. Alexandroff.
81 (No. 26.) *Ueber Graviditäts-Ikterus. L. Brauer.
82 Ovarian Teratoma Composed Almost Exclusively of Thyroid Tissue. A. Glockner.—Ueber ein fast ausschliesslich aus Schilddrüsengewebe bestehendes Ovarialteratom.
83 Ein neuer Kinds-Perforator. E. Tridondani (Pavia).
84 Welche Maske ist für die Ether-Narkose am empfehlenswertesten? Beaucamp.
85 (No. 27) *Zur Etiologie des Carcinoma vaginæ.. G. W. Maly.
86 Retroversio uteri und Appendicitis. F. Neugebauer.
87 Fall von Cervico-Vaginalfistel. J. Goldenstein.
88 (No. 28.) Eine nach der Küstner'sche Methode operierte geheilte Inversio uteri puerperalis. A. Dienst.
89 Clamping the Uterine Arteries. A. Labhardt.—Zur Henkel'schen Abklemmung der Uterinæ bei Post-partum Blutungen; zugleich ein Beitrag zur Bossi'schen Dilatation.
90 *Kurze Mitteilung zur mikroskopischen Technik der Schnitte (of sections). G. Zepler (Berlin).
91 (No. 29.) Report of German Gynecologic Congress. (Commenced in No. 27.)
92 Ueber Tetania strumipriva einer Schwangeren (in a pregnant woman). A. Dienst.
93 Case of Repeated Fundal-Incisio bei Sectio cesarea. S. Flatau.

65. **Treatment of Indentation of the Skull in the Newborn.**—Baumm has used in 4 cases a small corkscrew to raise the indented portion. The instrument is made specially for the purpose with the turns close together and it is inserted only far enough to hold. The procedure is harmless and has proved effectual.

68. **Physiology of Fertilization, Parthogenesis and Development.**—Schücking relates experiments on echinoderms (*Asterias glacialis, Arbacia pustulosa* and *Strongylocentrotus lividus*), which establish that the processes which induce development of the ovum may be traced to a number of mechanical and chemical actions, and that development is independent of fertilization. He found that the head of the spermatozoön does not bore into the ovum, but becomes surrounded by a hyaline process of the protoplasma and is sucked into the ovum. The development of the ripe ovum is started by absorption of water. Fertilization occurred with spermatozoa placed on the ovum, deprived of their tails. Parthogenesis may be induced by various external stimuli, chemical, thermic or electric light. Relaxation follows the stimulation, and in this stage water enters and starts the development. He found the best medium for the study of parthogenesis to be sea water to which acetic acid had been added in the proportion of one or two drops to 200 gm. sea water.

75. **Circular Ligature of Vagina for Retroflexio.**—Schücking noticed that the uterus in sliding into retroflexion pushes the vaginal wall downward, and reasoned that if the vaginal wall offered a resistance the retroflexion could not occur. He has treated a number of cases on this principle and the results surpassed his anticipations. His technic consists in making a buried circular ligature each side of the portio and in the posterior vaginal vault. He uses silver wire and removes it after four to six weeks, ordering a small pessary to be worn for a time afterward. The procedure is too simple to be called an operation and seldom requires narcosis. The needle is passed around in a circle under the mucosa, emerging at its entering point, or inserted in two semicircles. In large vaginæ he sometimes makes as many as six of these circular sutures. The result is two folds at the side, which hold the portio firm, and a cicatrix in the posterior vaginal vault, which offer a resistance to the pushing down of the vaginal wall indispensable to retroflexion.

78. **Anesthol.**—Foerster commends to his compatriots the method of anesthesia which Willy Meyer described in the last volume of The Journal, p. 553.

79. **Vomiting of Pregnancy and Hysteria.**—Feinberg relates 2 cases of hyperemesis gravidarum in which he believes the idea of hysteria as the cause of the condition is absolutely untenable.

80. **Retroflexion Operation.**—Alexandroff advocates shortening the broad ligaments as the rational method of remedying retroflexion. He passes a provisional ligature through each of the ligaments, 3 to 3.5 cm. from the collum, and draws them down by pulling on the crossed ligatures. The ligaments thus brought into contact and shortened are sutured together over the anterior surface of the collum, including some of the latter in the suture which must never pass beyond the internal orifice. The uterus retains its entire movability by this operation, while retroflexion is prevented and no disturbances of any kind followed in the cases thus treated.

81. **Pregnancy Icterus.**—Brauer reported a year ago a case in which hemoglobinuria recurred at each pregnancy, and now describes another in which icterus was observed about the fourth month in four pregnancies. In both cases the condition was accompanied by symptoms indicating general derangement, but all vanished after delivery.

85. **Etiology of Carcinoma Vaginae.**—Maly observed a case in which a carcinoma developed in the vagina at the point of greatest pressure from a pessary. It was a ring of soft rubber and had been worn for thirty-nine years.

90. **Microscopic Technic.**—Zepler has found it a great improvement to use an ordinary wire sieve for sections, as it allows a large number at a time to be submitted to the various staining and rinsing procedures. A still further improvement is to use instead of the sieve a white porcelain or glass vessel perforated with numerous small holes. The sections are more easily taken up from this than from a sieve.

Riforma Medica, Palermo.

Last indexed page 471.

94 (No. 22.) *Una forma familiare di paralisi arsenicale. L. Ferrannini.
95 Sulla fisiologia del lobo orbitario (of orbital lobe). Ibid. Experimental study. (Commenced in No. 21.)
96 Nuovo contributo alla chirurgia del sistema nervoso centrale. G. Bendandi. (Commenced in No. 21.) Report of 11 cases operated on.
97 (No. 23.) Sopra un caso di xeroderma genitodistrofico. P. Bueri.
98 *La sinorchidia nelle operazioni conservatrice del testicolo. G. Pascale.
99 *Sopra la determinazione della tensione osmotica del sangue, etc., per crioscopia. G. Ferrannini.
100 *Sulla bacteriuria. L. Ferrannini.
101 (No. 24.) Metabolism of Carbohydrates. L. Ferrannini.—Sul ricambio degli idrati di carbonio. La carboidraturia fisiologica.
102 *Un caso di angina e croup da pneumobacille di Friedländer. E. Cionini.
103 Contributo allo studio della diazo-reazione di Ehrlich. C. di Bernardo.
104 The Toxins in Burns. L. Verney.—Sui veleni delle scottature.
105 (No. 25.) *Sulla patogenesi dell'anchilostomo-anemia. U. Gabbi.
106 *Action of Human Gastric Juice on Tubercle Bacilli. L. Ferrannini.—Azione del succo gastrico umano sui bacilli tubercolari.
107 *Sull' uso del acido picrico nella cura della blenorrhagia uterina. A. Serra.
108 *Organic Balance in Case of Mitral Infantilism. L. Ferrannini. —Infantilismo non disitroideo. Il bilancio organico in un caso di infantilismo mitralico. (Commenced in No. 23.)
109 (No. 26.) *Di un nuovo fenomeno osservato in un caso di malattia di Adams-Stokes. A. Zeri.
110 Dell' azione dei nucleo-proteidi sulle cellule del parenchima epatico. G. Guerrini.
111 Corea molle, epilessia coreica e miastenia pseudo-paralitica. L. Ferrannini.
112 L'uretero-uretero-anastomosi con uno speciale tubo di magnesio. D. Taddei.
113 (No. 27.) *La eliminazione provocata del cloruro sodico nei nefritici. F. De Grazia.
114 Cortical Center for Deviation of Head. F. Schupfer.—Sul centro corticale della deviazione del capo e sul centro grafico.
115 Yellow Diazo. C. Gualdi.—La diazo-reazione gialla.
116 Micro-organisms in Lungs in Heart Disease. F. De Grazia. —I microorganismi dei polmoni dei cardiaci. (Commenced in No. 26.)

94. **Family Arsenic Poisoning.**—Three members of the same family reproduced the same clinical picture of paralysis after the entire family had suffered from symptoms of poisoning from arsenic in the flour. The other members recovered without paralysis. It was evidently the result of a toxic neuritis in the mother and two children affected.

98. **Synorchidia in Conservative Operations on the Testicles.**—Pascale has experimented on animals and the results have been confirmed in the clinic, demonstrating that it is possible to unite the two testicles and that a single vas deferens will suffice for both. This retains the gland and its internal secretion and allows the latter to issue by the natural channels, while the parts most liable to be infected by a tuberculous process in the epididymis may be removed. His technic is the systematic resection of the entire tuberculous epididymis and vas deferens on the side affected, leaving the vessels and nerves intact. He then opens up the rete testis and determines the integrity of this part of the gland before proceeding further. This portion of the gland is then implanted on the part of the sound testicle opposite to it, which is very easily done after removing the intertesticular septum. In 4 cases treated in this manner the results have fully confirmed the successes on animals previously published. They establish that the functional activity of a testicle thus implanted on its mate is maintained even after complete extirpation of its vas and epididymis, retaining the vascular and nervous elements. He calls this union "synorchidia" and adds that the vessels in the rete testis of the corpus Highmorianum retain their normal current, as they open at the base of the spermatic lobules, and the current passes through them and the straight tubes to the corpus Highmorianum of the testicle on the sound side, merely doubling the length of the normal route. Scaduto has published good results from implanting the vas deferens in the testicle after ablation of the epididymis, but Pascale thinks that this exposes to greater danger of inoculating the testicle. The indications for this synorchidia are tuberculous or other processes or tumors in the epididymis.

99. **Cryoscopy.**—Ferrannini has been studying the determination of the osmotic tension of the blood and organic fluids by means of cryoscopy, and points out various sources of error in the findings and means to avoid them. He thinks the results will be more harmonious if a standard freezing mixture is adopted, such as ether, the evaporation regulated by a stopcock admitting air, as in Raoult's apparatus, or a mixture of 20 per cent. sodium carbonate with the ice, which ensures a temperature of minus 2.015 degrees C. The fluid to be examined should never be diluted, and the attempt should not be made with a quantity less than 8 c.c. It is immaterial, he has established, whether the blood serum or merely defibrinated blood be used for the test. In the latter case a smaller amount of blood is required. It is important also to have the air in the test tubes dried beforehand to prevent variations from different degrees of evaporation. It is indispensable to stir the fluid while it is congealing, and this vertically. This is done with a glass rod through the stopper of the tube, and in order to ensure the non-admittance of air he has the rod pass through a bag of thin rubber, one end of which is tied to the tube.

100. **Bacteriuria in Animals.**—Ferrannini relates that he found various micro-organisms in the urine of every one of a number of rabbits and dogs he examined.

102. **Membranous Croup from Pneumobacillus.**—The case progressed to a fatal termination uninfluenced by antidiphtheria serum treatment. Large numbers of Friedlander's pneumobacillus were cultivated from the false membranes.

105. **Anchylostoma Anemia.**—Gabbi, three years ago, announced that the blood of subjects with anchylostoma anemia had a destructive action on the red corpuscles of the rabbit. He has found since that this destructive action occurs also with the red corpuscles of debilitated human subjects. The toxicity of the urine is also increased, the alcoholic extract inducing gradual fatal anemia in rabbits. The anemia in anchylostoma infection is due at first to the repeated losses of blood, but is maintained by imperfect regeneration of the blood in the bone marrow and by the slow destruction of the red

corpuscles in the vessels owing to the hemolytic power of the blood serum in this condition.

106. **Action of Gastric Juice on Tubercle Bacilli.**—Ferrannini's experiments with guinea-pigs showed that human gastric juice, even with as much as 2 per 1000 free hydrochloric acid, had no inhibiting action on tubercle bacilli. Tuberculosis followed in every instance after ingestion of bacilli mixed with gastric juice in conditions approximating those in the human stomach.

107. **Picric Acid in Uterine Gonorrhea.**—Serra reports 21 cases of gonorrheal urethritis, with metritis, bartholinitis or vulvovaginitis, including 5 cases in which the gonococci were not found, but otherwise presented the same picture. All were treated with injections of a 12 per 1000 solution of picric acid, and he found the results very satisfactory. It destroys the gonococci and they vanish early if treatment is commenced promptly. The injections are made about twice a week, with a Braun syringe holding 5 c.c.; the fluid is injected into the uterus and the vagina tamponed with gauze removed the next day. His patients were cured with one exception in from ten to forty-five days, and there has been no recurrence since. These intrauterine injections are not irritating, but have a decided analgetic action, and for their other advantages, inexpensiveness, reliability, stability of the preparation, etc., deserve more general adoption. He describes his cases in detail.

108. **Metabolism in Infantilism.**—Ferrannini concludes this long article with its numerous tables with the warning that we must not confound the Lorain type of infantilism with the myxedematous or Brissaud type. The Lorain type may be tuberculous, syphilitic, malarial or toxic in its nature, or what he calls angiodysplastic infantilism. There are two varieties of the latter, the pulmonary and the mitral. In his research on a case of this mitral kind he found the metabolism abnormal in that it corresponded to an age younger than that of the patient.

109. **New Phenomenon in Case of Adams-Stokes Disease.**—The phenomenon which Zeri qualifies as new is that for hours at a time there was perfect synchronism between the pulse and heart beat and the respiratory movements. The heart, the pulse and the inspiration had a simultaneous rhythm. Between the inspirations the tracing of the heart action was nearly a straight line.

113. **Induced Elimination of Sodium Chlorid in Nephritics.**—De Grazia reports tests with five nephritic patients which establish that alimentary chloruria may be a valuable indication of the functional condition of the kidney. In 2 cases of chronic interstitial nephritis the results were different. In one, after ingestion of 10 gm. of sodium chlorid, there was no increase in the elimination of salt the first day, and only a very slight increase the next, while in the other case the kidney was stimulated to eliminate 14 gm. more of the chlorid than ordinary, the amount rising from 17 to 31 gm. The water also increased in proportion and the phosphates and nitrogenous elements. In chronic parenchymatous nephritis the kidney did not respond in any way to the salt taken nor in a case of valvular disease with slight evidences of chronic nephritis. In every instance the kidney responded abnormally to the test.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

RADIUM AND OTHER RADIO-ACTIVE SUBSTANCES; Polonium, Actinium and Thorium, with a Consideration of Phosphorescent and Fluorescent Substances, the Properties and Applications of Selenium and the Treatment of Disease by the Ultra-violet Light. By William J. Hammer, Consulting Electrical Engineer. Cloth. Pp. 72. Price, $1.00. New York: D. Van Nostrand Co. 1903.

KING'S COLLEGE HOSPITAL REPORTS. Being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by Norman Dalton, M.D., F.R.C.P., Albert Carless, M.S., F.R.C.S., John Phillips, M.A., M.D., F.R.C.P., W. D. Halliburton, M.D., F.R.S. Volume VIII. Jan. 1-Dec. 31, 1901. Cloth. Pp. 478. Price, 7s. 6d. London: Adlard & Son. 1903.

MODERN BULLET WOUNDS AND MODERN TREATMENT, with Special Regard to Long Bones and Joints, Field Appliances and First Aid. Part of the Alexander Essay for 1903. By Major F. Smith, D.S.O., Royal Army Medical Corps. Cloth. Pp. 99. Price, $1.20 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

SEVENTH ANNUAL REPORT OF THE MANHATTAN STATE HOSPITAL at New York to the State Commission in Lunacy. For the Year Ending Sept. 30, 1902. Paper. Pp. 106. Albany: J. B. Lyon Co. 1903.

TRANSACTIONS OF THE SEVENTH ANNUAL SESSION OF THE TENNESSEE STATE MEDICAL ASSOCIATION, Nashville, 1903. Cloth. Pp. 320. Nashville: Southern Publishing Association..

ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF WINONA, MINN. Year Ending March 31, 1903. Paper. Pp. 10.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the two weeks ending Saturday, Aug. 22, 1903:

Appel, Daniel M., major and surgeon, having completed the duty for which he was ordered to Denver, will proceed, at the proper time, to San Francisco and take transport to sail from that place not later than Oct. 1, 1903, for the Philippine Islands, where he will report for assignment to further duty.

Gregory, Junius C., first lieut. and asst.-surgeon, is relieved from duty at the U. S. General Hospital, Washington Barracks, to take effect at such time as in the opinion of the commanding officer of that hospital his services can be spared, and will then proceed to San Francisco and report for assignment to duty at the U. S. General Hospital, Presidio.

Godfrey Guy C., captain and asst.-surgeon, now at San Francisco, will proceed to Fort Apache for duty.

Godfrey, Guy C. M., captain and asst.-surgeon, is granted leave of absence for two months.

Hodson, F. A., contract surgeon, is granted leave for two months, to take effect on the arrival at Fort McKenzie of First Lieut. Henry H. Rutherford.

Johnson, Richard W., major and surgeon, is granted an extension of fifteen days' leave.

La Garde, Louis A., major and surgeon, is granted an extension of leave for three months.

Pomeroy, William, contract surgeon, is granted leave of absence for twenty days.

Sinks, E. D., contract surgeon, is granted leave of absence for two months from about September 1.

Wheeler, Lewis H., contract surgeon, is relieved from duty in the Department of Dakota, and will proceed to his home, Westport, Conn., for annulment of contract.

Brechemin, Louis, major, will proceed to Ord Barracks and report at that post for duty, to relieve Captain P. F. Straub, who, on being thus relieved, will proceed to Fort Leavenworth and report for duty.

Brechemin, Jr., Louis, first lieut., will proceed to Fort Baker and report for duty.

Carswell, R. L., first lieut., will report for transportation to the Philippine Islands and, on arrival at Manila, will report for assignment to duty.

De Witt, Wallace, first lieut., is relieved from duty at Fort Porter, and will proceed to Fort Myer for temporary duty.

Ford, J. H., first lieut., is granted a leave of absence for ten days.

Henderson, A. B., first lieut., is granted an extension of leave for twelve days.

Lyster, T. C., first lieut., will make not to exceed two visits each week to New York City on business pertaining to the examination of recruits.

Whitcomb, C. C., first lieut., is relieved from duty at Fort Preble and will proceed to Fort McKinley.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Aug. 22, 1903:

Surgeons A. G. Grunwell and W. H. Bucher, appointed surgeons from June 20, 1903.

P. A. Surgeon J. C. Thompson, commissioned as such Aug. 10, 1903.

Surgeon F. W. F. Wieber, ordered to the *Prairie* August 21.

Asst.-Surgeon R. E. Riggs, detached from the Naval Hospital, Philadelphia, and ordered to the Navy Yard, Washington, D. C.

Asst.-Surgeon H. L. Brown, detached from the Navy Yard, Washington, D. C., and ordered to the Naval Hospital, Philadelphia.

Surgeon H. G. Beyer, detached from the *Prairie* and ordered to duty as member of a Board on Barracks.

Asst.-Surgeon A. D. McLean, ordered to the *Wabash*, at Boston.

Asst.-Surgeon S. L. Scott, ordered to the Naval Hospital, Chelsea, Mass.

Asst.-Surgeon J. A. Randall, ordered to the Naval Hospital, Norfolk, Va.

Asst.-Surgeon F. G. Abeken, ordered to the Naval Hospital, New York.

Asst.-Surgeon T. N. Pease, ordered to the Naval Hospital, Newport, R. I.

Medical Inspector E. Z. Derr, detached from the *Chicago* and ordered home to wait orders.

Surgeon E. O. Huntington, when discharged from Naval Hospital, New York, granted sick leave for three months.

P. A. Surgeon D. H. Morgan, ordered before a retiring board, September 4, at the Navy Yard, Mare Island, Cal.

Asst.-Surgeon M. V. Stone, ordered to the Naval Hospital, New York, for treatment for a period of six months.

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Original Articles.

EYE COMPLICATIONS OF SMALLPOX.

SOME OBSERVATIONS DURING THE RECENT EPIDEMIC IN CLEVELAND.*

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CLEVELAND, OHIO.

The recent epidemic of smallpox was the severest in the history of the city, and has seldom been equaled in the number of cases and in malignancy in recent times, in civilized countries, as will be seen by the accompanying chart, which shows cases and deaths, prepared by Dr. Probst, secretary of the Ohio State Board of Health. The total number of cases for 1902 was 1,248, with 224 deaths. The death rate was 17.9 per cent., and, as Dr. Probst well said: "This was the genuine old-fashioned smallpox." Many of the cases were of the most malignant character and exceedingly contagious, unlike the mild form of the disease which hitherto prevailed.

The cause of this widespread epidemic is not far to seek. During Dr. G. C. Ashmun's incumbency of the Cleveland health office, from 1880 to 1891, the rule requiring vaccination of all school children was rigidly enforced; but since that time it has been followed more in the breach than in its observance, consequently a large percentage of the population were unprotected by vaccination.

The general indifference to vaccination was fostered by a few cranks, led by a certain doctor of divinity, who organized an anti-vaccination society, and the vaporings of this crank and his followers were kept perennially before the public in the newspapers.

From 1898 to 1901, inclusive, an epidemic prevailed in Cleveland of a mild variola. In 1898 there were 48 cases and no deaths; 1899, 475 cases and 3 deaths; 1900, 993 cases and 16 deaths, and in 1901, from January 1 to August 23, 1,230 cases and 20 deaths, making a total of 2,746 cases and 39 deaths during the four years. The mortality was less than .015 per cent.

During all these years there was a constant clamor in the newspapers about the evils of vaccination. Unfortunately, during the summer of 1901 some poor virus was used, and many badly infected arms developed. Several cases of tetanus were reported. A particularly sad one was that of a beautiful young lady who died of tetanus from the result of vaccination performed by her brother, a young physician.

This epidemic was terminated by a vigorous policy of vaccination and quarantine by Dr. Heimlich, who occupied the position of health officer for a short time, but whose strenuous methods did not meet the approval of Mayor Tom Johnson (unfortunately, the mayor is immune, having had smallpox when a boy). On one occasion, it is alleged, he said that he did not believe in vaccination, and no member of his family should be vaccinated with his consent.

Dr. Heimlich was deposed, and Dr. Martin Fredrick installed as health officer. He immediately commenced a vigorous crusade of house-to-house disinfection with formaldehyd.

Dr. Fredrick is a most efficient officer, a thoroughly educated gentleman, an indefatigable worker, with great patience and perseverance. He had placed at his command every resource to combat an epidemic without vaccination. A more competent man for such an undertaking could not have been found, and his complete and disastrous failure ought to be sufficient to close the mouths of every anti-vaccinationist in the country.

There ought to be some way of disseminating this failure of Dr. Fredrick's disinfecting crusade in 1902 as wide as the reputed success of his efforts in 1901, which did not prove anything, as the epidemic had already been stamped out by vaccination before he assumed office. There was not a single case of smallpox in Cleveland when Dr. Fredrick took charge of the health office. The paper he read before the Academy of Medicine on "How We Rid Cleveland of Smallpox"[1] was unfortunate in its title, to say the least.

The antivaccinationists quoted him far and wide as being opposed to vaccination; but a careful perusal of his original paper reveals that he believes thoroughly in vaccination, and ought not to have been misrepresented. His protest was justly against the use of impure virus.

During the entire epidemic of mild smallpox, in which 2,746 cases were reported, not a single one of severe eye complications came under my observation, and I have not heard of any cases among my confrères.

During the recent epidemic there have been a number of cases of serious eye complications, and I wish to put on record the present condition of some of these unfortunate patients.

CASE 1.—Mr. O. N., age 30; superintendent. Large adherent corneal opacities of both eyes. Left eye light preception, but no hope of improvement. Right eye good light preception, a small band of clear cornea at outer side. It is possible but not probable that an iridectomy can be made at some future time, giving a little useful vision.

CASE 2.—Mrs. K. S., age 26; housewife. Large perforating ulcer of left eye, including entire cornea, followed by iridocyclitis. Enucleated to relieve pain.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Cleveland Medical Journal, February, 1902.

CASE 3.—B. K., three-year-old girl. Large ulcer involving more than half of cornea of right eye. Staphyloma as large as a bean, with pressure bandage became smooth. Eye quiet, a little clear cornea above, but no useful vision.

CASE 4.—T. K.; laborer; age 33. Total staphyloma of cornea of right eye. Iridocyclitis. Enucleated to relieve pain.

CASE 5.—W. A. H.; mail clerk; age 27. Large ulcer of cornea of right eye including nearly entire cornea, but not perforated. Pupil moderately dilated. Hypopyon. Considerable pain. Ulcer healed very slowly. Counts fingers, but can not hope for much improvement.

CASE 6.—E. P., school girl; age 12. Small ulcer of cornea of right eye. Made little complaint of eye until after discharged from hospital. Several days afterward suddenly developed intense panophthalmitis. Phthisis bulbi.

CASE 7.—G. S., school boy; age 10. Ulcer of cornea of left eye. Panophthalmitis developed before discharged from hospital. Phthisis bulbi.

CASE 8.—J. L., age 27; bricklayer. Left eye ulceration of entire cornea. Immense staphyloma developed so that lids could not be closed and became painful. Enucleated.

Right eye ulceration of almost entire cornea. Anterior chamber full of pus. Saemich operation. Fistula of cornea. Still under observation. Small portion of clear cornea. May be able to make iridectomy and secure a little useful vision, but very doubtful.

CASE 9.—R. F., bookkeeper; age 28. Large ulcer of cornea of right eye. Not perforated. Opacity of cornea at present time, including lower 2/3 of cornea. With pupil dilated, vision 10/200.

CASE 10.—T. R., driver of delivery wagon; aged 19. Ulcer of lower half of cornea of right eye not perforated. Vision six months later 20/200.

CASE 11.—F. M., press hand; age 23. Large perforating corneal ulcer of right eye. Discharged from hospital Nov. 1, 1902. At present writing, March 26, 1903, adherent scar involving at least 3/4 of the cornea, with small fistula just above where the pupil ought to be. Light perception. Still under treatment.

CASE 12.—B. M., four-year-old girl. Discharged from hospital with small corneal ulcer of right eye. Subsequently developed panophthalmitis. Phthisis bulbi.

The following notes were made by Dr. Hartzell. The patients have not been seen since discharged from hospital.

CASE 13.—John S., age 26. Discharged from hospital with panophthalmitis of left eye.

CASE 14.—Mary P., age 6 months. Discharged from hospital with small corneal ulcer of left eye.

CASE 15.—Henry B., age 44. Left hospital with small ulcer of left eye.

CASE 16.—Louis A., aged 2 years. Discharged from hospital with small ulcer of left eye.

CASE 17.—Jennie J., age 28. Discharged from hospital with large ulcer including entire cornea of left eye, and almost entire cornea of right.

CASE 18.—William B., age 18. Discharged from hospital with small ulcer of cornea of left eye.

CASE 19.—Gilbert B., age 30. Discharged from hospital with perforated corneal ulcer and iridocyclitis of left eye.

CASE 20.—Benjamin C., age 55. Discharged from hospital with panophthalmitis of right eye.

CASE 21.—Sadie G., age 30. Discharged from hospital with small ulcer and iridocyclitis of left eye.

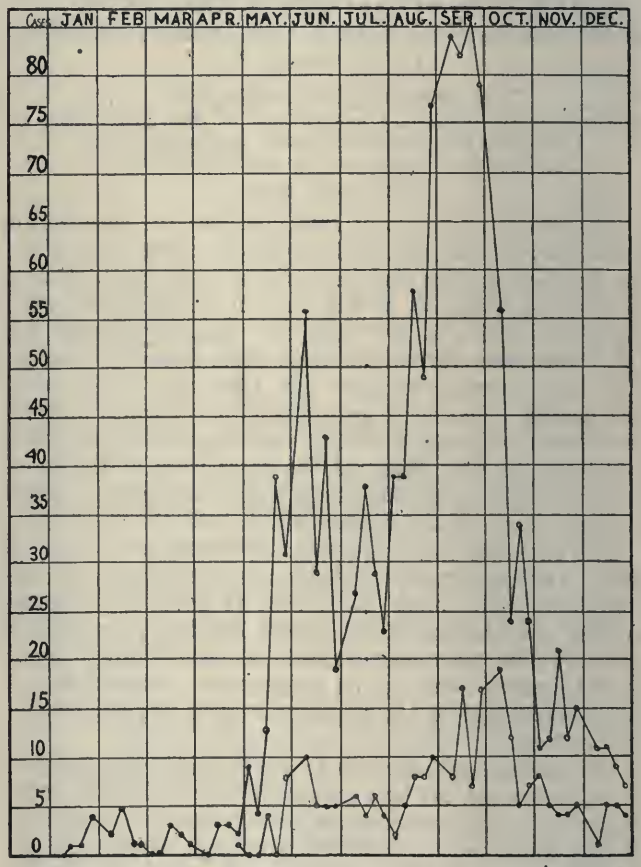
CASE 22.—Frank B., age 24. Discharged from hospital with small ulcer of right eye.

CASE 23.—Walter V., age 18. Discharged from hospital with large ulcer of cornea of right eye and severe ulcer and iridocyclitis of left eye.

No records are available to determine accurately the total number of cases in which the eyes were seriously involved. But I requested Dr. Homer J. Hartzell to make a note of the cases that came under his service at the Detention Hospital. Dr. Hartzell admitted and treated 425 cases. He had 16 cases of late eye involvements, 13 of one eye and 3 of both, or about 3¾ per cent., which would give us between 45 and 50 cases during the entire epidemic. I think this is approximately correct.

The severity of this infective process may be better appreciated when we recall that of the above 23 cases, 4 are blind in both eyes, with little hope of improvement; 8 have either been enucleated or atrophied from panophthalmitis; 6 are blind in one eye, but the form of the eyeball is preserved. It is probable that several of these will have to be enucleated later. Three have vision of less than 20/200, and not more than 5 have vision better than 20/200, and 2 have corneal fistula, and are still under observation.

In view of this discouraging array of blind and damaged eyes, notwithstanding our supposedly newer and



Smallpox in Cleveland, 1902. Upper curve, cases; lower curve, deaths.

better methods of treatment, we can readily believe the statement of the older writers, that one-third of all the blind people in Europe before Jenner introduced vaccination were due to smallpox.

All these patients had severe confluent variola. In not a single case could be elicited a history of having been successfully vaccinated. In all of the cases attention was called to the corneal lesion relatively late in the disease, about the end of the second, or beginning of the third week, and in a few cases much later. Case 12 was discharged from the hospital with a small ulcer of the cornea, but three weeks later panophthalmitis developed.

A number of these cases were examined bacteriologically and streptococci were always found. Occasionally a mixed infection, with staphylococcus, was present.

Most severe cases of variola have a conjunctivitis and great swelling of the lids early in the disease, and fre-

quently it is impossible to open the eye so as to see the cornea for several days. The fear that destructive corneal lesions may be transpiring unobserved beneath the greatly swollen lids is not often realized; for when the lids can be first opened the cornea will be found clear. The first indication of corneal complications will usually be noticed several days later, after pus and crusts have been forming, and it is quite certain the infection is carried into the eye from the skin on the fingers, handkerchief, dressing, eyedroppers, or directly from crusts on the edges of the lids.

When the house physicians, nurses, attendants and patients at the detention hospital became fully cognizant of the importance of this observation as to the source of the infection, and every possible precaution was taken to disinfect the structures around the eye, there was an appreciable falling off in the number of eye complications.

The patients, however, who suffered most severely were those who barely escaped with their lives, and, doubtless, one reason there are not more blind from smallpox is because so many of the confluent cases die. The vitality of those who survive is so lowered that the cornea sometimes melts away with very little attempt at repair, as I have sometimes seen it do in severe cases of scarlatina, typhoid fever, and other severe and depressing diseases.

In view of my observations during this epidemic, I can not agree with Mackenzie's[2] statement: "Secondary variolous ophthalmia seldom leads to destruction of the cornea unless the case is altogether neglected." Our cases were not neglected. Resident physicians were in constant attendance, the best of trained nurses were employed, oculists were frequently consulted and patients were given constant and careful attention. One of the resident physicians said: "More time and care was devoted to the eye cases than all the others combined."

Doubtless, there were mild cases of keratitis that escaped our notice, such as described by Dr. Edward Jackson[3] in his admirable paper. But they must have been rare. No case of primary infection of the conjunctiva, such as reported by Dr. E. P. Morrow,[4] came under our observation. I am indebted to Dr. D. B. Smith for the report of the following case: Miss C. K., nurse at the detention hospital, was vaccinated a few days before taking the position, and had a very much inflamed arm, with several characteristic pustules. On the mucous membrane of the right upper eyelid, just at the transitional portion, a perfectly well-defined ulcer appeared. The lid was swollen greatly, and the diagnosis of vaccine pustule was made. Patient made a perfect and uneventful recovery. All of the cases began relatively late in the disease, and were due to a secondary infection, although it is quite possible that there may have been some slight abrasion of the cornea as the result of a primary lesion, thereby permitting the entrance of pathogenic germs later.

Early in the epidemic, while laboring under the belief that the eyes were destroyed as the result of a primary lesion of the conjunctiva or cornea, cases were treated with instillations of 1 per cent. solution of nitrate of silver as a prophylactic, but it seemed with deleterious results. Then protargol formalin and other disinfectants were used, with no better success. Later, subconjunctival injections of bichlorid were used in several cases without benefit. Fewer cases of corneal complications developed, and our cases progressed better when a routine practice was adopted of frequent washing of the face and lids with 1/4000 bichlorid and flooding the conjunctiva four or five times daily with saturated boric acid solution, and on the first evidence of corneal complications an instillation of 1 per cent. of atropia sulphate two or three times daily. The later treatment of these cases was in no way different than that of corneal ulcers from any other cause.

In conclusion, I wish to observe:

1. In view of the growing sentiment against vaccination almost any community is liable to experience an epidemic as disastrous as that through which Cleveland has just passed.

2. The eye complications of smallpox are greatly to be feared. The dangerous corneal complication is a secondary infection, commencing about the twelfth day, but many come much later.

3. The infection in the Cleveland epidemic was a streptococcus one, and different in no way from similar infection of the eyes of a patient already much exhausted from a serious disease.

4. No specific prophylactic treatment has been found, and the best that can be done is to keep the face and eyes in as nearly an aseptic condition as possible by frequent washing and the use of such antiseptics as will prove the least harmful to the eye.

122 Euclid Avenue.

2. Diseases of the Eye, p. 433.
3. Denver Medical Times, December, 1901.
4. Ophthalmic Record, July, 1902.

DISCUSSION.

DR. J. F. FULTON, St. Paul, Minn.—I did not know until a recent epidemic that the eye complications of smallpox were so common. During a recent epidemic we had the same fight in our legislature for the enforcement of vaccination. I had under my care two cases of central ulceration of the cornea. They occurred during the stage of convalescence and resulted in permanent opacities, and it will be necessary to do an iridectomy to secure an improved vision. They were treated on the same line as we treat all ulcers of the cornea. There is a question as to the nature of the ulcer—whether it is the eruption of smallpox or an ulcer due to the run-down condition of the system. It is quite possible that it may be the same eruption as that on the skin.

DR. LEARTUS CONNOR, Detroit—It is a question whether the eye complications were due to the general eruption or to streptococcic infection. It would seem in these cases that it was due to the infection, and if so, measures can be taken to prevent it. We have had some mild cases in Detroit, but I have not heard of an eye being lost from this cause. It may be due to the fact that at periodical intervals the whole city has been thoroughly vaccinated. We have lately been made to believe that this was illegal, but formerly it was not considered so, and general vaccination prevented an epidemic. I am convinced that in this, as in allied diseases, we shall fail of best results until we teach the people that vaccination is absolutely necessary. Dr. Baker's observations increase the force of our argument. If we can show that even though the lives of patients are saved, they may be blind, or partially so, we may be able to get the laity to listen to us. The only thing we can do is to promote organization and teach the people such facts as these presented to-day. How much the discovery of the smallpox organism by Dr. Councilman will affect this matter is still undetermined.

DR. B. H. MANN, Texarkana, Ark.—I have treated perhaps five or six cases of corneal ulcer following smallpox, with loss of eye in two cases. Treatment seemed to have no effect whatever.

DR. JOHN A. DONOVAN, Butte, Mont.—As to the question of primary or secondary infection being cause of ulcers, in an extensive epidemic two years ago I saw some cases where primary eruptions occurred on the cornea simultaneously with the skin. These all healed readily when treated with boracic acid wash and yellow oxid ointment. These severe ulcers with

iritis, etc., I treated were all due to secondary infection. Light cautery punctures in the margin of healthy tissue around the ulcer is the most efficient treatment.

DR. R. W. MILLER, Los Angeles, Cal.—The statistics are indeed instructive, and come to us with a great deal of force. They have the merit of freshness, and may be more helpful to us in bringing the laity to a realization of the dangers of smallpox and the benefits of vaccination than the older statistics. We have to go back but a few years in order to obtain abundant statistics which should convince anybody. In spite of this, however, we find people opposing vaccination. In Los Angeles a few years ago mass meetings were held by antivaccinationists opposing vaccination, and these meetings were headed by the editor of one of the daily papers, who refused to have his own child vaccinated so that it might continue to attend the public school.

As suggested by Dr. Connor, we may hope for better things when the profession is more thoroughly organized. The adoption of suitable resolutions and the bringing to bear of concerted influence on the legislatures and health boards will enable us to accomplish more than we have done in the past. There is no question as to the growing sentiment against vaccination in this country, and the only thing perhaps that will convince the public will be a fearful epidemic of smallpox.

I have seen but few of these cases, but I think with Dr. Donovan, that if the ulcer is limited, the cautery is the best means of treatment. As to the applications of medicines, we can often accomplish more by frequent cleansing with the milder agents than by the more irritating agents.

DR. OSCAR DODD, Chicago—I have seen several cases in Chicago at a late stage, after the corneal lesions had healed. Our cases were very mild. I would like to ask Dr. Baker if the corneal complications came on during the stage of eruption or are a later infection.

DR. E. P. MORROW, Canton, Ohio—Dr. Baker mentions a case that occurred in my practice.[1] The eye trouble occurred before the general eruption occurred, and I look on it as the inoculation lesion of smallpox. The patient, about two weeks before, had slept with his cousin, who was supposed to have chicken-pox. The next day in shaving himself he used the same mug his cousin used, and probably got some lather into the eye. Seven days before the general eruption occurred he presented himself with a slight conjunctival hyperemia, limited almost entirely to the lower half of the eyeball. There was a decided white spot, 3 mm. in diameter, on the hyperemic area between the corneal limbus and the caruncle, and in the center of this spot a distinct black dot. I sent him home, assuming the trouble to be insignificant. The next day he presented himself with greatly swollen lids, having the appearance of a case of purulent conjunctivitis; on separating the lids, however, there was no discharge. There was, however, a subconjunctival swelling in the lower half of the bulbar conjunctiva, while the upper half of the cornea and conjunctiva were not involved at all. Until the end of the case there was no discharge. On the seventh day he had a general eruption, which proved to be smallpox. The eye went on to recovery, although there was a slight involvement of the cornea. There was haziness of the lower portion of the cornea, but under irrigations with boracic acid and the use of hot fomentations the eye recovered without any serious damage. I believe this to be a case where the conjunctiva was the initial point of inoculation of smallpox.

DR. D. A. THOMPSON, Indianapolis—During the past year we have had a siege of smallpox, and I saw a number of conjunctival cases, one a severe episcleritis. In the confluent form there were ten cases of ulcer, of which four were lost. It was demonstrated in our cases that vaccination plays an important part in mitigating the trouble.

DR. ALLEN GREENWOOD, Boston—It is reasonable to expect that Dr. Councilman's discovery will bring about a new method of treatment, and that we may possibly be able to control this condition as we do the diphtheritic conjunctivitis by an antitoxin.

1. Ophthalmic Record, July, 1902.

DR. F. W. HILSCHER, Spokane, Wash.—I would like to report a case similar to that of Dr. Morrow's, in which there was conjunctivitis near the limbus before the eruption of the disease appeared. I treated the patient about a week before the eruption broke out. It had the appearance of a phlyctenular conjunctivitis. At the end of about a week he seemed depressed and had a little fever and general malaise, and I suspected smallpox, and called in a health officer and turned the patient over to him. It illustrates also the value of isolation. The patient was from just outside the city limits. We had an efficient city official, but a rather negligent county physician; the city remained comparatively free from the disease, and the cases in the city could be traced in nearly every instance to infection from the county outside the city limits.

DR. JOHN E. WEEKS, New York—The discussion has brought out that the affection may sometimes be primary in the eye. I had thought that perhaps in all the cases the infection was a secondary one, and due to the entrance of substances from the lids or brow after abrasion of the corneal epithelium. I have not had experience in the treatment of smallpox, but it seems to me that the use of oily preparations to prevent the scattering of the exfoliations would be of service in preventing secondary infection of the eye; oily preparations, with perhaps an antiseptic added. In regard to the complications that may follow, I have seen cataract as a result of corneal ulcer following smallpox.

DR. ALBERT R. BAKER, Cleveland, Ohio—I believe in all cases the eruption appears on the mucous membrane just as on the skin, and probably in all there was a primary eruption of the mucous membrane of the eye. The eye is so greatly swollen in confluent cases that it is difficult to tell. It is impossible to open the eye to examine it for several days. But for all practical purposes these cases of bad infection are secondary, and the infection is conveyed to the eye by means of the fingers, or in some similar way. We used vaselin, as suggested by the Chairman, in all these cases. As to the primary infection as in Dr. Morrow's case, the only one that in any way resembled that was the case of Dr. Smith, in which there was a vaccine infection carried from the arm to the eye.

The general condition of these eye patients was pitiable indeed. Even with good nursing in many of them you could pick up the crusts from the bed in handfuls weeks and months after the case was discharged from the hospital as cured.

As to the chart, you will observe that it keeps running up gradually until we were having 85 to 88 new cases reported a week, with 15 to 20 deaths. Our health officer was still disinfecting. We were threatened by quarantine by all lake cities, and then our business men became alarmed and called in the State Board of Health, who insisted on general vaccination, appointed 250 public vaccinators and vaccinated over two hundred thousand people within a week, and the epidemic was almost immediately ended, as shown by the chart.

CRAMP OF THE CILIARY MUSCLE DUE TO EYESTRAIN.*

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As every physician should have a knowledge of what is known as professional cramp, a painful spasm of the finger, hand, forearm or arm from excessive use, as is often found in writers, telegraphers, pianists, violinists, typewriters, etc., so should every oculist have a knowledge that certain eye muscles, especially the ciliary, are liable to the same condition when subject to enforced contraction for prolonged periods of time.

No oculist who does much fitting for glasses has failed to notice that, although the greatest care has been ob-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

served in this part of his service, occasionally he will meet a case where it is impossible to obtain satisfactory results and relieve the annoying nervous symptoms that usually accompany refractive error, although under the effects of a cycloplegic the very best possible vision has been obtained. Such patients are usually between the ages of 25 and 40 years, although cases much younger are occasionally encountered.

When the patient returns to us with the complaint that he is not relieved of his headaches or whatever nervous head symptoms may have been attributed to eyestrain, and that his vision has not been improved, we apprehend that a too high or a too low correction may have been made, or that there may have been a slight deviation from the exact angle in the correcting cylinder for the astigmatism, all of which has been carefully gone over, and allowances made from time to time, without appreciable benefit to the patient.

Should the patient have been long a sufferer from the headaches and eye pains which are usual in refractive errors, especially if there is an astigmatism, the correcting lenses may have relieved him for a short time, to some extent, but not entirely, and many of the old annoying symptoms return, although perhaps in a mitigated form. This condition is known as ciliary cramp.

THE CAUSES OF CILIARY CRAMP.

1. An emmetropic eye may have cramp of its ciliary muscle. Too much near-work leads to it. Impairment of the general health will augment it, but the cramp may exist in an emmetropic eye when there is good health from too much near-work.

2. The ametropia conduces to it, especially hyperopia and astigmatism, whether hyperopic or myopic. In mixed astigmatism there is great predisposition to the cramp with a tendency to headaches and eye pains. This may be attributed to the unequal contraction of the sphincter fibers in order to obtain a clear retinal image.

It is well understood that accommodation depends on the contraction of the circular fibers of the ciliary muscle and the elasticity of the crystalline lens. When there is normal refraction of the eye and but an ordinary amount of work for the muscle to perform, and the patient is in fair health and is not suffering from some affection that would impair the general muscular tonicity, the eye performs its functions instinctively—not reluctantly—but with a natural impulse and without effort. If, however, there is an excessive amount of near-work to perform, or there is general impairment of muscular tonicity, although the refraction may be normal or made so by correcting lenses, the ciliary muscle is liable to become cramped from the excessive effort to contract.

If the eye is hyperopic or astigmatic, with these conditions existing, then the ciliary muscle must become inordinately contracted in its effort to perform but an ordinary amount of work. If the eye is myopic and uncorrected, the ciliary muscle, not being called on to perform much service for near-work, soon loses its tonicity for want of action; for this reason should an exigency require that the myopia be corrected to facilitate distant vision, the patient is unable to accommodate for near-work, or if so, very reluctantly and ineffectively. The weakened condition of the muscle, rendered so for want of use, readily conduces to cramp.

In high degrees of uncomplicated and uncorrected myopia there can not be cramp of the ciliary muscle, but it is found in low degrees of this refractive condition and in high degrees, where full, or quite full, correcting glasses are in use. If myopia is corrected early, the ciliary muscle may regain its normal functions, and is then liable to become cramped from overwork, as does that of the emmetropic eye.

I anticipate the fact that there are those who are skeptical with regard to ciliary cramp. They term it hypertrophy of the ciliary muscle. I believe there is hypertrophy of the ciliary muscle, but it is readily diagnosed from cramp.

When there is cramp of the ciliary muscle it is temporarily relaxed by the use of a cycloplegic, and if the patient is subject to headache, due to eyestrain, it is relieved as soon as the cycloplegic has relaxed the accommodation. We have all had patients who were suffering from headache at the time they consulted us, who, as soon as their eyes were placed under the effects of a cycloplegic, found that their headache had entirely disappeared.

In hypertrophy of the ciliary muscle there is no strain and consequently no cramp, for the muscle has become permanently fixed, and, therefore, ineffective as far as contraction and relaxation are concerned. The patient with hypertrophy of the ciliary muscle can usually see well for near-work, because the muscle has become permanently contracted and is fixed for near-work only, but can not see well for distance, and because of the permanent convexity of the lens is practically myopic, and for distance requires a concave lens to make perfect vision. When the muscle becomes hypertrophied and the lens permanently fixed for near-work, the range of accommodation is necessarily very limited, and the patient has passed the point where he suffers from cramp.

I can conceive a hypertrophied condition of the ciliary muscle where the sphincter and radiating fibers may be increased in size and strength and their functions still maintained, to attain which would require a systematic exercise of both sets of fibers, which no ordinary avocation could possibly accomplish.

The cramp of a muscle is an evidence of its weakness. When a muscle is compelled to remain in a fixed position for long periods of time, it becomes weak, simply from the exertion necessary to maintain this fixed position, whether it has been held there by mechanical means, as to allow a fractured bone to unite, or voluntarily, as with the contracting fibers of the ciliary muscle in the act of near-seeing. After the protracted contraction of a muscle, the tendency is to keep more or less contracted, and when through necessity it must relax, pain accompanies the effort.

Cramp of the ciliary muscle is not constant, although the conditions which produce it may be present. As before stated, it may occur in an eye whose refraction is normal, simply because the eye is overworked. One of the first symptoms of ciliary cramp, aside from headache and pain in the eye itself, is that vision for distance is variable. At times the patient may have good distant vision, but on the least exertion at near-work the cramp returns with great severity, and the patient suffers accordingly. It is this tendency of the ciliary muscle to return to its old condition of contracting that gives the oculist so much concern after he has properly fitted his patient with glasses.

TREATMENT.

The treatment which has been most successful with me in cases of ciliary cramp consists of cycloplegics, and for several reasons I believe that those whose effects are transient are much better than those whose effects are prolonged, like from atropin. The first reason is that most patients are compelled to continue

regularly their daily avocations. The second reason is that prolonged relaxation of the muscle is injurious, because long-continued inaction of the muscle will, of itself, have a tendency to weaken it, in which condition it will readily cramp again if the patient is compelled to use the eyes for enforced near-work.

As a transient cycloplegic, and one, too, which will effect thorough relaxation of the accommodation, I am partial to a combination of equal parts of a 1 per cent. solution of homatropin and a 2 per cent. solution of cocain. The cocain seems to augment the effects of the homatropin, besides, its analgesic effects have a special bearing with patients who suffer much, as many do, from the pain attending ciliary cramp.

To relax the accommodation preparatory to fitting for glasses I instill one drop of the above solution in the eyes every ten minutes until five applications have been made. In ten minutes after the last application the accommodation is usually relaxed to its utmost extent, when the fitting may be proceeded with, which must be concluded within two hours, for at the end of this time the cycloplegia usually begins to pass off.

To relieve ciliary cramp, I instill one drop of this solution into each eye on retiring for the night. The patient is usually able to attend his work, whatever it may be, the next morning, should he retire at a seasonable hour. It requires about ten hours for the cycloplegia to pass off, when the muscle will usually be able to perform its functions readily.

I prescribe this remedy daily, at the time indicated, whenever and as long as there is evidence of cramp. Frequently but one eye is affected, when it can be treated alone. My rule is to use the remedy on retiring, only when the patient has suffered during the day, and with those only whose eyes are emmetropic or made so by correcting lenses under the effects of a cycloplegic.

Gelsemium has an excellent effect on ciliary cramp. This drug was brought to my attention by a physician, who referred to me a lady who had been a great sufferer from hemicrania, due to eyestrain, and whom I fitted for glasses. Although the patient was greatly relieved, she still suffered occasionally from headaches, especially after the eyes had been used for a long period at near-work. For this the physician gave her the following prescription, which gave her immediate and permanent relief, although she had taken the same prescription before she was fitted with glasses with only transient effects. It was a favorite prescription with him for headaches:

℞. Morphia sulph. .....gr. i | 065
Liquor potassi arsenitis.
Tinct. gelsemium (green root), āā.....ʒi 4 |
Elixir simp., q. s. ad.....ʒiv 120 |

M. Sig.: One teaspoonful every six hours until headache ceases.

I prescribe his remedy in persistent headaches and eye pains only, and then only in connection with the cycloplegic, as previously indicated, and that after the cycloplegic has failed to give permanent relief.

The physician always insisted on the green root tincture, and not without cause, for I have found that the tincture of this root of the shops is usually worthless. I have prescribed the gelsemium alone, but never with the satisfactory results as in the combination given.

Knowing the therapeutic effects of morphia and arsenic in a general way, we readily comprehend their effects in spasm of muscular tissue; but of gelsemium I would say that it has a specific effect on cyclospasm that is worthy the considerate attention of every oculist.

DISCUSSION.

DR. EDW. JACKSON, Denver—We are too apt to feel that the only question to be settled is whether there exists a spasm of accommodation and its amount. It will be productive of a better knowledge of the subject if we go a little deeper into these cases. There are totally different conditions capable of yielding the same alteration of refraction. There may be, and probably is, a condition of surplus accommodative power in some young hyperopic eyes that is quite removed from spasm of accommodation from overwork. To consider them the same thing is preventive of our clearly understanding these conditions or treating them properly. We can recognize these and also a third form of spasm that is closely dependent on abnormal conditions of the central nervous system.

The next point is the idea widely held that in very high myopia there is no strain on the accommodation. I do not believe this is correct. The high myope, as a matter of fact, often has the thing he is looking at within his far point, and is straining his accommodation. In reading he must sometimes vary his accommodation 2 or 3 diopters to read lines of ordinary length. High myopia with binocular vision almost constantly entails strain of accommodation. The myopia is seldom equal in the two eyes.

As to the treatment, the important thing is the discovery and removal of the cause, which is generally some uncorrected ametropia or some overwork of the eyes. When that has been thoroughly attended to, in patients of good general health, the condition quickly passes away.

I have used cycloplegics in the way mentioned to some extent, but would be very much afraid of using a 1 per cent. solution of homatropin at night if I expected the patient to use the eyes the next day. I have used a 1/5 per cent. solution, and with some satisfaction; also a solution of euphthalmin, which produces a tendency to relaxation. Recovery from the euphthalmin is complete in ten or twelve hours.

DR. JOHN A. DONOVAN, Butte, Mont.—In reference to the treatment of this condition, I have found homatropin to be more or less unreliable. I believe the nearest thing to a total cycloplegic in this trouble is the hydrobromate of hyoscin. My attention was called to it by Dr. Chas. Baker some years ago, and I am convinced that it is considerably the stronger and decidedly more reliable. Towards the end of the week these patients suffer most, and if they use it on Saturday night, by Monday they are able to work again; it takes three or four days to fully pass off.

DR. LAWRENCE R. RYAN, Galesburg, Ill.—In regard to the prescription of Dr. Wright's, containing gelsemium, he made the statement that he was never able to get relaxation of the spasm by the use of gelsemium alone. That would seem to militate against its use. It would seem to me that the morphia itself would relieve the spasm quicker than the gelsemium.

DR. J. W. WRIGHT, Columbus, Ohio—In regard to the use of the solution of homatropin and cocain, when it is used to produce cycloplegia, if instilled four or five times it does not pass off in twenty-four hours, but if only used once, on retiring, it passes off by the next morning.

Knife and Fork Surgery.—The *Hospital* discusses Koenig's method of operating without ever touching the tissues, much as we eat our meals by aid of forks and spoons instead of clawing our food. By practice with suitably-devised metal instruments, Koenig of Berlin has found that he can get through many operations without ever touching the wound. Even in abdominal cases, in many of which it is often impossible to avoid introducing the hand, he carries his instrumental method to its extremest limit. In operating on cases of appendicitis during the quiescent interval he has been able to do the entire operation with instruments. The surgeon often does things with his fingers which, by aid of a little practice, could be done just as well with an instrument, and, if we are to accept as correct all that is said about hand-infection, it would often be well, in suitable cases, to adopt the "knife-and-fork" method.

OCCURRENCE OF THE STRONGYLOIDES INTESTINALIS IN THE UNITED STATES.*

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I present for your consideration a somewhat brief and imperfect account of one of the rarer nematodes; rare, at least in this climate and latitude, though occurring with considerable frequency in tropical and sub-tropical countries. I refer to the *Strongyloides intestinalis*. The parasite is endemic in Cochin China, where it occurs in association with the diarrhea peculiar to the country—hence the name bestowed on it by European physicians, "Cochin China diarrhea."

This animal forms one of the class of parasites whose pathologic action is limited to the intestinal canal, and does not extend, as does that of the *Amœba coli*, to the liver and other organs. Teissier has claimed to have observed rhabditiform embryos circulating in the blood, and to have produced metastatic foci in the lungs of infected frogs. These observations, however, have not been confirmed by any other observer, and, for the present, we must conclude that the parasite's pathologic influence is limited to the gastrointestinal tract. The consideration of the diseases caused by animal parasites, particularly those infecting the intestinal canal, is especially opportune at this time, as the different varieties of acute and chronic diarrheas and dysenteries are only now beginning to emerge from the obscurity which has previously enveloped them, and are being placed on a rational basis, where the knowledge of them previously was wholly crude and empirical. This knowledge has already borne valuable fruit; you are familiar with the work recently done under the direction of Professor Welch, of Baltimore, in the investigation of the summer diarrheas of infants, of the discovery of the essential cause, and of the preparation of a serum which promises a specific against a disease causing more than one-half the mortality in urban communities during the summer months.

It is only in the last decade that we have begun to realize that many cases of chronic intestinal flux in this latitude are due to the *Amœba coli*, and one form of parasite which we previously considered wholly indigenous to the tropics, has thus been given a wide sphere of activity in the diseases of temperate climates. We have later been able to recognize the cause of another class of diarrheas through the discovery by Shiga and Flexner of the *Bacillus dysenterica*, and it is probable that many other tropical parasites will be found to be the pathogenic factors of our native diseases. The rôle played by the strongyloides genus in diseases of the United States is hard to ascertain at the present time, but I do not believe it will ever be a prominent one in this climate, yet it will take a place as an etiologic factor in many individual instances in which the nature of the disease was previously unrecognized. The occurrence of the *Strongyloides intestinalis* in the United States was first reported by Thayer[1] from three cases occurring at the Johns Hopkins Hospital, Baltimore, his work remaining the best monograph published on the subject in the United States.

A short résumé of the history of the parasite may here be of interest:

In 1876, Normand, a medical officer of the French navy, while investigating the diarrhea among French troops returning from China, discovered this parasite in the stools. It was studied by Bavey in the same year, and the latter named it *Anguillula stercoralis*, in analogy with the similar terrestial anguillula *Rhabditis terricola*, genus leptodera. The parasite is found constantly in the stools of these patients, and Bavey and Normand considered it the probable cause of Cochin China diarrhea. When these stools were kept warm for four or five days, sexual development took place, some of the parasites assuming the male and some the female type—the original first observed being, indeed, only an embryo. The following is Bavey's description of the sexually mature forms:

> The length of the female is about 1 mm. fully grown, the breadth about 0.04 mm., body cylindrical, slightly diminishing in size anteriorly and tapering to a sharp point posteriorly. When the worm retracted forcibly, slight transverse furrows were to be seen. The mouth possessed three distinct lips and was continuous with the triangular esophagus, which after a stricture dilated again to a second ovoid enlargement. The intestine which followed was fairly visible and ended in a little protrusion on one side of the body near the base of the tail. The intestine was pushed slightly aside by the uterus. A little below the middle of the body on the ventral side opened the vulva leading to the uterus, which extended from the intestinal ventricle to a point near the intestinal opening; here the eggs were massed in varying numbers. In some instances the young had actually broken the shells and were free in the uterus, though more often the eggs on deposition contain well-formed motile embryos.
>
> The male is about 1/5 smaller than the female; the perintestinal cells are more clearly outlined and were accompanied by another long gland, which seemed to consist of small rounded globules. This organ, doubtless the testicle, entered the base of the tail in two small horn-like spicules with tapering extremities curved inward; these spicules contained canals . . . coiled in the same direction . . . and were twice as short.

In the following year a complication occurred in the history of the parasite, with the discovery by Normand of a nematode in the small intestines of a patient dead of Cochin China diarrhea. This was similar to the parasite found in the stool, but larger than even the sexually differentiated forms, and possessing other structural differences. Bavey was able to obtain it from several successive autopsies following death from this cause. He considered it a distinct species, which he called the *Anguillula intestinalis*. It was found only in the female form and was described as follows:

> Length 2.20 mm., average breadth 0.03 mm., the body little tapering anteriorly, terminated rather suddenly posteriorly in a conical tail, the extremity of which appeared rounded and even a trifle dilated . . . . the surface showed a delicate transverse striation; the mouth . . showed three small lips. It opened into an esophagus, practically cylindrical, which occupied about ¼ of the length of the animal, and showed neither swellings nor striations; it was followed by an intestine with which it might readily be confounded without a marked change of color. This extended almost to posterior extremity of the body, but it ceased to be visible in the middle part, which was occupied by a very large elongated ovary. The vulva was situated in the posterior third of the animal and in its neighborhood the uterus contained five or six elongated eggs . . the eggs and viscera were of a yellowish green color and rather opaque and apparently finely granular.

The parasitic form is found at autopsy in the small intestine. They are abundant in the duodenum, less numerous in the jejunum, and absent in the ileum. They seldom reach the stomach under normal conditions, but have been found in the vomitus after an emetic. In

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stools which have been kept warm for a varying period there is another embryonic form which is frequently seen; this is a much longer, thinner embryo of a more homogeneous constitution, and more actively motile than the more common rhabditiform embryo. This represents the strongyloid form in the embryonic state. The parthenogenetic female shows also the strongyloid type, and indeed, probably develops directly from the strongyloid embryo. The strongyloid embryo, although longer than the rhabditiform, never attains the size of the parthenogenetic mother worm; the average length is from 0.4 to 0.5 mm., the greatest length being 0.7 mm., while the parthenogenetic worm averages 2.20 mm. The following is a comparison of the size of the different varieties:

	Rhabditiform.	Filariform.	Free Sexually.	Partho-genetic, M. W.
Length	0.33 mm.	0.50 mm.	1. mm.	2.20 mm.
Breadth	0.022 mm.	0.02 mm.	0.04 mm.	0.03 mm.

The eggs are oval, and resemble uncinaria eggs, and measure 60 to 70 microns by 34 to 39 microns.

Following Normand's original investigations of the parasite as occurring in Cochin China, other observations were made on the parasite in the tropics. Laveran, Liebermann, Roux and Chartaing each reported cases in 1877 and 1878. Chauvin reported a case originating on the Island of Martinique. Grassi, in 1879, studied the worm, and placed it in a species which he called strongyloides, closely allied to the genus strongylus, of which the most important member pathologically is the uncinaria, or *Strongylus duodenale,* or, as it is called in Europe, *Anchylostoma duodenale,* from which it differs morphologically by certain structural peculiarities, and pathologically by important differences which will be described later. In 1880 the parasite first appeared in Europe with the report by Perroncito of its discovery in the intestinal tract of laborers in St. Gothard tunnel, in whom it occurred in association with the *Anchylostoma duodenale* in certain grave anemias described by Perroncito at that time; since then sporadic cases have been reported from Brazil, Russia, Sicily, Italy, Dutch Indies and Egypt. In 1899 cases were reported along the Rhine and in East Prussia. In 1901 Strong described cases occurring in the Philippine Islands.

In order to understand the divergent opinions that have been held in regard to the unity or heterogenicity of these nematodes it is necessary to describe the forms of parasites that may be found in the alvine discharges of the patients suffering from Cochin China diarrhea during life, or in their intestinal canal after death, all of which are now believed by the preponderance of observers to be morphologic variations of the same parasite. These are, briefly:

1. The rhabditiform embryo *Anguillula stercoralis,* found in the stools on immediate examination.

2. Filariform embryos usually found alone in the stools after one or two days, replacing the rhabditiform embryos.

3. The sexually differentiated form, *Rhabditis stercoralis,* occasionally found in the stools after a varying period—usually about five days.

4. The parthenogenetic mother worm, *Anguillula intestinalis,* found in the intestinal canal of the host at autopsy.

It appears that the worm shows a different development here from that which it exhibits in the tropics. The development of the sexually differentiated living generation must be regarded as the highest exponent of the parasite. This manner of development appears to occur only rarely in temperate zones, and in these regions we must consider that some conditions are less favorable to the parasite's attainment of the highest form, the difference lying either in intrinsic conditions affecting the culture medium, i. e., the stool in which it occurs, or in extrinsic causes affecting the surrounding atmosphere, or in conditions associated with both factors, such as heat, moisture and temperature. It may be premature or inexpedient to theorize as to the exact manner in which these various elements act, still we may presume that the difficulty lies rather in the culture medium than in the surrounding conditions, for while we can largely reproduce the extrinsic conditions, such as moisture, temperature, light, etc., we can not ever exactly reproduce the culture medium, for the latter in the tropics differs greatly from that of the temperate zones, both on account of the different foods which go to form it, and the different bacterial flora which it contains, the latter being much more varied and profuse in the tropics. In support of this view are Leichtenstern's recent observations (1899), that the sexually differentiated generation is cultivated most frequently from cases recently imported from the tropics.

I will later call attention to the disappearance of the parasite from the stools synchronously with that of the numerous bacteria which the latter contains. This condition, while not an invariable rule, is a coincidence of much significance.

The parasite may be arrested at an intermediate stage of its attempt at sexual differentiation, and accordingly, we may find the nematode in our cultures in three distinct states:

(*a*) No attempt at evolution may be made, and the parasite occurs only as the rhabditiform embryo.

(*b*) The parasite may be able to attain the male development, but be unable to attain the female type, a few male parasites occurring in the stool.

(*c*) Complete sexual differentiation may occur, and both male and female types will be found.

Whatever further development may now occur if the parasites are ingested, if still remaining external to the body the filariform embryo is finally produced; in the first case by direct transformation of the rhabditiform embryos, in the last case by the interposition of another generation of sexually differentiated worms.

Keeping these features in mind, how are we to regard the filariform embryo in its relation to the other types of parasites? If we regard the free sexual form as the highest type; as the filariform variety follows after this, it appears that the filariform embryo must be considered an involution form from the highest type. The filariform embryo is, moreover, the last form found in the specimen before the final disappearance of the parasite from the stool. This disappearance must occur, even under the most favorable conditions, in a rather short period. It is probable that the strongyloides embryo is more adapted to the relatively unfavorable conditions found outside the body, and is, moreover, the usual form in which the intestinal canal of the host is infected. If infection occurs in this way it is probable the filariform embryo becomes directly transformed into the parthenogenetic mother worm, which then commences to cast off its ova, and these, in turn, undergo development into the rhabditiform embryos. Leichtenstern has been able to demonstrate this process directly. He administered to human beings filariform larvæ which he had produced by the direct transformation of the rhabditiform variety. After seventeen days rhabditiform embryos were found in the patient's stools. In cultures these became transformed into the filariform

variety, but a number also became sexually differentiated, forming a free living generation, the *Rhabditis stercoralis*.

Leuckart claims that the genesis of the parthenogenetic mother worm is the essential step in the regeneration of the rhabditiform embryo from the filariform. He says, "The structure of the filariform embryo is such that they can not possibly develop again into the rhabditis form. There must be another worm which develops from them, which in the shape of its body and the structure of the esophagus resembles these." The parthenogenetic worm, the so-called *Anguillula intestinalis*, appears to represent this intermediate form which Leuckart considers essential. Hence, while the rhabditiform embryo is transformed directly into the filariform, the filariform can not return to the rhabditiform variety without the aid of the intermediate form. The development of this parthenogenetic worm has never been noted outside of the living host. These conditions probably explain the ultimate disappearance of the parasite from the stools, when the latter are kept for a certain period, the parasites continuing their evolution until the filariform embryo is produced, and beyond this they can not go without the aid of a suitable host. The rhabditiform, as such, does not seem able to survive more than three or four days in the stools.

To trace the life history of the parasite on the assumption of the unity of the various forms, we may conceive of a parasite entering the host as the filariform embryo; within the host becoming transformed into the parthenogenetic female, *Anguillula intestinalis*, the latter giving off numerous ova which, hatching rapidly before leaving the intestines, appear as the rhabditiform embryos (*Anguillula stercoralis*) in the discharges. The next transformation of the rhabditiform embryo depends on the environment. In the tropics the parasite becomes habitually sexually differentiated, forming the species known as the *Rhabditis stercoralis*, from the eggs of which are generated the rhabditiform embryos, which undergo final transformation into the filariform variety. In the temperate zones the rhabditiform embryo passes into the filariform without the interposition of the so-called *Rhabditis stercoralis*. In either event the filariform embryo is the final stage completing the cycle.

The first case in this country described of infection with the *Strongyloides intestinalis*, was that of a German tailor, aged 56, who entered the Johns Hopkins Hospital, Baltimore, Dec. 7, 1896. The case was complicated with intestinal infection with the *Trichomonas intestinalis* and amebic dysentery, which latter disease proved fatal on the development of an abscess of the liver. The parasite was discovered by Strong in the stools, and was reported, together with two like cases, by Thayer in 1901. Thayer's account of the case is summarized below:

CASE 1.—*History.*—K., a German tailor aged 52, was admitted to the Johns Hopkins Hospital Dec. 7, 1896, complaining of pain and swelling in the right side of the abdomen and over the lower ribs.

The family history was negative. He had had measles in childhood, but had otherwise been a healthy man. He denied venereal disease. Up to six years before he had lived in Austria.

Three years before entry he began to suffer from diarrhea, which has continued since that time. There were daily from two to five operations, which occasionally contained a little blood; these were never associated with pain. Three weeks before entry he began to notice a painful swelling on the right side over the lower ribs. He had had no chills, and as far as he knew no fever. For two weeks before entry there had been a slight cough without expectoration.

Physical Examination.—The patient appeared emaciated and feeble. The heart and lungs were negative. The abdomen was somewhat distended; there was slight movable dulness in the flanks. On the right side over the cartilages of the tenth and eleventh ribs there was a large fluctuating swelling, 7½ cm. in diameter; no tenderness or redness. Between this and the spinal column there was another swelling, about 15 cm. in diameter, extending from the median line to the spinous processes, and from the twelfth rib over the crest of the ilium downward for a distance of 7 cm. The skin over this was adherent, red and thin. The hepatic flatness was not increased.

Operation.—Immediately after entrance this abscess was incised and evacuated. The cavity contained a large amount of puriform material with dark shreds and considerable grayish debris. The cavities extended into the liver. About one and a half pints of fluid were evacuated; this contained many large, actively motile amebæ, showing the ordinary characteristics of the *Amœba coli*.

The patient had daily from two to four fluid, brownish, foul-smelling stools, which contained besides *Amœba coli*, considerable numbers of the *Trichomonas intestinalis*, as well as numerous small nematodes, identified by Mr. Strong as the rhabditiform embryos of the *Strongyloides intestinalis*. The wound and the colon were irrigated with a solution of quinin, 1/1000. The patient gradually failed, and died on December 26.

Autopsy.—The protocol of the autopsy reads: Amebic dysentry; ulceration of the large intestine; retroperitoneal abscess; operation wounds; parenchymatous and fatty degeneration of the kidneys; fatty liver; fatty heart; intestinal infection with *Trichomonas intestinalis* and *Strongyloides intestinalis*.

The large intestine showed the extensive ulcerations due to the amebic infection; the small intestine was free from ulceration, but showed slight occasional ecchymotic patches.

Along the whole of the small intestine Dr. Stiles and Mr. Strong found embryos of the *Strongyloides intestinalis;* and parthenogenetic mother worms were found in the duodenum and jejunum.

Dr. Strong was successful in this case in the cultivation of a single sexually differentiated parasite. This was of the male type, and was dead when discovered. No female forms were found.

The second case did not occur until nearly three years later. The symptoms of this case were chronic diarrhea and emaciation, and were not especially marked, and might easily have escaped the more superficial examinations, as it was only observed as a dispensary case. The case did not escape the vigilance of Dr. Thayer, in whose hands it fell, and the diagnosis was made almost as soon as observed.

CASE 2.—*History.*—A newsboy from Richmond, Va., where he had lived all his life. The family and previous history showed nothing bearing on the case. He had had the usual diseases of childhood, and five years ago had tertian ague.

Three years before entry the patient began to suffer from diarrhea, the attack coming on during the summer. The operations were very thin and yellowish in color, containing at times a small amount of blood, though this had not been noticed for a year and a half. The passages occurred mainly at night, as many as seven or eight in 24 hours, but of late only about four. There was at first considerable mucus in the stools, but this had been practically absent during the two years before entry. The diarrhea had never been associated with any pain. The patient had been, however, growing gradually weaker, and during the second year of his illness he had been compelled on one occasion to take to bed for two weeks. Four months before entry he gave up work on account of weakness, though up to that time he had felt tolerably well. The appetite was good. There were no dyspeptic symptoms.

Physical Examination.—A slight emaciated boy of sallow color. The lips and mucous membranes were somewhat pale; tongue clean. Examination of the heart and lungs was nega-

tive. The abdomen was not distended. The spleen was not palpable. No enlargement of the liver.

The patient entered the hospital July 7 and was put to bed and given a liquid diet. The only medication given at first was bismuth. Later the patient was, on two occasions, given thymol gm. 2 (gr. xxx), the dose being repeated after an interval of one hour, and following this an active purge. Male fern was given in like manner in doses of one dram.

The patient's symptoms improved greatly and he gained twenty pounds in weight. He was discharged at his own request August 26. The stools on discharge still contained moderate numbers of the rhabditiform embryos of the parasite.

CASE 3.—*History.*—A native of Maryland, who had never been out of the state except on an occasional visit to Washington. J. S., a farmer, was admitted to the Johns Hopkins Hospital July 19, 1900, complaining of diarrhea and swelling of the feet. The patient had been a farmer all his life; his habits have been good; he has had no serious illnesses except chills and fever fifteen years before entry. He had considered himself a healthy man up to six months ago, when he began to suffer from diarrhea and progressive weakness. The stools, very frequent and sometimes involuntary, were fluid, but never contained blood. They were small in quantity. During the two months before entry the patient had on several occasions vomited a yellowish fluid. For two days he had had sharp, griping pains in the lower abdomen. For a month there has been edema of the feet and legs. . . . During the last two months he has lost considerably in weight and much in strength.

Physical Examination.—Moderate atheroma of the radial, slight abdominal distension and flatness in the flanks. On examination a moderate number of characteristic rhabditiform embryos of the *Strongyloides intestinalis* were found, together with a few red blood corpuscles and large numbers of leucocytes. The temperature was slightly elevated, 100.6 F., on entry, but with the exception of an occasional rise to a point between 99 and 100 it remained subnormal during the greater part of the patient's sojourn in the hospital.

On entry the patient was given a milk diet and powders of tannogen and bismuth subnitrate, q. 4 hours . . . . on April 12 . . . he was given thymol, gr. v. q. 4 hours . . . . on August 13 the thymol was discontinued and four doses of santonin were given at hourly intervals. . . . the patient was considerably better. There was a gain of 21½ pounds in weight between July 29 and September 17, the date of his discharge.

The blood examination from all three of these cases showed moderate anemia, the hemoglobin in the first case of Thayer's series registered 48 per cent., and in Case 3 of this series 57 per cent.; in both of these cases, however, there were complications present; the first case was complicated by amebic dysentery, the last case with a probable renal sclerosis. The high leucocyte count observed in the first case is easily accounted for by the amebic infection. The presence of a hyperleucocytosis in Case 3 is hard to account for; the one count made showed 21,500 leucocytes to the cubic mm.; unfortunately, no further count was made. None of the three cases showed any eosinophilia. The differential count in the first case gave:

Polymorphonuclear leucocytes	88.3 per cent.
Small mononuclear leucocytes	7.5 per cent.
Large mononuclear leucocytes	2.4 per cent.
Transitional forms	1 per cent.
Eosinophiles	.3 per cent.

The blood count showed 3,412,000 r.b.c., leucocytes 32,100; hemoglobin 48 per cent. Twelve days later the eosinophiles had fallen to 0.1 per cent., and the leucocytes to 30,000. The *valeur globulaire* was little affected, the blood generally showing the changes similar to all secondary anemias resulting from loss of blood.

Thayer's second case is of much interest on account of the occurrence of a number of eggs in the stools. This is very rarely observed in infection with the *Strongyloides intestinalis* unless there also be present an uncinarial infection.

After the report of Thayer's cases no further cases were observed until the middle of 1902, when two cases were discovered within a few months of each other; one occurring in the practice of Dr. Moore at Galveston, Texas, the other case occurring at the University Hospital in Baltimore in my own service. This case I wish to describe in some detail:

CASE 4.—*History.*—Entered the University Hospital July 25, 1902, complaining mainly of a chronic diarrhea, which had lasted about five months. The movements varied from about 2 to 15 daily; average was about 10 to 12. Operations were painless and were not accompanied by tenesmus. Alvine discharges were watery and contained mucus. There were occasional slight griping pains in the abdominal region. Patient had lost about 15 pounds in the last three months. Occasional sweating was present, both at night and during the day and accompanying this mild rigors. There had been slight cough lasting about two years, and occasionally sharp pains have been felt in the chest. The patient was operated on about two years ago for fistula in ano. He lost two sisters from pulmonary tuberculosis, and his father died of the same disease at the age of 20.

Physical Examination.—Patient is a well developed man, rather thick set, of excellent physique with a clear, ruddy complexion, but with some slight pallor of the mucous membranes. Height 5 ft. 6 in. Weight about 135 lbs. His previous regular weight has been about 145 lbs.

Eyes.—Clear and bright, pupils react readily to light and accommodation. Palpebral mucous membrane a trifle pale. Lips showed some pallor and a faint cyanosis. Tongue was pink, moist and clean . . . . moderate enlargement of tonsils . . . no other glandular enlargement. . . .

Chest.—The thorax is large and well formed, costal angle about 45 degrees, expansion fair, equal on both sides. Both supra- and infraclavicular fossæ are well filled. Apices of the lungs rise about ¼ inch above the clavicles. There is good resonance over both clavicles and over the anterior thorax. Expiration a trifle prolonged . . . a few sonorous râles were heard . . . at the right apex posteriorly the respiratory murmur was roughened and the sonorous râles more numerous and an occasional clicking sound was heard. The voice sounds are considerably exaggerated. On percussion there is slight diminution of resonance and a slightly elevated pitch.

Heart.—Situation of the apex beat is normal, cardiac sound is clear, both at the apex and base.

Abdomen.—Hepatic flatness begins at the sixth rib and extends about ⅛ inch below the costal margin. The liver and spleen are not palpable. Abdomen is soft, no tenderness or tympanites. Lymphatics somewhat enlarged. . . . .

There were several possible conditions to be considered as the essential cause of this diarrhea. The tubercular history with the history of fistula, the occurrence of slight rigors and sweating with cough lasting two years, rather indicated a tuberculous process with ulceration of the bowel. The excellent physical condition of the patient, absence of emaciation and of glandular or peritoneal involvement were at once sufficient, however, to negative this assumption. It is seldom that extensive tubercular ulceration lasts more than a few months without some local or general peritoneal involvement. The long periods of remission are also antagonistic to this assumption. The absence of pain, the long remissions and liver enlargement, together with slight rigors, suggested an amebic infection. On examination of the first specimen of stool, however, a single parasite was observed. This parasite was very sluggish and its movements only lasted about half an hour, and owing to this fact, and to the examination being made at night, it was not possible to determine accurately its characteristics, but it appeared to be an uncinaria.

Examination of the Stools July 29.—Stool of semi-solid consistency, brown in color, odor not especially marked.

Microscopic Examination.—Red blood and pus cells abundant—fine granular detritis—few starch granules (in addition to the parasite already described).

Treatment.—The next day the case was seen in consultation with Drs. Thayer and Atkinson, and on passage of the rectal tube Dr. Thayer was able to find a number of the rhabditiform embryos of the *Strongyloides intestinalis*. The patient was put on liquid diet for twenty-four hours, and then on soft diet, and was confined to bed. The only medication given was small doses of quinin. Under rest and diet the symptoms abated greatly. The number of daily movements averaged about the same, but the involuntary evacuations of the bowels at night ceased.

Examination of the Stools August 2.—Granular detritis, pus and blood cells diminished; numerous motile and non-motile bacteria.

The stools were now examined daily. The occurrence of the parasites was very variable; occasionally the fecal drop would contain five or six specimens and at other times none would be found after a careful search through a number of specimens lasting two hours. The greatest number found in any drop of fecal matter did not exceed ten or fifteen. There appeared to be a constant relation between the number of parasites and the number of bacteria occurring in the stool. When there were no bacteria evident, on microscopic examination, the search for parasites proved futile; on the other hand, stools containing large numbers of bacteria usually contained numerous parasites. Nearly all the softer stools contained both bacteria and parasites. The stools, both microscopically and macroscopically, showed the presence of an intestinal indigestion. They contained during all of the diarrheal relapses undigested food, and the odor was usually offensive. In one instance fermentation had occurred, and bubbles of sulphuretted hydrogen were being given off rapidly. This specimen contained numbers of parasites.

A certain technic is necessary in the examination of the stools, and in the cultivation of the other forms of the nematode, especially if the endeavor is to be made to cultivate the sexually differentiated forms.

The stools as soon as passed should be placed in open vessels and kept at room temperature. It is best to divide the stool into three portions so as to observe the parasite under varying conditions. One specimen may be placed on the top of the sterilizer, one beneath and one at room temperature. A little normal saline solution may be added to the stools of the more consistent kind, the embryos having a tendency to collect in this portion. For examination, a considerable dilution of the drop is always necessary, otherwise the embryo, being almost transparent, will escape observation. It is best to commence the examination with the ¾-inch objective, and reduce the light somewhat.

Examination of the Blood August 10.—An examination of the blood was made August 10 with the following result:

Hemoglobin	82 per cent.
R. B. C.	4,672,000
Leucocytes	7,800
V. G.	0.88

A marked eosinophilia is present.

This moderate anemia gradually improved with the improvement in the general condition. The leucocyte count was practically normal, and never at any time showed a marked increase.

An eosinophilia was present sufficiently marked to be plainly evident on the examination of the fresh blood. Eosinophilia is not a symptom generally observed in intestinal infection with the *Strongyloides intestinalis*, and its presence in this case suggested strongly a condition of mixed infection frequently observed, viz., where the strongyloides and uncinaria are cohabiters of the intestinal canal. This condition strengthens the possibility that the first specimen observed was really an uncinaria. The eosinophilia in these cases frequently persists after the anemia and other symptoms have disappeared and the parasite has apparently been completely eradicated. A differential count was made some days later by Dr. Rankin, resident pathologist to the University Hospital, and he examined several stained blood smears at the same time:

QUANTITATIVE:		
R. B. C.		4,736,000
Leucocytes		7,860
DIFFERENTIAL COUNT, LEUCOCYTES:		
Polymorphonuclear	250	47.5 per cent.
Small mononuclear	157	29.6 per cent.
Large mononuclear	50	9.5 per cent.
Transitional	8	1.1 per cent.
Eosinophiles	61	11 per cent.
Cells counted	525	

Qualitative.—Red blood corpuscles show little change. No poikilocytosis and corpuscles uniform in size. Slight pallor. White blood corpuscles, polymorphonuclear leucocytes, show every variety of degeneration. (*a*) There is increase in eosin staining. (*b*) There is loss of neutrophilic granules. (*c*) There is vacuolization, fragmentation and loss of outline in the body of the cell. (*d*) Nucleus is enlarged, paler and shows clear vacuoles—hydropic degeneration. (*e*) Perinuclear basophilia marked. The nuclei also show supernumerary lobes in many cells. Small mononuclears vary considerably in size, are more granular and the nucleus often irregular. Large mononuclears much increased, show marked degenerative changes, principally in an increase in granules and considerable hydropic degeneration. The nuclei of many of these cells are much fragmented and many look as if they were undergoing karyokinesis. Eosinophiles vary considerably in size and in number of granules contained; but all the granules are uniform in size and of equal staining power. No iodophilia.

On August 21, commencing at 11 a. m., the patient was given thymol, grs. vii, every five minutes until twelve doses were given, the patient receiving in the hour gm. 12 (180 grains).

The patient had some abdominal pain and griping, not enough to give him any serious inconvenience, and experienced some slight nausea. He was freely purged, and eight specimens of the stools were obtained, containing an abundance of undigested food. Any further purgation was considered unnecessary. The patient was given no food for twenty-four hours previously. The specimens of stool contained numbers of embryos, all of which were dead. No specimens of the parthenogenetic worm were observed.

One week later the same treatment was repeated, thymol being again given in heavy doses and following this a purge. In the evening an enema of sol. of quinin was given (1 to 1000).

After this treatment the patient improved considerably and was able to resume house diet. Examination of the stools, however, showed actively motile rhabditiform embryos, though in diminished numbers. The patient was now much better, and during my absence from the hospital he was discharged.

He disappeared from view until the beginning of April of this year. He had gone over to Washington, where he sometimes lived, and experienced a severe relapse. He gave his history in one of the Washington hospitals, and learning that he had been treated for a "foreign worm" a specimen of the stool was sent to Dr. Stiles, who found numbers of embryos in it. Since then Dr. Stiles has made systematic examinations of the stools in about 150 cases, and has succeeded in adding to our knowledge of the occurrence of the parasite in this country, five additional cases.

(The conclusion of this article will appear next week with the two articles on the same general subject by Drs. Henry B. Ward and Claude A. Smith.)

To administer quinin to children, according to a French pharmacist, mix 1 gm. (15 gr.) of the sulphate in a mortar with 8 gm. (2 drams) of olive oil. Twenty drops of this mixture will contain 5 centigrams (¾ gr.) of quinin. The mixture is poured into a tablespoonful of sugared milk, and will be easily swallowed.—*Indian Med. Record.*

SHOULD THE TUBERCULOUS PATIENT KNOW THE TRUTH REGARDING HIS CONDITION?*

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All physicians who practice at health resorts frequented by patients suffering from pulmonary tuberculosis find that comparatively few of these patients have any conception of their real condition, and in the rarest instances have they been carefully instructed as to the necessities for recovery.

The profession generally seems to be of the opinion that tuberculous patients should not be told the nature of their trouble, but the average tuberculous patient generally finds out the true nature of his disease, and when he does he loses faith in his physicians, and frequently, very justly, will censure them for not telling him the truth.

How is it possible to get the coöperation of the patient; to have him use care in the disposal of expectoration; to avoid violence and over-exertion in exercise, and many other things so important in the detail management of the case, if he does not even know that he has a serious trouble with which to deal?

The truth may depress him; probably it will for a short time, but it will not do him near the harm that his ignorance will result in, if he does not appreciate his condition. Every state and municipality is awaking to the danger of infection from the dried sputum of tuberculous patients. Our journals are full of papers advocating antispitting ordinances, institutions for the tuberculous poor and other safeguards intended to protect the public. But why, pray, should we have ordinances and legislation unless the patient is always to know the truth? Legislation we need, but we first need more candor on the part of the physicians.

Formerly a diagnosis was only made in the advanced cases. The patients all promptly died. Result: the laity watched these cases and observed, "they all die." But little idea was ever entertained in those days of the danger to others. We, as physicians, by our tardy diagnosis, have educated the public to the belief that the disease is uniformly fatal.

It is the duty of the physician to explain to the patient the dangers to himself and to others; to point out where he is most apt to make mistakes; to give explicit directions regarding his hygienic life, including diet, exercise, work, physical or mental application, secretion and excretion, sexual relation, and in fact, to go fully into the whole question of the hygienic life. Such instruction on the part of the physician is much more important than the prescribing of drugs with an idea of "cure" in this disease. These instructions and directions should apply to the incipient as well as the advanced cases. To get the coöperation of an incipient case (and his coöperation is of the most vital importance) he must know the truth.

The patient should thoroughly understand the possibilities of communicating the disease to others, and also that he can infect sound tissues in his own lung if he is not careful in following directions for disposal of expectoration. How can we expect care on his part if he does not understand the danger, both to himself and his friends? Many will use care on account of their friends, and others more selfish can only be appealed to with good effect when they realize that they endanger themselves.

The laws of health demand that the patient fully realize the danger to self and others.

Appeal to the patient on the ground that it is unkind to his friends not to make every effort to protect them. If this plan had been followed more in the past the disease would not be so common to-day.

If tuberculosis produced the rapid disfigurement and distress that many of our acute diseases do, or was the active developing disease that smallpox is, we would have quarantined against it long ago. Its slow development makes it hard for the laity to realize that danger exists. Quarantine is unnecessary in tuberculosis, provided the patient is properly instructed and these instructions carried out. The whole country is awaking to the fact that something must be done. We, as physicians, should realize that one-sixth of our death rate each year is caused by tuberculosis; in other words, one-sixth of those who die this coming year in this country will die of this disease. Those who die from tuberculosis the two years following this, in the great majority, already have the disease in an incipient form. It is to their interest to know the truth to-day. It is to the interest of the general public that they know it; that they are fully instructed and cautioned. They consult us for this purpose; it becomes our duty to determine their condition early and so inform them. We have a duty to the other members of a family as well as the patient. Can the state house this great army of patients? Can we quarantine them if we would? No. How can we, as physicians, prohibit the infection of others? By educating the people to their danger and instructing the patient as to his duty.

Is there any way in which the necessary hygienic measures can be secured without the coöperation of the patient? Can we ever get his coöperation unless we tell him that he has a tuberculous disease?

The patient comes to us for the truth. It is our duty to show him that the disease is not the fatal disease that the public have imagined, if instructions be followed. Every physician should keep at hand printed matter, instructions or directions, to put into the hands of the tuberculous patients.

We have for years told our patients that this disease is like unto a fire in a house. If you get after the fire when the match is struck it is easy to put out; let it burn until one whole room is on fire and you have a much more difficult undertaking; let it burn until the house is on fire from garret to cellar and it is sure to burn up.

For the protection of our neighbors, as well as our own property, we all handle fire with care. If a friend's house is on fire would you tell him? A thousand times more important is it to tell him when we find that he is infected with tuberculosis; here the greatest possession he has on earth is at stake. The sooner he knows it the better.

By telling the patient the truth, we may occasionally shorten the days of a few, but in the long run will save the lives of many hundred by following this policy. Our surgeons operate to save life, even when grave danger exists by such an operation to the patient. If our tuberculous patients are not told the truth, the danger is not only to the patient, but to all his friends included.

It is an unpleasant duty to perform, but one from which no physician should shrink; and especially should patients never be sent away from home without knowing their true condition.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

How frequently are we consulted by some poor soul who had left home and arrived at the resort suffering, as he says, from a "slight throat trouble"; arrived may be in the beginning, and, perhaps, well advanced in pulmonary or laryngeal tuberculosis; without money, expecting to procure work to pay for his board and keep; arriving under the fond delusion that by climatic influence his trouble will soon disappear; with no conception of the necessities for recovery; no knowledge of the gravity of his disease; in many instances his chances were a thousandfold better at home among his friends, had he been told the truth, given explicit instructions, given less medicine and more time by his physician.

The tuberculosis patient who does not know his true condition rarely improves. As his case progresses he becomes discouraged and loses confidence in his medical advisers, thinking they do not understand his case. Can he be blamed?

On the other hand, the patient who is told the truth may temporarily be depressed, but he quickly responds and enters heart and soul into the fight before him. Rarely indeed do we find a patient who has been properly instructed and handled (without misrepresentation) who does not look forward to recovery. Phthisical patients are, as a rule, hopeful. Not so the patient who does not know what is the matter.

Intelligent pulmonary patients sent away from home without being told the truth frequently, from observation alone, find out their condition. When they make this discovery themselves it creates distrust of the physician at home and places the physician at the resort in an embarrassing position, where the truth from him now will reflect on the physician who may have referred the patient to him; or, he likewise must misrepresent the facts to the patient with the result that later he will be censured, with the home physician, for "not finding out what the trouble was."

True, there are exceptional cases where the patient is accompanied by the parent or some one who can control him, when the whole truth need not be given to the patient, but these cases are extremely rare. We have in the past relied too much upon drugs; we have been too free with our prescriptions and too careless in our instructions. If we would give the patients more of our time and less of our dope, it would be better for the patient. The good results obtained from institution treatment of this disease are dependent, in a great measure, on the fact that the patients know their condition and are under constant supervision and instruction.

For the good of our tuberculous patients; for the protection of their friends and the public generally; for the protection of ourselves, both physically and from censure, let us fully inform our tuberculous patients as to their disease, and when so informed take the time to properly instruct them what to do and what to avoid.

To secure the proper position of the profession requires its unification, and unification can only be brought about by efficient organization, which, in turn, must be preceded by the enrolling of those who are to be organized. It ought to be made very clear that the man who, being legally admitted to practice medicine, does not unite with the local society places himself in the same relation to the medical profession that a bushwhacker does to an army. That man who manifests no interest in his profession will, in the last analysis, be very apt to forget the proprieties to be exercised toward the individual physician with whom he may come in contact.—Editorial, *Lehigh Valley Medical Magazine*, June, 1895.

THE INFLUENCE OF CONSANGUINITY ON THE ORGANS OF SPECIAL SENSE.*

LEE WALLACE DEAN, M.S., M.D.
IOWA CITY.

In treating this subject I have found that I am compelled to confine myself almost entirely to the eye. It presents to us such possibilities for exact investigation that the results secured overshadow those gained from a study of the other organs of special sense.

We have here blood vessels and a nerve with its end organ exposed to view. We can look on mesoblastic and epiblastic tissue. We can observe embryonic conditions if they exist. With the exception of the nervous system, more degenerate conditions are found in the eye than in any other part of the body. As most of the deleterious results of consanguinity are degenerative conditions, we ought to expect this to be a good field for research. You will readily observe that this paper is not a complete treatise on this subject. It has been almost impossible to find literature relating to it. I can only give to you the results of three years of observation of cases and study of them.

It is entirely unnecessary to go into the question as to the influence of consanguinity on organism as a whole. Talbot very nicely answers this question when he says that if the parent stock is perfectly pure there can be no bad results from consanguineous marriage. But if the parent stock is not pure there may be serious consequences. It is so rare to-day to find a perfect parent stock. An apparently perfect stock may not be so because hereditary influences may be quiescent for generation after generation, as is shown by atavism. In order to bring before you the practical side of this subject and its economic importance, I wish to cite some cases. All cases where the name of the observer is not mentioned are cases that have come under my own observation unsolicited in the short space of three years. Some of these cases were reported to the American Academy of Opthalmology and Rhinolaryngology:

CASE 1.—Male, age 17. Parents, grandparents, uncles and aunts had no serious eye trouble or degenerate stigmata. Parents were bright, well-to-do people. He has three sisters, Bessie, age 15, who is partially blind; Effie, age 9, whose vision is good, and Grace, age 4, who is blind. He has three cousins, one boy and two girls, all in the same family. Of these, Louis, age 16, is almost blind; Oran, age 19, can not count fingers, and the girl, age 13, seems to have unimpaired vision. The trouble in each case was retinitis pigmentosa. The fathers of the two families were brothers and the mothers sisters, and the fathers were cousins of the mothers. As the result of these two marriages we have in one family four children, three of whom are partially blind, and in the other family three, two of whom are practically blind.

CASE 2.—Female, age 14. Father and mother have brown hair. Parents were related. There is no history of malformation or other degenerate stigmata in the family. The girl is very large, but weak; she is not intelligent. Her hair is white; iris is a light blue. Examination of eyes revealed nystagmus, V.=6/24. Fundi without pigment. Diagnosis, albinoism.

CASE 3.—Female, age 16. Parents second cousins. Patient's teeth were imperfect. She had but three upper incisors, one root germ not having developed. An examination of eyes revealed V.=fingers in 2 M. Her eyes are so small that she has to hold her lids open with her fingers in order to see. On the right side there is a congenital absence of the iris. In the left eye the cornea is elliptical, being 3 mm. wide in a

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

horizontal direction and 2 mm. in a vertical direction. On this side there is a large coloboma of the iris, one-half of the lower portion being absent.

CASE 4.—Male, age 17. Parents are perfectly healthy. None of his ancestors have shown any signs of degeneracy so far as could be learned. His father and mother were first cousins. He has one brother and two sisters. One of his sisters is an idiot. She has microphthalmos, misplaced ears and other signs of facial degeneracy. The patient is exceedingly simple-minded. His ears are large and placed at right angles to the head. The helix is deformed. His face is covered with a growth of silky hair. The lower jaw is exceedingly small and is retrusive. He has no adenoids, but always keeps his mouth open. Examination of the eyes reveals on the right side a microphthalmic eye with a coloboma of the iris and choroid. On the left side there was an apparent absence of the eye. There were two small lids and a socket. No eye could be felt by introducing the finger in between the lids and feeling about in the orbit. The lower part of the socket was deformed. The union between the malar and the superior maxillary bone had never taken place. There was a space one-fourth of an inch wide between the two bones. The patient was given an anesthetic and a dissection of the contents of the orbit was made. The fissure between the malar and the superior maxillary bone was found to extend back to the spheno-maxillary fissure. In the apex of the orbit, lying closely against the optic foramen, was found a rudimentary eye. It was removed. It was about one-third of an inch in diameter. With the naked eye no change indicating the cornea could be detected. The eye was hardened in formaldehyd and alcohol and stained with hematoxylin and eosin. The eye was composed of an outer thick fibrous coat. The cornea could only be differentiated microscopically from the sclera by the absence of an inner lining of pigmented cells. The eye was filled with a myxomatous tissue much more solid than the normal vitreous. It contained some blood vessels, one of which was very large. No trace of retinal elements could be found. The internal structures seemed to have all undergone a myxomatous and mucoid degeneration. The lens and retina seemed to be absent.

CASE 5.—This is not a single case, but the report of a family with six children. The father and the mother were both dark complexioned. There was no history of any degenerate condition in the family. They were first cousins. They had but six children. Of these, two were dark complexioned and had good vision. The other four were albinos and had a vision of 6/12 or less.

CASE 6.—Female, age 5. Parents were first cousins. No history of any serious eye trouble or of degenerate conditions in family. Child was very dull. Left eye began to enlarge shortly after birth. O. D. apparently normal. O. S. very much enlarged. Tension normal. Diagnosis, congenital glaucoma left. The left eye was enucleated. The usual cupping of the disc was present. Microscopic examination failed to reveal any obstruction of the canal of Schlemm.

CASE 7.—Female, age 6 months.. This case I saw in consultation with Dr. Cooling of Wilton Junction, Iowa. Parents were healthy. No history of any tumor or eye trouble in the family could be elicited. Parents were first cousins. The parents said that two months before the right eye began to increase in size and a few weeks later the left began. The child apparently could not see. Pupils were dilated; would not react to light. Tension in right eye +2, and in the left +1. Both eyes were enlarged, the right the more. Lying behind the iris in each eye could be seen a large tumor. Diagnosis, double-sided neuroepithelioma. Four months after the child was seen it died.

CASE 8.—Male, age 4. Parents' and grandparents' history negative. Parents cousins. Boy has congenital coloboma of iris in each eye and anterior polar cataract in the right eye.

CASE 9.—This is a family reported by Dr. Vail. Parents cousins. Consanguinity was positively denied for a year. Parents' and grandparents' history negative. As the result of the union seven children were born. Five had congenital cataract. The cases were so helpless that Dr. Vail recommended that no more children be born.

CASE 10.—Dr. Alt reports a family in which there is constant intermarriage. Senile cataract is hereditary in the family. In the last generation several cases of congenital cataract have made their appearance. If there is any relation between the senile cataracts and the congenital the former must be hereditary cataracts not the result of a sclerosis of the nucleus of the lens, but rather a nutritive disturbance. One could not think of the former condition appearing in children.

CASE 11.—Female, age 12. Parents' history negative except that they were first cousins. Is an only child. Has simple atrophy of the optic nerve.

Of 181 blind children in the Iowa College for the Blind in 1900, 9, or about 5 per cent., were the result of consanguineous marriage of the first degree. The number of consanguineous marriages of the first degree in Iowa is far below 0.5 per cent. I ought to say that it is exceedingly difficult to secure a history of consanguineous marriage when present. There were probably others present in the college the result of consanguineous union.

If we exclude from the list those blind children who were blind because of blennorrhea neonatorum, sympathetic ophthalmia, trachoma, etc., and consider only those who suffered because of congenital conditions, we would find that 14 per cent. were the result of consanguineous marriage of the first degree. These figures seem large. I do not think they ought to be considered as indicating the relative proportion of degenerate eyes in families the result of consanguineous marriage and in those not, because we are considering here only one field. Among the pupils who have entered the college since 1900 the per cent. is about the same.

Two factors may enter into the production of many of these conditions: 1. The eye is really an outgrowth from the brain, and is consequently subjected to the same conditions as the central nervous system during its development. 2. The eye is changing, and an organ that is adapting itself to new conditions is more liable to malformation than one with a constant condition. The socket is becoming less deep and the superciliary ridges less marked. Fuchs believes that in families with school myopia the eyes have adapted themselves to their work.

A number of interesting things are suggested by these cases: 1. The relation of the inheritability of a condition to its production by consanguineous marriages. I would judge from these cases that the greater the inheritability of a condition the more liable is it to be the result of consanguineous marriages. Theoretically, this would also be the case. Retinitis pigmentosa is a disease of great inheritability. I have now under observation a grandfather, a mother and a son each with retinitis pigmentosa. As it is a comparatively rare condition there is not the chance for doubting the tendency of its appearing by marriage of individuals not related as the more common conditions.

The influence of consanguinity on retinitis pigmentosa has been mentioned by several. Dr Liebreich says that of 26 cases of retinitis pigmentosa, 53.8 per cent. were the result of consanguineous marriage. Magnus reports 33 per cent. of cases of retinitis pigmentosa in children, the result of consanguinity. Of 66 cases reported by Chapault, 45 per cent. were the result of consanguineous marriage. Of 18 cases under my observation where the history of the parents could be secured, 8, or 44 per cent., were the result of

consanguinity. Schobel[1] says it is generally dependent on consanguinity. A very careful examination into the history of the ancestors of the cases I mentioned failed to reveal any eye trouble of importance. Yet in the first group mentioned we have these cases appearing by intermarriage in the two groups when consanguinity took place. Albinoism has a strong inheritability. Congenital cataracts have also strong inheritability. Most of the cases mentioned were not true cataracts, but capsular opacities, the result of non-absorption of fetal structures. In approximately one-third of the cases, however, the capsule was not opaque, but the lamellæ were affected.

Some light may be shown on the cases reported by Dr. Alt, where congenital cataracts appeared in the offspring of relations suffering from senile cataract by the fact that hereditary cataracts some time appear earlier in each succeeding generation. I know of a case where the grandfather developed cataracts at about 50; the mother had one at 35, and the son had congenital cataracts.

2. It is interesting to note that where there is an arrest in development, as in the cases of microphthalmos, coloboma of the iris, congenital cataract, and anophthalmos, the eyes are in an opposite state to those of eyeless fishes and worms where they have been lost by disuse. Wagenmann[2] has found that the lens and the retina were almost the least of the structures acted on, and that the phyletic degeneration does not follow the reverse order of development. The eye does not resemble part embryonic conditions as in the eyes where there is an arrest of development. At birth the eye is almost normal, but with age it degenerates. The microphthalmic eye improves the first ten years after birth, owing to a diminution of the hyperopia. A third point in connection with these cases is the resistance after operative procedures. Dr. Gruber of London writes me that he has operated on a number of such eyes with good results. I have never seen any serious sequelæ following an operation. While there is an arrest of development, the nutrition is apparently normal.

As to the influence of consanguinity on the neuro-epithelioma, I would certainly not express any opinion. I simply mention the case as I found it while conducting my investigations.

DISCUSSION.

DR. J. W. FOSS, Phoenix, Ariz.—This subject of inbreeding is given a great deal of attention by stockmen, but is neglected by human beings. About two months ago I visited an ostrich farm near Phoenix, and they had just hatched out eight or ten chicks, and out of the lot, because of physical deformities, there was only one it was possible to save. This was the result of interbreeding. It costs so much to get a male ostrich from Africa that to save expense they interbreed and get few perfect offspring as a result. This paper gives us the key to our duty as physicians, and we can prevent many of these consanguineous marriages by firmly and persistently impressing on our patients and friends the unfortunate results of such union.

1. System of Diseases of the Eye. Norris and Oliver, vol. iii, p. 460.

2. Archiv für Entwickelungs Mechanik der Organismen, 8, 4.

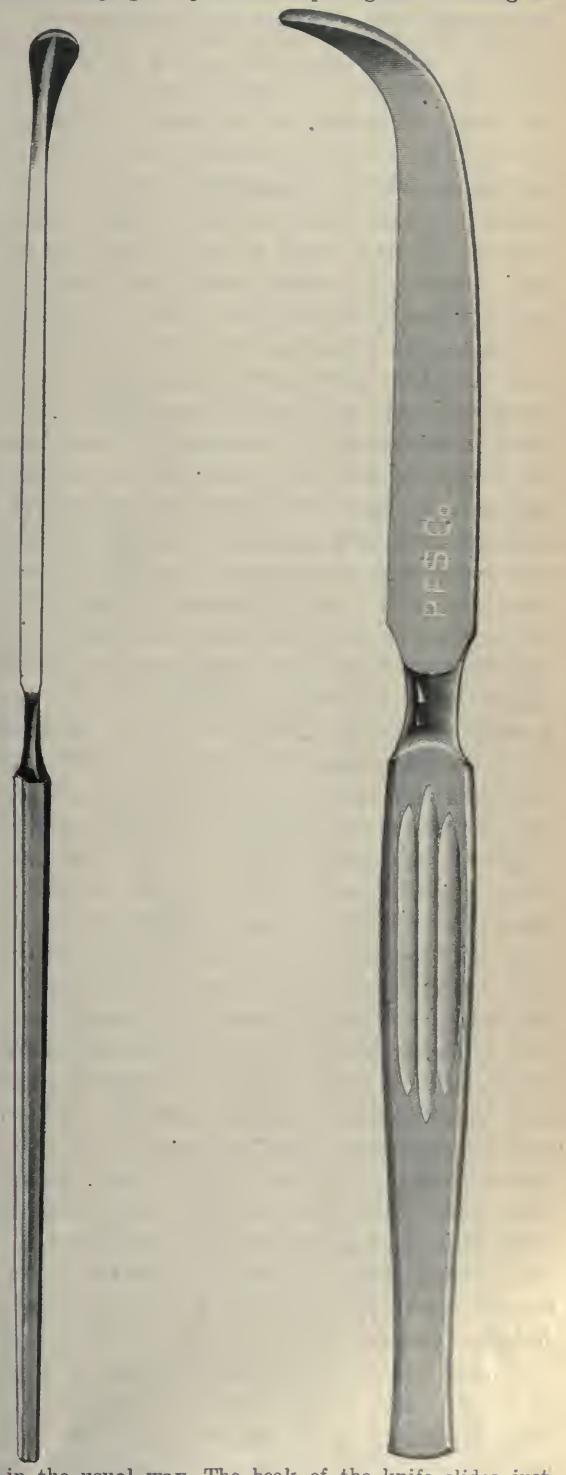
Sylvius the Medical Grammarian.—J. D. Sylvius, M.D., born in 1478, whose name is so associated with the anatomy of the brain, was a famous grammarian in his day and wrote a popular Latin grammar. The *Gaz. Méd. de Paris* states that he was the first to propose and use two distinct letters for i and j, and for u and v. He was also the originator of the French accents, distinguishing between the three sounds of e: e, è and é. Several members of the Estienne family, the celebrated printing firm, were physicians, likewise.

New Instrument.

A PERITONEUM KNIFE.

JOHN R. COOK, M.D.
FAIRMONT, W. VA.

The accompanying illustrations show a new instrument, a peritoneal knife, which I have found a very convenient device for quickly enlarging the peritoneal opening after making the



opening in the usual way. The beak of the knife slides just under the peritoneum, hugging the same closely, and in this way all danger of wounding the intestines is eliminated.

I also find it very convenient in enlarging the abdominal ring in operations for the reduction of hernia. As will be seen, the blade is long and will divide all tissues, if necessary, from within outward.

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THE FUNCTION OF THE CORPUS LUTEUM.

Everything about the structure of the corpus luteum suggests that it is of glandular nature. If one is examined at about the time of the implantation of the ovum it is seen to consist of rows of succulent cells radiating out from the center, resembling closely the structure of a liver lobule, not the cortex of the adrenal; that is, it resembles a true secreting gland. If it has an internal secretion such as the other organs it would naturally seem that this secretion must play some part in either menstruation or pregnancy, or more likely both, for it appears and disappears with menstruation, and reaches its highest development during the first months of pregnancy. This last indicates most probably a relation to the first phenomena of pregnancy, such as the implantation and the development of the ovum. This phenomenon of the preparation of the uterus for the reception, implantation and development of the ovum has always been mysterious, but it has also been evident that it could not be brought about by the fertilized ovum itself, for the changes are most rapid at the time when the ovum has neither vascular or nervous connection with the uterus and when it is still far too small to be of effect as a foreign body. On the other hand, these preparatory changes in the uterus occur when the corpus luteum is proliferating most rapidly, and in the later months of pregnancy when the corpus luteum is beginning to retrogress uterine growth is much less, and seemingly secondary to the rapid enlargement of the ovum. Furthermore, all animals that have a uterine insertion of the egg have a well-developed corpus luteum; those that discharge the undeveloped egg have either a rudimentary corpus luteum or none at all. These suggestive facts seem to have first been put together by the late Gustav Born, who developed from them the hypothesis that the corpus luteum of pregnancy must be a gland with internal secretion, the function of which was connected with the implantation and development of the fertilized ovum.

During his last sickness he requested L. Fraenkel to undertake the work necessary to the proof of this hypothesis and Fraenkel's[1] recent publication of his study is most interesting, and seems to constitute a distinct addition to our knowledge of the puzzling phenomena of menstruation and ovum implantation. Not only was Born's idea found to be correct, but it was found to be but part of a general law, namely: The corpus luteum during the years of generative activity produces through its internal secretion increased size and turgor of the uterus, as well as the periodic monthly hyperemia. This secretion accomplishes favorable conditions for insertion and growth of the ovum, or, impregnation failing to occur, it produces menstruation. If corpora lutea are lacking atrophy of the uterus occurs, and menstruation is absent. The condition of the uterus before puberty as well as after the climacteric depends on the absence of corpora lutea. In determining these facts rabbits were used, since in them the time of occurrence of the various series of events in the early stages of pregnancy have been pretty well worked out. It has been long known that removal of the ovary during the early part of pregnancy prevented maturation of the ovum, but Fraenkel found that a similar result was constantly obtained by simply burning out the corpora lutea, leaving the rest of the ovary intact; if a small part of the yellow bodies was left pregnancy was not always checked. In rabbits this influence seems to last through about twenty days of pregnancy, which is comparatively longer than is the case in women, since operative removal of ovaries as early as the third month has not always checked pregnancy. The effects produced by the corpus luteum seems to be chiefly through its influence on nutrition. As much atrophy of the uterus was found to follow simple destruction of the corpora lutea as after complete removal of the ovaries. A number of cases were found in the literature that seemed to Fraenkel to indicate that abortion in women with ovarian tumors has resulted from involvement or injury of the corpus luteum. There are also several instances of hydatid mole occurring in women with bilateral ovarian tumors, probably too many to be dismissed as merely coincident.

The relation of these bodies to menstruation was shown by burning the corpus luteum of menstruation found in the ovaries of women having regular periods, who were being operated on for malpositions or similar troubles that did not interfere with the observations. This addition to the operation is harmless, since such corpora naturally undergo resolution. The result in eight out of nine cases was that the next menstruation that was due was skipped, the succeeding menstruation occurring regularly as before. This seems to warrant the inference that the corpus luteum of one menstruation causes the next menstruation, in some way as yet not known.

When summed up it will be found that these studies simply enabled us to localize certain influences that the ovary has long been known to possess in the corpora lutea. The next step in order is the isolation of the active substance that the lutein cells secrete into the blood, as has been done with the thyroid and adrenal, and then we shall wish to learn how it acts, whether by vasomotor changes, or by directly affecting metabolism in the uterine tissue.

1. Archiv f. Gynaekol., 1903, lxviii, 438.

A certain practical result has already been found. Fraenkel was able in nearly all cases of operatively produced premature climacteric to greatly modify the symptoms by administration of lutein tissue from the cow, while at the same time further establishing his experimental results. Such lutein tissue is not difficult to obtain, since a large part of the bovine ovary consists of corpus luteum, and the results that he publishes warrant further trial of the substance as indicated by various conditions, particularly since it has been found to be harmless in any case.

MODERN LONGEVITY.

At the late actuarial congress in New York City, the subject of improved longevity was discussed and certain views expressed that have caused some sensational newspaper comments. It was declared by one speaker, according to the press reports, that the increase of average longevity was associated with a general degradation of the race. The increase of vitality was not in the strong, the results of sanitary reforms and of medical advances in the management of disease were only a diminution of mortality of the weakly and consequently a reduction of the general average of vigor and physical well-being in the mass. In other words, it is an interference with the process of natural selection by which the races of animals, man included, advance from the lower to the higher grades of physical perfection and being. This is not a newly discovered truth; it has long since been pointed out that mankind, especially in its social and recent development, does not come under the usual rules of natural selection—but naturally such an utterance captures the attention and is magnified by the press reporter.

There is more than one aspect in which this matter can be viewed. Undoubtedly we perpetuate the existence of many who are not the best samples of our race in the increased average longevity and the racial physique may apparently suffer. The survival of the helpless, the insane and all the defectives who would succumb under less artificial conditions also add to our "burdens," but it seems to us an error to say that the general result is race degeneration. The evolution of the human species has been intellectual rather than physical and at his present stage of development man is, as an animal, a degenerate. Physically, he is a weakling compared to his fellow animal in the jungle and pasture, but his better organized brain makes him incomparably their superior and their master. On an economic basis alone, the Spartan system of destroying the weaklings in infancy or the less ancient method of accomplishing the same result by neglect and ignorance is a fallacy. Every infant that dies at birth or in its period of helplessness is an instance of wasted human labor, and every one that is carried over to its age of helpfulness and productiveness is a possibility for the advancement of the race. Why this possibility is not always realized is a sociologic, not a medical or actuarial problem.

It is quite possible if not, indeed, probable, as has been pointed out by a recent writer,[1] that, while the average longevity is increased under better sanitation and with the advances in medicine in civilized communities, the number of instances of extreme longevity is diminished, and that we will find most instances of extreme old age in the lower, but not the lowest grades of civilization. Absence of stress and worry are the chief favoring factors of extreme longevity, and these are not so commonly associated with the complex conditions of modern civilization as with former patriarchal or feudal conditions. There is, moreover, a very material reason for the apparent diminished number of centenarians in highly civilized countries, the evidence is better sifted, and, as we have before pointed out,[2] the errors of ignorant persons as to their own excessive age are more frequently excluded. Those countries that have the most reliable vital statistics report the fewest cases that have passed the century mark. The fact that we do have so many instances of extreme age under modern conditions, together with an increase of average longevity, is good evidence of what the advance of medical science has done for the race. The further fact that the weaklings are preserved does not overbalance the general gain, and the prophecy of race degeneration from this cause may be safely disregarded.

THE SIMILARITY OF SERUM COMPLEMENT AND THE DIGESTIVE ENZYMES.

While the action of complement has long been likened to that of a ferment, that it is such, or is the same as the ordinary enzymes with which we are familiar, has never been established. It is strikingly like the proteid dissolving enzymes, especially trypsin, in the following particulars: It dissolves proteid substances, such as the bodies of red cells, of bacteria, or for that matter any other sort of cells to which it may be attached by a suitable amboceptor; it is not entirely specific for different substances; it acts best in a medium with a certain degree of alkalinity; it is destroyed by a degree of heat quite comparable to that destroying enzymes. On the other hand, it has not yet been demonstrated that cell solution by serum leads to the production of the various digestion products of proteolysis by which trypsin or other proteases are characterized. The known relation of complement to the leucocytes has suggested that it might be the same as the protease with which the leucocytes accomplish their remarkable feats of solution of digestible foreign and dead substances. The fundamental importance of complement in resistance to bacteria through bacteriolysis makes any light on its nature of particular value, and, therefore, the demonstration by Delezenne[3] of the similarity of action of the pancreatic and intestinal juices with that of the amboceptor and complement in producing cytolysis is of interest.

1. J. M. French, Med. Exam. and Prac., August, 1903.
2. THE JOURNAL, xl, p. 995.
3. Comptes Rendu Soc. Biol., 1903, No. v. 171.

We have recently spoken of the discoveries in the field of pancreatic digestion, showing that the enterokinase of the intestinal juice is essential to tryptic action, because it makes active the otherwise inactive trypsinogen which the pancreas secretes into the intestine. This action of enterokinase on trypsinogen Delezenne shows to be quite similar to that of amboceptor on complement, and he does it in the way that has yielded most of our information concerning complement, through a study of hemolysis by pancreatic juice. If red corpuscles that have been thoroughly washed with salt solution are placed in inactive pancreatic juice, that is, fresh pancreatic juice obtained pure through a fistula without coming in contact with the intestinal secretion, they are not at all affected for several hours. Pure intestinal juice, with its contained enterokinase, agglutinates them, but causes no hemolysis whatever. On the other hand, mixtures of the two, in which there is an active trypsin, dissolve the corpuscles very quickly. That this action is similar to that of amboceptor and complement the following experiments show: Red corpuscles are placed in each of the two tubes, one containing only intestinal juice, the other only inactive pancreatic juice, and they are allowed to stand in the cold for two hours. Then the corpuscles are repeatedly washed in salt solution, which frees them from any enterokinase or trypsinogen with which they are not united by other than physical means. If, now, the corpuscles that have been treated with enterokinase have inactive pancreatic juice added to them they are promptly dissolved, showing that the enterokinase had been combined with the corpuscles in a manner preventing it from being washed away, and from this site had made the trypsinogen active. On the other hand, when enterokinase was added to the corpuscles that had been treated with trypsinogen no dissolution of the corpuscles occurred, showing that the trypsinogen had been washed out completely, not having been united as had the enterokinase. In other words, enterokinase acts like amboceptor, uniting the corpuscles to the trypsinogen, which behaves like complement.

Whether the usual method of action of pancreatic juice in dissolving proteids is similar to this or not could not be finally determined, for albuminous bodies, particularly fibrin, have a way of entangling enzymes which makes it impossible to wash all the enzyme out, so that the above described experiments on red corpuscles could not well be repeated on foodstuffs. However, as far as experiments could be performed they indicated that this is the mechanism of pancreatic digestion. Ehrlich's conception of intracellular food receptors is thus shown to be very possible, indeed. As to the question of the proteolytic nature of complement as it exists in the blood, Delezenne's experiments seem to give rather a negative answer, at least so far as any identity with trypsin is concerned. In hemolysis by enterokinase and pancreatic juice the hemoglobin is not only liberated from the stroma of the red cells, but also decomposed and hematin is formed, whereas in hemolysis by serum the action seems to be limited to the liberation of the hemoglobin.

MEDICAL DEFICIENCY IN THE SOUTH AFRICAN WAR.

The report of the Royal Commission on the South African war takes up at some length the question of the medical management. While this subject has been treated by the special commission in 1900, they nevertheless again discuss it and find occasion for criticism of some defects similar to those which were developed in our brief Spanish war, such as insufficient personnel, defective sanitary organization, imperfect transportation facilities, etc., and some that we did not hear of, such as antiquated and cumbersome supplies, medicines twenty years old and instruments that should only be found in museums at the present time. We had more excuse for our deficiencies; we had a little army of 25,000, fairly well equipped, but this equipment and personnel could not be extended impromptu over a volunteer army of 250,000. In England they have a standing force of between 200,000 and 300,000 men, much of it in active service in some parts of the world all the time, and there would seem to be less reason why the defects above mentioned should exist in their case than in ours. The point is made that in a country with such facilities for supplying everything at need, it is useless to try to keep up large stores until they become antiquated and comparatively non-effective. Further, with colonial extension requiring more or less constant active service, it is reasonable to ask why the government should not be more ready for such emergencies as the Boer war. It is true the demands were extreme, and considerable excuse can be given, but the fact that the equipment of the colonial contingents and of the Boers themselves was generally so much better in many respects makes it appear that there had been too much red tape and official neglect somewhere. We do not mention the report as anything satisfactory to us because misery loves company, but simply because it is our business to learn as many valuable lessons as possible from other's experience as well as from our own.

THE LUST OF SLANDER.

Under the above heading, the *British Medical Journal* comments, July 25, on an appeal made the week previous by a deputation from the British Union for the Abolition of Vivisection before the Home Secretary of Great Britain. The deputation not only asked for a more rigid enforcement of the laws regulating vivisection, but for the enactment of more stringent ones. The deputation made use of the old arguments, and, of course, brought in the threadbare one to the effect that Sir Frederick Treves had stated that his experiments on animals had not been of service, for when he went to South Africa and operated on the soldiers the results obtained were quite different. As it happened, the Home Secretary knew something about the matter, for he stated that Sir Frederick Treves had repudiated the statement. He also informed them that the laws were being enforced and that he, for one, would not advise more rigid laws. Among those who appeared for the antivivisectionists

was a reverend gentleman who stated that watching these operations, i. e., vivisection, "induced a callousness that in time, in some cases, developed into a feeling of positive pleasure," and so on. The *British Medical Journal* analyzes the arguments presented and shows the basis for much of the "rot" that is being used as arguments by these zoöphiles. Among other arguments referred to is one credited to a "Dr. Leffingwell, an American antivivisectionist," a name that sounds very familiar in connection with antivivisection literature of this country. It occurs in an article which appeared in the *Abolitionist*, the official organ of the British Union for the Abolition of Vivisection, for 1901, entitled "A Terrible Revelation: Vivisection and Sexual Psychopathy," the terrible revelation being that "vivisectors make use of the sight of dying animals or torture animals to stimulate their lust." This statement, it is reported, is made on the authority of the above-mentioned American and by some unnamed person whom he cites as saying: *"En France on prolonge les vivisections pour se procurer d'infames plaisirs."* *American Medicine*, in commenting on this Leffingwell accusation, August 22, says:

It suggests a depth of degradation to which not even an antivivisectionist, and least of all an American, could fall. And now in the name of decency we call up Leffingwell—until he cleans himself not even Mr., surely not Dr.—to do one of two things: categorically and absolutely to deny that he ever made such a charge, or prove, up to the hilt, that it is true. Silence, or any characteristic antivivisectionist prevarication and indefiniteness, will leave him branded as poltroon and liar.

Thus far we have seen nothing from the Leffingwell referred to and we are waiting patiently. It is barely possible that he does not read medical journals, or possibly only such parts as may be twisted around to suit him in some of his "arguments." The old saying that "silence gives consent" we shall take to be true in this case, and certainly Leffingwell will be proud of the honor attached to him in having made such a dastardly accusation.

Medical News.

DISTRICT OF COLUMBIA.

Twelve Passed Examination.—Out of 22 physicians recently examined for appointment as medical inspectors of public schools, six passed; and of 11 examined for appointment as physicians to the poor six also passed.

Washington Suicides.—During the fiscal year just ended 54 deaths occurred by suicide, 22, or nearly 70 per cent., more than for the previous year. The revolver was used in 15 cases, carbolic acid in 11, and strangulation in 9.

Nonagenarian Illicit Practitioner.—Brooks Johnson, a colored individual claiming to be 98 years old, was recently arrested on the charge of practicing medicine without a license. The complaints allege that he offered to remove "spells" for $25.

Application Denied.—Dr. William C. Woodward, secretary of the Board of Medical Supervisors of the District of Columbia, has informed the commissioners that the board refuses to grant Salina Armstrong Hopkins, M.D., a license to practice medicine in the District, as the papers filed by her are not sufficient to warrant the issuance of a license without fee or examination.

Weaning of Children Fatal.—Dr. William C. Woodward, health officer, in commenting on the alarming death rate among infants from diarrheal diseases, says:

Weaning of children during the heated season is seldom recommended as a matter of choice, but only as a matter of necessity. In most instances the deceased infants were said to have been well developed and healthy and to have thriven so long as they were fed on mother's milk. The fatal change began with the substitution of other foods. The cause most commonly alleged for such substitution was the necessity under which the mother found herself of earning her own livelihood. Condensed milk seems to have been selected in most cases because of its convenience and not because of any intelligent belief in its superior merit. No effort was made to skimp on the price of this article. In only one case was a cheap brand used, and that was by no means the cheapest.

Those having the care of the babies seem generally to have been ignorant of the necessity for a proper water supply for such children. Little water was given as a rule, and even that small amount was Potomac water, unboiled. Nipples on bottles were but fairly well cared for. The sanitary condition of many of the premises in which these children lived was bad.

ILLINOIS.

Library Donated.—Charles C. Truesdale has donated the medical library of his father, the late Dr. Calvin Truesdale, to the Rock Island public library.

Anthrax Reappears.—Anthrax has broken out in the herd of cattle at Staple Farm, north of Palatine. Two years ago an outbreak of the same disease occurred in this section.

Personal.—Dr. Buenaventura H. Portuondo, Belleville, has been appointed commissioner of Cuba to the World's Fair, and also consul of Cuba at St. Louis.——Dr. Oscar Yarnell, Cerro Gordo, has gone to Europe.

Chicago.

The American Association of Obstetricians and Gynecologists meets in Chicago, September 22 to 24. The local members of the association are making arrangements to entertain those who attend with lunches, banquets, etc. The meetings will be held in the law library of the Northwestern University Building, corner of Dearborn and Lake streets.

Pasteur Institute Incorporated.—The Chicago Pasteur Institute has been incorporated by A. P. Lagorio, Carlotta Lagorio and B. G. Bruno, with a capital stock of $2,000, to treat hydrophobia.

Arrests.—Dr. L. Slominski and F. Eisen-Bockius have been arrested, charged with criminal malpractice.——Dr. Alfred Dahlberg has been arrested, charged with selling "cocain and other narcotics without a physician's prescription."

New Location for Temperance Hospital.—The directors of the Frances E. Willard National Temperance Hospital have decided to erect a $75,000 building on Lincoln street, between Polk and Harrison streets. The lot has been paid for, and there is $25,000 for a building fund on hand.

MARYLAND.

Baltimore.

August Deaths.—During August there were 860 deaths, 39.77 per cent. being of persons under 5. Of the causes of death the following were most prominent: Diarrhea and enteritis, 136; tuberculosis, 101; heart disease, 55; Bright's disease, 48; cancer, 37; pneumonia, 30; typhoid fever, 26; apoplexy, 24; scarlet fever, 11; whooping cough, 10; dysentery, 9, and diphtheria, 7.

Johns Hopkins Faculty Changes.—The following changes have been announced in the Johns Hopkins Medical School: Dr. Norman McLeod Harris has accepted a position in the bacteriologic department in the University of Chicago. Dr. Glanville G. Rusk, assistant in psychiatry, has accepted a position with the Pathologic Institute of New York. Dr. Burton D. Myers, assistant in anatomy, has an appointment as instructor in anatomy in the Indiana State University.

Personal.—Dr. Thomas Cullen has gone to his camp in Canada to spend a month. He has as his guest Dr. Howard A. Kelly, who returned from Europe August 29.——Dr. L. Ernest Neale has returned from Europe.——Dr. John Ruhräh has returned from a trip to England, Ireland and Scotland.——Dr. Joseph E. Teard is at Governor's Run on Chesapeake Bay.——Dr. William B. McDonald is at Capon Springs, Va.——Dr. Albert Shelley has gone to England.——Dr. J. Staige Davis is at Eaglesmere, Pa.

Johns Hopkins Ex-Internes.—Movements of former members of the staff are announced as follows: Dr. J. Auer has gone to Chicago to practice; Dr. J. B. Briggs has been made a member of the permanent staff of the hospital; Dr. Camillus Bush has been appointed assistant resident surgeon; Dr. J. W. Churchman is to be associated in practice with Dr. Hugh Young, Baltimore; Dr. H. W. Cook has been appointed resident physician at the Memorial Hospital, Richmond, Va.; Dr. M. L.

Haviland will practice in New Jersey; Dr. C H. Horst is to remain temporarily at the hospital. Dr. E. W. Meisenhelder has received an appointment in the Varnes Hospital, Washington, D. C.; Dr. C. B. Wright will remain temporarily at the hospital; Dr. F. W. Lynch, resident obstetrician, is going to the University of Chicago, and Dr. H. T. Marshall, assistant resident pathologist, is going to Montana on a mission for the United States Bureau of Animal Industry.

MASSACHUSETTS.

Personal.—Dr. George L. Richards, Fall River, is recovering from typhoid fever.

Smallpox Difficulties.—The board of health of Fall River is having much difficulty in stamping out smallpox. Recently a house was forced open by the police with axes and two men ill with the disease were found hidden, and removed to the hospital.

Mortality of Boston.—The mortality in Boston still continues low for this season of the year. The total number of deaths for the four weeks ended September 5 was 798, 42 less than during the same period last year and an annual rate of 17.23 per 1,000. Deaths under one year numbered 248; under 5 years, 302. There were reported 17 deaths from diphtheria, 2 from scarlet fever, 15 from typhoid fever, 78 from tuberculosis, 3 from pertussis, 63 from heart disease and 25 from marasmus.

Tuberculosis Aid and Education Association.—A new association whose objects are "to cure at home if possible persons suffering with tuberculosis; to relieve with food, so far as possible, all needy tuberculous persons; to educate the entire community in the care and prevention of this disease; to promote the establishment of hospitals for hopeless cases," hopes soon to commence active work in Cambridge. Mrs. Rufus P. Williams is chairman of the committee; Dr. John L. Hildreth, Cambridge, is chairman of the advisory board, and Dr. Edward O. Otis, Boston, advisory expert.

The New Harvard Medical School.—The plans for the first group of buildings of the New Harvard Medical School recently filed call for five buildings, fireproof, with white marble walls. The administration building, 166 by 124 feet, and 5 stories high, will cost $535,000; the physiologic laboratories, 196 by 148½ feet, 3 stories, $421,000; the laboratories for bacteriology and pathology, 185 by 128 feet, 3 stories, $390,000; histology and anatomy get a three-story building, 196 by 148 feet, and costing $396,000, while pharmacology and hygiene will be studied in a three-story building 185 by 108 feet, to cost $346,000. All are to be erected beyond the fens on Longwood avenue, on the lot which extends through to Francis street and Huntington avenue.

Out-Patient Department Opens.—September 1 the new outpatient building of the Massachusetts General Hospital was opened. It is a large three-story building, on the western side of the hospital grounds, with entrance on N. Grove street. It forms part of the new group of buildings already planned, and partly built, which will entirely inclose the open grass plot, on one side of which stands the old hospital designed by Bullfinch. This new building is complete in all its equipment, special efforts being made for asepsis, extension apparatus for specialists and the best means for clinical instruction. A unique feature is the card catalogue system of keeping case records, which are all kept at the central office and sent to the treatment room by dumb-waiter and messengers. Daily notes are made by the physician and the record thus returned to the central office and filed. An abundance of cross references will make this centralized record bureau of great value to anyone looking up special diseases.

MICHIGAN.

Smallpox.—The State Board of Health reports smallpox present at 37 places in the state.

Donation to Hospital.—From the receipts of the firemen's tournament recently held at Calumet $1,000 has been given to the building fund of the new St. Joseph's Hospital.

Michigan Standard Too Low.—The president of the Canadian Medical Association, in an address, declared that although Michigan was constantly raising her medical standard it was still too low even to be considered by the Ontario Medical Council.

Sent to Jail.—Dr. Richard L. Cornwell, Montague, has been sentenced to thirty days' imprisonment on a charge of non-support.——Paul Newton, claiming to be a "professor in Belleview Hospital, Chicago," was arrested at Benton Harbor, September 2, charged with obtaining $200 by fraud from a farmer at Sodus on an alleged contract to cure the farmer's wife of asthma. Being unable to furnish bail, he was sent to jail.

Personal.—Dr. Edward P. Wilbur, Kalamazoo, has been elected a member of the board of censors of the Kalamazoo Academy of Medicine, vice Dr. John H. McKibbin, removed from the city.——Dr. William A. Stone, Kalamazoo, has been elected to fill a vacaney in the board of censors of the Kalamazoo County Medical Society.——Dr. William J. O'Reilly has been elected president and Dr. Michael D. Ryan secretary of the medical staff of St. Mary's Hospital, Saginaw.

NEBRASKA.

Scarlet Fever Closes School.—The German school, 12 miles northwest of Beatrice, in Hanover Township, has been closed on account of the prevalence of a severe type of scarlet fever.

Personal.—Dr. Elias Holovtchiner, Omaha, has returned after a trip of three months in Europe.——Dr. Irwin C. Sutton, Shubert, will take two years of post-graduate work in Philadelphia and Europe.

Downs in the Toils.—Dr. Charles W. Downs, Omaha, was recently haled before the State Board of Health with having violated a statute by distributing pamphlets or other advertising matter detrimental to public morals. Dr. Downs pleaded ignorance of the law, and his case was allowed to go over until the September meeting.

Physicians Object to Law.—Omaha physicians are said to object to the provision of House Bill 63, requiring reports of contagious diseases to be made to the State Board of Health. The act makes it obligatory on attending physicians to file such reports with the board, at their own expense. The act imposes a penalty for each violation of its provisions. In addition the state board has adopted a rule requiring all these reports to be filed within twenty-four hours and all cases of smallpox, scarlet fever, diphtheria and meningitis to be quarantined not less than fourteen days and until such time as the case shall cease to be infectious. After the patient is released a release card must be filled out and sent to the board.

NEW YORK.

Milk Testing.—The monthly report of the state health department devotes much space to methods of testing milk intended for the use of infants.

Consumption Decreased.—It is reported that deaths from consumption in New York have decreased 40 per cent. since the health department began its crusade against the disease in 1891.

Lawton Hospital Opened.—Lawton Hospital, Herkimer, erected by Levi Lawton at a cost of $5,000, and equipped by other residents of the village at an expense of $3,000, was dedicated August 29.

Syracuse University Changes.—Drs. Tennyson L. Deavor, H. B. Doust and G. S. Doust have been made instructors in and demonstrators of anatomy; Dr. George A. Hanford is the new lecturer on chemistry and physiologic chemistry, and Dr. W. Dewey Alsever has been appointed instructor in physical diagnosis.

Deaths in Cities.—Vital statistics show the death rate in July to have been lowest in Ogdensburg, 9.4 per 1,000 and highest in Jamestown, 27 per 1,000. Of the larger cities Albany was highest (20.7), Rochester was lowest (15.7), with Syracuse (15.8), Buffalo (16.6), and New York (19.6). There were no cases of smallpox, though the average for five years has been 25.

Buffalo.

Personal.—Dr. Ernest Wende is on a fishing trip in Northern Canada.——Dr. Albert T. Lytle is taking a trip up the lakes.——Dr. James W. Putnam has returned from Prout's Neck, Me.——Dr. Edward L. Frost has returned from Muskoka.——Dr. Eugene A. Smith has resumed practice after an extended stay in the Adirondacks.

Adulterator Fined.—William Hipkiss, a milk dealer, pleaded guilty and was fined $50 and costs in the Municipal Court for putting formaldehyd in cream as a preservative. Mr. Hipkiss made an affidavit that the material used was bought under the name of "Special in Preservative" from the Preservative Manufacturing Company of New York. The State Department of Agriculture will investigate the matter mentioned in Hipkiss' affidavit.

New York City.

A Narrow Escape.—Dr. George G. Rambaud, director of the Pasteur Institute, and his wife had a very narrow escape from severe injury in a collision between their automobile and an electric car.

Free Antitoxin.—The health commissioner has asked for $70,000 for diphtheria antitoxin, and recommends that hereafter the sale of antitoxin by the department be stopped and that the preparation be furnished without expense to residents of the city.

Personal.—Dr. Edward H. Giles, while driving near Goshen, Mass., sustained a fracture of the arm and two ribs and a sprain of the hip in a runaway accident.——Dr. Frederick L. Flynn, house surgeon of St. Catherine's Hospital, Brooklyn, has resigned and has been succeeded by Dr. Lewis Schaefer.

PENNSYLVANIA.

Typhoid at Carbondale.—Up to noon, August 25, 47 cases of typhoid fever had been reported to the Carbondale Board of Health.

Staff Appointed.—Drs. Samuel C. Stewart, Francis G. Bennett and Bert E. Leipold have been appointed to the medical staff of the Clearfield Hospital.

Ambulance Struck by Locomotive.—While conveying a patient to the McKeesport Hospital, an ambulance was struck by a switch engine at Riverton and demolished; the ambulance surgeon was badly bruised, the driver thrown into the air and cut and bruised, but the patient escaped injury.

Pure Food Crusade.—August was a record-making month for the State Dairy and Food Department. About $6,500 was collected in fines for adulterations, and about 200 prosecutions were begun. About 100 dairymen of western Pennsylvania have recently been prosecuted and fined for putting formaldehyd in milk, the fines aggregating over $5,000. The president of a prominent brewing firm of Philadelphia is held in $500 bail on the charge of adulterating beer with salicylic acid. Several grocery firms when arraigned acknowledged selling adulterated goods, brandy, vinegar, lemon extract, etc.—though in some cases it was done ignorantly—and paid fines of $50 each and costs of court. The activity of the dairy and food commissioner is generally highly commended. Although the prosecution of firms selling impure articles in ignorance—sometimes under guarantee of their purity—seems a hardship, yet in the end it will perhaps prove an efficacious method of ridding the market of spurious goods and protecting the public from injurious and poisonous foods.

Philadelphia.

Memorial Services.—On August 30 memorial services were held in honor of John D. Laukenau, the benefactor and president of the German Hospital for so many years, the occasion being the third anniversary of his death. The board of trustees and other hospital officials and invited guests attended the service held in the hospital.

Instruction to Mothers.—Talks to mothers on the feeding and care of infants by members of the profession who volunteered to do so, are from time to time given under the auspices of the Bureau of Health. The plan seems the beginning of a practical method of instructing mothers in the essentials of the rearing of infants—a subject on which there is much gross, not to say criminal, ignorance.

Municipal Hospital Changes.—Dr. Jay F. Schamberg, on August 31, tendered to the Department of Health his resignation as assistant physician to the Municipal Hospital. Dr. B. Franklin Royer, on September 1, entered on his duties as chief resident physician of the hospital, thus dispensing with the necessity of an assistant physician. Dr. William M. Welch, who becomes consulting physician to the institution, is to receive a salary of $2,000 a year. Dr. Royer will receive a salary of $2,500 a year.

Much Typhoid.—A surprisingly large number of cases of typhoid fever are reported in the city. For the week ended August 29 there were 133 new cases, for the succeeding week 104. Officials are somewhat at a loss to account for the source of the contagion because some wards supplied with filtered water show the largest number of cases. The Bureau of Health is making especial study of the cases to determine the source of the infection.——Smallpox has decreased, there being 10 new cases for the last week of August, and 12 the following week.

Improved Milk Supply.—Much has recently been done and is now in progress to improve the milk supply of the city and state. Dairy and Food Commissioner Warren is carrying on an active warfare against impure foods, including milk. Additional city milk inspectors have been appointed and all are instructed to do their work thoroughly and carefully. The public has been invited to bring samples of milk to the Bureau of Health and to have them examined free of charge. Milk shops have been closed when they have failed to keep up to a proper standard of cleanliness.

To Stamp Out Smallpox.—More drastic measures have been adopted to stamp out smallpox. All cases of smallpox will be removed to the Municipal Hospital, none will be treated in their homes, as has sometimes been allowed. The inmates of the house in which a case occurs will also be sent to the Municipal Hospital for disinfection. While the latter is being accomplished the house will undergo fumigation, the effectiveness of the latter to be determined by a bacteriologic test. The entire process will take about 24 hours, after which those who have been exposed will be allowed to pursue their vocation, provided they have been successfully vaccinated. If vaccination is refused, quarantine will be imposed.

RHODE ISLAND.

Vanderbilt Waid Opened.—On August 1 the Newport Hospital received the new Vanderbilt ward, said to have cost $250,000. Other gifts from this family make the total received from them by the hospital over $500,000.

Diphtheria at Naval Station.—There are said to be about fifty cases of diphtheria at the naval training station at Harbor Island, and a number of cases developed on the *Monongahela* while she was out on a cruise for a month.

Another Glanders Death.—The third death from glanders in the state occurred in Warwick August 18. The patient contracted the disease from his horse, ill with the disease, which he was treating. The first lesion was an ulcer of the face near one eye.

TENNESSEE.

Released on Bond.—J. D. Alston, a colored physician of Nashville, arrested on the charge of criminal malpractice whereby the death of a young negress is alleged to have been caused, has been released on bonds of $3,000.

Health of Knoxville and Nashville.—In July 14 cases of smallpox and 2 cases of measles were reported in Knoxville. The death rate for the month was at the annual rate of 11.40, or nearly fifty per cent. less than for the preceding month. Tuberculosis led the death-causes.——In Nashville there were 182 deaths during the month, and 112 births were reported.

Personal.—Dr. S. Walter Woodyard has been appointed a member of the pension examining board at Greenville.——Dr. Oscar Copeland, Chattanooga, has returned after a tour of Europe.——Dr. Alfred S. Horsley, Knoxville, has been appointed division surgeon on the Mexican International Railway, with headquarters at Monclova.——Dr. and Mrs. Owen H. Wilson, Nashville, are in Japan.——Dr. D. T. Gould has been elected house surgeon of the Nashville City Hospital.

Vanderbilt Faculty Changes.—The medical department of Vanderbilt University, Nashville, announces the following changes in its faculty: Dr. George C. Savage has been made secretary of the faculty; Dr. George H. Price, professor of physiology and diseases of the eye, ear, nose and throat; Dr. Samuel S. Briggs succeeds Dr. A. Bennett Cooke as professor of anatomy; Dr. Owen H. Wilson has been made clinical professor of diseases of children; Dr. W. F. Clary, Jr., assistant to the chair of medicine; Dr. W. C. Dixon, assistant to the chair of gynecology; Dr. Albert W. Harris, assistant demonstrator of anatomy and assistant to the chair of abdominal surgery; Dr. William Litterer, assistant to the chair of materia medica and therapeutics, and demonstrator of histology and pathology.

TEXAS.

Appropriation for Post Hospital.—Authority has been granted for the construction of a hospital at Fort Bliss to cost $20,000.

Epileptic Colony Opens in October.—The state board of managers for the epileptic colony announces that the buildings will be completed and ready for the reception of patients about October 1.

Trouble Brewing.—Many physicians and midwives are ignoring the law passed by the last legislature providing that all

deaths and births be reported to the county clerk. The State Health Department announces that failure to comply with the law may be followed by prosecution.

Personal.—Dr. Benjamin F. Chambers, Palestine, who was recently assaulted and seriously injured, is making a good recovery.——Dr. Alva W. Carnes, Hutchins, physician at the Dallas County farm, is suffering from a dislocated shoulder and a fractured arm as the result of a runaway accident.—— Dr. H. C. McClanahan, Manor, has been appointed assistant superintendent of the Gardner Sanitarium, Belmont, Cal.

WISCONSIN.

Insanity Increases.—The report of the State Board of Control for the year ended June 30 shows that there were 197 more insane patients in the state than in the previous year, the respective aggregates being 5,372 and 5,175.

Tuberculosis Leads.—The death-causes in Wisconsin for the past year, in order, were as follows: Tuberculosis, pneumonia, organic heart disease, accident, kidney disease, gastroenteritis, cancer, typhoid fever, cerebral congestion, hemorrhage and diphtheria.

Appoints Tuberculosis Commission.—Governor La Follette has appointed a commission, consisting of Dr. Gustav Schmitt, Milwaukee, Prof. H. L. Russell, bacteriologist at the state university, Madison, and Dr. Michael Ravn, Merrill, whose duty it is to determine the advisability of the establishment of a state hospital for the treatment of tuberculosis in human beings.

Personal.—Dr. George Alfred Elliott, assistant physician at Lake Geneva Sanitarium, has resigned and has gone to Colorado on account of the ill health of his wife.——Dr. William J. Cronyn has been made professor of medical jurisprudence in Milwaukee Medical College.——Drs. Camillis E. Richards and William C. F. Witte, Milwaukee, have returned from Europe.

Right to Practice.—Dr. L. W. Zochert, Fond-du-Lac, has sued Dr. J. H. Blekking, Hingham, for the recovery of $1,000 on alleged breach of contract. The defendant, in consideration of $1,000 and $300 equity in property, is asserted to have given the plaintiff the entire field in the town of Hingham. A temporary injunction has been granted restraining Dr. Blekking from practicing medicine within an eight-mile radius of Hingham.

GENERAL.

Personal.—Dr. Archibald N. Sinclair has been appointed a member of the Board of Medical Examiners of the Territory of Hawaii, in place of Dr. C. L. Garvin, resigned.

Leprosy Scandal in Porto Rico.—The alarm caused concerning leprosy and the danger of its spread from the colony at San Juan has caused extensive investigation, which is expected to place the colony under proper conditions, and will result in the enforcement of regulations.

A Queer Coincidence.—In the obituary columns of this issue will be found the names of Drs. Thomas Palmer Wynn of Durham, N. C., and Alexander Montague Atherton of New York, and the same names appear under marriages. Dr. Wynn died from ptomain poisoning four days after his marriage and Dr. Atherton died from a throat trouble of long standing three days after he was married.

Yellow Fever Spreads in Mexico.—Yellow fever is reported to be spreading in the vicinity of Monterey, Tampico, Linares and Victoria, Mexico. In some places it is epidemic. The daily death rate is large. The Mexican Central Railroad has suspended operation between Monterey and Tampico by order of the Mexican government. Texas is enforcing her quarantine and endeavoring to exclude the disease.

Rumors of a Plague in Cuba.—Some epidemic of unknown nature but of great fatality was rumored to be raging in Daiquiri, an isolated town in the province of Santiago, Cuba, among men employed in the iron mines. The lay press has devoted columns and scare heads to it, but every authority they have thus far referred to has contradicted the rumors. The basis of the report is evidently the request sent to Columbia University and Jefferson Medical College for aid in diagnosis and treatment of malarial complications at the point mentioned. Dr. C. J. Finlay, chief of the Cuban Health Department, cables his denial of the exaggerated story and has sent Dr. Guiteras to Santiago to investigate.

The American Journal of Orthopedic Surgery.—The first number of this journal has just appeared. It is to be the official publication of the American Orthopedic Association. Its first issue is a handsome, well-illustrated number of over one hundred pages. The editorial committee consists of Drs. R. W. Lovett, Boston, B. E. MacKenzie, Toronto, and Harry M. Sherman, San Francisco. It will be published quarterly and replaces the Transactions, Vol. 1 of the Journal being Vol. XVI of the Transactions. If the contents of the first number are an indication of the permanent character of the Journal it certainly deserves the support of that portion of the profession that is interested in its special subject.

Government Wants Pure Milk.—The Agricultural Department, realizing the importance of the question of pure milk in the large cities, has issued a bulletin giving valuable suggestions with reference to the preparation and delivery of the supply. The bulletin calls attention to the fact that the ideal vessel for the conveyance of milk remains to be discovered. The following points are emphasized:

The registration of all dairies.
Official indorsement of properly conducted dairies.
Inspection of all herds, barns, dairy buildings, etc., once a month.
Better lighting, ventilation, drainage and cleanliness of cow stables.
Whitewashing the interior of stables.
Eradication of tuberculosis from dairy herds.
Branding of condemned cows.
Cows not to be given swill feed, etc.
Cows to be regularly cleaned.
Pasturage for city cows.
Delivery of milk and cream in sealed packages.

Increased Longevity.—The International Congress of Insurance Actuaries held its session in New York City. A prominent feature in the discussion was the admitted fact that people are longer lived now than formerly. This was attributed to the growth of hospitals, the advance in medicine and surgery and the more enlightened care of the poor and suffering, particularly the children. John K. Gore of Newark, N. J., presented statistics showing that during the last five years of the century there had been a very perceptible decrease in the mortality rate. From 1870-1874, the period including the fatal smallpox epidemic of 1872, there was an increase in the death rate at every age group but one. From 1880-1884, the rate was relatively high owing to the great prevalence and wide distribution of diphtheria, scarlet fever and measles. The influenza epidemic of 1891 caused an augmented death rate from 1890-1894. As to causes, it was stated that there had been a remarkable decrease from phthisis and a slight decrease from typhoid in the northern countries. Most of the other causes, affecting chiefly adult lives, show large increases.

The American Association of Obstetricians and Gynecologists will hold its sixteenth annual meeting in the Northwestern University Building, Dearborn and Lake streets, Chicago, Tuesday, to Thursday, Sept. 22-24, 1903. At 7:30 p. m. Wednesday the annual dinner will be served at the Auditorium Annex, at $3.00 a plate. Those who will attend should notify the secretary. The program is as follows:

TUESDAY, SEPTEMBER 22, 10 A. M.

Relationship of the Colon to Abdominal Tumors. Dr. James F. Baldwin, Columbus.
Ectopic Pregnancy. Dr. Henry D. Ingraham, Buffalo.
The Value of Vaginal Cesarean Section, with Report of a Case. Dr. Martin Stamm, Fremont.
The Limitations of Cesarean Section. Dr. E. Gustav Zinke, Cincinnati.
The Gilliam Operation. A Clinical Contribution. Dr. Edward J. Ill, Newark.
Hysteria as a Result of Chronic Atrophic Parametritis. A Contribution to the Study of Nervous Disturbances. Dr. W. A. Freund, Berlin.

TUESDAY, SEPTEMBER 22, 2:30 P. M.

Report of a Fourth Consecutive Successful Operation for Acute Perforated Gastric Ulcer with General Infection of the Peritoneal Cavity. Dr. Henry Howitt, Guelph.
Should the Uterus and Ovaries Be Removed in Operating for Double Pyosalpinx? Dr. Carlton C. Frederick, Buffalo.
The Technic of Gynecologic Operations and Treatment. Dr. Albert Vander Veer, Albany.
The Indications and Technic of Vaginal Drainage for Suppuration in the Pelvis. Dr. Albert Goldspohn, Chicago.
Shortening the Round Ligaments by the Blunt Hook Method. Dr. Howard W. Longyear, Detroit.
Extravaginal Elongation of the Cervix. Dr. Marcus Rosenwasser, Cleveland.
Report of Abdominal Sections During Pregnancy. Dr. Xavier O. Weber, Pittsburg.

TUESDAY, SEPTEMBER 22, 7:30 P. M.

Study of the Symptoms and Surgical Treatment of Intestinal Perforation in Typhoid Fever. Dr. W. D. Haggard, Nashville.
Rational Treatment of Postpartum Infection of the Uterus. Dr. D. Tod Gilliam, Columbus.
Conservative Surgical Treatment of the Uterine Adnexa. Dr. Augustus P. Clarke, Cambridge.
Traumatic Rupture of the Intestines without External Marks of Violence, with Report of Cases. Dr. George S. Peck, Youngstown.

Penetrating Gunshot and Stab Wounds of the Abdomen, with Report of Cases. Dr. John Young Brown, Jr., St. Louis.

WEDNESDAY, SEPTEMBER 23, 9:30 A. M.

Surgery of the Ileocecal Valve for Non-malignant Disease. Dr. N. Stone Scott, Cleveland.

Infantile Uterus, Scanty Menstruation, Amenorrhea and Dysmenorrhea Cured by Stem Pessaries. Dr. J. Henry Carstens, Detroit.

Tuberculosis of the Female Genitalia and Peritoneum. Dr. John B. Murphy, Chicago.

Appendicitis. Dr. Walter P. Manton, Detroit.

A Demonstration of Two Interesting Specimens, with Brief Histories. Dr. Xavier O. Werder, Pittsburg.

WEDNESDAY, SEPTEMBER 23, 12 M.

Memorial Address on the Life and Character of William E. B. Davis. Dr. Lewis S. McMurtry, Louisville.

President's Address. Dr. L. H. Dunning, Indianapolis.

WEDNESDAY, SEPTEMBER 23, 2:30 P. M.

The Choice of Methods for Closing the Abdominal Incision. Dr. Edward Ricketts, Cincinnati.

Cysts of the Kidney Resembling Ovarian Tumors, with Cases. Dr. Rufus B. Hall, Cincinnati.

Hysterectomy in Infectious Diseases of the Uterine Appendages. Dr. Harry C. Deaver, Philadelphia.

Supravaginal Amputation for Fibroid Tumors, with Report of Cases. Dr. H. E. Hayd, Buffalo.

The Scope and Limitation of Myomectomy in the Treatment of Fibroid Tumors of the Uterus. Dr. L. S. McMurtry, Louisville.

Coincident Tubal and Uterine Pregnancy, with the Report of a Case. Remarks. Dr. Frank F. Simpson, Pittsburg.

THURSDAY, SEPTEMBER 24, 10 A. M.

Symptomatology of the Pelvic Musculature. Dr. Hugo O. Pantzer, Indianapolis.

Palliative Treatment of Cancer of the Cervix. Dr. Walter B. Chase.

Abdominal Versus Vaginal Hysterectomy in Carcinoma Where the Radical Operation is Warranted. Dr. John B. Deaver, Philadelphia.

An Analysis of Common Causes of Death Following Pelvic and Abdominal Operations. Dr. Joseph Price, Philadelphia.

Total Extirpation of the Vagina for Carcinoma. Dr. Charles G. Cumston, Boston.

The Use of Veratrum Viride in Surgical and Obstetrical Practice. Dr. Charles L. Bonifield, Cincinnati.

THURSDAY, SEPTEMBER 24, 2:30 P. M.

Anesthesia in Abdominal Surgery. Dr. J. J. Gurney Williams, Philadelphia.

Further Preliminary Notes on Ovarian Grafting. Dr. Robert T. Morris, New York.

Clinical Demonstration of Special Points of Surgical Interest. Dr. John B. Murphy, Chicago.

Emergency Abdominal Surgery at the Patient's Home. A Demonstration. Dr. W. G. MacDonald, Albany.

FOREIGN.

Typhus in Bavaria.—Four hundred cases of typhus are reported in two regiments of the Bavarian infantry at Hammelburg, Bavaria.

Ismailia Free from Mosquitoes.—It is reported in London that as a result of the measures for the extermination of mosquitoes in Ismailia, malaria has dropped from 569 cases in the period January to May, 1902, to 72 in the same period for 1903. It is predicted that malaria will practically disappear. Mosquitoes are rare and mosquito netting is almost made unnecessary. Work is still progressing on filling up pools and preventing stagnant water.

Homage to a Physician in Frankfurt, Germany.—Dr. T. Neuburger has practiced medicine at Frankfurt a. M. nearly half a century, and the arrival of his fiftieth professional anniversary was celebrated by his friends by a gift of $19,000. He added to the sum and has set it apart as a permanent endowment for scientific medical research to be known by his name. His latest contribution to medical literature was an article on the connection between sclerosis of the coronary arteries and affections of the heart muscle.

Propagation of Giants.—A large legacy was left by Count Alfred St. Ouen de Pierrecourt to his native city of Rouen on condition that provision be made for propagating a race of giants. The natural heirs began litigation, which has now resulted in an agreement that the city shall found an institute for giants, keeping a large fund in reserve and giving the balance to the legitimate heirs. It is proposed to maintain a score or more of giant couples, establishing workshops for them and conditions favorable for scientists to observe the result of the progeny of giant couples. Dr. H. Meige of Paris published a protest against the idea some months ago, claiming that giant growth is pathologic. His remarks on the subject were reviewed in THE JOURNAL at the time, page 274 of the last volume.

Tragic Sequel to the Muehlhausen Contract Practice Trouble.—Our German exchanges have carried for many weeks a notice warning medical men not to enter into negotiations with the sickness insurance societies at Gera and Mühlhausen "without consulting the undersigned." Our readers will remember the resignations at these places of the medical officers of the sickness insurance societies on account of the prevailing intolerable conditions of the service. The warning ads were signed by the presidents of the district medical associations and by the president of the "Leipziger Verband." Dr. Schloss represented Mühlhausen. The cable now brings word of his death. It was at first ascribed to the results of a duel which he fought recently with the manager of the sickness insurance society, and the latter was arrested, but it has since been established that his death was due to sepsis after an operation. The state interfered in the matter of the medical attendance of the society, as was chronicled in THE JOURNAL at the time, the physicians practically gaining their point. The warning ad still appears in our German exchanges, but it refers only to Gera at present.

Physicians' Signs in Germany.—The latest decree of the Berlin Medical Court of Honor is directed against supernumerary signs hung out by physicians. It states that a single sign is enough, and any additional ones impinge on unethical advertising methods. The only exception is in case a physician resides in a corner house, when a sign on each of the streets is permissible. Proceedings were instituted against a Dr. Sternberg because he used more than one sign, and in his defense he cited another physician in Berlin who followed the same custom. The Court of Honor drew up a notice to the physician cited, warning him that he must restrict himself to a single sign, and published this notice in a Berlin daily paper. It concluded with the warning that if he did not comply with the specified order he would be summoned officially before the court. The *Allg. Med. Ct.-Ztg.* comments on the lack of tact shown in the publicity given to this notice, and adds that in the confusing multiplicity of street signs in a city a single, modest sign might easily be overlooked, and that it is for the interest of the public to have the physician's sign apparent, and if necessary to have more than one.

Increase of Heart Disease in Young Men in Germany.—The Prussian War Department has recently issued a pamphlet stating that the number of soldiers with heart disease amounted to 1.5 per 1,000 between 1885 and 1886. The proportion has gradually increased until the cases now number 3.1 per 1,000 of all the men in the service. In 1894 the proportion among the young men arriving at the age of military duty was 9.9 per 1,000, but in 1898 it had risen to 17.4 per 1,000. Kraus, Strickler and Landgraf have been studying the subject more closely, and Strickler does not hesitate to declare that the cause of this greater prevalence is the increasing degeneracy and nervousness of the youth of the land. Chronic valvular defects, he adds, exclude the subject from military service, but there are exceptionally functional heart disturbances which may allow military service, preferably in the cavalry or artillery. Special training of military medical officers in the diagnosis of heart diseases, both for treatment and for exclusion of "damaged recruits," will aid in reducing the percentage on the army list. In discussing the causes of the degeneracy of the youth to which he refers, he lays stress on the premature application of boys to arduous work, irregular hours of rest and work, deficient physical development, early use of alcohol and tobacco, sports in excess, especially bicycle riding, rowing and swimming, and dislike of physical exercise among certain classes. The frequency of hysteria and neurasthenia among the youth is also commented on, and the fact that these injurious factors may cause alterations in the heart muscle or merely an undue excitability and irritability. The acute diseases which have a special tendency to involve the vascular system have not increased in intensity or extent during the last twenty years, but the reappearance and prevalence of the grippe has evidently had a large share in the increased morbidity of the heart, either directly or by entailing prolonged weakness of the organ, rendering it less resistant.

LONDON LETTER.

The Declining Birth Rate of Australia.

The declining birth rate of native Americans, which has caused so much concern, is exactly parallel in Australia. Mr. Coghlan, the Australian statistician, has recently written on the subject. He points out that the fall in the birth rate in Australia and New Zealand taken together is such that there are annually fewer births by nearly 20,000 than would have occurred if the rates prevailing as late as ten years ago had been maintained. New South Wales furnishes a striking example. In 1887 there were in this state 112,247 married women under the age of 45; in 1901 there were 149,247, yet the number of children born was about the same in each year. The legitimate birth rate per 10,000 married women under the

age of 45 is 239; in 1891 it was 276. A curious fact is that the decline occurs in every class, among people of every shade of opinion, except among women of Irish birth, who exhibit no decline. But as the proportion of women of Irish birth is fast decreasing that element in maintenance of the birth rate will soon disappear. Large as is the area of the Australian continent Mr. Coghlan thinks it is impossible that its people will ever become truly great under the conditions affecting the increase of population which now exist. Immigration has practically ceased to be an important factor, the maintenance and increase of the population depending on the birth rate alone—a rate seriously diminished and still diminishing.

The Cancer Research Fund.

This organization is being developed on a wide basis, not only in the United Kingdom and the colonies, but also in cooperation with kindred organizations in America and on the Continent. The investigations fall mainly into three groups —experiments, therapeutics and statistics. It was deemed premature to give details of the experiments, but sufficient indications are given to show the value of the study of cancer throughout the animal kingdom and of attempts to facilitate early diagnosis. Although cancer research committees have been active in civilized countries for some time, little is known of its distribution in the lower races of mankind and still less in the lower animals. The necessity for securing farm accommodation where animals may be kept under observation is stated. Under therapeutics only the electric and light treatment is touched on. The beneficial action of the Röntgen rays in rodent ulcer is shown, but no similar results have been obtained in deep-seated growths, although in some cases relief of pain and temporary arrest of growth have been recorded. The lead of the German and other committees in reference to the questions of the increase of cancer contagion, cancer houses and cancer areas has not been followed. Such inquiry is regarded as futile until it can comprise differentiation of the various forms of cancer. An attempt is being made to compile statistics from the best available material—the records of the great hospitals in which the diagnosis has been verified by pathologic examination.

Trypanosomiasis Expedition from the Liverpool School of Tropical Medicine.

The Liverpool School of Tropical Medicine has decided to despatch next month a trypanosomiasis expedition to the Congo Free State. The expedition has been arranged with the co-operation of the government of the Congo Free State. The latter has contributed generously toward the expenses, which will be heavy. The objects of the expedition will be to report on the sanitary conditions of Boma, Leopoldville and other important centers and to make recommendations for their amelioration. Secondly, it will continue the work on trypanosomiasis, human and animal, commenced in the Gambia by Dr. Dutton in 1901, and continued for the past twelve months in the Gambia and Senegal by Dr. Dutton and Dr. Todd, including the occurrence and distribution of trypanosoma in the Congo, the carriers of the parasite and the relation of trypanosoma to sleeping sickness. As the investigations will involve the examination of the blood of wild animals, the Congo Free State is making arrangements for the expedition to participate in drives of big game up country and is facilitating their work in every possible manner. The expedition is under the charge of Dr. J. E. Dutton and consists of himself and Drs. J. L. Todd and C. Christy. Dr. Dutton was a member of the Southern and Northern Nigeria Expedition of the Liverpool School, 1899-1900, the leader of the Gambia expedition, 1901-1902, and of the Senegambia expedition, 1902-1903. Dr. Todd was a member of the latter expedition. Dr. Christy was a member of the commission of the Royal Society appointed to investigate sleeping sickness in Uganda and Central Africa, and has had a large tropical experience. Every facility for travel has been placed at the disposal of the school by Sir Alfred Jones, its chairman and munificent patron, whose interests in West Africa, commercial and philanthropic, are well known.

Correspondence.

Notes from Berlin.

BERLIN, August, 1903.

To the Editor:—Berlin is a sort of surgical heaven—at least for the surgeon. Where else shall one find so many masters teaching at one time as in and around the old Charité, fast being replaced by the new Charité. Professor König, 70 odd years young, operates every morning at 9:30, and what a ripeness of experience and sobriety of judgment are embodied in his work. Every afternoon at 2 Professor von Bergmann, surrounded by a white cloud of assistants, operates in the Langenbeckhaus. Both men are kindly, benignant and deliberate; both cut to the bone at the first stroke, if there is any bone; both use silk sutures and pour on iodoform by the spoonful. In both clinics the patient is usually anesthetized before the class, and often takes the anesthetic badly, and in both a nervous student not infrequently decorated with fresh facial cross-hatchings—how is it the professors rarely show a mark?—is invited into the arena to show how many things he doesn't know about the case in hand.

Beside these there are in surgery Krause, Israels and Sonenburg, and before speaking of other things, the closely allied chairs of pathology and anatomy. To hear Professor Waldeyer, another hale youth of 70 odd, describe the coquetries of the peritoneum at 7:30 a. m. is a treat for gods and men. Where shall one find such simple elegance of diction, such force through clearness, such restraint except when it comes to citing authorities? He resolves the multitudinous drape into its simplest elements and relations, he holds it up and spreads it out before you until it fairly beseeches you to retain and admire its every fold; a master truly. Difficult points are illustrated by specially prepared dissections and every facility which intelligent ingenuity can devise is brought into service for the student. If anatomy is the preface to surgery, pathology is too often the postscript. Not too rarely does the student see the cases he has watched in the clinic demonstrated in the department of Professor Orth, the able successor of Virchow. Here the autopsies begin at 7 a. m., and before the student leaves the building the lesions are demonstrated in detail by assistants. The principal organs, including the brain and long bones, are sectioned and assembled in another room and the microscopic structures are shown in a third. The rapidity and thoroughness with which everything of interest pertaining to each case is demonstrated is marvelous. So much can not be said of the valuable collection in the pathologic museum, which is closed to the public except for two hours on Sunday. It was opened to our party on presentation of cards to Professor Orth. The museum is specially rich in bones, and in complete skeletons of scoliotic and kyphotic individuals, but some of the cases stand in a poor light and the labels are written in a tiny blind chirography, which was in many instances undecipherable. If the labels were printed or written two or three times as large in a catalogue hand the value of the collection to the visitor would be doubled.

The dermatologists, Professors Lassar and Lesser, are great favorites of the students, not only from the importance of their subjects, but because both show many patients and are clear and interesting speakers; both hold daily clinics, the former in the Karl Strasse, the latter in the Charité. Professor Ohlhausen, who operates daily at 8 a. m. at the Frauenklinik in the Artillerie Strasse, impresses one at once as a man of originality, dexterity and force. He is a neat, rapid operator, never missing a stroke, and his methods are thoroughly modern. Professor Hoffa, recently transferred from Würzburg, has a beautifully equipped sanatorium in the Achenbach Strasse, where he does his private work. The public clinic on the other side of the city is also equipped with special apparatus for mobilizing joints and correcting deformities, with workshops and plaster and operating rooms. Tendon grafting is extensively practiced; the routine duration of the bloodless replacement and treatment of dislocated hips is about three months. Professor Joachinsthal also has an interesting clinic for deformities. The sanatorium of the late Dr. Beely is continued under his brother and Drs. Loff and Eckstein, and is especially notable for the variety of corrective apparatus for scoliosis. Dr. Eckstein has been doing high-grade work in the correction of facial and other deformities by the injection of melted paraffin. It was the writer's privilege to see several noses and an umbilical hernia treated by this method; the results were very gratifying. Dr. Eck-

stein believes that by using a paraffin of high melting point (58 C.) the dangers and disadvantages of vaselin and low-melting paraffin are very largely abolished.

His technic is simple and effective, the principal points being that the syringe and base of the needle are covered with rubber tubing, and a little hot water is drawn into the needle to prevent too rapid cooling. In conclusion, I would say that for the physician who understands German and who knows what he wants, the facilities for study in Berlin are exceptionally fine. HENRY LING TAYLOR.

New York address, 125 W. 58th Street.

Dissatisfaction with Medical Legislation.

SHELBYVILLE, IND., Sept. 5, 1903.

To the Editor:—In Chapter II, Article 1, Section 1, of the Principles of Medical Ethics, we find this clear and emphatic statement: "It is inconsistent with the principles of medical science, and it is incompatible with honorable standing in the profession, for physicians to designate their practice as based on an exclusive dogma or a sectarian system of medicine."

My son, after graduating in a regular school of medicine, went before the State Board of Examination and secured a certificate of competency signed by a physio-medical as president and an eclectic as secretary, who also advertised himself as a homeopath and a graduate of Pratt's School of Orificial Surgery.

Now, my son, as well as myself, feel very much humiliated when we are reminded that he is practicing medicine by the courtesy and under the certificate of two gentlemen who, according to the principles of medical ethics, have no *honorable standing* in the medical profession.

For this and various other reasons I have been dissatisfied with some of our recent medical legislation.

W. G. MCFADDEN.

Habits at Mineral Springs.

PARIS, ILL., Sept. 5, 1903.

To the Editor:—I wish to protest through THE JOURNAL against the practice of washing the drinking glasses used by consumptives, syphilitics, etc., in the soda spring at Manitou, Colo. I spoke to several parties while at Manitou, but some claimed that the ingredients of the water disinfected the glasses and others said that the spring was overflowing all the time and purified itself in that way. I have seen the water lowered two or three inches below the brink when there was a rush. I am told the bottling works use a different spring, which I hope is true. I am also told that the same filthy practice is followed at Waukesha, Wis., but I hope it is not so. W. H. TEN BROECK.

Marriages.

GEORGE R. GILBERT, M.D., Cumberland, Wyo., to Miss Dora C. Roys of Peru, Neb.

THOMAS PALMER WYNN, M.D., to Miss Alberta Robbins, both of Durham, N. C., August 19.

ALEXANDER S. MCCAIG, M.D., Sault Ste. Marie, Ont., to Miss Margaret Shanks of Mattawa, Ont., September 1.

JAMES G. POPE, M.D., Coleman, Texas, to Miss Virginia Joost of Tallahassee, Fla., at Palatine, Texas, August 30.

ALEXANDER MONTAGUE ATHERTON, M.D., of New York City, to Miss Ellen Louise Baker of Providence, R. I., August 25.

Deaths.

James Farquhar Hibberd, M.D., an esteemed member of the American Medical Association, of which he was president in 1894, died September 8 at his home in Richmond, Ind., after a long illness, aged 86 years. He was born at Monrovia, Md., Nov. 4, 1816, and received his academic education at Benjamin Hallowell's School, Alexandria, Va. Then, choosing the medical profession for his career, he read with his cousin Dr. Aaron Wright for one year, attended medical lectures in 1839 and 1840 at Yale University, and on Aug. 14, 1840, began practicing at Salem, Ohio. After seven years he went to New York and there took a two years' course at the College of Physicians and Surgeons, receiving his degree in 1849. He was at once made surgeon of the steamship *Senator*, sailing from New York to San Francisco, a voyage consuming seven and one-half months; thus Dr. Hibberd was made a "Forty-niner." He remained for six years in California practicing medicine and engaging in business with financial success. In 1855 he returned to the East and spent the winter in post-graduate study. In June, 1856, he opened an office at Dayton, Ohio, but four months later removed to Richmond, Ind. During the sessions of 1860 and 1861 he was professor of physiology and general pathology in the Ohio Medical College, Cincinnati. Early in his career he was one of the founders of the Ohio State Medical Society, and was later one of the chief organizers of the Indiana State Medical Society, and of the Wayne County Medical Society. He was a member of the American Medical Association since 1863, serving as its first vice-president in 1865. He was also a member of the Union District Medical Society, the Mississippi Valley Medical Association and Rocky Mountain Medical

JAMES FARQUHAR HIBBERD, M.D.

Association, in all of which societies he held official positions, and of most of which he was at one time president. He was an honorary member of the state medical societies of Ohio and California, and had been a member of the American Public Health Association for more than twenty years. In 1863, after the battle of Stone River, he was for some time in charge of the corps of volunteer surgeons and nurses at Murfreesboro, Tenn. In 1869 he went abroad for a year. During the years 1875 and 1876 he was mayor of Richmond, and in 1881 health officer of Wayne County. He was a member of the Ohio legislature in 1845, 1846 and 1847. In 1885 the University of Indiana conferred on him the degree of LL.D. In 1842 he was married to Nancy D. Higgins, who died four years later, leaving one son, who still survives; in 1856 he was married to Catherine Leeds, who died twelve years later, leaving one son, and three years later he was again married, to Elizabeth M. Laws.

George B. Russel, M.D. Jefferson Medical College, Philadelphia, 1836, who did heroic work in the cholera epidemics of 1836, 1844 and 1845 in Philadelphia; one of the pioneer physicians of Detroit; who influenced Mr. Harper and Nancy Martin to found Harper Hospital, and was the active medical head of that institution for a quarter of a century, died at his home in

Detroit, August 31, aged 87, a week after having been run down by a bicyclist.

Robert A. Patchin, M.D. University of Buffalo (N. Y.) 1869, a member and sometime president of the Polk County Medical Society; a member of the Iowa State Medical Society, Iowa State Association of Railway Surgeons, and International Association of Railway Surgeons, died at his home in Des Moines, Iowa, August 31, from an acute exacerbation of liver disease from which he had suffered for several years, aged 53.

Charles Brooks Brigham, M.D. Harvard University Medical School, Boston, 1870, surgeon during the Franco-German War, and Chevalier of the Legion of Honor for services there rendered; for many years surgeon of the Southern Pacific Railroad, died at his home in San Francisco, from apoplexy, August 23, after an illness of six weeks, aged 58.

Frank N. English, M.D. Chicago Homeopathic Medical College, 1886, of Mendota, committed suicide by severing the jugular vein and large arteries of the neck with a pocket knife, August 31, while under temporary confinement in the Mendota city jail on the charge of causing the death of a patient by a criminal operation. He was about 55 years old.

R. Henderson Graham, M.D. Columbus (Ohio) Medical College, 1879, a member of the Medical Association of the District of Columbia, the American Medical Association, and the American Therapeutic Society, died August 24, at Garfield Hospital, Washington, D. C., from peritonitis, which developed four days after an operation for appendicitis, aged 53.

Joseph A. Stout, M.D. Medical College of Ohio, Cincinnati, 1845, a pioneer of La Salle County, Ill.; one of the original abolitionists, and connected with the so-called "underground railroad," and a member of the American Medical Association, died at his home in Ottawa, August 25, after a long illness from paralysis, aged 85.

Charles Hart Boynton, M.D. Berkshire Medical College, Pittsfield, Mass., 1853, for two years president of the White Mountain Medical Society, and a member of the New Hampshire Medical Society, for two terms a member of the legislature, died at his home in Lisbon, August 16, from cerebral hemorrhage, aged 76.

George H. Cummings, M.D. College of Physicians and Surgeons, New York, 1875, for many years a member of the board of health of Portland, Maine, and also city physician, died suddenly from acute indigestion while on a yachting cruise near Booth Bay, Maine, August 22, aged 53.

Charles C. Lewis, M.D. University of Louisville, 1873, was found dead in his office in Owensboro, Ky., August 30, from angina pectoris, aged 54. He was vice-president of the Kentucky State Medical Society in 1902, and was a member of the Owensboro Board of Education.

William E. Allen, M.D. Albany (N. Y.) Medical College, 1856, an acting assistant surgeon during the Civil War, and health officer of Scranton, Pa., for many years, died from cancer of the bladder after a long illness, August 20, at his home in Scranton, Pa., aged 66.

William L. Northway, M.D. Chicago Homeopathic Medical College, 1879, of Marcellus, N. Y., died at the Hospital of the Good Shepherd, Syracuse, N. Y., from congestion of the brain, August 21, after an illness of two weeks, aged 51.

Edward C. Kearney, M.D. Western Reserve University, Cleveland, 1876, a member of the Allegheny County (Pa.) Medical Society, died at his home in McKeesport, August 31, from heart disease, after an illness of three hours, aged 59.

Newton Sager, M.D. Jefferson Medical College, Philadelphia, 1843, for sixty years a practitioner of Lafayette, Ohio, died at his home in that place, August 22, from cancer of the face, after a long period of suffering, aged 85.

Frederick A. Vigor, M.D. Columbus (Ohio) Medical College, 1879, of New Dover, Ohio, died at the home of his parents in Brandon, Ohio, August 24, from paralysis, after an illness of a year, aged 56.

Zachary Taylor Chrisman, M.D. University of Pennsylvania, Philadelphia, 1873, died at his home in Warwick, Pa., August 23, from Bright's disease, after an illness of about two years, aged 52.

Henry M. Hunter, M.D. College of Physicians and Surgeons, Baltimore, 1886, formerly of Union Springs, Ala., died at his home in San Luis, Potosi, Mexico, August 26, from pneumonia.

Robert D. Hudson, M.D. University of Pennsylvania, Philadelphia, 1879, formerly of Atchison, Kan., was found drowned in the Neosho river, near Emporia, Kan., August 24, aged 57.

Amadon Manley Piersons, M.D. New York Homeopathic Medical College and Hospital, 1868, died at his home in New York City, August 28, after a lingering illness, aged 65.

Joseph D. Casey, M.D. Jefferson Medical College, Philadelphia, 1892, died from paresis at his home in Latrobe, Pa., August 22, after an illness of several months, aged 33.

Lewis B. Ruhlman, M.D. Eclectic Medical Institute, Cincinnati, 1877, of North Lima, Ohio, died suddenly from heart disease in Youngstown, Ohio, August 24, aged 56.

Charles S. Stanley, M.D. Boston University School of Medicine, 1880, died from angina pectoris at his home in Amesbury, Mass., August 19, after a short illness, aged 64.

Thomas Palmer Wynn, M.D. University of Maryland, Baltimore, 1886, of Durham, N. C., died suddenly in New York City, August 23, from ptomain poisoning, aged 42.

Thomas Howard Wilson, M.D. University of Pennsylvania, Philadelphia, 1844, died at his home in Lewisburg, Pa., August 21, after a prolonged illness, aged 82.

Stephen C. Gillette, M.D. Rush Medical College, Chicago, 1852, a member of the Fox River Valley Medical Association, died at his home in Aurora, Ill., September 3.

John Bostwick Lundy, M.D. University of Buffalo (N. Y.), 1851, died at his home in Preston, Ont., from paralysis, August 20, after an illness of one week, aged 77.

Harvey K. Leonard, M.D. Hahnemann Medical College, Philadelphia, 1881, died suddenly from heart disease at his home in Plymouth, Pa., August 23, aged 49.

Dean Seaman, M.D. Jefferson Medical College, Philadelphia, 1879, was found dead in bed at his home in Beaver Dams, N. Y., August 22, from apoplexy, aged 47.

Theodore A. Collett, M.D. University of Michigan, Ann Arbor, 1867, a pioneer physician of Iowa, died at his home in Ida Grove, August 27, from apoplexy.

Jesse C. Hancock, M.D. Miami Medical College, Cincinnati, 1866, the oldest physician in Trimble County, Ky., died at his home in Bedford, August 23.

Edmund Y. Meyer, M.D. Missouri Medical College, St. Louis, 1887, died at the City Hospital, St. Louis, from acute alcoholism, August 30, aged 39.

Barton K. Mynatt, M.D. University of Nashville, 1854, died suddenly at his home in Washington, Tenn., August 29, from heart disease, aged 78.

John S. Wentz, M.D. University of Pennsylvania, Philadelphia, 1855, died at his home in Drifton, Pa., August 28, from paralysis, aged 75.

Thomas A. Ablett, M.D. Cleveland Homeopathic Medical College, 1895, died from diabetes, August 7, at his home in Glennie, Mich., aged 35.

James M. Blair, M.D. Transylvania University, Lexington, Ky., 1849, died at his home in Corsicana, Texas, August 13, aged 86.

Charles Howard Gordon, M.D., 1876, died at his home in Lodi, Cal., August 24, from diabetes, after a long illness, aged 71.

David B. Cotton, M.D. Jefferson Medical College, Philadelphia, 1856, died at his home in Portsmouth, Ohio, August 30, aged 70.

Alexander Montague Atherton, M.D. Johns Hopkins University, Baltimore, 1901, died at Liberty, New York, August 28, aged 28.

George C. Dugas, M.D. Medical College of Georgia, Augusta, 1878, died suddenly at Augusta, Ga., August 28, aged about 50.

Oliver E. Tillson, M.D. Eclectic Medical Institute, Cincinnati, 1862, died at his home in West Alexandria, Ohio, August 28.

David Wolf, M.D. Eclectic Medical Institute, Cincinnati, 1852, died recently at his home in West Alexandria, Ohio.

Benjamin W. Sparks, M.D. New York University, 1859, died at his home in McMinnville, Tenn., August 29, aged 67.

Stephen R. Mason, M.D. Rush Medical College, Chicago, 1851, died at his home in Devall Bluff, Ark., August 20.

Samuel W. Chandler, M.D. University of Michigan, Ann Arbor, 1872, died recently at his home in Saline, Mich.

W. H. Morris, M.D. Missouri Medical College, St. Louis, 1866, died at his home in Sharon, Mo., August 2.

William A. Jones, M.D., died at his home in Sturgis, Ky., August 18, from paralysis, aged 70.

Frank C. Fraser, M.D. McGill University, Montreal, 1898, died recently in Montreal.

Joseph E. Kirkley, M.D., died at his home in Beckville, Texas, August 15.

Deaths Abroad.

William E. Salazar, College of Physicians and Surgeons, New York, of Havana, Cuba, physician in charge of the American Hospital at Tampico, Mexico, died recently at Tampico from yellow fever, aged 29.

George William Balfour, M.D. St. Andrews, 1845; F.R.C.P. Edinburgh, 1861, one of the most celebrated physicians and teachers of the Edinburgh Medical School, died recently, aged 81. His principal work was done on the diseases of the heart. Among his published works were "An Introduction to the Study of Medicine," "Clinical Lectures on Diseases of the Heart," and "The Senile Heart." As a young man he had the courage and originality to promulgate the heresy that the routine treatment of pneumonia by antimony and blood-letting was unnecessary and harmful. He was a member of the Royal Medical, Medico-Chirurgical and Obstetrical societies and consulting and attending physician to many hospitals.

Book Notices.

ORGANIC NERVOUS DISEASES. By M. Allen Starr, M.D., Ph.D., LL.D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons. Illustrated with 275 Engravings in the Text and 26 Plates in Colors and Monochrome. Cloth. Pp. 751. Price, $6.00 net. New York and Philadelphia: Lea Brothers & Co. 1903.

As the title indicates, this book treats of only the organic nervous diseases. So-called functional diseases, such as epilepsy, hysteria, paralysis agitans, etc., are not considered, nor are trophic disturbances, as acromegaly, and Raynaud's disease. The opening chapter is a discussion of the structure of the nervous system based on the neuron hypothesis. One hundred and thirty-four pages are devoted to the peripheral nerves, and about one-half of these to the various forms of multiple neuritis, which are discussed in a thorough manner and illustrated by a number of the author's cases. Diseases of the spinal cord are given 236 pages. The chapter on the diagnosis and localization of spinal cord diseases demonstrates clearly how careful observation of signs and symptoms will enable a physician, equipped with a knowledge of the anatomy and physiology of the cord, to make an accurate diagnosis by a more logical process than in any other class of diseases. The remaining 320 pages are devoted to diseases of the brain, including an exhaustive chapter on localization and general diagnosis. As stated by the author, his conclusions are largely based on clinical and pathologic data collected by himself in twenty years of neurologic practice. Hence, we are not only presented with old facts in a new and improved form, but offered new observations and suggestions in connection with nearly every subject treated. Illustrative cases from the author's practice are frequently narrated. Where divergent views are held, they are fairly stated. Thus, after stating the present opposing views concerning the nature of the regeneration in severed nerve fibers he suggests that the process may vary, according to the stage of degeneration reached; if advanced, healing must proceed from the proximal stump; if not advanced, it may take place from the neurilemma of the peripheral end. It is an interesting suggestion that many cases of multiple neuritis following infectious diseases, such as typhoid fever and pneumonia, or appearing in the course of tuberculosis, are caused by the alcohol used in the treatment of the primary disease. Another plausible suggestion is that most cases of so-called acute myelitis, particularly those of very sudden onset, really are instances of softening due to vascular disease. The statement that brachial neuritis is fully as frequent as sciatica may not be generally accepted by clinicians. Pathologists will hardly accept the statements that cerebral emboli may be derived from thrombi in the saphenous veins (except in the case of an open foramen ovale, which is not mentioned), that tumors of the pituitary body are usually of the nature of fibroma or myxoma, and that the chalky plaques frequently seen in the arachnoid are beginning psammomata. They will claim that carcinoma of the vertebræ is always secondary, not merely "usually" so. It is stated as a fact that general paralysis begins with changes in the vessels. Bacteriologists will feel strangers to the *Streptococcus aureus*, and will give to the pneumococcus a relatively more important place in the etiology of meningitis than the author has done. The following statements sound peculiar: "Solitary tubercles are occasionally found throughout the cord," and "Retention of urine is liable to set up catarrhal conditions, and finally cystitis." The term "neuron" is used in some places to indicate both cell and axon, in others the cell alone. It is deplorable that the author will aid to perpetuate the ambiguous term "dorsal" instead of "thoracic" region of the spine and cord. The term "acute progressive paralysis" for Landry's paralysis, though in itself a good one, must be condemned, as "progressive paralysis" is now commonly used to designate general paralysis of the insane. However, a few defects must be expected in a book which is so strikingly one man's work. The personality of the author is felt on every page, though other authorities are freely quoted and references given in foot notes. The work deserves special commendation for the pains taken in pointing out underlying pathologic conditions and the logical necessity of their producing certain definite symptoms. The subject of treatment is by no means neglected. Thus, eight pages are devoted to the treatment of tabes, and seven to that of apoplexy. After pointing out that it is not possible to arrive at a positive diagnosis between a clot and softening in more than one-half of the cases he adds: "When it is impossible to make an accurate diagnosis between hemorrhage and thrombosis or embolism it is not safe to employ active medication directed to either condition lest the damage to the brain may be increased." And speaking of the use of potassium iodid to absorb a clot, he says: "Those who believe it will accomplish any result may continue to use it." The illustrations are abundant and uniformly excellent. Some are original, though most of them have been borrowed. Those in the recent work of Schmaus and Sacki on the pathology of the spinal cord have been heavily drawn on and well reproduced.

DISEASE OF THE PANCREAS. Its Cause and Nature. By Eugene L. Opie, M.D., Associate in Pathology in the Johns Hopkins University. Cloth. Pp. 359. Price, $3.00. Philadelphia and London: J. B. Lippincott Company. 1903.

This book is a good example of what all will agree is the most desirable kind of medical literature in this country in which medical book publishers issue almost exclusively books that are fairly certain to have a respectable sale, such as textbooks of all kinds, large and small, compends, etc. Of course we can not expect medical publishers to become so philanthropic that they will publish many medical books at financial loss, simply because they are good books, but it is most desirable that the facilities for the publication of monographs and books dealing exhaustively with limited subjects be encouraged. Perhaps the best way to persuade the publishers of the desirability of this innovation is, first, to offer for publication really first-class material, and, secondly, when books like Opie's Diseases of Pancreas are published to help increase the sales. In this particular instance the qualities of the book, the amount of important, original work of direct interest to the physician and surgeon, that is set forth in a simple yet delightful style, are bound to secure for the book many readers. The contents are of interest alike to the physician and surgeon. To quote from the preface: "The recognition of pancreatic lesions, their causes and their consequences, is of great importance, not only to the physician, but notably to the surgeon who opens the abdomen. For illustration, disseminated fat necrosis indicates grave disease of the gland; acute pancreatitis is a not infrequent consequence of cholelithiasis; while chronic pancreatitis, which accompanies the same condition, is frequently mistaken for malignant growth. To the student of internal medicine few conditions

present greater difficulties of diagnosis than do the various forms of pancreatic disease; but with increasing knowledge of their etiology, their nature, and their relation to other diseases, means for their recognition are closer to hand." Of the contents may be mentioned chapters on the anatomy of the pancreas, the anomalies, the microscopic anatomy, including the islands of Langerhans; varieties of acute pancreatitis, the etiologic relation of gallstones to acute hemorrhagic pancreatitis, fat necrosis, chronic interstitial pancreatitis, its varieties and etiology; diabetes mellitus and its relation to lesions of the pancreas; bronzed diabetes; the symptoms and treatment of pancreatic disease. The illustrations are helpful and tasteful; there are interesting reproductions of the original drawings of Santonini, showing both ducts of the pancreas and the papillæ in the duodenum; the principal lesions are well illustrated. Opie's book is a most important addition to the literature of the pancreas and its diseases, and should be found in the library of every progressive physician and surgeon. The amount and quality of new, original work here set forth has advanced greatly our knowledge of the pancreas and its diseases, and the book will always be a landmark in the history of the pancreas.

Miscellany.

Discussion of Appendicitis—A Correction.—Dr. Miles F. Porter calls attention to the fact that remarks were erroneously credited to him in the discussion on the paper of Dr. Gibbons in THE JOURNAL, August 29, page 546. The sentences that are credited to Dr. Porter were made by Dr. Ochsner in reply to Dr. Porter's question.

Tongue Reaction to Mercury in Latent Syphilis.—Baroch adds his testimony to that of Herxheimer and Krause in regard to the diagnostic value of the reaction that follows the first dose of mercury, if it is a large one. The two latter observed a reaction in the cutaneous lesions, but Baroch has noticed it on the tongue. The reaction is apparent in fifteen to twenty hours and disappears after twenty-four to forty-eight. It is sometimes accompanied by a temperature reaction. In five cases he found the opaline patches on the tongue, the reaction to the mercury, in less than twenty hours after inunction of about 10 gm. of gray ointment.—*Allg. Med. Ct.-Ztg.*, lxxii, p. 133.

State Boards of Registration.

Oregon Report.—Dr. Byron E. Miller, secretary of the Board of Medical Examiners of the State of Oregon, reports the examination held at Portland, July 7 to 9, 1903, as follows: Number of subjects examined in, 15; total questions, 100; percentage required to pass, 75 per cent.; written examination; total number examined, 24; passed, 20; failed, 4.

PASSED.

Schl. of Pract.	College.	Year Grad.	Per Cent.
H.	Boston University School of Medicine....	1903	84.66
H.	Boston University School of Medicine....	1903	86.30
R.	University Medical College, New York....	1898	83.33
R.	University of Michigan.....	1898	82.53
R.	University of Iowa.....	1897	78.40
R.	Cooper Medical College, San Francisco....	1903	87.06
R.	College of Phys. and Surgs., San Francisco	1903	84.13
R.	College of Phys. and Surgeons, Chicago..	1903	79.60
R.	College of Phys. and Surgeons, Chicago..	1903	83.92
R.	College of Phys. and Surgeons, Baltimore.	1895	80.13
R.	Rush Medical College.....	1897	77.53
R.	Rush Medical College.....	1901	83.86
R.	Rush Medical College.....	1902	84.20
R.	Rush Medical College.....	1902	84.86
R.	Rush Medical College.....	1897	78.60
R.	Jefferson Medical College.....	1878	79.06
R.	Louisville Medical College.....	1876	75
R.	Louisville Medical College.....	1903	84.13
R.	Grand Rapids Medical College.....	1902	75
R.	Kansas Medical College, Topeka.....	1892	82.93

FAILED.

H.	Pulte Medical College.....	1886	73.33
R.	Omaha Medical College.....	1882	69.66
R.	Vanderbilt University, Nashville.....	1880	67.06
R.	Undergraduate	....	68.53

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

THE CAUSE OF CANCER.

CATHLAMET, WASH., Aug. 17, 1903.

To the Editor:—Has the parasitic theory as to the origin of cancer been fully established? Has Roswell Park, or any other investigator, clearly demonstrated that any one parasite is constantly present? What are the latest ideas of our best pathologists on this subject? Kindly answer through THE JOURNAL.

C. W. B.

ANS.—The parasitic theory has not been established. No one has demonstrated the constant presence in cancer of undoubted parasites, and no one parasite has been shown to be associated always with any special form of cancer. The "best pathologists," we believe, are skeptical as to the correctness of the claims put forward now and again by the advocates of the parasitic theory. The problem is unsolved, and we must be content for the present to regard the cause of cancer as wholly unknown.

Association News.

List of new members for the month of August, 1903.

ALABAMA.

Goldthwaite, Henry, Mobile.
Grace, Frank G., Hillman.
McKinnon, C. B., Geneva.

CALIFORNIA.

Witherbee, Orville O., Los Angeles.
Keenan, Alex S., San Francisco.
Beattie, D. A., Santa Clara.
Tyler, John A., Anaheim.
Maher, Thos. D., San Francisco.
Wilde, Kate, Los Angeles.
Johnston, Herbert A., Anaheim.
Fernandez, M. L., San Francisco.
Lilley, John Francis, Oakland.
McNary, W. T., San Jose.

COLORADO.

Reynolds, M. P., Colorado Springs.
McGraw, Henry R., Denver.

GEORGIA.

Fowler, A. L., Atlanta.

IDAHO.

Avery, Oliver H., Payette.
Kleinman, Erwin W., Shoshone.

ILLINOIS.

Colbert, John W., Jacksonville.
Goldstine, Mark, Chicago.
Bates, A. D., Camp Point.
McKee, Edw. N., Roseville.
Phillips, Henry A., Chicago.
O'Neill, A. A., Chicago.
Parker, Howard, Edgar.
Arp, August H., Moline.
Zimmermann, Ernest, Quincy.
Anderson, Margaret, Quincy.
Zeltner, S. L., Chicago.
Weichelt, A., Barrington.
Sachs, T. B., Chicago.

INDIANA.

Bowers, Whitefield, Michigan City.
Long, H. H., Kingsbury.
Smadel, Joseph W., Vincennes.
Thixton, E. D., Sullivan.
Hunter, John R., Huntington.
Briggs, C. F., Sullivan.
Ledbetter, J. N., Michigan City.
Mountain, Jos. R., Connersville.
Stockhardt, Philip E., Elwood.

IOWA.

Dahms, Oscar A., Davenport.
Weber, J. Siewert, Davenport.
Doern, W. G., Fort Madison.
McKinney, O. B., George.
Huff, John W., Onawa.

KANSAS.

Crumbine, S. J., Dodge City.
Esterly, Daniel E., Topeka.

KENTUCKY.

Arnold, J. H., Versailles.
Landman, Louis H., Covington.
Meredith, W. E., Scottsville.
Rodman, J. J., Owensboro.
Eager, B. F., Hopkinsville.
El Kourie, H. A., Clifty.

LOUISIANA.

Bechet, Paul E., New Orleans.
Godfrey, J. B., Olla.

MAINE.

Pennell, Walter J., Auburn.
Davis, Philip W., Portland.
Johnson, Wellington, Augusta.
Hart, Willis F., Camden.
Alden, Eben, Rockland.
Little, Albion H., Portland.
Mitchell, Jr., Alfred, Portland.

MASSACHUSETTS.

Cross, Wm. P., South Boston.
Prescott, W. H., Boston.
Easton, Elwood T., Boston.

MICHIGAN.

Harkness, R. Bruce, Houghton.
Lamley, George H., Riga.
Elliott, William, Escanaba.
Campbell, Samuel E., Winona.
Bell, John N., Detroit.
Turner, J. G., Houghton.
Moore, Joseph J., Farmington.
Farnsworth, Harry B., Detroit.
Jackson, William S., Houghton.
Kirby, T. W., Sault Ste. Marie.
Banks, Harold W., Escanaba.
Laing, A. L., Rapid River.
Wheeler, Aaron R., St. Louis.
Bower, H. L., Greenville.
Burley, Jacob H., Almont.
Rice, William G., Topinabee.
Tucker, A. R., Mohawk.
Laing, John B., Otisville.
Wright, George, Detroit.
LeRoy, Simeon, Grand Rapids.
McColgan, James, Grass Lake.
Harrison, Hugh, Detroit.
Castell, Daniel G., Holly.
Cooper, Wilfred Leslie, Detroit.
Bessey, W. E., Grand Rapids.
Wheeler, Chas. Salter, Flushing.
Bailey, John R., Mackinac Island.
Ferguson, Robert Y., Pontiac.

MINNESOTA.

Coulter, Charles F., Wadena.

MISSISSIPPI.

Banks, Wade S., Abbeyville.
Baker, D. E., Newtonville.

MISSOURI.

Nifong, Frank G., St. Louis.
Dove, J. D. F., Camden.

NEBRASKA.

McLeod, J. W., Lincoln.
Parry, Warren, Fairbury.
Johnson, William H., Wahoo.
Haggard, J. R., Lincoln.
Herron, William F., Pender.
Hawes, Samuel E., Fairbury.
Petty, Chas. O., Beaver Crossing.

Holyoke, R. A., Lincoln.
Sapp, Clinton E., South Omaha.
Smith, Nina R., Pender.

NEW JERSEY.

Nash, A. B., Frenchtown.
Strasser, August A., Arlington.

NEW YORK.

Chapin, Alva L., Niagara Falls.
Lomax, Howard E., Albany.
Young, F. R., Lake Placid.
Gillette, Herbert F., Cuba.

NORTH CAROLINA.

Wilkins, Samuel A., Dallas.
Highsmith, Seavy, Hope Mills.

OHIO.

Alfred, C. M., Lancaster.
Kistler, Geo. B., Newcomerstown.
Marting, William F., Ironton.
Chase, William S., Akron.

OKLAHOMA TERRITORY.

McIlvain, Jas. R., Oklahoma City.
Moorman, Lewis J., Jet.

OREGON.

King, Alfred, Portland.

PENNSYLVANIA.

Dickson, Joseph Z., Pittsburg.
Huyette, M. Luther, Shillington.
Brown, J. C., Smethport.

SOUTH DAKOTA.

Steuart, Charles E., Wessington Springs.

TENNESSEE.

Litterer, Jr., William, Nashville.
Grigg, S. C., Murfreesboro.
McGehee, John L., Memphis.
Hughes, M. L., Clarksville.
Penn, George W., Humboldt.
Baldwin, W. H., Memphis.
Culbreath, L. W., Stanton.

TEXAS.

Fenley, W. M., Menardville.
Randall, Edward, Galveston.
Moore, James A., Marshall.
Harlan, William Jay, Bartlett.

VERMONT.

Wiltse, M. J., Burlington.

VIRGINIA.

Carr, George H., Portsmouth.
Hodges, J. Allison, Richmond.

WISCONSIN.

Watson, Fred V., Antigo.
Baker, George R., Tomahawk.
Henbest, G. M., Madison.
Chambers, Harry P., Florence.
Nadeau, A. T., Marinette.

PHILIPPINE ISLANDS.

Warwick, C. A., Manila.

REPORT ON THE SCIENTIFIC EXHIBIT

Of the American Medical Association, at New Orleans, May 5-8, 1903.

By Frank B. Wynn, A.M., M.D., Chairman.

(Concluded from page 623.)

MEDICAL DEPARTMENT, UNIVERSITY OF INDIANAPOLIS: FRANK B. WYNN AND JOHN S. WRIGHT.

Research Group.

No. 318. Banana Shreds of Fibrovascular Tissue, passed in stool and supposed to be parasites. This was reported to the Indianapolis Medical Society in 1901 by F. B. Wynn, and is the third such submitted to him for identification.

No. 319. Segments of Cabbage, probably served as slaw, passed in the stool, and supposed to be tapeworm. The resemblance to segments of the tapeworm was striking, but the microscope easily revealed the vegetable nature of the product.

No. 320. Ribbons and Shreds of Paper Passed in Stool.—Some portions resembling the segments of tapeworm; others were like the mucous casts occurring in mucous colitis. The woody fiber of many papers makes them very indigestible. They may be so intimately adherent to such things as meat, caramel candy, etc., as to escape notice, and in the stool might easily give rise to error in diagnosis.

No. 321. Fusiform Masses of Parenchyma Cells of the Lemon, passed in the stool and mistaken for parasites. The resemblance to the fluke is striking.

The foregoing specimens led to an experimental study by ten students of the university designed to show the following:

(*a*) The histology of common fruits and vegetables used as articles of diet, including apple, peach, pineapple, pear, banana, gooseberry, currant, rhubarb, grape, tomato, string bean, navy bean, onion, sugar corn, pop corn, celery, Irish and sweet potato, peanut, cabbage, kale and cucumber.

(*b*) Effect of the ordinary methods of preparing food for table use in causing disintegration. In an assigned article the student made fresh mounts from the food as found on the table at the restaurant.

(*c*) Effect of digestive processes on these foodstuffs and the recognition of partially altered food remnants which might be mistaken for parasites. Each student ate freely of an assigned article at different times, afterward searching the stools for remanants of the food taken.

These studies demonstrated very clearly that the fibrovascular tissue, especially of pineapple, rhubarb and celery, often resists the action both of cooking and the digestive juices, appearing as slender white threads in the stools, which might easily be mistaken for worms.

Nos. 322-376. Drawings and Gross Specimens Illustrative of the Foregoing.

Miscellaneous Group.

Nos. 377-382. Pulmonary Tuberculosis, Different Types.
Nos. 383-388. Liver Series.
Nos. 389-394. Kidney Series.
Nos. 395-405. Embryologic Series.
Nos. 406-411. Miscellaneous Specimens.

These were all Kaiserling preparations mounted in glycerin jelly by students of the university. The mounting was unique and artistic. The containers were Petri dishes set in heavy oak boards, which are convenient for class demonstration, non-breakable and may be stacked in drawers away from the light—a factor of importance in preserving the colors.

RUSH MEDICAL COLLEGE: E. R. LE COUNT.

Experimental Group.

Nos. 412-415. Series of Preparations Illustrating Experimental Fat Necrosis, as obtained by injecting either commercial pancreatins or extracts of fresh hog pancreas into the abdominal cavity of dogs and cats. The specimens showed the results respectively twenty-five hours, forty-eight hours, five days and nine days after injection. (See article by Wells, *Journal Medical Research,* 1903, iv, 70.)

No. 416. Gangrenous Pancreatitis with Disseminated Fat Necrosis.—This specimen was shown for purposes of comparison with the experimental lesions. The foci of fat necrosis were visible over the mesentery and omentum. At the necropsy the head of the pancreas was found to be of normal firmness, with distinct lobular markings on the cut surface and gray with reddish mottling foci. Necrosis of the entire body of the pancreas had taken place.

No. 417. Subacute Hemorrhagic Pancreatitis, with Fat Necrosis.—Specimen from a man who died of lobar pneumonia. Dark red areas, irregular in outline, were seen externally in the fresh specimen; also yellow areas. Histologic examination showed an acute inflammation in addition to extensive necrosis and hemorrhage.

Group of Heart Specimens.

Nos. 418-423. Series of Cardiac Anomalies.—These included asymmetrical pulmonary segments; fenestrated foramen ovale; perforate ventricular septum, and a rare congenital mal-development in which there was communication between the aorta and left ventricle under the base of the anterior aortic valve. Hektoen could find no mention of a similar case in literature.

Nos. 424-435. Series of Endocardial Heart Lesions.—Three of these were of acute aortic endocarditis; three of acute mitral or parietal endocarditis, and six were chronic valvular deformities resulting from fibrosis or calcareous infiltration, causing stenosis or insufficiency.

Group of Miscellaneous Specimens.

No. 436. Skeleton of a Short-Limbed Dwarf.—From a man 45 years of age. There was a fibroid thyroid, containing no demonstrable thyroidin(?). The cranial vault possesses 172 wormian bones. The skeleton has some features of osteogenesis imperfecta and some of chondrodystrophia fetalis. The absence of a clinical record and the disuse incident to deformity, with resulting alterations of the bones, are factors which make classification difficult.

No. 437. Acute Yellow Atrophy.—The hepatic tissue illustrating this rare disease was from a woman 35 years of age. She had jaundice in August, and when admitted to the hospital the following November the icterus was very deep and she had been semi-stuperous for several days. Death occurred twenty-four hours after admission. Only partial examination was permitted. In the specimen large reddish areas were noted which contained very little liver tissue; greenish districts still showed some lobular markings.

Nos. 438-439. Rupture of Spleen.—In one of these, by the passing of a wagon wheel over the body, the organ was torn in two pieces. Operation in six hours was followed in a month by complete recovery. The other was a crushing injury from an elevator. Operation in eight hours, with complete recovery. In one there was subsequent glandular enlargement.

Nos. 440-452. Miscellaneous Gross Specimens.

The instructiveness of this fine collection was greatly enhanced by very complete accompanying data—clinical and pathologic—plainly written on white paper.

JOHNS HOPKINS UNIVERSITY: HARRY T. MARSHALL AND T. S. CULLEN.

Internal Medicine Group.

These were designed to illuminate more particularly amebic dysentery, a topic prominently considered in the Section on Practice of Medicine.

Nos. 453-456. Amebic Dysentery.—These specimens showed very typically the intestinal lesions.

Nos. 457-460. Amebic Liver Abscess.

Nos. 461-464. Intestinal Lesions of Typhoid.

Nos. 465-468. Tuberculous Ulcers of the Intestine.—The typhoid and tuberculous lesions of the intestines were exhibited for purposes of differentiation from dysenteric lesions.

Gynecologic Group.

These were limited to uterine myomata and represented the cullings of material obtained at the Johns Hopkins Hospital. The specimens and drawings were used in illuminating a paper read by T. S. Cullen before the Section on Obstetrics and Diseases of Women.

No. 469. Myoma Showing Sarcomatous Nodules in Middle.

No. 470. Specimen Showing Transition of Myomatous Fibers into Sarcoma.

No. 471. Diffuse Adenomyoma, occupying inner layers of uterus and forming a complete zone around the uterine cavity. Histologic examination showed that the gland elements were derived entirely from the mucosa.

No. 472. Early Adenocarcinoma of Body Associated with Myoma.—The growth was so recent that the mucosa was not in the least thickened.

Nos. 473-478. Cervical and Submucous Myomata.

Nos. 479-496. Myomata Showing Various Degenrative Changes.

Nos. 497-568. Drawings Made from Sections of the Foregoing Tumors.

These two very complete groups of specimens were contributed in conformity with the wishes of the committee, aiming thus to illuminate subjects of prominence considered on the section programs.

MEDICAL DEPARTMENT, WASHINGTON UNIVERSITY: WILLARD BARTLETT.

Experimental Group.

Nos. 569-577. Experimental Intestinal Anastomosis.—These specimens were obtained from dogs, and are used for teaching purposes

in the university. They were beautifully prepared and showed well the following:

(*a*) End-to-end anastomosis, Connell suture, 30 hours. Illustrating too long a diaphragm.

(*b*) End-to-end anastomosis, Halstead peritoneal suture, 5 days. Too long a diaphragm.

(*c*) End-to-end anastomosis, Connell suture, 16 days. Illustrating the small diaphragm which should be present at this time.

(*d*) End-to-end anastomosis, Connell suture, 40 days. Almost complete disappearance of diaphragm, and re-establishment of normal lumen.

(*e*) Lateral anastomosis, Halstead peritoneal suture, 21 days. Showing the growing together of new opening.

(*f*) Lateral anastomosis, Halstead peritoneal suture, four Connell through-and-through sutures added 21 days. Opening prevented from growing together by last-named sutures.

(*g*) Lateral anastomosis, Halstead peritoneal sutures, 28 days. Showing new opening more grown together than in (*e*).

(*h*) Lateral anastomosis, two rows of continuous Lembert sutures, one through peritoneum and other through all coats of bowel, 49 days.

(*i*) Lateral anastomosis, Halstead peritoneal suture, 87 days. Illustrating a new opening so grown together that there is distension of the proximal loop in consequence.

Miscellaneous Group.

Nos. 579-585. Miscellaneous Gross Specimens.

ST. LOUIS UNIVERSITY: WILLARD BARTLETT.

Nos. 578-585. Miscellaneous Gross Specimens.

These were all prepared by the Kaiserling method and illustrated various pathologic points well. Metastatic sarcoma was beautifully shown in the lung, liver, kidney and spleen.

COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO: W. T. ECKLEY.

Nos. 596 621. Anatomic Specimens.

Nos. 622-633. Gross Pathologic Specimens.

The first set was beautifully prepared, semi-moist specimens used by the exhibitor in teaching in the college. Accompanying these was a batch of theses by students, containing a large number of original drawings, testifying forcefully to the excellent work done in the institution in this department. This is the third successive year in which this institution has contributed ably toward the Scientific Exhibit of the Association.

ST. PETER STATE HOSPITAL, MINNESOTA: H. D. VALIN.

Nos. 634-648. Casts of Pathologic Brains.—Illustrating the following pathologic conditions: Porencephaly, glioma, amniotic adhesion band, destruction of cortex, localized internal hydrocephalus and hematoma duræ. (Made in the laboratories of the institution.)

Nos. 649-658. Surface Anomalies of Convolutions and Sulci.

Nos. 659-664. Anatomic Casts of Brain and Cord.

Nos. 665-779. Album of Photomicrographs.—The first sixteen were of the brain cortex of the cat and rat, showing, by way of comparison, sections before and after the various stages of fatigue. The remainder were of various pathologic conditions of the central nervous system, including acute delirium; first, second and last stages of degeneration in cells; capillary hemorrhages into the brain cortex; asphyxia in epilepsy; multiple embolism (luetic); hemiatrophy and hemisoftening, diseased and healthy sides; atrophy of auditory cortical center compared with opposite side; senile and manic-dementia, with degeneration of cortex; sclerosis of comma tract in general paresis; tumor of pituitary; glioma; tumor of spinal cord, and many others.

Nos. 780-815. Lantern Slides of the Foregoing.

The photomicrographs were artistic in showing the utmost detail of histologic structure and were made doubly interesting by the very complete and methodical, clinical and pathologic data which accompanied them.

COOK COUNTY HOSPITAL, CHICAGO: F. G. HARRIS.

The following collection consisted of choice Kaiserling preparations. Some were of unusual pathologic as well as clinical interest. It is creditable to the institution to have made such a contribution.

No. 816. Ileum Showing Attached Hookworms.—These specimens of *Uncinaria americana* were from a man aged 52 years who had lived in Panama for twenty-five years. For a year and a half previous to death he suffered from severe progressive anemia. The eggs and larvæ were found in the stools. Blood examination gave the following: Reds, 846,000; whites, 4,500; hemoglobin, 12 per cent.; eosinophiles, 13 per cent.; no nucleated reds. (Reported by Copps, THE JOURNAL A. M. A., January, 1903.)

No. 817. Charcot Knee Joint.—The specimen showed beautifully the destruction of the ligaments, cartilages and synovial membranes; also the erosion of the bones and periarticular fibrosis. The patient was a man who contracted syphilis fifteen years previously. For two years he noted a progressive and painless enlargement of the joint. Excessive mobility interfered with locomotion. Other symptoms and signs of tabes dorsalis present.

No. 818. Puerperal Endometritis-Infection with Bacillus Aerogenes Capsulatus.—Specimen obtained from a woman 24 years of age, confined three days before death. Gas containing cavities were to be seen throughout the uterus.

No. 819. Mycloma of Femur.—Circumference of knee, 28 inches. Tumor transparent to *x*-rays. The patient, a woman of 30, received an injury to the knee seven years ago. Six months later progressive enlargement of the knee began and was accompanied by some pain and limitation of motion. No metastases.

No. 820. Congenital Cystic Kidney.

No. 821. Bilateral Cystic Kidneys.

No. 822. Unresolved Pneumonia.

No. 823. Aneurism of Thoracic Aorta.

No. 824. Aneurism of Abdominal Aorta.

No. 825. False Aneurism of Abdominal Aorta.

No. 826. Serofibrinous Pericarditis.

No. 827. Adhesive Pericarditis.

No. 828. Atrophic Cirrhosis of Liver.

No. 829. Metastatic Carcinoma Lungs.

No. 830. Metastatic Carcinoma Liver.

No. 831. Splenic Cyst.

No. 832. Interstitial Carcinoma Stomach.

The following series of specimens was entirely in illustration of the gross lesions of malaria.

U. S. ARMY MEDICAL MUSEUM, WASHINGTON, D. C.: COL. CALVIN DE WITT.

No. 833. Spleen and Kidney in Chronic Malarial Poisoning.

No. 834. Darkly Congested Kidney, Pernicious Malarial Fever.—Estivo-autumnal parasite found in spleen. H. E. N., aged 23, white. Admitted March 2, 1900, to Post Hospital, Cebu, Philippine Islands; April 15 was outdoors and exposed to sun; fainted, and blood appeared in urine and feces. On the 18th and 19th there was much restlessness and prostration; unconsciousness; intense yellowishness of skin and conjunctiva; persistent vomiting; involuntary urination and defecation; heart action weak; constantly under strychnia stimulation. Repeated peripheral examination of blood failed to show malarial parasite. Urine blackish and contained vast numbers of partly disintegrated blood corpuscles and blood casts; little albumin; no epithelium or casts; color much improved during last twenty hours of life. Died 19th. Necropsy three hours after death. Lungs apparently normal; liver a muddy color; gall bladder contained a thick, tarry bile; small intestine much stained with bile and contained twelve lumbricoid worms; kidneys darkly congested; spleen much enlarged, dark and congested; scrapings from latter showed microscopically the estivo-autumnal parasites, containing large pigment granules in active motion.

Nos. 835-836. Spleen and Kidney in Pernicious Malarial Fever.—From the Philippines.

No. 837. Spleen in Chronic Malaria.—From the Philippines.

This special series was solicited by the Committee. It makes the second time that the Army Medical Museum has contributed liberally, under the direction of Col. DeWitt, to the Scientific Exhibit of the Association.

The Indiana State Medical Association was the first organization to institute the scientific exhibit as a feature of society work, and to its efforts may be attributed the introduction of the exhibit into the American Medical Association. The collection was entirely of dry specimens.

INDIANA STATE MEDICAL ASSOCIATION: FRANK B. WYNN.

No. 838. Skull Trephined by Baron Larrey, surgeon of Napoleon I. During the retreat from Moscow in 1812 the man was cut down by a Russian cossack and left on the field twenty-four hours. He recovered after trephining, and continued in the service a year. Died in 1873. Just above the squamous portion of the temporal is a quarter-sized opening in the calvarium, where the button was removed, and extending two inches from it the evidence of a saber cut. He suffered slight difficulty in speech. (Fletcher.)

No. 839. Enormous Distension of Colon from Retained Feces.—This specimen was obtained by Drs. Gleb and Jones, Groton, S. D., from G. K., who went for one year and three days without a bowel movement. For the first six months he ate three hearty meals a day, doing harvest work. Later he could only do light work. At some points the bowels measured 19¼ inches.

Nos. 840-879. Collection of Vesical Calculi.—This fine series of stones was obtained by operations, during a residence of eleven years in Persia, by J. G. Wishard. Some of the cases were operated on under the most trying circumstances, in filthy and crowded quarters, and in some instances in stables.

No. 880. Ten Renal Calculi.—Product of one nephrectomy; weighing 5 ounces. The patient was a man, 39 years of age. Several years previously he had been injured by the caving in of a pit. Had hematuria for a week, but no further renal symptoms. For a year and a half previous to the operation by F. R. Charlton he had been treated for stomach trouble, persistent vomiting being the most conspicuous symptom. At the time of operation there was tenderness over the back and pus in the urine. Nephrotomy was first performed, a pint and a half of pus and the stones were removed; ten days later the kidney was removed. Recovery.

No. 881. Epidermal Cast of Foot.—Hemorrhagic smallpox. (Brayton.)

Nos. 882-902. Miscellaneous Specimens.—Including enteroliths, hair balls, foreign bodies removed from the larynx by operation, etc.

GEORGE E. SHAMBAUGH, CHICAGO (PRIVATE COLLECTION).

Nos. 903-906. Series of Wood's Metal Casts of Ear.—1. Two casts of labyrinth mounted on stiff cardboard, with drawings of anterior and posterior surfaces. 2. Metal cast of ear showing: (*a*) Meatus auditorius externus; (*b*) cellulæ mastoideæ; (*c*) meatus acousticus internus; (*d*) the osseus labyrinth. 3. Cast same as No. 2 and showing, in addition, the aquaductus vestibuli and the canaliculus cochleæ, with its accessory canal for the exit of the large vein from the cochlea.

Nos. 907-918. Series of Celloidin Casts of Labyrinth, mounted in cells and made from a preparation in which the blood vessels had been previously injected. 1. Complete cast of labyrinth, showing a perfect injection of the capillaries as well as the arteries and veins. Two drawings of the preparation in colors. 2. Cast of the cochlea, showing the arterial tree alone. Drawing of same in colors. 3. Drawings in colors to show following: (*a*) Basal coil of cochlea of embroyos 11 cm. long; (*b*) venous tree of cochlea; (*c*) basal coil of cochlea of fetus, full term; (*d*) cross section of cochlea; (*e*) detail of piece from basal coil of cochlea; (*f*) semicircular canal with ampulla; (*g*) detail drawing of section of the semicircular canal.

R. W. GILLMAN, DETROIT (PRIVATE COLLECTION).

Nos. 919-937. Series of Temporal Bones.—Arranged in order to show the varying distance of the lateral sinus from the spina sup. meatus. In No. 1 the distance was 21.0 mm. In each succeeding specimen the sinus was shown nearer the meatus, and in No. 17 they were only 6.0 mm. apart.

EDWARD EVANS, LA CROSSE, WIS. (PRIVATE COLLECTION).

Nos. 936-947. Products of Twelve Cholecystotomies.
Nos. 948-953. Appendiceal Specimens.

The stones in each cholecystotomy case were beautifully mounted on a board. The essential points of interest to the appendiceal specimens were the foreign bodies found in the appendix. In one case there was an apple seed; in another two live round worms were found in an abscess surrounding the perforated appendix.

The following exhibit was a beautiful series of casts of the bladder and prostate gland, designed to show the different types of hypertrophy of the latter, with the view of illustrating the particular form of surgical treatment indicated in each case.

BRANSFORD LEWIS, ST. LOUIS (PRIVATE COLLECTION).

No. 954. Bilateral Enlargement, with obstruction from pedunculated intravesical growth. Suprapubic operation advisable.
No. 955. Moderate Enlargement of Lateral Lobes; thick prostatic bar; deep bas fond; marked curvature of urethra. Favorable for perineal prostatectomy.
No. 956. Enlargement of Both Lateral Lobes; pedunculated median intravesical tumor from posterior commissure. Suitable for suprapubic removal.
No. 957. Pedunculated Median Intravesical Growth from posterior commissure. Favorable for suprapubic removal.
No. 958. Excessive Enlargement of Lateral and Median Lobes; direct pressure on both ureter openings producing dilatation of ureters and renal pelves. Favorable for combined suprapubic and perineal removal.
No. 959. Lateral Lobes, Enlarged; especially right; high prostatic bar, with small nodule on right; deep bas fond. Favorable for Bottini or perineal prostatectomy.
No. 960. Marked Enlargement of Both Lateral Lobes, and globular intravesical tumor from posterior commissure. Removal of tumor and both lobes required; best accomplished through perineal and possibly suprapubic combined routes. Bottini inappropriate.
No. 961. Moderate Enlargement of Lateral Lobes.—Pyramidal median projection capable of ball and socket effect. Suitable for suprapubic removal.
No. 962. Multiple Adenomata projecting into prostatic urethra. Favorable for perineal removal. Bottini inappropriate and inadequate.

HERMAN TUHOLSKE, ST. LOUIS (PRIVATE COLLECTION).

No. 963. Placenta Attached to Liver.

This remarkable specimen is the only one of its kind reported. The nearly full term fetus was removed from the abdomen by operation, but the woman died a few hours later from secondary hemorrhage.

H. F. HARRIS, ATLANTA (PRIVATE COLLECTION).

Nos. 964-966. Malarial Plasmodium.—Preparations stained by the modified Romanowsky process.
No. 967. Ameba from case of amebic dysentery in man.
No. 968. Ameba from a case of dysentery experimentally induced in a dog.

CLAUDE A. SMITH, ATLANTA, GA. (PRIVATE COLLECTION).

No. 969. Gross Specimens of Uncinaria americana.
Nos. 970-972. Microscopic Mounts, showing both the hookworm and ova.

MIHRAN K. KASSABIAN, PHILADELPHIA (PRIVATE COLLECTION).

Nos. 973-1012. Collection of Skiagraphs.

These skiagraphs were excellent. The more noteworthy among them were: (*a*) Pleurisy with effusion. (*b*) Vesical calculus. (*c*) Congenital dislocation of both hips (reduced by Lorenz).

W. C. FUCHS, CHICAGO (PRIVATE COLLECTION).

Nos. 1013-1113. Radiographs.—Rare in this collection were the following: (*a*) Four-month fetus differentiated from tumor; (*b*) pus sac-recurrent appendicitis; (*c*) floating kidney; (*d*) pericarditis; (*e*) gallstones; (*f*) cyst of the brain.

Medical Organization.

MEDICAL ORGANIZATION METHODS AND BENEFITS.

J. N. M'CORMACK.

(*Continued from page 623.*)

THE REMEDY.

Through the universal county society system it is proposed that there should be built up in each community, gradually and with the self-sacrificing labor incident to all important undertakings, a permanent organization, which will give artificially, as it were, the same opportunity for acquaintance, comradeship and improvement which comes naturally in those more favored vocations, of which the legal profession is a conspicuous example. To do this will require a union of all the forces at the command of the profession—its leaders, existing societies and schools. To secure this union, physicians must be convinced and students taught that no one was ever permanently benefited by traducing his competitors, or by the practice of any of the "black arts," and that the time has come for them to decide whether they will go on in the old, discredited courses, "learning nothing and forgetting nothing," as Macauley said of the Stuarts, wasting valuable time and bringing continued reproach on themselves and their guild, in endless, senseless, profitless bickerings, as in the past, or, instructed by what is going on around them in other callings, and in other sections in their own calling, get together for their own and the public good. There will be dissenters and pessimists, and the work may be difficult at the outset in many places, but each county accomplishing it and conducting its society in the broad, kind and mutually helpful spirit to be inculcated, will be an object lesson for its neighbors, good examples being just as infectious as bad ones. In such counties it will be an honor to be a physician, a pleasure to practice medicine, and the public will be benefited even more than the profession.

OTHER OBJECTS.

It must be borne in mind always that the organization and resulting pleasant relations indicated, important and essential as they are, are only means to far higher and more useful ends. Assuming that all this has been accomplished, or is well under way, the real work of the society should then be undertaken. To do this to the fullest advantage, study should be given to the many ways in which it may be made useful to the profession and people within its jurisdiction. Most of these are indicated in the by-laws briefly, but may require elaboration. In a measure, and in a very modest way at first, each society should be made a post-graduate school for the county. All who can do so should be urged to attend such schools in the medical centers from time to time for the purpose of getting out new editions of themselves, as it were, and to impart the information thus acquired, so far as possible, to their less fortunate colleagues who can not do so. Programs should include not only the usual papers and discussions, but also demonstrations, clinical cases, pathologic specimens, exhibits of the latest and best journals and books, and occasionally an address by some prominent invited guest. Younger members who can qualify themselves to do so should be encouraged to take up special research work. All of the proceedings should be so shaped and conducted as to encourage home study, both in the review of the elementary branches and as to the application of the latest and best methods in practice. A line of study after the plan of some of the university extension courses is greatly needed for the use of county societies and is likely to be developed soon. Public health questions should also have frequent place on the program. Aside from the prevention or restriction of epidemic and the ordinary communicable diseases, the complex problems incident to our rapidly-increasing population in this country, both rural and urban, must be met and worked out by the medical profession. Our rivers, which must be the source of water supply for future generations, are rapidly being converted into open sewers, poisoned, as are the soil and air, from ignorance more than greed on the part of municipalities, corporations and individuals. An educated public sentiment, which must originate and be directed by the medical profession, is needed, to demand and enforce preventive and remedial legislation in regard to these and other public dangers, unless we are to repeat the unfortunate experience of the older civilizations, whose people were repeatedly decimated and finally dwarfed as results of such neglect. The society should always be in touch with the county and municipal boards of health of its jurisdiction, and should lead in and co-operate with every proper effort to improve sanitary conditions. With these ends in view it should have a voice or be consulted in regard to new regulations and ordinances, and in the selection of the members of such boards.

MATERIAL AND BUSINESS INTERESTS.

Physicians are proverbially poor business men. As has been shown, this has resulted largely from the failure of even the best medical schools to give any instruction on the subject to start with, supplemented by an almost universal lack of organization, and false ideas as to a conflict of interest between local men. There has been a singular delicacy of sentiment, too, about the propriety of discussing this subject either in medical societies or before the public. All this must be changed. The time has come for everybody to understand that under modern conditions a physician who is a failure financially can not keep himself qualified and equipped for safe practice, and that in consequence low prices and rate-cutting are fruitful sources of danger to the public. Some voluntary understanding as to charges in each community is proper and necessary, but in order to prevent a possible abuse of the great power which a universal organization of the profession will give it is wisely written into the fundamental law of the entire system that no schedule of fees or agreement as to prices shall be adopted by any society. A medical trust would be objectionable and un-American as any other kind of trust. Beside, experience has shown that even the best-intentioned attempts to enforce such agreements by expulsion or other penalties have always resulted in further dissensions, with public sentiment and advantage on the side of the less scrupulous. Moral suasion, backed by an organized profession and an educated public sentiment, is the only remedy here as in all similar matters. For these reasons the by-laws also provide that "each county society shall set apart at least one meeting in each year for a discussion of the business interests of the profession of the county," and for efforts for a proper instruction of the public on the subject. At this meeting some leading members who have been most successful along just and ethical lines should open the discussion, which should be so directed as to indicate the best and most practical methods for the guidance of all. It should include the frequency and best methods of making collections; the expediency of a common collector for a number of physicians, on a salary and with a separate office, who can devote his entire time to their service; of the advantages of an office at the residence, or the economy of a joint office with different hours, or a common waiting room with individual consulting rooms, with the same office attendant and telephone; of a hospital owned or directed in whole or in part by the profession; of the advisability of taking advantage of modern pharmaceutic conveniences and dispensing their own drugs, and all similar questions, so far as they are adapted to the conditions and needs of that society.

In all of these matters the interests of the public should be fully and fairly considered, and at such meetings leading laymen might often be invited to take part in the discussions with profit to all. In fact, the mutual interests and obligations of the profession and public in everything should be iterated and reiterated as a means of education for both. The best and highest sources of information are now open and reasonably accessible to all medical men in this country, and every community is entitled to, and should have, competent physicians, and the best and most approved treatment in their afflictions. Most people who are in moderate circumstances, and all in emergency sickness, must receive this at the hands of their home physicians or not at all. Through systematic organization alone is it possible to furnish the incentives and opportunities requisite for such ends, and organization is incomplete until this has been done. This instruction, whether at home or in medical centers, with the incident equipment essential to its utilization in practice, is expensive and the public should be educated to its interest and duty in such a support of the profession as will enable its members to acquire them without depriving their families of the means of subsistence.

SOCIAL PROVISIONS.

The social features of the society should also receive careful attention, probably at the hands of a permanent committee with talent for such matters. Frequent and inexpensive lunches should be recognized as a legitimate and tasteful method of increasing the attendance and interest, and of promoting kind personal relations. In this respect the society should represent a gentlemen's club in its informal but dignified and respectful intercourse. It should be borne in mind by all concerned that members will take the time and trouble to attend only so long as the meetings are made pleasant and instructive. Little fear need be entertained on these points, however, if the councilors, and through them the profession at large, can once be made to understand the character, spirit and advantage of the work, so that each officer and member may be induced to do his full part.

QUALIFICATIONS OF COUNCILORS.

On account of the important powers and duties imposed on the council as a body, and still more on its individual members for several years to come at least, the office of councilor will be the most responsible within the gift of the state associations. Indeed, the inauguration and success of the entire work is so dependent on what he does that no one should accept the office who will not freely give the time and labor necessary to the efficient discharge of the duties. It is necessary that every one who would qualify himself for the office should make a special study of the constitution and by-laws which his state association has adopted, and of those which it has recommended for adoption by county societies. He should make himself familiar with the history of medicine, and especially with that of his own state and country. He should also inform himself as to the medical and health laws of the state. When possible, a joint meeting of the council and state board of medical examiners and the state board of health should be held early in the work in order that there may be that harmony of views and concert of action between those working for common ends essential to the best results. Representatives from the faculties of the various medical schools should be invited to such meetings for consultation as to the feasibility of establishing practical courses on ethics and business methods, as well as of having all advanced students advised as to the advantages of society membership and organization.

DUTIES OF COUNCILORS.

Possessed of the accurate knowledge and breadth of views which will qualify him for a discussion of the necessity, practicability and objects of the reorganization which the profession has undertaken, and being supplied with a card index register, or other reliable list containing the names of the physicians of each county in his district, the councilor is ready for active work. Selecting the county, a personal letter should be written to each physician notifying him of the place and hour agreed on for a meeting to consider the advisability of such an organization of the profession of his county as will improve all of its interests, scientific, social and material. The letter should be explicit, cordial in tone and should conclude by urging him to attend, and to notify and bring his professional neighbors and friends with him. A copy of the county constitution and by-laws should always be enclosed. Unless it is known that all of the physicians at the county seat are on unusually friendly terms the meeting should always be called at the courthouse, a hotel or other public place, and some conveniently located physician should be requested to arrange for the room and see that it is in order.

On his arrival the councilor will do well to call on each physician at the county seat, interest him in the meeting, and have him call up his friends out in the country, remind them of the meeting and urge them to come in. He is likely to meet with much discouragement and to hear many doleful complaints in this part of his work, but it may be encouraging for him to know that the best and most permanent results have often been secured in counties where conflicting interests and personal dissensions at first appeared so long established and irreconcilable that all were reluctant to attend. The importance of a full attendance at the first meeting, especially of those at the county seat, or those between whom dissensions or coolness exist, can hardly be overestimated. Such of these as fail to hear the address, to have an opportunity to take

part in the discussion which follows, and to come into fellowship then will usually prove much more difficult to deal with afterward.

(To be continued.)

Crawford County (Ind.) Medical Society.

This society has been organized with Dr. Frederick R. Gobbel, English, president; Dr. Charles D. Luckett, English, vice-president, and Dr. G. H. Abell, secretary and treasurer.

Durham County (N. C.) Medical Society.

Dr. Hubert A. Royster, Raleigh, councilor for the Fifth District, met with the physicians of the county at Durham, August 28, and organized a county medical society in affiliation with the state and National organizations, with an initial membership of 11. Dr. A. G. Carr, Durham, was elected president; Dr. Norman M. Johnson, Durham, vice-president, and Dr. George H. Ross, East Durham, secretary and treasurer.

McLennan County (Texas) Medical Society.

Physicians of McLennan County met at Waco, August 25, and organized a county medical society, adopting the constitution and by-laws recommended by the American Medical Association and electing the following officers: Dr. James C. J. King, Waco, president; Dr. Ralph E. Conger, China Spring, vice-president; Dr. Jesse J. Dean, Waco, secretary; Dr. J. D. Lovelace, Spegleville, treasurer, and Drs. Oliver I. Halbert, Garland B. Foscue and C. Enrique Smith, all of Waco, censors.

South Dakota Fourth District Medical Society.

A large number of physicians met at Huron, August 27, and organized this society, which comprises the counties of Beadle, Buffalo, Hyde, Hand, Hughes, Gerauld, Spink, Sanborn, Stanley and a part of Kingsbury. The following officers were elected: Dr. William H. Lane, Miller, president; Dr. Clark B. Alford, Huron, vice-president; Dr. Charles J. Lavery, Pierre, secretary; Dr. John L. Foxton, Huron, treasurer, and Drs. Lorme W. Robinson, Pierre, Isaac M. Burnside, Highmore, and E. A. Taylor, Huron, censors.

Jasper-Morton County (Texas) Medical Society.

Dr. Benjamin F. Calhoun, Beaumont, councilor for the Tenth (southeast) District, met with the physicians of Jasper and Morton counties at Jasper, August 30, and organized a medical society with the following officers: Dr. H. R. Hancock, president; Dr. Jefferson D. Yates, Kirbyville, vice-president; Dr. Thomas E. Stone, Jasper, secretary and treasurer; Drs. B. F. Yates, Jefferson D. Yates, Kirbyville, and G. T. Sutton, censors; Dr. Thomas E. Stone, Jasper, delegate to the state medical association, and Dr. Benjamin F. Bean, Kirbyville, alternate.

Green Lake County (Wis.) Medical Society.

The physicians of Green Lake County met at Dartford, August 20, organized a county medical society and adopted the constitution recommended by the American Medical Association for county societies. The following officers were elected: President, Dr. Charles E. Thayer, Markesan; vice-president, Dr. Arthur L. Travis, Princeton; secretary and treasurer, Dr. B. E. Scott, Berlin; delegate to state society, Dr. John S. Walbridge, Berlin, and censors, Drs. John S. Walbridge, Berlin, George E. Baldwin, Dartford, and Gertrude C. Crumb, Berlin.

Guilford County (N. C.) Medical Society.

On August 22 a meeting of physicians of the county was held in Greensboro to perfect reorganization in accordance with the constitution of the state society, at which the following officers were elected: Dr. Millard F. Fox, Guilford College, president; Drs. James A. Turner, High Point, and William J. Richardson, Greensboro, vice-presidents; Dr. Thomas R. Little, Greensboro, secretary and treasurer, and Drs. William J. Richardson, Thomas R. Little and Albert R. Wilson, all of Greensboro, committee on constitution and by-laws to report at the September meeting.

Orleans Parish (La.) Medical Society.

This society is in a flourishing condition, as evidenced by the large attendance at the meetings held in the heat of summer and by the very valuable papers contributed recently. The society now has 218 members, the largest number in its history. This gratifying state of affairs is to be attributed to the interest freshly awakened, in the first place, by the meeting of the American Medical Association held in New Orleans last May, and secondly, by the determination of the society to affiliate with the Louisville State Medical Society, as well as by the new regulations of the state society requiring each member to belong to his local society.

Societies.

COMING MEETINGS.

Medical Society of the Missouri Valley, Omaha, Sept. 14-15.
Medical Society of Virginia, Roanoke, Sept. 15-17.
Medical Society of the State of Pennsylvania, York, Sept. 22-24.
American Association of Obstetricians and Gynecologists, Chicago, Sept. 22-24.
Colorado State Medical Society, Denver, Oct. 6-8.
Medical Association of the District of Columbia, Washington, Oct. 6.
Idaho State Medical Society, Boise, Oct. 8-9.
Mississippi Valley Medical Association, Memphis, Tenn., Oct. 7-9.
Vermont State Medical Society, Bellows Falls, Oct. 15-16.
New York State Medical Association, New York City, Oct. 19-22.

Montana State Medical Association.—This association has filed its articles of incorporation, in accord with the resolution passed at the annual meeting in Butte, July 8, authorizing the special committee so to do.

Floyd County (Ga.) Medical Society.—At the first meeting after the organization of this society, held at Rome, August 25, Dr. Robert M. Harbin was elected president; Dr. Levi P. Hammond, vice-president, and Dr. William J. Shaw, secretary, all of Rome.

Boise (Idaho) Medical Association.—The organization of this association was completed, August 17, by the election of the following officers: Dr. George Collister, president; Dr. Warren D. Springer, vice-president; Dr. James L. Stewart, secretary and treasurer, and Drs. Lewis C. Bowers, Lewis, and Ed. E. Maxey, censors.

Pacific Coast Association of Railway Surgeons.—At a meeting in San Francisco, August 24, seventy-five railway surgeons organized this association, with the following officers: President, Dr. Walter B. Coffey, Southern Pacific, San Francisco; vice-presidents, Drs. Norman H. Morrison, Santa Fe, Los Angeles, Charles N. Ellinwood, San Francisco, and Kenneth A. McKenzie, Oregon Railway and Navigation Company, Portland; treasurer, Dr. Frank K. Ainsworth, Southern Pacific, San Francisco, and secretary, Dr. James P. Dunn, Southern Pacific, Oakland.

Cumberland Valley Medical Society.—At a meeting in Chambersburg, August 21, physicians of Washington County, Md., and of Cumberland, Adams and Franklin counties, Pa., met and appointed a committee consisting of Drs. John J. Coffman, Scotland; Robert W. Ramsay and P. Brough, Montgomery, Chambersburg; A. Barr Snively, Waynesboro; W. H. Brosius, Mont Alto, and David F. Unger, Mercersburg, to report on the feasibility of forming this society, at a meeting held in Mont Alto September 8.

BRITISH MEDICAL ASSOCIATION.

Seventy-first Annual Meeting, held at Swansea, Wales, July 28 to 31, 1903.

(By Our Special Representative.)

(Concluded from page 626.)

Leprosy: Its Etiology, Histology and Treatment.

MR. JONATHAN HUTCHINSON, London, advanced the following propositions:

That an overwhelming body of evidence is opposed to the belief that leprosy spreads by an ordinary mode of contagion (the breath, touch, clothes, bites of insects, wounds, etc.).

That hereditary transmission, if it ever occurs, is a rare event.

That commensal communication—that is, by eating food contaminated by a leper's hands—occurs occasionally, but is by no means frequent.

That in all countries where leprosy is not common a great majority of the cases are *de novo*, in the sense that there has been neither inheritance nor any exposure to risk of contagion.

That the facts as regard leprosy point to its being caused by some article of food.

That there is no other article of food which can be reasonably suspected excepting fish.

That the very excessive prevalence of leprosy in certain fishing districts is a fact strongly in favor of the fish hypothesis, and that its excessive incidence in Roman Catholic communities supports the same conclusion.

Various supposed objections to the fish hypothesis were answered, and it was urged that the amount of circumstantial evidence now accumulated is sufficient not only to justify but to demand that measures based on it should be adopted.

The Treatment of Advanced Tuberculous Disease of the Knee-Joint.

MR. G. A. WRIGHT and MR. W. F. HASLAM contributed a joint paper.

By advanced is implied the stage where operative intervention of some kind is imperative. The paper was based on an analysis of a large number of replies received from hospital surgeons to a series of questions sent to them by the authors. The points considered were:

1. The indications for operation in a case of tuberculous knee. 2. The nature of the operation selected. 3. If erasion is performed—(a) incision; (b) treatment of patella, crucial ligaments, and superficial and deep bone lesions. 4. If excision—(a) treatment of patella; (b) question of fixation of ends of bones. 5. Arrest of hemorrhage. 6. Drainage. 7. Dressings. 8. Splints. 9. Tendency to flexion after operation. 10. As to result in shortening in excision and erasion. 11. The influence of age in deciding as to which operation should be performed. 12. The seat of origin of the disease.

The Pathology of General Paralysis.

DR. W. FORD ROBERTSON opened the discussion on this subject. He supported the hypothesis recently enunciated by Drs. M'Rae and Jeffrey and himself, on the ground of bacteriologic and other evidence, that general paralysis is the result of chronic toxic infection from the respiratory and alimentary tracts, permitted by general and local impairment of the defenses against bacteria, and dependent on the excessive development of various bacterial forms, but especially on the abundant growth of a diphtheroid bacillus which gives the disease its special paralytic character. The widely-accepted view that general paralysis is dependent on a syphilitic toxemia will be controverted. It was maintained that syphilis only predisposes to the disease by impairing the general and local defensive mechanisms, and that it is merely one of many known agents that contribute to this weakening of the natural immunity. The possibility of the occurrence of a bacterial invasion of certain tissues as an essential part of the morbid process was also considered and some evidence bearing on the question brought forward.

Alcohol in Its Relation to Mental Diseases.

DR. THEO. R. HYSLOP said: The rôle of alcohol in the physical economy of the healthy body is more evil than good, and its use is abuse; in the unhealthy body its use may be compared to a loan—at heavy interest—to cope with immediate necessity, and to enable the bodily processes to recuperate.

In the degenerative processes due to chronic alcoholism the nuclear proliferation and overgrowth of the connective tissue cells appear to be closely related to the continued dilation of the vessels and the consequent increase of exudation of lymph to the tissues. In ordinary inflammation the exudate contains a relatively smaller quantity of proteids than does the blood plasma—owing possibly to the selective activity of the endothelial cells. In this case the extravasated leucocytes tend to undergo rapid destruction and dissolution.

When alcohol is conveyed to the plasma the metabolism of the leucocytes is retarded—owing to deprivation of the tissues of some oxygen; and there is retention and proliferation of the exuded material.

An explanation of the mnemonic defects and perversions due to alcohol is suggested; and it is contended that alcohol *per se* does not cause general paralysis.

The Pathology of Splenic Anemia.

DR. H. D. ROLLESTON, in discussing this subject, stated that the term splenic anemia is still often used in a vague sense to describe the clinical association of anemia with splenic enlargement not manifestly due to any definite cause. The relation between anemia and splenic enlargement is a wide subject, and it is therefore proposed to limit this discussion to chronic splenic anemia (primary splenomegaly of Brühl), recently described in greater clinical detail by Osler. The clinical characters of this condition are fairly definite, namely:

1. Splenic enlargement which can not be connected with any recognized cause.
2. Absence of any enlargement of the lymphatic glands.
3. Anemia of a type midway between secondary anemia and chlorosis.
4. Leucopenia, or at most no leucocytosis.
5. An extremely prolonged course lasting years; and
6. A tendency to hemorrhages, especially gastrointestinal, from time to time.

The main question for discussion is whether this clinical entity is a pathologic entity or whether it is merely a combination of symptoms which, under certain circumstances, may be due to a number of different conditions. No doubt some cases regarded clinically as chronic splenic anemia turn out after death to be due to syphilis, thrombosis of the portal vein, cirrhosis, etc., but in other cases there is no morbid lesion except a chronic change in the spleen, which may reasonably be explained as the effect of long-continued toxemic or infective processes. Further investigations—especially blood reactions—are required to show whether these two groups of cases can be separated clinically. Differential blood counts usually show a relative increase in the mononuclear and decrease in the polymorphonuclear leucocytes, but there is nothing pathognomonic. The spleen may show: (1) Increased fibrosis, with atrophy of the malpighian bodies either alone, or (2) in addition to varying degrees of endothelial proliferation; when the latter is very extreme it has been described as a primary malignant growth (Gaucher, Ramond and Picou). Are these appearances different stages in the same process, or are they manifestations of different causes? and to what extent are they pathognomonic of splenic anemia? In some cases hepatic cirrhosis supervenes as a terminal stage (Banti's disease), in other cases slight and latent fibrosis of old date is found in the liver. Is the splenomegaly due to processes originating in the intestinal tract, and so an allied condition to cirrhosis of the liver? Bacteriologic examination of the spleen has not yet given any help. Further knowledge as to the state of the bone marrow, and of the factors inhibiting its hemopoietic activity in splenic anemia, is wanted. In conclusion, although chronic splenic anemia may be regarded as a clinical entity its causation is unknown, and at present, therefore, there is not sufficient evidence to consider it a definite pathologic entity.

Treatment of Convergent Squint.

MR. GUSTAVUS HARTRIDGE said the treatment of convergent concomitant strabismus in a scientific manner can only be approached by the consideration of the various factors which help to produce the disorder, and by a careful examination of every case, so that the value and importance of each factor may be ascertained.

Concomitant convergent strabismus is a condition affecting both eyes—it is a binocular defect, and is the result of excessive innervation of the internal recti muscles excited by the associated act of accommodation. The factors which may assist in the production of squint are:

1. Hypermetropia.
2. Imperfect development of the fusion faculty.
3. Defective visual acuity in one eye.

4. The anatomic position of rest of the eyes.

These various factors do not play the same part in every case; they may not all be present, hence a careful and systematic examination of each case is essential. The objects to be obtained by treatment are:

1. The correction of the deformity.
2. Establishment of binocular vision for all distance.

The treatment may be divided into: Optical, orthoptic, operative.

The importance of an exact optical correction is beyond all question, and in many cases results in a complete cure. Orthoptic exercises are of great value in many cases, but must be commenced early. They consist of:

1. Covering up the fixing eye for a certain time daily.
2. Practice with a stereoscope.
3. Bar reading.

The optical and orthoptic treatment must be faithfully carried out for twelve months before any operative treatment can be entertained. When an operation has been decided on we have to decide: What operation shall be undertaken? We have at our disposal four operations:

1. Simple tenotomy of one or both eyes.
2. Simple advancement.
3. Tenotomy with advance of the opponent muscle.
4. Stretching of one of the muscles.

The chief points on which he invited discussion were:

1. When is an operation necessary or justifiable?
2. What operation gives the best results?

Operations on the Temporal Bone for Otitis Media Purulenta.

DR. ARTHUR HARTMANN, Berlin, spoke on this subject.

1. *Acute Inflammation.*—As a rule, in opening the mastoid in acute inflammation the antrum should be opened in order to have free communication with the tympanic cavity.

Only in cases of abscess in the mastoid, if the internal wall of the abscess seems to be healthy and if there is no swelling in the meatus and on the upper part of the membrane, we need not open the antrum.

In order to effect a rapid and lasting cure the entrance to the cavity must be made very wide. All the bone over the diseased part and the external part of the posterior wall of the meatus must be removed. After this the soft integuments fill the cavity.

2. *Chronic Inflammation.*—The operation on the temporal bone in chronic purulent inflammation of the middle ear when it can not be cured by other treatment, including that by the tympanic tube and by excision of the ossicles, consists in the radical operation.

The radical operation must be so performed that all affected parts of the cavities are rendered accessible and visible.

For this purpose:

1. All the bone outwards of the affected parts must be removed.
2. The external meatus must be much enlarged.

This enlargement can be effected:

(a) If the destructions are not very great by means of Korner's flap.

(b) In cases of large destructions, as in cholesteatoma, by the Y cut of Siebenmann, combined with the excision of a part of the cartilage of the choncha.

For cases of labyrinthine suppuration the labyrinth can be opened without injuring the facial nerve either from the semicircular canals or from the promontorium according to the seat of the disease.

The Pathology and Treatment of Chorea.

In descanting on this subject Dr. D. B. Lees spoke of the chorea of childhood alone. He said chorea is not merely a disorder of muscular movement. There is clinical evidence of an abnormal state of the rolandic cortex, as also of other parts of the brain. He alluded to the implication of speech, of memory, and of the mental and moral faculties. The morbid state sometimes in chorea is intense, often very chronic, yet not destructive, and usually ends in complete recovery. This suggests that the cause is probably a toxemia.

He described the pathologic and histologic results in fatal cases. There is clinical evidence of a morbid blood state in chorea. Any of the manifestations of rheumatism may accompany it. Strength of the evidence of the connection between the two can only be appreciated by keeping all these manifestations in mind. Chorea is often the first rheumatic symptom. Bacteriologic evidence is as yet scanty, but suggestive.

He concludes that chorea is, in the great majority of cases, essentially a rheumatic symptom. Other causes are possible, but rheumatism should be suspected in every case.

Antirheumatic treatment, if sufficiently vigorous, produces very satisfactory improvement in acute chorea. Large and frequent doses of salicylate are required. Other measures should be employed. Insufficient doses are usually given because of the tradition that salicylate is a cardiac depressant. This action is really due to acute rheumatic dilation of the heart, and not to the remedy. The chronic cases are naturally less influenced by the drug because motor centers may remain abnormally excitable after the action of micro-organisms has ceased, yet here also the salicylate is of service, if used freely. Other remedies should be used, such as arsenic, antipyrin, ergot, etc.

The Upper Respiratory Tract as a Source of Systemic Infection.

DR. DEHAVILLAND HALL brings forward cases to show that typhoid fever may start in the larynx. He points to the initiatory symptoms of measles, influenza and whooping cough as clearly indicating that the virus of these diseases enters the system through the upper respiratory tract. Diphtheria is essentially a local disease at its commencement, and the specific bacilli may enter at the nose, nasopharynx, pharynx (the usual situation) or larynx; the secondary symptoms are due to the absorption of toxic materials secreted by the bacilli during their growth. Cases are brought forward to show that the virus of scarlet fever may enter the system through a wound of the nasal mucous membrane. He is of opinion that there is much to be said in favor of the view that tonsillitis is a primary infective disease of the lacunæ, and that rheumatic fever is a secondary disease arising from the absorption of microbes or their products into the system. He emphasizes the importance of the careful treatment of even slight tonsillar affections in view of the danger of systemic infection. Septicemia, pyemia and erysipelas are shown to be diseases which certainly enter the system in many cases through the upper respiratory tract. Occurrence of primary tuberculosis of the nose, pharynx and larynx, and the recognition of latent tuberculosis of the tonsils, both faucial and pharyngeal, point to the possibility of the tubercle bacillus entering the system via the upper respiratory tract. Cases of syphilitic infection through primary sores in nose, nasopharynx, pharynx and larynx are mentioned.

DR. JOBSON HORNE, in a paper on the same subject, deals mainly with three points: 1. That the upper respiratory tract is more frequently than is generally stated a site of primary infection with systemic diseases other than those commonly assigned to it, and that a more routine examination of the region should be made in the clinical investigation of diseases of obscure origin. 2. That the region is not only a source of, but is also a factor in, modifying or arresting infection. Lastly the surgical treatment of such diseases is considered with reference to the foregoing.

By way of illustrating these points the following diseases are more especially discussed: Infective endocarditis, tuberculosis, lymphadenoma and lymphosarcoma.

As to infective endocarditis, evidence is adduced to show that the primary infection at times is in the larynx.

In regard to tuberculosis, the relative virulence of moist and dry infection is considered. The part played by the upper respiratory tract in tuberculosis is regarded as three-fold: (a) Direct inoculation—e. g., primary tuberculosis of nose, fauces, postnasal space, soft palate, pharynx, partoid gland, tongue, larynx. (b) Indirect infection, the lymphoid tissue

acting as a channel to convey infection—e. g., primary tuberculosis of the ear, of the cervical lymphatic glands, descending infection of lungs via cervical lymphatic system. (c) Bactericidal action, the lymphoid tissue modifying or preventing infection.

As to lymphadenoma, the relationship of the disease to tuberculosis is considered, and positive evidence is adduced to prove that the disease may be regarded as parasitic, and that infection at times occurs through the upper respiratory tract. Cases in which this evidence is complete were cited.

Relative to lymphosarcoma, pathologic evidence is offered in favor of the thoracic disease, histologically described as "lymphosarcoma," being due to infection through ulceration of the larynx.

The surgical treatment of tuberculosis of the larynx and lymphadenoma was considered with reference to the foregoing remarks.

Officers.

The president-elect of the association is William Collier, M.A., M.D., F.R.C.P., Oxford, and Oxford, England, was selected as the place for holding the next annual meeting.

CANADIAN MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held at London, Ont., Aug. 25 to 28, 1903.

(*Concluded from page 627.*)

President's Address.

Dr. W. H. Moorehouse, London, Ont., delivered the president's address on the evening of the first day. He urged the need of a uniform standard of medical education throughout the dominion, and he thought that this would be brought about as soon as the political horizon became cleared.

THE PATENT MEDICINE EVIL.

President Moorehouse spoke in vigorous terms of the patent medicine craze. The evils were many and readily understood. Certainly not the least was the alcohol habit, which, under the insidious insinuating form of a harmless medicine, was stalking in our midst like a midnight pestilence. Continuing, he said:

> Can not something be done to shield the public from this great evil? Shall we, the members of this enlightened profession, who see this monster, with its many-sided evils, having its bold, indecent advertisements in the press, pervading even the religious journals, clothing these nostrums with an air of respectability; we, who daily meet in our rounds melancholy examples of this terrible delusion, I say, shall we not raise our voices in loud protest against it?

Resolutions.

Resolutions were adopted, one asking the British Medical Association to meet in Toronto in 1905, another pledging the endeavors of the members to bring about a system of municipal sanatoria for the treatment of tuberculosis.

The Cardiac Complications of Influenza.

Dr. E. G. Wood, Nashville, Tenn., said that only a want of recognition of the cardiac dangers can account for the common practice of administering such large and frequently repeated doses of the coal-tar drugs in influenza. Months after an attack of la grippe a man still complains of unusual weakness; he is short-winded and sweats on slight exertion. Physical examination may be negative, yet he is suffering from cardiac weakness due either to functional or muscular disease of the organ.

The cardiac complications may be divided into organic and functional.

ORGANIC.

1. *Pericarditis* is either primary, when it complicates influenza without other organs being affected, or secondary, where it occurs in association with pneumonia or pleurisy, the latter being more frequent..

In grippal pericarditis purulent effusion is comparatively frequent and myocarditis is commonly associated with it. Pericarditis may be present without symptoms.

2. *Endocarditis.*—This occurs more frequently than usually supposed. It is rarely primary, and in the great majority of cases it is secondary to pneumonia. The infective agents are the pneumococcus, streptococcus, staphylococcus and the bacillus of Pfeiffer. Endocarditis may be (1) simple, (2) ulcerative. The simple may present the usual symptoms or may be unrecognized. Ulcerative endocarditis may occur during the attack, but appears more frequently in the convalescing period.

3. *Myocardial Changes.*—The bacillus of influenza elaborates a poison which causes degenerative changes in the myocardium, and when convalescence begins and the patient gets up the heart muscle is unable, under the increased strain, to perform its functions, and palpitation, dyspnea, weakness and collapse are complained of. These symptoms call for a careful examination. A small, feeble pulse, unusually slow or rapid, with a short, feeble first sound, a weakening of the second sound, and a weak cardiac impulse, with increased deep dulness make us think of myocarditis with dilatation.

FUNCTIONAL DISTURBANCES.

The symptoms are attributed to the action of the influenzal poison on the cardiac nervous mechanism; either on the vagus or the cardiac ganglia. The principal functional cardiac disturbances are: 1, palpitation, which is very common; 2, irregular action of the heart; it may occur during or after the attack; 3, bradycardia, which is the most dangerous, as it sometimes leads to fatal syncope; 4, tachycardia; this is more common than bradycardia. These functional disturbances are often difficult to diagnosticate from the organic affections; they usually disappear in a few weeks.

As a rule, in addition to significant subjective symptoms, physical examination will show a feeble, diffuse cardiac impulse with a weak first sound, and in many cases an increased area of dulness. The strength and character impulse and sounds are much more important than the presence of a murmur or irregular rhythm.

In conclusion the author depreciated the use of coal-tar products, especially in patients past middle life.

DISCUSSION.

Dr. Samson, Windsor, in the discussion spoke strongly against the use of the coal-tar products in influenza.

Dr. McPhedran, Toronto, said that in certain cases he thought they were allowable, and that the number of cardiac cases found in influenza was relatively small. He had seen no organic ones.

Dr. H. A. McCallum, London, thought that strychnia and digitalis should be used.

The Relation Between the General Practitioner and the Specialist in Regard to the Treatment of Intranasal Disease.

Dr. J. Price Brown, Toronto, Ont., said that if the required treatment can be done by the family physician by all means let him do it, but if not he should refer the case to the specialist. Every practitioner should be able to examine the nose with the rhinoscope both anteriorly and posteriorly, to discriminate between the normal and abnormal and to diagnose the principal forms of disease which may be found within the organ.

Many conditions he can treat successfully. The instruments he may require are neither very numerous or costly. They consist of head mirror, throat mirrors of different sizes, nasal spiculæ of different widths, curved or angular scissors, cotton applicators, tongue depressor, saws, snares, insufflators and atomizers.

There are certain conditions which simple treatment will relieve, but in which persistent and regular treatment is imperative; particularly atrophic rhinitis. In many cases of subacute and chronic catarrh, the general practitioner can do all that is required. The author outlined the treatment of these affections.

Other papers read were by Dr. H. Meek, London, Ont., on Alexander's operation; Dr. P. G. Goldsmith, on "Causes and Treatment of Postnasal Discharge." Cases of various conditions were reported by Drs. Hadley Williams; J. Alex. Hutchinson; John Wishart; R. Ferguson, London, Ont.; H. Howitt, Guelph, Ont.; Hodge, London, Ont.; and R. B. Robinson, Ottawa. Drs. Geo. M. Gould, Philadelphia, and E. J. Barrick, Toronto, also read papers.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Night-sweats.

The following combination is recommended by *Le Mois Therapeutique* in the treatment of night-sweats due to tuberculosis:

℞.	Balsami peruvianæ	m. xv	1
	Acidi formici		
	Chloralis hydratis, āā	gr. lxxx	5
	Alcoholis (pure)	ʒiiiss	100

M. Sig.: Sponge the body with the foregoing combination at bedtime.

The following combination is frequently used locally in the treatment of night-sweats:

℞.	Alumeni	ʒiv	15
	Alcoholis	ʒii	8
	Aquæ	Oi	480

M. Sig.: Apply locally night and morning with a sponge.

Sunburn and Prickly Heat.

The following combinations are recommended by *Merck's Archives* in the treatment of sunburn:

℞.	Sulphuris precip.	ʒi	30
	Zinci oxidi	ʒiv	15
	Olei amygdalæ (expressed)	ʒi	30
	Lanolini	ʒi	30
	Ext. violet	ʒi	4

M. Sig.: Apply freely two or three times daily; or:

℞.	Ichthyol	ʒii	8
	Olei amygdalæ (expressed)	ʒii	8
	Ung. aquæ rosæ	ʒvi	25
	Lanolini	ʒvi	25
	Olei rosæ	gtt. ii	12

M. Sig.: Apply two or three times daily; or:

℞.	Olei olivæ	ʒiv	15
	Menthol	gr. xv	1
	Ung. aquæ rosæ		
	Lanolini, āā	ʒvi	25

M. Sig.: To be used as a dusting powder several times daily.

In cases of prickly heat the following is also recommended:

℞.	Calamini	ʒiv	15
	Zinci oxidi	ʒii	8
	Ichthyol	ʒi	4
	Glycerini	ʒii	8
	Aq. laurocerasi q. s. ad	ʒvi	180

M. Sig.: Shake well and apply several times daily; or:

℞.	Pulv. amyli	ʒiv	15
	Lycopodii	ʒii	8
	Zinci oxidi	ʒi	4
	Ichthyol	ʒi	4

M. Sig: To be used as a dusting powder several times daily. Alkaline, borax or bran baths at the body temperature are also beneficial. Anointing the body night and morning with some fat, such as petrolatum or cacao butter is of service as a prophylactic measure in persons who are subject to this annoyance. Silk or fine woolen underclothing should be preferred to cotton or linen. Strict attention to the elimination by the bowels and kidneys and a carefully-selected and nutritious diet are of great importance. As a drink, lemon juice or lime juice in barley water is very cooling and relieves the thirst.

Glycoheroin for Cough.

According to Haas and Saxe in *Amer. Med.* the most satisfactory method of prescribing heroin is in the form of the glycerin solution, glycoheroin. They used it in 20 cases of cough and 12 were cured, 7 improved and 2 unimproved. Their conclusions are that this is the best form in which to use heroin; it is especially valuable in whooping cough, as small doses of it are well borne by children and even infants, and the results very prompt and permanent. It is of service in pulmonary tuberculosis, in reducing the cough, nightsweats, pain and temperature without disturbing the appetite and digestion. In acute and chronic bronchitis the most obstinate cases yielded to it.

Mucomembranous Enteritis.

The most frequent cause of mucomembranous enteritis, according to A. Robin in *Amer. Med.*, is gastric hyperacidity. Consequently to correct the cause the following should be given:

℞.	Precip. calcii carb.		
	Magnesiæ (calcined), āā	ʒiss	6
	Sodii bicarb.	ʒi	4

M. Ft. chartulæ No. xii. Sig.: One powder after each meal, in the middle of the afternoon, and at bedtime in a little water.

Careful attention should be given to the diet. Fats, sauces, raw or fried articles, condiments and acid substances should be avoided. He recommends intestinal irrigation to be repeated daily for eight days, then two or three times a week. One quart of water should be used at a time at a temperature of 95 F., to which five or six drops of the tincture of sage (salvia) have been added in order to favor the contractility of the intestine.

Feeble laxatives should be employed; one or two teaspoonfuls of castor oil may be given, to which two or three drops of the following have been added:

℞.	Tinct. opii		
	Tinct. belladonnæ		
	Tinct. hyoscyami, āā	ʒiss	6

M. Sig.: Three drops added to one or two teaspoonfuls of castor oil and taken as directed.

He also recommends massage daily, following the course of the large intestine.

Epicarin in Tinea Tonsurans and Circinata.

Van Harlingen and Dillard, in *Amer. Jour. Med. Sciences*, report excellent results from the employment of epicarin in the treatment of tinea tonsurans and tinea circinata. It was also used in the treatment of scabies, but with less satisfactory results.

It was used combined as follows:

℞.	Epicarin	ʒiss	6
	Alcoholis	ʒii	60

M. Ft. lotio. Sig.: Apply locally.

Or in the form of an ointment, as follows:

℞.	Epicarin	gr. c	7
	Cretæ albæ	gr. xxx	2
	Vaselini albæ		
	Lanolini, āā	ʒiss	45

M. Ft. unguentum. Sig.: Apply locally.

Each of the foregoing combinations proved very efficient in the treatment of tinea. However, the results obtained in scabies were not satisfactory, as the ointment irritated the skin quite severely and gave but little relief to the pruritus, which yielded promptly to the naphthol and sulphur ointment.

This preparation, according to the authors, is a condensation product of creasotinic acid and beta-naphthol, therefore combining the properties of creasote and naphthol. It is a reddish amorphous powder, soluble in alcohol, ether and liquid vaselin.

Chloroform as a Teniafuge.

Chloroform is a very efficacious teniafuge according to M. Leger as noted in *Merck's Archives*. In prescribing it for this purpose he recommends that the patient be kept on a milk diet for twenty-four hours previous to its administration, and a purgative enema given.

The next morning the following mixture is administered:

℞.	Spts. chloroformi	m. xl	2 65
	Syrupi	ʒvi	25
	Aquæ	ʒiv	120

M. Sig.: To be given an ounce at a time at intervals of forty-five minutes.

Between the third and fourth doses one ounce of castor oil is given or an ounce of German brandy. Very satisfactory results were obtained by him by this method of treatment, as shown by statistics given.

Local Hyperidrosis.

In the treatment of hyperidrosis of the hands, feet or axillæ, according to an abstract in the *N. Y. and Phila. Med. Jour.*, local baths of vinegar may be used, an infusion of walnut leaves and alum, a solution of potassium permanganate, or a tablespoonful of commercial formol in a quart of water. Subsequently the affected areas should be rubbed with the following lotion:

℞.	Naphthol	℥i	4
	Glycerini	℥ii	8
	Alcoholis	℥xx	80

M. Ft. lotio. Sig.: Dilute one half with water and apply locally; or:

℞.	Thymol	gr. xv	1
	Acidi tannici	gr. lxxv	5
	Spts. vini gallici (camphorated)	℥vii	210

M. Ft. lotio. Sig.: Apply locally.

The affected parts should then be dried well and powdered with talcum, starch or bismuth subnitrate, or with the following combination:

℞.	Acidi salicylici	gr. xlv	3
	Amyli	℥iiss	10
	Pulv. talci	℥iiss	75

M. Sig.: Locally applied; or:

℞.	Acidi salicylici	gr. xlv	3
	Pulv. alumeni Naphthol B., āā	gr. lxxv	5
	Sodii boratis Pulv. amyli, āā	℥iiss	10
	Pulv. talci	℥iiss	75

M. Ft. pulvis. Sig.: To be dusted in the shoes in cases of sweating of the feet.

The following combination is said to serve a good purpose in excessive hyperidrosis:

℞.	Bismuthi subnitratis	℥iv	15
	Sodii salicylatis	gr. lxxv	5

M. Sig.: For external use as a dusting powder in the shoes.

The following should be rubbed between the toes once a week:

℞.	Plumbi oxidi rubri	gr. xv	1
	Liq. plumbi subacetatis	℥i	30

M. Ft. lotio. Sig.: Apply once a week between the toes in excessive perspiration of the feet.

Medicolegal.

Use of Morphin Not "Cruel Treatment" of Spouse.—The Supreme Court of Georgia holds, in the case of Ring vs. Ring, that the habitual and intemperate use of morphin, unaccompanied by any willful infliction of pain, bodily or mental, on the complaining party, such as reasonably justifies an apprehension of danger to life, limb or health, is not such cruel treatment as the law recognizes as a ground for divorce.

Duty of Injured Person in Employment of Physician.—The Appellate Court of Illinois for the Fourth District holds, in Chicago & Eastern Illinois Railroad Company vs. Burridge, a personal injury case brought by the latter party, that an instruction stated the law correctly which told the jury that it was the duty of the party suing "to employ such doctor or doctors for the treatment of his injuries as ordinary prudence in his situation at the time of the injury and thereafter required; and to use ordinary judgment and care in doing so, and to select only such doctor as was of at least ordinary skill and care in his profession; but the law does not make him an insurer in such case that the doctor will be guilty of no negligence, error in judgment or want of care, and where such errors or mistakes occur in the treatment (the injured party using ordinary care) the injury resulting from such mistakes is properly regarded as part of the immediate and direct damages resulting from the original injury."

Liability for Support of Quarantined Persons.—The Supreme Court of Nebraska holds, in Dodge County vs. Diers, that, in the absence of a statute, a county is not liable for necessaries furnished to persons not paupers while quarantined in their residence for the time being. The Supreme Court Commissioners say that some states have statutes by virtue of which such liability exists in certain cases. But the liability in these cases is recognized as completely statutory so that if the quarantine was not imposed by the authority named in the statute, or was imposed before the statute took effect, or the persons quarantined did not come within the purview of the provisions creating liability for necessaries, the county or municipality has never been held. In consequence, where the statute goes no further than to provide for the maintenance of indigent persons while quarantined, or provides that the county or municipality shall be liable in case those chargeable with their support are unable to maintain them, the burden is on the claimant to show that the patients were paupers, or that those primarily liable were unable to respond. The mere fact that they are quarantined for the public safety does not relieve persons who are able to support themselves of the duty of so doing.

Larceny of Antitoxin.—The Supreme Court of New York, Special Term, New York County, says, in the case of People, on the relation of Lacina vs. Lavin, that the City of New York, through its department of health, for several years has been, and still is, distributing free of charge to the poor people antitoxin to be used as a preventive against and cure for diphtheria. The department of health consigns the antitoxin, which is put up in small phials, to certain druggists in the city, and authorizes them, on the presentation of a certificate by any physician of the city, to deliver to the physician free of charge, for the use of a poor patient, one or more phials of the antitoxin, the certificate stating that this antitoxin is for the treatment of a poor patient, to whom payment for the same would be a hardship. The relator, a practicing physician, who obtained three phials of the antitoxin on one of these certificates, the court says, was the agent of the city to administer the antitoxin to the patient he obained it for if she was unable to pay for it, and only in that event; but he administered it to her knowing that she was able to pay for it, and therefore he deviated from the terms of his agency, and did so to his own pecuniary advantage. In other words, he appropriated the antitoxin to his own use, and rendered himself amenable to subdivision 2 of section 528 of the Penal Code of the State of New York, which declares it to be larceny for one to appropriate to his own use public property in his control.

Employment of Nurse by Health Officer's Substitute.—The Appellate Court of Indiana, Division No. 1, says, in the case of Monroe vs. City of Bluffton, that the secretary of the board of health for the city and county, having given written authority to another duly qualified, practicing physician to act as health officer during his absence, thereafter absented himself from the city and county, and never afterward acted or assumed to act as health officer. The Indiana statutes provide that, "In case of death or removal of any town, city, or county health officer, the vacancy thereby created shall be immediately filled by the president of the board of trustees of the town, or the mayor of the city, or the county auditor as the case may be," etc. But from the time of the above appointment or attempted substitution, and for 40 days continuously thereafter, neither the county nor city had any health officer other than this appointee or substitute. In the meantime, the latter, acting under this appointment, and also verbal directions of the secretary of the State Board of Health directing him to immediately quarantine the house of the party suing, quarantined the house, and ordered and contracted with the party suing to take charge of and nurse and care for an indigent smallpox patient who had come there. The party suing believed at the time that the one so employing her was the health officer of the city, and the city subsequently paid the guards he contracted with for guarding the house. The court holds that the complaint of the party suing, setting forth substantially these facts, stated a cause of action for the value of the services rendered as nurse. It says that the Indiana statutes not only give local boards of health authority to take the necessary action to prevent the spread of contagious and

infectious diseases, but they make it their duty to do so in all cases, and that they shall take prompt action in such matters. No more important duty rests on the state than the preservation of the public health, and, to secure and protect the public health against the very dangerous and contagious disease of smallpox, the local instrumentalities and agencies created by the state are required to act promptly and effectively. It is true the secretary of the board of health does not have absolute authority independently of the board in matters pertaining to the public health. But, even if it be conceded that under a strict and literal interpretation of the law the party suing could not recover, courts are not always required to give full force to the exact letter of the law, but are oftentimes permitted, nay more, required, to relax somewhat the rigor of an exact compliance. It is true the general rule is well established that a person dealing with the agent of a municipality must take notice of the limit of his powers, and must know whether the authority assumed is within the statute. But it must be conceded that the facts pleaded showed an emergency existed requiring immediate action. And it may rightfully be said that the employment of a nurse to care for a person suffering from smallpox in a malignant form was an essential precautionary measure to prevent the spread of the disease, and that all that the health officer's substitute did was one entire transaction, which the city must repudiate or ratify as a whole. The city was without a regularly appointed health officer who could act when the emergency arose. The public at large, and especially the inhabitants of the city, were vitally interested in having precautionary measures against the spread of the disease taken immediately. The party suing and her premises were properly quarantined, and by one assuming to have authority to act. He did nothing that the city itself might not have done, but did only what the city in the proper exercise of its duty under the circumstances was required to do. The court thinks that when all the facts and circumstances are taken into consideration, the emergency that existed, the purpose for which the services were performed, the object sought to be accomplished, the necessity that existed that the services be performed, the law implied a promise to pay the reasonable value of the services of the party suing.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

August 29.

1 *The Treatment of Wounds Inflicted with the Toy Pistol. W. Scott Schley.
2 *Is There a Constant Pigment Cell in the Cochlea? George S. Dixon.
3 An Improvement in Radiography. A Print Made by Direct Exposure and Developed in Half a Minute without a Dark Room. Sinclair Tousey.
4 *Regicides; Sane and Insane. (Continued.) E. C. Spitzka.
5 *Personal Experience Regarding Anesthetics. Edward W. Lee.
6 *Primary Tuberculosis of Abdominal Lymph Glands in the Adult. Paul F. Morf.
7 General Remarks on Diseases of the Stomach. Harry Warren Lincoln.
8 Report of Case of Pistol Shot Wound in the Neck; Laminectomy; Results. John C. Murphy.
9 The Treatment of the Summer Dairrhea of Children. (Concluded.) Adrian A. Landry.

1. **Toy Pistol Wounds.**—Schley insists on the importance of thorough cleansing of the wound, using an additional free incision, curetting away the sloughing areas, with free irrigation with saturated solution of boric acid or 1/5,000 bichlorid. The edges of the wound of entrance are trimmed, and a comparatively loose, moist, iodoform gauze packing with a large wet dressing of 1 to 5,000 or 6,000 bichlorid is applied and kept wet at home. Absolute thoroughness in this way has given excellent results. The danger and futility of attempting to care for these cases by a small incision or simple curetting and washing of the wound and removal of the wad, if it happens to be superficial, is proven by his past experience. Through-and-through drainage has been used where the hand has been nearly perforated, but the free opening of one side only is almost always sufficient. None of the cases thus treated have developed tetanus and tetanus antitoxin has been given but four times. He remarks that there are generally two wads to be looked for, and that the great danger of these wounds is the carrying in of extraneous matter.

2. **Cochlea Pigment Cells.**—In the case reported by Dixon there were found large numbers of brown, iron-free, pigmented cells like the branched cells of the choroid and iris. He thinks that these are probably normal and constant in the human cochlea and may become more abundant under certain circumstances, as in the case reported.

4. **Regicides.**—Spitzka continues his argument in respect to the non-insanity and degeneracy of regicides.

5. **Anesthetics.**—Lee is not enthusiastic over spinal cocainization. He finds local anesthesia with cocain often effective, and has done several abdominal sections by it. He has used the infiltration method in hernia and appendicitis. His most satisfactory work, however, has been done on the extremities. He finds if the limb can be elevated until quite blanched and an Esmarch bandage applied, local anesthesia is much more effective, and is free from the disadvantages which often follow when cocain is permitted to enter the general circulation. In one or two minor operations he has been able to use hypnotism, and reports one case. As regards general anesthesia, his preference is decidedly for chloroform. He thinks that ether has many disadvantages and more generally requires an expert for its administration than does chloroform. He does not consider it safer. He has even had chloroform administered by a layman in his practice, though he kept close watch of its action, and says he would have been afraid to use ether under such circumstances. In conclusion he remarks that there is no agent that will obliterate pain in surgical operations that is without danger.

6. **Tuberculosis of the Abdominal Lymph Glands in the Adult.**—This subject has received little attention. Morf investigated the postmortem records of the Rush Medical College and found 9 cases with involvement of the abdominal lymph glands out of 86 tuberculous cases. He reviews what has been written on the subject and the symptoms. The pain is not usually acute nor superficial. It is not attended with distension of the belly, vomiting, dulness nor diarrhea. It may, however, cause acute symptoms without ulceration of the peritoneum, as shown by a case reported by Richardson. The presence of a nodular, abdominal tumor in connection with localized pain and without diarrhea and extending over a long duration is significant. The usual general treatment is advised. Surgical intervention may be considered and abdominal section should be recommended in tubercular mesenteric disease, so soon as the abdominal symptoms make the diagnosis reasonably certain, as he thinks it probable that the same effects would follow as in tubercular peritonitis. The article concludes with a bibliography.

Boston Medical and Surgical Journal.

August 27.

10 *The Invalid's Egypt. F. Gordon Morrill.
11 *The Treatment of Degenerative Diseases of the Nervous System by Massive Doses of Strychnia, with Special Reference to Tabes Dorsalis, Progressive Muscular Atrophy, Optic Nerve Atrophy and Pseudomuscular Hypertrophy. Graeme M. Hammond.
12 *A Brief Summary of the Surgery of the Esophagus. Samuel J. Mixter.
13 Inferences to Be Drawn from the Examination of the Gastric Contents. Elliott P. Joslin.

10. **The Invalid's Egypt.**—Morrill describes the climate in the various health resorts of Egypt, of which he thinks Assouan has probably the best advantages. Its climate is warmer and dryer than most of the others, and it is easily accessible by train or boat. He warns against the incautious use of drinks in the form of water and milk without sterilization, and the avoidance of "catching cold," which is very easily accomplished in Egypt, especially at night. Prolonged exposure to the sun's rays is to be avoided. The best time to go to Egypt is to arrive there not later than December 1, and go directly to Assouan to remain until the middle of March or

later, after which one may safely go to Cairo by river, and after a short stay at any one of the three stations (Ghezireh, Helouan or Mena House) make his way to Ramleh, where the hotels open April 1, to remain until the time arrives for leaving the country. The best time to leave is about the middle of April.

11. **Strychnin.**—The use of massive doses of strychnin in certain degenerative diseases of the cord, such as tabes, progressive muscular atrophy, optic nerve atrophy and pseudomuscular hypertrophy is advocated by Hammond. He bases his paper on the results of 11 cases, 4 of tabes, 3 of progressive muscular atrophy, 3 of optic nerve atrophy, and 1 of pseudomuscular hypertrophy. The method of action assumed is that the strychnin improves the nutrition of the neurons in such a way as to arrest degeneration. Cases are reported in detail and the results are favorable. In no case, however, was the patient completely restored to health, nor was that anticipated. All he claims for the method is that it may in some cases arrest degenerative processes in disease, which have hitherto been regarded as hopeless. The amounts given by Hammond are large, the maximum dose reaching 2/3 of a grain three times a day, beginning with 1/40 to 1/50 gr.

12. **Surgery of the Esophagus.**—The chief causes calling for surgery of the esophagus are congenital malformations, such as double esophagus or pouches, impacted foreign bodies, malignant disease, syphilis and cicatricial stricture. Congenital malformation Mixter finds more frequent than generally supposed, especially congenital pouches. In many cases he has found the passage of a suitable bougie to relieve the difficulty to a considerable extent. Impacted foreign bodies are best relieved by esophagotomy or gastrotomy rather than prolonged or violent attempts with the forceps and similar instruments, though in the hands of experts these instruments should be first tried. While malignant disease is hopeless of cure, very much can be done to avert starvation and relieve the symptoms. Excision is seldom of benefit, excepting when the growth is very high up and it is possible to bring the lower end of the esophagus into the lower angle of the wound. As a rule we must be satisfied with relieving dysphagia. Dilating a stricture is the most common method of treatment, and is satisfactory in many cases, especially if food is introduced at the same time. For impassable or very irritable strictures esophagostomy or gastrostomy is demanded. Mixter much prefers esophagostomy to gastrostomy in disease high up. Syphilitic strictures are not common and should be treated with proper medication and dilatation. He thinks that the method of Abbe of sawing through the stricture with a string is the greatest improvement in the technic of esophageal surgery of recent years. By Dunham's method of thread swallowing he has been able to relieve the most desperate and apparently hopeless cases of multiple stricture both in children and adults. In conclusion he insists on the greatest care and delicacy of manipulation in all esophageal work.

American Medicine, Philadelphia.

August 29.

14 *The Destruction of Bacteria in Vaccine Pulp with Potassium Cyanid. Harvey R. Gaylord and David E. Wheeler.
15 *The Treatment of Congenital Luxation of the Hips. Gwilym G. Davis.
16 *The Danger that May Lurk in Blind Eyes. Cassius D. Wescott and Brown Pusey.
17 *Enteroptosis: Its Etiology, Symptomatology, Treatment and Prognosis. (Concluded.) Thomas R. Brown.
18 *The Matas Treatment of Aneurisms, with Report of a Case. W. O. Bullock, Jr.
19 The Medical Treatment of Dysmenorrhea. Frank C. Hammond.

14. **Vaccine Sterilization.**—Gaylord and Wheeler have found that a solution of cyanid of potassium, beginning with n/2,000 and extending to n/200, completely destroys the bacteria in vaccine lymph without in any way injuring it specifically. Although potassium cyanid is an active poison it is so volatile that in five to six days no trace can be found in solutions kept in test tubes plugged with cotton in the usual way. It would seem that we have in potassium cyanid a differential germicide capable of killing bacteria without injuring delicate protoplasmic structures. Its application to vaccine strongly suggests that the organism of vaccine partakes of the nature of animal protoplasm and is a protozoön.

15. **Congenital Hip Dislocation.**—David describes the requirements of operation for congenital hip dislocation and gives the history of its treatment. He considers Paci's treatment a real advance and the Lorenz application of extreme force a rather objectionable modification. The results in the properly applied circumduction method, according to the Paci plan, are in nearly all cases good in young children under seven or eight years of age. In older patients the treatment has not yet been thoroughly worked out.

16. **Danger of Blind Eyes.**—Wescott and Pusey call attention to the possibility of involvement of the sound eye in the retention of the blind single eye, reporting a number of histories. They also discuss the relative values of evisceration and extirpation of the eyeball, and conclude that it is hardly possible to destroy all the uveal tissue and that complete removal of the eyeball, according to the present evidences at least, is far safer. Even in children it is advisable. There is good evidence, they say, that the development of the orbit is not materially interfered with by enucleation in childhood.

17. **Enteroptosis.**—This paper is concluded in this number. The author concludes that: 1, in the great majority of cases the underlying cause is a congenital weakness of tissues, which predisposes to this condition; 2, in many cases, probably the majority, various accessory factors favor "a marked displacement of the abdominal organs in those so predisposed." He says:

> Of these factors most act either by increasing the pressure from above on the abdominal viscera, as by the use of corsets, belts, etc., or by decreasing the pressure from below upward, as after severe illnesses, pregnancy, marked loss of weight and strength, etc., while in only a comparatively small proportion of the cases does injury or violent trauma form a part.
>
> As to the symptomatology the undoubted tendency has been to ascribe far too many symptoms to the displacement of certain organs, notably the kidneys and the liver and far too few symptoms to other viscera, especially the stomach and intestines. . . .
>
> As to the proper treatment, far too much reliance has been undoubtedly placed by some on surgical interference. We should recognize that we are treating, in the great majority of cases, a displacement of several of the abdominal viscera, and surgical interference is only justifiable when the symptoms are referrable to an especial displaced organ or when dietetic, medicinal and mechanical treatment have been tried without success. . . .
>
> We should all remember . . . that, by care and watchfulness, we may often do by prophylaxis in the young what treatment, neither medical nor surgical, can do in those in whom the condition has become pronounced.

18. **Aneurisms.**—The Matas treatment of aneurism consists in excision and evacuation of the sac, closing of the mouths of the collateral vessels, scrubbing the interior of the cavity with sterile salt solution and closing the openings with chromicized catgut, sometimes using a second row of Lembert sutures over the first A case is reported which seems to show that a mild amount of infection is not necessarily fatal to success though it does delay the recovery. In addition to the lessened danger of gangrene from not interfering with collateral circulation, the operation has the advantage of preserving every available inch of the artery that is capable of aiding in restoring the circulation in the part beyond. Bullock does not favor the modified operation, aiming to restore the continuity of the vessel in sacculated aneurisms and still less the bridging over the gap in fusiform cases by using the sac wall for the purpose.

Medical Record, New York.

August 29.

20 *The Syphilitic Affections of the Heart and Aorta. Leonard Weber.
21 *Peritonitis (Peritoneal Adhesions) Caused by Muscular Trauma. Byron Robinson.
22 *The Quick and the Dead: A Plea for Urn Burial. W. J. Conklin.
23 *Hydrotherapy in the Treatment of Chronic Diseases. Frederick M. Rossiter.
24 *The Suprapubic Operation for the Radical Cure of Varicocele, with a Report of Eighteen Cases. Robert M. Thornburgh.

20. **Syphilitic Affections of the Heart and Aorta.**—Weber describes the usual course of this condition, calling attention particularly to the deficient blood supply from arterial involvement and its effects on the heart tissues. Myocarditis and subsequent degeneration are consecutive to the vascular lesions. The diagnosis is discussed at some length. The signs of active syphilitic lesions in other parts of the body in cases

of myocarditis go a long way to make the diagnosis certain. He remarks that relying on iodids alone will lead to disappointment, according to his experience, but if mercury is used with them or even without them and the patient's kidneys are sound, the results are good. He has been in the habit of ordering mercurial inunctions whenever practicable; when not, the bichlorid of mercury hypodermically or the biniodid by the mouth. He has found advanced cases of syphilitic aortitis less amenable to treatment than specific cardiac disease.

21. **Peritoneal Adhesions.**—Robinson describes the peritoneal adhesions that he has observed in a large number of necropsies, and which he considers due to muscular trauma. He finds none of these in children that have not walked and practically none under three years of age. The muscular trauma of parturition is mentioned as one of the causes of these adhesions. Their effects are described. They cause about one-third of all obstructions of the intestinal tract, and disorder the functions of peristalsis, secretion and absorption of the intestines, genitals, lymphatics, urinary and vascular tracts, and may entail symptoms that do not indicate their character or location. They increase in frequency from 25 to 65 years of age. Their utility is that they put a barrier on infectious invasion, imprisoning, starving and sterilizing bacteria, and are the great life-saving factors in acute inflammatory processes of the abdominal viscera by preventing peristalsis from disseminating infection, by obstructing the lymph channels leading from the infectious center, as, for example, the subject recovers from relapsing appendicitis more readily because the lymph channels from the diseased appendix are progressively eliminated. They are Nature's method of protection and repair.

22. **Urn Burial.**—The advantages of cremation are reviewed by Conklin, who maintains that for sanitary reasons as well as for many others it is in every way preferable to the usual method of burial.

23. **Hydrotherapy.**—The benefits to be derived from hydrotherapy are dilated on by Rossiter, who enumerates the various methods:

> The shower, the spray, hot or cold; the douche, hot or cold, alternating, and percussion; local or general, named according to area treated; the Brand bath, Bouchard bath, or graduated bath, the neutral bath, half-bath, hip or sitz bath, leg bath, foot bath, arm or hand bath; simple sponging, friction, towel rubs, wet sheet rubs, pail pour, hot or cold compresses, named according to location, alternating compresses, evaporating and non-evaporating compresses, the moist girdle, fomentations, the dry blanket pack, the wet blanket pack, trunk pack, chest pack, hip and pelvic pack, leg pack, wet sheet pack, enemas and effusions. All of these treatments are applicable to the home excepting the Brand bath, the graduated bath, the sprays and the douches.
>
> By the employment of one or more of these measures or combinations the following effects may be obtained: tonic, local or general, sedation, antispasmodic, nutritive, eliminative, diuretic, expectorant, antipyretic, antiphlogistic, hemostatic, emmenagogic, analgesic, vasodilator, vasoconstrictor, hypnotic.

Among the diseases which are benefited by this treatment are gastrointestinal disorders with a chronic tendency, dyspepsia, gastritis and enteritis (which can be decidedly relieved by the author's method), heart disease, chronic nephritis and especially chronic functional disorders. Among the hints he gives is one that the ice bag applied to the precordium at bedtime with cold friction will almost invariably give the patient immediate sleep when insomnia is apparently due to atonic condition of the blood vessels and consequent cerebral congestion in the horizontal posture. For the constipation, which is very common in gastrointestinal disease, he finds the wet girdle one of the most effective measures.

24. **Varicocele.**—The suprapubic operation is described by Thornburgh and a number of cases reported in military practice. The technic according to Girard was followed. It is described in detail, as is also the method of cleansing the hands with chlorid of lime and sodium bicarbonate.

Medical News, New York.

August 29.

25 *Extirpation of the Urinary Bladder. Frank Hartley.
26 *The Prognosis of Tabes: An Analysis of 140 Cases of Locomotor Ataxia. Joseph Collins.
27 *The Toxic Actions of Urotropin, with Report of a Case of Hematuria and Hemoglobinuria Following a Dose of Seven and One-half Grains. Warren Coleman.
28 Observations on Eighteen Abdominal Sections, Performed Within the Past Year, Including the Successful Removal of an Ovarian Cystoma Weighing Seventy-two Pounds. Edward N. Liell.
29 *The Effect of Erysipelas on Atrophic Rhinitis, with Report of Case. Lewis S. Somers.
30 Esophagoscopy. Edward A. Aronson.
31 *Indications and Counter-Indications for Prostatectomy. L. Bazet.
32 Moral Insanity or Degeneracy. F. H. Stephenson.

25. **Extirpation of the Bladder.**—This operation may be required in malignant disease, tuberculosis, exstrophy, ureterovaginal fistula following uterine extirpation and in fibroids of the uterus. Hartley has collected 23 cases of complete removal for malignant tumors; 11 performed with intestinal implantation of the ureters, including 6 deaths; 7 with vaginal implantation of the ureters, with 1 death from shock. The total recoveries were 12 out of the 23 cases, or 52.17 per cent. Five patients died during the operation, 3 from collapse afterward, and 4 died a few days later. Vaginal implantation afforded the greatest proportion of recoveries and cases in which the ureters were not involved in the malignant process. The total extirpation of the bladder with implantation of the ureters elsewhere than the vagina gave 43.75 per cent. of recoveries; quite as good as partial extirpation with implantation into the reconstructed viscus. Intestinal implantation gave 6 deaths in the 11 cases. In the male he would advise complete extirpation of the bladder, but it is unsettled whether it is best to extend the ureters into the urethra or into the skin and wear a urinal, or whether we should put them into the intestine. What is offered seems to be in favor of the urethral or cutaneous method, since the deaths in these cases were largely due to avoidable causes. Tuberculosis has been the reason for operating in a number of cases, and Hartley reports 2 here, one in detail, and refers more briefly to the other. Both recovered. For exstrophy of the bladder, the extirpation of the viscus with the implantation of the ureters into the sigmoid flexure or the rectum has been performed 46 times with a mortality of 15 per cent., and 6.5 per cent. of this mortality represents infection of the ureters and kidneys immediately or at some remote period after operation; 8.5 per cent. of the mortality represents shock. The best methods for treating this condition if reconstruction of the bladder is not possible, seems to be either cystectomy with the intestinal anastomosis of Maydl or Pozzi; vesicorectal anastomosis (Frank); extirpation of the bladder and urethral implantation of the ureters (Sonnenburg), or extirpation of the bladder and vaginal implantation of the ureters (Pawlik). The remaining conditions requiring extirpation are rare and did not come under Hartley's observation. He remarks in conclusion that intestinal anastomosis presupposes intact ureters and gives rectal continence, while the vaginal implantation gives slightly better results, but without urinary continence.

26. **Tabes Dorsalis.**—Collins reports one or two of the 140 cases and calls attention to the change of type of disease of later years. He thinks the prognosis is more favorable in the later type, especially since Fraenkel's treatment has been in vogue. That which has a less favorable prognosis is where the stomach is more or less involved. We no longer see the original type of tabes delineated by Duchenne, Romberg and others in which the name "progressive locomotor ataxia" seemed to be so descriptive. The aberrant forms are more common. As to the cause of this change, he thinks no one factor is entirely responsible, but the disease is more generally recognized by the practitioner, and probably treated earlier. We have learned that a certain mode of life, dietary, medicinal treatment, massage, etc., have not infrequently such influence on the disease that the process seems to stop advancing while they are being employed.

27. **Urotropin.**—Coleman finds that the administration of urotropin may be occasionally attended by toxic effects, strangury, etc., which are comparatively frequent if the drug is not properly diluted. The development of toxic effects is not always, or necessarily, correlative with the size of the dose. The individual susceptibility varies greatly. The following symptoms have been observed: Minor toxic actions, such as irritation of the stomach, diarrhea, abdominal pain, a measles-

like rash, headache and ringing in the ears and renal irritation, sometimes with hematuria. The bladder symptoms include strangury, which is the most common effect, and irritant action on raw surfaces in the urinary passages. Eight cases of hematuria have been reported with one doubtful case, to which he adds a case personally observed. In one case hemoglobinuria was associated. The more important of these effects have been reproduced by intravenous injections of formaldehyd. The toxic action of urotropin is evidently due to a special susceptibility to the action of formaldehyd in the dissociation of the urotropin molecule or to interference with the usual disposition of formaldehyd in the body, or to the liberation of an unusual quantity of formaldehyd. The toxic effects of urotropin generally disappear completely within a few days after withdrawal of the drug. A number of cases are reported from the literature and personal observation.

29. **Atrophic Rhinitis and Erysipelas.**—Somers' case was one of atrophic rhinitis of long standing, which completely disappeared after an attack of erysipelas. He has found in the literature but two like cases, both reported by the same observer, Francesco, in the *Revue Hebd. de Laryng. d'Otol. et de Rhinologie*, March 8, 1902. The suggestion is offered that in a small class of cases where ozena has been resistant to all other treatment, it might be well to try an injection of Coley's fluid as a last resort.

31. **Prostatectomy.**—Bazet would postpone the operation when only dysuria and nocturnal incontinence exist, until chronic and almost complete retention, when it will give the best result. In the case of incomplete and chronic retention with a residue of three to six ounces and the use of the catheter three or four times every twenty-four hours, prostatectomy should be employed if the prostate is large. Another indication for prostatectomy is the presence of recurrent calculi. Of the contraindications he considers age the first. Beyond 72 years the chances of success diminish and the benefits of the operation for the short period of remaining life are not proportionate. Infection is another contraindicatory factor, especially when it is accompanied by acute congestion and fever and chronic lesions of sclerosis and renal infection already exist.

St. Louis Medical Review.

August 29.

33 Personal Experience in Treatment of Typhoid Fever. W. P. Allee.
34 Ibid. Tinsley Brown.

Cincinnati Lancet-Clinic.

August 29.

35 The Recent Outbreak of Tetanus, with Considerations on the Treatment. N. P. Dandridge.
36 Fees, Collections and Deadbeats. M. A. Tate.
37 Physicians' Mistakes. George J. Monroe.
38 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

Brooklyn Medical Journal.

August.

39 *Uses of Ergot. Alfred T. Livingston.
40 Scarlatina. F. E. Lambert.
41 *Some Indications for Inducing Abortion and Premature Labor. William P. Pool.
42 Treatment of the Summer Diarrheas of Infants. C. Legrand Kerr.

39. **Ergot.**—Livingston here publishes a paper written a number of years ago, of the same tenor as the one published in THE JOURNAL, March 21, 1903. One of the opinions that he now holds, different from those expressed then, is that ergot acts directly on the fiber of the muscles instead of on their vasomotor centers. In the main the ideas are about the same, proclaiming that ergot is the equalizer of the circulation.

41. **Abortion.**—The indications for abortion are stated by Pool as: Contracted pelvis, in which he advises operation in the thirty-sixth week in suitable cases; chronic nephritis; diabetes; pernicious vomiting (as a last resort); heart disease with aortic murmur, mitral stenosis and cardiac insufficiency; tuberculosis in which possibly curable cases may be made incurable by this physiologic function of pregnancy. He says a woman having an active form of tuberculosis, as evidenced by physical signs and the discovery of the bacillus, should not become pregnant. If conception occurs it would be advisable to terminate the pregnancy at the earliest possible moment.

Archives of Pediatrics, New York.

August.

43 *A Case of Decapsulation of Both Kidneys in a Boy Nine and One-half Years Old. Thomas M. Rotch and H. W. Cushing.
44 *Varicella Gangrenosa; Its Apparent Frequent Association with Tuberculosis. William A. Edwards.
45 The Determination of Fat and Total Solids in Milk. Henry L. K. Shaw.
46 Deficient Proteids in Infant Feeding. Vanderpoel Adriance.
47 *A Note on Abdominal Auscultation. Henry L. K. Shaw.
48 Report of a Case of Thymus Enlargement in an Infant; Sudden Death; Autopsy. Eleanor C. Jones.
49 Report of a Case of Tonsillar Ulcer of Vincent. Lawrence T. Royster.

43. **Kidney Decapsulation.**—The case reported by Rotch was unsuccessful, the child dying two weeks after operation, but still it was of interest as showing a temporary improvement. The death was unexpected, as the patient endured the operation well. The case was an extreme one with serious impairment of function of the kidney, and without the operation death was inevitable in a short time.

44. **Varicella Gangrenosa.**—Edwards calls particular attention to the relations of this condition with tuberculosis, but even here he holds that it is probably due to the ordinary pathogenic organisms. The lack of resistance of a tuberculous patient to infection of all kinds and the probability of his having staphylococci and streptococci already in the respiratory tracts favors its occurrence.

47. **Abdominal Auscultation.**—The value of abdominal auscultation in infants is noted by Shaw, who shows that in young children the respiratory sounds are transmitted and can be distinctly heard well over the abdomen. All adventitious sounds, especially from the lower lobes of the lungs and the lower and diaphragmatic portions of the pleura, are generally so transmitted that they are recognizable, and sounds thus heard are synchronous with respiration and differ from the usual intestinal sounds. His attention was first called to this fact over a year ago in a case of lobar pneumonia. Râles could be heard over the abdomen before they were audible over the chest. Since then he has listened over the abdomen of a large number of infants to determine the diagnostic value of abdominal ascultation.

Illinois Medical Journal, Springfield.

August.

50 *Traction Injuries of Arteries. S. M. Wylie.
51 The Legal Status of the Doctor. Herbert C. Jones.
52 *On the Toxicity of Methyl Alcohol in Extracts and Medicine. R. H. Main.
53 Radiotherapy, with Report of Eleven Cases. Charles D. Center.
54 Clinical Report of Two Tumors Benefited by the X-Ray. W. J. Eddy.
55 Retinal Hemorrhages in Relation to Degenerations of the Circulatory Apparatus. Thomas A. Woodruff.
56 Modern Surgery of Congenital Cleft Palate in Infancy. S. R. Hopkins.

50. **Traction Injuries of Arteries.**—Wylie notices the injuries of the arteries that may be due to contusions or traction, and suggests that in every case of injury to an extremity, subject to traction or contusion force, the circulation should be carefully noted, and if there is absence or feebleness of arterial pulsation, a careful inquiry should be made to determine, and, if possible, to locate the cause by stethoscopic examination along the exposed part of the vessel for adventitious sounds, etc. He gives cases of injury of the popliteal and axillary arteries and their treatment, which consists in rest and immobilization, external heat and careful watching for the return of circulation. Until artery resection with suture of the entire circumference of the vessel becomes a more practical procedure than it is at present, it offers no hope of overcoming the difficulty. When there is complete death of the part supplied by the arteries, amputation is the only recourse.

52. **Methyl Alcohol.**—Main finds that methyl alcohol is an active and dangerous poison, extensively used in extracts, spirits and medicines intended for internal use, and that its presence is not suspected by the consumer. In this way it has caused death or blindness in numerous instances. He suggests that the Pure Food Commission require every manufacturer to print on the packages the formula of the contents,

and prosecute every one failing to do so. He advocates also a federal tax on methyl alcohol, so that its substitution for grain alcohol would be unprofitable.

Mobile Medical and Surgical Journal.

July.

57 *One Hundred Consecutive Cases of Myoma of the Uterus. Guy L. Hunner.
58 Other Sources of Typhoid Infection than Through the Medium of Drinking Water, and How to Guard Against Them. Searle Harris.
59 *Hay Fever. Paul S. Mertins.
60 What Precautions Should Be Taken by the State and Municipalities in the Care and Management of Tuberculous Patients? W. H. Blake.
61 Some Remarks on the Causes of Convulsions in Children. William C. Williams.

August.

62 A Trip to England and Some Reminiscences of Lord Lister. E. L. Hill.
63 *Tuberculosis in Animals, with Special Reference to Bovine Tuberculosis. C. A. Cary.
64 Am I My Bother's Keeper? J. R. G. Howell.

57.—This article appeared elsewhere. See THE JOURNAL of August 29, ¶52, p. 580.

59. **Hay Fever.**—Six cases treated by adrenalin are reported by Mertins. In all the patients found it the best thing they had ever used. In three the disease was aborted and in three the symptoms were almost completely relieved. No unpleasant effect or habit followed. He considers adrenalin almost a specific in relieving the conditions.

63. **Tuberculosis in Animals.**—Cary's paper is largely a citation from the literature, and he finds that human tuberculosis can be transmitted to the lower animals and bovine tuberculosis to other animals. There is strong evidence that many infants and older children have contracted tuberculosis from the drinking of milk from tuberculous cows, and undoubted cases of accidental human inoculation with the bovine bacillus have occurred. He believes that tuberculous cows can be kept for breeding purposes if isolated from their own calves and the healthy cattle, and the milk thoroughly sterilized before feeding it to cattle and pigs. They may also be used as food provided the tubercular lesions are few and can be removed without infecting the meat and the meat is thoroughly cooked. All meat-producing animals, especially cattle and swine, should be carefully inspected before their flesh is utilized and all highly infected animals condemned and tanked. Thorough cooking is needed in every case.

St. Louis Courier of Medicine.

August.

65 *Vibration Massage in the Treatment of Chronic Prostatitis. Louis E. Schmidt.
66 The Prophylaxis and Treatment of Scarlet Fever. E. W. Saunders.
67 Veratrum Viride in Puerperal Eclampsia. W. L. Johnson.
68 Malaria: a Review of Some Recent Literature. (To be concluded.) John Zahorsky.
69 *A Therapeutic Suggestion. H. N. Chapman.

65. **Vibration Massage.**—Schmidt recommends the use of vibration massage in prostatic hypertrophy, especially in cases where the usual massage fails and also those where small inflammatory nodules are left after general inflammation. Vibratory massage is applied to each nodule and defines them by their sensitiveness. It can also be recommended in isthmical inflammation combined with old infiltrations in the prostatic urethra and hypersensitiveness of the caput gallinaginis. The best instrument for this purpose is the Benique sound, to which a metal spiral is attached, and vibration given to this with a hammer. He would also advise it in case of simple sexual exhaustion where no infection or inflammation of the prostate exists. The mechanical appliances which can be controlled by electric motors are suggested as the best means for this form of therapy.

69. **Mammary Cancer.**—A therapeutic suggestion of Chapman is to use the *x*-ray for all forms of mammary cancer, not for the treatment of the breast *per se*, but to put the axillary glands in as perfect a condition as possible. When this is done, the cancerous mass should be removed with a knife, but the axillary glands preserved as a defensive barrier. After the wound has healed the glands and breast should be again submitted to the *x*-rays. This suggestion is offered after the experience with and observation of four cases, the axillary glands being removed in each and in each case the final result was disastrous.

Pediatrics, New York.

August.

70 *Diseases of Children Due to Faulty Nutrition. William N. Sullivan.
71 *Of What Value Are Drugs in the Treatment of Children? Frederick Leavitt.
72 School Life in Relation to Health. J. H. McCassy.
73 A Case of Mitral Stenosis. Francis W. Sinkler.
74 Endocarditis Following Diphtheria. Henry D. Jump.
75 *Practical Notes on the Diagnosis of Infantile Eclampsia. John Zahorsky.

70.—This article appeared elsewhere. See THE JOURNAL of July 25, title 104, p. 284.

71. **Drugs in Infant Diseases.**—Leavitt's article is a skeptical one as to the value of drugs in diseases of children. He finds that as many cures are accomplished with placebos which contain practically no drugs at all as in energetic drugging. He says he does not mean to be a nihilist as regards medicine, but thinks that the community of children is certainly overdosed. Of a few drugs he makes partial exceptions, such as castor oil and calomel in acute gastroenteric affections and the special use of certain drugs in poisoning, heart failure, etc. Quinin is an antiperiodic and prophylactic in malaria and mercury and potassium iodid useful in syphilis. Antitoxin in diphtheria is certainly a godsend, but there are very few others for which he says a good word.

75. **Infantile Eclampsia.**—The influence of peripheral irritation in producing eclampsia is questioned by Zahorsky, and he thinks that we should sharply distinguish between great irritability of the nervous system due to high fever and to that caused by faulty nutrition. A toxic, circulatory, organic, or functional disease of the brain or meninges must be considered in the diagnosis of cases of convulsion. In his observation in the last few years he has found some constitutional or general disease at the bottom in nearly every case. He does not mean that peripheral irritation should not be sought, but the first question to ask is, what induces the increased irritability?

Columbus Medical Journal.

August.

76 *The Extension of Infection in Otitis Suppuration. John Edwin Brown.
77 *What the Medical Practice Act Has Accomplished in Ohio. S. B. McGavran.
78 The Development of Obstetric Surgery. James U. Barnhill.

76. **Otitic Suppurations.**—Brown reports several cases of otitis suppuration, 5 of extradural abscess, 1 perisinuous, 2 of sinus thrombosis and 3 of meningitis, all except the last mentioned three surviving, thus bearing out the opinion of surgeons as to the uniform fatality of meningitis in these cases. Nearly all were operated on.

77. **The Ohio Medical Practice Act.**—M'Gavran details the progress that has been made since the passage of the medical practice act, the opposition which it first received and the general good effects that have followed its execution. It has compelled not less than 500 so-called practitioners to give up practice and a good deal more than that number have left the state without attempting to register. Its opponents have been converted to its support. The medical colleges have practically been reformed and the three fraudulent ones that existed abolished. Ohio, instead of being the dumping ground for other states, has been elevated to the very first rank.

Woman's Medical Journal, Toledo.

July.

79 Iritis Spongiosa. Adeline E. Portman.
80 Diarrheal Diseases of Children. Jennie Ghrist.
81 Nephritis Albumenoso; Report of Case. Mary A. Ardery.
82 Medical Ethics. Margaret E. Colby.
83 Rupture of the Heart; a Case. Minerva Porter-Wertz.
84 President's Address, State Society, Iowa Medical Women. Jessie V. Smith.

Northwest Medicine, Seattle, Wash.

August.

85 Some Characteristics of the Human Mind. J. B. Loughary.
86 The Prevention of the Spread of Venereal Disease. M. Hugh Foster.
87 Operative Treatment of Abnormal Tonsils. John A. Donovan.
88 The Penalty of Genius. Ernest Crutcher.
89 Methodical Training in Surgical Technic. R. C. Coffey.
90 A Fatal Case of Hemorrhage from Placenta Previa; Inversion of the Uterus; Recovery. George S. Wright.

Buffalo Medical Journal.

September.

91 Light Waves, Visible and Invisible. Frederick H. Milliener.
92 Treatment of Fresh Fractures of the Leg by Massage and Passive Movements. David E. Wheeler.
93 Fourteenth International Medical Congress. Jefferson D. Griffith.
94 The Physician's Electrical Outfit and Its Daily Use. Joseph C. Clark.

Chicago Medical Recorder.

August 15.

95 Rupture of the Uterus in Pregnancy and During Labor; Its Etiology, Diagnosis and Treatment. Georg Schmauck.
96 Report of Thirty-four Cases of Perineal Prostatectomy. (Concluded.) John B. Murphy.
97 Constipation. Alfred D. Kohn.
98 Tetanus. Frank P. St. Clair.

Southern Practitioner, Nashville, Tenn.

August.

99 Alcohol as a Therapeutic Agent. J. S. Cain.
100 *Purpura Hemorrhagica and Its Treatment. W. F. King.

100. **Purpura Hemorrhagica.**—King's patient was a man of 32, subject to attacks of purpura hemorrhagica, lasting for five to eight days and recurring at long intervals. The last attack was aborted by internal administration of ten drops of adrenalin chlorid, given in one-fourth of a glass of water every two hours until the bleeding ceased. Four doses were taken and five more when the symptoms recurred a day or two later. The drug was continued afterward every six hours for four days, then twice and once a day for four or five days. There has been no recurrence of the tendency to purpura since.

New Orleans Medical and Surgical Journal.

August.

101 *Typhoid Fever Among Children. E. M. Dupaquier.
102 *Surgical Treatment of Empyema in Children; with Report of Cases. John F. Oechsner.
103 Abortion; Its Treatment by the General Practitioner; Report of a Case Complicated by Acute Suppurative Appendicitis and Ovarian Cyst. A. C. King.
104 Phlyctenular Ophthalmia in the White and Black Races, with Notes on Its Local Treatment. Henry D. Bruns.
105 Report of a Case of a Hermaphrodite. C. L. Hope.

101. **Typhoid Fever in Children.**—Dupaquier has analyzed the reports of the New Orleans Board of Health with reference to the occurrence of typhoid in children in New Orleans, especially of late years. He finds that typhoid may occur at any age, and nurslings are as liable to be infected as older children. Of his twelve cases none of them presented the characteristic temperature curve. The pulse was high from the start with signs of cardiac weakness. The stools were characteristic. The abdomen was hardly tympanitic, none presented hemorrhage or perforation. Roseola was seen in three cases. The spleen was palpable in all, not very enlarged in any. Some cases simulated meningitis. He considers the diazo-test an aid to diagnosis, though not at all pathognomonic. The management of these cases was far from easy; children are not so easy to control and keep in bed. There are probably many cases of ambulatory typhoid in children, he thinks, though their resistance is wonderful. From observation he finds the relation to tuberculosis is decidedly marked; of his 12 cases, 3 died of tuberculosis subsequent to the typhoid attack, and the Widal test proved that they were originally typhoid. It leaves in its wake a condition of anemia which renders the patient susceptible to any infectious disease, thus explaining the relation of typhoid to tuberculosis. All mild cases escape diagnosis. In conclusion he says there are, however, a number of cases of fever, neither malarial or typhoid, which are treated by drugs when all they require is rest in bed and a little dieting.

102. **Empyema in Children.**—The summary of Oechsner's paper is as follows:

1. Physical signs are not always marked—absence of vocal fremitus is an important sign and more or less constant. 2. Exploratory puncture should always be practiced to confirm the diagnosis. 3. The prognosis of pneumococcic empyemata is very favorable. 4. Aspiration should only be resorted to tentatively and as a means of relief in emergencies. 5. In radical operations rib resection is to be preferred. 6. Irrigation should never be practiced unless there be some special indications for same. 7. A diagnosis should be rigidly sought and, once verified, operative measures instituted as soon as possible. 8. In the matter of promoting lung expansion, various devices, such as inflating rubber balloons, blowing soap bubbles, etc., to suit the caprice of the child, which soon tires of any one form of entertainment, should be instituted.

Virginia Medical Semi-Monthly, Richmond.

August 7.

106 The Diagnosis of Smallpox. Llewllyn Eliot.
107 A Report of One Hundred Consecutive Obstetric Cases. George Barksdale.
108 Uses and Abuses of Formalin in Surgery. John L. Jelks.
109 Adaptability of Western Texas for the Care and Treatment of Consumptives. C. H. Wilkinson.
110 Pathology and Symptoms of Constipation. Mark W. Peyser.
111 Some Suggestions as to the Control of Venereal Diseases. W. H. Prioleau.
112 Medical Expert Evidence. (Continued.) Fred J. Mayer.

California State Journal of Medicine, San Francisco.

August.

113 *An Unusual Infection Causing Acute Suppurative Appendicitis. Harry M. Sherman.
114 *Ununited Fractures of Lower Extremity. LeMoyne Wills.
115 *A Study of the Health of University Girls; the Relation of the Physician to Preventive Medicine. Mary E. B. Ritter.
116 Diploma vs. Certificate. William C. Tait.
117 The Cure of Cross Eyes. Vard H. Hulen.
118 Appendicitis, with Tabulated Report of Seventy-one Consecutive Operations. W. W. Beckett.

113. **Appendicitis.**—In the case reported by Sherman a pure culture of the Friedlander bacillus was found. This germ was considered the cause of the infection.

114. **Ununited Fractures of the Lower Extremity.**—Wills reports cases of fractures of the lower extremity with skiagraphs, showing the irregularities of union, and calls attention to the futility of any treatment in fractures of the lower end of the femur with turning out of the ends of the bone except incision, freshening ends and suturing with heavy silver wire. He insists on the necessity of immobilization of the leg and thigh on the body by a plaster spica from the toe to the waist and the relaxation of the calf muscles by flexion of the knee to an angle of 45, also the importance of equable pressure about the entire limb, and especially at the seat of fracture.

115. **The Health of College Girls.**—From a study of college girls and school children in the University of California, Ritter holds that the majority improve in health during the four years of college life, that is, those who take their studies seriously and rationally. A college education does not necessarily injure the health of women. The seeds of subsequent ill health are sown at an earlier age and are not the consequence of study. The causes of ill health are mainly traceable to unhygienic living or the sequence of infectious disease. In a large proportion of women students college life, with the mental stimulus of a purpose, improves their health and fits them to become better disciplined and more intelligent mothers. More careful observation on the part of physicians and instructions to parents would, to a large measure, improve the existing unsatisfactory conditions.

Medical Age, Detroit.

August 25.

119 The Treatment of Pulmonary Tuberculosis. Starling Loving.
120 Notes on Typhoid Fever. E. N. Hall.
121 Diseases of the Mind. E. A. Cherry.
122 Porro-cesarean Section Necessitated by Malignant Disease of the Uterus. R. C. McChord.

Medical Review of Reviews, New York.

August 25.

123 Patience vs. Operation. C. A. Von Ramdohr.

Medical Fortnightly, St. Louis.

August 10.

124 Method of Catheterizing Both Ureters in the Male Subject; Making Use of the Ureter-cystoscope of His Own Devising. Bransford Lewis.
125 The Bossi Method in the Treatment of Puerperal Eclampsia; Report of Two Cases. W. H. Vogt.

New Yorker Medicinische Monatschrift.

July.

126 Ueber Blaulicht. B. Reko.
127 Occultismus, Psychologie und Medicin. Karl Gumpertz.

Nashville Journal of Medicine and Surgery.

July.

128 The Causes of Ill Health of Women of To-day. Walter Lenehan.

Bulletin of the Kentucky State Medical Association, Louisville.

August.

129 Enterocolitis of Infants. J. T. Reddick.
130 Second Summer Complaint of Infants. Willis R. Moss.

131 Chemical and Microscopic Examination of Mother's Milk Necessary in the Management of Malnutrition, Indigestion and Colic of Infants. L. B. Cook.
132 *The Matas Treatment of Aneurisms, with Report of a Case. W. O. Bullock, Jr.

132.—See abstract 18 above.

Pennsylvania Medical Journal, Pittsburg.
August.

133 The Home Modification of Milk for Infant Feeding. Alfred Hand, Jr.
134 Brain Syphilis. Samuel Ayres.
135 The Duty of the State to Unborn Generations. J. Newton Hunsberger.
136 Suppurative Bone Diseases. Stewart LeRoy M'Curdy.
137 About Laws Relating to the Practice of Medicine. A. R. McCarthy.

Western Medical Review, Lincoln.
August 15.

138 Some Observations on Convulsive Conditions. F. E. Coulter.
139 Sciatic Neuralgia. F. A. Butler.
140 Mental Therapeutics in Medicine. J. M. Aikin.
141 State Control of Epileptics. S. K. Spalding.
142 Systematic Examinations, Especially Relative to Nervous Troubles; a Plea. F. E. Coulter.
143 Goiter; Diagnosis and Treatment. Charles C. Allison.
144 Some Surgical Mistakes. H. H. Everett.
145 Can We and Should We Avoid Touching and Manipulating the Tissues in Operation Wounds with Our Fingers? A. F. Jonas.

New York State Journal of Medicine, New York.
August.

146 Observations on an Epidemic of Dysentery. Frank W. Shipman.
147 The Surgical Treatment of Colitis. C. L. Gibson.
148 The Physician's Personal Side. M. B. Van Buskirk.
149 *Finsen's Phototherapy in Variola and Various Dermatoses. Francis P. Kinnicutt.
150 Further Observations of General Interest Regarding the Course and Management of Incipient Senile Cataract. J. H. Woodward.
151 A Case of Abscess, Diagnosed as One of Brain Tumor. Hermon C. Gordinier.
152 *Suggestions Favoring a Standard Technic in Operative Surgery. Edward W. Lee.
153 The Therapeutics of Conversation. J. L. Greeley.

149.—See abstract in THE JOURNAL, xl, p. 1206.

152.—Ibid., p. 1205.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.
August 22.

1 *The Water Supply for Landing Parties and Naval Brigades. J. Falconer Hall.
2 *A Surgeon's Notes with the Naval Brigade, China. Lloyd Thomas.
3 Some Notes on a Mounted Bearer Company. H. Hathaway.
4 Poverty of Attraction for Man to Become Stretcher Bearers, and the Consequent Inefficiency of that Section. G. Arbour Stephens.
5 Training of Volunteer Bearers and the Position of Regimental Medical Officers. Peter B. Giles.
6 Suggestions Regarding the Personnel, Equipment and Training of Medical Units Attached to Volunteer Infantry Brigades. William Sheen.

1. **The Water Supply in Military Operations.**—Hall describes the various methods of purifying drinking water for landing parties, and concludes that boiling the water is the best. Where this can not be done the Berkefeld filter (sterilized at least once a day) should be used. Chemical methods are practically useless, as they do not for the most part destroy the active bacteria, and are too complicated for men to understand and carry out thoroughly.

2. **A Surgeon's Notes in the China Relief Expedition.**—The surgeon of the British naval brigade, Lloyd Thomas, gives an account of the sanitary aspects of the trip from Tiebtsin to Pekin for the relief of the legations. He remarks on the general neglect of the Chinese as to sanitary matters, but that their wells were an exception, most of them having small elevations built about their mouths to exclude surface water. The principal suffering seems to have been from the heat, and heat stroke was common. A large number of transient cases occurred. Only two of the total number, however, died from this cause. The best treatment was topical applications of water.

The Lancet, London.
August 22.

7 *Sciatica: An Inquiry as to Its Real Nature and Rational Treatment, Founded on the Observation of Upwards of 400 Cases. William Bruce.
8 *The Significance of Pain and Tenderness in Cases of Inflammation of the Appendix. C. W. Mansell Moulin.
9 *On the So-called Stokes-Adams Disease (Slow Pulse with Syncopal Attacks, etc.). William Osler.
10 Intestinal Anastomosis for Prolapsed Small Intestine. R. W. Murray.
11 A Case of Sapremia Due to Pyorrhea Alveolaris Simulating Typhoid Fever. J. Walter Carr and E. W. Roughton.
12 *Note on the Treatment of Chorea by Aspirin. R. T. Williamson.
13 *Amputation of the Leg Under Hypnotism. Frank G. Aldrich.
14 The Successful Treatment of Thoracic Aneurisms by Large Doses of Iodid of Potassium. Wilfred R. Kingdon.
15 Bradycardia in Health. Robert J. Blackham.

7. **Sciatica.**—From an analysis of over 400 cases, Bruce concludes that in most cases the primary trouble is in the joint itself. He suggests the following routine in examination:

> Ask the patient to lie down, as he stands in his clothes, on his back or an even firm couch; then, bending the affected limb at the knee, perform the passive movements of flexion, external rotation, internal rotation and extension by Thomas' method at the hip joint of the affected leg. If the case be at all recent one or more of these movements will cause pain, very often sharp pain, as the patient's countenance frequently reveals. Having carefully noted these signs, then ask him to undress and proceed to inspect the gluteal region. With the patient lying flat on his face and relaxing his muscles, you note whether there is wasting in this region or a diminution in the original number of the folds of the nates, and, on comparing those of the opposite hip and the two thighs also together, I venture to predict that in almost every case of sciatica you will discover softening or wasting and flattening of the hip muscles and more or less obliteration of the natal folds of the affected side. With the patient lying on his sound side, you then proceed to inspect the capsule of the hip joint. In some cases you will find it more prominent on the affected side and in a very few (but very seldom, for obvious reasons), you may be able to discover that there is increased heat over the joint. The position of the articulation is best made out by making sure of the exact relation of the anterior superior iliac spine and the highest point of the trochanter corresponding to the joint you suppose to be affected. The next thing to do is to examine carefully and without prejudice the presence or absence of tenderness on pressure over the capsule, . . . keeping in view the fact that the patient is not an impartial witness, so to speak; he is very apt to confound symptoms with signs, and his mind has been so intent on the suffering, say, in his foot, that he refuses to help you in your attempts to discover the important sign you wish to make out, i. e., whether coxal tenderness be present or absent. . . . In many cases moderate pressure with the point of the thumb over some part of the capsule causes so much pain that he winces unmistakably. Of course, to make yourself certain, you compare the two sides and, by all means, follow the line of the sciatic nerve and try to discover whether there is or is not tenderness on pressure along its course.

He describes the anatomy, especially of the nerve supply, and holds that sciatica is some affection of the hip-joint and not neuritis of the sciatic nerve, and that it is connected with the gouty and rheumatic diathesis, and also with so-called non-articular rheumatic arthritis of the hip. The flattening of the glutei and obliteration of the folds of the nates strongly support his contention. We should remember that the nerve supply of these muscles comes not from the sciatic but from the sacral plexus. He asks, on the other hand, why, if sciatica were really an affection of the sciatic muscles, should not the muscles of the whole leg be affected, and why should the wasting and other nerve derangements be localized as we find them, and we have to admit that the electric reaction of degeneration of the muscles is never present, which also is against the neurotic theory. Sciatica rarely, if ever, leads to permanent affections of the nerves and muscles. Many cases, moreover, are aggravated by too early massage, while careful massage and passive movements in the later stage are of the greatest value. The most important thing of all is the fact that in almost every case of sciatica there is lameness. The patient limps when walking, and this he thinks points to the existence of joint disease. There is little difference of opinion, however, as regards the proper treatment. Rest for the articulation is as applicable whether sciatica is of the nature of a neuritis or if the hip joint be the primary cause and antigout and antirheumatic remedies are recommended alike from both points of view.

8. **Appendicitis.**—Moullin points out that the abdominal viscera for the most part are insensitive to pain, and that in inflammation of the appendix the absence of pain is no indication that serious mischief is not occurring. The initial pain of appendicitis, which is commonly referred to the umbilicus, is due to the peristaltic action of the cecum or of the appendix

dragging on the attachment of the peritoneum to the abdominal wall, especially when the appendix is fixed by adhesions. The lessened severity of this initial pain without improvement in the general condition is due to cessation of peristalsis, owing to inflammations having spread to the muscular coat of bowel. The development of local pain, which as a rule precedes by some short time the cessation of umbilical pain, means that the inflammation has spread from the appendix to the parietal peritoneum or to the post-peritoneal cellular tissue, the only structures immediately concerned which are supplied with nerves capable of transmitting painful sensation. The absence of local pain means nothing, and he has more than once operated and found the appendix in a very bad condition, while the patient never had more than a twinge. Severe pain, however, is of serious import, as it implies either wide extent or great severity of inflammation. Deep and superficial tenderness are noted. Both may be present at once. In addition to the deep tenderness which usually exists, there is often a marked degree of cutaneous hyperesthesia, indicating that the corresponding spinal center is receiving from some part of the body unwonted stimuli, and in consequence is unduly sensitive to ordinary impressions. One point of very great importance is that the sudden cessation of this hyperesthesia without any corresponding improvement in the general symptoms, suggests gangrene and immediate operation.

9. **Stokes-Adams Disease.**—Osler's paper is a full account of the Stokes-Adams syndrome, illustrated by the histories of numerous cases and with special remarks on the peculiar characteristics of disease varieties—the post-febrile, arteriosclerotic, neurotic and senile types, special cardiac symptoms, etc. In the late forms the outlook is bad, though in young persons recovery and cure may be expected in a few cases. In such it might be advisable to try the remedies that may have an influence on the sclerosis, such as iodid of potassium in syphilis, and, with high tension, the nitrites. In senile cases with vertigo he thinks it is doubtful whether we can do more than keep the bowels open and regulate the diet. We have no remedy at our command which will accelerate a permanently slow pulse. A quiet, well-regulated life helps to ward off attacks of vertigo and syncope as in angina pectoris. In spite of the utmost care life may be a burden with the recurring seizures. For the syncopic attacks nitrite of amyl and strong ammonia may be used, and they may often prevent an attack if there is a warning. Brandy, ether and strong cardiac stimulants may be required to revive the patient in the protracted attack. The epileptiform and pseudo-apoplectic attacks may sometimes be prevented by posture. With signs of heart dilatation and many abortive systoles and infiltration of the bases of the lungs, digitalis may be cautiously tried.

12. **Aspirin in Chorea.**—This drug has been employed in 35 consecutive cases of chorea in outpatients at the Ancoats Hospital and the Manchester Royal Infirmary by Williamson, and the details of 8 cases are given. Among these 35 cases there were some of long duration where the symptoms proceeded unchanged, and every means had been tried without effect until this drug was given. In some mild cases very slight medication will sometimes help, and the fact of their doing well under aspirin is not so significant, but in the severe cases like those referred to, it seems of some importance. He can not regard it, he says, as a specific for chorea, but the results of its administration are so favorable as to indicate the probabilty of a beneficial action of the drug, and to suggest further observations.

13. **Amputation Under Hypnotism.**—See editorial, September 5.

Indian Medical Gazette, Calcutta.

August.

16 A New Field Service. C. Dooly and C. M. Thompson.
17 Red Water and Rinderpest in Cattle. Stewart Stockman.
18 Indian Milk Supply and Infective (Epidemic) Diarrhea. D. Simpson.
19 *Note on the Mycoid Body Found in the Blood Corpuscles in Remittent Fevers. (Continued.) W. Leonard Braddon.

19. **Remittent Fevers.**—Braddon holds that the mycoid bodies found in cases of remittent fever are not the relics of blood plates, but are true parasites, many of them containing masses exceeding that of the original enclosing red corpuscles. To what class of organisms they belong he thinks is uncertain. He suggests, however, from the hypha-like appearance of the filaments, their mobility at certain stages and their final apparent contraction recalling the true plasmodium of certain fungi, that their place may be among mycetozoa.

The Journal of Tropical Medicine, London.

August 15.

20 *Mosquitoes and Steamers. Andrew Balfour.
21 Eosinophilia Associated with Dracontiasis. Leonard S. Dudgeon and F. J. Child.
22 *Yellow Fever and Mosquitoes. Ivo Bandi.

20. **Mosquitoes in Steamers.**—Balfour calls attention to the fact that the bilge water of steamers is often swarming with the larvæ of mosquitoes, and that attention should be given to this fact. A ship-bred mosquito might very well pay a flying visit ashore and come back infected and spread the epidemic in its accustomed quarters.

22. **Yellow Fever and Mosquitoes.**—Bandi offers a criticism on the theory of yellow fever transmission by mosquitoes, calling attention to the fact that the *Stegomyia fasciata* is a day biter, and yet in Rio Janeiro those who pass the nights outside the infected limit escape the disease. If the *Stegomyia fasciata* were the sole transmitter of the disease it is difficult to see how spending the nights away from its haunts would secure an immunity.

Australasian Medical Gazette, Sydney.

July 20.

23 Mechanism of the Paroxysmal Neuroses. Francis Hare.
24 Address, South Australian Branch of British Medical Association. Arch. A. Hamilton.
25 Aphasia as a Result of Heat Exhaustion. R. E. Weigall.
26 Notes on a Case of Freyer's Prostatic Operation. Arthur T. Vallack.
27 Perineal Prostatectomy. H. L. Maitland.

Intercolonial Medical Journal of Australasia, Melbourne.

July 20.

28 The Medical Aspect of Hydatid Disease. Alfred A. Lendon.
29 The Surgical Aspect of Hydatid Disease. W. Moore.
30 General Considerations Concerning Tumors. H. B. Allen.
31 Carcinoma of the Tongue. G. A. Syme.
32 Disseminated Sclerosis in a Child. D. McM. Officer.

Bulletin de l'Academie de Med., Paris.

Last indexed page 397.

33 (No. 27, July 7.) *Presence of Foreign Bodies in the Nerve Cells. G. Marinesco (Bucharest).—Présence des corps étrangers (substances cristallines et microbes) dans les cellules nerveuses en rapport avec la théorie de l'amiboïsme nerveux.
34 (No. 28.) *The Tuning Fork in Medicine. Mignon (Nice).—L'usage du diapason en médecine.
35 (No. 29.) Kératite traumatique ulcéreuse compliquée d'iritis, traitée avec succès par la dionine. E. Tillot.
36 Firearm Wound in Left Rolandic Region. Nimier.—Coup de feu dans la région rolandique gauche avec hernie cérébrale; aphasie, hemi-contracture droite; extraction d'esquilles et rééducation motrice.
37 Comparative Study of Hygiene in the French Navy and Merchant Marine. Committee Report.—Progrès realisés à bord du cuirasse "Suffren," etc.

33. **Foreign Bodies in Nerve Cells.**—Marinesco found crystals in the nerve cells in the cadaver of a woman succumbing to a hemorrhagic meningitis. They responded to the tests for hematoidin. He has also discovered lepra bacilli in the nerve cells of the spinal ganglia. These phenomena might be accepted as evidences of ameboid movements on the part of the nerve cells, but Marinesco does not believe that this is the true explanation. He thinks that the hematoidin probably entered the cell in a saturated solution, and was precipitated in the form of crystals on encountering substances in the cell endowed with a catalytic action. He believes that bacilli may be swept into the nerves by the lymph stream. He has never discovered them in the cylinder-axes.

34. **The Tuning Fork in Medical Diagnosis.**—Mignon calls attention to the varying resonance of the internal organs and tissues transmitting the vibrations of a tuning fork applied to the skin above them. He uses the phonendoscope with the tuning fork and states that important information may thus be derived in examining the sinuses, lungs, skeleton and various organs.

Presse Medicale, Paris.

38 (No. 57.) Nouveaux cas de guérison de cancers par la cancroine de Professor Adamkiewicz. A. Renault.
39 *Les essais de leucothérapie dans les infections. M. Labbé.
40 Fermentation of Stools. A. Habel.—La fermentation des selles et sa valeur clinique dans quelques maladies.
41 (No. 58.) *Michel Clamps for Fastening the Permanent Catheter. P. Desfosses.—Fixation des sondes à demeure au moyen des agrafes Michel.
42 Kidney Stones in Gouty Subjects. E. Brissaud and M. Brécy.—Formation des depots uratiques spécialement dans les reins goutteux.
43 *Soluble Starch Test of Hyperchlorhydria. L. Meunier.—Diagnostique chimique de l'hyperchlorhydrie par la recherche des matières amyiacées solubles.
44 *Technique de la resection du ganglion de Gasser par la voie du plan osseux spheno-temporal. E. Juvara (Jassy).
45 (No. 59.) Les origines de la médecine scientifique. L. MacAuliffe.
46 Les variations du coefficient nutritif cellulaire. J. Mitulesco (Bucharest).
47 *La splenectomie dans la maladie de Banti. J. Roger.
48 (No. 60.) Les ictères acholuriques. A. Gilbert and M. Herscher.
49 Exposé critique des résultats obtenus au sanatorium lyonnais d'Hauteville. F. Dumarest.
50 (No. 61.) *Leucoplasie et cancer. Du rôle et de l'importance de la biopsie. J. Darier.
51 Appendicite et Helminthiase. Cantas.
52 Occlusion intestinale et lithiase biliare. L. Wellier.
53 (No. 62.) *Reply to Darier above. E. Gaucher.
54 L'ictère grave dans la première enfance. C. Aubertin.
55 *Tests of Adulterated and Unhealthy Foods. H. Martel.—L'analyse des viandes insalubres et des produits carnés falsifiés.
56 (No. 63.) *Simple and Rapid Means of Purifying Drinking Water. Vaillard and Georges (Val-de-Grace).—Moyen pratique de rendre un eau potable.
57 Bone Marrow in Infections. K. S. De Graag.—La moelle osseuse et ses éléments dans l'infection staphylococcique chronique.
58 (No. 64.) The Statue of the Leper King of Cambogia. P. Desfosses.—Le roi lepreux.
59 *Usage et abus des médicaments dans le traitement des maladies chroniques. G. Hayem.
60 L'emploi du formol dans les colorations histologiques. C. Morel and Dalous.

39. **Attempts at Leuco-Therapy.**—Labbé reviews the various experimental work that has been done in the line of inducing hyperleucocytosis in animals as a protection against infection. He shows that the induced hyperleucocytosis, while theoretically a powerful means of aiding the natural defenses, is in practice able to confer a preventive protection only, and seems to be powerless against already established infection. At the same time, he adds, the hyperleucocytosis induced by nuclein—which is the substance that has been most generally employed—is possibly not intense enough for the desired purpose. It is not to be compared with the hyperleucocytosis induced by disease germs. When we have learned some more efficient means of inducing hyperleucocytosis in animals, it is possible that the results of this leuco-therapy may be applied to man with success.

41. **Michel Clamps for Fastening the Permanent Catheter.**—The little clamps or agrafes invented by Michel for suturing the skin are being used more and more in France and this country. The latest use to which they have been applied is to hold the permanent catheter in place, a thread around the catheter being tied to one of the clamps stuck into the skin.

43. **Chemical Diagnosis of Hyperchlorhydria.**—Meunier announces that the determination of the total acidity and of the free hydrochloric acid is not sufficient to diagnose with certainty a hyperchlorhydric gastric juice. In 20 cases he found that the soluble substances derived from starch after an Ewald test meal varied from 4 to 8 gm., while in 15 normal subjects the amount of these substances ranged from 20 to 88 gm. He thinks it is evident that the power of digestion possessed by the mucosa is of more import than its secreting power. He does not classify a gastric juice as hyperchlorhydric unless after an Ewald test meal it contains less than 10 gm. per 1,000 c.c. of sugars reducing Fehling's solution. Or to state it still more precisely, unless it contains in solution soluble substances derived from the starch, which after transformation into dextrose show a lesser amount of the latter than 20 gm. per 1,000 c.c. Determination of hyperchlorhydria on this basis not only confirms the diagnosis but indicates the proper dietary.

44. **Technic of Gasserectomy.**—Juvara illustrates with numerous cuts the various steps of gasserectomy by the spheno-temporal bone plane route, with the eight instruments required. He performed it recently on a patient with intractable trifacial neuralgia, after numerous experiments on the cadaver. The technic differs very slightly from that followed by Quénu, Sébillot and Poirier.

47. **Splenectomy in Banti's Disease.**—Roger reports 2 cases and emphasizes the fine results that may be obtained from this measure even in advanced cases of this syndrome, which includes enormous hypertrophy of the spleen, hypertrophy of the liver, ascites and low hemoglobin rate. (The untimely death of Dr. Roger was chronicled last week.)

50 and 53. **Excision for Diagnosis in Leucoplasia.**—Gaucher insists on the danger and uselessness of this measure in case of cancer of the tongue. He believes that it is liable to entail a terrible exacerbation of the lesion. Diagnosis is easy without it, he claims. Epithelioma is an isolated, single tumor. In sclerosis, if the ulceration is single, there are other protuberances and multiple fissures. Both sclerosis and gumma, he states, are always located on the upper surface of the tongue, while cancer sometimes occurs on the under surface. Epithelioma forms a harder, more hemorrhagic ulceration; there is a fetid exudation, and the pain, salivation and interference with movements are much more marked than in case of ulcerative sclerosis, while the glands never become enlarged with mere sclerosis or gumma.

55. **Tests of Foods.**—Martel concludes his review of the technic for detecting adulterated and unhealthy foods, with a description of the biologic blood test applied to the differentiation of horse meat from other meats. The precipitating reaction is absolutely specific for pork, horse meat and dog flesh, but beef and mutton may respond indifferently to the test.

56. **Simple and Rapid Means of Purifying Drinking Water.**—Vaillard and Georges utilize iodin as an efficient means to destroy disease germs in the water. They neutralize it afterward with sodium hyposulphite, which combines with the iodin to form sodium iodid, which is harmless, even in much larger amounts than are required for the sterilization. According to the technic they recommend, the chemicals are put up in the form of three colored tablets. The formula for the first is as follows: dry potassium iodid, 10 gm.; dry sodium iodate, 1.560 gm., colored with methylene blue. Tablet No. 2 contains only 10 gm. tartaric acid colored with sulpho-fuchsin, and tablet No. 3 merely sodium hyposulphite, 11.6 gm. Each of the formulas makes 100 tablets. The sodium iodate gives up its iodin in contact with slightly acidulated water and the potassium iodid maintains the nascent iodin in solution. A blue and a red tablet are dissolved in a quart of water, stirring well. The water turns a brownish yellow. This mixture is then poured into the 10-liter vessel full of the water to be purified, which turns yellow. After waiting ten minutes, dissolve the white (hyposulphite) tablet in another quart of water and pour this also into the large vessel. The water loses its yellow tinge at once and becomes limpid and is ready to drink without further delay.

59. **Medication in Chronic Disease.**—Hayem thinks that medicines frequently prevent the benefit that might otherwise be obtained from hygienic and dietetic measures in chronic diseases, especially in tuberculosis. The digestive tract must be spared every source of irritation or fatigue. In his experience the suppression of all medication has frequently abolished all tendency to gastric crises in tabes. He is even inclined to admit that medicinal intoxication is the habitual cause of the nervous forms of chronic affections and possibly also of the nutritional disturbances, cases of cancer excepted.

Semaine Medicale, Paris.

61 (XXIII, No. 29.) *La thérapeutique "in extremis." F. Lejars.
62 Traitement des rétentions rénales par la distension de la vessie (of the bladder). O. Pasteau.
63 Photothéraple des fluxions dentaires. A. Hellion.
64 *Le sérum de Trunecek contre la sclérose de l'oreille et le labyrinthisme. E. Sari.
65 (No. 30.) Les phénomènes de sténose dans les ulcérations tuberculeuses de l'intestin. L. Bard.

66 Letter from America. Surgery of the Stomach in the United States. F. Munch.—La chirurgie de l'estomac aux E. U.
67 Emploi de l'adrénaline contre les hemorrhoides. D. Devilliers.
68 (No. 31.) The Information Bureau for Strangers at Paris.—Création à l'Université de Paris d'un bureau de renseignements scientifiques pour les étrangers.
69 (No. 32.) La sténose du pylore chez les nourrissons (in nurslings). L. Cheinisse (Montpellier).
70 Report of French Congress of Alienists and Neurologists, Brussels, August 1-8. (Commenced in No. 31.) (Fuller Report in *Progrès Medical.*)
71 Letter from America. Prophylaxis of Yellow Fever. F. Munch.—La défense contre la fièvre jaune sur le golfe de Mexique.

61. **Therapeutics in Extremis.**—Lejars regards saline infusion as the most efficient weapon at our disposal when death seems imminent. He relates 2 cases in which after actual bleeding to death warm saline infusion was able to bring back a slight color to the lips, the heart began to beat after ten minutes' arrest, the respiration was gradually re-established, consciousness returned and the patient survived twenty-four hours. In both of these cases death was due to the loss of the vital fluid, the vessels, being empty, were unable to act, but when filled with the saline solution they resumed their function, and if the patients had had a little more vitality left, they could have been saved. De Ott has demonstrated that regeneration of the blood occurs twice as rapidly under the influence of saline infusion as of transfusion of blood. Lejars believes in operating in cases of peritonitis, etc., even when the patient is apparently in extremis, and reports several cases in which the most unexpected success was realized. In one of umbilical pseudo-strangulation with eight days of stercoremic intoxication, the skin marbled with purple, the extremities cold, with regurgitation of fecal matters, the hernia enormous, red and tense, he operated under cocain, sustained by the fact that the breath did not have agonal fetidity and that the pulse, although small, was still perceptible. The patient made a smooth recovery. Progressive depression, irregularity of the heart action and anuria are important indices and also the cyanosis and pronounced hypothermia which indicate that the bulbar centers are poisoned beyond relief by the bacterial toxins. The toxic impregnation at this stage is too advanced for any intervention to have a chance of success, but there is always a chance until this point is reached. Operations in these advanced stages of septicemia, peritonitis, etc., must be simple, short, and be done without general anesthesia. The heart must be guarded above all. Here, again, saline solution by rectum or subcutaneously is the sovereign resource. If the serum does not induce diuresis it is because the kidneys are already fatally compromised and the end could not have been averted. The absence of diuresis thus becomes a valuable sign for the prognosis.

64. **Trunecek's Serum in Ear Affections.**—In a thesis recently presented at Paris Sari describes 16 cases of sclerosis of the middle ear, the labyrinth syndrome or sclerous otitis, treated by subcutaneous injection of Trunecek's serum every second day, the amount varying from 1 to 6 c.c. The symptoms due to the labyrinth (vertigo, sounds in the ear or deafness), were rapidly improved or cured by a small amount of the serum, and transient or permanent success was also obtained in cases of sclerosis of the cavity of the tympanum or labyrinth. On the other hand, those with sclerosis and adhesions consecutive to suppuration were not only not benefited, but in some the symptoms were aggravated by this treatment. The formula for the serum was given in THE JOURNAL, xl, page 874.

Archiv f. Verdauungskrankheiten, Boas', Berlin.

Last indexed XL, page 1174.

72 (IX, No. 2.) *Ueber das Distomum spathulatum (Leuckart). Z. Inouye (Chiba, Japan).
73 Zur Klinik der Achylia gastrica und der perniciösen Anämie. Max Einhorn (New York).
74 Fall von epiphrenalem Divertikel des Esophagus. B. Olivetti.
75 *Rektal-Stenose und Parametritis. A. Müller (Munich).
76 (No. 3.) *Verwertung der Erlich'schen Dimethylamidobenzaldehyd-Reaktion für eine quantitative Indol-Probe in den Feces, nebst Untersuchungen über die Eiweissfäulniss im Darme. R. Baumstark (Hamburg).
77 *Zur Methodik des Albumosen-Nachweises in den Feces. H. Ury (Charlottenburg).
78 Digestion of Fat in Stomach. Z. Inouye (Würzburg).—Fettverdauung im Magen.
79 *Sahli's Test of Stomach Contents. E. Zweig and A. Calvo.—Die Sahli'sche Magenhaltuntersuchung und ihre Bedeutung für die Diagnose der alimentären Hypersekretion.

72. **Distomiasis.**—Inouye reports that in his examination of subjects in various regions of Japan he found eggs of this parasite in from 19 to 71.9 per cent. of the feces examined, the number of subjects in each locality thus examined ranging from 47 to 725. About 71.8 per cent. of his 2,460 patients with distomiasis were males. Regions most affected are those where malaria also prevails. He reviews the symptoms, etc., remarking that treatment can be only symptomatic. Antiparasitic drugs have proved useless. In prophylaxis he warns against drinking or swimming in canal water or eating raw fish or mussels. In one region the mortality from this source has been reduced to zero by such precautions.

75. **Rectal Stenosis and Parametritis.**—Mueller reiterates his former assertions in regard to the frequent causal combination of these affections, the second being secondary to the first. He points out that the sacro-uterine ligaments embrace the rectum, and every inflammation of the latter, especially chronic ones, shorten and stiffen these ligaments. This reacts on the intestine, which becomes constricted, kinked and forced against the sacrum. The uterus may be drawn out of position likewise. He thinks that this rectal origin of gynecologic affections is more common than the gonorrheal, and frequently dates from early life. Childbearing may serve as a vigorous massage to aggravate or relieve the condition. In the former case, the pregnancy is usually regarded as the primary cause. In diagnosing gynecologic affections it is wise, therefore, to test the elasticity of these ligaments, and seek for traces of inflammation in them and in the rectum. Infection of the vicinity from the constricted and possibly ulcerated bowel is more than probable. The hardened ligaments must be softened by warm irrigations, sitz baths and cataplasms, and when loosened, their elasticity must be restored by stretching, and the stenosis combated by massage. Pessary treatment later will promote the restoration of elasticity, but should not be commenced until the inflammatory stage is past.

76. **Ehrlich's Indol Test.**—Baumstark applies the dimethylamido-benzaldehyd test by an original method, which he calls the "extinction method." It consists in diluting and examining the solution of indol after applying the test, comparing it with a control solution until the band in the spectrum characteristic for the mixture vanishes. The indol mixture gives a well-defined band in the spectrum between D and E, commencing at the former, and skatol gives two bands, one at this point and one between C and D. Solutions of various concentration give, of course, bands of varying distinctness, until the dilution reaches a point when the bands are no longer visible. He found that solutions of indol and skatol after applying the reagent rapidly change color. He does not attempt to use an instrument of precision, but finds the pocket spectroscope perfectly adapted for the purpose. He tabulates the findings in applying the test thus modified on various subjects, and extols in high terms the value of this new method of quantitative investigation of the indol. The test is simple, easy, takes very little time, and places in the hands of the internist a method of determining the absolute amount of indol in the feces and urine. In estimating the total putrefaction of albumin in the intestines, the indican and ethereal sulphates in the urine and the indol in the feces must all be determined. He states that in cases of obstipation, achylia, hyperchlorhydria, pernicious anemia and chlorosis the indol was increased to a moderate or extreme extent in his experience, while it was reduced in diarrhea and in one case of achylia. Certain cases exhibiting severe symptoms showed an enormously increased proportion of indol in the urine, while in the feces it was reduced. Such contrasts as these have hitherto escaped observation. As it is impossible to assume increased absorption in these cases, owing to the seriously compromised condition, the explanation must be the loss of the normal oxidizing power for the products of putrefaction that are absorbed. His experience also establishes that the disturbances in the digestive tract coexisting with achylia and hyperchlorhydria are liable to have an unfavorable influence on the putre-

faction of albumin, although it is impossible to ascribe to the hydrochloric acid any direct disinfecting power beyond the confines of the stomach.

77. **Determination of Albumose in Feces.**—Ury emphasizes the necessity of extracting the substances in the feces which mask the biuret reaction before attempting to determine the albumose. Besides the urobilin, there is a brown pigment which must be eliminated. It is necessary also to extract the substances which respond, themselves, to the biuret test. This includes both urobilin and nucleoproteid and remains of casein. The albumin in solution in diarrheic stools must also be eliminated.

79. **The Sahli Test of Stomach Functions.**—THE JOURNAL has described Sahli's "flour soup" test as a means of determining the state of the gastric functions. (See xxxviii, page 1477.) The present article reports experiences with it in a Vienna clinic. The writers have become convinced that it is too complicated for general use in practice, but that in cases of nervous dyspepsia it may prove of great value. It is especially useful in differentiating atony from alimentary hypersecretion, which it accomplishes with an exactness hitherto unattainable.

Centralblatt f. Bakteriologie, etc., Jena.

Last indexed page 401.

80 (No. 7.) Leproid Affection in Rats. W. K. Stefansky (Odessa).—Eine lepra-ähnliche Erkrankung der Haut und der Lymphdrüsen bei Wanderratten.
81 Ein neuer pathogener Mikrobe zur Gruppe der Diphtherie-Bacillen gehörig: Bacterium muris. E. Klein (London).
82 Length of Life of Typhoid Bacilli Voided in Stools. E. Levy and H. Kayser (Strasburg).—Ueber den Lebensdauer von Typhusbacilien die im Stuhle entleert wurden.
83 Zur Frage der morph. und biol. Charakterisierung des Meningococcus intracellularis. H. Albrecht and A. Ghon.
84 Ueber die literarischen Schicksale des Diplococcus intracellularis meningitide und seine etiologische Bedeutung. A. Weichselbaum (Vienna).
85 3 neue Taenien aus Ceylon. V. Linstow.
86 *Ueber die Bereitung eines antibakteriellen Diphtherie-Serums. Sein prophylaktischer und Heil-Werth. I. Bandi (Sao Paulo, Brazil).
87 Ueber die Specifität der Sero-Diagnostik der Tuberculose. P. Eisenberg and E. Ketter (Paltauf's clinic, Vienna). Conclusions negative.
88 Test of Steam Sterilization Before the Class. C. Eijkman (Utrecht).—Ein Vorlesungsversuch auf dem Gebiete der Dampfsterilisation.
89 Ueber den Desinfections-Werth einiger Formaldehyd-Präparationen. K. Kokubo (Göttingen).
90 Flagella Staining. G. de Rossi (Pisa).—Geisselnfärbung.
91 (No. 8.) Cutaneous Affection of Rats Induced by Acid-Resisting Bacteria. Lydia Rabinowitch.—Ueber eine durch säurefeste Bakterien hervorgerufene Hauterkrankung der Ratten.
92 Study of Virulence of Tubercle Bacilli. E. Krompecher and K. Zimmermann.—Untersuchungen über die Virulenz der aus verschiedener tub. Herden des Menschen reingezüchteten Tuberkel-Bacillen.
93 Immunity to Anthrax. O. Bail (Prague).—Untersuchungen über naturelle und künstliche Milzbranimmunität. (Commenced in No. 5.)
94 Natural Immunity to Anthrax of Dogs and Fowls. A. Petterson (Stockholm).—Ueber die naturelle Milzbrandimmunität des Hundes und des Huhnes.
95 Successful Treatment of Otherwise Fatal Intraperitoneal Streptococcus Infection of Rabbits by Preventive Injections of Pyocyanose-Immun-Proteidin. R. Emmerich and R. Frommsdorff.—Ueber die erfolgreiche Behandlung, etc.
96 *Production of a Bacterial Preparation from Cultures of Tubercle Bacilli. G. Marpmann.—Ueber die Herstellung eines Bakterien-Präparates aus Kulturen von Tub.-Bacilien.
97 Lysoform, Bacillol und Sublamin in wässriger Lösung als Hände-Disinficienten nach Vorbehandlung der Hände mit Alkohol. Engels (Marburg).
98 Die Differential-Diagnose des Typhus-Bacillus vom B. coli auf Grund der Säurebildung (on basis of acid formation). A. Wolff (Königsberg).
99 Züchtung der Trichophytopilze *in situ*. K. Holliborn (Leipsic).
100 Stainability of Streptothrix by Tubercle-Bacilli Technic. E. Fuchs (Prague).—Ueber Färbbarkeit der Streptotrichen nach Methoden der Tub.-Bac.-Farbung.

86. **Anti-Bacterial Diphtheria Serum.**—Bandi believes he has established that the specific bacterial agglutinins of a serum must be regarded as true bactericidal substances. The degree of the agglutination and "sensibilization" is, therefore, the index of the bacterio-toxic action of a specific serum *in vitro*. The specific agglutinating power parallels the phases of the immunizing process against the bacteria, as likewise the sensibilizing power. Tests of the standard diphtheria antitoxin from Paris, Berne and Brussels failed to show any of these specific agglutinating and sensibilizing properties. Bandi reports success in the clinic with an antidiphtheria serum produced with a view to secure as much as possible of these properties. He adds a specific antitoxic serum to cultures of the diphtheria bacilli. The bacilli take up from the serum the substances which are specifically toxic for them. The serum is then centrifugalized out of the culture, and the bacilli thus "sensibilized," as he calls it, are injected into a goat in amounts which would be fatal if they had not been thus previously sensibilized. The injections cause intense phagocytosis and the serum of the animals acquires pronounced specific agglutinating and sensibilizing properties. It has very little antitoxic action, but it is rich in antibodies and has remarkable curative effects. He suggests that a combination of this serum with ordinary antidiphtheria antitoxin might prove useful in practice. His researches were conducted at the Brazilian National Institute of Bacteriology, and he reports in detail 2 out of the 7 cases treated on these principles. The results were so fine that he did not consider it necessary to wait for further experience.

96. **Therapeutic Preparation of Bacteria.**—Marpmann cultivates the tubercle bacilli in milk to procure the specific substances which the bacilli elaborate, and he then administers them by the mouth to tuberculous patients. He gives a cut of the apparatus he has devised for the purpose to allow a constant circulation of air and current in the milk, which becomes entirely impregnated with the bacterial cultures. They are then transferred to a medium, of which he gives the formula, and the bacilli and medium are frozen together, ground and mixed with alcohol. Five drops of the fluid thus obtained are given to the patients three times a day. A number of practitioners are now testing this remedy in their practice, and the results will soon be published in detail.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

101 (XXIX, No. 30.) *Untersuchungen über die bakteriologische Cholera-Diagnostik und Spezificität des Koch'schen Cholera-Vibrio. W. Kolle, E. Gotschlich and others.
102 *Klinisch-hämatologische Mitteilungen. III. Zur Kenntniss der myelogenen Tumoren. E. Bloch.
103 Casuistic Study of Vascular Affections on Nervous Basis. T. L. v. Criegern (Kiel).—Zur Kenntniss der Erkrankungen des Gefässsystems, welche vermuthlich auf nervoser Grundlage entstehen.
104 *Diabetes und Hautkrankheiten (cutaneous affections). E. Saalfeld.
105 (No. 31.) *Beitrag zur Behandlung der Ankylostomiasis. Nagel (Bochum).
106 *Zur Diagnose des Carcinoma ventriculi. H. Salomon (v. Noorden's clinic, Frankfurt a. M.).
107 Ueber Thrombosen und Embolien bei akuter Perityphlitis. Middeldorpf.
108 Zur Pathologie der Hautverbrennungen (burns). G. Scagliosi (Palermo).
109 Study of Percussion of Apex and Spine. B. Alexander.—Ueber die Krönig'schen Schallfelder bei der Lungenspitzen-Tuberkulose und über den Perkussions-Schall der Wirbelsäule.
109½ *Strychnin bei Poliurie und Diabetes insipidus. L. Feilchenfeld.
110 Appeal for Foundation of International Congresses for School Hygiene.—Aufruf, etc.
111 (No. 32.) *Zum klinischen Nachweis des Urobilin. W. Schlesinger.
112 Zur Frage der alimentaren Levulosurie bei Leberkrankheiten. G. Landsberg.
113 Zur Colopexie bei Prolapsus recti (die extraperitoneale Fixation des Darmes). J. Rotter.
114 Abdominal Hysterectomy Plus Vaginectomy for Cancer. W. Heidemann.—Die radikale Entfernung der krebsigen Gebärmutter und Scheide auf abdominalem Wege.
115 Zur Radikal-Operation der Leistenbrüche (of inguinal hernia). T. Honda (Tokio).
116 Zur mikroskopischen Technik. E. Neuhaus.
117 Susceptibility of Useful Mammals for the Tsetse-fly Disease. E. Martino.—Ueber die Empfänglichkeit nützbarer Säugethiere für die Tsetsekrankheit.
118 Einiges von der Anatomie der Araber und der Griechen. M. Simon (Kiel).
119 Thorax-Gurtel (girdle). C. Huetlin (Freiburg i. B.).
120 (No. 33.) *Life-maintaining Action of Stimulus. A. Schücking (Pyrmont).—Ueber die lebenserhaltende Wirkung des Reizes.
121 *Stain Differentiation of Blood Plates. K. Preisich and P. Heim (Budapest).—Durch Färbung lebhaft differenzirte Blutplättchen.
122 The Heidelberg University Centennial. C. Magenau.—Geschichtlicher Rückblick, etc.

101. **Diagnosis of Cholera.**—Kolle remarks that genuine Koch cholera vibriones were found in 59 out of 73 cases of cholera examined last year in Egypt. In 14 the micro-organisms derived differed from them, and possibly the diagnosis may have been erroneous in some. The agglutination test proved again its specificity in more than 1,000 tests with

various combinations of germs and serum made with the true and the false cholera vibriones. He advises eight hours of "peptone water pre-culture" and eight hours of agar plate culture, the agglutination studied in the hanging drop with 80 magnifying power, dilution 1 to 1,000. This allows an exact diagnosis in sixteen hours.

102. **Myelogenic Tumors.**—Bloch relates a case in detail which establishes that it may be possible by examination of the blood to diagnose a myelogenic tumor before any characteristic symptoms have developed. The patient was a man of 41, presenting symptoms suspicious of a neoplasm in the spine. The abundance of myelocytes found in the blood indicated that the bone marrow was under the influence of some irritation. The spleen was unusually large and soft, and there was fever. The necropsy revealed a spindle-celled sarcoma originating in the vertebræ. Bloch describes several other cases with unusual and interesting blood findings.

104. **Diabetes and Cutaneous Affections.**—Saalfeld's experience emphasizes the importance of combining both general and local treatment in case of this association of diabetes and skin disease. In 2 instances the latter developed first as a premonitory symptom of the diabetes. One was a case of acne necrotisans corporis, the other pruritus scroti. He found that ordinary skin diseases in diabetics, rebellious to the usual measures, yielded to them after constitutional treatment had been instituted. He had this experience in several cases of eczema, pediculosis pubis, acne rosacea, lichen ruber, ulcus molle, ulcus cruris, etc. When these affections proved intractable he found that change to an antidiabetic diet was soon followed by a cure of the skin lesions. This was also peculiarly his experience with pruritus, and to such an extent that he now examines the urine as a routine measure in every case from the start. He never found glycosuria associated with psoriasis or leucoplakia oris, but mentions that neuralgic pains were exceptionally severe in his diabetic patients.

105. **Treatment of Ankylostomiasis.**—Nagel practices at Bochum, a hotbed for this affection; 4,000 patients have been treated in the hospital since '96. Kraft has been able to isolate from ext. filicis a non-toxic essential principle which Nagel believes to be the true effective worm-expelling element. He calls it "filmaron" and reports that it is proving in the clinic all that had been anticipated for it, succeeding in 9 cases after failure of extractum filicis. His experience suggests that the male fern does not kill the worm but merely benumbs it, and that the following purgative is the real expelling force. Ankylostomiasis is spreading in the mines of the region as the miners know of cases of sudden blindness that have followed treatment, and shrink from applying to a physician. Nagel himself has observed 2 such cases, the robust men becoming totally blind after ingestion of 10 gm. of extractum filicis in one or two doses. The discovery of the non-toxic, effective element in the drug, therefore, is of great importance.

106. **Albumin Test in Diagnosis of Cancer of Stomach.**—Salomon's test is based on the exudation of serum from any cut or ulcerating surface. He prepares the patient for the test by giving fluid food only, free from albumin, such as coffee, wine, bouillon, tea, the day beforehand. At 9 p. m. the stomach is rinsed until the rinsing water returns clear, and the patient is warned not to eat anything more. The next morning 400 c.c. of normal salt solution is poured into the stomach and then siphoned out and poured in again and siphoned out once more, to give the stomach as thorough a rinsing as possible. The siphoned-out fluid is then tested for nitrogen by the Kjehldahl method, and the Esbach test for albumin applied. He reports experiences with 22 patients, which showed that the Esbach test was negative in 6 cases of gastric catarrh, or only faintly positive; absolutely negative in 5 of nervous dyspepsia, and negative or faintly positive in cases of other gastric affections, with the exception of cancer. In 8 cases of carcinoma of the stomach the Esbach findings were decidedly positive, showing the presence of 1/16 to 1/2 per 1,000 of albumin in every case. He thinks that a negative reaction may aid in excluding cancer in dubious cases, to say the least, and that a marked positive reaction under certain restrictions may confirm the diagnosis. The nitrogen was also more abundant in the cancer cases, ranging from 10 to 70 mg. in 100 c.c. of fluid. When the siphoned-out fluid shows a flaky turbidness or the nitrogen is over 20 mg. in 100 c.c., cancer may be suspected.

109½. **Reduction of Polyuria by Strychnin Hypodermically.**—Feilchenfeld announces that a daily injection of .005 gm. strychnin nitrate proved effectual in reducing the amount of urine in a severe case of polyuria and one of diabetes insipidus in his experience. The urine dropped from 3,200 gm. to 1,400. The specific gravity does not seem to be altered, and this, with the promptness of the response, impels him to ascribe the action of strychnin in these cases to an influence on the central nervous system.

111. **Clinical Tests for Urobilin.**—Schlesinger reports from Nothnagel's clinic that it is possible to obtain fluorescence from urobilin in urine and distinct bands in the spectrum if an equal amount of a 10 per cent. alcoholic solution of zinc acetate is added to the urine and the precipitate filtered out. Usually this fluorescence and the spectrum bands are masked by the presence and action of other pigments, but by this procedure even a very small proportion of urobilin with large proportions of the other pigments responds perfectly to the test. Hemoglobin disturbs the reaction and the technic must be modified for blood. For this he measures 1.5 c.c. of a .7 per cent. saline solution and adds enough potassium oxalate so that when the same amount of blood is added a 1 per 1,000 solution of the oxalate results (.5 potassium oxalate to 200 saline solution), then adding 1.5 c.c. blood drawn fresh from the finger. The oxalate prevents the coagulation of the blood without disturbing the reaction. The tube is then centrifugalized, the clear fluid decanted and poured into the same amount of the alcoholic zinc acetate and centrifugalized again. The supernatant fluid is then examined for fluorescence and the spectrum bands.

120. **Life-Maintaining Action of Stimulus.**—Schücking, in continuing his researches on the eggs of the starfish and other echinoderms, has found that stimuli of various kinds are able to confer greater resisting power on the cell, enabling it to survive the action of substances which destroy the control cells. The shriveling of the living protoplasm in hyperisotonic solutions he believes to be a process independent of osmosis, a reaction of the living substance. He has become convinced that the cell is able to regulate its intake and outgo of water independently of the osmotic differences of normal metabolism. His experiments with chemical, electric, mechanical and other stimuli are described in detail.

121. **Stain Differentiation of Blood-Plates.**—Preisich and Heim exhibited at the meeting of the local medical society, March 28, a number of stained specimens of blood-plates which show them up in a new light. They followed the Romanowski technic, slightly modified, and claim to have established with it that the blood-plates are nucleated formations of the red corpuscles thrown out by the latter into the circulating blood. They frequently found the red-stained blood-plates inside the blue-stained red corpuscles. In morbid processes accompanied by much regeneration of the red corpuscles, the number of blood-plates was correspondingly increased, while it was low in pernicious anemia. They also found blood-plates occasionally inside the phagocytes. The granulations of the latter may be merely the granulations left from phagocyted blood-plates. In size, staining reaction and other points they seem to be identical with the granulations of the blood-plates.

Muenchener Med. Wochenschrift, Munich.

123 (L. No. 29.) Physiologic Bases of Iodipin Treatment. H. Winternitz (Halle).

124 Das kolloidale Bismut-Oxyd bei den Verdauungsstörungen im Säuglingsalter (digestive disturbances in infancy). Kinner.

125 Zur Kasuistik der essentiellen Nierenblutung (renal hemorrhage). P. Wulff.

126 Rubber Gloves. A. Hammesfahr.—Die Gummihandschuhe bei aseptischen Operationen.

127 Toxin and Antitoxin. Max Gruber and v. Pirquet. (Commenced in No. 28.)

128 Fat Substance of Yeast in Therapeutics. E. Roos and O. Hinsburg.—Eine therap. wirksame Substanz aus der Hefe, Cerolin, Fettsubstanz der Hefe.

129 (No. 30.) *Ueber Albuminurie bei Aorten-Klappen-Insuffizienz. W. v. Leube (Würzburg).
130 Study of Intussusception. H. Schridde.—Eine nach Ausstossung des Intussuszeptums spontan gehelite Invagination des Ileums. Zugleich ein Beitrag zur Frage der Entstehung und Entwicklung der Intussuszeption.
131 Monocular Predominance in Binocular Vision. O. Rosenbach. —Ueber monok. Vorherrschaft beim binok. Sehen.
132 Eine neue Bäderform in Bad Nauheim. T. Groedel II.
133 *Eine neue Operation zur Behandlung veralteter Knieschelbenbrüche (of old fractures of patella). A. Schanz.
134 Adrenalin gegen Darm-Blutung bei Typhus. Graeser.
135 Study of Intestinal Origin of Tuberculosis. E. Nebelthau. (Commenced in No. 29.)
136 (No. 31.) *Frequency of Joint Affections in Hereditary Syphilis. E. v. Hippel.—Ueber die Häufigkeit von Gelenkerkrankungen bei hereditär Syphilitischen.
137 *Zur hereditären Spatsyphilis (tardy syphilis). Jordan (Heidelberg).
138 *Study of Inheritance of Syphilis. v. Düring.—Einige Fragen aus der Lehre von der Vererbung der Syphilis.
139 Pyrogallic Acid in Lupus of Nasal Mucosa. Wittmaack (Breslau).—Behandlung des Schleimhautlupus der Nase mit Pyrogallussaure.
140 *Outlining Heart Limits with the Phonendoscope. F. Moritz. —Ueber die Bestimmung der Herzgrenzen nach Smith mittels des Phonendoskopes.
141 *Zur Aetiologie der Gastritis phlegmonosa. C. Klieneberger.
142 *Ueber gonorrhoisch-metastatische Entzündung der Augen Erwachsener (eye affections in adults). W. Apetz (Würzburg).
143 *Killing of Tubercle Bacilli in Heated Milk. W. Rullmann.—Ueber die Abtötung von Tub.-Bazillen in erhitzter Milch.
144 Five Grandmothers Who Nurse Their Grandchildren. F. Siegert (Strasburg).—Grossmütter, die ihre Enkel stillen.
145 Ein neues Pupillometer. Bumke (Freiburg a. B.).
146 Eine Irrigator-Spritze (syringe). F. Kuhn (Cassel).
147 Zur Kenntnis der Landry'schen Paralyse. Rolly (Leipsic). (Commenced in No. 30.)

129. **Albuminuria with Insufficiency of Aortic Valve.**—A young man with the clinical picture of insufficiency of the semilunar valves, exhibited likewise symptoms of connective tissue induration of the kidneys. The necropsy showed similar induration in liver and spleen, while the lungs were exempt. The case demonstrates that in case of insufficiency of the aortic valves, albuminuria may be observed, not only as an expression of venous congestion in the kidneys, long before any other signs of this congestion are apparent, but also as a manifestation of general atheromatosis in its most restricted sense —the same affection which develops primarily in elderly subjects, but which in these conditions is the direct result of the valvular affection. The maximal increase in the blood pressure and its fluctuations in the vessels and capillaries in the kidneys, entail a thickening of their walls and a proliferation of connective tissue in their vicinity. The induration in the kidney may be regarded as arterial induration in contrast to cyanotic induration. As the circulation in the organ suffers, albumin and later even tube casts may be found in the urine. The date of the appearance of the induration and albuminuria depends on the intensity and duration of the valvular affection.

133. **Transplantation of Sartorius in Old Fractures of Patella.**—Schanz has treated a case of old fracture of the patella with an unsurmountable gap, by digging a continuous groove in both fragments and transplanting into this groove the isolated sartorius muscle, suturing it in place with wire. He asserts that by this method it is possible to restore function to old fractured patellas, no matter how wide the gap. If there is the slightest tendency to the formation of a fibrous callus the joint need not be opened at all. Another advantage of the measure is that the quadriceps is strengthened and the disposition to atrophy averted.

136. **Joint Affections in Hereditary Syphilis.**—Hippel affirms that joint affections are frequent in hereditary syphilis, and especially among those subjects who were not treated with mercury in childhood. Hence they are often observed in subjects presenting keratitis, as these are mainly recruited from this class. In 56 per cent. of 77 patients with syphilitic keratitis in his practice since 1885, he was able to discover some joint affection, and in nearly every instance it had preceded the ocular affection. In several cases its syphilitic nature had been unsuspected, and it had been treated by eminent surgeons on some other basis. The functional disturbance was generally slight, and only in a few instances was the subject confined to bed. The knee was almost invariably the joint affected, sometimes accompanied by swelling of the elbow, wrist or finger joints. The prompt benefit derived from potassium iodid differentiates these cases. He examined a number of non-syphilitic eye patients and found that joint affections were rare among them, while in his total of 85 cases of keratitis in syphilitics, the joints were or had been affected in 47. The joint affection is usually merely a serous or sero-fibrinous effusion in the knee, bilateral, without preceding trauma and generally without fever; causes remarkably slight subjective disturbances and usually heals in time without permanent functional derangement.

137. **Tardy Hereditary Syphilis.**—Jordan publishes an account of a case of tardy congenital lues in a young soldier, localized solely in the knees. The success of treatment confirmed his diagnosis of miliary gummata in the synovialis. He adds a second case, a child with a gonitis proceeding from the knee joint and associated with keratitis parenchymatosa. He adds that in all cases of mild bilateral knee affections in children or adults a dubious diagnosis may be cleared up by instituting specific treatment. It must be energetic and long continued to effect a cure in these hereditary cases.

138. **Inheritance of Syphilis.**—It is possible, von Düring reasons, that syphilitic infection may occur and its manifestations remain limited for a time to interstitial inflammation of the internal organs, escaping our diagnosis. Such a latent syphilis would explain the cases of tardy hereditary syphilis and also the syphilis of apparently sound mothers of children with hereditary syphilis. Matzenauer believes that the mother of every child that proves to have an inheritance of syphilis must herself be infected, and should receive specific treatment irrespective of the apparent soundness of her health. He rejects the idea of spermatic infection, and thinks that if the placenta is sound the children will be free from syphilis. These views require confirmation, and it is important that family physicians should aid specialists in this research, following for years both mothers and children in these puzzling cases. Examination of the placenta is particularly important from this point of view, and study to determine the specific alterations in the placenta, and whether it is possible that the fetal or maternal portion might be alone involved. For the present the burning question is as to whether the apparently healthy mothers of syphilitic children are actually sound or are they infected.

140. **Outlining the Heart with the Phonendoscope.**—Moritz has repeated Smith's examination of the heart with the phonendoscope, but his findings do not agree with those obtained by Smith. He gives numerous cuts to show that it is physically impossible for the latter to be correct.

141. **Etiology of Gastritis Phlegmonosa.**—Gastritis phlegmonosa occurs most frequently in men, and besides excesses, trauma, intoxication and irritating food as the cause, it may be due to the invasion of the submucosa of the stomach by pus cocci. There are 67 cases on record and Klieneberger now reports another. He attributes the etiology in this case to the simultaneous administration of potassium iodid and calomel to a patient, a man of 67, suffering from acute exacerbation of chronic bronchitis, with emphysema. He had never presented any symptoms of gastric derangement and he took only 3.5 gm. of the potassium iodid in all. It was suspended as symptoms of iodin intoxication developed, including severe gastric disturbances. Eight hours after the last dose of the iodid .3 gm. of calomel was given. The patient died in thirty-six hours, and at the autopsy diffuse phlegmonous gastritis was discovered.

142. **Gonorrheal Affections of the Eyes in Adults.**—The case described was distinguished by the metastatic affection in the eyes after six years of latency, and simultaneous involvement of all the joints and the tendon sheaths of one foot.

143. **Fate of Tubercle Bacilli in Heated Milk.**—Rullmann announces that tubercle bacilli heated in milk to 65 C. (150 F.) for more than thirty minutes, were still virulent enough to infect guinea-pigs in intraperitoneal inoculation. The milk was infected with sputa.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes of the Year's Progress in Medicine and Surgery. Under the Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Volume VIII. Materia Medica and Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics and Forensic Medicine. Edited by George F. Butler, Ph.G., M.D.; Henry B. Favill, A.B., M.D.; Norman Bridge, A.M., M.D.; Daniel R. Brower, M.D., and Harold N. Moyer, M.D. Cloth. Pp. 326. Price, $1.50. Chicago: The Year Book Publishers. July, 1903.

QUANTITATIVE CHEMICAL ANALYSIS. Adapted for Use in the Laboratories of Colleges and Schools. By Frank Clowes, D.Sc. Lond., Emeritus Professor of Chemistry in the University College, Nottingham, and S. Bernard Coleman, A.R.C.Sc. Dublin, Professor of Chemistry in the Southwestern Polytechnic, Chelsea, S. W. Sixth Edition. Cloth. Pp. 602. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

TREASURY DEPARTMENT. Public Health and Marine-Hospital Service of the United States. Hygienic Laboratory—Bulletin No. 15. Inefficiency of Ferrous Sulphate as an Antiseptic and Germicide. By Allan J. McLaughlin. Paper. Pp. 7. Washington: Government Printing Office. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Aug. 29, 1903:

Heizmann, Charles L., colonel and assistant surgeon-general, and Major Willim H. Arthur, surgeon, are detailed as members of the board of medical officers appointed by paragraph 26, S. O. 65, March 19, 1903, A. G. O., for the examination of candidates for admission to the medical corps of the Army, vice Brigadier-General Calvin DeWitt, U. S. A., retired, and Major Louis A. La Garde, surgeon, relieved.

McCulloch, Jr., C. C., captain and asst.-surgeon, in addition to his present duties as attending surgeon and examiner of recruits in New York City, is assigned to duty as medical superintendent of the transport service in that city.

Porter, R. S., first lieut., is detailed as a member of the examining board at Fort Leavenworth, vice First Lieut. W. M. Smart.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Aug. 29, 1903:

Asst.Surgeon E. M. Brown, detached from the Naval Hospital, Newport, and ordered to the *New York*.

Surgeon M. S. Elliott, detached from the *New York* and ordered home to wait orders.

Surgeon N. H. Drake, detached from the *New York* and ordered to the *Maine*.

Surgeon D. O. Lewis, ordered to the *New York* as fleet surgeon of the Pacific Squadron.

P. A. Surgeon H. C. Curl, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *New York*.

Surgeon W. R. DuBose, detached from the *Maine* and ordered to duty in the Bureau of Medicine and Surgery.

Surgeon J. F. Murphy, detached from the *Monocacy* and ordered to the *Wisconsin*.

Asst.-Surgeon J. C. Thompson, detached from the *Chesapeake* and ordered to the Naval Academy.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Aug. 20, 1903:

Surgeon C. E. Banks, granted three days' leave of absence from August 8, under paragraph 189 of the Regulations.

Surgeon D. A. Carmichael, Bureau order of Aug. 10, 1903, directing him to report to director of laboratory for special instructions, amended so that he shall report at the laboratory for temporary duty.

P. A. Surgeon J. C. Perry, relieved from temporary duty in the Bureau and directed to report to the director of the laboratory for duty.

P. A. Surgeon M. J. Rosenau, granted leave of absence for seven days from August 19.

P. A. Surgeon J. A. Nydegger, granted leave of absence for one month from August 13 on account of sickness.

P. A. Surgeon H. W. Wickes, leave of absence for one day granted by Bureau telegram of August 13 revoked.

P. A. Surgeon H. B. Parker, relieved from special temporary duty at Vera Cruz, Mexico, to date from July 22. Granted leave of absence for seven days from August 19.

Asst.-Surgeon T. B. McClintic, to report to director of the laboratory for duty, to take effect Aug. 1, 1903.

Asst.-Surgeon C. W. Wille, relieved from duty at the laboratory, to take effect August 3. Detailed as inspector of unserviceable property at Baltimore.

A. A. Surgeon J. M. Delgado, granted extension of leave of absence for seven days from August 12.

A. A. Surgeon J. P. C. Foster, granted leave of absence for seven days from August 19.

A. A. Surgeon C. M. Frissell, Department letter of Aug. 6, 1903, granting him leave of absence from August 6 to 18, amended to read from August 10 to 25.

A. A. Surgeon F. J. Schug, granted leave of absence for ten days from August 15.

A. A. Surgeon A. E. Spohn, granted leave of absence from July 26 for thirty days.

APPOINTMENTS.

Jamin H. Hamilton, appointed acting assistant surgeon for duty at Richford, Vt.

Stacy D. Williamson, appointed acting assistant surgeon for duty at Malone, N. Y.

PROMOTIONS.

Asst.-Surgeons L. D. Fricks, V. G. Heiser and M. J. White commissioned (recess) as passed assistant surgeons, to rank as such from Aug. 2, 3 and 4, respectively, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the weeks ended Aug. 22 and 20, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Aug. 8-15, 1 case; Sacramento, Aug. 1-8, 1 case; San Francisco, Aug. 2-16, 3 cases.
Colorado: Denver, July 11-25, 10 cases.
Illinois: Belleville, Aug. 15-22, 1 case; Chicago, Aug. 1-8, 15-22, 28 cases, 2 deaths.
Louisiana: New Orleans, Aug. 15-22, 1 case, imported.
Massachusetts: Fall River, Aug. 8-22, 9 cases; Taunton, Aug. 1-8, 15-22, 5 cases.
Michigan: Detroit, Aug. 8-15, 1 death; Grand Rapids, Aug. 15-22, 1 case; Port Huron, Aug. 8-22, 3 cases.
Minnesota: Minneapolis, July 27-Aug. 3, 1 case; in 7 counties at 11 localities, 29 cases, 1 death.
Missouri: St. Louis, Aug. 15-22, 4 cases.
Nebraska: Omaha, Aug. 8-15, 2 cases.
New Jersey: Hudson County, Aug. 16-23, 1 case.
Ohio: Cleveland, Aug. 8-15, 1 case; Dayton, Aug. 8-22, 3 cases; Hamilton, July 11-18, 1 case, should have been reported July 6; Toledo, Aug. 8-15, 1 case.
Pennsylvania: Allegheny, Aug. 10-17, 2 cases; Pittsburg, July 25-Aug. 15, 135 cases, 31 deaths, 1 case imported; Scranton, Aug. 8-15, 1 case.
West Virginia: Wheeling, June 1-30, 9 cases, 3 deaths.
Wisconsin: Milwaukee, Aug. 1-8, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, July 18-Aug. 8, 8 cases.
Belgium: Antwerp, July 26-Aug. 8, 5 cases, 2 deaths; Brussels, July 26-Aug. 8, 3 deaths.
Brazil: Rio de Janeiro, July 12-26, 13 deaths.
Chile: Amtofogasta, June 1-30, 5 cases, 3 deaths.
China: Shanghai, July 7-14, 1 case, 1 death.
Colombia: Bocas del Toro, July 28-Aug. 4, 1 death.
Germany: Bremen, July 26-Aug. 1, 1 case, 1 death, emigrant.
Great Britain: Birmingham, July 26-Aug. 8, 3 cases, 1 death; Dublin, July 26-Aug. 15, 1 case, 1 death; Dundee, July 18-Aug. 8, 4 cases; Leeds, July 26-Aug. 8, 11 cases, 3 deaths; Liverpool, Aug. 1-15, 13 cases, 3 deaths; London, July 26-Aug. 8, 4 cases; Manchester, July 26-Aug. 8, 4 cases, 1 death; Newcastle-on-Tyne, July 19-Aug. 8, 13 cases, 3 deaths; Nottingham, July 25-Aug. 1, 6 cases; Sheffield, July 26-Aug. 8, 3 cases.
India: Bombay, July 1-28, 24 deaths; Calcutta, July 11-18, 2 deaths.
Mexico: City of Mexico, July 18-Aug. 16, 36 cases, 17 deaths; Hermosillo, Aug. 11, epidemic; Magdalena, Aug. 11, epidemic; Tegucigalpa, Aug. 15, present.
Russia: Moscow, July 18-Aug. 1, 4 cases, 2 deaths; Odessa, July 26-Aug. 1, 1 case; St. Petersburg, July 18-Aug. 1, 10 cases, 2 deaths; Warsaw, June 20-July 18, 8 deaths.
Turkey: Smyrna, June 21-July 19, 16 deaths.

SMALLPOX—INSULAR.

Philippine Islands: Manila, June 13-July 11, 9 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 12-26, 4 deaths.
Colombia: Panama, Aug. 3-17, 6 cases, 2 deaths.
Costa Rica: Limon, July 30-Aug. 13, 3 cases, 4 deaths.
Ecuador: Guayaquil, July 18-25, 1 death, sporadic.
Mexico: City of Mexico, Aug. 8-16, 1 case, 1 death; Linares, Aug. 26, epidemic; Merida, Aug. 1-12, 10 cases, 5 deaths; Tampico, Aug. 8-15, 14 cases; Vera Cruz, Aug. 8-15, 53 cases, 15 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, June 20-July 11, 21 cases, 17 deaths; Provinces, June 20-July 11, 1,486 cases, 1,003 deaths.

CHOLERA—FOREIGN.

China: Hongkong, July 8-15, 1 death.
India: Bombay, July 14-28, 2 deaths; Calcutta, July 11-25, 39 deaths.
Straits Settlements: Singapore, June 20-July 4, 3 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, June 13-July 11, 19 deaths.

PLAGUE—FOREIGN.

Africa: Cape Colony, June 20-27, 5 cases.
Brazil: Rio de Janeiro, July 12-26, 2 deaths.
Egypt: General, July 11-18, 27 cases, 9 deaths.
China: Amoy, June 11-18, 840 deaths, estimated; Funchau, July 8-15, becoming epidemic; Hongkong, July 8-27, 87 cases, 64 deaths.
India: Bombay, July 14-28, 143 deaths; Calcutta, July 11-25, 17 cases; Karachi, July 12-26, 2 cases, 1 death.
Mexico: Bagio, Aug. 17, 3 cases; Sequeros, Aug. 18, 3 cases.

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Original Articles.

THE SUBCUTANEOUS INJECTION OF PARAFFIN FOR THE CORRECTION OF DEFORMITIES OF THE NOSE.*

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The surgical use of paraffin as a prosthetic measure is a recent advancement in the surgical art and consequently is in a more or less experimental stage of development. The first instance in which it was used in an attempt to remedy a defect in the human anatomy dates back but a few years, and while the number of cases in the literature is increasing rapidly, they are still so few in number that every operation of this character should be reported. It is only by a careful classification and study of a large number of cases that we may be enabled to arrive at a definite conclusion as to the merits and demerits of the method, as a recognized surgical procedure.

The attempts at improvement which terminate unsatisfactorily are of even more import than are the cases which result favorably. The temptation is to report the successful operations and to postpone indefinitely a report of those cases which had an unfavorable outcome, in this way giving to the one searching for a verdict on the method, a biased conception as to the results one may reasonably anticipate.

The satisfactory results are sufficient evidence in themselves. The failures demand further attention and investigation both from the operator and the profession at large, in an attempt to discover the cause of the fault, and to place it at the door of the method, or of the one who employs the method.

The report of disastrous results should not be confined to the lay press but should appear at length in the medical press, and in this way tend toward the prevention of a repetition of the failure. Not long ago the daily papers, through a press dispatch from Paris, called attention to the case of a young girl who, not satisfied with the appearance of her nose, submitted to an operation in which paraffin was injected subcutaneously to replace a defect, as a result necrosis ensued and the loss of the entire nasal organ was threatened.

Cases such as this demand the most careful scrutiny on the part of the profession before an attempt at a decision as to the value of the new method can be made, and these cases should be brought to the attention of the profession by the one who had the case in charge.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

THE ORIGIN OF THE METHOD.

The subcutaneous injection of oils and liquid paraffin dates back almost to the origin of the hypodermic needle and syringe; especially has it been used in the treatment of syphilis, as a vehicle for the suspension of insoluble medicaments. Corning in 1891 presented an article entitled, "Localization of Remedies About the Sensory Nerves of the Skin," in which we find the first use of a solidifying oil in surgery. As the title implies, the object of this method was to fix medicament, usually an analgesic, in a particular neighborhood by the injection of the oil immediately after, and through the same needle, and then by a cold application, or the refrigerant spray, the oil was solidified, and the absorption or dissemination of the drug prevented.

In 1894 Corning enlarged the application of this subcutaneous injection of paraffin, by its injection into a muscle for the arrest of spasm. This was accomplished with a satisfactory result and the name "Eleomyenchysis" applied to the procedure. The same investigator, in 1896, utilized this substance in still another manner. After the subcutaneous division of a nerve for neuralgia, paraffin was inserted between the two divided ends, and then solidified by the external application of cold. Regeneration of the nerve ends and the return of pain were in this manner prevented.

The *Medical Record,* in an editorial on this phase of the subject, concludes as follows: "It is clear that the credit for the idea of the mechanical employment of oils in the tissues belongs wholly to Dr. Corning. And not only is he entitled to the honor of originating the principle, but also to credit for developing a method far more scientific than that of any of his followers."

From a survey of the available literature, it would seem positively proven that, as quoted above, the principle of the subcutaneous injection of paraffin was first utilized by Corning, but also that Gersuny in his article of 1900 entitled, "Ueber eine Subcutane Prosthese," was undoubtedly the first to recommend the use of, and to use, paraffin, subcutaneously, as a prosthetic measure.

The fact that paraffin or vaselin can be sterilized, made to melt at a given temperature, and when injected under the skin, will give rise to no untoward symptoms, no toxic absorption, no marked inflammatory reaction, and no pain or discomfort, but instead serve as a non-irritating framework which acts as a support of newly formed connective tissue—these facts form the basis, the foundation of all that has been done with paraffin as a prosthetic substance during the past few years, and it would seem that this was first brought out by Corning of New York, and then re-emphasized and enlarged by Gersuny of Vienna, so much so that the procedure is commonly known as "Gersuny's Method."

The writings of Gersuny and his assistants have led surgeons throughout the land to utilize this substance

in efforts to repair, or improve on, defects in the human anatomy. These defects have been of a great variety and include almost every possible sort of deficiency, defect or blemish which human flesh and bone is heir to. The first instance in which it was used in the human body was for the formation of artificial testicles in a person who had been castrated for tuberculosis of those organs. This was successfully accomplished by Gersuny in 1899, and at the last report, after the elapse of over three years, the artificial testicles were in perfect condition, and, to the palpating fingers, felt like cartilaginous masses. This, notwithstanding the fact that the patient had passed through a severe attack of typhoid fever, his temperature rising to 40 C. (104 F.). At the time of this high temperature, the masses of paraffin within the scrotum were noted as becoming a little softer, but after the decline of the temperature, they returned to their former consistency.

FIELD OF EMPLOYMENT.

Among the other conditions in which this method has been employed might be mentioned inguinal and umbilical hernia, incontinence of urine, incontinence of feces, prolapse of rectum, prolapsus ani of children, prolapse of uterus, displacement of uterus, cleft palate, partial and complete, prevention of post-operative adhesions, obliteration of scars resulting from accident, obliteration of scars resulting from mastoid or frontal sinus operation, obliteration of scars resulting from confluent smallpox, to restore the symmetry of the face in facial hemiatrophy, to restore the symmetry of the face after the removal of maxillæ, as a foundation for an artificial eye, to repair the defect after resection of the ribs, to prevent ankylosis of joints after resection, to prevent regeneration of nerves after resection and the formation of artificial turbinated bones.

The above are among the more usual indications for the employment of this method; while the most frequent defects for which the subcutaneous injection of paraffin has been resorted to, if one may judge from the literature, are deformities of the nose.

It would also seem, from the literature, that in but one deformity of the nose has repair been attempted by this procedure. That is the "saddle-back" nose. This may be, and in all probability is because it is by far the most common deformity of the nose, in which there exists a defect which may be filled in. Of course in that variety of malformation in which there is an increase of tissue, this method will, as a general proposition, be contraindicated.

CLASSIFICATION OF NASAL DEFORMITIES.

Roe has classified nasal deformities as follows:

Deformities of the nose	Bony portion..	Vertical...	Convex.
			Concave.
		Lateral...	Spatulated.
			Deflected.
	Cartilaginous portion.	Tip.....	Excessive or deficient tissue
			Deviation from median line.
		Wings...	Collapsed.
			Expanded.

From this classification, it will be seen that in a fair proportion of the various deformities it is both practical and possible to remedy the defect by the subcutaneous injection of paraffin; and not only remedy the defect, but in addition, do so in a manner much better and more rapidly, and with considerable less inconvenience, to both operator and patient, than by means of any other known method at our disposal for the remedy or improvement of such condition.

The most satisfactory results, the extreme simplicity of the procedure, and the rapidity with which the irregularity is corrected are all more pronounced when compared or contrasted with the more unsatisfactory, complicated, and time-consuming (both to the patient and the operator) methods previously advocated, such as the so-called plastic operations, and in the methods which include the insertion of a foreign substance such as metal, celluloid, or ivory plates or strips.

Of those deformities included in Roe's classifications, the concave vertical or the saddle-back nose is beyond all doubt the condition *par excellence* for the employment of this procedure.

Among the other deformities of the bony portion of the nose, this line of treatment is not at all constantly indicated, but cases might arise in which the spatulated or deflected lateral variety of nasal deformity could be made less noticeable, by the use of this foreign body inserted subcutaneously. In the convex vertical, where there is a redundancy of tissue, there seems to be practically no indication for its use.

As to the cartilaginous portion, when the tip is deficient in size, this method will be again found to be available in improving the appearance of the organ. When of excessive size, and when deviated from the median line, there is little, if anything, to be gained by using the method under discussion. When the wings are collapsed we have found the method satisfactory in causing the alæ to resume their relatively normal position and appearance. And with the wings expanded, it is again found to be of no practical value. This review of the possibilities of the procedure will show a very wide field for its usefulness, and serve as a satisfactory excuse for its serious consideration.

INDICATIONS.

On account of the character of the work involved, the method must be proven to be absolutely harmless, devoid of any possible danger when properly applied, before it should or can become a recognized surgical procedure. The operations in which this method will be employed are not, as a rule, matters of necessity, and when performed, in an attempt to remedy a slight defect in a person's countenance, a defect often exaggerated in the mind of the patient applying for improvement, one must be reasonably, if not absolutely, certain that this defect will not be, by any chance, made worse than it was originally. Very frequently the irregularity of the face is such that, to an uninterested person, it would seem that the deformity had better be left alone.

The fact that a patient comes to you to have his or her appearance improved on, is certain evidence, or at least satisfactory evidence, in the vast majority of instances, that he or she is hypersensitive about the matter, and is more than likely to be dissatisfied with the result of your attempted improvement, even though it be satisfactory from a surgical view point. Such cases differ and should be differentiated from those in which the nature of the defect demands that some measure, operative or otherwise, be taken in order to prevent that person from becoming an object of either pity or ridicule throughout the remainder of his days, if no attempt at improvement is undertaken. In such cases it is always justifiable to make an attempt at improvement of the existing conditions. In another class of cases, those in which the deformity is comparatively trifling, in many instances it is not indicated nor justifiable to operate on them.

THE DIFFICULTIES.

The possible causes of failure, in the latter class of cases especially, should always be most fully and care-

fully presented to the patient, and then it is for him to decide whether or not to undertake the risks, as there is always a risk associated with the performance of an operation of this character.

These possible sources of failure, and therefore objections to the method, many of them chimerical, some theoretical, and others real and existing, may be enumerated as follows:

1. Toxic absorption.
2. Marked inflammatory reaction.
3. Loss of tissue, due to infection and abscess formation.
4. Pressure necrosis, caused by the injection of too much paraffin.
5. Sloughing of tissue, as a result of the heat of the paraffin.
6. Injection into very dense, or inelastic structures, or where scar tissue is firmly attached to the underlying and adjacent parts.
7. Injection of too small an amount of paraffin, with an insufficient correction of the deformity.
8. Injection of too large an amount of paraffin, with an overcorrection of the original deformity.
9. Air embolism.
10. Paraffin embolism.
11. Extension of the paraffin, when first introduced, into adjacent normal structures, such as the infraorbital region.
12. Interference with the muscular action of the nose.
13. Escape of the liquid paraffin, after the withdrawal of the needle.
14. Solidification of the paraffin in the needle, which renders the injection difficult, and causes injudicious expedition on the part of the operator.
15. Absorption or disintegration of the paraffin.
16. The difficulty of procuring paraffin with the proper melting point.
17. A resultant hypersensitiveness of the skin over the injected area.
18. A marked and more or less permanent redness of the skin over the injected area.

These, the more important objections, will be taken up seriatim and considered more or less at length, as may be required in each instance.

INTOXICATION.

1. The danger of an intoxication due to the absorption of paraffin was one of the first objections raised against the method; but it is now generally conceded that when such symptoms occur they are due to some impurity of the substance injected. Meyer was the first to emphasize this objectionable point, and his position was corroborated by the animal experiments of Straume, Dunbar, Stubenrath, and Sobieranski. These men injected paraffin in the lower animals, and for some reason procured a decided constitutional reaction, which they attributed to the toxic qualities of the foreign substance.

On the other hand, the experiments of Stein and of Smith demonstrate that this injection may be, and in their experience was, followed by no reaction, either constitutional or local. Jukuff made similar experiments, and concludes that the amount of paraffin injected subcutaneously, necessary to produce toxic symptoms, must be equivalent to 10 per cent. of the body weight of the animal into which it is injected. Granting the accuracy of his experiments, it would place the dangerous amount in the neighborhood of from ten to fifteen pounds, a quantity greatly in excess of the maximum dose employed in prosthetic surgery. These latter experiments, with the more convincing and constantly increasing number of satisfactory cases on the human being, have led to the belief that the experiments first cited were imperfect in some respect, either in an impurity of the injected substance or some error in the technic employed, and that there is no danger of any toxic absorption in the method.

REACTION.

2. A mild transitory inflammatory reaction usually occurs after the injection. A marked inflammatory reaction has been noted in but very few of the reported cases, and in these was usually due to avoidable and extraneous causes. The mild reaction that does take place before the encapsulation occurs is seldom of sufficient severity to warrant its being classed as inflammation.

INFECTION AND NECROSIS.

3. Infection followed by abscess formation, and, in consequence, a loss of tissue, can not be reasonably held against the method, but rather against the technic used in employing the method. This danger, infection, is no greater after this procedure than following the ordinary usage of the hypodermic syringe, which in proper and competent hands is practically *nil*.

4. The pressure necrosis that may be caused by the introduction of too large an amount of paraffin, is one of the most dangerous, humiliating and aggravating outcomes that may follow the use of this method, and it undoubtedly has occurred in a certain proportion of the cases. With the surgeon carefully molding the mass with the fingers of the left hand, as the paraffin is being introduced, in this manner being all of the time cognizant of the amount of pressure that is being exerted on the overlying skin, such an accident should rarely, if ever, occur. The circulation should always be perfect over the injected mass immediately after the conclusion of the operation. This can readily be determined by noting the return of the blood to this area after a local ischemia has been produced by digital pressure.

5. Sloughing of the skin has been noticed in cases where the harder paraffins have been used—those with a high melting point (59 to 65 C., 136 to 149 F). This is one of the objections raised to the use of the harder paraffins by those who employ that with a lower melting point. It is not rational to presume that such an occurrence would take place after the injection of paraffin with a melting point of 110 F.

6. In cases where the tissue covering the defect is very firmly attached to the underlying structures, and when it is necessary to inject into a very dense and inelastic tissue, the danger of sloughing is considerably greater. In order to reduce this danger, under the first circumstance it is advisable to detach the cicatricial tissue in some manner, before the injection, preferably by means of a subcutaneous incision. In the latter instance, it has been recommended that the injection of the paraffin be preceded by the injection of Schleich's solution into the area that the paraffin is to occupy. This would serve the double purpose of anesthetization and of dilating the tissue in preparation for the paraffin soon to follow.

Injection into this class of tissues was not originally intended, and is not to be enthusiastically recommended, even though a number of instances in which it has been successfully carried out have been reported.

ERRORS OF TECHNIC.

7 and 8. The introduction of too large or too small an amount of the substance is an error of technic and within the control of the operator. The latter is a comparatively slight fault, if one at all, and can be easily remedied by a subsequent injection. It is, indeed, a preferable manner of dealing with these conditions. It has been recommended that we make numerous injections of

a small amount each time, instead of attempting to remedy the entire defect at a single sitting. In this way one obviates the danger of making too large an injection. Freeman has noted a confusing amount of edema occurring very rapidly, which makes it sometimes difficult to accurately estimate the amount of paraffin needed; at a second step of the operation the further requirements can be more accurately determined. Other advantages of this operating in stages are that, at the second sitting, there exists a more substantial basis to work on, i. e., the previously injected material. The skin is given an opportunity to gradually stretch and accommodate itself to the new state of affairs without any undue or hazardous tension.

The introduction of too large an amount of paraffin is an extremely difficult matter to remedy, hence great care should be exercised in attempting to prevent such an occurrence. The best treatment of this condition is prophylactic, i. e., as cited above, numerous injections of small amounts in preference to single injections intended to remedy the entire fault. Paraffin, while soluble in a number of substances, such as ether, chloroform, xylol, benzine, etc., can not be acted on by these through the skin.

Smith reports one case in which it was necessary to remove some of the injected paraffin. He made a subcutaneous opening and endeavored to curette some of it away, but found that it had become so intimately embedded in the tissue that it was impossible to remove it without removing a large amount of newly formed connective tissue as well.

EMBOLISM.

9. Air embolism is a very slight danger in all cases in which a subcutaneous injection is made, but can be readily excluded by taking the precaution to expel all the air in the needle and syringe before introducing the needle beneath the skin—the same as is done every day before hypodermic injections are made, i. e., hold the syringe erect, allow the air to come to the top, and then press on the piston till the air is forced out and the fluid escapes at the tip of the needle. But that this danger of air embolism is greatly exaggerated can be readily seen by referring to the experimental works of Senn and of Hare and also by the absence of symptoms of air embolism, after hasty and careless subcutaneous injections.

10. The introduction of paraffin into a vein, either directly or indirectly, and lung embolism as a result, is one of the most serious and consistent of the objections which have been raised against this line of treatment. Consistent, in that such cases have been reported by Pfannenstiel, Leiser and others, showing that the objection is not without foundation in fact. It is a fault which bears with equal force in any method of subcutaneous injection of a solid, semisolid or liquid, insoluble substance.

In Pfannenstiel's case, in which there was injected 30 c.c. of paraffin at the melting point of 45 C. (113 F.), the injection was followed by the typical symptoms of embolism, as described by the syphilographers, that has followed the injection of mercurials in oil, such as cough, chill, headache, vomiting, increased respiration and later dyspnea and cyanosis. The symptoms are usually very mild, death very rarely, if ever, occurring from this cause alone. In Pfannenstiel's case, the symptoms persisted for about one week and then gradually subsided with recovery of the patient.

Attention has been called, in this connection, to the experience of the dermatologists, with embolism after the injection of mercurial preparations suspended in liquid oils or paraffins. And from a review of the literature on that subject it would seem that embolism is far more likely to follow the parenchymatous than the subcutaneous injection, but in neither is it absolutely excluded, but apparently present in a small percentage of all the cases so treated.

This radical difference is to be noted between the injection of the liquid oil, as is done in treating syphilis, and the method under consideration. In the former the substance is in a fluid state, therefore absorption and emboli are more likely to occur than in the latter, where the injected substance is semisolid. With the injection of paraffin that emerges from the needle, as a worm-like string, and not in a fluid state, it seems that the danger of embolism may be very materially diminished, if not excluded. Comstock says: "In all cases in which paraffin was used at 102 F. the animals died within two weeks' time, hence the specimens at that temperature are limited (death being caused by thrombosis). . . . In all other cases, with the higher melting point, 110 F., no unpleasant results were experienced whatever."

Explanations of the accident in Pfannenstiel's case have been offered, such as: The temperature of the paraffin was too high, consequently it was injected hot and liquid, thus favoring absorption; or, the high temperature caused a coagulation of the blood in the veins, in this manner favoring the occurrence of thrombosis and embolism. Again, it has been said that so large an amount of paraffin, at so low a temperature, could not possibly harden when under the skin for some little time after the operation, and in this way make possible the occurrence of absorption and embolism. Other explanations are: That the injection was made parenchymatously instead of subcutaneously; that the injection might have been made directly into a vein.

For the prevention of embolism, it has been recommended that the injection be made into the subcutaneous tissue only and never into the parenchyma and that paraffin be utilized that has a melting point neither too high nor too low, this being best determined by seeing that the paraffin emerges from the needle, at the room temperature, in a worm-like string.

Stein says that all that is necessary to avoid pulmonary embolism is to avoid the pricking of a vein, and recommends that only subcutaneous injections be made, and that the needle be first inserted, and only after it has been demonstrated that no blood flows through it, should the syringe be attached.

Freeman says: "This danger may, perhaps, be avoided by using a blunt-pointed needle, after having first punctured the skin with a sharp one."

Paget advocates the application of a firm and close pressure all around the nose during the injection. Jukuff of Strausburg found unfavorable or fatal results experimentally, after the injection of over one-tenth of the body weight of the animal, or when the injected paraffin had a melting point below the temperature of the body. In the later instance, the autopsy invariably disclosed thrombosis in many of the smaller veins, and embolism of the lungs. Comstock concludes that paraffin must be used where it will be at all times above the temperature of the body, in order to prevent any danger from embolism.

UNDUE SPREADING OF THE PARAFFIN.

11. The paraffin, when first introduced under the skin, may extend to regions of the face that are normal, and not in need of this artificial substance. Such an exten-

sion to the loose areolar tissue of the infraorbital regions while injecting for the repair of a saddle-back nose is not uncommon. Such accidents are due to a hyperinjection, and care should be exercised, and only a proper amount of paraffin introduced.

Firm digital pressure around the nose, made by an assistant, may prevent such an occurrence. Paget states that this firm digital pressure may be helped by the use of a strip of lead or pewter beneath the fingers. Downie recommends the use of celloidin, as follows: Fifteen minutes before the injection he paints a band of celloidin (collodion will answer the same purpose) across the nose at the level of the eyes, and down each side of the nose, at the junction with the cheeks; this contracts and helps to prevent the paraffin from passing into the cellular tissue beneath the eyes. Immobility of the parts, and the local application of ice or cold, have been advocated as aiding in the more rapid setting of the mass, and in this way preventing its extravasation into undesirable parts.

12. Alter has called attention to a paralysis of the muscular action of the wings of the nose, resulting in impeded nasal respiration. He states that the current of air rushing into and through the nose carries with it an inherent tendency to draw the alæ septalward; this, however, in normal conditions is counteracted by the action of the dilators of the alæ nasi, viz., dilator naris posterior, dilator naris anterior, pyramidalis nasi, and the levator labii superioris alæque nasi. The modus operandi of this interference with the action of these muscles, according to Alter, is by compression, the presence of the paraffin interfering mechanically with their free muscular action, resulting in collapse or inward drawing of the wings of the nose during inspiration. He cites one case in which this interference with inspiration was very marked, after the injection of the paraffin.

As a preventive measure against such an occurrence, he recommends that an assistant make firm pressure on the wings of the nose, by placing a thumb in each nostril, and the making of counter-pressure on the outside with the index finger, this pressure being maintained until the nose has been molded into its proper shape.

13. There is but little danger that any of the paraffin will escape between the time of the withdrawal of the needle and the sealing of the wound puncture with collodion, if it is injected while in a semisolid state, as it should be. But it has been suggested that a piece of gauze soaked in ice water be placed over the nose before the withdrawal of the needle, and so hasten the setting of the paraffin and preventing its escape at the time of the withdrawal of the needle.

THE SYRINGE TO BE EMPLOYED.

14. Another annoying feature is the setting or the solidification of the paraffin in the needle before the injection is made, necessitating undue haste in the operation or great difficulty and force in the injection. To obviate this it has been recommended that the syringe be kept in a receptacle of hot water after being filled and until ready for use; or, a fine wire, such as is to be found in hypodermic cases, may be inserted into the needle to remove the obstruction. Downie winds the outside of the needle with a fine platinum wire, which is then kept hot by being connected with a storage battery. Eckstein places a rubber tubing over the syringe to keep in the heat. Karewski of Berlin has invented a syringe for this purpose, surrounded by a jacket through which circulates a continuous current of hot water.

In the writer's opinion, the best method to prevent this aggravating delay in the technic is by the employment of a syringe similar to the one described by Smith, and also used by Leonard Freeman, i. e., one in which the piston rod is surrounded by a coarse screw worm, and fitted on this rod is a metal thumb screw, which runs up and down, and is made to screw into the upper end of the cylinder of the syringe, at the volition of the operator. When the thumb screw is not fitted into the cylinder the piston works up and down, as in an ordinary syringe, and any liquid can be drawn up and expelled readily by manipulation of the piston; but when the thumb screw is put into place it becomes necessary to screw the piston down, and by so doing the paraffin is slowly and evenly ejected from the needle. By using a syringe of this character the necessity of an embarrassing haste and of a force, hard to apply, is dispensed with.

Before becoming familiar with the construction of such a special syringe the writer had improvised one by using the ordinary syringe with a screw worm on the piston rod, and on this screw a plate, which can be made to run up and down the piston rod. By a simple mechanism this nut or plate was fixed in place at the top of the cylinder of the syringe so that it could not turn. By screwing the piston rod we arrived at the same result as is achieved by the special syringe; that is, a uniform and steady pressure, with an equal and even advance of the paraffin, resulting in a regular and continuous, smooth emptying of the barrel of the syringe.

ABSORPTION OF THE PARAFFIN.

15. The point has been raised that the paraffin will serve as a temporary support only and soon disappear; that it will become absorbed or disintegrated. According to Gersuny, the mass of paraffin is not taken up by the lymphatics, but remains as an inert non-irritating body which soon becomes encapsulated and is subdivided by an ingrowth of newly formed connective tissue; the mass of paraffin finally becomes very finely divided and partially emulsified. These finely divided particles of the substance are first seen at the periphery of the mass and finally are absorbed, their place being by this time taken by new connective tissue, which gradually becomes harder, until it closely approaches the consistency of cartilage. This same chain of events has been noted, experimentally, by Juckuff.

This theory as to the ultimate destiny of the paraffin seems to be corroborated, and to coincide with the facts, in Smith's case, in which he endeavored to remove some part of the injected paraffin a number of months after the injection, and found that the greater part of it had become so intimately embedded in the meshes of the newly-formed connective tissue that it was almost impossible to remove the paraffin without also removing considerable of the connective tissue. Regarding this question, Stein believes that it is reabsorbed little by little, and replaced by connective tissue, so that the persistency of the plastic result is assured. And what confirms him in this opinion is that, whatever be the melting point of the paraffin—and it may vary considerably—the consistency of the nodule augments or diminishes by degrees, according to the case, so that at the end of a month or so, it is always perceptibly analogous to cartilage.

Freeman says encapsulation soon takes place, just as it does with a bullet or any other foreign body. A limited amount of connective tissue also penetrates the material, which is speedily converted into a solid cartilage-like mass.

Kramer has used melted agar-agar in subcutaneous injection for the production of connective tissue artifi-

cially, and has made interesting experiments on animals. On microscopic examination of the substance at different times he finds that the mass of agar at first becomes infiltrated with round cells, and that then these are replaced by vascularized connective tissue.

Comstock presents a most thorough and valuable work on the injection of paraffin, experimentally. He has made a most comprehensive study of the histologic and pathologic changes in the tissues of the body, and of the changes in the substance itself, after varying lengths of time and after the utilization of paraffins having different melting points. His conclusion is as follows: "In paraffin we have a substance that will fill in spaces of lost tissue, and not remain entirely a capsulated foreign body, but become a bridge work and, in fact, a part of the new tissue."

Downie injected some paraffin into a female breast one week prior to the amputation of that structure for malignant disease. After the removal of the breast, sections were made and examined. The paraffin was found in masses of various size located between collections of adipose vesicles, which were displaced by them. He infers that the paraffin had made its way along the lines of connective tissue trabeculæ, between the fat-containing cells. It is difficult for him to believe that the position of the paraffin would subsequently alter, to any extent, although its absorption seems quite possible.

Gersuny's first case was performed in May, 1899, and in the last report of that case, after a lapse of three years, there was noticeable no diminution in the size of the prosthesis.

This, with the other cases and experiments, would seem to indicate that if the paraffin is absorbed it is replaced by connective tissue, or if absorbed and not replaced by new tissue, it is absorbed so very slowly as to have no practical bearing on the advisability of operating by this method.

Granting that the prosthesis will gradually become smaller in time, from absorption or any other cause, repeated injections may be made at intervals, as the case may require, with but a small part of the inconvenience to the patient, as that which would accompany any of the so-called plastic operations in vogue before the introduction of the injection method, or, in the majority of cases, with less discomfort than will be associated with the persistency of the original deformity.

PREPARATION OF THE PARAFFIN.

16. To obtain a paraffin that has the proper melting point is something of a time-consuming and tedious procedure. The ordinary soft paraffin has a melting point of about 120 F., and this must be mixed with the white cosmolin, or vaselin, of commerce, which melts at about 100 F. The mixture is heated and its melting point determined by the following procedure, as recommended by Gersuny: The bulb of a clinical thermometer is coated with the mixed paraffins, and placed in a water bath, which is slowly heated until the paraffin melts and floats on the surface of the water; the heat is then removed, and the temperature of the cooling water noted, when the transparent drops of paraffin become opaque once more. If this temperature is not the desired one, the process must be repeated, after a recombination of the two paraffins, with the addition of more soft, if the melting point is too high, or the addition of more hard, if it is too low.

This tedious and objectionable experimenting in order to procure the proper mixture of paraffins has been rendered unnecessary by Dr. Harmon Smith of New York, who has had a paraffin prepared with the proper melting point in sterile sealed test tubes, and for sale in the market. It is advisable, as a regular procedure, to resterilize this commercial article by heating before using it. The paraffin prepared by Smith has a melting point of 110 F.

This brings us to a discussion of the question as to the proper melting point of paraffin intended for subcutaneous injection. Here we find considerable variance of opinion. Moszkowicz, Gersuny's assistant, states that the paraffin must have a melting point between 36 and 40 C. (97-104 F.). In speaking of Pfannenstiel's case, Moszkowicz said: "He injected paraffin with a melting point of 45 C., which is much too high." Parker utilized a paraffin with a melting point of 102 F. Leonard Freeman uses a paraffin that melts in the neighborhood of 40 C., 104 F. In Downie's cases the melting point varied from 104 to 108 F. Paget at first used a paraffin that melted at 136 F., then later one that melts at 115 F., and still later a mixture that melts at 111 F.

In the vast majority of the instances in which the method has been employed, the melting point has been in the neighborhood of 110 F. A higher melting point has been recommended and advocated strenuously by Eckstein, Karewski and others, the former placing the best point of liquidation between 56 and 58 C. (133 to 136 F.), and the other saying that the melting point should not be below 57 or 60 C. (134 to 140 F.). Paget says: "I am absolutely sure now that Eckstein's paraffin is without any real advantage. It is very difficult to handle, it sets very rapidly, it causes a gread deal of swelling and some inflammation, and may even produce some discoloration of the skin, and it yields no better results then does Pfannenstiel's paraffin, which melts at 115 F."

Comstock, after experimenting on animals with this point in view, says: "Paraffin must be used where it will be at all time above the body temperature." He also says: "In selecting the melting temperature point for surgical uses, allowance will have to be made for the difference in temperature between the rabbit and human species, which is about 4 F., making a choice of 106 or 107 F., the best for use in subcutaneous injections, for the reason that it gives a substance firm enough to hold very well its form, especially when confined by the surrounding tissue, and at the same time with a melting point out of the reach of the system at all times."

Some of the objections entered against the use of the harder paraffins are: Difficulty in manipulation at the time of the operation; heat and hardness, which are liable to favor the occurrence of irritation, inflammation or even necrosis; its liquid state at the time of the injection, which makes its localization more difficult and uncertain and which makes the formation of emboli possible. Paget calls attention to the fact that when the paraffin "sets" it shrinks, and the harder the paraffin the greater the shrinkage. Those preferring the use of the harder paraffin reply by stating that the softer mixtures, because of the longer time required for them to set, are more liable to extravasate, are less durable and permanent, and are more liable to form emboli.

Disregarding these theoretical points, from the literature, one must be convinced that the melting point most generally used is one between 105 and 115 F., though satisfactory results are not lacking in which paraffins of a higher melting point have been used.

SENSITIVENESS AND REDNESS OF THE SKIN.

17. A resultant hypersensitiveness of the skin over the injected area is a theoretical objection that has been

raised against this method of treatment, but which has not materialized in any of the available reported cases. There has been, in many cases, a slight painfulness, or rather a sense of fulness or distension, for a short time after the operation, and in some few cases a more marked painfulness existed for a longer time, but this invariably soon passes away and the sensation remains perfectly normal in every respect.

18. A redness of the skin over the injected area has been noted by many operators, but it has always been transitory in the reports of cases that have come under the writer's observation. Paget says: "In a few cases —but only in a few—some reddening of the skin has followed the injection, and in a very few this has been very slow to fade." These few cases occurred in a series of twenty-two cases, and we are not told whether it occurred more frequently after the injection of the paraffin with the high or the low melting point.

In one of the six injections reported with this small contribution to the subject, it will be found that this redness resulted and has been present for over a year, and during that time has diminished very little.

This resulting redness of the skin is the only objection of the many sources of failure or objections herein cited that I have found existent in my very limited experience.

(The conclusion of this article will appear next week with an article on the same subject by Dr. Harmon Smith.)

PRECISION IN THE DETERMINATION OF HUMAN PARASITES.*

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The ectoparasites of man are, generally speaking, well known, and many of them have been recognized from the earliest times. They are also easily determined, in the main, while, on the other hand, the difficulties to which they give rise are not, as a rule, serious, but yield readily to simple treatment. With the endoparasites, however, the case is precisely the reverse. They are not, as a rule, more than superficially known, and it is only recently that attention has been generally called to their number and the effects often serious which they produce in the human organism.

To be sure, a long series of such forms has been recorded in the past, and the serious effects of their parasitism has been emphasized in some quarters. Thirty years ago Leuckart[1] listed thirty-three species which had been found in man, and, in company with Virchow and a long list of other investigators, called repeated attention to the delcterious effect certain species exert. Braun's more recent work[2] discusses of certain and doubtful species 15 *Trematoda,* 20 *Cestoda* and 38 *Nematoda,* besides 30 to 40 *Protozoa,* which have been recorded from the human host. In studies on the various groups which I have recently published[3] this list is increased by two species, although the interval between the publication of Braun's lists and mine is not a year.

The various studies, however, have chiefly been made on forms found in the old world. Within very recent times these studies have begun to be extended over other lands. All the new forms recorded during the last five years have been extra-European, either new species peculiar to other lands, or new regions within which known forms have been found to exist. Perhaps the greatest advance has been in knowledge of the geographical distribution of human parasites. The large number of isolated cases of the occurrence of certain species has been supplemented by other cases showing more general occurrence or wider distribution, the results of which have been to demonstrate that these parasites are far more common and widely distributed than was believed heretofore. The accompanying table, which lists all human parasites of the various groups of worms heretofore recorded with a statement of the regions in which they are known to occur, will be of value as indicating the present knowledge on the subject. It has seemed to me best to confine the list to the worms, and to exclude the protozoan parasites for the double reason that the latter are very imperfectly known, and it would be difficult to present a satisfactory list, and, in the second place, that they are also more difficult to determine, even by the professional microscopist, and present insuperable difficulties to the ordinary practitioner.

It may be confessed at the outset that the table is probably incomplete. The individual records are much scattered, and in such form as to demand extensive critical editing. It would be improbable, then, that, even with the great care which has been exercised, all records should have been included. So far as the list concerns Europe and the United States, however, I think it may be said that it is most nearly complete, and includes all but the most obscure records up to the present date. It should nevertheless be borne in mind that one may certainly expect further evidence of the presence of some of these species in unrecorded regions and of the existence of new species in most of the regions of the world. Additional strength is given to this general premise by the discoveries which have been made within the past decade in these United States. Thus Thayer has demonstrated the existence here of the Indo-European *Strongyloides stercoralis.* White has discovered the Asiatic *Opisthorchis sinensis,* I have found the Asiatic lung fluke, *Paragonimus Westermanii,* and a new human tapeworm, *Tænia confusa,* while Stiles, in addition to records on the vinegar eel, *Anguillula aceti,* and other forms new as human parasites here, has contributed the most important of all these studies, namely, that on the widespread occurrence of a new hook-worm, *Uncinaria americana,* which is of great etiologic significance over large areas of our country.[4]

In the belief of the medical profession 200 years ago there was no disease, real or imaginary, which was not due to the presence and effect of some kind of parasite. Each ailment had its particular "worm" in its characteristic location. This was a direct result of the endeavor to reduce every malady to some definite cause, and from a joining of the unknown sickness with the parasites, of which they knew as little. Under the influence of study and of increase of knowledge regarding the parasites, such a theory was seen to be untenable, and the movement in the opposite direction began—a tendency which may be said by this time to have passed its height. In fact, there has prevailed during recent years among the medical men of this country an exaggerated idea of the unimportance of human parasites. It has been very generally maintained that the country was less infested than the old world, or that the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

1. Leuckart, R.: Die Parasiten des Menschen, 2 vols., Leipzig, 1876.

2. Braun, M.: Die tierischen Parasiten des Menschen, 3 Aufl., Leipzig, 1902.

3. Ward, H. B.: Cestoda, Nematoda, Protozoa, Trematoda, Wood's Reference Handbook of Medical Sciences, Revised edition.

4. Stiles, C. W.: The Significance of Recent Cases of Hookworm Disease, Eighteenth Annual Report, Bureau of Animal Industry

forms, after all, were of little significance in the etiology of disease. I am of the opinion that the discoveries referred to furnish ample grounds for a modification of the position of indifference heretofore assumed, and in the United States, but similar significance has not been accorded to most forms.

Recent studies, however, have demonstrated the presence of hemoglobin in the alimentary canal of many

PARASITE. (Scientific Name.)	Found as Human Parasite in: Stage of Parasite.	Found as Human Parasite in: Organ of Host.	Type of Parasitism.	Recorded Frequency as Human Parasite.	Geographical Distribution: Europe.	Asia.	Africa.	North America.	South America.	Australia.
Trematoda (flukes)										
Gastrodiscus hominis	Adult	Colon	Occasional	Twice		‡				
Fasciola hepatica	"	Liver	"	Rare	†	§		§	§‡	§
Fasciola angusta	"	?	?	Once					‡?	
Fasciolopsis buski	"	Intestine	Normal	Rare		*				
Fasciolopsis rathouisi	"	"	Occasional	Once		†				
Paragonimus westermanii	"	Lung	Normal	Abundant	§*	*				
Opisthorchis felineus	"	Liver	"	Frequent	†	†				
Opisthorchis sinensis	"	"	"	"		*				
Opisthorchis noverca	"	"	Occasional ?	Once		†				
Metorchis truncatus	"	"	Occasional	" ?		†				
Heterophyes heterophyes	"	Intestine	Normal	Frequent			*			
Dicrocoelium lanceatum	"	Liver	Occasional	Rare	‡	§‡	†	§‡	§	§
Schistosoma hæmatobium	"	Portal vein	Normal	Frequent	‡	§‡	*	§‡		§
Cestoda (tapeworms).										
Dibothriocephalus latus	Adult	Intestine	Normal	Abundant	*	*	†	‡		
Dibothriocephalus cordatus	"	"	Occasional	Rare	†			†		
Diplogonoporus grandis	"	"	"	"		*				
Bothriocephalus mansoni	Larva	Connective tissue	"	"		†				
Dipylidium caninum	Adult	Intestine	"	"	‡			‡		
Hymenolepis nana	"	"	Normal ?	Frequent	‡	†	†	†?	‡	
Hymenolepis diminuta	"	"	Occasional	Rare	‡			†	†	
Hymenolepis lanceolata	"	"	"	Once	†					
Davainea madagascariensis	"	"	"	Rare		†	†		†	
Davainea(?) asiatica	"	"	?	Once		†				
Tænia solium	Adult	"	Normal	Abundant	†	†	†	†		
Cysticercus cellulosæ	Larva	Connective tissue	Occasional	Rare	*					
Tænia saginata	Adult	Intestine	Normal	Abundant	†	†	†			
Tænia marginata	Larva	Connective tissue	?	Once ?				†?		
Tænia serrata	Adult	Intestine	Occasional	Twice ?			†?			
Tænia africana	"	"	Normal ?	Once			†			
Tænia confusa	"	"	" ?	Twice				†		
Tænia echinococcus (Echinococcus polymorphus)	Larva	Connective tissue	Normal	Frequent	*			†		†
Tænia hominis	Adult	Intestine	?	Once		†				
Nematoda (round worms).										
Leptodera pellio	Adult	Vagina	Accidental	Once	†					
Leptodera niellyi	Larva	Skin	Accidental ?	"	†					
Anguillula aceti	Adult	Bladder	Accidental	Rare						
Strongyloides stercoralis	"	Intestine	Normal	Abundant	†	*	*	†	†	
Gnathostoma siamense	"	Skin	Occasional	Once		†				
Filaria medinensis	"	"	Normal	Abundant	‡	*	*	‡	†	
Filaria loa	"	Eye	"	Frequent	‡		*	‡	‡	
Filaria volvulus	"	Lymph vessels	Normal ?	Rare	‡	†?	*			
Filaria conjunctivæ	"	Conjunctiva	Occasional	"	†					
Filaria lentis	Young	Eye	?	Uncertain	?	?				
Filaria restiformis	Adult	Bladder ?	?	Once				†		
Filaria hominis oris	?	?	?	"				†		
Filaria labialis	?	Lip	?	"	†					
Filaria lymphatica	Adult	Lymph vessels	Occasional ?	Twice		†				
Filaria immitis	?	?	?	Uncertain	†?	§		§	§	
Filaria bancrofti	Adult	Lymph vessels	Normal	Abundant	†?	*	*	†	†?	†
	Larva	Blood	"	Frequent						
Filaria magalhaesi	Adult	Heart	Normal ?	Rare					†	
	Larva	Blood								
Filaria perstans	Adult	Connective tissue	" ?	Once	‡		*		†?	
	Larva	Blood								
Filaria diurna	Larva	"	Normal	Frequent			†			
Filaria demarquayi	"	"	Normal ?	Rare				†		
Filaria romanorum-orientalis	Adult	"	?	Once	†					
Filaria ozzardi	Adult ?	Connective tissue								
	Larva	Blood	Normal ?	Rare					†	
Filaria kilimaræ	Adult	Body cavity	?	Once			‡			
Trichuris trichiura	"	Colon	Normal	Abundant	†	*	†	†		†
Trichinella spiralis	Adult	Intestine	"	"	†	†	†	†	†	†
	Larva	Muscle	"	"						
Strongylus apri	Adult	Lung	Occasional	Rare	†					
Strongylus subtilis	"	Stomach	Normal ?	Twice		†	†			
Dioctophyme renale	"	Kidney	Occasional	Rare	†			§‡	§	
Uncinaria duodenalis	Adult	Intestine	Normal	Abundant	†	†	†	†	†?	
	Larva	Connective tissue	"	"						
Uncinaria americana	Adult	Intestine	"	"				*	†?	
Physaloptera caucasica	"	"	?	Once		†				
Ascaris lumbricoides	"	"	Normal	Abundant	†	†	†	†		
Ascaris canis	"	"	Occasional	Rare	†			†		
Ascaris maritima	"	?	?	Once				†		
Oxyuris vermicularis	"	Intestine	Normal	Abundant	†	†	†	†		
Gigantorhynchus gigas	"	"	Occasional	Rare	†?			§		
Gigantorhynchus moniliformis	"	"	"	"	†					
Echinorhynchus hominis	"	"	?	Once	†					

Explanation of signs.—* Recorded from man; autochthonous to region. † Recorded from man; probably endemic, though often secondarily. ‡ Recorded from man; probably acquired elsewhere. § Recorded from some other host, hence possible in man. ? Record open to question.

in the treatment of disease call for more careful consideration of such forms as possible factors of etiologic significance. The clinical importance of parasites is generally recognized in such cases as bothriocephalus anemia, of which only a very few instances are on record nematode parasites, the pathologic effect of whose activities must be counted much more important than heretofore estimated by reason of this blood-sucking habit. Thus in cases of uncinariasis the amount of blood lost from myriads of minute hemorrhages imparts a char-

acteristic reddish brown color to the feces, the intestinal wall becomes seriously affected, and affords places of easy attack for any pathogenic germs which may be present. This indirect damage may be very serious in the individual instance, and may include primarily or secondarily undesirable regressive or progressive histologic changes, inflammatory processes and disturbances in the circulation.

Another source of danger from parasites is one which has long been surmised, but only recently demonstrated. A number of investigators have shown that various *Cestoda, Acanthocephala* and *Eunematoda* contain definite poisons (toxins) which, when extracted and employed, experimentally, affect particularly the nervous system and the formation of blood. The continued formation and giving off of such a substance would explain the apparently excessive results of parasitism in some instances, results which are shown prominently in reflex nervous symptoms. In a certain proportion of cases, pernicious anemia is the result of this toxic effect, and is accompanied by a mortality of 17 per cent., according to one report regarding *Bothriocephalus.* Whether the poison is elaborated by the parasite, or is produced by pathologic processes in the worm, or by its death, as well as the ground for the variability in the toxic action of different specimens, are questions as yet undecided. It has been shown, however, that the extracts from different species of helminths vary considerably in toxic power. Vaullegeard has isolated two toxic principles, one of which acts on nerve centers and the other on muscles, and many symptoms, produced experimentally by the injection of these substances, are analogous to those manifested in parasitic disease. According to this chemical theory, the troubles caused by parasites are due to the formation of toxic substances more rapidly than their elimination of the host, and their consequent accumulation in the system. A striking instance of the actual effects of parasitism on a large scale is set forth by Stiles[4] in his description of the general anemic condition and the lowered physical and mental vitality of the families and communities where *Uncinaria americana* is common. These considerations are sufficient to show the greater numbers and more serious effects of human parasites in our own country than has been conceded hitherto.

In the next place it is necessary to emphasize the importance of the accurate identification of human parasites. They are by no means all of equal etiologic rank; some are known to exert deleterious effects on the human organism, regarding the action of some much doubt exists, and there are others which are believed to be indifferent to man. Furthermore, even of those whose injurious effects are unquestioned, the results on the hosts differ notably, and the line of successful treatment differs equally. It is evidently important, then, to determine accurately with what species the practitioner has to deal in the individual instance. To-day no one would be satisfied to accept the diagnosis of "fever," and how can the diagnosis of "worms" be regarded as more sufficient?

In reaching a precise determination, the physician has to deal usually with what is purely a microscopic question. The data which are essential are obtainable only by the use of the microscope, and yet they are very easily secured. They do not involve any complicated technic or the use of high powers, and a series of time-consuming cultures is entirely unnecessary. The determination is most readily made from fresh material, and, while it should be repeated several times in order to exclude all possibility of deception or accident, it requires only a brief time and the use of comparatively low magnification. A consideration of the factors involved will make the matter clearer.

Evidence of the presence of parasites will ordinarily be obtained by an examination of the blood, sputum, urine or feces. The first three are very frequently examined in the diagnosis of disease, and, as a matter of fact, they rarely furnish evidence of parasitism. So far as I have been able to learn, fecal examinations are rarely made, and yet by them evidence of parasitism would be most largely furnished.

By means of such examination one finds sometimes specimens of the entire adult parasite; again, recognizable fragments of the same, its embryos, or its eggs. It is comparatively rarely that one encounters specimens of the entire parasite, and unless the latter is very abundant, such specimens may easily be overlooked if not of such size as to be readily visible to the naked eye.

The identification of the parasite by some recognizable fragment of the body is regularly made only in the case of the tapeworm, which is determined by the passing of segments or proglottids at stools. While the precise determination of the species of tapeworm from the separate proglottids is often a matter of more difficulty than ordinarily believed, the cases of confusion resulting therefrom are not such as to introduce any difficulties in the accepted treatment. In passing, it may be noted, however, that the determination of tapeworm proglottids as flukes on account of their active independent movements is a frequent error. The examination of such structures, even with a hand lens, will show the absence of features characteristic of the flukes.

The determination of embryos is not attended with difficulties, so far as the different groups are concerned. The individual species of *Filaria* have been but little studied, and are imperfectly known. These forms are probably rare in our fauna, unless it be in the Southern states, and methods of coping with them are yet to be worked out.

It is ordinarily with the eggs of parasites, if found at all, that the greatest difficulties in precise determination are experienced. This is, in large part, due to the inaccurate and insufficient knowledge concerning them. A comparison of the original sources with various manuals shows that serious errors in measurement have crept in and that mention of important and characteristic peculiarities has often been omitted. I have, accordingly, published elsewhere[5] a critical review of these features, with illustrations to which those interested may be referred for details. Here it is possible to review only certain general features.

The eggs of parasites may be distinguished on the basis of form, size, texture and other individual peculiarities. Any one of these elements is usually insufficient for specific distinction; but, with the exception of a few forms of rare occurrence which are imperfectly known, the group of characters enables one to make a determination. In reaching a decision, the observer should, however, keep in mind certain general points. In the case of tapeworm eggs, there are sometimes external membranes of a deciduous or variable character. Their presence in an extended or in a shrunken condition, or their absence, may alter greatly the external appearance of the eggs; the appearance and size of the inner membrane and of the included embryo are, however, relatively constant. The eggs of flukes and of

5. Ward, H. B.: Data for the Determination of Human Parasites, Trans. Amer. Micros. Soc., vol. xxiv, 1903.

round worms have only a single firm shell of chitinous character, and are in color usually a faint yellowish-brown, varying to darker brown. As the shell is firm, it can not be materially modified in size by pressure, although since the increase in width is relatively much greater, the proportions are noticeably altered. All eggs are not mathematically uniform in size; the range of variation is in most cases small, and the average readily obtained by measuring ten or a dozen specimens taken at random. The same comparison of a number of specimens will serve to eliminate abnormalities of the individual egg and to give a correct idea of the typical structure.

It is necessary now to call attention to possible results of the examination in the way of non-agreement of the forms discovered with the data at present known regarding human parasites. Such non-agreement may, of course, point to the discovery of a form new to the world, and most frequently has resulted in the description of the form under these conditions as a new species which has been duly baptized. Unfortunately, there are two other possibilities which are more frequently met with than the one just cited, and a disregard of them has led to great confusion. It may be, in the first place, that the species is new to the human host, but is one which is known from some other host. It, consequently, should not receive a new name, but should be discussed merely in the light of its occurrence under these conditions heretofore unknown. Such a species may be normal to the human host as well as to that from which it was previously known, but a considerable range of cases must be brought forward in order to demonstrate this fact. When only a single case of the occurrence of the parasite is determined, such new forms fall more frequently into the categories known as occasional parasites, and accidental parasites.

One may recognize among human parasites those which occur in their normal host, but in an unusual location, like the brain cysticerci; there are also many of the species listed which can not be regarded in any way as characteristic of the human host. Such are the occasional parasites which are species of true parasitic habit and able to attain normal development in the human host, but ordinarily not finding conditions favorable for their introduction. As an instance of such species may be mentioned *Fasciola hepatica,* the common liver fluke of the sheep, which in many regions of the world is extraordinarily abundant. That it can thrive in the human system is demonstrated by the score or more of definitely recorded cases of its occurrence there, but its infrequence is equal evidence of a general immunity on the part of man, lacking in these particular cases, or of some special feature in its life history which makes the infection of the human host difficult. That the latter is the probable explanation may be inferred from the fact that the cercaria larva, liberated from the intermediate host, encysts on plants and, hence, could only reach the human alimentary canal under unusual circumstances. Similar examples may be taken from other groups of parasitic forms, such as the rare occurrence in man of *Strongylus apri,* one of the commonest parasites of the pig in Europe, or of *Dipylidium caninum,* the cosmopolitan tapeworm of both dog and cat which has been reported only rarely from man.

Such occasional parasites often occur under abnormal conditions; thus, a fish nematode, *Ascaris clavata,* was discovered once in the hollow tooth of a man. Here the position was probably accidental, but in other cases it is the result of the action of the parasite itself. So the red spiders, or "jigger" mites, of the central states bury themselves in the skin of man, although such a position is so clearly abnormal that, in fact, it destroys the chance of development and costs the parasite its life. A small leech, *Limnotis nilotica,* common in the circum-Mediterranean area, is often drawn into the throats of men and other animals drinking at wayside pools. It usually retains its position, causing serious difficulty, until removed by operative interference; hence it has become an occasional parasite of man rather than as most leeches, a temporary parasite; or one may regard it as falling in the next following group of accidental parasites. This example shows most clearly the narrow and somewhat artificial limits which separate these groups of parasites from one another. Of the mites also which have been reported a few times as obtained living from stomach, bladder and rectum, it is difficult to say whether they are occasional or accidental parasites of man.

There are also, rarely, other forms which usually occur free living, but which by chance are introduced into some organ in which conditions are such that they can thrive. They become thus accidental parasites, a group difficult practically to distinguish from the last, the occasional parasites, and yet presenting somewhat different biologic conditions. The recent discovery by Stiles and Frankland, as well as others, of the vinegar eel, *Anguillula aceti,* as an apparently successful colonizer of the bladder in a female patient, illustrates the type under consideration. There is little doubt that this parasite was introduced through the use of vinegar in vaginal douches and effected a successful colonization, possibly by virtue of the trace of albumin present in the urine which furnished the worms with nourishment. Equally striking is the case of Scheiber, who discovered *Pelodera pellio* in the urine of a female patient in Hungary. This typical slime-inhabiting nematode gained entrance no doubt through the application of mud poultices, which are commonly employed by peasants in that region. It should be noticed that such accidental parasites are necessarily confined to those groups of animals which have free living forms. Such are *Protozoa, Nematoda* and, perhaps, *Insecta* in the larval condition, while *Cestoda* and *Trematoda,* which live only as parasitic forms in some host, would become rather occasional parasites of man should they stray into the human system in some chance manner and find favorable conditions for existence.

Another type of animals found in man is quite distinct from those just considered. They are known as pseudoparasites and rank high in clinical importance. Among them one may recognize several very distinct classes. First, those which are actually free living animals, introduced by accident, usually in food or drink, into the human alimentary canal, and exciting there abnormal conditions which induce their more or less immediate and forcible expulsion. Thus Botkin found in the vomit of a Russian numbers of a small nematode which he wrongly believed to be a human parasite. In fact, it lives normally in the onion, and its introduction into the stomach with this food excited the untoward symptoms noted. Similarly, Blanchard records a case in which coleopterous larvæ were found in the vomit of a child.

That such may be the result of introducing a true parasite from some other host is indicated by several cases like that of *Ascaris maritima,* which Leuckart described from a single specimen vomited by a child in Greenland and which this author noted was very simi-

lar to *A. transfuga* of the brown bear. In all probability it was ingested with the viscera of some animal (seal?), though it may have been a species which had strayed into this unusual host only to make its appearance under the circumstances noted.

Of similar import are the cases of *Gordius*, the hair snake, which have been reported from man. In the adult condition this is normally a free living species, but about a dozen specimens have been taken from man after a supposed sojourn of from a few hours to fourteen days. Some of these have been vomited and others passed per anum. This form has often been passed off on the physician as a true parasite, and in one celebrated case at least as the Guinea worm.

In the same way one may find the explanation for other isolated cases of parasitism, even when the parasite is reported to have been passed from the alimentary canal. Thus Cobbold reported that larvæ of *Blaps mortisaga*, the English churchyard beetle, were found in fecal discharges, and many authors have recorded the presence of dipterous larvæ in the alimentary canal.

The majority of such observers has inclined to regard the larvæ as temporary endoparasites and to consider that they have accommodated themselves to the conditions present in the human host. Certain cases seem to show that these larvæ live for some time in the canal and often appear to evoke serious or even fatal disturbances; and yet the conclusions are open to grave doubt, for Calandruccio experimented extensively on two families, to which many of the supposed accidental parasites belong, and found that the ingested larvæ were regularly and promptly evacuated dead or dying, and in no case secured a footing in the canal.

Among the myriopods, about 40 recorded cases of pseudoparasitism have been brought together and discussed by Blanchard. In the large majority the animal was taken from the nasal fossæ, though in a smaller number it was actually obtained living from the alimentary canal, where it undoubtedly can exist for a brief time in spite of the untoward environment. The ingestion of such forms is purely accidental, the symptoms those of helminthiasis in general, and their stay at most very limited. They never show any evidence of adaptation to the new environment.

In some such accidental fashion other forms are sometimes introduced into various organs not connected with the alimentary system. Thus Trouessart reported the occurrence of a species of detricolous sarcoptids in the human testicle, where the mites formed an old colony in a painless cystic tumor.

In addition to the living animals of the types noted, the second class of pseudoparasites includes a large number of other structures which have been described as parasites. These may be considered conveniently in a few groups, the first of which includes bodies which are parts of the so-called host animal itself. Thus fragments of the arteria hyaloidea have been described as eye worms (*Filaria lentis, F. oculi-humani,* etc.); the supposed organisms of whooping cough are nothing more nor less than ciliated tracheal cells torn from the wall and found in the sputum in distorted form, while groups of small axillary and inguinal glands, hydatid moles and pacchionian bodies from the arachnoid have been frequently put on record as hydatid cysts.

Parts of substances used as food, both of plant and of animal origin, which have not been destroyed by the action of digestive juices, are also among the pseudoparasites of man. The radulæ of the common limpet have been reported several times from stools; the seeds of the mulberry were duly baptized as parasitic worms; and plant vessels and other similar undigested structures of peculiar appearance appear periodically as new helminths. That a differentiation of such structures is not simple appears from the account given by Stiles of the partially digested banana fibers, which closely simulate minute tapeworms. Some years ago Leuckart entrapped a group of research students in helminthology with the pulp vesicles of an orange which were found in a fecal examination.

In all of the cases considered above, it has been presupposed that the structures obtained actually came from within the human body. It is necessary, however, that the physician should have personal evidence of this, for there is another class of objects of which it can not be said. And these structures deserve brief mention in closing.

In determining the nature of unusual forms reported from man, it should always be kept in mind that in the absence of positive personal evidence, suspicion in cases of neurasthenia at least favors the deceitful introduction of such doubtful bodies. In many cases on record such things as earthworms, chicken entrails, etc., have been forcibly introduced into the rectum or vagina and have been subsequently reported by the attending physician as undoubted human entozoa of a remarkable character! Here, as elsewhere, the appearance of unusual structures should at once arouse the suspicion of the physician and call forth a most searching examination of the case in all its factors that any deceit be disclosed, or that in the event of the discovery of some rare parasite all conditions connected with its appearance be put on record for future use. Furthermore, it is important to preserve the fullest data in regard to any substances associated with it, as well as the food of the patient, whether usual or unusual, since in this way some hint as to the introduction of the supposed parasite may be found.

Finally, it is important to direct attention to the wisdom of preserving all doubtful material, whether new or not, in considerable quantities, and both the eggs and embryos, as well as the adults, or as many thereof as can be obtained. In case of doubt regarding the identification of species, or possible question as to the source, it is important that the material or some portion of it should be referred to some expert helminthologist for examination and verification of the result attained. It is always a pleasure to have the opportunity of examining such material, and to assist one's colleagues in any way in connection with such studies. In most cases, in fact, and especially such as deal with the occurrence of rare forms, or such as are new, it is desirable that such corroborative evidence should be secured before publication, for in this way is often prevented the confusion which arises from incorrect descriptions or from the publication of new names which are merely synonymous with those already known to science. As a matter of fact, the practitioner can hardly hope to be acquainted with the entire range of parasitic species, and if to the accurate observations which he records regarding the clinical side of the question can be appended the notes of some helminthologist who is in a position to give an expert opinion regarding the other side, the results are far more valuable to the world from their rounded scientific character and permanent value, than could be attained by the publication of either group of factors separately.

The large number of parasites in other animals which some unusual combination of circumstances may bring

into the human system makes it imperative that any supposedly new species be submitted to the judgment of a specialist before it is described as such. Only in this way can the discoverer avoid adding to the long list of synonyms which already burden the literature of this subject and render it so difficult for the investigator not a specialist in this particular line to find his way aright.

DISCUSSION.

DR. FRANK B. WYNN, Indianapolis—First, I want to refer to a clinical case in the practice of W. B. Fletcher of Indianapolis. A patient had suffered for a long period from seizures of an epileptic nature of severe type. Segments of tapeworms were found in the stools. After the administration of proper remedies the parasite was expelled and the patient had complete relief from all symptoms.

A word in reference to spurious helminths. I recently had sent to me by a physician worms alleged to have been passed in the stools of a woman. They were the larvæ of the bluebottle fly. As she was said to be passing these in large numbers, I asked for a second sample and found them different from the first. A third supply revealed still a different species. So my first suspicions were confirmed, that a hysterical patient was practicing deception on the Doctor.

Dr. Ward has referred to one feature of great practical importance, which I should like to emphasize if possible, and that is the errors of practitioners in dealing with supposed intestinal parasites. Some two years ago I received from a doctor some little dark threads, passed in the stools of a patient and thought to be worms. Since then I have received two other specimens, identically similar from different patients. Under the microscope were to be seen chains of large, amber-colored oval bodies. My first impression was that they were uric acid nuggets formed on a cotton fibril in the vessel where the excreta had been passed, and that the sharp points of the crystals had been dissolved off as the urine became alkaline. By and by I found spirals, proving the vegetable character of the bodies. The next point of interest to determine was from what vegetable they came. In conjunction with my botanical friend, John S. Wright, it was soon demonstrated that these dark strings were of the fibrovascular tissue of the banana, especially the older fruit near the core. Age or light leads to pigmentation of the rows of large parenchyma cells along the strings of fibrovascular tissue. (The specimens exhibited were reported to the Indianapolis Medical Society about two years ago.)

Shortly after this investigation I received another specimen supposed to be tapeworm. The segments were too long and slender, however, and instead of being square cut were oblique at the ends. I suspected they were vegetable in character, and on investigation they were proven to be cabbage, prepared as slaw. (Specimen exhibited.)

I want to call attention to another structure not rarely found in the stools which I had some difficulty in running down. Dr. Ward informs me that he had a similar experience. I refer to the fusiform and attenuated masses of cells found in the lemon and orange, which are not unlike the fluke. Some were sent to me two years ago, supposed to be parasites.

These experiences led me to start some of my students in the medical department of the University of Indianapolis to studying some of the more common fruits and vegetables used as articles of diet. The results are presented in the Scientific Exhibit. First, sections were prepared of crude vegetable or fruit. Secondly, fresh glycerin mounts were made of the same articles, as found on the table ready for eating. And thirdly, each student ate abundantly of the article assigned, and afterward his stools were carefully examined for remnants of the food taken. We found that a number of these examinations showed products which might easily be mistaken for parasites. The fibrovascular threads of the pineapple, rhubarb and celery are particularly apt to mislead, as will be readily appreciated from the specimens here exhibited.

The specimen I have here came from my own stools. I was surprised to find these long flakes, not unlike tapeworms. It proves to be paper. Paper intimately adherent to candy, meat from the butcher shop, bread, etc., is often swallowed unconsciously, is wholly indigestible and might be mistaken for the segments of tapeworm or membranous exfoliation of colitis.

DR. WALTER L. BIERRING, Iowa City, Iowa—In connection with the remarks made by Dr. Wynn, I would like to refer to an experience with the spurious tapeworm disease in Iowa during the past winter. Two specimens of material were sent to me from different parts of the state, in both cases being derived from the stools of children 5 years of age. Periodical attacks of indigestion were noted and when this tapeworm-like material was passed the child in each instance improved. One of the specimens came from one of the best physicians of our state, who entertained an idea that it might be a case of *Tænia nana* infection. After repeated examination of the material and suspecting it to be some vegetable fiber, I referred it to Dr. Stiles of Washington, who informed me that the tapeworm-like material was composed of undigested banana fibers. For the purpose of corroboration various tests were made in the pathologic laboratory, one of which consisted in giving test meals of banana and finding the dark-colored segmented fibers subsequently in the stool, and the other consisted in applying a 10 per cent. solution of potassium hydrate to banana, which brought the transverse fibers of the banana that are evidently indigestible out very prominently, also giving to them the dark color which they usually attain on exposure to the light.

DR. ALLEN J. SMITH, Galveston, Texas—I have found that almost every living thing is possessed of some parasite, and they have a widespread pathogenic influence. The subject is one obtaining greater recognition within recent years, as shown by the increasing prominence given it in pathologic text-books; but as yet in this country it has by no means had sufficient stress laid on it. There is not as yet sufficient demand for information on the lines of the paper just read to have called forth a single good text-book in our language. There are a number of excellent German and French works dealing in an authoritative and systematic manner with human and comparative zoöparasitology, but none in our own tongue (except the work written by Neumann for veterinarians and translated from the German). Within the past three years I have approached no less than six of the more prominent American medical book publishers with a proposition to publish a translation of Railliet's *Traite de Zoologie médicale et agricole*, but all declined on the ground of financial danger. I regret my failure, as the work in hand of many practitioners in this country really presents a great need for some standard work of the kind. As an illustration of the importance of the general subject, I call attention to the recent work of a number of observers in relation to the new American hookworm, *Uncinaria americana* (Stiles); a parasite first discovered in Galveston, and since then met by a number of observers in the southern and eastern parts of the country. The excellent work of Stiles, of the United States Public Health and Marine-Hospital Service, has demonstrated how this parasite is probably wholly or at least largely responsible for the miserable state of the well-known "poor whites," known so widely as dirt "eaters" in these districts, pale, large-bellied and thin, for the inertness and laziness for which they are so much criticised, as well as for really serious pathologic conditions in these people. Aside from its proper influences this parasite seems to seriously influence and perhaps modify the course of other diseases with which it may be associated; for example, it probably is an influence making malaria more persistent. From observations of my own, where the uncinaria and malarial parasites coexisted, I have noted the difficulty in getting rid of the malarial infection by the usual use of quinin until the intestinal parasites have been disposed of—a relationship perhaps depending on the influence of the latter in keeping at a low ebb the natural antagonistic powers of the body against the malarial organisms and thus permitting redevelopment of any hematozoa remaining after a course of quinin administration. This I have

so persistently noted that I feel the importance of seeking the coexistence of these intestinal parasites in the particularly obstinate, chronic and recurrent forms of malaria in these southern districts as possible influences in the clinical course of such a case.

Another example of the importance of the subject is the recent discovery in Texas and elsewhere of *Tænia nana*, a tapeworm known to be responsible for considerable intestinal disturbance, for the development of pernicious anemia and in various instances of epileptiform phenomena. Such instances of the importance of animal parasites might be indefinitely multiplied; and the importance of this branch of pathology is manifesting itself more and more as time goes on. The field, however, has by no means received the attention its importance deserves; and for one I feel anxious that it shall soon be represented by some adequate reference work in our own language, or some translation of one of the worthy European works annotated from an American standpoint.

DR. H. B. WARD, Lincoln, Neb.—I think Dr. Wynn's date of two years is the record for the banana fibers, though within that time Stiles of Washington, Bierring of Iowa and a number of men in different parts of the country have made the same discovery. One case to which I did not refer in the paper came to me last year in Nebraska, which has the further interest that the physician said it was a remarkable case of tapeworm, as it was found in the alimentary canal and also in the vagina.

One thing I should like to emphasize in closing. It has been mentioned again and again to-day in this and in other sections that there is a sad lack of fecal examinations. Last year a very well educated and a very bright and thoughtful physician in a city not my own permitted a patient to die of pernicious anemia without a single fecal examination.

UNCINARIASIS IN THE SOUTH.

FURTHER OBSERVATIONS.*

CLAUDE A. SMITH, M.D.

Pathologist to Grady Hospital; Demonstrator of Pathology and Bacteriology, Atlanta College of Physicians and Surgeons; Professor of Pathology and Bacteriology, Southern Dental College.

ATLANTA, GA.

Since presenting the paper before this Section at the meeting in Saratoga last year, in which I reported three cases of ankylostomiasis, or uncinariasis, the first case being found postmortem, in December, 1901, and the other two being mild cases found among the negro convicts working in the brickyards near Atlanta, I have found this disease to be exceedingly common from the Carolinas to Texas. I make this statement as a result of examinations of medical students at the Atlanta College of Physicians and Surgeons, at the Southern Dental College, patients sent to Atlanta from the adjoining states and a systematic examination of all the patients in the Grady Hospital for the past year. However, very few cases have appeared at the Grady Hospital for the reason that all the patients in the public wards must be residents of Atlanta, and, as this is a disease of the country and not of the city, we would not, therefore, expect to find many in the hospital. Since the postmortem on the case reported last year, I have made fifty postmortem examinations at the hospital, and among these have had only one case of uncinariasis.

This disease is found in the mountains as well as in the lowlands, but is more common the farther south you go, as the conditions for the production and development of the larvæ are more favorable. The disease is very common in regions where the chances of contamination of the drinking water with surface drainage is very slight.

The disease may occur at any age, but is more commonly found in children. The cases seen by me range from three years to over fifty years of age. It is more common in males than females, and is usually found among the children of the lower classes, but I have seen several cases among the better class. It appears to be more frequent among the whites than the negroes. It is a disease of the country, and the possibility of its presence should be considered in all patients who give a history of having resided in the country or small villages within seven or eight years. It prevails where unsanitary conditions abound.

The eggs of the parasite are passed in the feces of persons affected with the disease, and these feces, being deposited about on the earth, furnish the original source of infection. The life history of the parasite found in the dog and the one found in man is very similar, but I have not been able to infect one from the other.

I have found the eggs in the stools of a dog, and a careful postmortem examination showed only three of the worms in the intestine of the dog. This shows that no matter how small the number of worms may be, it is possible to find the eggs in the feces. Practically, the same thing applies to the parasite found in the human intestine, as one case disclosed only seven worms postmortem. It is possible for one experienced in making these examinations to give a fair idea of the number of worms in the intestine from the number of eggs appearing in the stools. They can be estimated with a greater degree of accuracy in this way than by the symptoms of the patient, as a comparatively small number in one person will produce severer symptoms than a larger number in another person.

A live uncinaria removed from a dog under chloroform was seen by me to discharge 22 eggs in one minute, and while this was taking place there was no appreciable diminution in the quantity of eggs contained in the uterus of the worm. This gives us some idea of the great number of eggs which may be thrown off by one worm.

As a rule, the eggs do not hatch while in the intestines. I have found the larvæ hatched out in only two specimens of feces. Usually, it is necessary for the eggs to become mixed with earth before they will begin to hatch; that is, they seem to need air. The eggs can be hatched without any difficulty if the feces containing the eggs are mixed with sufficient earth or sand to destroy the odor of the feces. They will hatch in from twelve to twenty-four hours, or longer, depending on the temperature and moisture; too much moisture inhibiting their development.

They are destroyed by freezing, as also by drying, but they must be thoroughly dry, the least bit of moisture preserving them. Feces which are perfectly dry on the outside will be found to be moist in the interior and the eggs there still preserving their vitality. In warm weather, if the eggs are kept in moist feces, I have been unable to hatch any of them after two weeks. In hatching, I have observed the larva emerge tail first from the egg.

For the first day or so the larva is rather sluggish, but as the first sheath appears it becomes more energetic and is extremely lively at times. If in water alone it wiggles at a lively rate, but does not make much headway, but if imbedded in earth or sand, where it can obtain a foothold, by a sinuous motion it darts through sand at a lively rate. These periods of activity are of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

variable duration. The larva will move quite lively for from a few minutes to half an hour or more, and then it will straighten out and lie perfectly still for a corresponding length of time.

Freezing destroys the larvæ, as will also drying. However, it should be remembered that soil which to the naked eye appears perfectly dry will, on examination with the microscope, be found to contain a small amount of moisture, and such an amount as is sufficient to preserve the vitality of the larvæ. But, if they do become thoroughly dried, if only for a moment, they can not be revived. Knowledge of the conditions under which these larvæ exist are of great value in determining when and how the disease may be contracted. When we remember that it freezes every winter throughout the South down through the northern part of Florida, we can readily see that the disease could not be contracted in the winter; also, as drying destroys the larvæ, their existence is a very precarious one. However, during the warm summer months, when there is a rainy spell, the ideal conditions prevail for the development of the larvæ, and so this is the time at which we would be most likely to encounter them.

The next point which concerns us is, how do they reach the intestinal canal? It was not suspected until the last few years that it could reach the intestines other than through the mouth, and especially as moisture is necessary for the existence of the parasite it was supposed to gain entrance principally through drinking water. However, since Looss has demonstrated that the larvæ may pass through the skin, and Bentley has attributed the pani-ghao, or ground itch, to the larvæ, it has opened up new avenues for investigation. At first consideration of this view I was loath to believe that the parasite could gain entrance by passage through the skin, as it appeared to me more probable that it made entrance through drinking water. But after a careful observation and investigation of the habits of the larvæ and of the disease itself as it exists, I was forced to the opinion that in the great majority of cases they gain entrance through the skin of the feet, and that the true ground itch is simply the manifestation of this passage. There is no doubt that some cases may be produced through drinking water, but my observations of the development of the larvæ and the conditions surrounding the disease have led me to believe that this is the exception and not the rule. That infection could take place through dirt on the hands and then taken into the mouth I am also inclined to believe is the exception, even more so than infection through drinking water, for it is likely that the larvæ would become destroyed by drying before they would be taken into the mouth.

Ground itch is the most common disease in the South, and the majority of cases are never carried to the physician, but are treated with home remedies. It appears in the summer and always as a result of going barefoot in wet weather. In many sections in the South it is thought to be the result of being poisoned by the dew, but it is always contracted at the time when the ground is damp, which is the condition most favorable to the development of the larvæ of the uncinaria. In some districts they take great pains to try to keep the children indoors during rainy weather, and especially when it rains several days, so as to prevent them from having this ground itch. One patient told me that he was fond of wading in ditches after a rain, and he was sure that the foam which collected along the sides of the ditches contained the "poison," as he always had an attack from wading in that foam.

The first symptom of ground itch is an itching between the toes, which begins after going barefoot in the mud. It may appear at one place between two toes, or it may appear between all of the toes, and also under them, and in some cases may extend up some distance on the foot. This itching increases and the skin becomes very red, and finally small vesicles are formed. The itching continues and these vesicles are usually ruptured, leaving a raw weeping surface. The itching is generally excruciating, and the condition may last two, three, four or more weeks.

The following is some of the evidence in favor of the ground itch being the method of entrance into the human body of the larvæ:

Every person who has had true ground itch within seven or eight years will have the eggs of the parasite

Case 1.—17 years of age. Case 2.—15 years of age.

These two are brothers. Examination of stools showed a great number of eggs of uncinaria in stools of No. 1, and comparatively few in stools of No. 2. This illustrates the lack of development in the extreme type of uncinariasis. No. 1 is two years older than No. 2, yet presented the appearance of a boy of 12 years, with no development of sexual organs. No. 1 is unable to do any work, while No. 2 is apparently as vigorous as other boys.

in their stools. This time limit is not positive as yet, but the evidence points strongly to a limit of about seven years.

You can form a fair estimate of the number of eggs that you will find in the stools by taking a careful history of the severity and extent of the number of attacks of ground itch. For example, if a patient gives a history of having had a number of attacks of ground itch which involved all of the toes and possibly a portion of the feet, you will find a great number of eggs in the stools of that patient. In the last postmortem in which I found the uncinaria in the intestines, I saw the patient

just two days before her death, and in getting her history learned that she had had an attack of ground itch about four or five years previously, but she informed me that she did not have it very bad, as it existed only in one place between two toes. A careful search at the postmortem examination disclosed only seven of the worms. I have seen only two cases of the disease which did not give a history of having had ground itch within seven years. They were two dental students who lived at the same place in Florida, and they were both sure that they had not had ground itch for fourteen or fifteen years. However, their drinking water was obtained from wells only three or four feet deep and which overflowed every time it rained. These were probably infected through drinking water, but in both cases the infection was very slight, as it required careful search to find the eggs in the stools, as they were so very few in number.

Case 3.—White; male; age 17. Skin resembles yellow parchment; mucous membranes blanched; appetite poor; sleeps fairly well; has severe griping of bowels at times; badly constipated. Red corpuscles, 1,672,000; hemoglobin, 22 per cent. Notice lack of development of sexual organs. Has had "ground-itch" so many times that can not recall any year that he did not have it. Stools contain eggs of uncinaria in great numbers. Barely able to get about, and unable to do any work.

Many of the cases of the disease were suspected and located only on finding a history of having had ground itch within seven years. One was a medical student from the mountains of South Carolina, who presented a picture of perfect health, with a ruddy complexion, and who did not suspect that he had uncinariasis until he overheard a conversation about the relation of ground itch to the disease. He then came to me and told me that he had had a severe attack of ground itch about five or six years before, and on examination of his stools I found numerous eggs of the uncinaria. Examination of his blood showed: red corpuscles, 4,120,000, and hemoglobin, 95 per cent. After two doses of thymol of one gram each, eighteen uncinaria were found in his stools and no eggs were found a week later. It usually requires several attacks of ground itch, extending over a period of several summers, for sufficient numbers of the larvæ to get into the system to produce the extreme type of the disease.

A careful examination was made of all the members of a family of eight who had lived under the same conditions, drinking the same water, etc., and this showed that those who had been keeping the feet protected for over eight years by wearing shoes, and who had not had ground itch during that time, did not have the eggs in their stools, while all who had had ground itch within that time had the eggs in quantities in direct proportion to the number and severity of the attacks of ground itch.

You may take the history of some of the cases which have at one time been in the extreme stage, and you will find that they had attacks of ground itch year after year, or probably skipping a year now and then, and they would get worse from year to year until they had had attacks covering a period of seven years or more, and

Case 4.—White; male; age 7. Skin yellowish-white; mucous membranes blanched; appetite poor and perverted; bowels constipated; shortness of breath; loud hemic murmur; can not walk over 200 yards at a time; headache and vomiting every morning; stools contain an abundance of eggs of uncinaria. Red corpuscles, 1,208,000; hemoglobin, 10 per cent. Has had "ground-itch" every year since able to walk. Has had whooping cough, but no other sickness.

probably they were old enough by that time to begin wearing shoes in the summer time, and, therefore, those parasites which first gained entrance into the body would have passed through their allotted period of existence and would die out, and by the patient wearing shoes, additional larvæ would fail to get into the body, and as each following year more and more of the uncinaria would die out, the patient will give a history of gradual improvement, and his body will begin to take on a vigorous development. There is no difficulty in finding plenty of these cases which give a history of having once been extremely pale and anemic, but have "outgrown" it.

The disease gradually disappears after they stop going barefoot.

The number of the uncinaria in the intestines varies from a few to several hundred. The number is nearly always in direct proportion to the number and severity of attacks of ground itch. A few of the uncinaria may produce no apparent effect on the patient, but it no doubt renders the patient more susceptible to infection as a result of the interference with the nutrition. Severe infections produce various grades of anemia. The blood counts show all stages; some being so severe as to produce dizziness, hemic murmurs and the weakness which accompanies such conditions. These extreme cases are usually emaciated, but the emaciation may not be apparent at first on account of edema. In the extreme cases the skin is of a yellowish-white parchment color, and over the exposed portions of the body, as the cheeks and hands, it appears to be much thickened. The mucous membrane also presents a yellowish-white blanched appearance, and examination of the blood often shows the red corpuscles as low as 1,100,000, and the hemoglobin down to 10 and 15 per cent. If this severe condition is reached about the time of puberty, the sexual development does not take place, and it is not uncommon to see boys 17 and 18 years of age who are dwarfed and whose genital organs have the same appearance as those of a boy about 10 years of age. Also, you will find girls 18 years of age in whom there has never been any effort at menstruation, and who present no evidence of development into womanhood. We must remember that these are the extreme cases. They are the ones which give a history of numerous and severe attacks of ground itch, usually having it for a number of years, and members of the same family who are living under exactly the same conditions, but who have not had so many, nor such severe, attacks of ground itch will have only a small number of parasites in their intestines, and practically no interference with their development.

It is a most pitiable sight to see these severe cases in bright children who are unable to walk 200 yards without being almost completely exhausted and who have to sit down and rest before they can go further. They are unable to play the games with other children, but must drag out their lives sitting and lying around, watching the other children in their games and yearning for the strength to join in with them. Sometimes they succumb to additional infection of the uncinaria, or to attacks of other diseases.

In their earnest desire to be cured and become strong like other children, they are willing to undergo any treatment which will offer any chance of doing them good, and often you will find that they have made the rounds of all physicians in their district, but to no avail. I recall the case of one poor boy who was barely able to drag himself about, and on being told that there was a chance of something being done for him, he arose early in the morning only to find that the rain was pouring in torrents, but, nothing daunted, he dragged himself all alone three miles through the pouring rain to the physician's office, drenched to the skin and shivering with cold, but willing and anxious to begin at once with any treatment that offered any chance of doing him good. That was only three weeks ago, and since then his improvement has been remarkable, as he is now at work again on the farm.

Every country practitioner in the South has more or less of these cases of anemia in his practice, and sometimes they will improve slightly with prescriptions of iron, arsenic, etc., but with no permanent results.

The poor farmers throughout the country who have a house full of children to support are dependent to a great extent on the assistance of these children to make sufficient for their maintenance, and when the children are affected with this disease and are unable to assist him to any extent, but rather instead are a burden to him to pay their physician's bills and supply medicine—these are the ones who often seek the cotton mill, where most of the children, although dwarfed and stunted and incapable of severe exertion, yet have sufficient strength to sit at a loom and do light work about the mills. While it is deplorable that child labor is not better controlled, and, while I believe in giving the devil his dues, yet we should, at the same time, be just, for no doubt many of the cases of children whose lives are supposed to be blighted in the cotton mills, were blighted before they went there, and the confinement and tedious work is but assisting in the work of destruction already begun.

We read our statistics of the destruction wrought by the dreaded tuberculosis and pneumonia, etc., but we have here a disease which is literally sapping the life-blood of the South. But, unlike tuberculosis and pneumonia, etc., we have for this terrible disease an easy means of diagnosis, and a cure which is simple and certain. All that is necessary is for the physicians throughout the country to become familiar with the diagnosis and treatment.

Before treatment is instituted, a positive diagnosis can only be made by the examination of the stools for the eggs, and one experienced in examining these stools with the microscope can get a better idea of the number of parasites in the intestines than from the symptoms of the patient.

The treatment is very simple, but to be thoroughly effective certain precautions should be observed. Two doses of thymol finely powdered of one or two grams each are to be given about two hours apart. The first dose should be preceded several hours by a dose of some purgative, and followed by the same. One very important point is that no food must be taken into the stomach from the time of the first dose of the purgative until after the second is taken. The plan is as follows: A large dose of salts is given at night and the next morning at 8 o'clock two grams of *finely powdered* thymol is given, and two hours later a second dose of two grams, and two hours after this a large dose of salts is given. I lay stress on having the thymol finely powdered and no food being taken into the stomach between the administration of the purgatives. In some instances this treatment is not thoroughly effective, and a microscopic examination of the stools should always be made about a week later, and if eggs are still present, the treatment should be repeated.

In the postmortem examinations of the human intestines containing the uncinaria, I have noticed that the parasite is not so firmly attached to the intestinal mucous membrane, and also that it does not seem to lacerate the mucous membrane, or leave the white central spot with the hemorrhagic area surrounding it, as described of the old world parasite, and also of the parasite in the dog. We can readily understand this when we bear in mind the structure of the oral cavity of the uncinaria, as given by Dr. Stiles, showing that it does not have the little hooklets which are found in the old world parasite and the dog in this country, and, therefore, does not become so firmly attached or so severely lacerate the mucous membrane.

The prophylaxis of this disease is very simple. It is not necessary to boil the water for drinking purposes,

unless the water has been contaminated by surface drainage after a rain. If every person will wear shoes which thoroughly protect the feet in rainy weather or in damp places, there is very little chance of infection.

To determine whether the parasite which infects the dog in my section would exist in the human body, I administered successive doses of the larvæ of this parasite to a negro boy 19 years of age (of course, with his consent), beginning the first dose July 11, 1902, when the larvæ were four days old, and continuing about every two weeks until October 14, using larvæ from the original culture made July 7. The patient disappeared October 14, but examinations of stools two days before that were negative.

In making these investigations, I was much indebted to Dr. S. H. Green of Bolton, Ga., and Dr. C. D. Redding of Warthen, Ga.; also to Drs. J. A. Randall, W. E. Persons, C. D. Jeffries, O. T. White and W. A. Selman, of the resident staff of Grady Hospital.

DISCUSSION.

DR. H. B. WARD, Lincoln, Neb.—Dr. Smith has gone further than any other investigator with reference to the life history. It is of the utmost importance that the method of introduction into the body should be known, as well as the interval between the various stages of development. Dr. Smith has investigated the relation between ankylostomiasis and ground itch so thoroughly as to leave little doubt as to their probable connection. I think the probability is very strong indeed. One of the latest investigators records the fact recently in one of the German journals that he has succeeded in infecting the skin with the larvæ. The larvæ were placed on a member which was about to be amputated. When the skin was sectioned after the amputation the larvæ were found to be penetrating the skin along the line of the hair follicles, and they could be made out in the sections. Some had gone in as far as the subdermal tissue. I think that is the first instance where the entrance of the larvæ has been thoroughly established.

Another point deserves brief mention. The experiments of Looss on dogs shows conclusively to my mind that the infection can not be contracted through drinking water. Where the dogs were fed on infected water the larvæ passed through the canal, except a few which bored into the wall of the esophagus and went down into the tissue, where he got the three stages of development. Those which traversed the canal did not attain the adult condition, but those which got into the tissues attained at least the later larval stage.

I presume Dr. Smith has already thought of it, but it would seem to me that in the region where ground itch prevails he might succeed in some postmortem in getting a portion of the tissue from one who had been recently infected with ground itch, and sections made from this would throw light on the subject.

DR. CLAUDE A. SMITH, Atlanta, Ga.—I recognize the fact that the results so far are somewhat incomplete, and that we have not been able yet to obtain positive proof as to the transmission of the disease. Experiments are being still carried on, from which we hope to obtain more satisfactory results. Until then it can not be stated positively that the infection does get into the system through the feet, but from the evidence of cases I have seen I feel positive that this is so.

As to the question of postmortem of subjects who have had ground itch, it must be remembered that these cases are nearly all in the country, and you know how difficult it is to get permission to hold a postmortem in the country, especially in the case of children. They even object sometimes to examination of the stools.

I hope in the near future to be able to present the proof of the transmission of the disease.

To Remove Plaster-of-Paris Bandages.—Acetic acid brushed in a line over the bandage will render it soft, and in a few minutes it may be cut with an ordinary knife.—*Applied Med.*

OCCURRENCE OF THE STRONGYLOIDES INTESTINALIS IN THE UNITED STATES.

MARSHALL LANGTON PRICE, M.D.
BALTIMORE.

(*Concluded from page 655.*)

RHABDITIFORM EMBRYOS.

As the parasite occurs in the stools as the rhabditiform embryo, and probably never in any form (excepting rarely after a purge, when the passage of the parthenogenetic mother worm has been reported by one or two observers), it follows that the thorough understanding of this form is most essential to diagnosis; and I have, therefore, described it below at some length.

In a properly prepared specimen the embryo appears as a clear, almost hyaline, nematode, completely transparent and possessed of a very active motility, swimming among the granular detritus, and pushing aside the smaller obstacles in its path, and turning aside to pass the larger ones, when its progress is arrested by an obstacle of considerable size. The consistency of the nematode seems scarcely to exceed that of protoplasm, the parasite quivering like jelly with every movement, or when the microscopic stage was jarred or shaken. It appears to possess a considerable degree of irritability, and when aggregated masses of bacteria would lodge against its side, motions of the tail would be produced toward the offending object.

The structure appears granular. The parasite, on examination, is seen to consist of two portions, an outer clear portion or envelope, and an inner granular zone. The outer portion, forming about one-tenth of the transverse diameter of the parasite, is clear and homogeneous, with the exception of a few fine granules. The inner portion is markedly granular and is well organized.

With the death of the parasite the clear homogeneous structure is lost, the granules become larger and coarser and invade the outer envelope. Finally the whole parasite becomes uniformly granular and shrunken, its transparency is largely lost, and all distinction between the envelope and inner granular zone disappears. The parasite appears to undergo a rapidly granular degeneration as soon as dead.

The length of the nematode varies. The average is probably about 0.3 mm., the breadth 0.04 mm. The head is blunt and slightly conical in shape, and contains the anterior portion of the digestive canal. The body gradually enlarges from the head to its middle part, and then gradually diminishes in size to the thick and somewhat pointed tail. The head is largely occupied by the triangular or fusiform darker area of cells surrounding the digestive canal which passes from the cephalic extremity backward. This darker area becomes constricted as soon as the neck is reached, and after running for a variable distance in a uniform size, again expands into an ovoid or spherical area; leaving this, the canal again passes toward the caudal extremity. A slight fusiform dilatation occurs at about the middle of the body, the canal then passes on in its normal size until it reaches the base of the tail, where a saccular dilatation appears. This appearance, which has not been previously described, can be demonstrated in the majority of specimens by careful examination, and no specimen in which the parasites were numerous failed to show one or more in which this structure was evident. The intestine, much diminished in caliber, turns abruptly after leaving this inferior dilatation and passes to the side of the animal, where it terminates in a slight mammilliform projection. Just below the middle of the body, the in-

testine was pushed somewhat to one side by a large oval body, quite refractile and containing rather large granules. This represents the undifferentiated sexual gland. The intestinal contents are plainly visible in the intestinal canal and consist of fluid containing numerous small particles in suspension. Among these can be seen dead bacteria and portions of bacteria and the ordinary granular detritus found in the stools. The motion of the parasite aids the passage of the intestinal contents toward the caudal extremity, but peristalsis has been provided for in another way, to be later described. The motion of the parasite is constant and never ceases, except momentarily; the motion, indeed, seems necessary to the life of the parasite, and when it ceases the parasite soon shrinks and undergoes the granular degeneration already described. The motion of the parasite apparently acts in somewhat the same manner as the cardiovascular system in higher animals in promoting the interchange of the tissue juices.

The minute structure of the digestive system shows many interesting details. The canal begins, in many specimens, in a procephalic projection, which has a cup-shaped depression on its anterior end. The digestive canal passes through this portion, which is transparent and non-granular, and not being especially refractile, is difficult to demonstrate in all specimens. The canal, passing into the head, enters the anterior esophageal expansion, which consists of stratified squamous cells with oval or flattened nuclei. It then passes toward the tail until it reaches the second globular expansion, where it is suddenly lost, plunging, in fact, into the center of this mass. This globular mass is made up of large secreting cells containing fine granules, and a large centrally-placed nucleus. This organ appears analogous to a stomach, and probably furnishes the digestive juices. In the center appears a round, clear area, which is the cavity of the organ showing through the cell mass. It is in this situation that the tridentate chitinous armature described by certain authors makes its appearance. I have never been able to demonstrate any opening in this situation, and have never observed the ingestion or excretion of any of the intestinal contents by means of it. The appearance is like that of the small Greek letter gamma. (The upper limb appears to be formed by the intestinal canal showing through the cells, and the two lower limbs by the interval between two of the large secreting cells, whose angle corresponds to the angle of refraction of the parasite.) As soon as this secreting organ becomes continuous with the intestinal canal (as occurs in the filariform embryo) this appearance at once is lost. About the middle of the body the canal enlarges slightly and extends some distance downward before it again contracts. This portion of the canal is lined by distinct columnar cells with dark nuclei; this appears in analogy with the secreting organ to be the absorptive portion of the parasite.

The digestive canal may at times be seen to suddenly contract longitudinally. The result of this is that a portion of the canal becomes convoluted or S-shaped, and its lumen in this portion becomes narrowed, or even obliterated; acting in this way as an adjunct to the more constant peristalsis produced by the movements of the animal. The effect of the globular dilatation seen at the caudal extremity is presumably to delay the intestinal contents until they can be effectually acted on by the tissue juices.

MORPHOLOGIC VARIATIONS OF RHABDITIFORM EMBRYOS.

The variations of form of the *Strongyloides intestinalis* do not end with the four distinct types mentioned, but the embryonic forms, especially, show a number of other morphologic variations. It is important to realize this fact, as these variations may otherwise be mistaken for different species. Between the two widely varying types of embryos, viz., the filariform and rhabditiform, are found many intermediate forms. The youngest form of embryo is short and thick, the older specimens become longer and thinner, and in the shape of their bodies come to resemble the filariform type. The line of demarcation is, however, distinct between the two types in the structure of their internal organs. In one specimen observed both the filariform and rhabditiform embryos were found in the same specimen with others that in the shape of the body resembled the filariform, but were rhabditiform embryos. No marked variations occur in the filariform type, but variations in the rhabditiform embryos were frequent and occasionally marked.

In some of the embryos the intestinal canal was convoluted throughout. This occurred probably in less than 1 per cent. of the embryos observed, but in a single specimen examined two such were found. The esophagus showed a number of variations. Normally, the first esophageal enlargement was separated from the second by a considerable interval, the two portions being connected by the intermediate intestine. In one specimen, however, the interval was absent, the second expansion appearing at the lower end of the first. In this, as in a few other examples, the cephalic portion of the esophagus showed a double expansion.

In a few instances the embryos presented dark transverse striæ, alternating with lighter areas, the appearance being somewhat like that of voluntary muscle fiber. In these specimens the intestinal canal is usually convoluted, and along the outer and inner borders of the parasite appeared—corresponding to the origin of the dark bands—indentations, which became marked along the inner border when the parasite coiled.

It is probably an appearance similar to this which Strong describes as two longitudinal rows of muscle plates placed along either side of the central canal of the older rhabditiform embryos.

FILARIFORM EMBRYO.

The filariform embryo is about double the length of the younger rhabditiform variety; the capsule or ectodermic layer is thinner and more distinctly outlined than in the rhabditiform variety, and is more perfectly hyaline, containing only a few scattered granules. The inner granular portion is uniform in width. The two expansions seen toward the cephalic end of the rhabditiform embryo have disappeared; the oval sexual gland can not be distinguished; the inner portion is made up of round refractive granules like those of the rhabditiform variety, but larger in size; the intestinal canal ends relatively nearer the tail. The parasite moves very rapidly with a graceful undulatory motion.

CLINICAL HISTORY OF THE DISEASE: ETIOLOGY.

The etiologic factors other than the parasite have not been as yet thoroughly studied. Infection usually takes place by the mouth. It is probable that the parasite is usually introduced in this way as the filariform embryo. Leichtenstern caused infection experimentally in this way by administering filariform embryos to a human subject. Infection has been produced in animals by administering the eggs. The vehicle by which the parasites enter the system is frequently, no doubt, drinking water, but this does not appear to be the only means. Normand during his stay in China drank only water imported from Europe in order to avoid infection, yet he suffered

from a rather severe attack. Fresh vegetables, he thinks, may be a means of conveyance of infection, owing to the Chinese method of fertilization of land by human manure. Probably domestic fowls have a great deal to do with spreading infection, no doubt, through the mediation of fresh vegetables. Fowls are more susceptible to this disease than man, and the infection passes readily from man to animal, and may pass with equal facility from animal to man. Infection through the skin has been demonstrated in rabbits recently under Dr. Stile's supervision. For human infection the infective material must be of comparatively recent origin, as the parasite does not survive long external to the body, even under the most favorable circumstances. The influence of sex in this disease has not been carefully studied. All of the cases which have come under my knowledge in this country have occurred in men. The occurrence of other diseases and of local disturbances of function in the intestine seem to influence, if not the actual infection, at least the manifestation of its results. The frequency with which the disease is associated with uncinariasis, with amebic dysentery, and with other diseases, seems to be more than a coincidence. Climate influences, as already stated, both the frequency of infection and the severity of its results. The more severe forms of the disease are infrequent in temperate countries.

PATHOLOGY.

The pathology of the parasite is mainly taken from Thayer's fatal case and from Strong's later studies. The changes found in the intestine are sufficient to refute the views of those observers who claim that the parasite is innocent to man. The possible ways in which the parasite may produce harm are numerous. Calmette's supposition that the parasite may give rise to substances acting as chemical irritants assumes some probability in the occurrence of a small round-celled infiltration about the ova and parasites, in the crypts of Lieberkuhn. The reflex effects may be a most important pathogenic element; certainly the constant intestinal indigestion, with its attending diarrhea and malnutrition, can not be easily explained by the small amount of inflammation present. The sudden involuntary passages are certainly a reflex nervous phenomenon. We already recognize that the presence of *Oxyuris vermicularis* in the mucous membrane of the rectum is capable of producing in children many reflex disturbances, and it seems reasonable to suppose that the presence of a like irritant in the duodenum and jejunum can produce even more profound effects. Possibly some of the nervous phenomena observed by Sylvestri, such as vertigo, weakness and gastric disturbance occurring in connection with this parasite, may have been of reflex origin.

From Case 1 of Thayer's series Strong prepared sections of the intestine from which he was able to show the injurious influence of the parasite in the intestine. The microscopic appearances were both interesting and instructive. Both embryos, mother worms and eggs were found in the crypts of Lieberkuhn; no eosinophilia was observed about the eggs containing the crypts, but there was present a small round-celled infiltration and karyokinetic figures were observed in the surrounding epithelial cell. The following is a detailed description of the sections prepared by Strong:

Section 1.—Many eggs in various stages of segmentation, some containing embryos, seen generally lying in the bottom of the crypts of Lieberkuhn. In these crypts the epithelium is much compressed and often atrophied. The nucleus lies at the base of the cells, and about it no cell substance can be distinguished, as a rule. Some contain two eggs, and in such cases the epithelial cells seem markedly compressed and atrophied. About the crypts which contain eggs, particularly when they contain eggs which are segmenting or containing embryos not yet hatched, there are a few round cells about the crypt . . . In several sections where the egg has burst and the embryo escaped the epithelium of one side of the crypt has disappeared. About the crypt there is some proliferation, as is indicated by the karyokinetic figures seen in the nuclei of the surrounding epithelial cells . . . the underlying solitary follicles are somewhat swollen. In other crypts the egg rests on the basement membrane of the gland, the epithelium having (apparently) disappeared.

Not infrequently what appears (in transverse sections) to be small cysts are seen lying in the walls of the crypt, resting on the basement membrane. Apparently the eggs have disappeared from the crypts, leaving clear areas. There is no apparent infiltration with round cells about these so-called cysts.

Section 2.—Pieces of the adult female cut longitudinally and transversely. Not infrequently portions of the female containing the vulva may be seen just penetrating into the lumen of the crypts, while others are lying longitudinally or cut transversely in the bottom of the crypt. Occasionally slight round-celled infiltration is noted at the bottom of the crypts containing parasites, and the solitary follicles are slightly swollen. . . .

Section 3.—Many of the crypts contain embryos. In these crypts there is generally flattening and atrophy of the epithelial cells . . . the embryos appear to compress the epithelium . . . mitotic figures and small round cells are seen without the crypt. In several sections embryos are apparently bursting out of the crypt and have desquamated epithelial cells lying about them. One section shows an embryo beneath the epithelium of the villus.

Teissier, in 1895, reported a remarkable case, in which the embryos of the *Strongyloides intestinalis* apparently appeared in both the blood and stools. On account of certain differences in his description of the parasite, and in the observations which he made on it, Thayer concludes that he was dealing with a parasite distinct from the strongyloides group. These differences were mainly as follows: (*a*) The finding of sexually differentiated forms in the fresh dejecta, as well as in culture specimens. (*b*) No internal structure could be demonstrated in the embryonic forms seen in the blood and the smaller forms found in the stools. (*c*) But one spicula was noted in the male form.

In addition to these differences, Teissier, in inoculating experiments on frogs, succeeded in producing metastatic foci in the intestine and lungs, which latter contained giant forms.

After discussing these differences, Thayer advances the supposition that the form of parasite with which Teissier was dealing was the *Ascaris nigrovenosa*, which corresponds closely to Teissier's description, especially in the occurrence of giant forms in frogs.

SYMPTOMS.

The symptoms are those of a more or less continuous diarrhea, characterized by periods of remission, which sometimes exceed one or more weeks' duration. The onset is gradual, and it is some days, or even weeks, before the diarrhea is fully established. The presence of the parasite may be attended by no symptoms for an indefinite period, and none may ever present themselves. As the diarrhea becomes fully established, the evidences of intestinal indigestion appear; certain articles of food will not be digested or absorbed in the intestinal canal. Reflex gastric disturbances may occur; there is occasional heaviness and eructations and slight nausea; vomiting occurs as a symptom in some cases; usually only the severer ones. During the height of the attack the move-

ments increase from twelve to fifteen, or twenty-five per day.

A striking characteristic of the diarrhea is the absence of pain, tenesmus, or any violent depression, such as occurs in other intestinal diseases attended by frequent and copious discharges. Mucus occasionally occurs in the stools, but is always small in amount; in a few cases a trace of blood is present at the onset. The diarrhea may suddenly assume a dysenteric or choleriform character, with purging, vomiting, cyanosis and collapse. This is in many instances due to the concurrent dysentery, to which persons suffering from this disease have a marked predisposition.

Another striking feature is the absence of any elevation of temperature in uncomplicated cases. With the onset of intercurrent disease, and with advanced malnutrition, an elevation of temperature may be present, but with patients otherwise healthy the temperature curve remains uniform during the most severe attacks. In the case observed in the University Hospital the temperature curve showed remarkably few fluctuations, never rising above 99 F. during the patient's stay of nearly six weeks in the hospital. On several occasions of acute exacerbation where the bowel movements exceeded fifteen daily, the temperature did not rise one-half of a degree.

Owing to the intestinal indigestion and consequent malassimilation, there is progressive loss of weight during the acute periods; sweating is an occasional symptom, and a slight reflex cough is occasionally noted. In severe cases emaciation is advanced, there is great debility and weakness, and an intercurrent dysentery or other acute disease proves fatal. A striking and troublesome symptom not infrequently observed is incontinence of the bowel; this occurs most often during the night, but may occur suddenly in the day time. The desire to evacuate the bowels is sudden and almost irresistible. The tongue is usually clean and moist and the breath free from odor; there is no pain in the stomach, but occasionally some intestinal griping. The appetite is apt to be good, except in severe cases accompanied by nausea. The skin and eyes are usually clear, though the latter are occasionally subicteroid. Nervous symptoms are infrequent, but have been reported in a few cases. The symptoms observed were dizziness and vertigo with loss of appetite, weakness and slight nausea.

The blood changes are not usually marked; slight anemia is present, never approaching the degree observed in ankylostomiasis. Eosinophilia is probably not a symptom of uncomplicated cases; there is no leucocytosis. The stools present the ordinary appearance of intestinal indigestion, and contain undigested food. On microscopic examination there are present starch, granules and oil globules, together with pus, epithelial and red blood cells. After the disease is established the stools do not regain their normal consistence, but vary from a pasty to a fluid state. As would naturally be supposed, indigestible articles increase the diarrhea; corn especially, and occasionally beer, appear to excite a relapse.

DIAGNOSIS.

Diagnosis depends on examination of stools. The clinical features, however, are very suggestive; the occurrence of considerable intervals of remission, during which the patient largely regains his previous health, the absence of pain or any elevation of temperature, and the absence of blood or mucus in the stools in appreciable amounts, are all symptoms individual to this disease. Incontinence of the bowel, if present, is extremely characteristic. In practice, amebic dysentery will be most frequently confused with this disease, as they also run a very intermittent course, and the elevation of temperature may be slight or absent. An examination of the blood in these cases will at once clear up the diagnosis. The leucocytosis seen in amebic dysentery is absent in infections with the strongyloides, and it is not likely that other chronic diarrheas and dysenteries will be confused with this disease, by those who keep the features already mentioned in mind.

TREATMENT.

The treatment consists in light diet, rest and tonics, with occasional heavy doses of thymol or Felix mass, followed by a purge. The milder cases are easily controlled by treatment, the most severe difficult to influence in any way. While the patient may be relieved of nearly all unpleasant symptoms, the complete eradication of the parasite is a matter of some difficulty. I know of no case, at present, where this has been accomplished. No medication will cause the parthenogenetic mother worm to appear in the stool, and until this occurs treatment can not be considered successful.

After the patient has been relieved of his more acute symptoms by ordinary measures of rest and diet, thymol may be given on an empty stomach, preferably in the morning; 10 to 12 grains given in capsules every five minutes for an hour, and following this, a saline, watching carefully for any symptoms of depression or collapse induced by the thymol; male fern may be used in place of thymol, given in a dram dose, followed one hour later by another dram. Between the periods of more active medication tincture of ferric chlorid may be given as a tonic. Gin has also been recommended.

I wish to recommend at this time, on purely theoretical grounds, the adoption of a more radical procedure in the treatment of this disease. I think we are justified in these cases in endeavoring to effect a radical cure at the cost of considerable patience, or even risk to the patient. It is true that we can easily control the majority of cases met with in this country by appropriate treatment, but, aside from the danger to life, there are other considerations which we have to meet. The disease imposes considerable disability on patients suffering from it, and it falls especially hard on those who earn their living by manual labor, as the frequent discharges interfere with any continuous employment. Again, in debilitated persons, especially the tuberculous, there is considerable indirect risk of life. Intestinal malassimilation is always a serious feature in this disease, and may result in developing a case previously latent, or in converting the chronic into the acute form. I would advocate treatment along several experimental lines, having for their object to render the habitat of the parasite unfavorable to development. The parasite is not especially robust, and can be destroyed external to the body by trifling untoward circumstances.

The presence of air, a moderate temperature and the power of free motion in a fluid or semi-fluid nutritive medium is essential to the life of the parasite. A moderate degree of heat is sufficient to destroy it. In the endeavor to influence the parasite unfavorably we can first proceed along the lines of depriving the parasite of air; this we should be able to accomplish, practically, for several days without any unsurpassable difficulty. The method by which we should accomplish this will probably be by means of a primary purge, followed by doses of opium sufficiently heavy to arrest intestinal peristalsis. Rectal alimentation should be used during

this period to further guard against the entrance of air into the intestines. With the intestine empty and collapsed, and its walls in approximation, the small quantity of air remaining will soon be lost. In order to promote the absorption of any residual air, recently heated wood charcoal may be administered with the opium. An endeavor to destroy the parasite by heat may be combined with this method. The administration of very hot fluids continuously by mouth may be combined with the preceding method. The intestine is very tolerant of hot liquids, and the temperature required is not great. In order to avoid the discomfort incident to swallowing very hot liquids, they may be administered by a stomach tube combined with some agent to facilitate the rapid passage of the fluids into the duodenum. These two methods may be combined in a procedure such as given below:

After a twenty-four hours' fast the patient is given two drams mag. sulph. in two pints of very hot water, one drop of croton oil is added to insure prompt passage from the stomach. The solution of mag. sulph. may be repeated again in an hour without the croton oil. After the patient has been thoroughly purged, opium is given by the mouth, combined with powdered charcoal, after which it is administered by rectum as long as may be considered necessary. Arresting of all movements for a week should be all that is necessary in the usual case. At the end of the stated period the solution of mag. sulph. is administered in the same manner.

PROGNOSIS.

The prognosis of the disease has already been discussed under the treatment.

I wish in conclusion to express my thanks to Dr. Thayer and Dr. Strong for the use of previous reports on this subject, both of whom I have freely quoted, and from the former of whom I have largely modeled my report. Also to Dr. Atkinson for valuable advice and assistance in the case.

DISCUSSION.

Dr. Charles Wardell Stiles, Washington, D. C.—This parasite of Cochin China diarrhea must be more common in this country than is commonly supposed. It is not only found about Baltimore, but four cases are reported from Washington and three cases from California. The life conditions necessary for this parasite are much the same as are necessary for the uncinaria. We can expect this nematode to correspond more or less generally to the geographic distribution of uncinaria.

With regard to the diagnosis, there are one or two pitfalls. We may find small worms and make the mistake of thinking that we have to deal with Cochin China diarrhea. Mistakes of this kind have been made by European and Asiatic physicians when they state that uncinaria runs through the same double cycle of development shown by strongyloides. Looss reported that he found in the feces rhabditiform embryos which were scarcely to be distinguished from the diarrhea worm. Various rhabditiform embryos are not uncommon in water and vinegar, but which have no connection with strongyloides, yet they may be found in the stools. If you wish to make a diagnosis of Cochin China diarrhea the simplest way is to find several rhabditiform worms in the feces; then a few of them should be raised to the free adult stage.

Another pitfall is likely to occur in the southeastern states. Occasionally the embryo of the American hookworm develops while the egg is still in the uterus of the female; and occasionally we may find in the feces of hookworm patients eggs with fully-developed rhabditiform embryos. If the egg shell is broken the rhabditiform embryos can then be distinguished from the strongyloides embryos only with difficulty and with the most careful examination.

Another pitfall is this: The pin worm (oxyuris) is viviparous, and here the embryos simulate the strongyloides embryos. In the tropics and in the Philippines strongyloides is a very common parasite, and we are likely to find cases of Cochin China diarrhea in almost any part of the country where we are dealing with soldiers who have served in the tropics. I do not know what treatment we are going to use. The results with thymol are not at all satisfactory.

Dr. Allen J. Smith, Galveston, Texas—This worm, I am satisfied, is a more common human parasite in the southern part of the United States than is at present realized. I have personally encountered examples of the embryo a number of times in the stools of patients from Galveston, but passed it by as a matter of interest rather than of importance, accepting in this idea the statements usually made in the text-books as to the rôle of this parasite in pathology. I must here (and I do so without hesitation) acknowledge that it was due to this mental attitude of mine that Dr. John T. Moore, Galveston, refrained from publishing an instance of the presence of the embryonic worms met in one of his patients a number of months ago, at a time when such publication would have ranked high in order of priority of record of the parasite in this country. I had seen the worms before; had not recognized in the cases presenting them any definite clinical features referable to these zoöparasites; was aware that the original idea that they were the cause of Cochin China diarrhea had been abandoned and that writers generally were agreed that they were of little or no importance in pathogenesis. Under this impression I spoke of the matter lightly when Dr. Moore brought to the laboratory of pathology in the University of Texas his specimens for identification; because of which Dr. Moore refrained from reporting the case until some months later, when his interest was again aroused by Dr. Thayer's excellent discussion of the same parasite in the *Journal of Experimental Medicine*. Since Dr. Moore's case two others have been brought to my notice from the wards of Sealy Hospital.

On such reasons I would base my confidence that the parasite is probably frequent in the southern tier of states of this country. In the cases which I have known the discovery of the worms has been in a general way accidental, and there has been nothing to make them seem of actual clinical importance. In one of these cases, however, at the time of the examination, there was a decided diarrhea, in which possibly the strongyloides may have had some influence; but the parasites persisted after the subsidence of the diarrhea—and aside from this individual circumstance I have had no reason to think of the anguillula as of any pathogenic significance.

Dr. A. P. Ohlmacher, Gallipolis, Ohio—Some five months ago my interest in this subject was aroused by the discovery of *Strongyloides stercoralis* in an epileptic idiot, 16 years of age, one of the inmates of the Ohio Hospital for Epileptics. He was a native of Cleveland, Ohio, where he had lived at home until admitted to our institution, Jan. 7, 1902. There was no history of diarrhea before admission. His death occurred Nov. 23, 1902, from exhaustion. A diarrhea appeared three months previously, and three days before death the stools were blood-stained. He was confined in one of the closed wards. I examined the contents of the large intestine during the progress of the autopsy, finding the strongyloides; and subsequent search through the intestinal tract exhibited the worms from the pylorus to the anus. Both the adult female worm, eggs and developing embryos were found. My tentative diagnosis of strongyloides was confirmed by Dr. Chas. Wardell Stiles of Washington, who kindly examined some of the material from this case. This additional case, the first in the middle west of the United States, seems to emphasize the point made by Dr. Stiles and others in the present discussion—that the worm of Cochin China diarrhea is not a rare parasite in this country.

Dr. J. T. Moore, Galveston, Texas—My first case was discovered in August, 1901, the patient appearing at the outdoor clinic of the John Sealy Hospital complaining of severe diarrhea, with cramps in the abdomen. He was rather nervous and slightly anemic. He was a mulatto. He had served in

the Spanish war in Cuba. The stools were examined and the parasite of *Strongyloides intestinalis* was found. The specimen was submitted to Dr. Smith, who told me it was *Strongyloides intestinalis.* I remembered hearing of Dr. Thayer's case spoken of in Washington, I believe, at the American Congress of Physicians and Surgeons. Dr. Thayer kindly sent me a monograph of his cases. I reported my case to the medical society in June, 1902, and it is now in the hands of the American Medicine Publishing Company, the manuscript having been corrected. Recently I sent Dr. Price a synopsis of the case. I have now two other cases to be reported that I have since seen in the medical wards of Sealy Hospital. This parasite is, I believe, of common occurrence in Galveston and vicinity. I recently had another case under observation in which I saw both the rhabditiform and filariform parasites. I have never been able to secure the eggs of the strongyloides, although I have made cultures several times. I have seen many cases of uncinariasis.

THE SURGICAL TREATMENT OF UNDESCENDED TESTICLE.

A FURTHER CONTRIBUTION.*

ARTHUR DEAN BEVAN, M.D.
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CHICAGO.

At the Columbus meeting of the American Medical Association I read, before the Section on Surgery and Anatomy, a paper entitled "Operation for Undescended Testicle and Congenital Inguinal Hernia," published in THE JOURNAL of the A. M. A., Sept. 23, 1899. Since that time I have had the opportunity of operating on a further series of cases, representing practically all the varieties of this malformation and have made some improvements, made necessary by difficulties occasionally met, which make operative reduction of the misplaced testicle possible in almost all cases; and places, I believe, the operation in a position where it should be accepted as a standard surgical procedure.

A further reason for again presenting this subject is the fact that a number of my colleagues have informed me that they have had difficulty in understanding and in carrying out the operation which I recommended, and I have felt that a series of plates illustrating the various steps of the procedure might make the matter clearer. The plates which I submit are sketches from life of the various steps of the operation.

I am inclined to believe that where an operator fails to succeed it will be due to the lack of that anatomic knowledge which he must possess to enable him to unravel the shortened structures, and at a stroke of the knife and in half an hour imitate the normal descent of the testicle. I regard the operation as one of the most interesting examples of applied anatomy.

It will not be necessary here to review the normal descent of the testicle. Figure 1 shows graphically this descent: A. The first position of the testicle below the kidney and behind the peritoneum. B. Passing through the canal. C. In the scrotum, with open vaginal process, so that the general peritoneal cavity and the future tunica vaginalis are still continuous. D. The vaginal process obliterated, the general peritoneal cavity shut off from the tunica vaginalis. There is one fact in connection with the descent of the testicle which is of importance in the operative reduction and which is generally not known or misunderstood, and that is that long before the testicle descends through the canal the vaginal process of peritoneum has preceded it, lying in front of the gubernaculum testis and reaching into the scrotum. The idea so prevalent among medical men that the testicle drags down a process of peritoneum in its descent

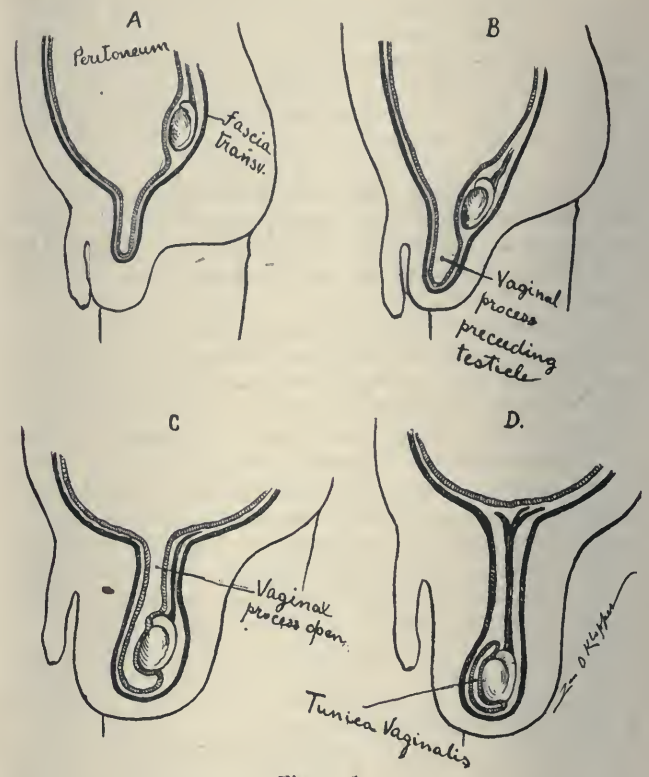


Figure 1.

is an error. I have found in all my cases, even where the testicle is well within the abdomen, a large sac of peritoneum, passing through the canal, occupying the space

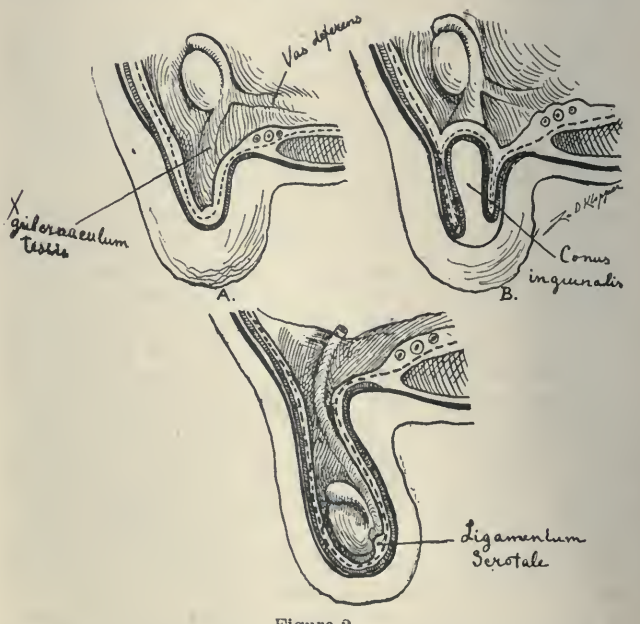


Figure 2.

in front of the external ring and passing down toward or into the scrotum.

Figure 2 shows graphically the descent of the testicle in three stages, and shows the process of peritoneum and the gubernaculum testis preceding the testicle in the scrotum.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

For clinical purposes, we may divide the malformations in connection with the descent of the testicle into:

1. Simple failure of the vaginal process to close, giving us the picture of congenital inguinal hernia, or at least a potential hernia.

2. Incomplete closure with such conditions as hydrocele of the cord.

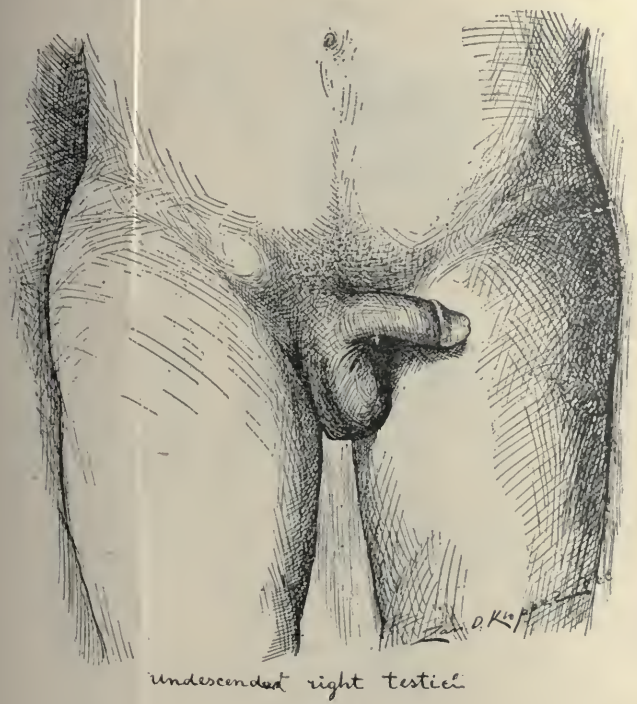


Figure 3.

3. Undescended testis which presents four types: (a) in the abdomen, in about its original position; (b) at the internal ring; (c) in the canal; (d) external to the external ring.

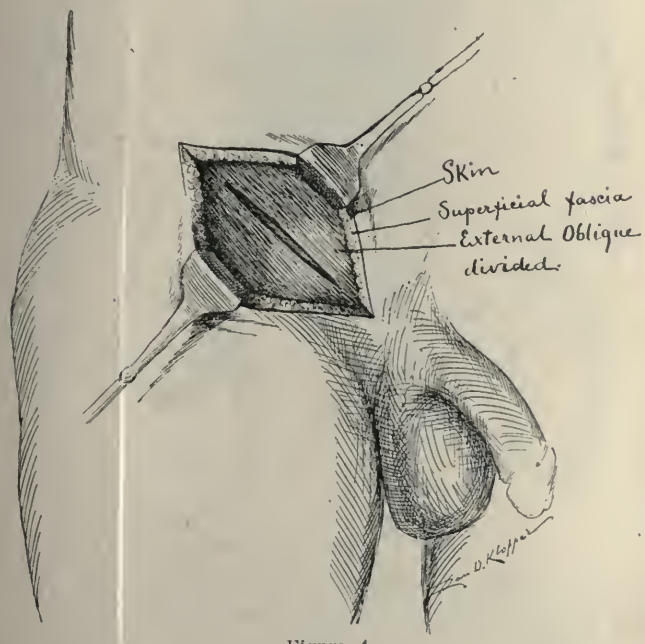


Figure 4.

4. Misplaced testicle. (a) in the perineum; (b) on the thigh below Poupart's ligament.

Undescended testicle occurs in at least 1 in 500, as shown by the statistics of the Austrian army, obtained from an examination of recruits. The malformation is a serious one, as it brings with it both mental and physical distress and it deserves more consideration from the medical profession than has been given to it. Even to-day almost no mention of the condition is made in our standard text-books on surgery, and the idea is generally prevalent among medical men that nothing can be done for the cure of the conditions, except removal of the testicle, if it causes trouble.

To-day, I believe the rule should be to operate and transplant to its normal position in the scrotum every

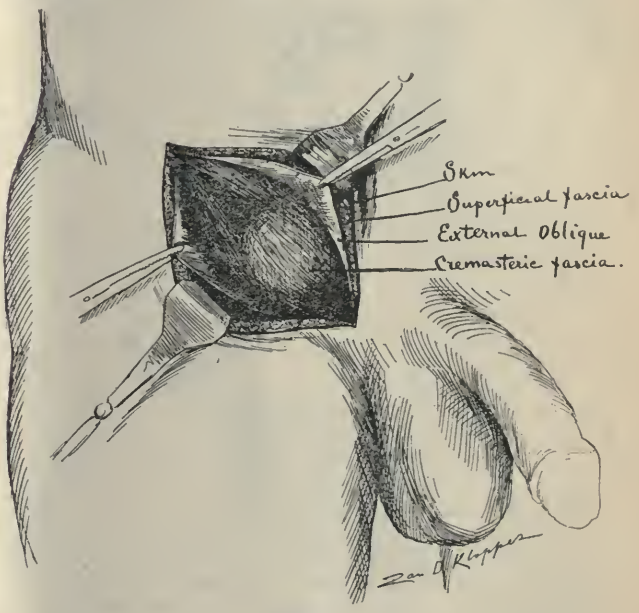


Figure 5.

undescended testicle which can be palpated. Those which can not be palpated should be operated on if they give rise to symptoms, or are complicated with hernia. Those which can not be palpated and do not give rise to

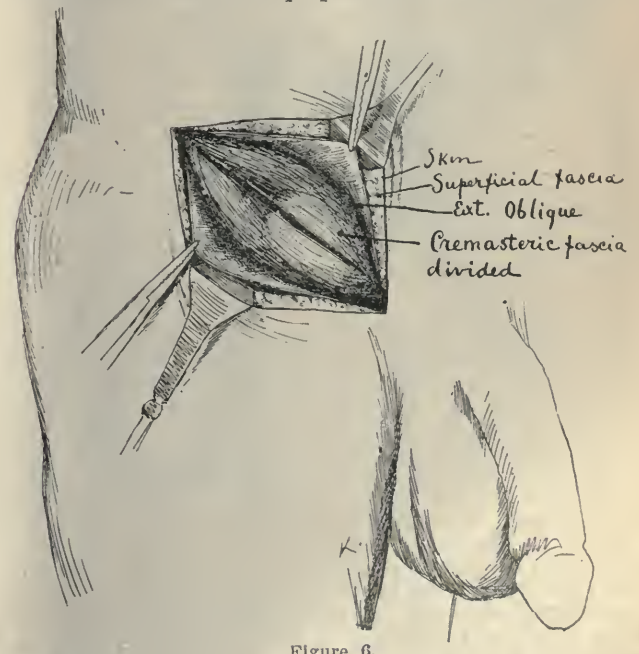


Figure 6.

physical distress, should be operated on and placed in the scrotum, if the malformation is the cause of mental distress to the patient. There are but few cases of undescended testicle where an operation is not indicated.

The dangers and discomforts of the condition of undescended testicle are much greater than those of the ordinary inguinal hernia and call more urgently for operative relief. These dangers are, briefly, (1) the actual or potential hernia which is always present; (2) greater liability to, and greater danger from, inflamma-

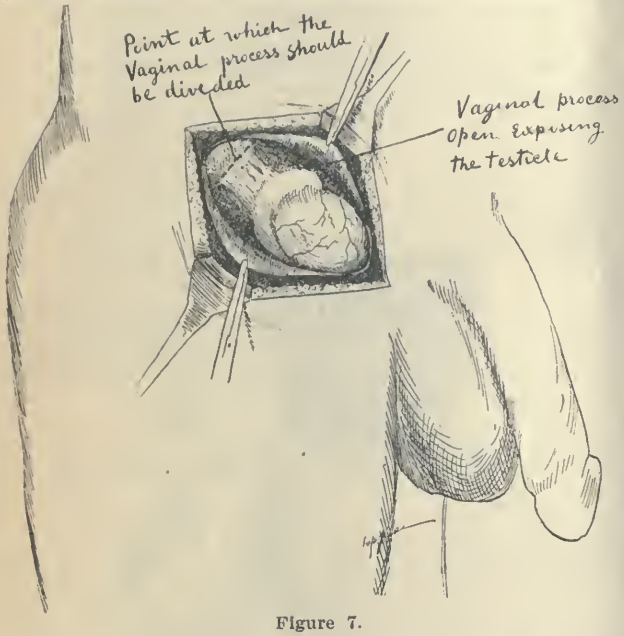


Figure 7.

tion of the testicle in its abnormal position; (3) injury to the organ from its exposed position, both external injury and injury from muscular contraction, such as coughing, lifting, etc.; (4) the greater danger of malignant degeneration (there can be little doubt that these

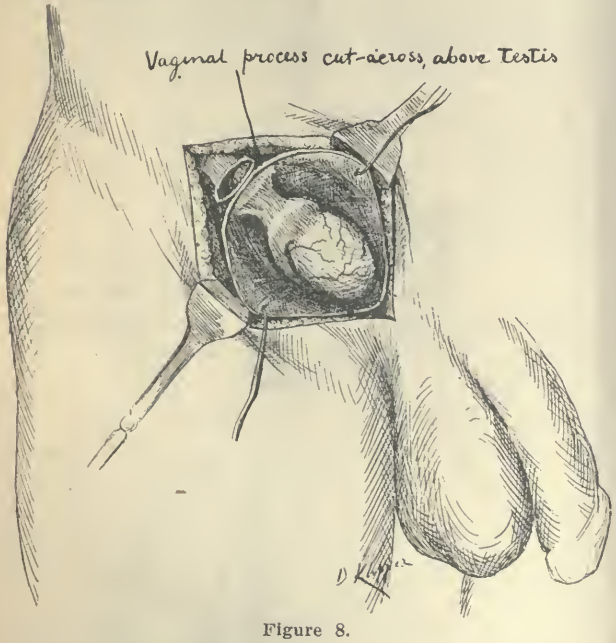


Figure 8.

undescended testicles are more often the seat of malignant disease than are normal testicles); (5) mental distress, due to the existence of the condition. This is an important factor in many cases. We do not hesitate to give our patients, suffering from hernia, the benefits of an operation for radical cure, and we should not refuse the cryptorchid the benefits of a surgical procedure, which, if properly performed, is as safe and as sure as a Bassini hernia operation and more urgently called for.

The first work of value in this line was done in 1881 by Max Schüller, and reported in this country in the *Annals of Anatomy and Surgery*. Schüller recognized the vaginal process of peritoneum as the chief factor which prevented the drawing of the testicle down into the scrotum and the factor which drew the testicle back

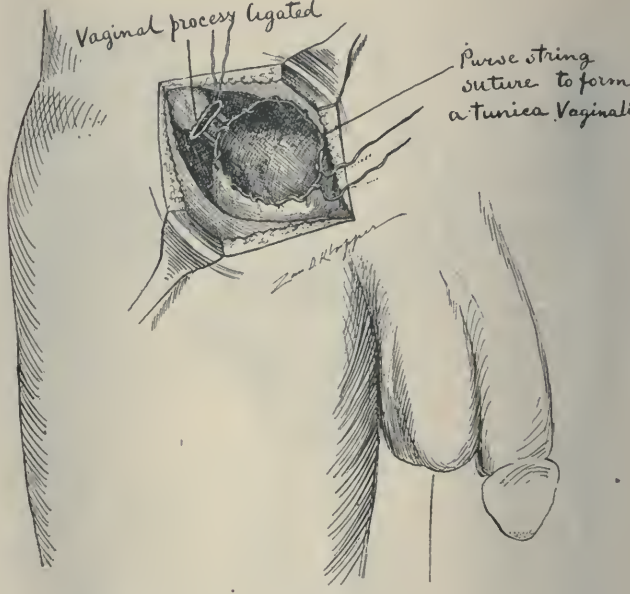


Figure 9.

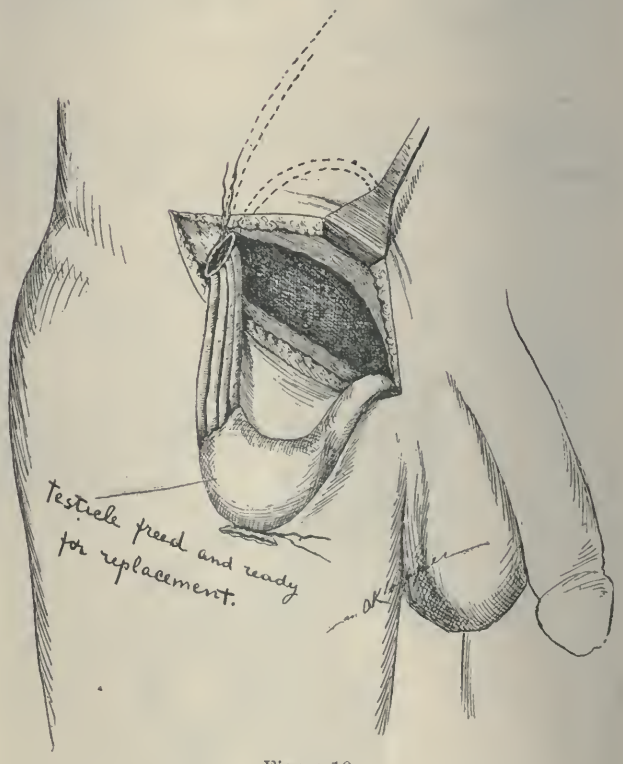


Figure 10.

into its old position, after operation. He advocated division of this vaginal process and stitching the testicle into the scrotum.

Schüller's work was a distinct step in advance, but his operation did not go far enough and has but a limited field. The operation which I have developed meets, I think, the indications better and has a much wider field of usefulness. I have developed the operation so that testicles well within the abdomen, which have never

been palpable, can be brought down and retained in the scrotum. Before describing the technic, which is the special purpose of this paper, I desire to say a word in regard to the age of selection. At what period of life, if we can choose, should these patients be operated on?

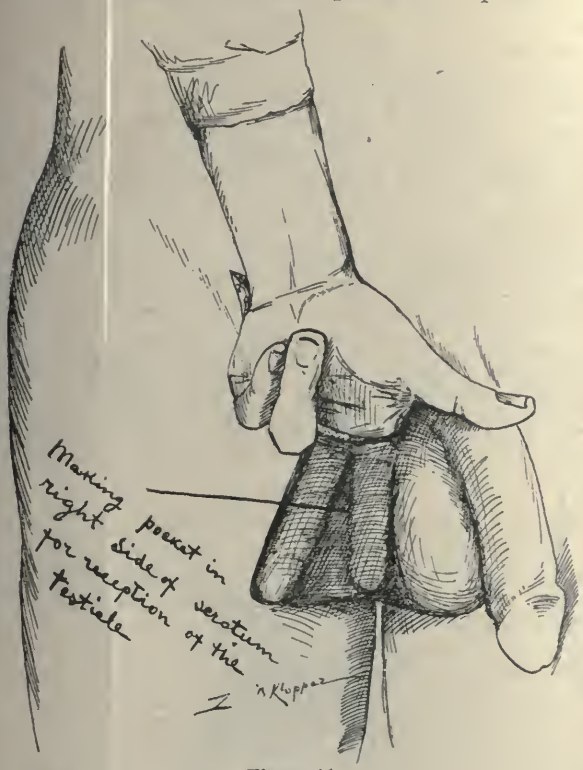


Figure 11.

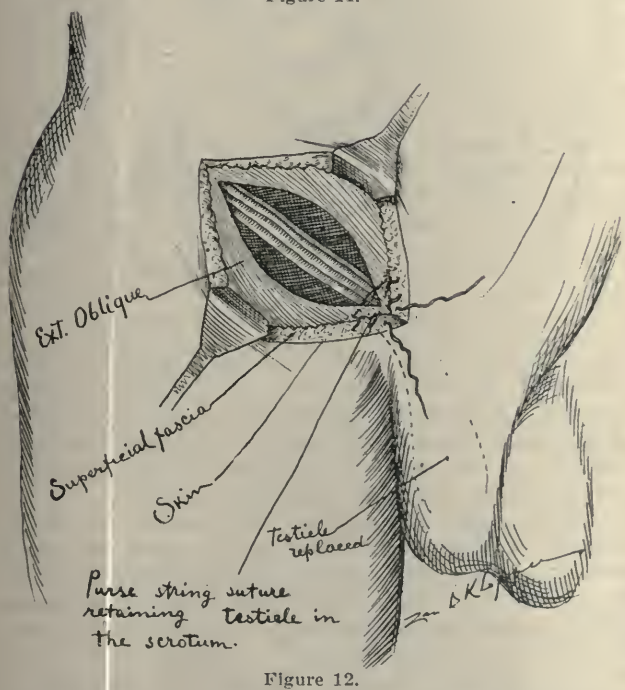


Figure 12.

In my first paper, I advocated waiting until after puberty, on the ground that some of these testicles descended during puberty and the malformation was cured sometimes even without an accompanying hernia. I have changed my opinion decidedly on this point, because I believe that this descent at puberty is a rare occurrence, at least, that it happens in but a small per cent. of the cases, and again, I believe that it would be far better to have the testicle in the scrotum when the changes incident to puberty take place. I now, therefore, advocate the performance of the operation before puberty, when possible, I think best, between 6 and 12 years of age.

DESCRIPTION OF THE OPERATION.

In operating on undescended testicle, when the organ is palpable, as in Figure 3, that is, in the canal or external to the external ring, the following technic should be pursued:

Make an incision three inches long over the canal. This should never involve the scrotum, or extend farther inward or downward than the external ring. This incision should divide skin and superficial fascia and the external oblique over the inguinal canal (Fig. 4).

The divided aponeurosis of the external oblique is drawn to each side and the cremasteric fascia is exposed (Fig. 5).

The cremasteric fascia and the thin underlying transversalis fascia is freely divided parallel with the canal (Fig. 6).

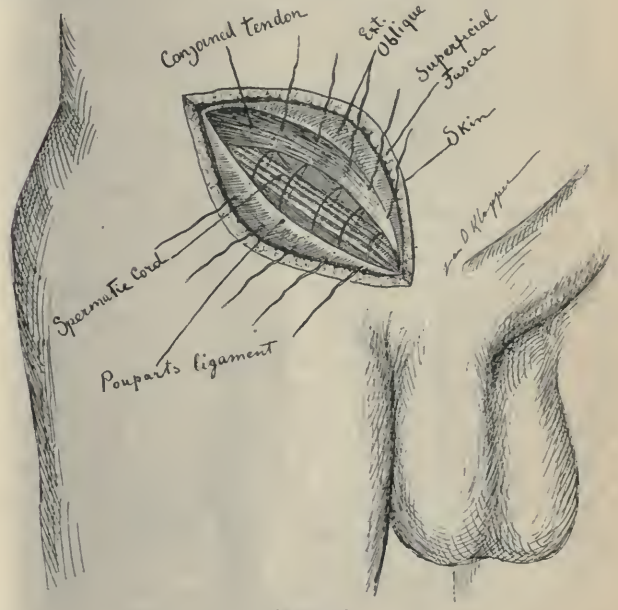


Figure 13.

This exposes the large peritoneal sac containing the testicle and continuous with the general peritoneal cavity. This sac is opened and the testicle exposed to view (Fig. 7). Frequently a projection of the omentum is found in the sac.

It is not necessary to make as large an opening into the sac as is shown in Figure 7. The peritoneum is then cut across at the point shown in Figure 7, and is carefully separated from the cord which lies beneath.

Figure 8 shows the vaginal process of peritoneum, cut across above the testicle. The vaginal process is then ligated, as in the neck of the hernia sac in a hernia operation, care being taken to ligate well up at the internal ring. That portion of the peritoneal sac in contact with the testicle is closed with a purse-string suture, and thus forms a tunica vaginalis for the testicle (Fig. 9). The testicle is now lifted out of its bed, and the cord is gently pulled on, so as to lengthen it as much as possible. In doing this, shortened bands of connective tissue will be seen as tense bands in the cord, and these should be torn across with tissue forceps. The cord should thus be stripped of all the surrounding fascia, leaving nothing but the vessels and the vas deferens. When this has been accomplished the spermatic vessels

and the vas, which lies behind the posterior layer of peritoneum of the abdominal cavity, should be separated from the peritoneum by careful blunt dissection, with the finger introduced into the abdominal cavity. The spermatic vessels will be found passing upward and inward, and the vas downward and inward from the internal ring, and this divergence can be plainly seen. The cord should be so lengthened by these maneuvers that the testicle can be layed on the thigh three or four inches below Poupart's ligament (Fig. 10).

With blunt dissection with the fingers, a large pocket should be made in the scrotum for the reception of the testicle (Fig. 11), and the testicle dropped into it, where it should remain without tension on the cord. A purse-string suture should now be placed at the neck of the scrotum to retain the testicle in position. This suture should pass through the superficial fascia and the external oblique on both sides of the incision; that is, both the internal and external pillars of the external ring, and above the cord. When this suture is tied, the testicle is securely retained in its scrotal pocket (Fig. 12). The incision is then closed, as in a Bassini operation, except that we do not transplant the cord; that is, we bring the conjoined tendon and Poupart's together above the cord (Fig. 13). We then suture the incision in the external oblique with continuous suture (Fig. 14), and, lastly, close the external wound. I have employed formalin catgut for the buried sutures and horsehair for the skin sutures. A fairly firm, not uncomfortable, compress over the canal, retained with spica bandage, completes the operation. The horsehair sutures are removed on the tenth day, the patient allowed on his feet on the fourteenth day.

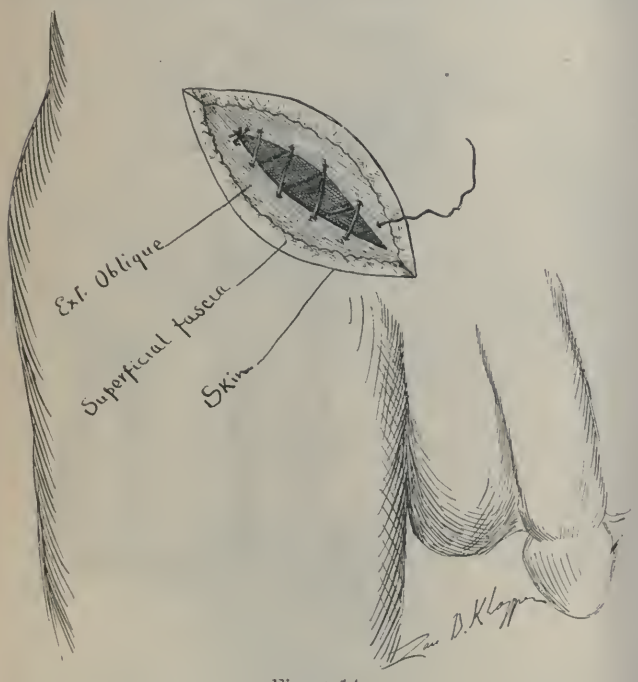


Figure 14.

The technic I have described will answer in a large majority of cases, but I have found by experience that in operating on cases in which the testicles are not palpable, and are well within the abdomen, and in some few cases when the testicles are palpable, that I could not, by the method described above, free the testicle sufficiently to bring it into the scrotal pocket, without tension. In analyzing the facts in these cases, I found that the tense structure which prevented reduction were the spermatic vessels, and not the vas. The spermatic vessels run in almost a straight line from the internal ring to the abdominal aorta and the ascending vena cava and renal vein. The vas, on the other hand, makes a long sweeping curve in its course from the internal ring to the base of the bladder. The artery of the vas accompanies it and follows this same curve. The vas is the essential organ in the spermatic cord.

The question which confronted me in some of my difficult cases was whether the spermatic vessels were structures essential to the integrity of the testicle, or whether they could be safely sacrificed, in those cases in which the testicle could not be sufficiently freed without dividing them.

Reasoning from a clinical experience of more than a hundred varicocele operations in which I had removed all of the structures of the cord, with the exception of the vas and its vessels, and had never seen gangrene of the testicle, or any apparent interference with its nutrition, I concluded that the spermatic vessels could be safely sacrificed in those cases where it is necessary to divide them in order to bring the testicle well down in the scrotum. I have, therefore, in a number of cases ligated the spermatic vessels at two points and divided between, as shown in Figure 15, and have had no evidence of interference with nutrition; in fact, these have been among my most successful cases, from the standpoint of clean and rapid recovery.

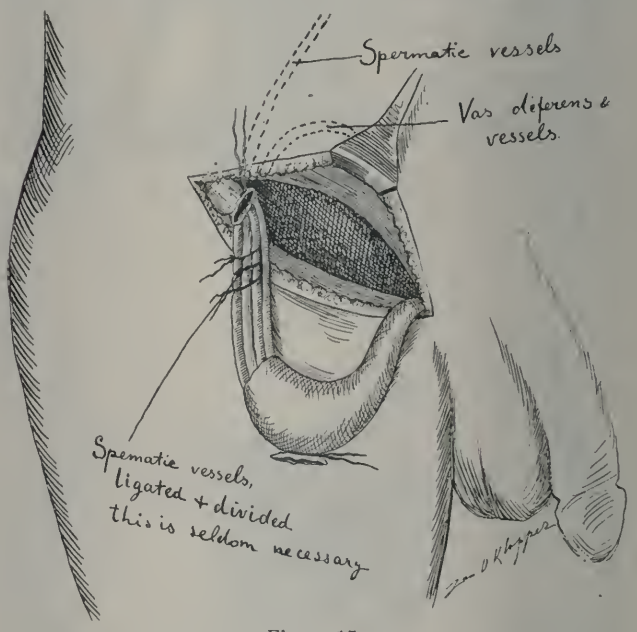


Figure 15.

After my first operation of this kind I found that J. Griffith,[1] writing on the effects on the testes of ligature of the spermatic artery and spermatic veins, and of both artery and veins, had demonstrated that these vessels could be sacrificed without any permanent interference with the function of the organ.

The explanation is this: The testicle is supplied by two arteries, the spermatic from the aorta, and the artery of the vas from the inferior or middle vesical. These anastomose freely; neither are terminal arteries, and either can be sacrificed without endangering the vitality of the testicle.

Since adopting this seemingly radical, and yet perfectly safe, sacrifice of the spermatic vessels, I have had no difficulty in bringing the testicle down into the scro-

1. Journal of Anatomy and Physiology, vol. xxx, p. 81, 1895.

tum, even in cases where it was well within the abdominal cavity, and where it had to be hooked out of the abdominal cavity and held with some tension to keep it out beyond the internal ring, until the shortened structures were divided.

I desire to urge the general adoption of operative treatment for undescended testicle. By the operation the testicle can be placed in its normal position in the scrotum, where it certainly has a better chance of developing into a normal organ than it has if it is allowed to remain in its abnormal position. At the same time, the patient is cured of the actual or potential hernia, which is always present, and is freed from the dangers and discomforts which result from the malformation, and this can be accomplished by an operation which is as safe and as sure as the operations for radical cure of hernia, and, to my mind, is much more urgently called for.

The operation requires of the operator a very clear conception of the normal anatomy of the region and the abnormal anatomy of the malformation, but otherwise presents no greater difficulty than does a Bassini hernia operation.

DISCUSSION.

DR. W. T. ECKLEY, Chicago—I shall speak on four points: (1) The diaphragmatic ligament of the primitive kidney; (2) the gubernaculum; (3) the inguinal ligament of the primitive kidney; (4) the probable factors concerned in cryptorchism. At an early period the mesonephros and indifferent sexual gland are in a retroperitoneal bed of mesodermic tissue. That portion of the mesodermic tissue cephalad of the sexual gland is called the diaphragmatic ligament of the primitive kidney; the portion caudad of the gland is the inguinal ligament; while the part corresponding to the gland becomes the mesorchium or mesovarium, according to sex. With the disappearance of the primitive kidney, the diaphragmatic ligament atrophies. The inguinal ligament develops the gubernaculum. The gubernaculum is attached, cephalad, to the sexual gland, and its inverting peritoneum, caudad, to the inguinal region and bottom of the scrotum. By traction it produces a test-tube-like processus vaginalis—a preformed structure for the reception of the testicle. The emphasis placed on the occurrence, together with cases reported by the essayist of congenital hernia and cryptorchism in the same individual, seem to clear up a hitherto controverted anatomic question, viz., whether the testicle and processus vaginalis descend at the same time. In one case at least I can corroborate Dr. Bevan's opinion that the processus vaginalis is preformed for the reception of the testicle. By a strange hypervivacity the gubernaculum may reduce to processes of peritoneum, one of which favors the occurrence of infantile hernia.

Two factors figure conspicuously in the causation of cryptorchism: (1) the spermatic vessels; (2) an unobliterated diaphragmatic ligament of the primitive kidney.

DR. CARL WAGNER, Chicago—It is not only from a psychologic standpoint of view that these cases of undescended testicle appeal for relief, but also from the anatomic and pathologic points of view, for there may be serious dangers which may be obviated through such surgical devices as Dr. Bevan's. In this connection I wish to report a case of undescended testicle, in which this condition is responsible for the loss of one testicle. It took place in a young boy, who fell about fifteen feet. He complained of severe pain in the left inguinal region. I saw the boy the second day after the accident and found a swelling the size of a small walnut in a region corresponding to the seat of the internal ring. Further examination disclosed the fact that there were no testicles contained in the scrotum. Thus I concluded that the swelling contained the undescended testicle which through the force of the fall had been thrown into the inguinal canal. On opening up, I found the testicle tightly encircled by the pillars of the internal ring, around its middle, and gangrenous. It became necessary to incise the internal ring upward in order to free and ligate the testicle off, which could not be moved downward the least bit.

I feel very much encouraged by this paper to operate on undescended testicles, and thus prevent dangers of similar character.

DR. WILLARD BARTLETT, St. Louis—There is a certain pathologic condition which must guide us as to the time at which this operation should be performed. What Dr. Bevan has said about doing the operation early is undoubtedly true. The undescended testicle is of value to us only to facilitate the development of the child. It is known that the boy who possesses two undescended testicles develops into the manly type, whereas the infant that is robbed of two normal testicles develops into an effeminate type. Knowing as we do, then, that the undescended testicles are of value only to further the development of the child, and knowing as we do that the infant develops into the girl type if the testicles are removed, it would seem that they should not be removed in the early years. On the other hand, the danger of malignant disease from undescended testicles after they are reduced is just the same as though they had been left in the abdomen. Consequently the logical conclusion must be drawn that such a testicle must be removed entirely, if you do anything to it after about the age of 18 or 20 years, whereas, as Dr. Bevan has said, the psychologic considerations would demand that they be brought down in the scrotum, if anything be done with them early.

DR. A. J. OCHSNER, Chicago—This paper is of very great importance, because up to the time at which Dr. Bevan first wrote on this subject the general tendency was to substitute the removal of the organ for its replacement. In the former paper Dr. Bevan emphasized the fact that the reason why the former attempts at replacement of the testicle had been unsuccessful was because the organ had not been loosened. He showed how the organ was held by a curled-up condition of the tissues of the cord, and that by unfolding these tissues it was possible to place it in the scrotum. Since hearing this paper read at the Cincinnati session of this Association, I have many times performed this operation and, except in the first case, in every instance with perfect satisfaction. In the first case one point made by Dr. Bevan in his original paper had escaped my attention, which I learned later in looking up the paper, namely, that the organ may be almost perfectly loose and still be held by the peritoneum. The tissues of the cord may be relatively loose and yet there may still be a certain degree of tension. Realizing this degree of tension which has been described, I have always performed the Ferguson operation in preference to the Bassini, making use of the principles brought out by Dr. Bevan and, with the exception of the first case, with perfect satisfaction.

DR. WILLIAM L. RODMAN, Philadelphia—It has been my lot to see a great number of cases of this condition, and I feel it is better to incorporate the testicle in the scrotum than it is either to excise it or to leave it in the abdominal cavity, for three reasons: The first is that the patient would, of course, very much rather have the testicle in its normal place, and the moral effect is very much better. Second, the place for the testicle is where it is least likely to undergo any form of malignant disease, and certain it is that all such organs are much more likely to undergo malignant change if left in the abdominal cavity than if they are placed in their normal position. I know some one has denied this, but I think the evidence is absolute that the undescended testicle is prone to undergo degenerative change. The third reason is that the testicle in the inguinal canal can expand and grow and develop in a way that it could not if it remained in the abdomen, and that is the chief reason why these organs are practically without function, and why a person with two undescended testicles is practically impotent. Naturally, there will be a much better chance for the development of the testes if the operation is done early, as Dr. Bevan says, and not after puberty. I think undoubtedly he was correct in changing his position and saying that these operations should be done before puberty. The last case that I operated on was a child about 8 or 10 years old. He was the son of a

physician living in New Jersey. He had become very much concerned about the future of the child, and rightly, I think, insisted on the operation being done early. In one case which occurred in a young man I was able to bring both testes down and anchor them in the scrotum in the way indicated by Dr. Bevan. I am glad to say that the results have been very good, although I believe the testicle, even if brought down into the inguinal canal, will never become functionally active.

DR. ARTHUR DEAN BEVAN, Chicago—In regard to the question raised by the last speaker, I think that we must always be guided by the conditions which are present. The operation is performed, of course, with the idea of giving relief to the individuals who have undescended testicles. Of course, these cases are almost always complicated by hernia, and the point I wanted especially to make is that by this method we have only to bring the testicle down and do not have to apply any tension. My experience has been rather limited in this work, about twenty cases, but I have not seen more than one where we could not bring the testicle down without any tension.

APOPLEXY.

T. B. GREENLEY, M.D.
MEADOW LAWN, KY.

On account of some peculiarities in the way of symptoms, I report a case of apoplexy.

A female, aged 81, was stricken Sept. 10, 1902, with all the symptoms of cerebral hemorrhage. She was unconscious and paralyzed, which condition continued nearly twenty-four hours, when consciousness returned. In a short time she could move her left foot, and we soon discovered that she had hemiplegia of the right side.

In a short time she could use her left extremities, so that she could feed herself, lying on her right side. She remained in bed about two months, when we allowed her to sit up a few hours at a time in the morning and afternoon.

In three months she was able to walk with a little assistance. She now ate her meals at the table, and sat up nearly all day. Her appetite and digestion were nearly as good as before she was taken sick.

At first we had no hope of her recovery on account of her advanced age and the severity of the attack, but now she was so much improved we began to entertain great hopes of her final recovery.

She could not use her right hand in feeding herself, but could stoop down and pick up light things, such as a paper, requiring but little grip.

In about four months from the time of attack, she could pull herself up and walk alone through the rooms and hall, which she frequently did during the day for exercise.

She was perfectly conscious of her surroundings and recognized friends who called to see her; but she never recovered the ability to command language to express her feelings, or to converse with her friends. She endeavored to talk, but could speak very few intelligible words. This is one of the rare symptoms attending apoplexy.

There is frequently inability to talk immediately after an attack due to paralysis, but I have not met with a case where this condition existed after regaining the use of the muscles of the tongue, etc. One singularity in her case attended this condition, which was, if you requested her to count, she could do so up to any number, and enunciate the words distinctly. She could also repeat the letters of the alphabet very distinctly. This seemed unaccountable when we could not understand a word she tried to say when endeavoring to talk to her friends. This condition might perhaps be accounted for on the ground that she knew the alphabet and numbers by heart, but was unable to originate language in the way of conversation.

The extravasation of blood in the brain must, in her case, have compressed the origin of the nerves, the function of which enables us to command language.

About ten days before her second attack she began to lose the use of herself, and could not walk without some assistance, although her appetite remained as good as usual, still eating at the table.

On the night of February 10, just five months after the first attack, she had the second. I was sitting by the bedside when it came on. I noticed several minutes before that the blood vessels about the head and face were congested; and as she seemed to be losing consciousness, I felt certain another attack was approaching. In a very short time she had a slight spasm, a mere sudden jerk; and she was perfectly motionless and unconscious. She never regained consciousness or any muscular action, and lived only thirty hours.

I spoke, in the outset, of some peculiar symptoms attending this case. I have mentioned one, her inability to command language to express herself in trying to talk with her friends, and the ability to repeat words she had been familiar with all her life, such as counting numbers and repeating the letters of the alphabet.

Another unusual symptom was the change in her habits for about a month before she was stricken down. She was always a great reader and talker, but for several weeks before she was taken ill she had but little to say in the way of conversation and she read but little. Before this, she always read some in the Bible every day and was fond of reading religious papers, but now she would only read a paper a few minutes and lay it down. This change in her habits was remarked by her friends, but, of course, could not be accounted for. From the history of the case I feel satisfied that there was some change then taking place in the brain substance.

The results of apoplexy vary according to the amount of blood extravasated into the brain substance and amount of pressure resulting therefrom.

Hemorrhage in the cerebellum is much more apt to prove fatal suddenly than in other portions of the brain. In fact, many cases fall and die immediately. Those who escape sudden death are afflicted with hemiplegia on the side opposite to that of the hemorrhage, the nerves decussating to the side opposite their origin. Probably half of the cases recover so they can walk, and have good use of themselves, except the hand of the hemiplegic side. Some who recover their health in every other particular never regain the proper use of the hand, but now and then a patient recovers the use of all parts of the paralyzed side. I have had two cases attended with this result. Of course this depends entirely on the amount of blood extravasated into the brain and on the severity of the attack.

The exciting causes of apoplexy are somewhat indeterminate. A person may be in an excellent state of health and be stricken very suddenly. This may occur without any premonitory symptoms or indications. It may occur while sitting, standing or walking, without mental excitement or physical effort.

But, no doubt, in some instances there exists some diseased condition of the brain, or pathologic alteration in its structure favoring hemorrhage.

Then again, the attack may occur during great mental excitement or physical exertion. Whatever may increase the circulation or retard the blood from returning from the brain may result in an attack. The treatment of such cases, of course, is simple but essential. The patient should be kept as quiet and comfortable as possible, with the head and shoulders somewhat elevated by pillows. The room should be well ventilated and kept perfectly quiet; in fact, anything calculated to produce excitement must be excluded from the patient. His diet should be light, but digestible and nourishing.

In old times venesection was practiced in such cases, and at present, if the patient is robust and stricken down in perfect health, there is no doubt that the abstraction

of blood by venesection would prove beneficial. But, by doing so, we would have to revive a lost art in surgery.

It is very essential that the bowels should be kept well relaxed, so as to determine, as much as possible, from the head in the way of revulsions. The kidneys should also be kept active, in order to modify the quantity of blood in the veins.

The action of the heart should be looked after and kept in moderation. If there is apparent congestion about the head, it would be well to apply cloths wrung out of cold water and hot applications to the lower extremities, etc.

Apoplexy is much more common now than formerly. During the census year of the United States, 1900, there were 50,766 deaths from the disease; 27,059 males and 23,707 females; the proportion of deaths from apoplexy and paralysis in 1,000 deaths from all causes was 50.8; whereas, in 1890, ten years before, the corresponding proportion was 37.6 per 1,000 from all causes. In fact, there are other diseases, aside from apoplexy, which are more common now than years ago and, apparently, more fatal. We might name, and very conspicuously so, pneumonia. During the winter and spring seasons we frequently notice in the weekly reports of mortality in cities that more people die from the effects of pneumonia than from the much-dreaded white plague, tuberculosis.

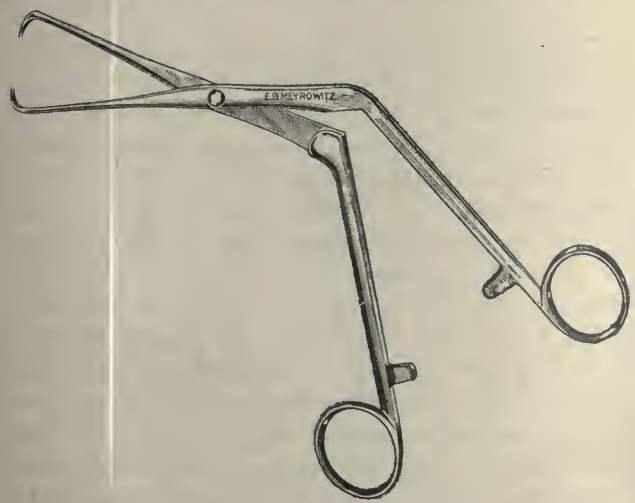
Fortunately, the latter disease is not so prevalent and fatal as formerly, this change taking place within the last decade. It has decreased from 12,146 deaths in 1890 to 10,688 in 1900 per 100,000 deaths from all causes. This happy result has been brought about by the use of preventive means and a better mode of treatment.

New Instruments.

A NEW TONSIL SCISSORS, FORCEPS AND TONGUE DEPRESSOR.

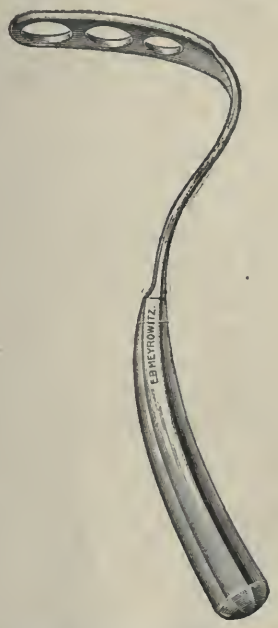
C. C. STEPHENSON,
LITTLE ROCK, ARK.

The operation for tonsillotomy with these instruments, and the advantages they possess, are briefly as follows: The forceps are made to seize the tonsil, when the handles are locked with

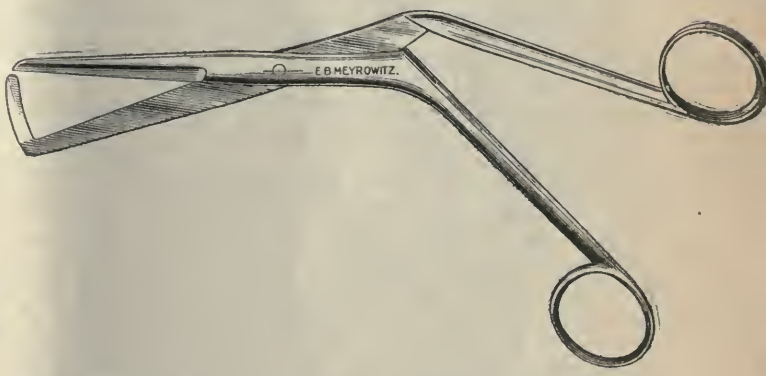


fixation ratchet; the tonsil is then drawn out, the beak of scissors is passed behind, and the gland cut off entirely, as in cutting with an ordinary scissors. The beak prevents the tonsil from slipping from between the blades of scissors, and so much of the tonsil can be removed as is desired. While holding it with the forceps the tonsil is completely under control of the operator; thus there is no receding of the gland as in the ring of a tonsillotome.

The simplicity and ease in operating commend the scissors and forceps, while with them the removal of entire gland without trouble is a desideratum. The handle of the tongue de-



pressor is octagon, and curves outward, thus allowing an examination of the full-chested class of patients, without the end of

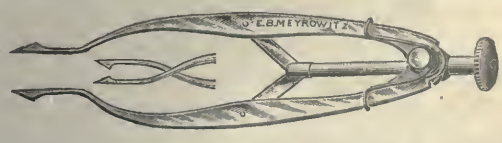


the handle coming in contact with the chest. The blade has three holes for the dorsum of tongue to project through, which prevents it from slipping from side to side while in use.

IMPROVED TENDON TUCKER.*

FRANK C. TODD, M.D.
MINNEAPOLIS.

I desire to show the Section a tendon tucker, which is an improvement over my instrument shown at the session last year. The principle of this instrument is the same, the only



difference being that the adjustment is made at the distal end of the instrument, where it is more easily handled. The operation was described in the *Ophthalmic Record*, February, 1902.

* Exhibited at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology.

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SATURDAY, SEPTEMBER 19, 1903.

THE MILK SUPPLY OF CITIES AND TOWNS.

Milk is so important and so valuable an article of diet, particularly for children and invalids, that every measure calculated to ensure its purity and improve its quality should be most heartily encouraged. Contamination and deterioration may take place so readily that only the utmost vigilance at all steps between production and consumption will secure freedom therefrom. To act intelligently in the matter requires a knowledge of the sources of danger, as well as of the means for combating them.

The subject of the milk supply has received considerable attention of late, particularly with reference to the feeding of infants, and in several large cities—Philadelphia, New York, Chicago, etc.—commissions composed of medical men have been organized for the purpose of devising ways and means for the attainment of the desired end, and with most promising results. Essex county, N. J., has for ten years had a medical milk commission, which gives its endorsement to the milk of such dairymen as will enter into an agreement as to the care of their cows, the collection, handling, preparation for shipment and transportation and delivery of their milk. Nor has the subject been neglected by the producers of milk, who are now giving increased care to the selection and breeding of their cows, as well as to the housing and feeding of the stock, and to the details of the milking, packing and transportation; while the milkman, in his turn, has striven to supplement the efforts of the dairyman.

For the purpose of determining what has already been accomplished in the improvement of the milk supply, together with the measures that have been found efficacious, and with the object of guiding new movements or reviving old ones in the same direction, the Bureau of Animal Industry of the United States Department of Agriculture has, through the chief of its dairy division, Mr. Henry E. Alvord, and his assistant, Mr. R. A. Pearson, made a study of the milk supply of 200 cities and towns. The report, from which we have already quoted in our news columns, is based on official documents and special reports from officers charged with the enforcement of so-called milk laws and ordinances. It deals with the legal requirements as to market milk in every state and territory having laws on the subject, and includes a more or less detailed account of the milk supply of all of the 161 large cities in the United States having a population of more than 25,000 each, and also of thirty-nine selected cities and towns of smaller size.

As an evidence of the magnitude of the industry it is estimated that 1,000,000,000 gallons of milk are sold annually by the owners of producing cows for consumption in the natural state or for household purposes. It is further pointed out that so much has been said and written regarding impure market milk that many persons have become unnecessarily alarmed, and for this reason any fair inquiry into the subject that will elicit the facts in the case and suggest steps to be taken for the benefit of the industry should be welcomed by milk inspectors and consumers, as well as by milk producers and dealers. It was found that the average quantity of milk per capita provided in the daily supply, and presumably consumed, in the large cities (that is, with a population above 100,000) is 0.61 pint. In cities with a population between 50,000 and 100,000 the average consumption is 0.63 pint; in cities with a population between 25,000 and 50,000, 0.58 pint, and in cities and towns with a population of less than 25,000, 0.57 pint. For individual cities the amount varies between 0.27 and one pint. Skim milk is used by some cities in addition to whole milk up to about one-third pint daily per capita, while in other cities no skim milk at all is used. The quantity of cream used daily in the larger cities varies from 0.01 to 0.19 pint per capita. Producers usually receive on their farms from 2 to 3 cents per quart in the summer and 3 cents or more in the winter, although lower and higher prices respectively are exceptionally received. The average price paid by consumers of milk, when retailed in small amounts, is about 6 cents in summer and 7 cents in winter. The cost may be slightly enhanced by the exercise of close supervision of milch cows and the adoption of precautions necessary to insure milk of high quality and purity from both the chemical and bacteriologic standpoints, but the public has not yet learned to appreciate the advantages of such protection.

The delivery of milk and cream in glass jars is increasing in favor and has distinct advantages. The jar constitutes an accurate measure; it can be readily sterilized and its contents are protected from contamination. Pasteurization of market milk is not generally practiced, only a few cities reporting a small portion as being thus treated, although the practice appears to be gradually extending.

Laws referring to market milk are on the statute books in thirty-five states, while nine other states and territories have enacted pure-food laws having a bearing on the milk supply, but only twenty-six states have officials whose especial duty it is to enforce these laws. Almost every city and many towns and villages have ordinances or board of health regulations concerning the milk supply. With few exceptions, there is some supervision of the milk supply in all cities of the United States having a population over 50,000. Much less supervision is exercised in cities with a population

between 50,000 and 25,000, and in small cities and towns supervision is the exception rather than the rule. This consists principally in testing samples of milk to ascertain if they contain the proper amount of cream and solids, while inquiry into the health of the cows furnishing the milk and of the persons handling it, and into the conditions to which it is subsequently exposed, is too often ignored.

Among improvements that have recently been instituted and suggested are the following: The registration of all dairies; official endorsement of properly conducted dairies; inspection of all herds, barns, dairy buildings, etc., once a month; better lighting, ventilation, drainage and cleanliness of cow stables; whitewashing the interior of stables; eradication of tuberculosis from dairy herds; branding of condemned cows; cows not to be given swill feed, etc.; cows to be regularly cleaned; pasturage for city cows; aëration of milk in pure air; prompt cooling of milk and holding it at low temperature until final delivery; shipment of milk promptly from farms after milking; delivery of milk and cream in sealed packages (glass bottles or small cans), so as to avoid unnecessary contamination by city dust, etc.; delivery of milk in cities at any hour of the day when it can be supplied in the best condition; restrictions on the sale of milk in markets, candy stores, etc.; delivery of milk from such stores in bottles only; mixing of herd milk so as to get an article of uniform composition; bottling of milk only at the dairy or place of general supply; daily sterilization of milk utensils; more rigid inspections for preservatives in milk; chemical and bacteriologic examinations of milk; standards for cream and skim milk; the passage of no law that can not be reasonably well enforced; more pay and allowances and greater authority for milk and dairy inspectors; more severe penalties for violation of milk laws; publication of reports on inspection of dairies; education of milk producers by a liberal distribution of circulars, leaflets, etc., bearing on their work.

DISEASE AND MUNICIPAL RESPONSIBILITY.

Human life has become more precious in recent years, and human suffering has taken on the significance of an evil that must, as far as possible, be avoided at any cost. Accidents and death have lost most of their calm acceptance as inevitable results of providential conditions, and strict accountability is demanded. It would be well if the same thing were more true with regard to disease than has been the case up to the present time. Modern medical progress has taught very definitely what are the exact causes of many diseases, and we know now that in most cases when infectious disease affects a particular individual it is not usually (though, of course, it may be) because the person has "caught" the disease, as used to be said, but it is because some one has blundered and thus made it possible for the disease to be communicated in an unsuspected way.

Typhoid fever we now know to be due to the ingestion of the typhoid bacillus. The typhoid bacillus comes from the excretions of a patient suffering from the disease. Unless the assumption that forms the basis of the science of bacteriology is wrong, the disease germ never arises by any chance *de novo,* never originates spontaneously. If typhoid stools and urine were cared for as they should be, and as modern medical practice has made it rather easy for them to be, there should be no further cases of typhoid fever. An enthusiastic sanitarian said not long since, with regard to this question of cause and effect in typhoid fever, that when a person dies of typhoid fever some one should be hung. There is no doubt that a criminal responsibility attaches to the neglect of precautions which would make impossible the communication of typhoid fever to those as yet unaffected by it.

These considerations are of special interest at the present time when we are entering on the season of the year in which typhoid fever is more frequent than at any other and when the death rate from the disease always becomes an important factor in the mortality of most of our large cities. Some of the reasons for this prevalence of typhoid at this season are well understood. The main factors in its distribution are water and such food materials as milk, oysters and certain vegetables that are eaten raw. These articles of food and drink are not dangerous unless there has been some serious neglect with regard to the precautions necessary to protect them from infection by typhoid bacilli. Of all of them by far the most important is the water supply, and this is usually under the care of the municipal authorities, or if supplied by private parties it is under a franchise from the municipal government.

It is only logical to conclude that under these circumstances legal criminal responsibility should hold against the municipal authorities or against those to whom they have granted a franchise if it can be shown that there has been neglect of proper precautions in the matter. A half century ago large corporations were able to shirk their responsibilities for accidents, much more readily than at the present time, but, fortunately, a proper sense of their obligations in such matters has grown up in our communities, and it is well understood that damage suits will follow bodily injury.

It seems not improbable that a corresponding state of affairs will have to come to pass with regard to responsibility for disease. There is no doubt that large corporations are much more careful in guarding against accidents and injuries, since it has become a matter of costly experience that their responsibility for them will always be held strictly to account. Perhaps municipalities will come to something of the same realization under the stress of similar conditions.

Certainly at the present moment nothing is more discouraging in social affairs than the fact that citizens somehow do not consider municipal responsibility as ac-

countable for the suffering, often permanent injury and frequently death that is inflicted by municipal neglect in these important matters.

There is room for improvement in the civic sense of our American communities. Citizens must come to the realization of what is owed to them by city governments in the matter of protection for health, and now as the precautions necessary to secure proper sanitation in every way are so well understood, failure should be followed by immediate legal reclamation. It would seem that physicians owe it to their fellow citizens to make them understand that responsibility for disease is quite as direct as that for accidents. We can foresee that the awakening of such a feeling will be followed by further progress in the healthfulness of city life.

INFANT MORTALITY AND THE LAW OF NATURAL SELECTION.

Those persons who are wont to strengthen a comfortable optimism by extracting sunshine from cucumbers have often urged the view that the high infant mortality that is so characteristic of city life in our time is, from the racial standpoint, not altogether deplorable. The specious argument runs that through the stress of environmental conditions the weaker individuals in each generation are eliminated during the period of infancy, and that, therefore, the adult population in those districts where infant mortality is high must be more vigorous than if the weaklings were able to develop to maturity. It has been asserted that in places having a high infant mortality, the mortality in the succeeding years of childhood is actually lower, the average fitness of the male population for military service greater and tuberculosis less prevalent. Statistical evidence has been adduced in support of this view, especially by Oesterlen, who has maintained with a show of figures that those districts in Europe having a large death rate among infants exhibit a lower mortality during the succeeding years of childhood than do those countries in which the infant mortality is small. The implication is that a high death rate during the first months of infancy must in the long run benefit the race by weeding out the weaker and less fitted to survive. In some quarters fear has been expressed lest too great devotion to the task of preserving feeble infants may lead to a deterioration in the physique of future generations.

From one point of view the preservation of weakly infants needs no defense. The world has been too often the debtor to men of feeble constitution to be willing to admit that only those of strong physique are of value in advancing the knowledge and well-being of the human race. The present generation, with its eyes fixed on the importance of definite material accomplishment, may perhaps need the reminder of Mr. Bliss Perry in his recent brilliant essay on indifferentism that "None of our contemporary hallucinations leads more certainly to ultimate weariness and indifferentism than this too exclusive glorification of 'men who do things.' . . . If we have purchased speed and power at the cost of nobler qualities, if the men who do things are bred at the expense of the men who think and feel, surely the present American model needs modification." But although the idealist and what he stands for may not be conspicuous in the columns of the American daily newspaper, there are many reasons for believing that the kind of success due to great energy and dominant physical power is not the only thing that at present looms large in the minds of many Americans. Huxley has expressed himself on this matter of selecting good citizens with a characteristic touch of scorn for the "saviors of society": "I doubt whether even the keenest judge of character, if he had before him a hundred boys and girls under fourteen, could pick out with the least chance of success those who should be kept, as certain to be serviceable members of the polity, and those who should be chloroformed, as equally sure to be stupid, idle or vicious. The 'points' of a good or of a bad citizen are really far harder to discern than those of a puppy or a shorthorn calf." The assumption that physical vigor in infancy constitutes any criterion of the future significance of the individual to the race may be dismissed as a crudity of a one-sided conception of human life.

From the standpoint of bodily energy or simple physical vigor, the natural selection argument may still retain an element of plausibility. Prinzing, however, in a recent searching criticism[1] of the doctrine advanced by Oesterlen and others, reinforced by extensive statistical material, is utterly unable to find any reason for believing in the existence of correlation between high infant mortality and either a diminished mortality in the early years of childhood, superior physical qualifications for military service, or a low death rate from tuberculosis. In none of these respects do communities that are favored with a high infant mortality possess any advantage over those in which the infant mortality is low.

It is not surprising that this should be the outcome of Prinzing's statistical inquiry when we reflect that by far the larger number of deaths among infants in the first months of life are due not so much to congenital weakness as to errors or misfortunes of nutrition. The quality of the food to which a young infant has access is the great leveler, and does far more than robustness at birth to determine whether the young Darwin or Pasteur or Roosevelt shall perish or survive. Little alarm need be felt, therefore, at the efforts now making to lower the excessive infant mortality in the chief centers of population. It is safe to assume that these endeavors are not running counter to the law of natural selection, and will not necessarily result in a survival of either the physically or the intellectually unfit.

ASEXUALIZATION OF CRIMINALS.

A Baltimore grand jury has recommended the asexualization of those convicted of criminal assaults on

1. Centralbl. f. allgem. Gesundheitspfl., 1903, xxii, p. 211.

women, and especially on young girls, thus giving a sort of judicial or official recognition to the proposition that has been repeatedly made by private individuals. That it will be acted on at the present time is rather more than doubtful, but it shows a tendency that may grow even to the point of actual legislation at some future time. Such a punishment might be construed as unconstitutional, but it would at any rate be better than lynching, which is getting so common in some sections that its peculiar methods can almost escape the constitutional provision against "unusual" punishments. Whether the proposed method would be considered unconstitutional we are not prepared to say, but it would be comparatively humane and for a certain class of criminals more effective than the usual methods.

THE LUST OF SLANDER.

Referring to our editorial last week under the above caption, we are glad to report that Dr. Leffingwell has made a "reply" in the last issue of *American Medicine*. The reply is evasive. Dr. Leffingwell does not deny or disprove that his remarks have created an impression warranting the reference to them in the British antivivisection journal. We must judge utterances by the impression that they are evidently intended to convey rather than by their literal verbal text which may favor quibbles and an evasive answer. It seems clear to us from Dr. Leffingwell's own showing that he had brought out the charge that vivisection was carried on for infamous purposes, and no man recognizing its value and not wishing to convey false impressions would have allowed himself to speak so as to permit of such inferences. We do not think he has cleared up the case as far as his own responsibility is concerned, though he has said enough to spoil his testimony for the antivivisectionists.

Medical News.

CALIFORNIA.

Fullerton Hospital Completed.—The new hospital at Fullerton has been turned over to the board of directors by the contractors. On August 13 the building was formally opened. It has 21 rooms in all and is thoroughly equipped.

Vital Statistics.—In San Francisco during July 500 births were registered, a rate of 14.62 per 1,000 per annum; during the same period 609 deaths were recorded, equivalent to an annual death-rate of 17.82 per 1,000. Violence caused 50 deaths.

Two More Cases of Plague.—The ninety-eighth case of bubonic plague in San Francisco was that of Lee Jim, a Chinaman, who was found dead July 20. The diagnosis was confirmed by autopsy and by bacteriologic tests.——On August 9 W. Bock, a German, of Pacheco, Contra Costa County, died at a San Francisco hospital, and the autopsy established the diagnosis of plague. This is the ninety-ninth case.

Aids State Medical School.—Regarding the relation of the State University to its affiliated medical department, which was discussed at the recent meeting of the board of regents of the university, the superintendent of public instruction states:

> After considerable discussion it was agreed to supply temporary relief to the school, by authorizing its financial committee to sell certain property that was willed to the institution by Dr. Toland, and to apply the money received to the financial aid of the school. The exact status of this department will be an important question for future decision. the regents being about equally divided in opinion as to whether to assume full control of the school or to cut away from it entirely and allow it to shift for itself.

New Laboratory at State University.—The dedication of the Loeb Physiological Laboratory of the University of California took place on August 20. The dedicatory address was delivered by Prof. Wilhelm Ostwald of Leipsic, it being delivered in German, but a full translation was published in the San Francisco papers, as was also the address of Dr. Loeb. The Loeb Laboratory is the gift of Rudolph Spreckels, who furnished $25,000 for the purpose, beside a large part of the equipment. Dr. Herzstein also assisted in equipping the laboratory. Mrs. W. H. Crocker gave a library. An anonymous friend of the university furnished the means of paying Dr. Loeb's salary.

Personal.—Dr. Benjamin A. Plant, physician at the State Penitentiary, Folsom, has resigned.——Dr. James P. Dunn, Oakland, has been appointed chief surgeon of the Southern Pacific Railway in Alameda County.——Dr. Charles E. Turner, Vallejo, has been elected secretary of the local board of health, vice Dr. Walter D. Anderson, deceased.——Dr. Bertram F. Alden has been elected chief surgeon of the French Hospital, San Francisco, succeeding Dr. F. P. Canac-Marquis, resigned.——Dr. J. Denis Arnold, San Francisco, was recently thrown from his horse at Council, Alaska, spraining and wrenching his ankle seriously.——Drs. Edward Henderson, Isaac N. Hughey and Thomas J. Wilson have been appointed members of the Pomona Board of Health.

COLORADO.

July Deaths.—During July 774 deaths occurred in the state, equivalent to an annual death-rate of 15.67 per 1,000. Of these, 12 each were caused by diphtheria and typhoid fever, 3 by smallpox and 2 by scarlet fever.

College Opens.—Denver and Gross Medical College, Denver, opened for its second year September 14, with addresses by Chancellor Henry A. Buchtel, Dr. Edmund C. Rivers, president, and Dr. Leonard Freeman, vice-dean, of the institution.

Personal.—Dr. Arnold Stedman, Denver, was operated on for appendicitis, September 3, and is reported as doing well.——Dr. Elsie Reed Mitchell, Denver, leaves for India, October 1. She will take charge of the Lutheran Hospital at Guntur.

Communicable Diseases.—During July 126 cases of diphtheria, 64 of scarlet fever, 133 of smallpox, and 55 of typhoid fever were reported to the State Board of Health. Compared with the previous month, this shows a decrease of 40 cases of diphtheria, 41 of scarlet fever, and 54 of smallpox, and an increase of 30 cases of typhoid fever.

CONNECTICUT.

New Britain Hospital.—The new hospital building, erected at a cost of more than $20,000, is expected to be ready to receive patients some time this month.

Hospitals Incorporated.—The New Haven Emergency Hospital and the Eastern Emergency Hospital of New Haven, with capital stocks of $5,000 and $2,500 respectively, have been incorporated.

Medico-Military Changes.—Major Rockwell, surgeon First Infantry, C. N. G., has been placed on the retired list; Assistant Surgeon John B. McCook, Hartford, has been appointed surgeon-major, and Dr. Herman A. Tyler, Jr., Hartford, surgeon-lieutenant, both being assigned to the same regiment.

Wickerwork Coffins.—Dr. Charles A. Lindsley, New Haven, secretary of the State Board of Health, advocates burying the dead in wickerwork caskets instead of the usual wooden or metal coffins. The body of the deceased, he said, might sooner come in contact with the earth and be more quickly destroyed. This would be a more sanitary method than the present one.

GEORGIA.

Unqualified Practitioner Sued.—Frances McCandless of Atlanta, a graduate of the American Health College of Cincinnati, an institution incorporated with the object of "teaching and practicing the Religious Spiritual Vitapathic System of Health and Life for Body and Soul," has, nevertheless, been sued by an ungrateful patient for $20,000 damages, for alleged malpractice.

The Grady Hospital Matter.—The committee on hospitals and charters appointed to investigate the rules of the Grady Hospital, Atlanta, in its report endorses the present management of the hospital; and recommends that the entire board of trustees act in the management instead of an executive committee; that the pay department of the hospital be abolished after Jan. 1, 1904; that the number of trustees be reduced to 7; that the out-patient department be abolished; that visiting hours be allowed on Sunday, and that information regarding the affairs of the hospital be freely furnished to the public.

The State Board of Health.—At its first meeting, September 10, in Atlanta, the board was organized, a constitution and by-laws adopted, and Dr. Augustus P. Taylor, Thomasville, elected president *pro tem.*, and Dr. Robert M. Harbin, Rome, secretary *pro tem.* After the organization the following officers were elected: Dr. Willis F. Westmoreland, Atlanta, president; Dr. H. F. Harris, Atlanta, secretary for six years; Drs. Charles Hickes, Dublin, Samuel C. Benedict, Athens, James B. Morgan, Augusta, and Howard J. Williams, Macon, committee on general powers and duties; Drs. H. F. Harris, Atlanta, William W. Stewart, Columbus, and Robert M. Harbin, Rome, committee on diseases common to man and animals, and Drs. Augustus P. Taylor, Thomasville, Giles Hathcock, Belton, and Millard S. Brown, Fort Valley, committee on sanitation and vital statistics.——Dr. F. M. Ridley, La Grange, having declined appointment on account of ill health, the governor has appointed Dr. William W. Stewart, Columbus, a member of the board.

ILLINOIS.

Offender Provisionally Released.—On her promise to refrain from practicing medicine, Mrs. Edith Nail, Pekin, who was arrested a short time ago on the charge of illegal practice, was released September 10.

Physician's Register.—The 1903 "Report on Medical Education" of the Illinois State Board of Health will be issued in about two weeks. This report includes an official register of physicians, corrected to Sept. 14, 1903. Illinois physicians desiring a copy of the report should write to the secretary of the State Board of Health, Springfield.

Skeletons Found in Sanatorium.—In a building formerly occupied by Dr. Carl L. E. Weber, Quincy, as a private hospital for women, in which three skeletons were found a year ago, two more skeletons were found, September 4. While it is supposed that these skeletons are of patients who died in the hospital, Dr. Weber will not be prosecuted as, it is alleged, he is at present under restraint, a mental and physical wreck.

Does Running Water Purify Itself?—Sanitary experts, physicians and bacteriologists representing the Chicago Drainage Board left Chicago, September 16, for a trip down the drainage canal and the Illinois River to St. Louis for the purpose of examining the water along the route and ascertaining whether germs are carried from Chicago to St. Louis. The Sanitary Trustees declare that the river purifies itself long before reaching St. Louis.

Examination for Medical Officers.—In conformity with the new military code adopted by the last general assembly requiring that all medical officers of the National Guard shall be examined as to their competency, the following are ordered to report to General Nicholas Senn in Chicago, September 26, for examination: Charles J. Sowle, first lieutenant and dental surgeon, assigned to Third Infantry; Walter J. Brown, Danville, first lieutenant and assistant surgeon, assigned to artillery battalion; Horace H. Sheets, first lieutenant and assistant surgeon, assigned to Third Infantry; Arthur F. Wilhemy, Decatur, first lieutenant and assistant surgeon, Fifth Infantry; William H. Maley, Galesburg, first lieutenant and assistant surgeon, artillery battalion, and Levi S. Brown, first lieutenant and veterinary surgeon, assigned to artillery battalion.

Chicago.

Hospital Buys Land.—George B. Swift has sold to the Frances E. Willard Temperance Hospital property 24 by 115 feet on Lincoln street, for $1,000.

Personal.—Dr. Frank E. La Force has returned after a month on the Pacific Coast.——Dr. and Mrs. G. E. Fosberg have returned from abroad.——Dr. Denslow Lewis has returned from a year's residence in Berlin.

No Ground for Alarm.—The health department says diphtheria is not so prevalent as usual in the city at this season of the year. There were only 10 deaths from the disease reported during the week, as compared with 14 during the week before. There will undoubtedly be an increase as cold weather approaches from the effects of huddling together in badly-ventilated rooms, both at home and in school.

Deaths of the Week.—Deaths from all causes for the week ended September 12 numbered 504, or 40 more than for the previous week, and 10 more than for the corresponding week of 1902. Acute intestinal diseases head the list of death-causes with 92; then come in order, consumption, 57; violence, 41; heart diseases, 39; Bright's disease, 34; nervous diseases and pneumonia, each 22, and typhoid fever, 21. The deaths represent an annual death rate of 13.94 per 1,000.

Meddlesome, Mischievous and Sensational.—In these terms the department of health characterizes the recent attempt to the superintendent of compulsory education to operate a special health department:

> Physicians of Chicago, school principals and teachers and parents of school children are officially notified that they are not required, either by state law or city ordinance, to report cases of contagious disease, suspected or actual, to any authority except the Contagious Diseases Division of the City Health Department.
>
> This public notice is made necessary by a renewal of the efforts of the superintendent of compulsory education of the school board to operate an independent health department of his own. His motive is no doubt a laudable one, and if his efforts were guided by a moderate degree of professional intelligence and qualification for the work they might be beneficial instead of detrimental. As it is they are meddlesome, mischievous and sensational.

INDIANA.

Typhoid Raging at Norwood.—It is reported that typhoid fever is raging at Norwood, a suburb of Indianapolis, where 21 cases of the disease existed on September 10, with very bad sanitary conditions.

To Restrain Eddyism.—The State Board of Medical Registration commenced the prosecution of Eddyites, August 21, when affidavits were placed in the hands of the states attorney, charging Anna B. Dorland and Laura Funk, Indianapolis, with practicing medicine without license.

New Hospital for Michigan City.—Contracts for the construction of St. Anthony's Hospital, Michigan City, have been awarded by the Order of Franciscan Sisters. The building is expected to cost about $60,000, and is to be ready for occupancy next spring. The cornerstone is to be laid October 11.

Personal.—Dr. William C. Willeford, Washington, had a narrow escape from death by atropin poisoning recently. ——Dr. Theodore C. Sargent has been appointed surgeon at the State Soldiers' Home, Lafayette, vice Dr. John A. Martin, resigned.——Dr. Barnhardt Erdman, Indianapolis, has sailed for Europe.

Smallpox.—There were 112 cases of smallpox reported in August from 29 counties, with 12 deaths. In the corresponding month last year there were reported 245 cases in 30 counties, with 2 deaths. The decrease in cases, it will be noted, was 130. The area was decreased by one point and the number of deaths increased 500 per cent. These figures indicate an increased virulence.

August Deaths.—The total number of deaths reported was 2,933, an annual rate of 13.7 per 1,000. In the corresponding month last year there were 3,158 deaths, a rate of 14.8 per 1,000. Deaths under 1 year were 598, or 21.3 per cent. of the total. Deaths 65 years and over, 630, or 22.8 of the total. The consumption deaths numbered 259, typhoid fever 108, diphtheria 21, scarlet fever 8, measles 3, whooping cough 10, pneumonia 79, diarrheal diseases 451, cerebrospinal meningitis 37, influenza 10, puerperal fever 10, cancer 124, violence 165, and smallpox 12. The country death rate was 11.8, the city death rate 17.4 per 1,000. The country rate was less in all but three diseases, namely, scarlet fever, measles and influenza.

Morbidity for August.—The public health was not quite as good as in the preceding month, but was better than in the corresponding month of last year. Typhoid fever increased greatly over the preceding month, the deaths being respectively 108 and 63. There were fewer typhoid deaths, however, than in August, 1902. The order of prevalence of disease was as follows: Typhoid fever, diarrhea, cholera infantum, cholera morbus, rheumatism, dysentery, intermittent fever, tonsillitis, bronchitis, inflammation of bowels, scarlet fever, diphtheria, influenza, pneumonia, erysipelas, measles, whooping cough, pleuritis, cerebrospinal meningitis and puerperal fever.

Resolutions Regarding Contract Work.—At the meeting of the Henry County Medical Society held at Spiceland, June 25, the following resolutions were adopted:

> WHEREAS, One of the principal objects of our organization is to enable its members to receive just and full compensation for their services;
>
> WHEREAS, The rapid building of traction lines, whose construction and operation are fruitful causes of accidents and injuries, is of vital importance and interest to the physician and surgeon;
>
> WHEREAS, Traction companies are offering to make contracts with physicians and surgeons, wherein the sole compensation for the services of the latter consists of passes over the lines of said companies; (See copy of contract appended.)
>
> WHEREAS, This appeal to the vanity, jealousy and envy of the surgeon tends to debase the dignity of the profession and therefore calls for imperative action on the part of this society; therefore, be it
>
> *Resolved*, That it is the sense of this society that entering into contracts with traction or other companies, to serve them without just and full compensation is undignified, unprofessional and in-

jurious to the profession, and that we should not enter into such contracts and to do all in our power to discourage others from entering into them;

Resolved, That a copy of these resolutions be sent to each physician in Henry County, requesting his co-operation in carrying out the same.

SAMPLE CONTRACT.

..... TRACTION COMPANY OF INDIANA.

I, ..., M.D., of ....., Indiana, hereby propose and agree to serve the ..... Traction Company of Indiana as surgeon at ....., Indiana and vicinity, for the consideration of an annual pass for myself, over the Interurban Lines of this Company, and in the event of the acceptance of this proposition I hereby agree:

1st. To attend professionally to the best of my ability all cases of personal injuries received by employés of said Company or by any other persons, whether passengers, highway travelers or others, arising directly or indirectly from or in the management, operation or business relating to said Company or where such injuries occur upon the property of said Company, and to furnish the necessary dressings and medicines while attending these cases; and to promptly report each case on the proper blank furnished for this purpose.

2nd. To go to any point upon the Company's lines and give the necessary attention to the injured persons, when requested in cases of emergency, also to attend any case of injury as above named when brought into my vicinity.

3rd. To examine persons who claim to have been injured in a manner aforesaid when requested, and make a prompt report to the Company, and attend court to give testimony in regard to such cases without extra compensation, also to vaccinate employés and make physical examinations of them when requested.

4th. To provide, at my charge and expense, the necessary attention above specified, by a competent surgeon in my absence or disability.

KANSAS.

Illicit Sale of Cocain.—P. P. Aherne, a druggist of Wichita, has been arrested on the charge of selling cocain and morphin without the prescription of a physician.

New Asylum to Open.—The new state hospital at Parsons, intended for the use of epileptics only, will be opened some time this month. The buildings thus far erected will accommodate 165 patients, but the intention is eventually to enlarge the buildings to a capacity of 1,000.

Too Much Calomel.—Dr. Olin P. Wood, Hall's Summit, has been sued by J. P. Stukey, who alleges that the defendant gave him mercury and calomel in excessive amounts and with undue frequency, whereby he was salivated, etc. He asks $1,000 damages.

Asylum Abuses.—The committee appointed by the governor to investigate alleged abuses in the state hospitals for the insane, embodies in its report the following:

The committee finds that there exists in the wards, among the attendants, careless practices in the handling of patients that frequently amount to unwarranted force and punishment, and sometimes to cruelty.

There exists among the attendants a kind of secret understanding which has the influence of restraining one attendant from informing the superintendent or other superior of cases of misconduct and abuses on the part of other attendants toward the patients.

KENTUCKY.

Smallpox.—Dr. Uriah L. Taylor, Columbia, reports 19 cases of smallpox in the eastern part of Adair County.——At Washington, Daviess County, 16 cases are reported.

Quarter System in Louisville Medical College.—The medical department of Kentucky University has decided to introduce the quarter system and continue in session the whole year.

Personal.—Dr. P. Richard Taylor, Louisville, dean of the Hospital College of Medicine, has just recovered from a serious attack of ptomain poisoning.——Dr. Hugh R. Manning, chief clerk to the pension agent in Louisville, has been asked to resign because of alleged infringement of civil service rules.

What Killed Caine.—Considerable interest has been aroused by the autopsy ordered by the insurance companies on the body of the late Paul Caine, who was drowned in the Ohio River several weeks ago. Drs. Samuel E. Woody, Philip F. Barbour, George W. Griffiths and H. L. Hunt are in charge of the investigation for the insurance companies; Drs. Henry M. Goodman, Henry A. Cottell and A. Harris Kelly for the Caine family. Strychnin was suspected to have been taken by the deceased prior to his going into the water for a swim, and it is on these suspicions that the examination has been ordered.

Vital Statistics of Louisville.—Health Officer Allen has just submitted his annual report for the fiscal year ended August 31. Among the diseases credited with the most deaths are the following: Tuberculosis, 449; heart disease, 329; pneumonia, 293; inanition, 184; diphtheria, 121; typhoid fever, 157; Bright's disease, 181; enterocolitis, 145, and meningitis, 101. Considerable space is devoted to the question of diphtheria, the death rate from which was 6.8 per cent. The disease was of a much more virulent type than in previous years. Prior to 1898 there were no records of contagious and infectious diseases. In 1898-9, with 189 cases, the mortality rate was 1.37; 1899-1900, 160 cases, with a death rate of 1.62; 1900-1, 317 cases, with a death rate of 16.22; 1901-2, 844 cases, with a death rate of 1.30; 1902-3, 834 cases, with a death rate of 6.08 per cent. Dr. Allen commends the city for its action in distributing free antitoxin to those children whose parents are unable to purchase it.

LOUISIANA.

Personal.—Dr. Felix Formento, surgeon of the Soldiers' Home, New Orleans, has resigned.

Milk Inspection.—The authority of the New Orleans Board of Health to inspect milk brought into the city by out-of-town dairies was established at a conference held between the state and city boards last week.

Proposed Pasteur Institute.—At the meeting of the board of administrators of the Charity Hospital, New Orleans, held September 7, the question of establishing a Pasteur addition to the hospital was discussed, but no definite action was taken.

Sanitary Report for August.—The sanitary officer of the New Orleans Board of Health reports: Diphtheria, 11 cases, with 2 deaths; scarlatina, 4 cases; variola, 1 case (colored), imported; typhoid fever, 79 cases in 66 premises, with 21 deaths, 13 white, 8 colored.

Sanitary Barber Shops.—At the last meeting of the New Orleans Board of Health a report was submitted recommending the sterilization of all implements used in New Orleans barber shops. The regulations are drawn up on the same lines as those adopted by New York and other cities.

August Mortality.—The August mortality showed an improvement on the record for the same month last year. White mortality 313, colored 173, total 486; giving a death rate for white of 16.54 per 1,000 per annum and for colored 25.01, or a total death rate of 18.81. The rate for August, 1902, was 19.98, 17.72 for white, and 27.82 for colored.

Lunacy Increasing.—It is said by Dr. George A. B. Hays that in Louisiana insanity is increasing at the rate of more than 10 per cent. a year, or five times as fast as the population. When he took charge of the Louisiana Insane Asylum at Jackson in 1896 there were 850 insane persons; there are now 1,550, an increase of 80 per cent. in seven years, while the population has grown only 15 per cent.

MARYLAND.

Baltimore Personals.—Dr. John G. Jay is at Wiesbaden, Germany.——Dr. Alexander D. McConachie has returned from abroad.——Dr. George W. Norris has gone to the White Mountains.

Families of Deceased Physicians.—The following have been appointed trustees of "The Fund for the Relief of Widows and Orphans of Deceased Members," founded by the Medical and Chirurgical Faculty at its meeting in April: Dr. Eugene F. Cordell, chairman, Drs. William Osler, Daniel W. Cathell, John W. Chambers and Robert W. Johnson. An effort will be made at once to start the project with $1,000.

Springs' Virtues Long Known.—In 1698 the provincial assembly empowered a body of trustees to purchase land for the erection of a hospital for the sick poor, at the "Coole Springs in St. Mary's County." This action was induced by the prevalence of an epidemic in the state. To this first Maryland hospital Gov. Francis Nicholson subscribed $125. The act authorized the purchase of 50 acres, including the said "healing fountains." Miraculous cures were reported from the use of these waters, which are still used for the supply of Charlotte Hall School, also a provincial foundation. It is of interest that the recognition of the powers of these springs formed part of the first Thanksgiving proclamation in Maryland.

Medical Points in Grand Jury Report.—The report of the grand jury contains some points of medical interest. The sanitary condition of the city is pronounced very unsatisfactory. Diphtheria, scarlet fever and typhoid fever during May, June and July were doubly as prevalent as last year. The improvements recommended are a modern sewerage system, improved pavements, abolition of slaughter houses in the city limits, a hospital for infectious diseases, improvement of the city's water supply, and the discontinuance of the practice of collecting refuse from hotels and lunch rooms by day. A lavatory at the entrance of the park is recommended. About three-fourths of the cases that come before the grand jury are of negroes, who in nearly all cases live together as man and

wife, without regard to the marriage law. It would be wise to compel these people to marry; if not, to punish them for adultery, thereby reducing the cause for a great deal of crime. Castration is suggested for the crime of assault on women, and especially on little girls, and the enactment of a law to that effect by the next legislature of Maryland, which meets this winter, is heartily recommended. Hanging no longer deters this class of depraved criminals. Such a bill was introduced in the last Pennsylvania legislature. The growing cocain habit is considered responsible for a great deal of crime.

MISSISSIPPI.

Publication of Results of Examinations.—The Mississippi State Board of Health, at its last meeting, May, 1903, adopted the following:

WHEREAS, The experience of this board shows a rapidly increasing number of applicants for license to practice medicine, who are decidedly deficient in the elementary branches of an English education and who are unable to comprehend the meaning of many plainly-written questions; whose early education is so meager that it is impossible for them to grasp the principles of medicine. Since this is an injustice to the public, and dangerous to the lives and health of the people of the State of Mississippi, be it

Resolved, That, in future, the names of the applicants who fail before this board, as well as the names of those who pass, shall be given out for publication, with the names of the medical colleges of which they are graduates. And, further, be it

Resolved, That the secretary of this board shall transmit to the various medical colleges whose graduates appear before this board a list of students from their colleges who fail, with the request that greater requirements in the elementary branches of an English education be made of students who matriculate at their schools.

NEW YORK.

On Road to Recovery.—Dr. George Blumer, formerly director of the Bender Laboratory, Albany, who was operated on for appendicitis September 1, is making a good recovery.

Pure Water for Lockport.—The fire and water committee of the common council was granted permission by the council to issue bonds for $2,000 and to use it for the employment of water experts and to sink test wells.

Barber Examiners.—The State Board of Barber Examiners has announced that it will begin prosecution immediately of the barbers of the state who have failed to secure licenses. A fine of $10 or 30 days in jail is provided.

Dinner for Dr. White.—Dr. William A. White, Binghamton, who has recently been made superintendent of the Government Hospital for the Insane, Washington, was given a farewell dinner by a large number of Binghamton friends, August 31. The employes of the hospital have presented Dr. White with a handsome Turkish rug.

New York City.

A Fasting Man.—A press builder of Brooklyn has undertaken a forty-day fast to demonstrate that it is possible for a man to live and work well on a diet of water. He began the present fast on August 22, at which time he weighed 173 pounds. On a former occasion, it is said, he went without eating for nearly three weeks.

Suspension, Protest, Reinstatement.—The suspension of one of the house physicians of Bellevue Hospital, Dr. W. B. Jones, has resulted in the drawing up of a formal protest by the house staff for presentation to the board of medical inspectors. The document complains of the uncivil manner in which the members of the house staff are treated by the superintendent of nurses, and asks that the authority of the superintendent be defined. Dr. Jones has been reinstated on condition that the authority of the superintendent is always to be recognized.

Research in Pathology and Bacteriology.—Cornell University Medical College has provided for a chair of experimental pathology and bacteriology to carry on research work, independently of the regular instruction given to undergraduates. Dr. Bertram H. Buxton is to be in charge, and will be assisted by Dr. Victor C. Vaughan, Jr. The pathologic organic chemistry, so intimately associated with all the problems of disordered metabolism, will be under the direction of Mr. Beebe. This work is to be entirely distinct from all undergraduate or postgraduate instruction and purely for the advancement of scientific knowledge, and is to be conducted in the Loomis Laboratory, a building originally designed especially for this purpose.

Health Department Projects.—It is the purpose of the health department to erect a one-story building next to the department's building, wherein medical aid will be rendered by the health department physicians to poor consumptives. A new hospital for the treatment of trachoma cases from the public schools is to be established in October, and hospitals for the same purpose are to be opened in the boroughs of Brooklyn and the Bronx. It is also planned to inaugurate an extensive system of sewerage and drainage near Coney Island and Sheepshead Bay and on Staten Island in the hope that mosquitoes and malaria may thus be exterminated. This last project will, of course, be expensive, but is to be paid for by assessments on the property benefited.

PENNSYLVANIA.

Philadelphia.

Increase in Typhoid.—Typhoid fever showed an increase for the week ended September 12, there being 135 new cases reported, as against 104 for the week before. The feeling prevails that smallpox is under control, there being only 7 new cases for the week.

Health Department and School Board Co-operate.—The department of health and the board of education are to co-operate in the inspection of the pupils of the public schools to determine in each case whether the child is properly protected by vaccination. When such protection does not exist parents are to be urged to have vaccination done either by the family physician or at the city's expense by a vaccine physician. Pennsylvania is much in need of a compulsory vaccination law.

Phipps Institute Chartered.—A charter has been granted to the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. The managers are now in a position to make plans for the permanent institution, involving an expenditure of $1,000,000, the gift of Henry Phipps. It has not been decided where the institute will be permanently located. The idea of the president seems to be that a thickly-populated section should be chosen, such as that now occupied by the temporary institute. The directors for the first year are Henry Phipps, Dr. Lawrence Flick of Philadelphia, president, and George E. Gordon of New York. An attempt will be made to have the International Congress of Tuberculosis meet at the institute in 1905.

SOUTH DAKOTA.

Adopt Resolutions.—The State Medical Society, at its recent meeting, adopted the resolutions concerning the examination of the eyes and ears of school children, which were recommended by the American Medical Association.

Personal.—Dr. James A. Somerville, for two years physician for the State Soldiers' Home, has resigned, and Dr. William S. Bentley, Gary, has been appointed to succeed him.——Dr. Romeo R. Stevenson, Sioux Falls, has returned from a six months' trip to Europe.

Law Constitutional But Not Retroactive.—Dr. Gilbert Loeffler, Yankton, who was arrested a short time ago by the authorities of Minnehaha County on the charge of having come to the county to practice without having paid the $500 itinerant physician's license required by the medical examiner law of the last legislature, has been discharged. Judge Jones held that the law does not apply to physicians who were practicing in the state when the law went into effect July 1, 1903. The decision in no way affects the constitutionality of the law.

GENERAL.

Yellow Fever in Mexico.—No particular change is reported in the yellow fever situation in Mexico. Considerable financial loss is reported from Texas cities, due to the interruption of commerce.

Queen's Hospital, Hawaii, Report.—The biennial meeting of the Queen's Hospital Corporation, Honolulu, was held August 20. The number of patients admitted in 24 months was 1,398, of whom 522 were Hawaiians, 232 Americans, 165 Portuguese, etc. There were 95 major and 128 minor operations; and 92 deaths, which was a percentage of 6.28 per cent. Under agreement with the U. S. Public Health and Marine-Hospital Service 237 American seamen, of whom 41 were Hawaiian born, were admitted, and were treated by marine-hospital surgeons.

An Impostor.—Dr. J. H. Musser, Philadelphia, wishes to warn the profession concerning a young man who pretends to be his nephew, and on various pretexts secures money—mostly from Dr. Musser's personal friends. Dr. Musser has no nephew by the name of Musser, and knows of no one who dares use his name in any scheme whatever. Mr. P. Corzelius, representing the American Medical Association, has a letter from Dr. Musser, as well as other means of identity for the purpose of carrying on his work. Dr. Musser wishes other journals to circulate this warning.

Eddyism in Hawaii.—Hawaiian sorcerers and witch-doctors have taken up Eddyism and find it right along their line. At-

tention has been called to this by the recent death of a sick man from being beaten on the head with a heavy bible. A native by the name of Makaio has been sentenced to a term of two years for manslaughter, for prescribing the above treatment. He alleged that he directed simply the placing of the bible on the man. The widow alleged that he directed the more vigorous application, which she gave. His description of his satisfaction with Eddyism as a treatment is interesting.

The Cuban Plague Scare: Is It Yellow Fever?—The alleged disease at Daiquiri, near Santiago, Cuba, continues to cause much remark in the lay press. The latest development is the assertion of Dr. A. M. Fernandez Ybarra, who has recently come from Cuba, that yellow fever exists in Cuba, and is kept secret by the officials to prevent the United States from stepping in and establishing a quarantine, as is agreed by the treaty in case of an epidemic of yellow fever. He alleges that cases of yellow fever are called remittent fever, pernicious malarial fever, malignant jaundice, etc. In reply to this assertion, the United States Public Health and Marine-Hospital Service denies the presence of yellow fever, and declares that the statements of Dr. Ybarra are based on misinformation.

CANADA.

Spitting in Montreal.—The Woman's Christian Association of Montreal is making strenuous efforts to prevent spitting in the streets of that city. A deputation of the members waited on the mayor last week and presented statistics showing the prevalence of the habit.

Ontario Board of Health.—The Ontario government has appointed the following to compose the Ontario Board of Health for the next three years: Dr. Edward E. Kitchen, St. George, chairman; Dr. Alexander Thompson, Strathroy; Dr. R. P. Boucher, Peterboro; Dr. Wm. H. Oldright, Toronto; Dr. John Douglass, Coburg; Dr. J. J. Cassidy, Toronto.

St. Francis District Medical Association of the eastern townships of Quebec held its annual meeting at Sherbrooke, September 10. The election of officers resulted as follows: President, Dr. L. C. Bachaud; vice-presidents, Drs. J. McCabe and A. J. Beique; secretary, Dr. F. A. Gadbois; assistant secretary, Dr. Williams; council, Drs. Farrell, Austin and Carmichael.

Canned Vegetables Analyzed.—The chemists of the Inland Revenue Department at Ottawa have just completed an analysis of 100 samples of canned vegetables. No chemical preservative was detected in any sample. All save two were found in good condition. In two instances copper was found in peas, but only a trace, and there was no evidence that it was put there for the purpose of intensifying color.

Much Typhoid.—The report for August of the Montreal General Hospital shows that 243 patients were admitted into the wards during that month, that 217 were discharged and that 18 died. A great increase in the number of typhoid fever cases was reported, the capacity of the institution being severely taxed. At one time there were 55 cases, as compared with 15 in the corresponding month of 1902. In the out-door department there were 2,904 consultations. In July there were 280 patients and 21 deaths.

Executive Health Officers of Ontario.—The eighteenth annual meeting of the Association of Executive Health Officers of Ontario was held at Peterboro, September 9 and 10, under the presidency of Dr. Thomas MacFarlane of Ottawa, chief analyst for the dominion government. A discussion took place on a paper submitted by Dr. W. T. Connell, professor of pathology in Queen's University, on "A Water-Borne Epidemic of Typhoid Fever," and on a paper read by Dr. McNulty of Peterboro on "The Etiology and Suppression of Typhoid Epidemics." Another paper which excited keen discussion was one by Dr. Shaw of Keene on "The County Medical Health Officer," showing that there was a general feeling favoring a change that would substitute county and district health officers for township officers. A resolution was passed instructing the executive committee of the association to bring to the attention of the provincial government the necessity of some form of military drill being introduced into the public schools of the province. The election of officers resulted as follows: President, Dr. J. W. Lane, Mallorytown; vice-president, Dr. C. A. Bowlby, London; secretary, Dr. Hodgetts, Toronto; executive council, Dr. P. H. Bryce, Toronto; W. Chipman, C.E. Toronto; Dr. J. M. Shaw, Keene; Mr. W. S. Richards, Chatham, and Dr. Boucher, Peterboro.

FOREIGN.

Typhus in China.—A severe epidemic of typhus is reported (via Pekin) in the interior of China. Ten thousand persons have died.

Thousands for Roman Sanitarium.—Signor Pietro Cartoni, a rich Italian farmer, has given $190,000 for a tuberculosis sanitarium outside the city of Rome.

Biologic Blood Test Officially Adopted in Vienna.—The institute for serotherapy connected with the Vienna University has been empowered to furnish prepared serum for the biologic blood test for medicolegal testimony.

Statue to Ollier.—The model has been completed for the bronze statue of the late Professor Ollier which is to be erected in some public square in Lyons. There is to be only the life-size figure of the surgeon in his robe, on a simple granite pedestal.

Australia Wants Good Food for the Army.—A law has been passed in Australia, prescribing a penalty of three years' hard labor for supplying or knowingly receiving supplies for the army inferior to specifications. This includes contractors or purveyors and officials of the army supervising such matters.

Von Behring Honored.—The Emperor of Germany has conferred the title of *Wirklicher Geheimer Rath*, or actual privy councilor, on Prof. E. von Behring—a rare distinction. It is the first time that it has been given to a member of the profession who has not gained eminence as a surgeon, as was the case with Esmarch and von Bergmann.

Plague in Marseilles.—Eleven cases of bubonic plague with seven deaths occurred in Marseilles, France, the first of this month. They originated from a steamer with a cargo of rags from Constantinople. Prompt disinfection was enforced and the spread of the plague, it is thought, has been prevented. Cable reports state that there is little doubt of the identity of the plague.

Reduction of Lead-Poisoning in Germany.—The hospital statistics for Prussia show that the number of persons treated for lead-poisoning has fallen from 1,624 in 1899 to 1,383 in 1901. The total number of male patients admitted to the hospitals has increased during this time from 371,378 to 502,113, showing that the reduction in the cases of lead-poisoning is a reality.

Investigation of Substances Producing Radium.—The Vienna Academy of Sciences has appointed a committee, which is already at work, studying the pitchblende, the substance from which radium is derived. It occurs in profusion in the mineral-bearing mountains of Bohemia. Baron Auer von Welsbach, whose name is so familiar to Americans, has placed his extensive works and laboratories at the disposal of the committee.

The Next French Congress of Alienists and Neurologists.—The thirteenth congress was held at Brussels as previously mentioned. An interesting feature of the meeting was the trip to the family colony at Gheel, which has been in operation for centuries and is always cited by advocates of the family colony plan. The next congress will be held at Pau in August, 1904. Brissaud will preside and the following questions have been appointed for discussion; Organic Dementia; Motor Localization in the Cord, and the Criminal Insane.

Remuneration for Contract Practice in Germany.—The official sickness insurance societies of Saxony have recently published their annual report. It shows that the 2,463 societies in the kingdom paid for medical attendance during 1899, 4,867,008 marks, or about $1,234,000, equal to 4.25 marks, or $1.06 per member. This is an increase of 22 cents per member during the last five years. About 21.75 per cent. of the total income of the societies is paid out for medical attendance. These figures are above the average, and are regarded as an instance of benefit derived from organization of the profession.

Attempt at Suicide with Typhoid Cultures.—A young woman who had access to the medical laboratory connected with the Paris Charité hospital took from the incubator two tubes containing virulent cultures of the typhoid bacillus and swallowed the contents. The case is described in the last *Archives Gén. de Méd.* as a laboratory experiment demonstrating with mathematical exactness the data that have been gleaned from experimental research and by observation at the bedside. There were no symptoms for two days, then violent headache and by the sixth day the patient could not leave her bed. The temperature began to rise the seventh day, and after this the typhoid fever ran the customary course. She recovered in due time, and four months later was delivered of a living child.

The Leipsic "Verband."—This is the abbreviated name by which the German Association for the Relief of the Economic Conditions of Members of the Medical Profession is known in Germany. It was founded only a few years ago to supply advice and material aid to physicians struggling to maintain

their independence in contract practice or under other disadvantages. The Verband has aided the medical officers of the sickness insurance societies at Gera, Mühlhausen and elsewhere and warned other physicians not to take the places resigned by the officers on account of the intolerable conditions prevailing. The recent legislation on sickness insurance has brought numbers of new recruits into the association until it now has 8,933 members. At present it has seven places on its list where it is assisting the physicians, both materially and morally, in their resistance to the degradation of the profession by the sickness insurance societies. At Constance troubles of this nature have just been satisfactorily settled, thanks to its mediation.

Denunciations of Pasteur Treatment of Hydrophobia in Italy.—The *Journal de Méd. de Paris* never misses an opportunity to cast discredit on Pasteur treatment, and, in fact, Lutaud, the editor, has never accepted the science of bacteriology with the same seriousness as the rest of the medical world. The last issue of that journal contains a letter from Dr. C. Ruata, professor of hygiene at Perugia, commenting on the recent death of 4 persons at Novara who had been bitten by a rabid dog and who had taken a course of treatment at the Pasteur Institute at Milan. Ruata's communication also appears in certain Italian papers. He asserts that since the Pasteur institutes have been introduced into Italy the number of deaths from hydrophobia has constantly increased, whereas they used to average 65 a year, during the last fourteen years, since the institutes were organized, the average has risen to 85. About 3,000 persons are treated each year in the nine institutes in Italy, and the number of deaths has risen by a third. He argues that this state of things should be changed and prophylactic hygienic measures adopted instead of the false security imparted by the Pasteur institutes. The patients whom they report as cured probably never had the disease and would have remained in better health without it. Lutaud comments on the letter that Ruata's words will certainly attract attention where "science is not hypnotized by the glory of the gr-r-r-reat Pasteur."

Correspondence.

Tetanus in the South at the Christmas Celebration.

SAN ANTONIO, TEX., Sept. 9, 1903.

To the Editor:—Reading the editorial in THE JOURNAL, August 29, giving the astounding number of the last Fourth of July tetanus cases, it occurred to me to call your attention to the fact that the number of tetanus victims of the blank cartridge will be much greater if you include those which result during the Christmas celebration in the south.

On my arrival from the north to this city about four years ago I was pleasantly surprised to find how orderly and quietly the people here celebrate the Fourth of July. Not a single accident case was reported in the press; but my surprise was still greater when Christmas day came: Fire crackers, pistols and cannons were all brought into use in trying to make up for the Fourth of July. The celebration is in part kept up till after the New Year's day, and certainly, the usual accidents followed by tetanus are not wanting. The last Christmas celebration carried off two victims of tetanus, to my knowledge: a colored boy of 8 and a young white girl of 16. I am told that the same sort of Christmas celebration is going on all over the south. How far this is true, I think it will be worth while for you to investigate.

R. ROBINSON, M.D.

Sawing Off a Plaster Cast.

OAKLAND, CAL., Sept. 7, 1903.

To the Editor:—In THE JOURNAL, September 5, Dr. Bechtol speaks under New Appliances of the Gigli saw in the removal of plaster-of-paris casts, and describes the method. Whenever I think I have discovered something new I always think of the saying, "Go abroad, young man." The method and saw described have been in use several years on this coast. One of the first *x*-ray photographs taken in the Waldeck Hospital about seven years ago shows the saw in the cast, as it was left under the cast until the plaster had set; which is better than removing it while the plaster is wet and soft. If not the Gigli saw, a piece of twisted or nicked steel wire will do. It is well to put on a light gauze bandage over the cotton before covering up the wire with the plaster, because if the cotton catches in the wire it will not work. Put vaselin on the wire or it will get rusty and break easily if you should leave it in over night.

The idea is all right when one is sawing over a concave surface, but when sawing over a convexity the saw is liable to seek the level of the two resisting ends and cut anything that presses along its route. The saw is working in the dark, as it were. After the Doctor has sawed down on a few patellas and malleoli, and cut open the back of the leg a few times, and spoiled a few dollar and a half Gigli saws, he may resort to the old-fashioned ten-cent cobbler's knife which every one knows how to use and has no attachments. By filing it so as to get a rough wire edge and running it over the dressing just before it sets, it will cut easily, and you know what you are cutting. If you have a compound fracture and want a window in your dressing the saws are useless.

M. LEWIS EMERSON, M.D.

Illegally Reprinting Articles from the Journal.

NEW YORK, Aug. 18, 1903.

To the Editor:—My attention has been called to a reprint of my article on "Anesthol" (which appeared in THE JOURNAL, Feb. 28 and March 7, 1903), made and circulated by Messrs. Lehn & Fink, a wholesale drug firm of New York. These reprints were made entirely without my knowledge. I promptly wrote to Messrs. Lehn & Fink, asking for an explanation. The answer I received from them was most unsatisfactory, carefully avoiding the point at issue: "lack of my (the author's) consent for making the reprints," and not even offering an apology for their conduct.

I can but protest against the method adopted by this firm, viz., using a scientific article for commercial purposes, without securing the writer's consent prior to their doing so. I need not assure you that had they asked me beforehand I would have refused their proposition most emphatically. Is there no way of protecting a professional man against such abuses? WILLY MEYER.

NOTE.—Everything printed in THE JOURNAL of the American Medical Association is copyrighted, and no one has a right to reprint any of its contents without permission, consequently, Lehn & Fink are liable to prosecution for violating the copyright laws. It is to prevent just such occurrences as this that THE JOURNAL goes to the expense of copyrighting all of its contents, and such a violation of law and the rights and privileges of others, we are happy to say, seldom occurs.

The Proper Perineal Prostatectomy Incision.

GLASGOW, Aug. 29, 1903.

To the Editor:—The incision in question is undoubtedly the inverted Y, as advocated by Professor Senn in THE JOURNAL, August 15, and there can be little doubt that its more general acceptance will be hastened by the support its practice has just secured at the hands of an authority so widely accepted as Professor Senn's.

The inverted Y incision I have practiced and taught for years as the proper incision for perineal prostatectomy. Among the earliest of my references to it may be noted a description of it in a paper on prostatectomy in the *Lancet*, April 14, 1894, and in a discussion in the New York Academy of Medicine (reported in the *Medical News*, 1898) it was subjected to just such unfavorable criticism as Professor Senn now seeks to disarm, and which, though coming from other quarters as well, has never affected my belief in its merits. I rarely make use of any other. JAS. H. NICOLL,

Professor of Surgery, Andersonian College, Glasgow.

The Lust of Slander.

ROSELLE, ILL., Sept. 14, 1903.

To the Editor:—In possible explanation of the "Leffingwell accusation," referred to in your editorial, "The Lust of

Slander," in THE JOURNAL, September 12, permit me to suggest that Leffingwell has made to serve his purpose a statement which, in itself true and authenticated, does in no wise refer to vivisectors and their work. Krafft-Ebing, in his "Psychopathia Sexualis," page 84 et seq., says, in discussing sadism:

In numerous cases, sadistically perverse men, that are afraid of criminal acts with human beings, or that care only for the sight of the suffering of a sensitive being, make use of the sight of dying animals, or torture animals, to stimulate or excite their lust. (Then follow some cases.) Thus, in these and similar cases, the vita sexualis is so constituted, *ab origine*, that the sight of blood, death, etc., excites lustful feeling.

I think it very probable that Leffingwell has used the above quotation for his purpose. The fact that it does not at all serve, except through the lie, and that the whole argument is "*an den Haaren herbei gezogen*," has troubled him but little.

H. J. ACHARD.

The Physiologic Generation Cycle of Woman.

MAHANOY CITY, PA., Sept. 9, 1903.

To the Editor:—In THE JOURNAL, September 5, page 627, synopsis of Dr. Jennie G. Drennan's paper on the "Physiologic Generation Cycle of Woman," the following statement is made:

In mammals and primitive woman ovulation occurs at distinct periods of the year and at no other time. Mating with the primitive woman was much like that of the brute creation now; as soon as she was sexually mature she married and entered on the physiologic cycle of a mammal, etc.

It has seemed to me in the course of my studies that ovulation depended more on the abundance of food at the command of woman than any other cause, regardless of the stage at which she lived in the history of civilization. I wish Dr. Drennan would state the grounds on which she bases her statement, for it is a very interesting scientific fact if primitive woman differs so radically from her sister in civilization.

GEO. W. REESE.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

LIMITS OF CONSANGUINEOUS MARRIAGES.

———, ——., Sept. 12, 1903.

To the Editor:—Will you kindly inform me through the "Queries and Minor Notes" whether the offspring from the marriage of second cousins are generally considered beyond the defects and deformities resulting from consanguinity? If not, what per cent. are considered so afflicted? E. G. B.

ANS.—A second cousin has only half the common heredity of a first cousin. According to Galton's calculation, their respective amounts can be represented by 1/8 and 1/16; therefore, the chances of morbid heredity would not be more than one-half, probably less. There has been no legislation against the marriage of second cousins anywhere, so far as we know, and we believe such marriages are generally considered comparatively safe as regards offspring. Still, in special cases, there might be a concentration of the common heredity even beyond this degree of relationship. As to in what percentage of cases this would occur, we know of no way of determining.

CONDUCT AFTER SALE OF PRACTICE AND SUPPOSED PERMANENT REMOVAL.

CITY OF MEXICO, Aug. 21, 1903.

To the Editor:—Please publish your opinion of the ethics of the following case: Three years ago A hired B to go to a foreign country, where A was established, and assist him. B was to have a salary the first year and a third interest in the business the second year. At the beginning of the second year B prefers an increased salary to the third interest, and is accommodated, but still claims the right to the third interest at the end of the second year. This is agreed to. During the second year B becomes dissatisfied on account of ill health, and desires to return to the United States. A induces C to purchase the interest of B in the business, which he does, paying therefor $1,000, which B accepts and immediately returns to the United States, having previously introduced C to as many of his patrons as the time permitted. No contract or papers were signed. B returns in a few months and resumes independent practice, claiming that he has a right to do so. Did he act honorably? X. Y. Z.

ANS.—To the *ex parte* statement made by our inquirer, there can be but one answer, and that is that B did not act honorably, to say the least. Furthermore, there certainly is redress for C if he should go to law. C paid $1,000 for B's practice and good will, which meant that B must give up his practice and good will. By his returning and entering into practice again, he took back the two things that he sold. He should, therefore, give back the $1,000.

RIGORS IN TYPHOID WITH HIGH TEMPERATURE.

AMERICUS, GA., Aug. 31, 1903.

To the Editor:—In typhoid fever, characterized by high temperature, rigors occur when the temperature is the highest. These rigors are not due to malaria; the patient will have them when thoroughly cinchonized. Can you give me the cause of this?

J. C. FIELD, M.D.

ANS.—In typhoid, chills occasionally occur where no clear explanation of their cause can be offered. Perhaps the most frequent time of the occurrence of severe chills is during convalescence, when there may be repeated rigors. Why this is so is not plain. Of course, chills at the onset are not so very unusual. And complications, such as pneumonia, parotitis, malaria or secondary infection with pyogenic organisms, may be ushered in by a chill, and where antipyrin, acetanilid or phenacetin have been used with a free hand chills are not infrequent. Perhaps the chills that occur during the course of the disease are at times due to the sudden invasion of the blood by unusually large numbers of typhoid bacilli, or the unusually rapid development of the germs within the blood. Complications that are often unrecognizable, as in the mesenteric glands or gall bladder, may explain them at times. Constipation, with its attendant absorptive toxemia, is held by some to be the cause of some of the chills of typhoid fever. Until more is known of the real physics and chemistry of chill production in general, some of the chills of typhoid must go unexplained. Certainly, in the cases mentioned by our correspondent, malaria is ruled out as a cause, for not only does malaria, when it complicates typhoid, usually manifest itself during convalescence, but it will not resist quinin if freely given.

A full discussion of the subject of chills in typhoid fever will be found in Osler's "Studies on Typhoid Fever," Series II, in the Johns Hopkins Hospital Reports, Vol. IV, and in Vol. VIII, p. 443, et seq. See, also, the recent article by Dr. Delafield in the *Medical Record*, September 12, on "Post-typhoid Sepsis," abstracted in our next issue.

Miscellany.

Information Wanted of a Fraudulent Agent.—Dr. W. H. Snyder, who recently reported a fraudulent solicitor for *Colliers' Weekly*, reports that Mr. L. H. Bortner, the local manager for Collier, called and fulfilled the contract, although they did not receive the money. Mr. Bortner, whose address is 50 Law Building, Toledo, Ohio, wishes information of any other physician who subscribed with this agent or information as to the agent's whereabouts.

Marriages.

JAMES INGERSOLL WERNHAM, M.D., to Miss Winifred Patrick, both of Marengo, Ill., September 9.

OSCAR L. FULLERTON, M.D., Redding, Iowa, to Miss Eva L. Johnson of Neva, Mo., September 2.

CLIFTON MEREDITH MILLER, M.D., Richmond, Va., to Miss Mary Ashley Bell of Fluvanna County, Va., at Wilmington, Va., September 3.

JAMES V. CORNISH, M.D., Quincy, Ill., to Miss Lettie S. McConnell of Ellington Township, Adams County, Ill., September 6.

Deaths.

Charles F. W. Myers, M.D. College of Physicians and Surgeons, New York, 1874, a member of the American Medical Association; lieutenant colonel and medical director, N. G., N. J., and a member of the Association of Military Surgeons of the United States, who had been in ill health for several years, died August 31, from apoplexy, at his home in Paterson, N. J., aged 54.

Nelson V. Prewitt, M.D. University of Virginia, Charlottesville, 1893, of Winchester, Ky., a member of the Clark County Medical Society, Kentucky Valley Medical Association, Kentucky State Medical Association and the American Medical

Association, died at St. Joseph's Hospital, Lexington, Ky., September 1, 36 hours after an operation for appendicitis, aged 32.

William Cary Barrett, M.D. University of Buffalo, N. Y., 1880, dean of the dental department of the University of Buffalo, oral surgeon at the Buffalo General Hospital and eminent as a practitioner and teacher of dental surgery and pathology, died at Bad-Nauheim, Germany, August 22, from heart disease after an illness of a year, aged 69.

K. O. Austin, M.D. College of Physicians and Surgeons of Chicago, 1896, was found dead in his office in Chicago, September 7, aged 38. The coroner's jury found that deceased had taken hydrocyanic acid with suicidal intent while laboring under great mental depression following determined attempts to rid himself of his craving for morphin.

Harry De Haven Cameron, M.D. College of Physicians and Surgeons, New York, 1889, of Brooklyn, and surgeon of Troop C, N. G., N. Y., who served during the Spanish-American War in Porto Rico, died from consumption, September 4, at Pony, Mont., after a long illness, aged 37.

William T. Dalby, M.D. Omaha Medical College, 1885, health commissioner of Salt Lake City for four years, and local surgeon of the Union Pacific Railway, died at his home in Salt Lake City, September 7, from cancer of the stomach, after a lingering illness, aged 44.

Jesse C. Pfaffer, M.D. Medico-Chirurgical College, Philadelphia, 1902, interne in charge of the orthopedic department of the Medico-Chirurgical Hospital, died at St. Joseph's Hospital, Philadelphia, September 6, from typhoid fever after an illness of ten days, aged 22.

Emily R. Robbins, M.D. Penn Medical University, Philadelphia, 1857, said to have been the first woman to obtain a medical diploma in America, died at her home in Philadelphia, September 1, aged 71.

Henry S. Cunningham, M.D. Starling Medical College, Columbus, 1865, for twenty-five years a resident of Indianapolis, died, at his home in Alva, Okla., September 5, after an illness of five years, aged 64.

James A. Mawris, M.D. Albany (N. Y.) Medical College, 1853, surgeon of the 178th New York Volunteer Infantry in the Civil War, died at his home in Lafayette, N. Y., September 2, aged 78.

Alonzo Richardson Morgan, M.D. Homeopathic Medical College, Philadelphia, 1852, of Waterbury, Conn., died at the Massachusetts Homeopathic Hospital, Boston, August 31, aged 73.

J. T. Walpole Kerns, M.D. Marion-Sims College of Medicine, St. Louis, 1892, died at his home in Bellaire, Ohio, September 8, from Bright's disease, after an illness of two months, aged 62.

Quincy J. Winsor, M.D. Western Reserve University, Cleveland, 1884, was found dead at his home in Cleveland, September 7, from asphyxiation by gas, or heart disease, aged 40.

John M. Kitchens, M.D. Medical College of Alabama, Mobile, 1885, died at his home in Hartsells, August 30, from tuberculosis of the liver, after an illness of eight weeks, aged 50.

Henry S. Ballou, M.D. Bellevue Hospital Medical College, New York, 1880, died at his home in Monument, Colo., September 1, from eczema, after an illness of fourteen weeks, aged 55.

Luis P. Walton, M.D. College of Physicians and Surgeons, New York, 1870, of New York City, died suddenly from heart disease at the Bath Club, London, Eng., September 8.

James C. Clark, M.D. Atlanta (Ga.) Medical College, 1873, died at his home in Covington, Ga., September 7, after an illness of six weeks, from typhoid fever, aged 54.

Samuel C. Cravens, M.D. Rush Medical College, Chicago, 1866, died at his home in Bloomfield, Ind., September 5, from paralysis, after an illness of two days, aged 64.

Orville C. Bordwell, M.D. Eclectic Medical Institute, Cincinnati, died at Newfane, Ohio, August 29, aged 71.

Deaths Abroad.

Joseph Schnetter, M.D. University of Würzburg, Germany, for forty years a practitioner of New York City, but later a resident of Karlsruhe, Germany, died at Herrenalb, Black Forest, August 16, aged 81.

John Thomas Griffith, M.D. St. Andrews, Scotland, 1859; F.R.C.S. Eng., 1850; M.R.C.S., 1845; L.S.A., 1849, for more than thirty years a practitioner of London, and a civil surgeon in the South African campaign, died recently at Weybridge, Surrey, from paralysis, aged 82.

Association News.

The Prize Essay of the American Medical Association.

A gold medal, value $100, is offered annually by the American Medical Association for the best essay on any subject relating to medicine or surgery. The successful contestant for this prize may choose to receive either, 1, the gold medal, or 2, a bronze replica of the medal and the remainder of the appropriation (about $90) in money; or 3, the entire amount ($100) in money. Since the Association annually sets apart the sum of $500 for original research, this prize is offered to stimulate the production of a superior practical essay based either on experimental studies or clinical investigation or both. The committee will give preference to essays having the greatest brevity consistent with thorough consideration of the subject, and recommends that essays shall not exceed 5,000 words. The committee, while not restricting the choice of subjects, recommends as an important subject for consideration: "The Therapeutic Value of the Digestive Ferments." Competing essays must be typewritten and must bear no mark revealing their authorship; but instead of the name of the author there must appear on each essay a motto and accompanying each essay must be sent a sealed envelope containing the name of the author and bearing on its outer surface the motto of identification. No envelope will be opened by the committee until a decision has been reached as to the most deserving essay. The other essays will be returned to their respective authors. The committee reserves the right to reject all essays if none are found worthy of the Association medal. Competing essays must be in the hands of the chairman of the committee not later than April 1, 1904.

Committee: LEWIS S. MCMURTRY, Louisville, Ky., Chairman; BURNSIDE FOSTER, St. Paul; M. H. FUSSELL, Philadelphia.

Medical Organization.

MEDICAL ORGANIZATION METHODS AND BENEFITS.

J. N. M'CORMACK.

(*Concluded from page 677.*)

ADMISSION OF FORMER SECTARIANS.

Under the present plan of organization this is a question which each county society must decide for itself. It is a question, too, about which there is room for honest difference of opinion. The habits of thought and prejudices of a lifetime can not be overcome in a day, even though conditions causing them have largely disappeared. There need be no haste about it, and with the element of time, and an abundance of good temper on all sides, a fair and just consideration of the rights and interests of all concerned can be secured. As a matter of expediency it will usually be better not to invite persons about whom there is likely to be any dispute to the initial meeting. Their presence might interfere with the free consideration of the subject which its importance demands, or some injudicious person on either side might give or take offense. After the society is organized it can decide whether or not it will consider the matter then, refer it to a committe to report at some future meeting, or postpone it indefinitely. It will be found that the objections to the admission of these people are usually founded on a misconception of the provisions for it made in the by-laws. If legally registered and otherwise reputable, they are entitled to membership on condition that they have or will sever their connection with all sectarian organizations, and come to us as citizens, not aliens. When so elected they are no longer homeopaths or eclectics, but are promoted to be plain physicians, like the other of us. Many of them are entirely worthy of admission. It will be found that most of them became sectarians by chance, as it were, and attended college and graduated before they really knew anything of sects or systems of medicine. Most of them have been broadened by actual experience until they differ from us in views and methods as little as we differ from each other, and have long been homeopaths or eclectics only in name. Many of them are recognized as physicians of ability, and as powers for good in the community, and if they are willing to

meet the conditions of our invitation, made fair and honorable for them and us, and come into an organization in which they are hopelessly outnumbered, there seems every reason for accepting them, especially as in most sections they are so few in numbers as to be cut off from any society unless they join ours. It is due all concerned that this whole matter should be dealt with in a spirit of the utmost frankness and kindness, so that a suggestion made in the interest of harmony may not, by either accident or design, be turned into an apple of discord. In this connection it may be said that two inquiries have been received as to osteopaths. This is a passing fad which has about settled itself. They do not claim to be physicians and should not be so considered anywhere.

CROOKED STICKS.

In a like way may come up the question of the advisability of admitting to membership those who have been more or less unethical and off color in the past. Each case of this kind will have to be considered and decided on its merits, but it should be done on liberal lines. In a county where no organization worthy of the name existed, and where each physician has been forced to decide all the nice questions of professional conduct as they arose on his individual and untrained judgment, this important part of medical education having been entirely neglected in all our colleges, it will usually be found that there is no well-defined borderland between correct and incorrect methods except on the part of those governed by native gentlemanly instincts. It will often be found that lack of courtesy, or more or less vicious unprofessional methods, have been handed down in both town and country from generation to generation of physicians, and that those now in practice there are largely the victims of this inheritance. In all of these matters, as in the consideration of the sectarian problem, the profession is confronted by a condition, not a theory. Legally and in the public estimation these men are physicians and the profession is held responsible for them whether it will or not. Most of them are not bad men. These things being true, it will be better to give all who will come in a cordial welcome, and for a united profession, kindly and in good faith, to encourage every effort they can be induced to make to refrain from methods into which they drifted through lack of training and environment for which they are not personally responsible. In regard to the whole subject of the admission of members, and still more of their treatment after admission, it should be urged that a spirit of conciliation be substituted for the old one of suspicion, selfishness and ostracism.

In handling all of these questions, and those concerned and affected by them, as in the discharge of all of his duties, the councilor will find constant need for a fair knowledge of human nature, especially as modified in the genus homo medicus, tact, sound judgment, and never-failing good temper.

THE MEETING AND ADDRESS.

His audience selected and assembled, the councilor should proceed with his address, beginning usually with a brief history of the origin and progress of the reorganization movement. The importance of the county societies, their relations to the state association, and the necessity for coincident membership in both, and for the support of the state association as a bond of union and agency for concentrating and carrying out the views of the profession of the state in all matters of public concern, should be fully explained. In a like way the connection of the state organization with the American Medical Association, and the privilege which each one joining his county society has of membership in the national body, should also be fully explained. They should be advised that a full return for the membership fees in all these bodies will be received from their periodicals, to say nothing of the other advantages. The monthly bulletin or journal, or the annual volume of transactions of the state association will be sent free to all members, and the great weekly, THE JOURNAL of the American Medical Association, will go free to all who join that body. The value of these publications in all this work is so great that pains should be taken to make their relation to the membership clear. They all belong to the profession, and it alone receives the profits of their publication. This is as true of THE JOURNAL of the Association as of the state journals. Aside from the desire they have to discharge all the duties of their respective positions, and the justifiable pride they feel in its great success, the Board of Trustees, the Editor and the other officers have no more stock or interest in THE JOURNAL than the humblest member. For these reasons, and because of the many benefits they will receive from it, each of them should be advised to obtain full membership in all these bodies, and blanks should be furnished the secretary for this purpose.

Having made the plan, purposes and privileges of the system of organization plain, he should then take up and deal kindly, but frankly and unsparingly, with existing evils, and their causes and results, in a general way, putting his discussion of these, and of the attainments and possibilities of the profession through union and co-operation in each community, on such a high plane as will make their local dissensions appear very insignificant. The advantages it will bring to them individually—scientific, social and material—the desirable and deserved position it will give the profession in public estimation, as well as the assistance it will give in securing and enforcing needed health and medical legislation, should be dwelt on.

He should also urge that just as the efforts and success of each county society will determine the results of this reform, so the character of the individual physician, each of those present, is to be the potent factor on which the efficiency and standing of that society will depend. It should be represented that no chain can be stronger than its weakest link, and the qualifications and accomplishments which each ought to strive for as a member of a great profession to which he is responsible, and which is equally responsible for him, should be earnestly put before them. It should be insisted that above all things the physician should be the cleanest man in the community in the best sense. He should be the cleanest man physically, because this is of importance in the practice of modern medicine, and a necessity in surgery and obstetrics. A slovenly doctor with soiled clothes, hands and nails is a constant menace. He should be a clean man morally, because he comes into such relations and confidences with families, and especially with young people, as to demand it. He should be the best supported man in his community, because he can not otherwise keep up the education and equipment essential alike to his own reputation and the well-being of the community, and because he is the hardest worked man in it. The lawyer, the banker, the merchant and the laborer go home after a day of toil to a night of rest, but the physician's work, like Joan's, is never done. His home should be a center of refinement and culture, and he should be a well-informed man outside of his profession, an authority on general scientific subjects, or a specialist in some attractive by-science, not only because he represents a learned profession, but because of the mental relief, breadth and power it would give him. In a word, he should be the educated, refined, courteous gentleman whom the best fathers and mothers would chose as an advisor and model for their sons. The qualifications and accomplishments which go to make a gentleman are not possible to all men, on account of inherited or other defects, but if by association and encouragement these can be induced to imitate gentlemen, so far as possible, it will be a great gain for them, the profession and the community.

ORGANIZATION OF THE SOCIETY.

At the conclusion of his address, unless some other arrangement seems more desirable, it will usually be well for the councilor to preside temporarily, and to call for a general discussion of the subject, indicating some suitable person to open it. If an organization is decided on, a good committee should be selected by those present to nominate the officers. Much will depend on the choice of the first officers, and they should not usually be named in open meeting. The secretary especially should be an active, tactful man, living at or near the county seat. The delegate to the state association should be a broad, representative man, who will attend and give his time to the

duties of his office. Following the report of the committee and the election of officers, the constitution and by-laws should be considered and adopted. If possible, the councilor should exhibit the card index outfit for county societies, and instruct the new secretary as to the method of keeping it and its far-reaching purposes. The dues for the county and state societies should always be collected from charter members by the secretary on the day of organization, and from new members when they apply, and the charter should be applied for at once. The best methods for bringing in any physicians in the county who are not present, and for meeting any difficulties likely to arise in making the society a success, should be inquired into while the councilor is present to give the benefit of his experience. Before final adjournment, the program should be arranged for the next meeting, which should always include a lunch, or refreshments in some form, to follow some interesting scientific work. If possible, the councilor should arrange to be present at some future meeting, and to keep in touch and be at the service of the society for any help he can give them. In this connection it should be said that in several states the council has called for volunteers and published a list of leading men distributed over the state or on the border of adjoining states, who will go on invitation and give their assistance to any county society within reach of them. This can easily be made of great assistance to new county societies if experienced and unselfish selections are made, and the plan is suggested for careful consideration.

SMALL AND SPARSELY SETTLED COUNTIES.

To most physicians the glamor of numbers, of a crowd, of elaborate papers and sonorous discussions, is always associated with the idea of a successful medical society. Next to the conviction that physicians can not live together in peace, it will be the most difficult of the misconceptions councilors will have to combat. Yet nothing could be further from the truth. The New York Obstetrical Society, one of the most famous and useful of the older organizations in this country, was limited by its charter to fifteen members. When five, eight or ten congenial medical spirits get together and fail to have an interesting and instructive meeting it is not the fault of those who are absent. One of the most useful societies the writer has ever known was organized by him on a chance visit in a county containing but four physicians. They were torn by the usual wrangles and dissensions, and the profession was at a low ebb. Three of them were comparatively young men, and after getting together in their society, and understanding each other, one after the other in turn went away for post-graduate work, the others dividing his work and giving him the proceeds. One of them had a taste and ability for surgery, and by an equitable and satisfactory arrangement he did that part of the practice, which had formerly been sent away or been done by surgeons called from a distance, at far greater expense and probably no better results, or more frequently the cases were left to suffer and die without attempt at relief. Under better business methods a large element in the community which had found it cheaper to change physicians than to settle their accounts, although abundantly able to do so, were induced to contribute their part to such a support of the profession as enabled its members to qualify and equip themselves for the benefit of these as well as their more honest neighbors. This society was as much a blessing to the people of that community as to the profession, and organized and conducted in the proper spirit this will always be true. Of course, much must be left to the discretion of the councilor after he has informed himself as to the conditions by conference with the physicians in such counties, but where as many as three, four or five fairly young, live men can be found it will be better for them to get together and maintain a separate organization. If they can be made to understand it and each other it is a question whether the individual benefits will not be even greater than will come to those of the more densely populated counties. Where there are less than the number indicated, or for any reason a society can not be maintained, in counties of this kind the physicians in them should hold their membership in an adjacent strong society, or two or three such counties should be joined together in a hyphenated society, as provided in the by-laws.

COMPENSATIONS OF COUNCILORS.

At the outset it was intended to recommend that a paid organizer be employed by each state association, who could devote his entire time to the work. Owing to lack of funds and other reasons it appeared more desirable to provide for volunteer workers in smaller fields, with only their actual expenses paid, and finally the council, as an executive committee, with large discretionary powers, and with its individual members as organizers and supervisors of county societies, was the outcome. These expenses should always be paid promptly and cheerfully. As a business proposition the state associations can make no better investment. The other compensations of the councilor are large and varied. It gives him an extensive and desirable acquaintance, broadens his own mental horizon, and offers an opportunity of real good to his fellows almost beyond conception. To return to a county and find harmony and co-operation substituted for dissensions and enmity, to find that some have taken post-graduate courses, that others have taken up their studies at home, and that all, or nearly all, are united for the advancement of the profession, will be his ample reward.

HOUSE OF DELEGATES.

The duties of this body are so fully defined in the by-laws that little more need be said here. Its program should be entirely distinct from that for the general meeting, following it in the same leaflet. The first meeting of the house should be held in the afternoon of the day preceding that fixed for the annual session. By holding an afternoon and evening session then the business may usually be so advanced as to enable delegates to enjoy much of the privileges of the general meetings. Its hall should be commodious and comfortable, with convenient rooms for committees, and sufficiently remote from the general meeting as to avoid interruption from each other, should it become necessary for both bodies to be in session at the same time. At least one session should be devoted to the discussion of the health and medical laws of the state. The state board of health and the state board of medical examiners should be invited to attend and take part in this discussion with the view of securing harmony of views and concert of action in procuring and enforcing such legislation. Detailed reports should be heard as to the condition and needs of the profession in each county, from its delegate, supplemented by suggestions from the councilor of the district. To do all of this properly it may sometimes be necessary for the house to sit while the general meeting is in session on the second or third day, or to remain in session for a day after the general meeting adjourns. As this body will grow in importance and occupy more and more time with a proper discharge of its duties, no one should accept the position of delegate who will not devote himself to the work and remain until it is completed.

THE GENERAL MEETING.

The functions and purposes of the general meeting are so well understood as to require little discussion. Freed from the time-consuming distractions of all miscellaneous business, and relieved of the duty of electing the officers, it can in future devote its entire time to scientific work. The writer recently had the privilege of attending such a meeting. Under a model program, the invocation address of welcome and response were followed by the first symposium, without an intervening motion. During three days but one item of miscellaneous business was suggested, and this was referred to the house of delegates without debate. Under such an arrangement ample time was afforded for the full discussion of papers and scientific reports, the program was completed and the interest was fully sustained until the final adjournment. The majority of physicians take little or no interest in the ordinary legislative proceedings of state associations, and as soon as it is known that these parliamentary wrangles and tedious discussions are things of the past there promises to be a class of attendance and revival of interest very much to be desired.

THE CARD INDEX REGISTER.

Before the profession can be permanently organized, or as a part of such work, it is necessary to know who compose it, where they live, and the professional status and antecedents of each one. This is also necessary as the first step in purging our ranks of the dishonorable and criminal classes—the quacks—who have donned our livery for their own nefarious purposes. Experience in a few states shows that reputable physicians will gladly furnish the information of themselves if it does not involve too much trouble, and it must be had of the disreputable ones, even at much cost and trouble. The difficulties involved in this only emphasize the importance of undertaking it without further delay. As in other phases of organization, the difficulties are exaggerated, and where a live county society exists, except in the large centers of population, they are easily overcome. Once the information is obtained in regard to any individual—a quack, for instance—and a label is put on him, by a systematic exchange of cards between states he can be followed and his status and identity determined anywhere. Likewise, by the use of universal transfer cards, a reputable physician moving to another county or state is at once admitted without delay or duplication of dues.

In order to have this system uniform and economical, the Association has provided a series of cards for all county and state organizations, and has arranged for county and state outfits at wholesale net prices for the benefit of every state in the Union which desires to adopt the system. These state outfits include cabinets and all the necessary record, guide and index cards, with capacity based on the number of physicians in the state, complete and ready for use. The county outfits include a box neatly labeled for each county, with an ample supply of record and transfer cards for members and non-members, and an alphabetical index, except in counties containing large cities, where small cabinets are figured. The cost of the state outfits will vary with the number of physicians. The cost of the county outfits for less than 100 physicians will be about 50 cents each, but in order to get the benefit of these prices it will be necessary to order for all the counties in a state at one time. Fourteen states have ordered the outfits up to this time, and it is suggested that the cards for each county be filled out in the office of the secretary of the state association, arranged ready for use, and sent to the county by the councilor, or by its delegate, from the next meeting. Blanks to collect all this information, and application blanks for new members, to correspond with the record cards, are furnished by the Association to all societies at the bare cost of presswork and material.

In addition to the value of this register for organization purposes, and as a means of suppressing quackery, the Association proposes to make this officially collected and accurate information the basis for a National Medical Directory. Private individuals are now publishing incomplete and misleading directories, including the names of veterinarians, dentists, and many who do not even have as much claim to professional recognition, at a great cost to the profession. A reliable directory would have great monetary value, which legitimately belongs to the profession, and could also be made very profitable to individual members indirectly. For instance, it is proposed to publish the names of all members of their county and state organizations in bold type, with full information as to their education, society affiliations and positions of honor, while the names of non-members would be in small type, with only the year of graduation and a number to indicate the college. As such a directory would naturally, in a great measure, guide insurance and railroad companies and others in choosing between medical men, its importance to members in this one matter can be readily appreciated. It will be equally useful and important in many other ways. THE JOURNAL printing establishment is equipped for getting out such a work, and once set up the same material can be used for the national directory or for any particular state, without duplication, and any of these can be furnished to members at a minimum cost. The outside demands for such a reliable official directory would be large and the profit would go to the Association, which means to the profession, as each member has exactly the same interest in its success and funds.

CONCLUSION.

The Association plan is almost perfect in its conception, scope and purposes, and yet it is believed to be entirely practical. Changes in detail may be required as the work progresses in the various states to adapt it to changed conditions, but these can be easily made. How far its benefits are to be extended to any particular county or state must be determined by its own profession, assisted by every possible influence from the outside when needed. To say that much time and increasing effort will be required to perfect such an organization, that many obstacles will be encountered, and that individuals will fail to do their duty or obstruct the work, is only to say that the undertaking is a vast one, that the agencies relied on are finite and that it is subject to the vicissitudes attending all human endeavor. Our contention is that it is worth all the time, labor and money it will cost, and more. Ours is rapidly becoming a great science. Our leaders are among the greatest of living men. With proper ideals kept constantly before our young men, and the present facilities for attaining them unknown to any other age, and impossible even to the older men of the present generation, with harmony and cooperation made possible and encouraged everywhere, and all supported by a public confidence inevitable because it will be deserved, everything desirable will be brought within reach of the profession. The vexed problem of medical education can then be taken up with confidence and justly and wisely solved. The question of reciprocity in licensure and membership between the states can be settled on some safe and equitable basis. Provision for continuous scientific research and for systematic collective investigation into the causes and prevalence of disease can be made on the broad and generous lines demanded by the great interests involved. Constructive statesmanship can be substituted for the narrow, time-serving political methods of the present in municipal, state and national public health affairs, and our profession, united, educated and ennobled, will then occupy its rightful place as one of the greatest powers for the protection and elevation of the race.

Grundy County (Iowa) Medical Society.

Thirteen physicians of the county met at Traer, September 1, and organized a county medical society.

Ripley County (Ind.) Medical Society.

Dr. George T. MacCoy, Columbus, councilor for the Fourth District, is organizing a county medical society at Versailles.

Whitley County (Ky.) Medical Society.

Dr. Arthur T. McCormack, councilor for the Third District, announces the organization of this society, with Dr. Edwin S. Moss, Williamsburg, president; Dr. C. Garrard Ellison, Williamsburg, vice-president, and Dr. S. Sullivan, Rockholds, secretary and treasurer.

South Dakota Second District Medical Society.

In the September 5 issue of THE JOURNAL, the organization of the Codington County Medical Society was noted. This was incorrect, as the meeting was of physicians of Clark, Codington, Deuel, Grant and Hamlin counties, comprising the Second District of the state.

Catawba County (N. C.) Medical Society.

A number of physicians of the county met at Newton, September 5, and with the assistance of Dr. Thomas E. Anderson, Statesville, organized a county medical society. Dr. James R. Campbell, Newton, was elected president; Dr. W. L. Abernethy, Hickory, vice-president, and Dr. George H. West, Newton, secretary and treasurer.

Milam County (Texas) Medical Association.

Physicians of Milam County met in Cameron, September 4, and organized a county medical society with the following officers: Dr. Edward N. Shaw, Cameron, president; Dr. I. Coleman, Hanover, vice-president; Dr. I. P. Sessions, Rockdale, secretary and treasurer, and Drs. William W. Greer, Cameron; Albert S. Epperson, Cameron, and Charles W. McBurnett, Minerva, censors.

Gaston County (N. C.) Medical Society.

This society was organized at Gastonia, September 5, by State Councilor Dr. Edward C. Register, in accordance with the reorganization plan of the Medical Society of the State of North Carolina and the American Medical Association, with an initial membership of 19. The following officers were elected: President, Dr. Robert M. Reid, Gastonia; vice-president, Dr. J. Brown Wallace, Mount Holly; secretary and treasurer, Dr. Lucius N. Glenn, McAdenville, and censors, Drs. Charles E. Adams, Gastonia; D. A. Garrison, Bessemer City, and John H. Jenkins, Dallas.

Linn County (Iowa) Medical Society.

This society was organized at Cedar Rapids, September 2, with fifty members, under the constitution and by-laws recommended by the American Medical Association, with the following officers: Dr. Ward Woodbridge, Central City, president; Dr. George R. Skinner, Cedar Rapids, vice-president and delegate; Dr. Hollis W. Bender, Cedar Rapids, secretary; Dr. Frank S. Skinner, Marion, treasurer, and Drs. Austin H. Johnson, Cedar Rapids; John Hamilton, Cedar Rapids, and John W. LaGrange, Marion, censors, and Dr. George R. Skinner, Cedar Rapids, delegate to the Iowa State Medical Society.

Portage County (Wis.) Medical Association.

With the aid of Dr. John F. Pritchard, Manitowoc, councilor for the Eighth District, this society was organized at Stevens Point, September 1, with an initial membership of 13. The plan of organization suggested by the American Medical Association was adopted and the following officers and committees elected: Dr. Galen Rood, Stevens Point, president; Dr. Augustus H. Guernsey, Amherst, vice-president; Dr. Carl von Neupert, Jr., Stevens Point, secretary and treasurer; Drs. William F. Atwell, Daniel S. Rice and Carrie A. Frost, all of Stevens Point, censors, and Drs. Frank A. Southwick, Myron G. Rood and John D. Lindores, all of Stevens Point, committee on by-laws.

Societies.

COMING MEETINGS.

Medical Society of the State of Pennsylvania, York, Sept. 22-24.
American Association of Obstetricians and Gynecologists, Chicago, Sept. 22-24.
American Academy of Railway Surgeons, Chicago, Oct. 1-2.
Colorado State Medical Society, Denver, Oct. 6-8.
Medical Association of the District of Columbia, Washington, Oct. 6.
Idaho State Medical Society, Boise, Oct. 8-9.
Mississippi Valley Medical Association, Memphis, Tenn., Oct. 7-9.
Vermont State Medical Society, Bellows Falls, Oct. 15-16.
New York State Medical Association, New York City, Oct. 19-22.

Ohio Valley Medical Association.—This association will hold its annual meeting at Evansville, Ind., November 12 and 13.

American Academy of Railway Surgeons.—The academy will meet at the Great Northern Hotel, Chicago, October 1 and 2, under the presidency of Dr. Luther Sexton, New Orleans. An interesting program is announced.

Nashville Society of Colored Physicians.—At the annual meeting, September 1, Dr. C. O. Halley was elected president; Dr. W. A. Reed, vice-president; Dr. A. M. Townsend, secretary, and Dr. Preston R. Burrus, treasurer.

Ohio Valley Medical Association.—This organization will hold its next annual meeting in Evansville, Ind., Nov. 12 and 13, 1903. The field of its membership has been extended to cover the four states of Ohio, Indiana, Illinois and Kentucky.

Medical Society of the State of Pennsylvania.—Extensive preparations are being made at York for the entertainment of the members of this society, which holds its annual meeting, September 22-24, under the presidency of Dr. William M. Welch, Philadelphia.

Henry County (Ky.) Medical Society.—At the annual meeting held in New Castle, August 26, Dr. C. R. Martin, Sulphur, was elected president; Dr. John C. Cassity, Eminence, vice-president; Dr. John Nuttall, New Castle, secretary, and Dr. Albert P. Dowden, Eminence, treasurer.

Reading (Pa.) Medical Association.—At the annual meeting held August 31, the following officers were elected; President, Dr. John Shartle; vice-president, Dr. Harry F. Rentschler; secretary, Dr. Clara S. Keiser; treasurer, Dr. Oan J. Thompson; censors, Drs. Fremont W. Frankhauser, Israel Cleaver and James W. Keiser, and curator, Dr. S. Banks Taylor.

Morehouse County (La.) Medical Society.—At the annual meeting Dr. Charles D. Clark, Mer Rouge, was elected president; Dr. A. W. Jones, Jones, vice-president, and Dr. Otis M. Patterson, Bastrop, was re-elected secretary and treasurer. The society adopted the new constitution and by-laws of the Louisiana State Medical Society, in order to affiliate with that organization.

West Tennessee Medical, Dental and Pharmaceutical Society.—This society, whose membership is made up from colored physicians, dentists and druggists, was organized at Humboldt, August 26 and 27. The following officers were elected: President, Dr. I. S. Sawyers, Humboldt; vice-presidents, Dr. R. G. Martin, Memphis, and T. L. Anderson, Ph. C., Jackson; secretary, W. D. Holder, D.D.S., Jackson; corresponding secretary, Dr. W. A. Cocolough, and treasurer, Dr. John L. Light, Jackson.

Mississippi Valley Medical Association.—The 1903 meeting of the Mississippi Valley Medical Association will be held at Memphis, Tenn., Oct. 7-9, 1903. An excellent program has been prepared and a large attendance is anticipated. The profession of the lower part of the Mississippi Valley, it is expected, will be largely represented at this meeting, and it is to be hoped that there may be a good attendance from the northern part of the middle west. Memphis is accessible by direct railroad connection with most cities of the middle west.

New Hampshire Surgical Club.—This organization held its eighth annual meeting at North Conway, September 3. Fifty members were present. Dr. Milton S. Woodman, West Lebanon, read a paper on "Carbuncle," which was discussed by Dr. Charles R. Walker. A paper on "Pathology and Surgical Treatment of Bright's Disease" was presented by Dr. Seth Chase Gordon, Portland, Maine. A banquet followed, at which Dr. James I. Greeley, Nashua, acted as toastmaster. The officers elected are: President, Charles R. Walker, Concord; vice-president, Dr. J. Franklin Robinson, Manchester; secretary and treasurer, Dr. Nelson W. McMurphy, Concord; executive committee, Drs. Charles R. Walker, N. W. McMurphy, P. T. Haskell and D. S. Adams.

BUFFALO ACADEMY OF MEDICINE.

Special Meeting, held Sept. 8, 1903.

President, Dr. Joseph W. Grosvenor, in the Chair.

Fourth of July Legislation.

A special meeting was held September 8 in order to have preventive measures adopted by city ordinances to lessen accidents from Fourth of July explosions and from bonfires.

Proposed Ordinances.

DR. LUCIEN HOWE presented a set of ordinances and stated the reasons for their adoption. The ordinances are as follows:

Section 1. The sale of any fireworks containing dynamite or any other explosive more powerful than ordinary black gunpowder to any person without permission from the mayor, or the sale or gift to any child or children without the written consent of the parent, of any gun or pistol, of any kind of toy cannon, or any firecracker or torpedo, rocket, balloon or other forms of fireworks or explosive is hereby prohibited.

Any violation of the provision of this section will subject the offender to arrest and fine of $50 for each offense.

Sec. 2. No person shall fire or explode or send off in any avenue, street or alley in the city of Buffalo, any firecracker or torpedo, rocket, balloon or other forms of fireworks or explosives, nor build bonfires, nor discharge any cannon, gun, pistol or any other firearm, or any gun loaded with a dangerous missile.

Any violation of this section shall subject the offender to arrest and fine of not less than $10 nor more than $25 for each offense. Moreover, the offender, or, if he be a minor, his parents or guardian, shall be held responsible for any injury which may result directly or indirectly to person or property from any such explosives or fires.

The provision of this section shall not apply to the public parks, but it shall apply to the streets or avenues connecting these parks with each other.

Sec. 3. Any person, not an employé of the police department, who shall furnish evidence leading to the conviction of one who has violated either of the two preceding sections of this ordinance, shall be entitled to receive half of the fine imposed.

Accidents in Buffalo.

Dr. Howe stated that there have been 209 recorded accidents from Fourth of July celebration in Buffalo since 1895. Last year 60 were reported and there are doubtless many more accidents which are not reported at all. Boston, Providence,

New York, Philadelphia, Cleveland and St. Paul have all adopted restrictive ordinances. He stated that this ordinance would permit the boys to use the parks only for firing off fireworks, and the use of those places would have to depend on the park board.

SUPERINTENDENT OF POLICE BULL suggested that the ordinance should be so framed as to be enforced. The restrictions should be placed on toy pistols, toy cannons, giant crackers and giant torpedoes. The sale of cartridge pistols to children under 16 years is already prohibited. To make the parent responsible for the use of pistols in the main is imperative, for if the parent can be reached by the police department the regulations can be enforced.

HEALTH COMMISSIONER GREEN stated that there were 459 cases of tetanus in this part of the country as a result of injuries received the last Fourth of July. The toy pistol that discharges a small cartridge does the most harm. If dealers are allowed to sell dangerous fireworks children will get them.

DR. ROSWELL PARK estimated that 8,000 deaths from tetanus as a result of the toy pistol had occurred in this country in the last twenty years.

Co-operative Committee Appointed.

A resolution was passed naming a committee of five to cooperate with different departments of the city government and with various public bodies to bring about the enactment of an ordinance embodying the propositions laid down in the draft presented. Drs. Lucien Howe, Walter D. Greene, Roswell Park, Eugene Smith, and Peter W. Van Peyma were appointed as such committee.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Eczema.

Success in the treatment of eczema, according to G. P. Katzenstein in the *Post Grad.*, depends on the practitioner's ability to observe the various types and stages of the disease. Attention, according to the author, must be directed to the patient's general health, diet, constipation, urine and personal hygiene; when indicated, tonics should be given, such as strychnin, iron, quinin and cod-liver oil.

He recommends the wine of antimony in doses of ten or fifteen minims in the treatment of the acute stages of the highly inflammatory eczemas.

If lithemia is present it must be corrected. Arsenic must not be employed in the acute or subacute eczemas, as it stimulates the nerves of the skin and aggravates the condition. In the chronic dry forms and the recurrent eczema of the hands and feet it is useful, serving as a tonic to the vasomotor system. The use of soap must be avoided, instructing the patient to use cold cream, sweet oil or olive oil in removing dried crusts and exudates.

Itching, which is the prominent subjective symptom, may be allayed by the use of phenol, resorcin, camphor, menthol and oil of cade prescribed in the following combinations:

℞.	Phenol	gr. x-xx	65-1.30
	Hydrarg. chloridi mitis	gr. xx-xl 1.30-2	65
	Pulv. zinci oxidi		
	Pulv. amyli, āā	3ii 8	
	Petrolati	3iv 15	

M. Ft. unguentum. Sig.: Apply locally.

In conjunction with the foregoing ointment the following lotion may be applied locally through the day:

℞.	Resorcin		
	Acidi borici, āā	3i 4	
	Pulv. zinci oxidi	3ii 8	
	Glycerini	3i 4	
	Aquæ q. s. ad	℥iv 120	

M. Sig.: Apply locally during the day.

In the vesicular form of eczema and in eczema rubrum accompanied by exudation the following is serviceable as a cooling ointment:

℞.	Camphoræ	gr. xv 1	
	Phenol	gr. xx 1	30
	Pulv. zinci		
	Kaolin		
	Aquæ		
	Petrolati, āā	3i 4	

M. Sig.: Apply locally.

Where a protective dressing is indicated the following may be applied:

℞.	Glycerini		
	Gelatin, āā	℥iss 45	
	Pulv. zinci oxidi	℥iii 90	
	Aquæ	℥iv 120	

M. Sig.: Heat over a water bath, and while warm apply locally and cover with cotton.

Ointments containing oil of cade, salicylic acid and ichthyol are more useful in the treatment of the chronic papular forms of eczema where stimulation is required.

For the eczemas of children, which occur in the summer, the following lotion is preferable:

℞.	Resorcin		
	Glycerini, āā	3i 4	
	Pulv. zinci oxidi	3ii 8	
	Acidi borici	3i 4	
	Ol. amygdalæ dulc.	℥ii 60	
	Aquæ calcis q. s. ad	℥iv 120	

M. Sig.: Apply locally.

Eczema appearing on the hairy regions of the body can be benefited by applying the following lotion:

℞.	Resorcin		
	Glycerini		
	Acidi borici, āā	3i 4	
	Aquæ q. s. ad	℥vi 180	

M. Sig: Apply locally

In the dry form of eczema, accompanied by itching and induration, the following is recommended by the author:

℞.	Phenol	gr. x	65
	Olei cadini	m. xl 2	65
	Pulv. zinci oxidi		
	Pulv. amyli, āā	3ii 8	
	Petrolati	3iv 15	

M. Ft. unguentum. Sig.: Apply locally.

Turpentine in Pneumonia.

The oil of turpentine, according to an abstract in *Merck's Archives*, has been used by W. Thomas of Rhyl very successfully in the treatment of pneumonia. He regards it as almost a specific in those cases complicating influenza. It must be given early, persistently and in adequate doses. He first gives a good dose of calomel and subsequently the following mixture:

℞.	Olei terebinthinæ	3ii-iv 8.-15	
	Pulv. tragacanthæ comp.	3i 4	
	Spts. ammon. arom.	3ii 8	
	Spts. chloroformi	3ii 8	
	Aquæ q. s. ad	℥viii 240	

M. Sig: One teaspoonful every four hours.

The symptoms are rapidly ameliorated, the furred tongue cleansed and moistened, the appetite improved and the bowels opened. The virtues of the turpentine are supposed to be in its antiseptic properties, its ease of absorption, and its stimulating qualities.

Valerian.

The newer remedial agents, according to S. E. Earp in *Med. and Surg. Monitor*, have proven so satisfactory in the treatment of disease that the practitioner sometimes erroneously expects them to accomplish everything and thus reject the old remedies to the detriment of the patient. He therefore reviews the therapeutic action of valerian, the value of which has been proven. The tincture, in strength of 20 per cent., and the ammoniated tincture are the preparations most frequently used. They may be given in doses ranging from one to two drams, flavored with gaultheria or peppermint. He recom-

mends it in cases of delirium tremens, coughs of reflex origin, hysteria and insomnia. The following combinations are recommended by the author:

℞. Tinct. valerianæ ammon. .....ʒii 60
Tinct. piscidiæ
Elix. simplicis, āā.....ʒi 30
M. Sig.: One dessertspoonful every two to six hours.

In nervous disorders of women the following may be given:

℞. Tinct. valerianæ ammon.
Spts. etheris comp.
Tinct. humuli, āā.....ʒii 60
M. Sig.: Two teaspoonfuls in water every hour or two hours.

If this preparation is not given judiciously, according to the author, toxic effects may arise such as are shown by dizziness, vomiting, hiccough, eructations, diarrhea.

In many hysterical disorders the practitioner prescribes preparations containing chloral, potassium bromid, or opium when a proper knowledge of the pathology of the disease would show their contraindication, and the ammoniated tincture of valerian could be of service.

In insomnia from overwork or from leading a strenuous life it is of value, as well as in those cases of insomnia in patients recovering from la grippe, using this preparation as a substitute for the hypnotics.

The dentist could use it with advantage in those nervous cases brought on from the shock of the operation. In disturbances of the menopause or in nervous headache due to excitement it is a valuable antispasmodic. In the neuroses where the heart's action is accelerated or the respiration quickened or in cases of melancholia and hypochondriasis, valerian is of value. He especially emphasizes the importance of valerian in the nervous diseases of children where opium is too often used in its stead, which enhances the dangers of the child's life and aggravates the disease.

Medicolegal.

Amputation Below Elbow Constitutes "Loss of an Arm."—The Supreme Judicial Court of Massachusetts says, in the case of Garcelon vs. the Commercial Travelers' Eastern Accident Association, that it considers the amputation of an arm a little below the elbow to be the loss of an arm in the common acceptation of those words, and within their meaning as used in a policy which specifies merely the "loss of an arm," without mentioning whether the loss is by amputation below or above the elbow joint.

Showing Employment of Physician to Make Examination.—In the case of the Allen B. Wrisley Company vs. Burke, which was brought by the latter party to recover for personal injuries, in the cross-examination of a physician who testified in behalf of the company as to the condition, physically, of the party suing soon after the injury was received, it was developed that the physician had been employed to make the examination for the purpose of becoming a witness in the case, and had been paid for his services in so doing. The fact that the physician had been engaged and paid to make the examination, and for the purpose of giving testimony in the case, the Supreme Court of Illinois holds, was proper for consideration, as bearing on the weight and value of his testimony. The fact that, in developing the proof that the witness was employed and paid to make the examination, it incidentally appeared he was paid by an accident company, did not constitute error demanding the reversal of the judgment.

No Compulsory Examination in Slander Case.—The Court of Criminal Appeals of Texas says that, in Bowers vs. State, a criminal prosecution for the slandering of a female, where the defense consisted of an effort to prove the truth of the allegation; that is, that the accused had had carnal intercourse with the prosecutrix, a motion was made to have the trial court order an examination of the private parts of the prosecutrix by reputable physicians, alleging that such examination would show that her hymen had been ruptured and destroyed by a male organ penetrating the same. This motion was objected to by the state on the ground that the court had no authority to make such order, and the court sustained the objection, and declined to appoint the committee of physicians, and to authorize them to subject the prosecutrix to a private examination. In refusing to make the order, when the prosecutrix objected to the examination, the Court of Criminal Appeals holds that the court below did not err. Of course, it says, if the prosecutrix had been willing to submit to the examination, and such examination would tend to solve a disputed issue in the case, it would be entirely competent for the court to make the order.

Not Competent to Testify as to Miscarriage.—The Court of Appeals of New York holds, in the personal injury case of Gray vs. the Brooklyn Heights Railroad Company, that lay witnesses, even with some experience in midwifery, should not be permitted to compare germs of life at its earliest stage and announce their conclusions. The subject is not a matter of common knowledge or observation. Here the injured party commenced to bleed after a slight jolt in a street-car collision. Soon after, something about as large as an egg, and colored like blood, passed from her, and after that she bled for about two weeks longer. Whether or not it was a miscarriage was in dispute, and she was permitted to state that it was one. The other women, who claimed to have had miscarriages, were also permitted to state how what she had compared with what passed them. The court holds that these rulings were erroneous. Manifestly, it says, these witnesses could not have expressed the opinion directly that the party suing had had a miscarriage, yet each was permitted to express that opinion indirectly by saying, in substance, that what happened to the party suing was the same as had happened to herself, when she had, in her opinion, a miscarriage. She could not say that this party's case was like her own. A witness may testify that he had a cold, as that is a matter of common knowledge and experience, but he can not say, "I had pneumonia, and the plaintiff's symptoms were like mine," because it is not the statement of a fact within the range of common knowledge and observation, but of two opinions, both of which are incompetent. The witnesses should have stated the facts only, and the jury, guided by the opinions of the physicians so far as they deemed them reliable, should have drawn the conclusion.

Christian Science and the Treatment of Disease.—The Supreme Court of Pennsylvania says, in the matter of the application of the First Church of Christ, Scientist, for a charter under the laws of the state of Pennsylvania, that the application set forth that the purposes for which the corporation was to be formed were to "establish and maintain a place for the support of public worship and to preach the gospel according to the doctrines of Christ Jesus as found in the Bible and the Christian Science text-book, 'Science and Health, with Key to the Scriptures,' by Mary Baker G. Eddy." The Supreme Court is inclined to think that the evidence was not sufficient to support a finding that the corporation itself was to be one for profit. It says that there was proof that the individual healers, who are constituted and sent out by the society, do receive compensation for their services; but this seems to be a personal recompense, with which the society has nothing to do. But the court below, in its supplemental opinion, went beyond this question, and adopted in substance the conclusion of the master that the practice of the art of healing or curing disease in the manner set forth in Mrs. Eddy's book is injurious to the community, because it is opposed to the general policy of the law of Pennsylvania relative to the existence and treatment of disease. It was the duty of the court below to refuse the charter, if, in the exercise of sound legal discretion, he found its purpose, in whole or part, included anything injurious to the community. Can it be said that there was an abuse of discretion in the finding in this case? We are not to consider the matter from either a theological or metaphysical standpoint, but only in its practical aspects. It is not a question as to how far prayer for the recovery of the sick may be efficacious. The common faith

of mankind relies, not only on prayer, but on the use of means which knowledge and experience have shown to be efficient; and when the results of this knowledge and experience have been crystallized into legislative enactments, declarative of what the good of the community requires in the treatment of disease, and of the qualifications of those who publicly deal with disease, anything in opposition thereto may fairly be taken as injurious to the community. Our laws recognize disease as a grim reality, to be met and grappled with as such. To secure the safety and protect the health of the public from the acts of incompetent persons the law prescribes the qualifications of those who shall be allowed to attempt the cure or healing of disease. It is not for the purpose of compelling the use of any particular remedies, or of any remedies at all. It is only designed to secure competent service for those who desire to obtain medical attendance. In certain diseases the individual affected may be the only one to suffer for lack of proper attention; but in other types, of a contagious or infectious nature, they may be such as to endanger the whole community. And here it is the policy of the law to assume control and require the use of the most effective known means to overcome and stamp out disease, which otherwise would become epidemic. In such cases, failure to treat, or an attempt to treat by those not possessing the lawful qualifications, are equally violative of the policy of the law. It may be said that the wisdom or the folly of depending on the power of inaudible prayer alone, in the cure of disease, is for the parties who invoke such a remedy. But this is not wholly true; "for none of us liveth to himself, and no man dieth to himself," and the consequence of leaving disease to run unchecked in the community is so serious that sound public policy forbids it. Neither the law, nor reason, has any objection to the offering of prayer for the recovery of the sick. But in many cases both law and common sense require the use of other means which have been given to us for the healing of sickness and the cure of disease. There is ample room for the office of prayer, in seeking for the blessing of restored health, even when we have faithfully and conscientiously used all the means known to the science and art of medicine. The findings of fact by the learned master, and his conclusions of law therefrom, and the opinion of the court below, in which they are summarized and approved, vindicate the action taken. Under the well-defined policy of the law of Pennsylvania, as at present existing, we are satisfied that there was no abuse of sound legal discretion in refusing the application for a charter. The appeal is quashed, and the order refusing to approve the charter is affirmed.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

September 5.

1 *The Adams-Stokes Syndrome, with Report of a Case. Peter Bassoe.
2 *The Prognosis and Orthopedic Treatment of Acute Anterior Poliomyelitis. (To be concluded.) Walter G. Stern.
3 *Listerism; Its Past, Present and Future. G. S. Towne.
4 *The Operative Treatment of Tuberculous Glands of the Neck. J. G. Sheldon.
5 *Regicides; Sane and Insane. (Concluded.) E. C. Spitzka.
6 *Hay Fever: A Cause and a Cure. Frank E. Stowell.
7 Celluloid as a Material for Flat-foot Plates. Harold W. Jones.
8 A Case of Atropin Poisoning. C. B. Cortright.

1. **Adams-Stokes Syndrome.**—The points especially emphasized by Bassoe are summarized by him as follows:

1. The Adams-Stokes symptom-complex is not a clinical entity. It may supervene in various diseases involving the heart, vagus nerves, or medulla oblongata.
2. It is particularly likely to set in when the upper part of the ventricular septum is diseased.
3. Arteriosclerosis is not essential for its production.
4. Its occurrence in a well-studied case of localized lesion of the intramedullary portion of the accessorius nerve supports the hypothesis that the inhibitory fibers of the heart are derived from this nerve.
5. A lesion of the ventricular septum is capable of producing bilateral degeneration of the extramedullary cardiac fibers of the vagus nerves.
6. The existence of bradycardia in a case with bilateral vagus degeneration proves the muscular origin of bradycardia in such a case as the inhibitory influence of the vagi then must be absent.
7. The bradycardia is the fundamental feature of the Adams-Stokes syndrome. The nervous symptoms vary largely, according to the susceptibility of the nervous centers to the circulatory disturbance induced by the bradycardia.

2. **Poliomyelitis.**—Stern's article will be reviewed when concluded.

3. **Listerism.**—Towne gives a résumé of the history of aseptic and antiseptic surgery, showing that the scientific basis of Lister's method has never been successfully attacked, and that the decrease of mortality since its use has placed surgery almost at the head of the modern sciences.

4. **Tubercular Glands of the Neck.**—Sheldon's article is largely an anatomic one showing the conditions to be met in operating for tubercular glands. He thinks that the successful and complete removal is a necessity; partial operations in his practice have been followed by relapses. He reports three cases of death following operations for tuberculous glands of the right side of the neck, and considers them possibly due to the introduction of post-operative debris into the right lymphatic duct. Consequently, he no longer disregards this vessel, but clamps and ligatures the base of the mass of tissue removed from the subclavian triangle in his operations. For details the paper itself should be referred to.

5. **Regicides.**—Spitzka argues that we are not to consider the regicide as necessarily degenerate or insane. He points out that in many, if not in most cases, they have had rational incitation to their act, and their surroundings and associates have been such as to encourage it.

6. **Hay Fever.**—The theory of hay fever held by Stowell is that it is a nervous trouble not due to nasal irritation, but more especially to the actinic solar rays. He has, therefore, utilized smoked glasses for the early form of hay fever in his own case, and finds decided relief from their use. In one or two other persons there were somewhat similar results. He would be glad to have further trials of this method.

Medical Record, New York.

September 5.

9 *Acute Bulbar Paralysis Due to Hemorrhage and Softening of the Pons and Medulla; with Report of Cases and Autopsies. Charles L. Dana.
10 Abscess of the Left Temporosphenoidal Lobe of Otitic Origin; Operation; Recovery. E. Gruening.
11 *The Rational Treatment for Mouth Breathing. W. H. Fitzgerald.
12 *The Internal Administration of Methylene Blue as an Aid in the Diagnosis of Urethroperineal Fistula. Richard Lightburn Sutton.
13 A Possible Case of Infant Poisoning as a Result of Abnormal Mental and Physical Condition in the Mother. Chester J. Stedman.
14 A Case of Smallpox in the Fetus. J. H. Franklin.

9. **Bulbar and Pontine Paralysis and Softening.**—Dana's article is a very elaborate one, giving the anatomy, etiology, pathology, clinical symptoms, etc., of the conditions of hemorrhage and softening of the pons and medulla causing acute bulbar paralysis. He concludes with rather elaborate reports of personal observations of cases and a bibliography.

11. **Mouth Breathing.**—The method suggested by Fitzgerald for the treatment of mouth breathing is, first, to restore the nose as nearly to the normal conditions as possible, and then insist on the patient using it. He says so long as local applications, sprays, douches and solution treatment are relied on we shall fail. What the nose wants is air and not water or sprays. He treats these cases by regular exercise, using the mouth guard at night for a few weeks. The form of guard he has found best is a small strip of adhesive plaster worn vertically across the center of the mouth. He thinks treatment should be commenced in early infancy. Normal breathing will help to bring about normal development. Without it such development can not be obtained.

12. **Methylene Blue in Diagnosis.**—Sutton reports a case in which methylene blue given by the mouth was effective in diagnosis of the urethral connection of a perineal abscess which could not otherwise be detected. He thinks the method is to be recommended in such cases where the canal is too tortuous for probing or where the genito-urinary tract is sus-

pected, on account of its simplicity, reliability and freedom from pain.

Boston Medical and Surgical Journal.

September 3.

15 *The Resistance of Tissues as a Factor in the Manual Reduction of Congenital Hip Dislocation. E. H. Bradford.
16 *Privileged Medical Communications. David W. Cheever.
17 *The Workings of the New York Law. Walter Soren.
18 *Privileged Communications to Physicians. Frederick J. Stimson.

15. Congenital Hip Dislocation.—Bradford holds from his study of the subject that the resistance offered by the capsule in congenital hip dislocation is not more important than that offered by the muscles. The chief resistance to forcible abduction is from the strong tendon of the adductor magnus. The resistance to pulling down the head comes from the hamstring group and the long tendon of the adductor magnus and ilio-tibial band. These resistances may be overcome by small incisions at a distance from the hip. In the lighter cases manual manipulation is sufficient. In resistant cases mechanical force, which pulls on and abducts the limb, arranged so as to also directly act on the capsule, is of assistance. Where the tendon of the adductor magnus is so strong that excessive force is needed in stretching, it seems to him advisable to divide the chief resisting tissues rather than to incur the danger of severely bruising the tissues by the force used. Division of the tendon can be done either before the operation of forcible correction or at the same time.

16. Privileged Communications.—Cheever rather advocates the New York law or some modification of it. He suggests that it should be considered unprofessional for the physician to divulge anything confided to him by his patients unless the patients consent or it is a case of crime. In all other cases the confidences should be considered privileged communications, and if a physician declines he should be protected. If he consents to testify he should go before the judge in private.

17. Privileged Communications.—Soren describes the New York law and the amendments that have been made. The obvious lesson to be drawn from its working, he says, is that any new legislation on the subject of privileged communications would have to be contained in eight or nine separate sections in order to take advantage of the points that have made the amendments to the New York law advisable. It would also be well to avoid, if possible, language giving the court such entire freedom of construction. The question in regard to a medical privilege law would be whether more injustice would be caused by it than would otherwise be the case. The fact, however, that they are still amending the New York law stands something in its favor.

18. Privileged Communications.—Stimson maintains that the common law practice is really the best. He sees no reason why a physician's privilege should be used to protect a crime. In instances of actions for damages for personal injury by the patients he sees no reason why the latter should necessarily be protected. If the injury is trivial and the person injured is trying to get up a fraudulent claim, there does not seem to be much injustice in making him confide in the physician at his own risk. In will cases there certainly should be no privilege, he thinks, and it is well known that the New York statute works an injustice on life insurance companies in its present arrangement. In suits between the physician and patient it is not in the interest of the physician, at least, to have the privilege maintained. There is a great class of cases, likely more and more to get into the courts, in matters of marriage, divorce or sometimes wills, where the physical condition and the just or temperate life of some person is concerned. No statute, he thinks, can be drawn which can be safely applied to all these cases, and the absolute exclusion of the physician's testimony would be unwise. It is, therefore, better, he says, to leave the matter to the common law as done at present in Massachusetts and some other states.

Medical News, New York.

September 5.

19 *The Reduction in the Infant Mortality in the City of New York and the Agencies Which Have Been Instrumental in Brining It About. Rowland G. Freeman.
20 *Neglected Prophylactic Measures Against Diseases of the Respiratory Tract. D. H. Bergey.
21 Puerperal Insanity. J. Will Palmer.
22 The Adaptability of Western Texas Climate for the Treatment of Consumptives. C. H. Wilkinson.
23 Perineal Prostatectomy without Opening Urethra or Bladder; Unsatisfactory Result; Subsequent Perineal Cauterization of *en Collarette* Narrowing of Bladder Orifice; Recovery. Joseph R. Eastman.
24 Mastoid Disease and Meningitis. Seymour Oppenheimer.

19. Infant Mortality.—The following is the summary offered by Freeman of his discussion of infant mortality and its reduction in New York City:

1. The infant mortality of all countries is shockingly high, and this is shown to be unnecessary by the fact that infants that are well cared for show a very low mortality.

2. The influences that contribute to the high mortality are defective feeding, the active cause, and heat and humidity and bad surroundings as contributory causes.

3. There has been a marked decline in infant mortality during the last ten years in the United States, and especially in New York City, due, for the most part, to the decline in mortality from summer diarrhea.

4. This striking decline in infant mortality is due to many agencies. The general adoption of pasteurization and sterilization of milk for infant feeding is by far the most important of these and applies to New York City and the whole of the United States. Other agencies in New York City are the improved city administration, the milk inspection of the department of health, the Straus Milk Charity, the fresh air work of St. John's Guild and similar charities, cleaner streets and asphalt pavements, the new small parks, playgrounds and recreation piers, the improved tenements and the use of diphtheria antitoxin.

20. Respiratory Diseases.—Bergey calls attention to certain evils and neglected prophylactic measures, especially in industrial pursuits where exposure to dust is required. We should give more attention to the value of pure air, and secure for this class of workingmen shorter working hours and less exposure, encouraging them to more outdoor exercise. The condition of city streets is another matter of importance, and undoubtedly favors the general dissemination of specific microorganisms and also lowers the vitality of the respiratory mucosa. He hopes that we will have more efficient street cleaning and transportation lines placed either underneath or above the streets, and the employment of draft horses substituted by other means. The second point to which he calls attention is the deficiency of ventilation in the public schools and their overcrowded condition.

American Medicine, Philadelphia.

September 5.

25 *A Study of Uncinariasis in Porto Rico. (To be concluded.) Bailey K. Ashford and W. W. King.
26 *The Significance of the Convulsion in Idiopathic Epilepsy. J. W. Wherry.
27 *The Abuse of Inflation and Massage of the Middle Ear. Emil Amberg.
28 A Case of Infectious Dermatitis in Chronic Morphinism, Accompanied by an Unknown Diplococcus, Resembling M. Gonorrhea. Palmer H. Lyon and W. B. Wherry.
29 *The Antiseptic Qualities of Coffee. W. H. Crane and Alfred Friedlander.
30 *On the Toxicity of Methyl Alcohol in Extracts and Medicines. R. H. Main.
31 Historic Notes on the Laws Governing Civil Malpractice in the Ancient Times and the Middle Ages. Charles G. Cumston.

25. Uncinariasis in Porto Rico.—According to Ashford and King the most favorable conditions exist in Porto Rico for the growth and spread of uncinariasis, uncommonly fine climate, water-soaked soil, perfect culture media, topography favorable to the spread of larvæ, dense shade, density of population, agricultural pursuits, bad sanitation and habits. The authors lay much stress on the importance of eosinophilia as a diagnostic and prognostic point. The disorder is at some period of its course marked by this condition. High eosinophilia is to be looked for in recent cases where the blood regeneration is still active. In chronic cases, where the anemia is profound, it is apt to be low, and to rise after treatment, if the prognosis is good. A fall in the number of eosinophiles, however, is a bad symptom. They notice the symptoms at length and consider the course of the disease, when uninterfered with, to be progressively downward.

26. Epilepsy.—Wherry holds that the convulsion in epilepsy is a salutary process and that without it the condition would be much more serious. It is a conservator of life, he says, standing between alarming autointoxication and possible

death, and points the way in which the epileptic can secure relief. He does not attempt to stop the convulsions, and the use of bromids, he thinks, for this purpose is a mistake.

27. **Ear Massage.**—Amberg holds that massage and ear inflation are overdone, and insists on the importance of the use of Siegle's pneumatic ear speculum for diagnostic purposes. The treatment should be continuously controlled by hearing tests, and any local treatment, if injurious, naturally should be absolutely prohibited.

29. **Coffee.**—The antiseptic qualities of coffee are noticed by Crane and Friedlander, who have experimented on its bacteriocidal properties. They find that roasted coffee is a decidedly active agent in the destruction of germs, including some of the more serious and important ones. Just how it acts they do not venture to say. They find it can not be due to caffein, as that had very little effect in retarding putrefaction, and tea infusions have not this property. There is no reason to suppose that the oil abstracted by Erdman and Bernheimer has any such effect, and caffetannic acid is abundant in green coffee, which is not effective. The suggestion is made that the antiseptic qualities may be partially due to an aldehyd, but the final solution of the question must wait for a more definite knowledge of the changes induced by roasting the substance.

30. **Methyl Alcohol.**—This is, in substance, the same article as that noticed in THE JOURNAL of September 12, ¶52, p. 686.

Cincinnati Lancet-Clinic.

September 5.

32 Timeliness in Abdominal Surgery. Hal C. Wyman.
33 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) IV, Surgery of the Spleen. (Bibliography.) B. Merrill Ricketts.

University of Pennsylvania Medical Bulletin, Philadelphia.

July-August.

34 On the Plurality of Cytolysins in Normal Blood Serum. Simon Flexner and Hideyo Noguchi.
35 On the Plurality of Cytolysins in Snake Venom. Simon Flexner and Hideyo Noguchi.
36 *The Types of B. Dysenteriæ (Shiga) in Relation to Bacteriolysis and Serum Therapy. An Experimental Study. Frederick P. Gay.
37 *Acute Dysentery Associated with the Two Types of Bacillus Dysenteriæ (Shiga). Frederick P. Gay and C. W. Duval.
38 Acute Ulcerative Endocarditis Caused by the Meningococcus (Weichselbaum). Louis M. Warfield.
39 The Effects of Venom on the Blood Corpuscles of Cold-blooded Animals. Hideyo Noguchi.
40 A Note on Autolysis in Lobar and Unresolved Pneumonia. Simon Flexner.
41 Primary Sarcoma of the Spleen, with Metastases; Report of a Case. C. H. Bunting.
42 The Multiplicity of the Hemaglutinins, and the Heat Lability of the Complements of Cold-blooded Animals. Hideyo Noguchi.
43 Notes on the Experimental Production of Specific Cytolysins for the Adrenal, Thyroid and Parathyroid Glands of Dogs. J. L. Yates.
44 The Effects of Lymphotoxins and Myelotoxins on the Leucocytes of the Blood and on the Blood-forming Organs. C. H. Bunting.
45 An Experimental Study of Nephrotoxins. Richard M. Pearce.

36. **Dysentery Bacillus.**—The conclusions reached by Gay are that the dysentery bacilli (Shiga) fall into two types according to their cultural and agglutinative reactions. These, however, are not absolute, but relative; they serve to indicate a closely related group of organisms. The bacteriolytic differences serve to distinguish the two types of dysentery bacilli. The relative value of these distinctions is emphasized by the protective power of antidysenteric serum, which is effective, in different doses, for both types of the micro-organism. Human complement is capable of activating antidysenteric serum from the horse. Passive immunity to the dysentery bacillus is of brief, active immunity, of much longer duration in the guinea-pig. The dysentery bacillus vaccines increase in toxicity for a time, at least, and the increase is associated with disintegrative changes in the bacilli.

37. **Dysentery Bacillus.**—Gay and Duval describe cases which seem to have been caused by this organism, which has the characteristics of a group of organisms rather than one single, well-defined species. They think, however, the distinction of the types into the dysentery and pseudodysentery bacillus, as attempted by Kruse, Martini and Lentz, is artificial and unwarranted with our present knowledge.

Journal of Tuberculosis, Asheville, N. C.

July.

46 *Dispensaries for Tuberculosis, with a Description of the Tuberculosis Department of the Boston Dispensary. Edward O. Otis.
47 *Home and Sanatorium Treatment of Tuberculosis. William Porter.
48 *The Importance of the Nerve Centers in Pulmonary Consumption. Thomas J. Mays.

46. **Dispensaries for Tuberculosis.**—The advantages of these institutions and the order of work of the Boston Dispensary are described by Otis. The objects of a tuberculosis dispensary, according to his views, are: Complete investigation of the patient, personally, and his surroundings; the instruction both of the patient and his household in the hygiene of tuberculosis; the free supply to poor patients of pocket and house spittoons; securing entrance into sanatoriums for curable cases and into consumptive hospitals for incurable ones if they can not be properly cared for at their homes, and if neither of these can be secured, the treating of them as well as possible at their homes; aiding poor patients to obtain suitable food and other necessary articles; affording an opportunity to physicians to send their poor patients for diagnosis when desired, as well as advice and assistance in treatment. Lastly, he mentions the opportunity for scientific study and investigation and for clinical instruction of physicians and students in regard to this condition. The equipment should be a suitable waiting room; a receiving or consulting room where histories are taken, together with pulse, temperature, respiration and weight; several small examining rooms, a small laboratory for sputum examination, etc.; a dark room for laryngoscopic work, and possibly an *x*-ray room. The rooms should all be well ventilated and periodically disinfected. There should be a staff of four chief physicians, each serving three months, with plenty of assistants.

47. **The Home and Sanatorium Treatment of Tuberculosis.**—Porter describes the proper methods of care for patients at home and in the sanatorium, the education of the public, necessity of proper ventilation, rest, exercise, etc., instruction as to clothing, hydrotherapy, dietetic treatment, etc. He remarks that the results of what has already been done, especially in Germany and in some sanatoriums of this country, are most encouraging.

48. **Nerve Centers in Consumption.**—Mays claims that the respiratory organs are biologically the most immature and most predisposed to diseases of all the viscera, and that degeneration or imperfection of the vagi or their nuclei aids this tendency. He remarks in support of his views that pulmonary consumption is much more frequent among the insane and mentally defective than in other persons, and that the increase of insanity among the negroes since the strain on their nervous system following the abolition of slavery is also an evidence of their correctness.

Physician and Surgeon, Detroit and Ann Arbor.

June.

49 *The Treatment of Hyperacidity of the Stomach Contents, with Special Reference to the Carbohydrate or Meat-free Diet. David Murray Cowie.
50 *Fibromata as Complications of Pregnancy. Reuben Peterson.
51 A Daily Study of Foods, Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. (Continued.) Ephraim Cutter.

49. **Hyperchlorhydria.**—The advantages of a carbohydrate diet are noted by Cowie, who points out the stimulating action of a more proteid diet on the stomach secretion. He would add to it a certain amount of fats, and especially the use of milk between meals. The medical treatment is limited solely to the use of alkalies, though belladonna and opium have been advocated to reduce the activity of the glands. Stomach washings should be dispensed with as a rule in cases of normal or hypermotility. It is well to reduce the number of lavages as much as possible, though where there are signs of retention or atony lavage should be carried out systematically. Too much alkali in solution should be avoided and only be used when the stomach has been found to be acid. His practice does not give the theoretical results to be expected from diastase preparations. Attention to mastication and the use of dry foods will thoroughly obviate the necessity for these

substances. Constipation should be looked after and peptic ulcer be considered before instituting too radical measures.

50. **Fibromata.**—The dangers of these growths in pregnancy are treated by Peterson, who considers pressure symptoms a more important indication for interference than the size or position of the fibromata. The number, size and position will determine the exact nature of the operation. First, the abdomen is opened, and if there is a single growth and it can be removed easily, myomectomy may be performed and labor allowed to continue by the natural channels. This will be exceptional, however. Usually the choice would be between a cesarean section and supervaginal or panhysterectomy.

Indiana Medical Journal, Indianapolis.

August.

52 *Spastic Contraction of the Intestinal Muscularis as an Element in Intestinal Obstruction. Hugo O. Pantzer.
53 Deaf-mutism. John G. Wishard.
54 *The Rational Treatment of Tetanus. Edward J. McOscar.
55 Gunshot Wound of Abdomen, with Fourteen Perforations of the Intestine; Operation; Recovery. Wilbur O. Jenkins.
56 A Case of Intestinal Perforation from Gunshot; Operation; Recovery. M. G. Moore.

52. **Intestinal Spasm.**—Pantzer reports four cases of spasmodic constriction of the intestines, 3 of them associated with gallstones and 1 with a suspicion of syphilis. In 1 case there was a perforation of the combined walls of the gall bladder and colon with a stone 5⅛ inches in diameter presenting at the opening. The perforation was closed, the gall bladder emptied of several gallstones and complete relief obtained. The other 2 gallstone cases ended fatally. He discusses the subject generally and the literature to some extent.

54. **Tetanus.**—The rational treatment of tetanus here advocated consists in venesection followed by the injection of normal saline solution. McOscar refers to a case reported previously thus treated, though antitetanic serum was also employed. The result was recovery, though the case was an acute one. He thinks that bleeding and subsequent flushing with normal salt solution had much to do with the good results. The treatment for tetanus, he says, should be first prophylactic by early and free incision and thorough cleansing of every suspicious wound. If the culture shows the tetanus bacillus a liberal immunizing quantity of antitetanic serum should be administered subdurally without waiting for symptoms. When the disease has declared itself the patient should be bled as freely as his condition will admit, followed by generous intravenous injections of normal saline, repeated at sufficient intervals, which will be determined by the rapidity of elimination of the kidneys. After the abstraction of blood the antitetanic serum should be administered in large doses hypodemically.

Annals of Otology, Rhinology and Laryngology, St. Louis.

June.

57 *Is Atrophic Rhinitis Always Autochthonous? The Necessity of Establishing an Exact Diagnosis in Order to Determine the Treatment. W. Freudenthal.
58 An Unusual Case of Frontal Sinusitis. Absence of the Septum. C. G. Coakley.
59 Etiology, Pathology and Symptomatology of Chronic Suppurative Otitis. Charles W. Richardson.
60 The Teaching of Otology to the Undergraduate Medical Student. Alex. Randall.
61 A Few Remarks on Some Everyday Ear Cases. J. E. Sheppard.
62 A Case of Tubercular Laryngeal Stenosis Treated by Tracheotomy. J. Price-Brown.
63 *Mastoid Disease and Meningitis. Seymour Oppenheimer.
64 Some Unusual Mastoid Cases. H. Bert Ellis.
65 Thrombus of the Sigmoid Sinus; Report of Two Cases, Presenting Some Symptoms Differing from Those Usually Found in This Disease. James F. McKernon.
66 Report of a Case of Bilateral Abscess of the Septum with Well-marked Symptoms of Septicemia, and Report of a Case of Epiglottic Abscess with Secondary Involvement of the Cervical Glands. William L. Culbert.
67 A Contribution to Our Knowledge of the Causes of Left Recurrent Laryngeal Paralysis. O. Joachim.
68 A Demonstration of Some Experiments on the Nature and Specific Treatment of Hay Fever. Felix Simon.
69 Address, American Laryngological, Rhinological and Otological Society. L. C. Cline.
70 Case of Removal of Cochlea and Semicircular Canals; Recovery. R. L. Culbertson.
71 A Mastoid and Auricle Retractor. Frederick L. Jack.

57. **Atrophic Rhinitis.**—Freudenthal considers that ozena is an atrophy of the nasal interior conditioned by atmospheric influences—xerasia. The bones of the turbinated bodies appear to be early affected, and the effects of lack of humidity in the air are apparent in all parts. To convert this atrophy into ozena the invasion of a bacillus similar to Friedländer's pneumobacillus is necessary. This usually occurs at an early period of life, perhaps caused in some cases by direct transmission from the vulva. Accessory sinus disease often appears as secondary to the ozena. After all that has been said ozena is to be considered as a genuine and autochthonous disease, resulting from atrophy of the nasal interior.

63.—See also title 24, above.

Journal of Cutaneous Diseases, New York.

August.

72 *Some Observations on the Use of Roentgen Rays in Dermatology. Henry W. Stelwagon.
73 *The Rationale and the Indications for the Therapeutic Use of Roentgen Rays. William A. Pusey.
74 *The Roentgen Rays in Dermatology. Edward B. Bronson.

72. **The Roentgen Rays.**—Stelwagon discusses the values of the coil and static machine as a source of Roentgen rays. He prefers the coil if the electric current is handy or the recharging of the storage battery is feasible. It is more steady and works better in all kinds of weather. For other purposes besides *x*-ray work or where electric currents or the recharging of batteries is not feasible, the static machine should be preferred. A coil with a capacity of a six-inch spark and a static machine giving a good eight-inch spark, will do excellent work. The vacuum is another factor. He says that a moderately low vacuum, equal to a spark gap of about 2 inches, has been what he has used and has seemed to him satisfactory. For protectors he has devised a wooden screen fifteen inches in diameter, one side covered with lead foil and arranged with a head rest, acting both as a protecting screen and a tube holder. When the distance of the tube from the patient is more than five or six inches, a funnel can be attached to the screen with rubber bands and the projecting aperture brought directly over the part to be treated. For the protection of the hands, which is important, he has come to use double mittens, one much larger than the other, the smaller pair enveloped in tin foil, which can be renewed from time to time. The scalp may require attention and protection, and he has noticed that some of his patients have complained of slight dizziness or headache, and he thinks he has suffered so himself. He does not use the *x*-ray treatment for everything, and except in epithelioma, lupus vulgaris, cutaneous tuberculosis, lupus erythematosus, etc., he has employed it only where the cases have proven rebellious to the ordinary methods. The most favorable cases in his experience are those of rodent ulcer occurring in the neighborhood of the eyes. He does not believe in pushing the treatment to actual destructive action, but he thinks that few cases will show much progress unless the *x*-ray affects to a degree of producing a slight flush; usually an extremely slight *x*-ray erythema. He always begins with the tube about 10 or 12 inches with an exposure of five minutes, and gives the treatment, as a rule, twice weekly for two weeks. Then, if no reaction occurs, he speaks of prolonging it fifteen or twenty minutes. A moderate grade of dermatitis may be excited, causing a discontinuance. He has employed the *x*-ray treatment in acne, besides the diseases mentioned, and found it useful. In eczema his moderate experience has led him to think something of its value. In keratosis of the palms and soles he thinks it promises much, and he has had it produce a disappearance of the eruption in psoriasis. Local hyperidrosis is another condition in which he has found it of value. He considers it of first importance in epithelioma, and that it has a wide range otherwise. In eczema, psoriasis and other inoffensive dermatoses he would reserve it for cases that prove intractable to treatment otherwise.

73. **The X-Ray.**—Pusey describes the action of the *x*-ray on the skin as it has been determined. He believes that it acts primarily on the tissue cells, later on the blood vessels. The key to the explanation of the use of the *x*-rays in malignant disease is that it has a quicker action on pathologic tissues than on normal ones. He reviews the various disorders in which he found it of value, including hypertrichosis, sycosis,

comedo, acne, rosacea, hyperidrosis, as well as eczema, lupus, lichen planus, psoriasis and other disorders where the absorption of inflammatory products is desired. His experience with eczema has been favorable as in the case of other workers. The anodyne effects of the *x*-rays are also of value, especially in itching troubles. In favus and tinea tonsurans he has not established its permanent value. It is possible that it might be of use in causing exfoliation of the nail substance, and where it is desired to cause atrophy or decrease in the functional activity of the sebaceous glands.

74. **X-Ray Burns.**—Bronson remarks that while our knowledge of what produces the effect is vague, there is no obvious reason why there should not be a large margin of individual susceptibility. Low tubes seem to be more dangerous in this respect than the high tubes, which are presumed to be more penetrating and suitable for deeply-seated troubles. He discusses the distance of exposure and mode of application. He thinks the standard is 10 minutes at eight inches for the first exposure. He gradually increases this later. No measure, he thinks, requires greater circumspection in its employment or a nicer adjustment of details.

St. Paul Medical Journal.

August.

75 The Relationship Between Diseases of the Nose and Throat and General Diseases. Jacob E. Schadle.
76 Dysentery. G. A. Skinner.
77 *Some Causes of Failure of Operation to Cure Gallstone Disease. William J. Mayo.
78 Some Therapeutic Uses of the X-Ray. W. P. Spring.
79 Kraepelin's Classification of Insanity as Presented by Defendorf. Dwight S. Moore.
80 Puerperal Sepsis from Retained Lochia. C. L. Brimi.
81 Acute Intestinal Obstruction. H. J. O'Brien.
82 Acute Chorea. Arthur W. Dunning.

77. **Gallstone Disease.**—Mayo remarks on the success of gallbladder surgery. In 582 operations he has had but 17, or 3 per cent., that required a secondary operation. It is possible, however, that others may have operated on some of his cases, so this figure is not absolute. Experience has taught him how to get over the defects of his earlier work and avoid the causes which lead to subsequent troubles. He remarks in this connection that a few patients who have had cholecystostomy performed will have a colic or two and transient jaundice within the first month or two after the operation, but usually these do not recur. They are probably due to the non-emptying of the crippled gall bladder with sufficient promptness. Unless there is more than a single spell of pain after closure of the fistula a secondary operation may not be required. The most common cause of secondary symptoms is incomplete removal of stones. This, however, is avoidable with sufficient care. Stones in the cystic duct may escape attention, hence the importance of great care in its exploration. In such cases if the stone completely obstructs the duct he clamps it below the obstruction and cuts it off and then performs cholecystectomy from below upward. It may be done almost without cutting by simple traction. It is important to explore the ducts with the fingers before opening the gall bladder in every case, as stones are sometimes overlooked in the common duct where they may lie quiescent for years. One cause of failure from cholecystostomy is from secondary obstruction of the cystic duct, possibly eventuating in a mucous fistula or repeated attacks of colic, hence the advisability of generally excising the gall bladder whenever the cystic duct is involved. In this way he has in his later practice eliminated this most common cause of secondary trouble. In septic cases long-continued drainage is necessary; severe symptoms may follow too early closing of the fistula. Cancer may be said to be secondary to stone formation, and may occur after operation or, if present, be mistaken for inflammatory conditions. All thick-walled gall bladders should be looked on with suspicion. As they are functionally useless cholecystectomy is better than cholecystostomy. Chronic pancreatitis may exist at the time of operation and require long-continued drainage. The condition of the pancreas should be observed at the same time as that of the ducts. If disease is present there is the choice of cholecystenterostomy with the Murphy button in addition to removing the stone, or of draining for a long time. In the one uncomplicated case in his experience which required a secondary operation, the gall bladder was very large and the fistula did not close. On dissecting out the gall bladder it was found that, by low attachment to the abdominal incision it had formed a channel in which in certain positions of the body bile would gravitate outward. After cholecystostomy the gall bladder should be attached as high up in the incision as convenient. Persistent biliary fistula usually means obstruction of the common duct. He holds that every one understands the importance of not attaching the gall bladder to the skin. In earlier days persistent biliary fistula was usually due to the mucocutaneous suture, the evils of which he does not need to point out. The turning in of the margins of the incision in the gall bladder and the tying of a purse-string suture closely about the drainage tube, as in Kader's gastrostomy, hastens the healing of the fistula. Two possible or rather common causes of failure to effect a perfect cure that can not always be avoided are post-operative adhesions. Those to the stomach and duodenum are the most common, and may require secondary separation with the use of Cargile's membrane; and hernia, which is not usually troublesome. It may follow a long incision in obese people. While the adhesions usually relieve themselves by stretching, he does not allow the gauze drains to come in contact with the stomach and duodenum on account of their possible development, but interposes a piece of rubber tissue and leaves it from six to eight days until the adherent films surrounding the drains become organized. To avoid hernia, he makes a secondary opening outside the working incision in cases where it is at all likely to occur, close to the ribs, and through this the drainage matter may be brought out. This enables us to carefully close the full length of the original incision. The necessity of this is increased if the opening has been extended downward to remove the appendix.

Annals of Gynecology and Pediatry.

August.

83 *The Toilet of the Peritoneum in Appendicitis. Stephen H. Weeks.
84 *Toilet of the Peritoneum in Gunshot Wounds of the Stomach and Intestines. George Tully Vaughan.
85 *Simultaneous Catheterization of Both Ureters. Its Advantages. Technic with New Instrument. S. L. Elsner.
86 *Remarks on Cesarean Section for Placenta Previa, with Special Reference to the Life of the Child. Francis D. Donoghue.

83. **Appendicitis.**—No one method is suitable in all cases, Weeks remarks. If there is no pus formed drainage is not required. If a circumscribed abscess exists care should be taken not to infect the general peritoneal cavity by forcible irrigation which may extend the infection. The pus cavities should be cleansed with gauze pads wet with sterile salt solution or sometimes with peroxid of hydrogen diluted with equal parts of sterile water. In such cases the appendix can generally be found and should be removed, and the wound and abscess cavity should be packed with sterile gauze. Where the wall of the abscess is firmly adherent to the anterior abdominal wall and can be opened without opening into the non-infected abdominal cavity, the point of adhesion should be carefully determined and the abscess opened at this point. Concretions should be looked for, as they may lead to sinuses, the abscess cavity evacuated and cleansed with gauze pads or irrigation and the whole cavity packed with gauze. Great care should be used not to break down the abscess wall at any point. Where there is no protecting wall of adhesions and the products of a septic peritonitis have flooded the abdominal and pelvic cavities, thorough irrigation is required, perhaps several times repeated, and drainage.

84. **Gunshot Wounds.**—Vaughan classifies gunshot wounds into two classes—with or without peritonitis. In the first class, if there is no extravasation of the visceral contents, neither irrigation or drainage is required, but if there is extravasation of the visceral contents, thorough cleansing of the peritoneal cavity is necessary and, unless the operator is satisfied that the cleansing is perfect, drainage should be used from the most dependent part—in the female in the vagina and in the male perhaps by tapping the rectovesical peritoneal pouch by an opening into the perineum between the rectum

and the urethra. When the wounds are few, extravasation limited and operation performed early, cleansing by sponging and local drainage may be all that is required. After severe hemorrhage with the formation of blood clots or if there has been imperfect hemostasis, irrigation is indicated as the bloody fluid would form too good a culture medium for germs. In case of local peritonitis the parts involved should be drained, but irrigation should be used with caution to avoid infection of other parts. Generally it is advisable to simply provide drainage. In general peritonitis there is little to be done, but the patient should be given the chance of life by thorough irrigation and efficient drainage in the manner described.

85. **Catheterization of Both Ureters.**—Elsner describes the technic with an especial cystoscope devised by him for double catheterization, which is illustrated and its uses reviewed.

86. **Cesarean Section for Placenta Previa.**—From a thorough study of the subject Donoghue concludes that the conservative Sänger cesarean section should be performed in the case of complete previa, of previa in the primipara, or in the presence of severe hemorrhage or rigid os, when there is a history of previous operative delivery, and it should be considered in all cases where version is indicated, if a reasonably skilled surgeon is available and only an ordinary obstetrician. All these indications are based on a probable viable child, 28 weeks of gestation and upwards. The operation should be performed through the left rectus muscle. Incision of the uterus is not usually followed by hemorrhage, even when the broad ligaments are not constricted. Time should be allowed for contraction and retraction of the uterine fibers before attempting to remove the placenta. If severe hemorrhage has preceded operation the abdomen can be filled with saline solution before it is closed. The shock of such an operation is not greater than that of version or forceps in a woman already exhausted, and within a few minutes the indications to empty the uterus and control the hemorrhage will have been fulfilled.

American Journal of Obstetrics, New York.

August.

87 *Antenatal Rigor Mortis. C. E. Paddock.
88 *The Relations Between Peritoneal Adhesions and the Functionating Uterus. Charles B. Reed.
89 Fetal Ascites with Dystocia. Stanley P. Warren.
90 *A Preliminary Report on Electrothemic Hemostasis with the Downes Instruments. A. Goldspohn.
91 *Congenital Dilatation of the Gall Bladder and Bile Ducts. G. Brown Miller.
92 *Tumors of the Round Ligament of the Uterus. Duff G. Lewis.
93 *Treatment of Club Foot in Children Under Three Years Old. A. R. Shands.
94 *The Action of the Uterus During Labor. Elmer Sothoron.
95 *The Kidney in Pregnancy. Robert W. Stewart.

87. **Antenatal Rigor Mortis.**—Two cases are reported by Paddock and others referred to in the literature. He supports the probability of rigor mortis occurring in the fetus by the animal experiments of Tissot, showing conclusively that such a condition does exist. From a medicolegal standpoint it must be admitted that it can occur before birth as well as after. The existence of a new-born dead infant in rigor mortis is not a necessary proof of a life apart from the mother, but it does prove that the fetus was alive shortly before or during birth. The condition often complicates delivery by interference with its normal mechanism.

88. **Peritoneal Adhesions.**—Reed gives quite a full review of the literature of peritoneal adhesions. He says they are responsible for many cases of so-called hysteria and frequently for menstrual pain and irregularity. They produce many abortions, and a certain number of placental and fetal anomalies, sterility and tubal pregnancy may result. Pregnancy and labor are sometimes rendered pathologic by the presence of these adhesions. Many adhesions are undoubtedly destroyed by the growth of the uterus in pregnancy, but their rupture may be attended with fatal hemorrhage. Adhesions between the movable organs of the abdomen and the functionating uterus are only a rare source of danger or a cause of death. Where they are protecting the peritoneal cavity from pus pockets, they are extremely dangerous. The pus should be evacuated as soon as possible after the diagnosis, without reference to the pregnancy, and even if abortion should follow the condition is less serious than when rupture occurs during pregnancy and labor. If the diagnosis is made during labor, it is allowable to temporize until the termination of the case, accelerating the labor if possible by artificial assistance. If the intestines are seriously involved or excluded, the phenomenon occurs in most cases between the fourth and seventh month of pregnancy. When ileus occurs during pregnancy and labor the prognosis is very grave for both the mother and child, especially the latter. The treatment should be surgical.

90. **Electrothermic Hemostasis.**—Goldspohn disagrees with Downes in certain points as regards the electrothermic angiotribe. A large platinum knife is not always sufficiently heated by the current and the time required to oil the blade, apply the forceps, insulate the blade, connect the cable, and then wait for one and a quarter to two minutes for a sufficient effect, is not always less than is required to ligate the parts. He thinks the effort to make this method of hemostasis supersede or displace ligation is not entirely judicious because the heating blade would sometimes have to be located where its insulation would be difficult and insecure. He also thinks that Dr. Downes assumes too much when he holds that the forceps make a permanent closure of such organs as the fallopian tubes or that septic tubes treated by it are also sterilized. The advantages are the greater comfort of the patient after the operation from insensitiveness of the nerves, the probable sterility of the pedicles, the less loss of blood and the avoidance of introducing any foreign body such as ligatures and so on, and the more ideal asepsis in this respect. In vaginal hysterectomy it is superior, also in cancer cases because it more nearly destroys the tissues which compose the stumps or pedicles and thus diminishes the chance of recurrence. It is also of distinct advantage because it does away with the difficult and tiresome method of ligation and the very objectionable use of the clamp, and thereby facilitates an important part of the operation, i. e., the closure of the peritoneal cavity. By avoiding ligatures it prevents secondary hemorrhage and also of infection from such ligatures in their becoming infected before they are absorbed or cast off.

91. **Congenital Dilatation of the Gall Bladder.**—Miller reports and illustrates an interesting case in a child two and one-half years old and reviews the literature of the subject. He thinks it unquestionable that the cyst was a tremendous dilatation of the gall bladder and bile ducts beginning at an early period of intrauterine life; that the common duct was partially obstructed, probably at first by a catarrhal inflammation or calculus and later by the dragging down of the heavy cyst, and that the deformity of the liver was produced by the pressure of the tumor interfering in its development and by atrophy of the liver cells. The case was treated by draining the cyst, hoping that the dilated gall bladder and ducts, being relieved of their contents, would contract and the bile pass along its natural route. If the gall bladder had contracted to a small size and the fistula remained open, and the child suffered from absence of bile in the intestine, his intention was to do a cholecystenterostomy. He has not yet done this on account of certain difficulties, but is keeping in touch with the patient, and it can be done if required.

92. **Round Ligament Tumors.**—Two cases are reported and the frequency, etiology, pathologic anatomy, symptoms, diagnosis and treatment are discussed by Lewis. He thinks these tumors are comparatively rare or are certainly not often reported. There is comparatively little in the literature on the subject. The diagnosis has been frequently studied by Duplay, Sanger and Guinard. The only treatment is extirpation.

93. **Club-Foot in Children.**—In young children Shands holds that the cure of club-foot is comparatively easy, but after they have started to walk the difficulty is increased. The only requirement is a succession of plaster bandages properly placed, and this can be done with simply the assistance of the child's nurse. His method of applying the plaster and treatment is as follows:

> First apply a piece of cotton felt to both the outer and inner borders of the foot, extending it over the malleoli. This is done as an extra precaution for the protection of the bony prominences, being needed especially over the metacarpo-phalangeal joint of the great toe and over the cuboid bone—this being usually very prominent. Then apply at least two thicknesses of a canton flannel

bandage to the foot and leg, extending it to the tuberosity of the tibia. Now, having the foot and leg well protected, the plaster is applied also up to the tuberosity of the tibia. This will prevent the leg from moving in the plaster cast and giving a better leverage when the twisting process is begun. Care should be had to have the toes held in their natural relation to each other; otherwise you will have an uneven pressure, and, as a result, swelling and pain. The plaster should extend well over the toes, but their ends should be exposed. While waiting for the plaster to set, grasp the leg with one hand, holding it firmly on the table, and with the other press on the plantar surface with a piece of board; this serves the purpose of overcoming some of the deformity and gives a flat surface on which the child can walk better. When ready to begin the redressement cut out a wedge-shaped piece of plaster on the outer border of the foot over the most prominent part of the deformity, for here the greatest pressure is needed, then connect the upper and lower angles of this cut by cutting a line through the plaster entirely around the foot. Of course, it is intended that these cuts should extend only through the plaster. Care should be taken not to allow this cut around the foot to be near enough to the heel to allow the front part of the foot to move in the dressing when the foot is twisted, for then you would defeat the object in view. The plaster cast is now in two pieces, each firmly fixed to the foot. By grasping the leg with one hand and the end of the foot with the other, it takes but little force with this leverage to bring the opposite sides of the wedge-shaped incision into apposition, which corrects a certain amount of the deformity. While an assistant holds the parts in their new relation one to the other, they are fixed there by a wet plaster bandage applied around the foot and ankle in a figure-of-eight, care being taken to fill in well the gap made by the linear incision on the inner side of the foot. This third bandage being applied over a dry plaster cast, can be easily peeled off at the next sitting; then make the wedge-shaped incision larger, and repeat the redressement as before. This can be repeated three or four times, when it will become necessary to apply an entirely new dressing. Great care should be taken lest you get compressed between the edges of the plaster, when forced together, a fold of loose skin, which would likely cause a bad ulcer. This was learned by experience, for in one of my cases I had a bad ulcer that necessitated suspending the treatment until it was cured.

The number of sittings will have to be in accordance with the circumstances. Dressing should be done about three times a week until the foot is in a normal position and then once a week until the desired amount of over-extension is obtained, when a permanent dressing is applied and kept on, as a rule, for six months after the child begins to walk. When it is left off the closest watch should be kept, and as soon as there is any tendency to a return to the old conditions the foot should be put up again in a plaster cast. The treatment requires a great deal of patience and persistence and the cooperation of all parties. The surgeon must watch all details. He must make the parents divide the responsibility by impressing on them that they have a very important part to perform.

94. **The Action of the Uterus During Labor.**—Sothoron's theory of the action of the uterus during labor appears to be practically the same as one that has been suggested before, namely, that the circular fibers lose their power and become practically obliterated at the close of gestation, and the less-interfered-with action of the longitudinal fibers produces the delivery. It is not the action of the sphincter portion of the uterus that causes the labor.

95. **The Kidney in Pregnancy.**—This paper is based on urinary examinations in eighty-five women at various periods of pregnancy. Stewart claims from his findings that pregnancy does not cause so much disturbance as most authorities would have us believe; that is, that it is not a process that tends toward a destructive action of the kidneys. There must be the coexistence of secondary causes, if we choose to so call them, which tend to increased activity on the part of the kidney to a possible exhaustion of kidney tissue. In nearly all the cases where albumin was present, the unloading of the intestinal tract and incidentally of the kidneys, restored the patients to practically normal conditions. Pregnancy is a physiologic process in physiologically normal women. It is abnormal in many cases under our systems of education and training. To these we must look for the causes of albuminuria and nephritis.

Journal of Medical Research, Boston.

August.

96 The Relations of Specific Gravity and Osmotic Pressure to Hemolysis. Clarence Quinan.
97 *The Dysentery Bacillus in a Series of Cases of Infantile Diarrhea. Martha Wollstein.
98 The Reaction of Certain Water Bacteria with Dysentery-immune Serum. D. H. Bergey.
99 The Connection Between the Alkalinity of Certain Bacterial Filtrates and Their Hemolytic Power. Edwin O. Jordan.
100 *A Study of the Proteolytic Enzymes and of the So-called Hemolysins of Some of the Common Saprophytic Bacteria. A. C. Abbott and N. Gildersleeve.
101 An Experimental Study of the Bacteriolytic Complement Content of the Blood Serum in Normal, Vaccinated and Variolated Rabbits. Ralph L. Thompson.
102 The Bacteriolytic Complement Content of the Blood Serum in Variola. Ralph L. Thompson.
103 The Non-identity of Agglutinins Acting on the Flagella and on the Body of Bacteria. Theobald Smith and Arthur L. Reagh.
104 Mucin as a Bacterial Product. Leo F. [illegible]er.
105 The Fats of Pneumonic Exudations. Harry A. Christian.
106 Observations on the Coagulation Time of the Blood and the Blood Plates. Joseph H. Pratt.
107 The Physical Chemistry of Milk. Lawrence J. Henderson.
108 *Mercurial Diuresis. M. Vejux-Tyrode and Louis Nelson.
109 On a Difference in the Influence on Inflammation Between the Section of the Sympathetic Nerve and the Removal of the Sympathetic Ganglion. S. J. Meltzer and Clara Meltzer.
110 *The Pathologic Changes in the Nervous System in a Case of Lead Poisoning. William G. Spiller.
111 On an Abnormal Thoracic Duct. Charles S. Butler.

97. **Dysentery Bacillus in Infantile Diarrhea.**—Wollstein finds that cases of infection by dysentery bacilli in infants tend to a clinical picture of dysentery with frequent mucous and bloody stools. In some cases of hospital infection following other diseases, especially pneumonia, and in other mild cases, the stools may not contain blood, but mucus is always present and in large amounts. The serum reaction is uncertain for one week, frequently positive after the sixth day, but may be absent for two weeks. It can not be relied on for early diagnosis in infants and young children. The only positive evidence during life is the isolation of the *Bacillus dysenteriæ* which is present in the stools for two or three weeks, but may remain longer. The type of organism almost invariably found in New York City is that of the Manila or Flexner bacillus.

100. **Proteolytic Enzymes.**—The deductions drawn from their study by Abbott and Gildersleeve are:

1. That the destiny of non-toxic, though otherwise physiologically characteristic products of bacterial life in the body, is determined by the presence of specific neutralizing substances that can be demonstrated in the circulating blood. 2. That, by the customary methods of artificial immunization, the amount of such antidotal substances in the blood may be increased, but only to a slight degree. 3. That, through the use of sera from animals, immunized from the non-toxic bacterial products, poor though such sera are in specific immune-body, it is possible to distinguish the proteolytic enzymes resulting from the growth of different bacterial species from one another, as well as from certain physiologically analogous enzymes of animal origin. 4. That the proteolytic enzymes elaborated by certain bacteria in the course of their growth are much more resistant to high temperatures than is generally supposed; some being capable of exhibiting their characteristic function after exposure in the moist state to a temperature of 100 C. for fifteen to thirty minutes. 5. That the so-called hemolysins of bacterial origin are, at least in some cases, probably proteolytic enzymes. 6. That it is possible by experimental means to contribute material support to the doctrine of Welch concerning the origin of "bacteriogenic cytotoxins."

108. **Mercurial Diuresis.**—From experiments on rabbits Tyrode and Nelson find they can not agree with Cohnstein's conclusion in regard to excessive diuresis from mercury. They find no difference in their results, whether the animal was anesthetized with chloral or urethan. The results were decidedly irregular on the animals. This explains to a great extent the discrepancies between the opinion of different clinicians as to the value of mercury as a diuretic. Without doubt, the individual difference in susceptibility to mercury is very great. The diuretic action is explained by two factors: The local irritation of the kidney and possibly an action on serous membranes influencing the absorption of fluids from them.

110. **Lead Poisoning.**—From the study of a case reported and of the literature, Spiller concludes that lead affects the brain and its pia, the nerve cells of the anterior spinal horns, the ganglia on the posterior roots, the peripheral nerve fibers and the muscles. It seems to be impossible to tell whether its effects are first manifested in the alteration of the peripheral motor fibers or of the motor cell bodies of the spinal cord, but since both peripheral motor fibers and motor cell bodies are sooner or later affected, the question is not important. The significance of the proliferation of endothelial cells of the capsules in the spinal ganglia and on the cerebral pia is difficult to determine.

American Practitioner and News, Louisville.

July 15.

112 Timely Operation in Primary Appendicitis. William H. Wathen.
113 Some Things the Obstetrician May Do to Assist the Lying-in Woman, and Some Things He Would Better Not Do. T. J. Shoemaker.

114 Biographical Sketch of Drs. Davis, Pusey, William B. Caldwell and Preston B. Scott. T. B. Greenley.
115 Anesthetics. C. H. Todd.
116 Solitary Ulcer of the Bladder, Non-traumatic and Non-tubercular in Origin. G. E. Armstrong.

Virginia Medical Semi-Monthly, Richmond.

August 21.

117 The Modification of Cow's Milk for Artificial Infant Feeding. W. E. Norton.
118 Importance of Correct Diagnosis. C. W. Watts.
119 Case of Only One Kidney. Joel Crawford.
120 The Etiology and Pathologic Anatomy of Aneurism. W. Lowndes Peple.
121 Concerning the Symptomatology of Thoracic Aneurisms. Truman A. Parker.
122 Gelatin Treatment in Aneurism. Ennion G. Williams.

Canadian Journal of Medicine and Surgery, Toronto.

September.

123 The Humors of a Country Practice. E. H. Stafford.
124 The Early Days of Ovariotomy. Matthew D. Mann.
125 Some Business Aspects of Medical Practice. N. A. Powell.

Medical Age, Detroit.

August 10.

126 Ante-revolutionary American Graduates of the University of Edinburgh. Rush McNair.
127 Phthisiophobia. A. L. Benedict.
128 The Modern Care of the Insane. W. T. Parker.

Iowa Medical Journal, Des Moines.

August 15.

129 Radical vs. Palliative Measures in Gynecology. Van Buren Knott.
130 Observations and Impressions of Medicine and Medical Men Abroad. G. E. Crawford.
131 Some Needs of the Department of Health. J. A. Valenta.

The Post-Graduate, New York.

August.

132 Acute Pelvic Cellulitis. Charles F. Adams.
133 The Diagnosis and Treatment of Syphilis of the Nervous System. Graeme M. Hammond.
134 The Catheterization of the Ureters. Henry G. Spooner.
135 Sixth Report of the Committee of Inspection Appointed by the Executive Committee of the Post-Graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-Graduate Hospital, New York, 1903.
136 Notes from the Clinics. Wendell C. Phillips.

Medical Mirror, St. Louis.

August.

137 Doctorate Address, Jenner Medical College, Chicago. G. Frank Lydston.
138 A Sleigh Ride in Russia. J. W. Walnwright.
139 A Dangerous Commodity. W. L. Bullard.
140 The Rights of Children. J. W. Walnwright.
141 Pathology of the Uric Acid Diathesis. William E. Fitch.

Fort Wayne Medical Journal-Magazine.

August.

142 The Welfare of Coming Generations. H. V. Sweringen.

Cleveland Medical Journal.

August.

143 Hydrotherapy in Pediatrics. M. Borts.
144 Sarcoma of the Choroid in a Child. William E. Bruner.
145 Sporadic Cretinism, with Report of Cases. J. P. DeWitt.
146 The Dangers of Adenoids. S. H. Large.

Detroit Medical Journal.

August.

147 The Treatment of Anal and Rectal Diseases without General Anesthesia. William L. Dickinson.
148 The Rational Treatment of the Opium Habit, with Report of Unusual Recovery. Samuel Bell.
149 Chlorosis. William Appelbe.
150 Only a Drop of Pus. Francis J. W. Maguire.

Interstate Medical Journal, St. Louis.

August.

151 Remarks on Cancer of the Prostate and the Selection of Cases for Suprapubic Prostatectomy. Reginald Harrison.
152 Ringworm. William Frick.
153 Cancer of the Omentum. James A. Matlack.

Bulletin of the American Academy of Medicine, Easton, Pa.

August.

154 *The Teaching of Hygiene in the Public Schools. The Teaching of Personal Hygiene. Walter L. Pyle.
155 Physiology vs. Hygiene in Our Public Schools. George G. Groff.
156 The Teaching of Physiologic Breathing. G. Hudson Makuen.
157 *The Desirable Organization for a Department of Hygiene in Public Schools. Helen C. Putnam.
158 The Michigan Method of Teaching Sanitary Science or Hygiene in the Public Schools of the State. Victor C. Vaughan.
159 *The Training of Teachers of Hygiene for Public Schools. Thomas D. Wood.
160 *Gonorrhea Insontium, Especially in Relation to Marriage. Prince A. Morrow.

154.—See abstract in THE JOURNAL, xl, p. 1528.

157.—Ibid., p. 1528.

159.—Ibid., p. 1528.

160.—Ibid., p. 1602.

Wisconsin Medical Journal, Milwaukee.

August.

161 Address, State Medical Society of Wisconsin. J. V. R. Lyman.
162 *The Practical and Scientific Value of Bacteriologic Examinations of the Blood During Life. Ludvig Hektoen.
163 The Diagnosis of Pericarditis. L. F. Jermain.

162.—This article appeared elsewhere. See THE JOURNAL of July 18, ¶64, p. 208.

Canadian Practitioner and Review, Toronto.

August.

164 The Surgical Treatment of General Purulent Peritonitis. J. F. W. Ross.
165 The Medical Treatment of Advanced Pulmonary Disease. J. Frank McConnell.
166 The Operative Treatment of Goiter. George A. Bingham.
167 Appendicitis from the Standpoint of the Country Doctor. John W. S. McCullough.

Medical Fortnightly, St. Louis.

August 25.

168 Adenoids. A. L. Adams.
169 Resection of the Chest Wall for Recurrent Carcinoma of the Breast. Emory Lanphear.
170 Rupture of the Uterus During Labor. S. R. Hopkins.
171 Different Methods of Dealing with Stone in the Bladder. J. P. Bryson.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 29.

1 *The Pathology and Treatment of Chorea. D. B. Lees and others.
2 *The Relation of the Thyroid Gland to Marasmus. John Ruhrah.
3 *The Age for Operating in Cleft Palate. R. W. Murray.
4 *A Discussion on Congenital Dislocation of the Hip. F. F. Burghard and others.
5 *Splenomegaly in Infants and Young Children. George Carpenter.
6 On the Utilization of Infants' Milk Depots. T. D. Lister.
7 *Tuberculosis in Children; Its Relation to Bovine Tuberculosis. Nathan Raw and others.

1. Chorea.—Lees points out that there is much more of the brain affected than the Rolandic area in chorea. It is probably a disorder of the whole cerebral cortex, probably of the whole brain and possibly of the nervous system in general; not, however, a destructive one, but one usually ending in complete recovery. The morbid blood condition with which he thinks this is associated is rheumatism and both the disorders are probably due to the same infection. In support of this view he suggests that while the evidence is scanty, it is extremely suggestive; for example, a rabbit injected with a culture of the diplococcus to which rheumatism has been attributed develops something very closely resembling chorea in a child. Poynton has found the diplococcus in the cortex in cases of chorea though the cultural test was not effected, owing to the age of the specimen. Dana, Apert, Wassermann and others have isolated the diplococcus from the brain in fatal cases of chorea, though its identification with the rheumatic diplococcus has not been thoroughly made. He thinks, therefore, we can say that chorea is cerebral rheumatism in the great majority of cases, though the statement can not be made absolute for other toxins and microbes may possibly affect the cortex cells in the same way. It is even possible that sudden emotional disturbance may produce a toxin acting similarly. The difficulty in these cases, however, is to prove the absence of rheumatism. The deduction made from these facts is that the treatment for chorea and that of rheumatism should be similar. He therefore advocates the use of sodium salicylate with the addition of alkali, something like twice the amount of sodium bicarbonate as of salicylate of sodium to the dose. He thinks this combination is of considerable importance and in a great number of cases it has produced rapid improvement. The success seems to depend on the amount given daily. The dose of sodium salicylate for a child of 6 to 10 years should

be at first 10 gr. to 20 of sodium bicarbonate; after two or three days the quantity may be increased to 15 and 30 grains respectively; after two or three more days to 20 and 40 grains every two hours during the day and every three hours during the night; 10 doses in the twenty-four hours; thus increasing the daily dose from 100 gr. daily to 150 and finally to 200 gr. A careful watch should be kept for any symptoms of salicylate poisoning, especially for the peculiar deep inspiration. If this occurs medicines must be immediately given up, as it is a sign of danger. This air hunger symptom, however, is of rare occurrence. He believes this, with rest, is the most successful treatment for acute chorea. For chronic cases it may be less successful and time may be an essential factor. Arsenic in large doses sometimes produces distinct improvement, but he thinks there is the danger of arsenical neuritis. In the discussion Fisher noted some complications of chorea, especially the occurrence of cardiac lesions. Osler's experience is very similar. He shows that some facts seem to point to the probability that if the heart escapes during the first attack of chorea it is not likely to suffer in subsequent attacks, but some reserve should be held on this point.

Poynton pointed out the bacterial facts in regard to chorea, tabulating them briefly as follows:

1. Micro-organisms of the streptococcal group have been isolated from rheumatic fever. 2. They have been isolated from the cerebrospinal fluid and brain itself in chorea. 3. They have been demonstrated in the pia mater and brain. 4. Involuntary movements of a peculiar type have been recorded by Paine and myself and F. Meyer as resulting from intravenous inoculation of rabbits with such micro-organisms. 5. Identical bacteria are found in other rheumatic lesions in man, and are capable of producing the lesions of rheumatism in animals. 6. Chronic leptomeningitis has been noted in chorea by Dana. 7. The lesions found after death in acute chorea are such as one could explain on the view of an infection. I mean the minute thromboses and hemorrhages, occasional embolism, degenerative changes in nerve cells, and perivascular exudation commented on by Dr. Lees. These are, I admit, scanty and imperfect facts, but very suggestive ones. It would be a valuable contribution to our knowledge to have a detailed examination of the brain, in a series of cases of chronic rheumatic chorea. This is a difficult matter, but the finding of multiple focal lesions, such as have been discovered in Huntingdon's chorea, would add further evidence. How much of chorea is due to the focal lesions, and how much to the poisons of rheumatism, is at present a matter of speculation. I hold, however, to the view of chorea being an infection of the nervous system comparable to the infection of the nervous system in tuberculous meningitis rather than that of the nervous system in diphtheria paralysis. Though in entire agreement with Dr. Lees as to the association of rheumatism and chorea, I would not go so far as some and say it is always rheumatic. Remarkable cases of chorea after erysipelas, during tuberculous meningitis, and after measles, which I have met, make me very cautious on this point. As regards rheumatic fever and chorea I hold the view that one micro-organism is the cause.

2. **The Thyroid Gland and Marasmus.**—Ruhrah reports the results of studies of eighteen cases of marasmus. Excepting the terminal infection, atrophy of the thymus was the only lesion found in any of the necropsies. The changes consisted in marked atrophy with thickening of the capsule and trabeculæ. He reaches the following conclusions:

1. Atrophy of the thymus gland is always found in cases of infantile atrophy. 2. The condition of the thymus is an index of the general nutrition of the infant. 3. The state of the nutrition in infants may be estimated by a microscopic examination of the thymus at necropsy.

3. **Cleft Palate.**—Murray advocates early operation in cleft palate. Where there is a complete cleft both of the lip and palate he usually operates on the lip when the child is three or four weeks old, and delays operating on the hard and soft palate until the end of the second year. It is remarkable, he says, how closure of the lip influences the cleft of the hard palate. In a number of cases he has seen the alveolar gap practically disappear. This he thinks a good argument for delaying the operation on the palate; the narrower the cleft the easier the operation and the greater the probability of success.

4. **Congenital Dislocation of the Hip.**—The various methods of operation for congenital hip dislocation are noticed by Burghard, whose conclusions are given as follows:

1. All cases should be checked by radiography, and no "cure" should be spoken of that is not a true anatomical cure.
2. All cases of congenital dislocation under 14 years of age should be submitted to treatment. In the great majority improvement will result, while in some a true anatomical cure is brought about.
3. In all these cases Lorenz's manipulations should be tried in the first instance. Even should they fail to effect reduction, they facilitate any subsequent procedures.
4. The prospect of a cure by Lorenz's "bloodless method" is in direct proportion to the youth of the child, and after the age of 4 years there is little hope of a true cure by its means.
5. In any case, the chances of a true cure by the "bloodless method" are not very great.
6. An open operation should be done whenever a radiograph shows that the bloodless method has failed to reduce the dislocation, except, perhaps, in the case of a very young child—under 3 years—in whom the manipulations may be repeated.
7. With the open operation no fear need be entertained of shock, bleeding or sepsis.
8. Under no circumstances should the joint surfaces be remodeled.
9. An open operation is more calculated to result in a cure as it enables the surgeon to ascertain beyond a doubt when the head of the bone is really in the acetabulum.
10. The open operation is especially suited for cases over 4 years of age and for those of bilateral dislocation.
11. After the operation the limb should be put up in the position of maximum stability; in the majority of cases this will be similar to Lorenz's position. The limb should be put up in plaster of paris immediately, and the casing should take in the flexed knee; this is essential in order to ensure stability of the head of the bone.
12. All tense structures should be stretched or tenotomized as a preliminary measure a week or so previous to the open operation. The after-treatment is practically identical with that of the Lorenz method.

5. **Splenomegaly in Infants.**—It is pointed out by Carpenter that in very early life splenomegaly is frequent and occurs in about 40 per cent. of clearly syphilitic infants. He is inclined to think that Parrot's nodes are associated with splenic enlargement in about one-half of his cases of syphilitic manifestations. There are two important constitutional conditions usually associated with syphilis in infants and young children: 1. Syphilis; 2, rickets. There is also an undetermined cause or causes. There are difficulties, however, of excluding syphilis in some cases where the history is lacking. Syphilitic children are often not obviously anemic. Their color ranges from a doubtful pallor to a milk-and-water hue, with a bluish tinge about the lips, or to a lemon-yellow appearance. Petechiæ and bruises are not uncommon in the very severe cases, and lichen urticarius is not infrequent. Edema of the extremities and an occasional albuminuria were noted in some of the fatal cases. The relation of anemia to the spleen is not always perfectly clear. The liver is usually enlarged, sometimes trifling and sometimes markedly so. Some of the lymph glands may be slightly larger than normal. The prognosis depends on the blood condition. A great reduction in hemoglobin and in the number of the red cells, especially with alteration in size and form is not hopeful, and leucocytosis, apart from its being associated with a mild form of anemia, especially if marked, is not a good sign. Such children are liable to succumb to bronchopneumonia. In pernicious anemia the preponderance of megaloblasts over normoblasts is of bad omen. The characteristic of leukemia appears almost invariably to point to a fatal termination. The treatment should be preventive: proper food and hygienic environment. The anemia should be treated by fresh air, good food and the correction of bowel complaints. The rickets and syphilis require appropriate treatment. Of the drugs iron and arsenic are used as well as oxygen inhalations and seem to do good in some cases. A number of cases are reported.

7. **Tuberculosis in Children.**—Raw holds that man is attacked by two distinct varieties of tuberculosis: one by the infection of one person to another and the other by bovine bacilli in the milk or meat. He says primary intestinal tuberculosis, tabes mesenterica and other tuberculous affections of the serous membranes in children are probably bovine tuberculosis conveyed by milk and not related to the human tuberculosis. Tuberculous peritonitis cured by laparotomy is accounted for by him as localized bovine tuberculosis which has died out and the relief of fluid is sufficient to cure the patient. Bovine tuberculosis he believes is more virulent for children than the human tuberculosis. Scrofulous glands in the neck are also accounted for by him by the absorption of tubercle bacilli in milk through the tonsils or pharynx, and he thinks there is much evidence to suggest that acute miliary tuberculosis is also bovine in origin.

In the discussion, the rarity of tuberculous disease of certain types in India was mentioned by Reid, the medical officer of health of Tenby, taking his facts from the report of Dr. Crombie in 1899. The native habit of boiling all milk before using it, and the exclusion of beef from the food of a large

proportion of the native population would largely account for the infrequency of bovine tuberculosis in India, where tabes mesenterica is rare and tuberculous hip joint almost unknown.

The Lancet, London.

August 29.

8 The Surgery of the Ureter for Impacted Calculus and Some Other Causes of Obstruction. P. J. Freyer.
9 Four Cases of Empyema of the Gall Bladder. Leonard A. Bidwell.
10 The Surgery of Gastric Ulcer. A. B. Mitchell.
11 A Case of Automatic Wandering Lasting Five Days. W. S. Colman.
12 *A Note on the Etiology of Yellow Fever. James B. Tombleson.
13 A Case of Large Blood Cyst in the Arachnoid Space Simulating Brain Tumor; Operation; Recovery. James Taylor and Charles A. Ballance.
14 A Case of Ectopic Cordis. Isambard Owen and Morris J. Williams.
15 Intussusception of the Vermiform Appendix. F. Powell Connor.
16 A Case of Traumatic Aneurism of the Gluteal Artery Treated by Incision of the Sac and Ligature of the Artery During Intraperitoneal Compression of the Internal Iliac. Alan H. Muir.
17 *The Relation of the Thymus Gland to Marasmus. John Ruhrah.
18 A Series of Cases of Perforating Gastric and Duodenal Ulcers. B. G. A. Moynihan.

12. **Yellow Fever.**—Tombleson gives the results of his experience in Mexico, where he has found a bacillus in the urine and blood serum of yellow fever patients, which closely resembles the Sanarelli form, though he says there is considerable difference in the descriptions of that type. As he has seen it, it is from one-half to two microns in length, the shorter form being found more particularly in the blood and cultures and the longer forms in the tissues and very old cultures. It is actively motile in its middle-sized forms, though hardly so in the longer forms. It stains well with all the ordinary stains, also with Gram's method. For demonstration in the tissues the best results are obtained by staining for one hour in toluidin blue, decolorizing with very faintly acid alcohol and counter-staining with eosin. It grows well on all the ordinary artificial media and in broth. It is very resistant to heat, which makes him think that it forms spores. Why it has not been oftener seen he thinks is possibly due to the fact that it is usually missed unless it occurs in very large numbers. He thinks there are times when it is more frequent in the blood than others. He has found it pathogenic in lower animals and to produce a very similar condition to yellow fever in a monkey. He thinks that it may be transmitted not only by *Stegomyia*, but also by the *Culex fatigans* or other foul feeding mosquitoes, taking up its spores. He believes that it is really the cause of yellow fever, and insists on its value as a method of early and certain diagnosis in doubtful cases, as well as on account of the evidence which it produces as to the means of spread of the disease. It is a proven fact, he says, of course, that certain mosquitoes carry the germ, but he thinks that beside this means of transmission, we must consider the possibility of the disease being spread by the inhalation of spores produced in the open air by the growth of the bacillus in urine, which is thrown on the ground in 99 cases out of 100. This explains how drainage has practically cleared Havana of yellow fever, while he does not think the number of mosquitoes is materially lessened there.

17.—See also ¶2, above.

Annales de l'Institut Pasteur, Paris.

Last indexed XL, page 161.

19 (XVII, 4.) Flagellose paréslante des équidés sud-américains. Elmassian and Migone.
20 Le bacillus subtilis comme cause de la panophthalmie chez l'homme (in man). Silberschmidt.
21 Sur un nouveau streptothrix: St. polychromogène. H. Vallé.
22 Existence of the Rabic Virus at the Site of the Bite in a Child Who Had Died from Hydrophobia. D. Pace (Naples).—Sur l'existence du virus rabique dans le siège de la morsure.
23 La rables dans l'Afrique du Sud. A. Loir.
24 Colorabilité des bacilles de Koch dans les sputa incorporés à diverses substances. J. Sabrazès.
25 (No. 5.) Recherches sur l'absorption de la toxine tétanique. V. Morax and A. Marie.
26 Etude des substances actives des serums normaux. Sur la pluralité des alexines. L. Remy.
27 Sur la non-existence des "neutrophiles" d'Ehrlich dans le sang de l'homme et du singe (in blood of man and monkey). F. Marino.
28 (No. 6.) Recherche sur la physiologie d'une algue. P. G. Charpentier. (Commenced in No. 5.)
29 Study of Cleonus punctiventris. J. Danysz.—Les entomophytes du charançon des betteraves à sucre.
30 Automatically Closing Cuspidor. A. Fournier.—Crachoir stérilisable à fermeture automatique.
31 (No. 7.) Rôles des amibocytes dans le coelome d'un annelide. Siedlecki.
32 *La dysenterie epidémique. L. Vaillard and C. Dopter.
33 Etude des microbes nitrificateurs. L. Massol.
34 Sur l'existence de l'arsenic dans l'oeuf des oiseaux (in eggs). G. Bertrand.

32. **Epidemic Dysentery in France.**—Vaillard found in his examinations a microbe, evidently the causal agent of the epidemic dysentery, which was apparently identical with the Shiga bacillus. It was not agglutinated by serum from tropical dysentery.

Archives Gen. de Medecine, Paris.

Last indexed page 211.

35 (Vol. 192, No. 25.) La prophylaxie du paludisme par les sels de quinine. Expériences faites en Corsica. J. Michon. (See abstract page 397.)
36 Deux sujets refractaires à l'alcool. Follet (Rennes).
37 (No. 26.) De la phase cardiaque des aortites syphilitiques. Myocardite et endocardite vraie d'origine spécifique. L. Gallavardin and J. Charvet. Two cases.
38 (No. 27.) Désarticulation inter-ilio-abdominale et amputation intra-iliaque. H. Morestin.
39 Recherches cliniques sur la modalité des troubles pupillaires chez les tabétiques. A. Rochon-Duvigneaud and J. Heltz.
40 (No. 28.) Hay Fever in the Country. R. Belbèze.—Remarques sur 7 cas d'asthme ou de rhume des foins.
41 La rhino-laryngite sèche. Forme inverse de l'asthme des foins (dry hay fever). P. Bonnier.

Bulletin de l'Academie de Med., Paris.

Last indexed page 690.

42 (No. 30.) *La phlegmatia alba dolens des typhiques et le régime hypochlorurique. A. Chantemesse.
43 *Recherches expérimentales sur les singes anthropoïdes. Roux and Metchnikoff.
44 Thoracèntèse, sans aspiration, au moyen d'un drain à valves formant soupape. Boinet.

42. **Cure of Phlegmasia Alba Dolens by Deprivation of Salt.**—Chantemesse found rapid improvement follow the systematic withholding of salt in cases of white swelling complicating typhoid fever. The results confirmed his theoretic assumption that the phlegmasia alba dolens in typhoid fever is the result of the intoxication of the limb by the salt retained in the organism during the course of the disease. His research verifies that of others in regard to the defective elimination of sodium chlorid in typhoid fever, and that the salt does not remain in the blood, but passes rapidly into the tissues. The connective tissue takes it up the more readily, as its vitality has been impaired by the infection. In 2 of his 6 typhoid patients treated by feeding them on unsalted meat bouillon, lactosed water and unsalted bread, the phlegmasia alba dolens had persisted for six and ten weeks and showed no tendency to improve under rest and the usual measures. Two other cases were recent and extremely painful. The swelling had followed thrombosis of the saphena. In the other cases there was thrombosis, but the swelling had not developed. All the patients showed marked improvement, and no swelling developed in the last 2 cases. The swelling subsided visibly from day to day, more rapidly in the recent cases. Return to salted food was invariably followed by a slight increase in the swelling. The coagulation in the veins seemed to soften and be absorbed more promptly than is customary in such cases. He believes that the thrombosis is merely the predisposing cause for the phlegmasia, which is essentially due to the local retention of sodium chlorid. He derived similar benefit in the case of an elderly woman who suffered from thrombosis in inflamed varices. There was retention of chlorids and slight albuminuria. The pain and tumefaction of the limb subsided completely after two days of unsalted food.

43. **Transmission of Syphilis to a Chimpanzee.**—Roux and Metchnikoff exhibited a young female chimpanzee which had been inoculated on the genitals with syphilitic virus from two syphilitic patients, from a chancre on one and from an ulcerated patch near a healed hard chancre on the other. Five days later she was inoculated with virus from a hard chancre only three days old. The points of inoculation soon healed and for three weeks there were no symptoms, but on the twenty-sixth day one of the points near the clitoris developed a chancre, and in the course of time the inguinal ganglia became enlarged, so that when the chimpanzee was exhibited, the forty-

sixth day, she presented a typical syphilitic chancre, acknowledged to be such by Fournier. He remarked that he was almost ready to burn his ships behind him and proclaim that the transmission of syphilis to an animal had been accomplished, but that he believed after all he would wait to see whether secondary symptoms develop before final judgment, although he granted that the lesion resembled in every respect a typical chancre and the duration of the incubation also coincided with that of syphilis in man, as also the pleiad of enlarged glands, four on one side and three on the other. The glands have also the characteristic dry hardness and are absolutely indolent. Roux and Metchnikoff expressed their gratitude for the large sums of money recently awarded to them in the Osiris and the International Medical Congress prizes, which enabled them to conduct this research. They think the positive result is due to the choice of an animal so closely resembling man as the anthropoid chimpanzee. Fournier mentioned the model monkey house installed at one time in Dr. Krishaber's residence where he had inoculated large numbers of ordinary small monkeys with simple chancre, with success in 62 per cent. of 142 inoculations. He then proceeded to inoculate the monkeys with syphilitic chancre, but not one of the 20 animals responded positively to the inoculations.

Presse Medicale, Paris.

45 (No. 65.) Actinomycose du doigt. A. Sicard.
46 Posologie et action thérap. de l'arsénite et de l'arséniate de quinine. N. P. Bénaky (Smyrna).
47 *Tuberculous Rheumatism in Children. V. Bentz.—Quelques observations de rheumatisme tub. chez les enfants.
48 *Traitement de l'eléphantiasis du scrotum. A. Marques (Pernambuco, Brazil).
49 (No. 66.) La méthode de Freyer. Prostatectomie totale transvésicale par voie sus-publenne. Jarvis and R. Proust.
50 Sur une forme de ptosis non-congénital et héréditaire. Delord.

47. Tuberculous Rheumatism in Children.—Bentz describes and illustrates cases of what he decided by exclusion to be tuberculous rheumatism. The affection took the arthralgic form in 2 cases of Pott's disease, and after the rheumatism had subsided, the latter continued its course apparently unmodified by the former. Beside these cases he observed one of rheumatism in the foot and knee on the side opposite a tuberculous hip affection, and a fourth case of rheumatic arthralgia in the shoulder, elbow, knee and foot, accompanying a tuberculous knee lesion. Not the slightest benefit was derived from sodium salicylate in any of these cases, although the pains and symptoms simulated those of acute rheumatism in the joints involved. He also observed a case of a chronic arthritis in both knees co-existing with a suppurative osteitis of the left tibia and progressing to recovery without presenting any of the characteristics of a white swelling.

48. Operative Treatment of Elephantiasis of Scrotum.—Marques shows in 5 cuts the various steps of Saboia's method of removing the excess of tissue in this condition. He has performed the operation himself thirty times and seen it performed a hundred more. The results have always been highly satisfactory in every respect. When the operation is completed the scrotum is of the normal size and shape with merely a Y-shaped sutured incision as traces of the intervention. The arms of the Y embrace the root of the penis. There is seldom much hemorrhage, and it is readily controlled. The co-existence of a hernia renders the outlook less favorable, otherwise it is a simple, easy operation.

Semaine Medicale, Paris.

51 (No. 33.) *Are Hospitals for Contagious Diseases Centers of Infection for the Neighborhood? F. Farnarier (Paris).—Les hôpitaux de contagieux constituent-ils des centres d'infection pour le voisinage?
52 French and German National Statistics of Mortality and Morbidity.—Etablissement de tables nationales de mortalité et de morbidité en France et en Allemagne.

51. Are Contagious Disease Hospitals Centers of Infection for Their Neighborhood?—Farnarier publishes a number of diagrams showing the mortality from infectious diseases in the various wards in Paris. It is evident at a glance that certain wards suffer much more than others from diphtheria and, to a lesser extent, from scarlet fever. It is also shown that these wards are the ones that contain the hospitals for diphtheria and scarlet fever cases. The fact is thus established that diphtheria certainly, and scarlet fever probably, do radiate from hospitals where cases of these diseases are admitted. He discusses whether such institutions should be removed to the outlying parts of the city, and concludes that there is no occasion for the inconveniences of such an extreme measure. It would be sufficient to prevent contagion, he thinks, to have such hospitals built in the form of small, isolated pavilions, surrounded with trees, and fenced in to allow a wide "dead space" around them.

Berliner Klinischer Wochenschrift.

Last indexed page 400.

53 (No. 28.) *Zur Aetiologie und spezifischen Behandlung des Herbstkatarrhs (fall catarrh). Dunbar.
54 *Der Pest-Bazillus und das Pest-Serum. E. Martini (Berlin).
55 *Bactericidal Action of Radium Rays. R. Pfeiffer and E. Friedberger (Königsberg).—Ueber die bakterientödtende Wirkung der Radiumstrahlen.
56 (No. 29.) *Experimental Tuberculosis. H. Kossel (Berlin).—Mitteilungen über Versuche an Rindern mit Tuberkel-Bazillen verschiedener Herkunft.
57 *Ueber einige Zeit und Streitfragen aus dem Gebiete der Tuberkulose. J. Orth.
58 *Zur Pathogenese des Pertussis. G. Arnheim (Berlin).
59 *Gall Bladder Colics without Gallstones. H. Krukenberg (Leignitz).—Ueber Gallenblasenkoliken ohne Gallensteine.
60 Der Berliner Pest-Fall in seiner epidemiologischer Beziehung. F. Plehn.

53. Fall Catarrh.—Dunbar is convinced that he has fully established not only the etiology of hay fever, as previously announced, but also that of fall catarrh. He remarks that this affection does not occur elsewhere than in the United States, and is due to the pollen of the golden rod, rag-weed, hog-weed, etc. The toxin of these pollen grains differs from that of the pollen of the graminaces to which he attributes hay fever. At the same time, the symptoms of irritation induced by the pollen of the golden rod were rapidly cured by the grass pollen antitoxin which he is producing. (See THE JOURNAL, p. 139.) He has found that hay fever asthma was promptly relieved in many cases by external application of the pollen antitoxin to the nose. He prepares the antitoxin now in the form of a powder and reports good results from it. The patients do not become accustomed to its use, and it has never induced any injurious by-effects in his experience, not even on the kidneys.

54. The Berlin Plague Serum.—Martini reviews the literature on bacteriologic diagnosis of the plague and reports the technic and tests of antiplague serum. The serum made at Berlin is bactericidal.

55. Bactericidal Properties of Radium Rays.—The tests described were made with only 15 mg. of radium bromid, but they established that the rays possess a positive inhibiting action on cultures of typhoid and cholera germs under certain conditions.

56 and 57. Report of Tuberculosis Tests by Special Committee.—Bovine bacilli induced first a local, then a general infection, but bacilli from human tuberculosis never caused more than the local lesion in 19 tests with pure bouillon cultures from sputa or tissue from severe cases of tuberculosis, as also from 7 cases of bone, neck and urogenital tuberculosis which Koch has suggested may be similar to the *Perlsucht* in cattle. The results of the tests were different in 2 out of 6 cases of miliary tuberculosis. Four calves inoculated with a pure culture of tubercle bacilli from a miliary tuberculosis of the mesenteric glands of the same child, all exhibited dissemination of the lesions over the body, as in *Perlsucht*, although not quite so violent. The same result followed inoculation of a second culture derived from a caseous gland in the neck. General infection resulted. The results of the inoculation were negative in tests with pure cultures from 7 cases of intestinal tuberculosis, with the exception of 2 cases in which the cultures seemed to be very pathogenic for calves. They were derived in one case from a caseous abdominal gland in a child who had succumbed to scarlet fever, and in the other from a child who had died with peritonitis. These cases displayed such pathogenic power for calves that Kossel accepts that they must have been cases of infection of the children with bovine tuberculosis, that is,

Perlsucht. In all, tubercle bacilli from 39 different sources were examined, including 16 children. With 19 there was not the slightest evidence of pathogenicity; with 9 a local focus was induced, with no tendency to dissemination. With 4, all derived from children, a general infection resulted which ran a course similar to mild bovine tuberculosis infection. In only 2 of the 4 had the death of the child been due to the tuberculous process. Orth refers to his similar experiments, which resulted in general infection of 2 calves out of 5 inoculated with human tubercle bacilli. He remarks that it is for Koch now to explain why his experiments all resulted negatively when others always obtain a certain proportion of positive results.

58. **Bacteria of Whooping Cough.**—Arnheim reiterates his claims made three years ago in regard to the specificity of the bacteria isolated by him from the throat of children with pertussis. In 8 cadavers he found the laryngeal and pharyngeal mucosa inflamed with hemorrhagic points and foci of these bacteria. He did not find any specific substance toxic for the nerves.

59. **Gall-Bladder Colic Without Gallstones.**—In Krukenberg's 2 cases no stones were found, but the gall bladder seemed to be abnormally movable.

Centralblatt f. Bakteriologie, etc., Jena.

61 (No. 9.) Beitrag zur Kenntnis der Kapsel-Bacillen. Milan Sachs.
62 Bakteriologische Untersuchungen bösartigen Geschwülste (malignant tumors). R. Alessandri (Rome).
63 Study of Yeasts Pathogenic for Animals. E. Cohn (Halle).—Ueber die Klein'schen tierpatogene Hefe.
64 *Bactericidal Properties of Bone Marrow and Study of Etiology of Osteomyelitis. A. Hencke (St. Petersburg).—Die bakt. Eigenschaften, etc.
65 *Immunization of Guinea-pigs Against Tuberculosis. E. Levy (Strasburg).—Ueber die Möglichkeit Meerschweinchen gegen Tub. zu immunisieren.
66 Amount of Cholera-Immune Bodies Contained in Separate Albuminoid Elements of the Serum. A. Wolff.—Ueber den Gehalt der einzelnen Eiweissfraktionen des Serums (Globulin, Euglobulin. Albumen, etc.) an Choleraimmunkörpern.
67 Vergleichende Untersuchungen über Anti-Streptokokken-Sera, nebst einigen Bemerkungen über die Kultur und Virulenz der Streptokokken. P. Sommerfeld (Vienna).
68 Agglutinating Properties of Bile. A. Cantani (Naples).—Ueber die agglut. Eigenschaft der Galle.
69 Eine Typhus-Anreicherungs-Methode. E. Allschuler (Strasburg).
70 Determination of Typhoid Germs in Water. C. Hagemann.—Zum Nachweis von Typhuserregern im Wasser.
71 Technic of Freezing Mixtures for Preservation and Transportation of Samples of Water for Bacteriologic Examination. E. Bertarelli (Turin).

64. **Bactericidal Properties of Bone Marrow.**—Hencke proclaims that the bone marrow has very pronounced bactericidal power and frees itself of bacteria more rapidly and more effectually than the internal organs. He also states that he found a bacillus in 5 cases of spontaneous osteomyelitis, which invariably reproduced the typical affection in rabbits after intravenous injection without trauma.

65. **Vaccination of Guinea-Pigs Against Tuberculosis.**—Levy found that virulent bacilli of human tuberculosis became avirulent when kept for forty-eight hours in an 80 per cent. sterilized solution of glycerin, at a temperature of 37 C. Injected into guinea-pigs, these bacilli caused the formation of an abscess, but this soon healed. A series of five intraperitoneal injections of these glycerinated bacilli practically vaccinates them against tuberculosis infection. Injection afterward into the axilla of an otherwise fatal dose of virulent human tubercle bacilli, fails to induce more than a mild, rapidly-healing lesion. Not a trace of general tuberculosis could be discovered in the animals when dissected later. He made these injections into the axilla under conditions approximating as closely as possible those that prevail in human tuberculous infection.

Deutsche Zeitschrift f. Chirurgie, Berlin.

Last indexed page 290.

72 (LXIX, 1.) Zur Kenntnis der Perityphlitis. Neuhaus (König's clinic, Berlin).
73 Zur Lehre von der Bauch-Aktinomykose (of abdomen). M. Zondeck (Berlin). One case.
74 Invagination in der Esophagus der vorderen Magenwand (of anterior wall of stomach). Enderlen. One case.
75 *Three Cases of Suture of the Heart. Wolff (Barth's service, Dantzic).—3 Fälle von Herznaht wegen Herzverletzung.
76 Volvulus im Säuglingsalter (in infancy). Krodel.
77 *Drainage of Pelvic Abscesses Through Sciatic Foramen. M. Schmidt.—Zur Beckenabszessdrainage durch das Foramen ischiadicum.

75. **Suture of Heart.**—Wolff states that 39 cases have now been recorded of suture of the heart and the results indicate that suspicion of a stab wound of the organ imposes operative intervention, even in the absence of vital indications, as a prophylactic measure. On the other hand, wounds from firearms may be treated expectantly. In the former case the pleura has almost invariably been opened, and, therefore, it is not necessary to operate extrapleurally. The pericardium should be sutured, the tampon used only when the wound is infected. The button suture has proved most effective; the threads tied during the diastole. The left ventricle is most favorable for an operation of this kind as the patients are not so liable to bleed to death on the spot. The case reported by Pagenstecher confirms Bode's experimental research, demonstrating that the nourishment of the heart does not suffer materially after ligature of a coronary artery. Wolff reports 3 cases of suture of the heart, with 2 recoveries, and states that this brings the total on record to 42, with 17, that is, 40.4 per cent. recoveries. Only 1 was a firearm wound. Fischer's statistics showed that only 10 per cent. recovered in the unoperated cases. Wolff adds that intervention may be necessary and successful even in the absence of an external wound as witness a case described in the *Lancet* in 1897. A young man was kicked in the breast at football. Unconsciousness persisted and the heart dulness kept on increasing. The pericardium was incised and found filled with blood, but bleeding from the heart had ceased. After the blood had been drained away the young man was fully restored and was able to join in the game again.

77. **Drainage of Pelvic Abscesses Through Sciatic Foramen.**—Schmidt found that the foramen is easily and conveniently reached through an incision as for a Kocher resection. The results of draining by this route in the 3 cases described showed the feasibility and advantages of the procedure.

Mitteilungen a. d. Grenzgebiete d. Med. u. Chir., Jena.

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78 (XI, No. 4.) *Enlarged Spleen and Hyperglobulia. J. Rosengart (Frankfurt a. M.).—Milztumor und Hyperglobulie.
79 *Ueber Appendicitis obliterans. Knud Faber (Copenhagen).
80 *Respiratory Disturbances in Exophthalmic Goiter; Goiter Asthma and Goiter Death. L. Hofbauer (Vienna).—Typische Athemstorungen bei M. Basedowii: ein Beitrag zur Lehre vom Kropfasthma und Kropftod.
81 Congenital Defects in Abdominal Muscles, etc. E. G. Stumme.—Ueber die symmetrischen Bauchmuskeldefecte und über die Kombination derselben mit anderen Bildungs-Anomalien des Rumpfes.
82 Endo-thoracic Giant Goiter. Hopmann.—Eine seltene Mediastinalgeschwulst.
83 Traumatic Rupture of Heart. Revenstorff.—Ueber traum. Rupturen des Herzens mit bes. Berücksichtigung des Mechanismus ihrer Entstehung.

78. **Spleen Tumor and Hyperglobulia.**—Rosengart describes the case of a man of 41 who had suffered for a long time from oppression in the heart region, dyspnea and vomiting. The blood was thick and dark red, specific gravity 1,072, hemoglobin 190 to 200. There were 10 million reds and 12,000 whites, all apparently of normal composition. The spleen was very much enlarged, and there was a peculiar purplish coloring of the face, hands and visible mucosæ. Venesection relieved the symptoms temporarily, but was abandoned after a few trials for fear it might incite to renewed regeneration of the blood, as it is known sometimes to do in chlorosis and anemia. Treatment with iodin to relieve the circulatory disturbances was supplemented by dieting to "un-iron" the patient, restricting him to sugar, rice, cereals, peas, dates, figs, plums and nuts. After eight months the reds had diminished by 1 million, the hemoglobin had fallen from 200 to 150 and the whites from 12,000 to 10,000. The outline of the spleen was still 30 by 15 cm. Rosengart believes that the syndrome was due to a primary tuberculosis of the spleen, and suggests the possibility that splenectomy might prove as effectual in such cases as in splenic anemia. The hyperglobulia he regards as a secondary reaction on the part of the bone marrow. He has found 6 cases on record of primary tuberculosis of the spleen.

In one it was a pure, primary tuberculosis of the organ; in 3 there was primary tuberculosis of the spleen and secondarily of the liver. In another the diagnosis was not certain, and in the other the details are too meager. Türk has reported a case of ten years' duration in which the hemoglobin when examined was 180 per cent. and the specific gravity 1,070.

79. **Appendicitis Obliterans.**—Faber states that the microscopic findings in appendices removed on account of chronic inflammation are identical with those discovered casually at autopsies which some regard as the results of senile involution.

80. **Respiratory Disturbances in Exophthalmic Goiter.**—Hofbauer distinguishes between the primary disturbances and those induced secondarily by mechanical compression of the trachea by the struma—cardial and bronchial asthma or hysteria. The primary are characterized by the shallowness of the respiratory curve, protracted inspiration and expiration, irregularity in the shape and size of the curves, with intervals of pauses in the respiration, more or less complete. There is another form of the primary disturbances characterized by paroxysmal, rapid, deep breathing, likewise with pauses. He attributes both to the functional disturbance of the thyroid gland, which is responsible for the disease, and is inclined to endorse the possibility of combating this morbid secretion of the thyroid with the milk or serum of thyroidectomized animals.

Muenchener Med. Wochenschrift, Munich.

84 (No. 32.) *Significance of Catatonic Phenomena for Prognosis. E. Meyer.—Zur prognostischen Bedeutung der katatonischen Erscheinungen.
85 *Diagnosis of Liver Abscess After Dysentery. Schlayer (Tientsin).—Zur Diagnose des Leberabszesses nach Ruhr.
86 *Zur Kenntnis der Bantischen Krankheit (Banti's disease). Fichtner (Leipsic).
87 *Widal's Reaction in Icterus. F. Köhler.—Die Widalsche Reaktion bei Gelbsucht.
88 *Latest Operative Efforts Directed Against Uterine Cancer. A. Sippel.—Die neueren Operationsbestrebungen gegenüber dem Gebärmutterkrebs.
89 Nochmals die Morphium-Scopolamin-Narkose. L. Grevsen.
90 *Importance of Medical Oversight of Children in Orphan Asylums, etc. F. Siegert (Strasburg).—Die Bedeutung der ärztlichen Ziehkinder-Ueberwachung für die Physiologie, Pathologie und Therapie des Kindes im frühesten Alter.
91 *Zur Kasuistik der subcutanen Nierenquetschungen (contusion of kidney). C. Bechtold.
92 *Progress in Technic of Roentgen Transillumination. B. Wiesner and F. Dessauer (Aschaffenburg).—Ueber einen Fortschritt in der Technik der Roentgendurchleuchtung.
93 *Hypnosis and the Medical Profession. A. Forel.—Die Hypnose vor der Aerztekammer.
94 (No. 33.) *Zur Prophylaxe und Therapie des Puerperal-Fiebers. H. Fehling (Strasburg).
95 Stab and Bullet Wounds of Abdomen. H. Gebele.—Ueber penetrierende Bauch-Stich- und Schuss-Wunden.
96 Ueber Psychosen unter dem Bilde der reinen primären Inkohärenz. L. W. Weber.
97 *Revival of Isolated Heart. A. Velich (Prague).—Kritsche und experimentelle Studien über die Wiederbelebung von tierischen und menschlichen Leichen entnommenen Herzen.
98 Alkoholismus und Bier. G. Kefersteln (Göttingen).
99 (No. 34.) *Zur Behandlung der Hematocelen. P. Zweifel (Leipsic).
100 *Adrenalin in Spinal Cocainization. A. Dönitz.—"Kokainisierung des Rückenmarkes" unter Verwendung von Adrenalin.
101 Anwendung von Akoin-Kokain zur Lokal-Anesthesie. W. Krauss (Marburg).
102 Circumscribed Foci of Inflammation in Temporal Bone. C. Blebl.—Streng umschriebene Entzündungsherde im Schlafenbeine.
103 Giant Growth in the Newborn. H. Fuchs.—Ueber Riesenwuchs bei Neugeborenen und über Partus serotinus. (Commenced in No. 33.)
104 Toxin and Antitoxin. P. Ehrlich. (Concluded.)

84. **Importance of Catatonic Symptoms for Prognosis.**—Meyer believes that catatonic phenomena render the prognosis of a psychosis grave, but not necessarily absolutely bad. In his experience with 46 cases in which they were included in the clinical picture one-fifth to one-fourth of the number recovered their health—by the layman's standard of health—for a number of years. There were hereditary influences at work in about 54 per cent., and most pronounced in the cases with the least favorable outcome.

85. **Diagnosis of Liver Abscess After Dysentery.**—Schlayer was frequently able to affirm with almost certainty by the hyperleucocytosis the presence of an abscess in the liver. He says that in 11 cases of acute or subacute abscess the leucocytes ranged from 18,000 to 62,000 the days before the operation, averaging 25,000, with a single exception. The lack of hyperleucocytosis was frequently a valuable sign for exclusion of liver abscess in puzzling cases of typhoid or malaria.

86. **Banti's Disease.**—Fichtner analyzes a case which he had opportunity to observe through several years. A previously healthy young man received a blow in the left stomach region. The pains persisted for weeks, and the spleen became much enlarged. During the following seven years he was debilitated and presented a hypertrophied spleen, severe, rebellious otitis, varying anemia and ascites, with occasional gallstone colic. Both the anemia and ascites retrogressed so much that operative intervention was not advised. The last examination, however, showed 92 per cent. hemoglobin, 4,060,000 reds and 3,458 whites. The spleen had slightly increased in size, but there was no ascites. The case shows that the connection between the spleen tumor and the changes in the blood is not so close as Banti assumes, otherwise the anemia would have been much more intense in comparison with the size of the spleen. The fluctuations in the intensity of the anemia, considered with reference to the constantly progressive increase in the size of the spleen, indicate that the blood changes are not secondary to the spleen affection but must have some other special cause.

87. **Widal's Reaction in Case of Icterus.**—Köhler's researches detract from the reliability of the Widal test as the reaction was obtained in 12 out of 100 non-typhoid cases. It was particularly marked in liver affections with icterus. Bile gives the reaction, also, but comes more under the head of chemical reactions. Catarrhal icterus may modify the blood serum and induce a positive response to the test, especially when the infection is due to the colon bacillus. Puerperal fever, sepsis, coli abscesses, intestinal catarrh and coli metastases are all liable to lead to errors in diagnosis from this cause. Agglutination may occur, therefore, not only with typhoid, but also with liver affections, accompanied by stagnation of bile and the passage of bile into the blood, and also when the organism is under the action of certain chemicals, or of the colon bacillus, and, possibly, of other bacteria.

88. **Operative Treatment of Uterine Cancer.**—Sippel thinks that the development of operative technic has reduced the dangers from abdominal section to such a low point that it now ranks with vaginal intervention. He restricts vaginal hysterectomy to cases in which the cancer is in the corpus, if not too far advanced, and also cases of incipient carcinoma of the portio.

90. **Medical Oversight of Orphan Asylums, Etc.**—Siegert refers to the fact that Strasburg stands at the head of German cities in respect to its care of the children with its numerous vacation colonies, children's hospitals, etc. He describes the workings of the official medical inspection of all children in any way the wards of the community. All orphans and other dependents under 2 years of age must be brought to the dispensary appointed for inspection at intervals of one to eight weeks as directed. The child is examined, weighed and the details recorded in regard to its food, growth, frequency of meals, the influence of the maternal constitution on the child, the prodrome and symptoms of disease, its development, the particulars of teething and the disturbances connected therewith, the development of the static functions and other particulars. These examinations of such large numbers of children, both the sick and the well, at stated periods, and the careful records kept of each case can not fail to throw light on some still disputed questions.

91. **Subcutaneous Injuries of Kidney.**—Bechtold reports a favorable termination in each of the three cases he describes. Hematuria was the prominent symptom. In 2 the traumatism affected both the front and back, and the injury was probably due to hydraulic pressure. One of the patients was 85. The complete transient retention of urine was probably the result of reflex action from the injured kidney on the other one.

92. **Improved Technic of Radioscopy.**—Among the points mentioned are the use of a "giant tube" and of a stand like an ordinary screen, only more solid. A sheet of lead slides vertically up and down in the frame of this screen, with an adjustable diaphragm in the center. A sheet of ground glass

is fitted over the fluorescent screen, and after the former is wet, the outlines of objects seen through the fluorescent screen can be marked on it with pencil. The advantages of the technic described are that all the side radiating rays are eliminated, and only those used that fall directly on the part to be examined. Also that the subject can move to bring the various aspects of the part before the screen, as he is not fastened to it in any way.

93. **Hypnosis and the Medical Profession.**—Forel pleads for instruction in psychology in the medical curriculum, with special reference to the value of a knowledge of hypnosis to the general practitioner. He concludes with the statement that hypnotism and waking suggestion are one and the same thing, and that it is the duty of the medical profession, of science and of the colleges, to study them and enlighten the public in regard to them. How can physicians learn to know the functions of the brain, which has such a preponderant influence on all the functions of the body, when psychology, psycho-physiology and hypnotism are so systematically ignored in general medical instruction. In consequence of the ignorance in this domain, many morbid phenomena in stomach, intestines, uterus and elsewhere are erroneously diagnosed and locally treated when the actual auto-suggested cause lies in the brain mechanism, and can be removed only by acting on this mechanism.

94. **Prophylaxis and Treatment of Puerperal Fever.**—Fehling found that the difference in morbidity was only slightly in favor of the use of gloves, 7.1 per cent. of 197 cases with, and 9.8 per cent. of 224 women examined without gloves. His assistant, Schuhmacher, has published statistics of 500 examinations of hands which showed that streptococci were never present on the nails after the disinfection in the clinic. Palmer has recently reported that an interval of eight days is not enough to destroy streptococci on the hands of obstetric nurses. For these and other reasons, including the absence of injury of the parts from the nails, Fehling advocates and uses rubber gloves in making examinations, and requires all his aids to use them. He always carries a couple of pairs of rubber gloves around with him and uses them where there is the least suspicion of infecting his hands. This keeps them comparatively clean, and the Fürbringer method of disinfecting will complete the sterilization. Since following and enforcing this plan he had only 1 case of severe infection and 8.47 per cent. morbidity in 802 cases of childbirth in 1902, while in 1901, before the glove régime was adopted, there were 5 severe cases and morbidity of 11 per cent. in 802. He thinks that operative procedures offer little prospect in puerperal sepsis, and his experience was negative with inunctions of colloid silver salt, but intravenous injections of the colloid silver were certainly effective to a certain extent. Not all the patients thus treated recovered, but the temperature and pulse were favorably influenced and likewise the general condition, and he thinks this treatment deserves serious consideration. He injected 10 to 20 c.c. of a 2 per cent. solution into a vein in the elbow. All were subjectively benefited. If the severe symptoms recurred he repeated the injection every day, sometimes for eight or ten days. But the main reliance will always be on prophylaxis, he adds, rubber gloves for every kind of vaginal or rectal examination and clean hands for operative interventions.

97. **Resuscitation of Suspended Heart Action.**—Velich describes a method suggested by Professor A. Spina of Prague which offers a prospect of resuscitating persons after sudden death from some temporary cause. He reviews the history of attempts to revive the suspended heart action in animals and man, and notes many interesting points published in the results of the researches of various investigators. Kuliabko's resuscitation of animal hearts and of the isolated heart of a three-months' infant, twenty hours after death, has already been mentioned in these columns, March 21, 1903, page 813. Velich has repeated these experiments on the hearts of animals, and his experience confirms that published by others. He found that the heart taken from a young dog and buried in snow on the outer window sill for eighteen hours could be made to resume its contractions by forcing Locke's solution at 95 F. through it. Another heart was placed in physiologic salt solution, and the fluid allowed to freeze over. The next morning the dish was brought into a warm room, and after the ice had melted, twenty-four hours after the heart had been removed from the living animal, it began to pulsate in a few minutes after the warm Locke solution had been flowing through it. The auricular appendages first gave signs of pulsation, then both auricles and then the ventricles showed feeble vibrations. These experiments show that there is little difference between the heart of cold-blooded and of warm-blooded animals in respect to the resistance to cold. They also indicate that the main factor in restoring heart action is the filling of the vessels with fluid. Massage of the exposed heart is only liable to prove successful if the heart can be filled with blood, by compression of the abdominal vessels or by injection into an artery of physiologic salt solution at 95 to 104 F. Professor Spina has accomplished this in dogs, injecting 200 c.c., directing the stream toward the heart. It forces the blood along before it, and when the semilunar valves are reached, the stream closes them. This closes the entrance into the left ventricle and drives the blood into the coronary arteries, through which it circulates exactly as in the experiments with resuscitation of the isolated heart by Langendorff's method. In this manner he was able to restore the heart action in a large number of animals, even in those whose cerebrospinal system had been destroyed and those that had succumbed to the action of alcohol or other poisons. In one experiment a curarized dog was injected with nicotin, and after the subsidence of the phenomena induced by this poison, the artificial respiration was suspended. The heart ceased to beat in a few minutes. The thorax was opened and the heart seen to be absolutely still. Ten minutes later artificial respiration was resumed, and 200 c.c. of physiologic salt solution containing 1 per cent. grape sugar was injected into the external iliac artery, directed toward the heart. Even while the injection was being made, the heart began to pulsate, and soon the blood was circulating as in a normal dog. The results of these experiments indicate that Spina's method is applicable to man in case of sudden death from any cause in which it is possible that the spark of life can be fanned into a blaze again by injecting the blood vessels of the heart in this manner, and thus tiding it over the critical moment of some temporary injurious influence.

99. **Treatment of Hematocele.**—Zweifel has found that the women who had been treated expectantly recovered after absorption of the blood with restoration of almost complete integrity of the parts, most surprising when the pathologic conditions at the time are considered as noted in other women during operations. He operated on 46.5 per cent. of his 211 cases observed between 1890 and 1899. There was no mortality. The unexpectedly favorable ultimate results found in the unoperated cases, he remarks, will render him more conservative in regard to operating in the future. Each patient is now informed that she will recover eventually without an operation, but that the latter will relieve her of pain and much shorten the convalescence. It is left for her to decide in most cases. He adds that if some means could be found which would hasten absorption, then there would no longer be any question of operating. Hydrotherapy and repose are about our only reliance, although he always uses iodin.

100. **Adrenalin as a Preliminary to Spinal Cocainization.**—Bier, the originator, or rather the rediscoverer, of spinal anesthesia, has always been most earnest in protesting against the assumption that the technic had been perfected past the danger point. He used to remark that the sanguine French and the daring Americans maintain that this has been realized, but he did not agree with them. He has been constantly studying the subject since his first communication, and the announcement is now made from his clinic that an important step toward this ideal has been made in recent tests of adrenalin injected previous to the cocain. He found that the toxicity of cocain could be reduced by one-third by the addition of three drops of adrenalin to the fatal dose of cocain for

cats (.018 gm.), while injection of the adrenalin six minutes before the cocain was injected, reduced the toxicity of the latter to one-fifth. Dönitz states that he injected three times this quantity of adrenalin subcutaneously into his own arm to find if it could be tolerated. He presented symptoms of a slight general intoxication for a few minutes but all had vanished in thirty to forty-five minutes, except that the acceleration of the pulse persisted a little longer. Braun has already announced that adrenalin enhances the anesthetic action of cocain. By combining them it is possible to complete the anesthesia with much smaller quantities of the cocain. Spinal cocainization of a number of patients, after previous injection of .5 c.c. of the 1 to 1000 solution of adrenalin, induced complete anesthesia with only .0075 to .015 gm. of the cocain. The anesthesia was fine in all, allowing major operations, and there were no by-effects in the majority, and when they occurred they were insignificant.

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105 (XVII, No. 23.) *Technic of the Spiral Intestinal Sound. F. Kuhn (Cassel).—Die methodische Ueberwindung der Flexura sigmoidea.
106 Clinical Importance of Cervical Ribs. A. Weissenstein.—Zur klin. Bedeutung der Halsrippen. (Commenced in No. 21.)
107 (No. 24.) Psychologic Study of the Appetite. A. Meisl.—Wesen des Appetits.
108 (No. 26.) *Course of Peptic Ulcer in Esophagus. C. Hödlmoser.—Beitrag zum Verlauf des peptischen Speiseröhrengeschwüres. (Commenced in No. 25.)
109 *Beitrag zur paroxysmalen Tachykardie. H. Frick (Nauheim).
110 (No. 27.) Certain Acquired Forms of Idiocy. E. Stransky (Vienna).—Zur Kenntnis gewisser erworbener Blödsinnsformen (speziell der Dementia precox).
111 Dilatation of Esophagus. H. Starck.—Ueber Aetiologie diffuser Speiseröhren-Erweiterungen. (Commenced in No. 26.)
112 (No. 28.) Behavior of Nails in General Disease. J. Heller.—Das Verhalten der Nägel bei Krankheiten des Gesamtorganismus.
113 *Prophylaxis of Syphilis. F. Weitlaner.—Zur Verhütung einer bestimmten Art extragenitaler Syphilis-Einschleppung.

105. **Flexible Intestinal Sound.**—Experience is confirming the great value of Kuhn's flexible spiral sounds. He here expatiates on the advantages and proper method of using his intestinal sound. It is a stiff or a soft sound at will, and it is impossible to kink it. A thin-walled rubber tube of Nélaton rubber is the outer envelope of the tube proper, which consists of a metal ribbon of copper bronze wound in a spiral, with a steel guide inside.

108. **Peptic Ulcer in Esophagus.**—Hödlmoser analyzes the various theories that have been advanced for the etiology of peptic ulcer of the esophagus, and describes a case personally observed in which a simultaneous peptic ulcer in the duodenum confirmed the diagnosis. The patient was a day laborer, 35 years old, who had suffered for several years from gastric disturbances, accompanied latterly by pain in the lower sternal region and difficulty in swallowing. The pains in the stomach continued with varying intensity and there was occasional vomiting of "coffee grounds." Lavage of the stomach showed extreme stagnation and dilatation of the organ. Blood finally began to appear in the vomit and death followed in progressive anemia. Kraus has collected 20 similar cases, and notes that in the majority there were no symptoms to suggest the presence of an ulcer in the esophagus, the symptoms being referred to the stomach. Fränkel has reported 2 cases of stenosis of the esophagus consecutive to a peptic ulcer, and calls attention to the length of time that elapses after the first symptoms of disturbance before there is any indication of stenosis. The triad, vomiting of blood, pains in the lower sternal region and difficulty in swallowing, should certainly suggest this affection, especially when associated with indications of stenosis.

109. **Paroxysmal Tachycardia.**—Frick presents arguments to establish the central origin of paroxysmal tachycardia, and mentions among them that pressure on the vagus, either by deep breathing, by Valsalva's test or otherwise, will arrest the attack. He explains this phenomenon by assuming that the tachycardia is the result of some paralyzing influence on the extra-cardiac heart center of the heart-retarding fibers in the medulla oblongata, while, at the same time, the heart-accelerating fibers are stimulated to extra exertion. Pressure on the right vagus sends a stimulus through its centripetal fibers to the center and this proves sufficient to arouse it from its lethargy and enable it to send through the left vagus its heart-retarding impulse. This impulse continues after the pressure on the vagus is removed, as the center once aroused does not relapse into its lethargy. Deep breathing or the Valsalva test has the same effect as pressure on the vagus. It is not to be wondered at that these heart centers in the brain become functionally deranged in case of morbid irritation from a diseased heart, and that this functional derangement gradually becomes rectified as the condition of the heart improves. In 2 cases of paroxysmal tachycardia under the writer's observation he found it possible to abort or arrest the attacks by compression of the right vagus, which the subject can learn to apply himself. One patient was a consumptive, and compression of the vagus promptly arrested the attack after it had lasted an hour. The pulse dropped from 198 to 72 at once, and then rose to 110, the subject's normal rate.

113. **Prophylaxis of Syphilis.**—Weitlaner describes two instances in his experience in which entire families were infected with extragenital syphilis by a child taken in to board. In a third case the manager of a "baby farm" was infected by one of the infants in her charge, and is liable in turn to infect all the other inmates of her establishment. This extragenital infection usually manifests itself first in the mouth or throat, as it occurs by way of spoons or dishes used in common. The habit of tasting the food to test the temperature before giving it to the infant is undoubtedly responsible in many cases. In conclusion he suggests the necessity for continued oversight over illegitimate children born in maternities.

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114 (No. 28, Chrobak Number.) Die Aetiologie der Inversio uteri. F. Schauta.
115 Origin of Sexual Characteristics. J. Halban.—Die Entstehung der Geschlechtscharaktere.
116 *Zur Frage der Plazentar-Syphilis. F. Hitschmann and R. Volk.
117 *Ueber die schnelle Dilatation der Cervix nach Bossi. R. Cristofoletti.
118 *Hot-Air Treatment of Gynecologic Affections. O. Burger.—Zur Heissluft Behandlung gyn. Erkrankungen.
119 *Zur diagnostischen Verwertung der Leukocytose in der Gynaekologie. E. Waldstein and O. O. Fellner.
120 (No. 29.) *Extramedian Symphyseotomy with Permanant Enlargement of Pelvis. T. H. Van de Velde (Haarlem).—Hebotomie mit bleibender Erweiterung des Beckens.
121 *Influence of Castration on Blood of Female Animals. R. Breuer and v. Seiller.—Einfluss der Kastration auf den Blutbefund weiblicher Tiere.
122 Constant Occurrence of Hitherto Unknown Cellular-Formed Elements in Villi of Human Placenta and Embryotrophe. J. Hofbauer.—Ueber das konstante Vorkommen bisher unbekannter zelliger Formelemente in der Chorionzotte der menschlichen Plazenta und über Embryotrophe.
123 Ueber ein eigenartiges serodiagnostisches Phenomenon ("amorphe Agglutination") in "Friedländer" Reconvaleszenten-Serum. R. Schmidt (Neusser's clinic, Vienna).
124 *Ueber Enuresis und ihre Behandlung mittels epiduraler Injektionen. G. Kapsammer. (Commenced in No. 29.)
125 (No. 31.) Exclusion of Thymus. K. Basch (Prague).—Ueber Ausschaltung der Thymusdruse.
126 Zur Aetiologie der Seekrankheit (of seasickness). E. Pflanz (Marienbad).
127 Ehrlich's Diazo-Reaktion als differentiell-diagnostisches Hilfsmittel. O. Pelzl.
128 Zur Antitoxin-Behandlung des Tetanus. A. Holub.
129 (No. 32.) Ueber Pneumokokken-Agglutination mit dem Blut-Serum pneumoniekranker Kinder. L. Jehle.
130 Ueber Pachymeningitis externa. J. Hertle.
131 2 operativ geheilte Fälle von Invaginatio ileocoecalis bei Erwachsenen. J. Elgart.
132 Obituary of Karl Gussenbauer. v. Eiselsberg. (Commenced in No. 31.)

116. **The Placenta in Syphilis.**—All the articles in this number of the *Wochenschrift* are dedicated to Rudolf Chrobak on the occasion of his sixtieth birthday. Hitschmann and Volk have carefully examined 22 placentæ from women known to be syphilitic. They also review the literature on the subject. They were unable to discover any alterations in the placenta specifically characteristic of syphilis.

117. **Rapid Bossi Dilatation of Cervix.**—Experiences with 5 patients at Schauta's clinic failed to show any advantage from the use of the Bossi dilatator. On the contrary, the time required for the necessary anesthesia is a great drawback. The dilatation does not resemble the physiologic process and lacerations are liable to occur.

118. **Hot-Air Treatment of Gynecologic Affections.**—The efficacy of dry heat in reducing pain and promoting absorption has been established to Burger's satisfaction from his experience with a number of cases treated by electric baths or application of superheated air. In 8 out of 12 cases of chronic perimetritis of six months' to nine years' standing the patients were soon relieved of the pains in the sacral and lumbar region and felt better generally. In 5 of these improved cases the palpation findings were altered by the treatment. The improvement was rapid and pronounced in 13 out of 14 cases of parametritis. The patients were all remarkably relieved and in most cases the objective improvement was also evident. An important point in this class of cases is that the hot-air treatment causes the retrogression of the parametritic tumors and thus allows discovery of lesions higher up, in case they exist. The subsidence of pain is probably the result of the active hyperemia. In several cases of inflammatory processes in the adnexa the inflammatory edema retrogressed, and a case of actinomycosis was favorably influenced, as also 3 cases of abdominal fistula persisting after a laparotomy. Under the influence of the hot air applied to the fistula, which was first dried and dusted with iodoform to prevent scalding from steam, the wound began to granulate normally and rapidly healed. The menses were hastened by the action of the hot air in some cases, suggesting its application in amenorrhea.

119. **Leucocyte Count in Gynecologic Affections.**—Waldstein and Fellner tabulate the findings and blood count in 29 cases of various gynecologic affections. Comparison of the details shows that pus-containing tumors of the adnexa in the acute stage are accompanied by leucocytosis. It persists longer than the fever, but subsides in time, notwithstanding the continuance of the pus pocket. Tumors in the adnexa not containing pus are not accompanied by leucocytosis. Thirty-five cases of other gynecologic affections were examined from this point of view and a number with internal hemorrhage, etc. The results showed that much loss of blood from myoma or extrauterine pregnancy may induce a hyperleucocytosis, the more pronounced the greater the hemorrhage. If the organism has time to produce more blood to take the place of what is lost, as in case of small, repeated hemorrhages from a myoma, the leucocytosis may be moderate or imperceptible. On the other hand, in case of much loss of blood, as from rupture of an extrauterine pregnancy, the leucocytosis may be as intense as in case of pus formation. In one case it reached 24,000, a few hours after the operation it was 23,000, and as the patient regained strength it fell to 16,000. In 2 cases of a four weeks' hematocele, the leucocytes numbered 12,000. In 2 other cases examined four to six weeks after tubal abortion the blood count was normal.

120. **Extramedian Symphysiotomy.**—Van de Velde has coined the term "hebotomy" for this operation, which he remarks was first suggested by Champion eighty years ago, but has only become practicable since Gigli invented the wire saw. It has been performed 12 times to April, 1903. All the mothers recovered with no disturbances and their gait is as perfect as before. All the children were delivered alive. The great advantages of this intervention are that the wound can be protected from contact with the urine and vaginal secretions, and that the sawing of the healthy pubis is followed by a healthy callus formation, which holds the sawed edges apart and thus permanently enlarges the deformed pelvis. In one of his cases he purposely left a gap between the sawn edges the width of a finger. The woman was up in three weeks, had no pain and resumed her life as a working woman in six weeks. A radiogram four months later showed that the pelvis was permanently enlarged, the urethra, clitoris and symphysis permanently asymmetrically displaced to one side, with a difference of 2 cm. from the spin. ant. sup. to the symphysis on the two sides. The pelvis is as solid as ever, and in this case, as with his previously operated patients, the excess of callus is gradually absorbed so that in time there is no trace of the intervention. In case a second hebotomy is required it might be made on the other side, and thus the pelvis be permanently enlarged by 3 to 4 cm., which is the maximum that should be striven for.

121. **Influence of Castration on Blood of Female Animals.**—For three years Breuer has been studying on dogs the effect of removal of the ovaries on the composition of the blood. He found that castration has an unmistakable effect on regeneration of the blood in younger animals, from seven to ten months old. Older ones were not affected. The ovaries have, therefore, an undoubted influence on the composition of the blood. The disturbances produced by their extirpation bore no resemblance to human chlorosis. He believes that this research is an important support of the genital origin of chlorosis.

124. **Epidural Injections in Treatment of Enuresis.**—Kapsammer reports the details of 37 cases of enuresis treated by epidural injections according to Cathelin's method, recently described in THE JOURNAL, page 527. He has made 300 epidural injections, and has never seen a reaction except twice; once the patient vomited once afterward, probably because the injection had been made too rapidly and was somewhat larger than usual. In the other case the patient vomited twice the day after the injection and the point of the injection was slightly painful. He disapproves of Cathelin's advocacy of epidural injections as a "universal remedy," but thinks that for enuresis the results far surpass all others. He recommends two or three injections at brief intervals, even when the cure seemed to be complete after the first. He proclaims, however, that a saline solution has exactly the same effect as the cocain and may be used in its place. A remarkable feature of this treatment, already noted by others, is that an excessive desire to urinate is reduced and deficient desire stimulated. His experiences have confirmed those of all the others who have tested the method as to its complete harmlessness. The 25 cases completely cured which he describes in detail include 19 with enuresis nocturna and 6 with both nocturna and diurna. The cure dates from fourteen months in 1, ten months in 1, more than six months in 2 and five months in 6; 8 patients were cured by a single injection. Six had been treated by a number of other methods without result. Some of the cases required several injections, one as many as 13 and one 12. He thinks that these latter cases could have been cured quicker if he had injected larger amounts at shorter intervals. Fourteen of the 25 were treated with cocain solution and the others with saline. One was an infant less than 2 years old, consequently the effect can not be ascribed to suggestion; another was a man of 25 with pollakiuria diurna and enuresis nocturna, both cured by 2 cocain injections. Another was a lad of 16 cured by 4 cocain injections of enuresis, both night and day, since early childhood. In a second series of 6 cases the patients left before the final result could be ascertained, and although cured when last seen, are not included in the statistics, as also 6 others still under treatment.

Roussky Vratch, St. Petersburg.

Last indexed page 529.

133 (II, No. 2.) Problems of the Day in Pharmacology and Materialism. N. P. Kravkoff.—Sovremennlya problemy pharm. i materialism.

134 *Technic of Laparotomy. V. S. Gruzdeff.—K technikye laparocoellotomia.

135 * Stomach Digestion in Icterus. S. S. Zimnitzky.—K voprosu o zheldotchnom pitshtchevarenii pri zheltukhakh.

136 Tannoform in Intertrigo in Children. S. E. Ostrovsky.—Tannoform pri perepryelosti u maletchkikh dyetei.

137 *Ligature of Common Carotid in Firearm Wound of Lower Jaw Region. B. S. Miklashevsky.—Perevyazka obshtchei sonnoi arterie po povodu, etc.

138 (No. 3.) *Treatment of Surgical Tuberculosis. A. Bobroff.—O sredstvakh borby s chirurg. bugorchatkoi.

139 *Inflation of Stomach to Determine Its Outlines. A. K. Sievert.—K voprosu ob opredyelenii granitz zheludka razduvaniem.

140 Insoluble Albumin from Albumose During Gastric Digestion. V. V. Zavyaloff.—O rastvorimoi raznovidnosti plasteina.

141 *History of Local Application of Steam in Gynecology and Surgery. M. P. Kozlenko.—Sovremennoe sostoyanie voprosa o primyenenii para v gyn. and chir.

142 *Treatment of Fecal Fistulas. I. I. Grekoff.—O lyetchenii kalovykh svishtchei.

143 Portable Electric Continued Current Apparatus. N. P. Domashneff.—O novom portativnom pribor dlya prodoizheuelnago dyestviya postoyannym elect. tokom.

144 (No. 4.) *Thermotaxis of White Corpuscles. M. E. Mendelssohn.—O termotaksii byelykh krovnykh tyeletz.

145 (No. 5.) Instruction in Anatomy. V. N. Tonkoff.—O prepodavanie anatom. nauk. (Commenced in No. 4.)

146 *Psychologic Basis for Development of Hypnosis. T. E. Rybakoff.—Psych. usloviya razvitiya hypnosa. (Commenced in No. 4.)

147 Eye Affections Caused by Flies. A. V. Lotin.—K voprosu o zabolyevaniyakh glaz vyzyvaemykh litchinkami mukhi Wohlfahrt'a.

134. **Technic of Laparotomy.**—Gruzdeff has long advocated copious flushing of the abdominal cavity with saline solution before closing it after a laparotomy. In 28 cases in which the abdomen was treated by the dry method there were 3 deaths, while only one patient died in the 72 cases in which he followed his method of irrigation, and this fatality was due to other causes. He prefers Locke's solution for the purpose as more nearly approximating the composition of the blood plasm, and pours it into the abdomen three or four times, swabbing out the cavity each time with gauze sponges, and finally leaving a large amount in the abdomen after it is sutured. He thinks that by this means the abdominal cavity is not only cleaned, but the germs that may have found their way in during the operation are washed out and the phagocytes are stimulated to more energetic action. A still further advantage is that the pressure in the abdomen is maintained by the fluid left behind, and it does not tend to collapse after the removal of large tumors. His series includes a variety of indications, as he relates in detail. The pregnancy was not interfered with in one patient on whom a laparotomy was performed on account of peritonitis.

135. **Stomach Digestion in Icterus.**—Simnitzky found that retention of bile from any cause had a marked influence on the digestive processes in the stomach, always inducing hypersecretion until the stomach became exhausted by the chronic course of the affection, after which hyposecretion was the rule. His clinical experience was confirmed by experiments on animals.

137. **Ligation of Carotid for Traumatic Hemorrhage.**—A bullet wound in the neck suppurated and recurring hemorrhages compelled Miklashevsky to ligate the left common carotid artery. This seemed to be well tolerated at first, but after a month hemiplegia developed on the right side, evidently from some focus of softening in the region whose nutrition had been disturbed by the ligature, after anastomosis had been established. The hemiplegia gradually subsided. He has found 914 cases on record in which the common carotid had been ligated, in 337 for the removal of a tumor, in 75 on account of aneurism, in 335 for hemorrhage, and in 54 for neuralgia. About 39.8 per cent. of the patients succumbed to the progress of their affection. The mortality of ligation *per se* has been computed by Hueter at 5 per cent.

138. **Seacoast and Sun Baths in Surgical Tuberculosis.**—Bobroff reports most gratifying results from the sanatorium for children which was established in the Crimea mainly through his efforts. The sea air in this balmy climate, sun and sea bathing are all important factors in the treatment of localized tuberculosis. He lays great stress on direct exposure of the site of the lesion to the sunshine, protected merely by a sheet.

139. **Outlining the Stomach by Inflation.**—Sievert examined 25 subjects, some healthy and others with gastric lesions, to determine the value of this method of diagnosis. He found that the stomach does not distend equally in all directions when gas is generated in it with soda and tartaric acid. The distension seems to be greatest towards the right side. When a moderate amount of gas is formed the findings coincide with those obtained by percussion, auscultation, etc., but if large amounts are generated then the organ is abnormally distended and the findings are not those of the actual condition. This procedure, however, has the advantage that it enables the outlines of the stomach to be determined by the eye.

141. **History of Atmocausis.**—Professor Sneguireff was the first to apply steam to the local treatment of gynecologic affections. During the fifteen years since a long array of communications on the subject have been published, which are reviewed in the present article. Atmocausis, or vaporization as it is called, has proved of signal value in arresting hemorrhage during operations on the liver, in climacteric uterine affections, for cauterizing the uterine mucosa, etc. Pincus and Dührssen have been particularly successful with it in various gynecologic affections; the former advocates it as an ideal means of obliterating the uterine cavity.

142. **Treatment of Fecal Fistula.**—Grekoff describes a case in which exclusion of a portion of the intestine with persisting fecal fistula into the sac was followed later by hernia of the excluded portion, requiring its resection. Two normal pregnancies had occurred in the interim. He recommends resection as an indispensable supplement to the primary intervention, praising the Maisonneuve method of enteroanastomosis as the simplest and least aggressive.

144. **Thermotaxis of the White Corpuscles.**—Mendelssohn proclaims that he has established that the white corpuscles are attracted by heat. This thermotaxis is most pronounced at a temperature of 36-39 C. (97 to 102 F.), but is still marked at 25 to 35 or even 20 to 25 C. In inflammations, therefore, the leucocytes are attracted by thermotaxis as well as by chemotaxis, he believes. Temperatures higher than 102 F. did not seem to attract them.

146. **Psychologic Conditions for Hypnosis.**—Rybakoff ascribes to emotion the chief rôle in the production of the hypnotic sleep. This assumption is sustained by the changes in the heart action and respiration, the subjective sensations during the hypnosis and the fatigue afterward. This condition of emotion enables the subject to respond to the will of the hypnotizer and is the most important requisite for a successful hypnosis. Other causes contribute only as they induce this emotion.

New Patents.

Patents of interest to physicians, August 18-25:

736356. Truss. Mott B. Brooks, Rochester, N. Y.
736744. Surgical ecraseur. Louis R. Kratzmueller, Chicago.
736529. Formaldehyd compound. Roberto Lepetit, Susa, Italy.
737051. Hernial truss. Joel U. Adams, Cincinnati.
737087. Retinoscope. Henry L. De Zeng, Philadelphia.
737365. Invalid's table. George E. Dewey, Grand Rapids, Mich.
737413. Formaldehyd generator. Robert W. Johnson, New Brunswick, N. J.
737258. Catamenial sack. Lee H. Mallalieu and M. Coke, St. Louis.
737008. Lung and voice developer. Peter E. Nichol, Toronto, Canada.
737465. Massage machine. Charles Pfanschmidt and J. Siefert, Chicago.
737473. Mechanism for relief of headache and insomnia. James R. Porter, Richmond, Ill.
737155. Hernial truss. John N. Schiffer, Turtle Creek, Pa.
737526. Surgical bandage. William Sutcliffe, Paterson, N. J.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

U. S. DEPARTMENT OF AGRICULTURE. Index-Catalogue of Medical and Veterinary Zoology. Part IV. (Authors D to Dziembowski.) By Ch. Wardell Stiles, Ph.D., Consulting Zoologist of Bureau of Animal Industry, and Albert Hassall, M.R.C.V.S., Veterinary Inspector, Bureau of Animal Industry. Paper. Washington: Government Printing Office. 1903.

PORTFOLIO OF DERMOCHROMES. By Professor Jacobi of Freiburg in Breisgau. English Adaptation of Text by J. J. Pringle, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. Part I. Half leather. Price, $15.00 for Complete Work. London and New York: Rebman, Ltd. 1903.

U. S. DEPARTMENT OF AGRICULTURE. Bureau of Animal Industry—Bulletin No. 46. The Milk Supply of Two Hundred Cities and Towns. By Henry E. Alvord, C.E., Chief of Dairy Division, and R. A. Pearson, M.S., Assistant Chief of Dairy Division. Paper. Pp. 210. Washington: Government Printing Office. 1903.

LUCOTHERAPY OR THE THERAPEUTIC ACTION OF LIGHT. By Corydon Eugene Rogers, M.D., Seattle, Wash., U. S. A. A Practical Treatise on the Principal Methods of Employing Light Rays in the Treatment of all Germ Diseases. Cloth. Price, $2.00. Pp. 155. Seattle, Wash.: The Metropolitan Press, Inc.

CONSUMPTION A CURABLE AND PREVENTABLE DISEASE. What a Layman Should Know About It. By Lawrence F. Flick, M.D., Founder of the Pennsylvania Society for the Prevention of Tuberculosis. Cloth. Pp. 295. Price, $1.00. Philadelphia: David McKay. 1903.

HIGH-FREQUENCY CURRENTS IN THE TREATMENT OF SOME DISEASES. By Chisholm Williams, F.R.C.S. Edin., M.R.C.S. Eng. Cloth. Pp. 222. Price, $2.75, net. London and New York: Rebman, Ltd. 1903.

FOOT AND MOUTH DISEASE. By D. E. Salmon, D.V.M., Chief of Bureau of Animal Industry. Paper. Reprint from Nineteenth Annual Report of the Bureau of Animal Industry. 1902.

REPORT OF THE TRUSTEES OF BELLEVUE AND ALLIED HOSPITALS for Quarter Ending March 31, 1903. Paper. Pp. 22. New York: Mail and Express Company. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Sept. 5, 1903:

Birmingham, Henry P., major-surgeon, is detailed for duty as chief surgeon on the staff of Major-General J. C. Bates during the Army maneuvers to be held in the vicinity of West Point, Ky., and will report by letter to that officer for instructions. Major Birmingham will proceed at such time and to such place as may be designated by Major-General Bates.

Bising, A. G., is granted leave for one month.

Cable, G. L., contract surgeon, is relieved from further duty at Fort Clark, and will proceed to his home for annulment of contract.

Harmer, J. R., contract surgeon, is granted leave for two months.

Ireland, M. W., major-surgeon, will report to the commanding officer Third Battalion Engineers for duty with the headquarters, staff and Companies L and M of that battalion while en route to San Francisco, and, on the completion of this duty, will return to his station in Washington, D. C.

Sabin, W. E., contract surgeon, is assigned to temporary duty at Vancouver barracks.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Sept. 5, 1903:

Asst.-Surgeon O. Kohlase, Sept. 10, 1903, detached from duty at the Naval Hospital, Mare Island, Cal., and ordered to duty at the Naval Museum of Hygiene and Medicine, Oct. 1, 1903.

Asst.-Surgeon R. K. McClanahan, en route home from Asiatic Station, via the *Solace*.

Asst.-Surgeon C. M. Oman, detached from the *Solace* and ordered to the *Monadnock*.

Asst.-Surgeon H. A. Dunn, detached from the Naval Station, Cavite, P. I., and ordered to the *Solace*.

Asst.-Surgeon R. A. Bachman, ordered to the Naval Station, Cavite, P. I.

Asst.-Surgeon F. M. Munson, ordered to the *Frolic*.

Asst.-Surgeon H. F. Strine, ordered to the *Isle de Cuba*.

Asst.-Surgeon J. L. Neilson, ordered to the *Iris*.

Marine-Hospital Changes.

Official list of the changes of stations and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the fourteen days ended Sept. 3, 1903:

Surgeon J. A. Gassaway, Department letter granting him leave of absence for two months from August 10, amended to read two months from August 13..

Surgeon G. W. Stoner, granted seven days' leave of absence from August 29, under paragraph 189 of the Regulations.

Surgeon H. R. Carter, Bureau letter granting him leave of absence for thirty days from August 4, amended so as to read twenty-four days from August 5.

Surgeon G. M. Magruder, granted leave of absence, on account of sickness, for thirty days from Sept. 7, 1903, or so much thereof as may be necessary.

Surgeon R. M. Woodward, granted two days' leave of absence from Aug. 20, 1903, under paragraph 189 of the Regulations.

P. A. Surgeon M. J. Rosenau, detailed as chairman of Working Party No. 2, Yellow Fever Institute, and directed to proceed to Vera Cruz, Mexico, for special temporary duty in connection therewith.

P. A. Surgeon M. J. White, relieved from duty at Portland, Ore., and directed to proceed to Honolulu, T. H., and report to medical officer in command for duty, relieving Asst.-Surgeon J. M. Holt. Granted leave of absence for three days from September 5.

P. A. Surgeon L. D. Fricks, to proceed to Baltimore and report to Surgeon H. R. Carter for temporary duty in connection with the inspection of immigrants at that port.

P. A. Surgeon H. B. Parker, relieved from temporary duty at Washington, D. C., and, as chairman of Working Party No. 2, Yellow Fever Institute, and directed to report to P. A. Surgeon M. J. Rosenau, and to proceed to Vera Cruz, Mexico, for duty under his direction.

Asst.-Surgeon H. A. Stansfield, on being relieved from duty at Mariveles, P. I., to proceed to San Francisco, and report arrival by telegraph.

Asst.-Surgeon J. M. Holt, on being relieved from duty at Honolulu, T. H., to proceed to Manila, P. I., and report to P. A. Surgeon V. G. Heiser for duty.

Asst.-Surgeon C. W. Vogel, relieved from duty at San Francisco, and directed to proceed to Manila, P. I., and report to P. A. Surgeon V. G. Heiser for duty.

Asst.-Surgeon C. W. Wille, on completion of duties at Baltimore, to proceed to Philadelphia and assume temporary command of service at that port during absence, on leave, of Surgeon F. Irwin.

Asst.-Surgeon J. W. Amesse, on being relieved from duty at Jolo, P. I., to proceed to San Francisco and report arrival by telegraph.

Asst.-Surgeon M. W. Glover, granted leave of absence for one month from September 8.

Asst.-Surgeon Edward Francis, relieved as temporary chairman of Working Party No. 2, Yellow Fever Institute, and directed to report to P. A. Surgeon M. J. Rosenau as member of Working Party No. 2 on his arrival at Vera Cruz, Mexico.

Asst.-Surgeon R. H. Creel, relieved from duty at Immigration Depot, New York, and directed to proceed to Manila, P. I., and report to P. A. Surgeon V. G. Heiser for duty.

A. A. Surgeon L. C. Bean, granted leave of absence for two days from September 4.

A. A. Surgeon D. M. Echemendia, granted leave of absence for seven days from Aug. 20, 1903, on account of sickness, under paragraph 210 of the Regulations.

A. A. Surgeon L. P. Gibson, granted leave of absence for six days.

A. A. Surgeon S. B. Hunter, granted leave of absence for six days.

A. A. Surgeon W. A. Kimmet, granted leave of absence for two weeks from August 25.

A. A. Surgeon W. J. O'Reilly, granted leave of absence for three days from September 8.

A. A. Surgeon R. H. Peters, granted leave of absence for twenty days from August 4.

Pharmacist W. F. Macdowell, granted leave of absence for thirty days from September 14.

Pharmacist W. L. Stearns, granted leave of absence for thirty days from September 8.

Pharmacist G. A. Morris, to report to chairman of board of examiners at Fort Stanton, N. M., Sept. 12, 1903, for examination to determine his fitness for promotion to the grade of pharmacist of the second class.

Pharmacist F. Siedenburg, granted leave of absence for thirty days from September 5.

BOARDS CONVENED.

Board convened at Fort Stanton, N. M., Sept. 12, 1903, for the examination of Pharmacist G. A. Morris, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Surgeon P. M. Carrington, chairman; Asst.-Surgeon J. W. Trask, recorder.

Board to meet at Washington, D. C., on call of the chairman, to consider certain matters relative to uniform regulations of the Service. Detail for the board: Assistant Surgeon-General A. H. Glennan, chairman; Assistant Surgeon-General G. T. Vaughan, Assistant Surgeon-General H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 5, 1903:

SMALLPOX—UNITED STATES.

California: Sacramento, Aug. 6-23, 2 cases; San Francisco, Aug. 16-23, 1 case.
Colorado: Denver, July 25-Aug. 15, 6 cases.
Illinois: Chicago, Aug. 22-29, 4 cases, 2 deaths.
Indiana: South Bend, Aug. 22-29, 1 case.
Massachusetts: Fall River, Aug. 22-29, 1 case.
Michigan: Marquette, Aug. 22-29, 1 case; Port Huron, Aug. 22-29, 1 case.
Mississippi: Natchez, Aug. 22-29, 1 case.
New Jersey: Camden, Aug. 22-29, 1 case.
Ohio: Dayton, Aug. 22-29, 3 cases.
Pennsylvania: Erie, Aug. 15-22, 1 case; Pittsburg, Aug. 23-30, 95 cases, 13 deaths, 1 case imported.
Texas: San Antonio, July 1-31, 14 cases.
Utah: Salt Lake City, Aug. 15-22, 1 case, imported from Idaho.
Virginia: Pocahontas, Aug. 22-29, 1 case.
Wisconsin: Milwaukee, Aug. 22-29, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, July 11-18, 1 case, 1 death.

SMALLPOX—FOREIGN.

Belgium: Brussels, Aug. 8-15, 3 deaths.
China: Shanghai, July 11-18, 1 death.
Colombia: Barranquilla, Aug. 8-16, 3 deaths.
France: Paris, Aug. 1-8, 1 death.
Great Britain: London, Aug. 8-15, 9 cases; Manchester, Aug. 8-15, 1 case; Newcastle-on-Tyne, Aug. 8-15, 10 cases, 1 death; South Shields, Aug. 8-15, 1 case; West Hartlepool, Aug. 8-15, 2 cases.
India: Bombay, July 28-Aug. 4, 5 deaths.
Mexico: City of Mexico, Aug. 16-23, 9 cases, 5 deaths.
Russia: Moscow, Aug. 1-8, 2 cases, 1 death; Odessa, Aug. 8-15, 1 case.

YELLOW FEVER—UNITED STATES.

Mississippi: Gulf Quarantine, Sept. 1, 1 death, from schooner Henrietta G. Powell from Vera Cruz.

YELLOW FEVER—FOREIGN.

Colombia: Panama, Aug. 17-24, 3 cases, 1 death.
Costa Rica: Limon, Aug. 13-30, 4 cases, 2 deaths; San Jose, Aug. 13-30, 2 cases; Zent, Aug. 13-30, 4 deaths.
Mexico: City of Mexico, Aug. 16-23, 1 death; Linares, Aug. 24, 14 deaths; Merida, Aug. 9-15, 10 cases, 5 deaths; Progreso, Aug. 15-22, 2 cases; Monterey, Aug. 26, 1 case; Tampico, Aug. 16-22, 19 deaths; Tehauntepec, Aug. 9-15, 4 cases, 3 deaths; Teran, Aug. 27, present; Salina Cruz, Aug. 9-15, 3 cases, 2 deaths; Valladolia, Aug. 9-15, 1 case; Vera Cruz, Aug. 8-22, 112 cases, 44 deaths.

CHOLERA—INSULAR.

Phillippine Islands: Manila, July 11-18, 7 cases, 7 deaths; Provinces, July 11-18, 1,369 cases, 825 deaths.

CHOLERA—FOREIGN.

China: Hongkong, July 15-22, 1 death.
India: Calcutta, July 25-Aug. 1, 12 deaths.
Turkey: Damascus, July 21-Aug. 18, 57 deaths; Damascus Province, July 21-Aug. 18, 312 deaths; Tripoli, July 25, present.

PLAGUE—INSULAR.

Hawaii: Honolulu, Aug. 18, 1 death.
Philippine Islands: Manila, July 11-18, 1 case.

PLAGUE—FOREIGN.

China: Hongkong, July 15-22, 18 cases, 9 deaths.
India: Bombay, July 28-Aug. 4, 100 deaths; Calcutta, July 25-Aug. 1, 12 cases; Karachi, July 26-Aug. 2, 2 cases, 2 deaths.

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Original Articles.

THE VARIOUS METHODS OF PRESERVING AND MOUNTING GROSS EYE PREPARATIONS.*

CASEY A. WOOD, M.D.

CHICAGO.

Early methods of preserving the enucleated eyeball and other ocular tissues were very crude. The specimen was generally placed in a bottle of ethylic or methyl alcohol of unknown strength, which not only bleached and hardened the tissues, but rendered them useless for future microscopic sections. Shrinking of the globar walls and intraocular structures proceeded until the parts became unfit for use, either as museum preparations or for other teaching purposes. Attempts were now and then made, by the addition of glycerin and other agents to the alcohol, to retard these changes, but with little permanent success. Bichlorid solutions, Müller's fluid and other chromate preparations were found to be improvements on the alcohol mixtures, but even these were not satisfactory, requiring constant care and frequent changing of the fluid, else the tissues were not affected by stains subsequently used for microscopic sections. In any case the cornea became opaque, the iris discolored, the other parts stained, and only the coarsest changes in the bisected globe, such as tumors, dislocated lenses, detached retinæ, etc., could be distinguished. Indeed, it was not until Priestley Smith devised his well-known plan of preparing and mounting the divided eyeball in a glass receptable containing gelatin that a decided advance was made in the preservation and exhibition of gross specimens.

Preparations of thick sections of the eyeball may be preserved, although not as effectively as in specimen jars, by placing them on discs of opal glass over which a little prepared and melted jelly has been poured. The specimen is now covered with more jelly, air bubbles are removed by pricking them, and when the mass is hard enough a plano-convex lens is attached to the surface of the specimen just as one would apply a cover glass.

DRY METHODS OF PREPARATION.

An ingenious plan was that of Hyrtl. He pierced the optic nerve of the enucleated eyeball and through the opening expressed the intraocular contents. The hollow globe was then inflated and dried. Beyond demonstrating the size and shape of the eye this method is useless, and has long been abandoned.

A more profitable proceeding is to harden the divided globe in alcohol, dehydrate by any suitable method and soak for ten days in turpentine. At the end of this time the tissues will be quite transparent. Now allow the turpentine to evaporate slowly. Such a specimen, if merely protected from dust, will keep indefinitely and will, especially when examined with a lens, show the tissues almost as well as in any of the preparations about to be described. However, these preparations degenerate in time, owing to injury from handling and from exposure to dust and smoke.

THE PRIESTLEY SMITH GELATIN METHOD.

The eyeball, generally preserved in Müller's fluid, is frozen,[1] divided by means of a sharp razor and, when required, immersed in a 2 per cent. chloral-hydrate solution to remove at least a part of Müller's stain. This procedure is repeated every day or two until no staining of the immersion fluid results. To prevent shrinkage of the half eye when it is placed in the jelly, it is next given, for 24 hours each, a bath of 10, 25 and 50 per cent. glycerin. It is now (concave surface up) transferred to the glass jar, which should be about half filled with the melted gelatin. When the fluid jelly has entirely filled the hemisphere it is turned over so that its plane surface is accurately applied to the bottom of the specimen jar. Great care must be observed to prevent the retention of air bubbles within the globe or in the gelatin surrounding it. When the jelly is hard the jar is carefully filled with more gelatin.

The jelly consists of Coignet et Cie's gelatin, 1 part, glycerin and water, of each, 8 parts by weight. Slowly dissolve the gelatin in the water by the aid of gentle heat; add the white of one egg; boil thoroughly and filter through flannel. Finally, stir in the glycerin, to which has been added 0.1 per cent. of carbolic acid. The jar covers may be of ordinary clear glass, or of the white opalescent variety, cemented by means of four parts of gutta percha and one part of pitch. The jars were originally made by and can be had of Messrs. Osler, Broad street, Birmingham, England. Treacher Collins suggested that a plano-convex lens be cemented on the upper surface of the jars by means of Canada balsam. This arrangement enlarges considerably the intraocular image and shows the minor details of the specimens. At the request of the committee several gentlemen (whose efforts contributed much to the success of the exhibit at New Orleans and whose practical experience permits them to speak with authority) have furnished a description of their favorite methods of mounting macroscopic eye preparations.

Dr. George Sloan Dixon[2] published an article on the "Preservation of Macroscopic Eye Specimens," most of

* Report of the Committee on Exhibit of Pathologic Preparations at the Section on Ophthalmology, American Medical Association, New Orleans, May 5-8, 1903. Casey A. Wood, Chairman; H. V. Würdemann and E. A. Shumway.

1. See the Ophthalmic Review, March, 1883.
2. New York Eye and Ear Infirmary Reports, January, 1898.

which is here reprinted with an addendum giving a few modifications made by him since its publication. This monograph furnishes a complete description of the formalin-jelly method of preparing the Priestley Smith mounts. It will also be seen that, in many respects, it is a decided improvement over the original mode of preparation.

The preparation of macroscopic eye specimens was very unsatisfactory until the advent of formalin as a hardening reagent. Time is also greatly economized by the use of formalin, as it requires but twenty-four hours to effect the preliminary hardening.

Formalin will not harden the vitreous, although it has the property of rendering this substance less viscid. For example, if an eye be removed from the formalin bath at the end of the first twenty-four hours and divided, the normal vitreous will be of a consistence similar to thin syrup, and is sure to be lost during subsequent manipulation.

In the majority of instances the loss of vitreous is of no great importance, but a more nearly normal macroscopic specimen will of course be obtained if it be preserved, and in some cases it is quite necessary. Therefore, in specimens where it is desirable to retain the vitreous, alcohol must be employed.

Another advantage obtained by the use of formalin, especially in intraocular tumor specimens, is that the

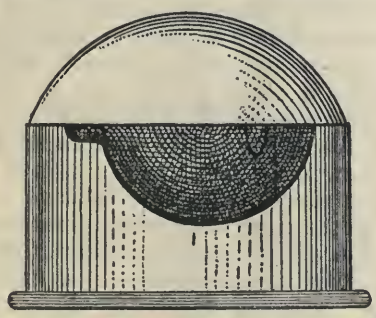

Fig. 1.—Treacher Collins' modification of the Priestley Smith jar.

finished mount shows the original colors to have been almost wholly retained, very little bleaching occurring.

As soon as possible after enucleation puncture the globe at or near the equator with a small knife, in order to admit the fluid, and place it in a wide-mouth bottle containing a little absorbent cotton, and enough of a 10 per cent. solution of formalin in distilled water to cover it. Allow the eye to remain in this solution for twenty-four hours, and then transfer it to weak alcohol, 25 per cent. to 50 per cent., depending on the density of the globe, and increase the strength of the alcohol by about 10 per cent. daily. An inclination to collapse is an indication that the alcohol is being increased too rapidly. When the strength of the alcohol has reached 80 per cent., allow the specimen to remain in it for four days, or indefinitely if intended for future use. At the end of this time the vitreous will have become sufficiently dense to permit division of the globe without loss.

The next step in the progress is to remove the alcohol in order to permit the globe to be frozen. This is done by placing it in from ten to twenty times its volume of water for twenty-four hours. It is well to change the water at least once, though this is seldom necessary. When the globe has settled to the bottom of the vessel, sufficient alcohol will usually have been removed to allow freezing.

The freezing box should not be less than seven inches square—nine inches is a very good size. It should have a few holes in the bottom for the purpose of drainage.

Remove the globe from the water, dry it carefully with a soft towel or piece of gauze, cut off the nerve close to the sclerotic and draw an ink line from cornea to nerve on both sides to indicate the direction desired to cut. In the majority of instances the horizontal plane is selected. Wrap the globe in oiled silk, without pressure on the globe. Fill the box with mixed pounded ice and salt, deposit the globe in the middle, cover and allow it to remain in a cool place for one hour. Remove the globe, rest it on a piece of cork and divide it quickly with a thin sharp knife in the line previously drawn, being careful not to employ more sawing motion than is absolutely necessary, and further, do not rest the cornea on the cork.

Having divided the globe, place the hemispheres in distilled water to thaw. After ten or fifteen minutes remove the half selected for microscopic examination to 25 or 50 per cent. alcohol, and gradually increase the strength from day to day until 80 per cent. has been reached, where it may remain awaiting the further treatment required for imbedding. At the same time transfer the half selected for the macroscopic specimen to a 5 per cent. aqueous solution of chloral hydrate for twenty-four hours; glycerin and one-third water twenty-four hours; finally, equal parts of glycerin and water for twenty-four hours, when it will be ready to mount in glycerin jelly.

The formula for glycerin jelly has been repeatedly published, but as ordinarily made it almost invariably has a marked amber tinge. This may be due to the quality of the gelatin used, but we think this is frequently caused by the material through which it is filtered, flannel usually being recommended. The best quality of (so-called "French Gold Label") gelatin should be used, and nothing containing color should come in contact with the jelly during its preparation—even the shells of the eggs employed should be rejected if not pure white.

The following method of preparing the jelly has been uniformly successful in our hands, and we, therefore, give it in detail: Take gelatin, 1 part; water, 8 parts, and glycerin, 8 parts.

We generally add a trifle more gelatin, say 0.5 per cent. Cut the gelatin into small pieces, place in a glass vessel with a very wide mouth (fruit-jars are unreliable—agateware works well), add the water, cover and let it stand for an hour, then place the whole in an Arnold sterilizer, or in a water bath, and apply only sufficient heat to dissolve the gelatin. When dissolved stir in the albumin of one fresh egg (with its shell if white) for each ℥viii. Replace in the sterilizer and boil until complete separation has occurred. Filter hot through absorbent cotton. A hot-water funnel is useful for this purpose. If the filtrate is not absolutely clear repeat the operation. The glycerin is then added, and also enough carbolic acid to preserve it—not more than 3i of a 10 per cent. aqueous solution for each ℥vi of jelly.

If carefully made in this manner the jelly will be almost free from color, and of about the same index of refraction as the glass of which the macroscopic cups are made.

The jelly should be kept in two flasks, a large one for stock and a small one for use from day to day; both should be closed with cotton-wool plugs. The larger (or stock) flask should be heated only when necessary to fill

the smaller one. Exclude light as much as possible. If evaporation occurs to any considerable extent before the jelly has been used, a little sterilized distilled water can be added.

The specimen is now ready to embed in its macroscopic cup. The cups (see cut) in use in this institution are 1⅞ inches in diameter by 15/16 inch deep, made of crown glass, upper surface highly polished and edge ground true.

Remove the surplus glycerin and water from the specimen and deposit it in the cup, cut surface up. Fill the cup with warm (not hot) jelly, tease out with warm needles all the air bubbles that have become imprisoned, turn the specimen over, press it firmly on the bottom of the cup, examine over a mirror, center and retain it in position by means of a small piece of cigar box (⅝ by 2 inches), through the center of which an ordinary pin has been driven. It is not necessary that the pin should penetrate the specimen, but it should be long enough to permit the greater part of the weight of the piece of wood to be transferred to the specimen at the point of the pin. If the mount is satisfactory place it under a bell-jar to exclude dust, and with it a piece of absorbent cotten saturated with about a dram of formalin.

The statement has been made several times that the exposure of nutrient jelly to the vapor of formalin renders it insoluble by heat. Formalin vapor, free under a bell-jar, will render the surface of glycerin jelly in macroscopic cups denser to a very slight depth, but not wholly insoluble. A cup of jelly so exposed for five days could still be completely melted in an Arnold sterilizer, with the exception of a very small ring at the margin of the cup.

Although formalin vapor acting on glycerin jelly under a bell-jar does not render the entire mass insoluble, no mean advantage is gained by its use, as a greater degree of heat is required to cause it to "run" and displace the specimen. In fact, I have frequently noted liquefaction of old mounts during the summer months when the thermometer stood at 98 or 99 F., although the usual melting-point of normal glycerin jelly is about 105 F.

It would seem hardly necessary to call attention to the fact that pathologic specimens should not be exposed to a greater degree of heat than is absolutely necessary; but this should particularly be borne in mind with reference to the eye, as immediately the limit of heat is reached (and the degree is comparatively low), the globe, or hemisphere, will suddenly collapse and be damaged beyond hope of repair. Therefore, if there is any likelihood of necessity arising for redissolving the glycerin jelly surrounding a specimen, we would advise against the use of formalin for "setting" the jelly.

After standing for two or three days, the cup should be sealed to prevent further evaporation. We have found the most satisfactory material for this purpose to be porcelainized glass. It is pure white, and greatly improves the appearance of the specimen. It is attached to the bottom of the cup with Stratena or Major's cement, applied hot. A celluloid disc answers the same purpose, but it is not pure white, and we have been unable to find a satisfactory cement for it.

The mount has now been completed and can be filed away, but we prefer to still further protect it by cementing it into a square wooden base. These blocks are made of mahogany, and are countersunk in the middle about a quarter of an inch.

It is occasionally an advantage to cement a lens to the upper surface of the cup to show a foreign body, or anything of especial interest located below the surface. For ordinary specimens, however, we consider a permanent lens a useless expense, and, in the majority of cases, a disadvantage. When applied, for which Canada balsam should be used, the lens should be warm, and, of course, the surface absolutely clean.

The accompanying full-size outline cut shows all the parts referred to, and their relations.

Specimens prepared in this manner, if properly sealed, should remain in perfect condition indefinitely; but it will occasionally happen that the cement may not have perfectly attached the disc to the cup, and slow evaporation will occur. This will sooner or later be manifested by fissure of the gelatin, necessitating remounting if the fissures can not be filled with fresh jelly without imprisoning air. A good result can be obtained by cutting away the jelly about the specimen with a sharp knife, leaving smooth surfaces and the specimen *in situ;* then refill the cup with warm jelly. In case air has found its way under the specimen, cut off the upper surface of the jelly and melt with very gentle heat (not over 112 F.) and remount as before.

The well-known fact that exposure to light tends to darken gelatin suggests the advisability of shielding the mounted specimens from strong light especially.

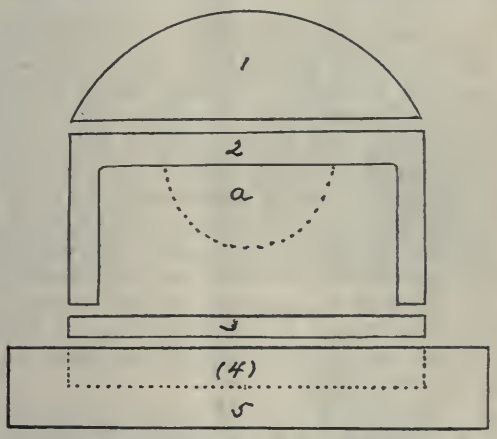

Fig. 2.—Full-size outline figure of macroscopic cup and accessories (Dixon). 1, Lens; 2, macroscopic cup; 3, porcelainized glass disc; 5, mahogany base showing (4) portion countersunk for reception of 2 and 3; (*a*) specimen.

July 1, 1903.—About the only modifications made in the foregoing methods since its publication consists in the more thorough drying of the specimen with calcium chlorid under a bell-jar, and a change in the manner of cementing the bottom on.

For this purpose we use Bell's cement, sometimes Major's cement, and sometimes Stratena. After the cement has thoroughly set we give the joint two or three coats of zinc white, allowing each to dry thoroughly, and then for a finish apply a ring of asphalt. The latter is, however, not necessary.

Care should be taken not to expose the specimen too long to formaldehyd, as a reaction is likely to occur rendering the jelly opalescent. This causes no special damage, but the jelly ceases to be sparkling.

The disadvantage of the method is that in very hot weather the jelly may become liquid in a few specimens, but this has been largely obviated by turning the specimens upside down.

The advantages are that the natural colors can be in the main preserved, all the parts are held in their normal

positions by the density of the medium, they are readily photographed, and they can be transported with safety; beside a globe damaged during laboratory manipulation can be restored with a little patience and a hot needle.

Dr. Harold G. Goldberg (Wills Eye Hospital, Philadelphia) prefers the formalin-glycerin-jelly method modified as follows: Gelatin (best French) oz. i. Cut in small strips and soak in water for twelve hours, pour off water and dissolve in solution (x).—Glycerin, fl. oz. viii; water, fl. oz. viii.

Egg albumin, fl. oz. vi; thoroughly break up in graduate with spoon and mix with fl. oz. iii of sol. marked x, which should be hot when mixed. Filter through flannel into remaining sol. marked x, and mix thoroughly; place on water bath and after coming to boiling point, allow solution to simmer without stirring for five minutes until all the albumin is coagulated. Filter through hot water funnel, or anything that will serve the same purpose, and add 30 m. of pure formalin, a drop at a time, stirring after each drop to prevent lumps forming; then cool.

This jelly is almost colorless, transparent and very firm, and is not melted by summer heat; in fact, after the jelly is several months old it is very difficult to melt it, even by prolonged exposure to the heat of a water bath.

In cases where the tissues are thoroughly impregnated with about 10 per cent. formalin solution before mounting, the additional formalin causes the jelly to contract, as it grows older (possibly over a period of several months), squeezing the water contained in it from its substance. This collects on the surface in drops; therefore, I do not permanently seal the lid of the cell until this complete contraction has taken place, nor do I quite fill the cell with jelly, allowing sufficient space for the water to collect. After this contraction has taken place, it is impossible to melt the jelly with even the actual flame; it will burn, but not melt, and if it becomes necessary to remove the tissue the jelly must be dissolved away.

Tissues hardened in 5 or 10 per cent. formalin solution having remained in the solution several days, may be frozen, cut and mounted without any further preparation.

If tissues hardened by the other methods, after having passed through the alcohols, are placed in a 5 or 10 per cent. solution of formalin for twelve hours, their preservation in the jelly will be more complete and permanent.

When the tissues are impregnated with the formalin solution, a capsule 5 or 6 mm. in thickness is formed around the eye, due to the hardening action of the formalin on the jelly. If the vitreous chamber is not already filled it will be occupied by a mass of tough jelly which preserves the form of the globe.

In any event, all alcohol must be removed from the tissues before mounting in the jelly or air bubbles will form around the tissues and spoil the appearance of the mount. I have mounted a number of eyes that had remained in 10 per cent. formalin solution only twelve hours. These were frozen, cut and mounted in the jelly immediately, thus practically preserving the first changes noticed. I believe it is possible (although I have never had an opportunity to try it) to preserve a perfectly fresh specimen in the jelly without any preparation whatever.

I obtain my mounts (the ordinary cut glass dishes, with white covers) from Wall & Ochs, opticians, Philadelphia. The jars are sealed with common white photographic paste (which is easily removed) until contraction has completely taken place. Then the water, which I have described as collecting for months, is removed and the jars permanently sealed with xylol-balsam.

The advantages of this jelly, beside those I have already mentioned, are that it is a preservative for the tissues, which can be removed from it within several months, or possibly longer, and cut and stained for microscopic study. It also fixes the natural color of the tissues and is easily prepared. I have some specimens that I placed three years ago in this jelly that are quite as good to-day as when first preserved.

Dr. Allen Greenwood, Boston, does not claim originality for the method he prefers.

In order to preserve the colors he hardens the enucleated eye by the Kaiserling method as follows:

1. Fixation for 1 to 4 days in

Formaldehyd	200
Water	1,000
Nitrate of potassium	15
Acetate of potassium	30

2. Drain and place in 80 per cent. alcohol for 1 to 6 hours, then in 95 per cent. alcohol for 1 to 2 hours to restore the color.

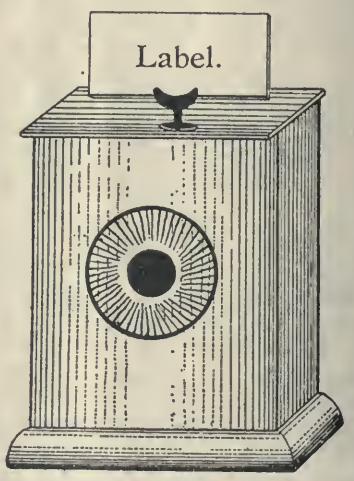

Fig. 3.—Jar for museum specimens (Greeff).

3. Preserve in

Acetate of potassium	200
Glycerin	400
Water	2,000

Fixation should be performed in the dark and the specimen kept in a dark place.

To section the eye it is first frozen by packing in pounded ice and salt.

The half eye to be mounted is then placed in the glass dish with the cut surface down and the melted glycerin jelly poured in. If the glass dish is put on ice the layer of jelly next to the specimen will harden and the eye be held in place until the whole mass is hard enough to prevent the eye from floating. The dish should be filled full enough to exclude all air bubbles when the lid is applied. After the jelly becomes hard the lid is sealed on with Canada balsam.

The jelly is made as follows from a formula given by Dr. Verhoef.

Best French gelatin (Coignet's gold label)	30 grms.
Cold saturated boric acid sol.	240 c.c.

Add 80 c.c. of glycerin and the white and shell of an egg, heat in a water bath, add 1 c.c. of glacial acetic acid

to precipitate the albumin, boil thoroughly for some minutes and then filter three or four times. Put the filtering apparatus in a steam sterilizer to prevent hardening of the jelly.

PERMANENT PREPARATIONS IN FLUID PRESERVATIVES.

Once surrounded by and impregnated with jelly, it is with great difficulty and small satisfaction that the bulbar hemisphere is utilized for microscopic purposes. This drawback can be obviated by its preservation in suitable fluids. The best known method is that of Greeff, a cut of whose jar for museum specimens is here given. A description of this form of preparation will be found in this author's small primer,[3] *Anleitung zur*

Fig. 4.—Jar for mounting gross eye specimens (Thomson).

mikroskopischen Untersuchung des Auges, 1898, pp. 67, 69.

A number of modifications of the original method have been proposed by various pathologists, both as regard the form of the glass receptacle and the preserving fluid.

Dr. Edgar S. Thomson (Manhattan Eye and Ear Infirmary) advises that the specimen, after a thorough

Fig. 5.—The Specimen held in position by a glass rod (Thomson).

washing, be hardened for 24 hours in formalin, 4 per cent. The globe is then bisected, and the piece intended for mounting is wrapped in absorbent cotton, to prevent shrinkage, and immersed for three days in the following solution:

Acetate of soda	3
Kali chlorid	5
Formalin	10
Water	100

The specimen is then wrapped in a fresh piece of cotton and immersed in alcohol varying between 80 and 95 per cent., depending on the strength and resistance of the specimen to shrinkage. The alcohol should be as strong as possible. It is immersed in this for twenty-four years, and finally is soaked for two or three days in the following solution:

Acetate of potash	90
Glycerin	180
Water	300

After which it is mounted in a fresh solution of the last formula.

The jars (see cuts) are from E. B. Meyrowitz of New York city. Dr. Thomson has not been in the habit of sealing the jars, finding that with glycerin preparation air bubbles are not apt to appear. The advantages of the method are as follows: It preserves the color and gives proper transparency to the cornea and lens and the specimen can be removed from the jar at any time and a section made, although these are not as satisfactory as fresh sections, on account of the shrinkage which the glycerin causes; it is nevertheless possible to make them,

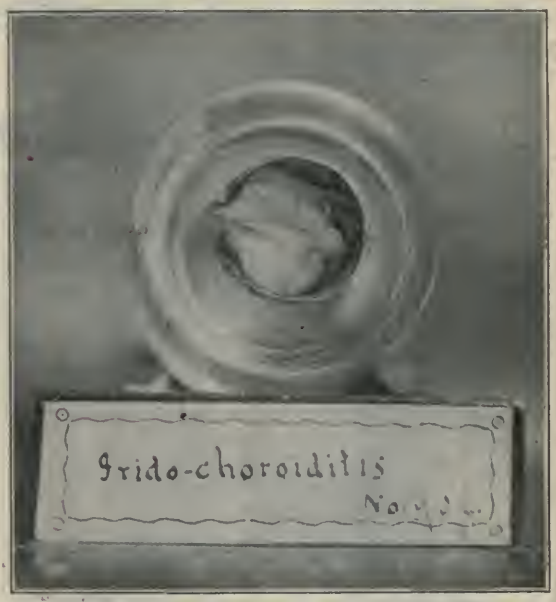

Fig. 6.—The specimen on the block for exhibition (Thomson).

which can not always be said of the glycerin-jelly specimens. The method is simple, and specimens prepared three years ago have kept very well.

Dr. E. V. L. Brown (Illinois Eye and Ear Infirmary) describes "The Technic and Advantages of the Greeff Method of Mounting Macroscopic Eye Preparations" as follows. One needs, in addition to the glass jar shown in the accompanying cut, the following:

1. A 3 per cent. formalin or Kaiserling solution.

2. Some gelatin glue. Dissolve three or four strips of ordinary cooking gelatin in an equal bulk of water and boil until the mass is thick and tenacious. It is then ready for use. On cooling, the solidified mass may be preserved for future use by adding a little alcohol; heat will promptly liquefy it.

3. Some shellac or japanner's gold size; "liquid glass" to seal the cover. The gelatin glue will answer this purpose very well unless the mount is to be sent through the mails.

The technic is not difficult. Carefully dry the half or one-third section of the eye, lay the jar on its side, put a drop of the gelatin glue inside, and place the

3. English readers will find a good translation of this little book by Hugh Walker, published by Blakiston, 1902, entitled "A Guide to the Microscopic Examination of the Eye."

specimen in position. Allow the glue to harden for fifteen minutes; place the jar upright, fill it with the solution and seal the cover. A small clasp may now be glued to the cover to carry a label or photograph.

The advantages of this method, especially over the Priestley Smith method so generally used in past years, are obvious, namely:

1. The Greeff method is quicker. It takes several days to prepare the gelatin, mount the eye and allow the jelly to harden according to the Priestley Smith method. The writer has mounted as many as twenty eyes by the Greeff method in a single morning.

2. The method is simpler and the mount more permanent. A good clear gelatin of the right consistency which will retain its solidity in hot weather is difficult to obtain.

3. It is cheaper by two-thirds. The Greeff jars may be had of E. Leitz, 34 S. Clark street, Chicago, for 10 cents each. The Priestley Smith jar costs 30 cents,

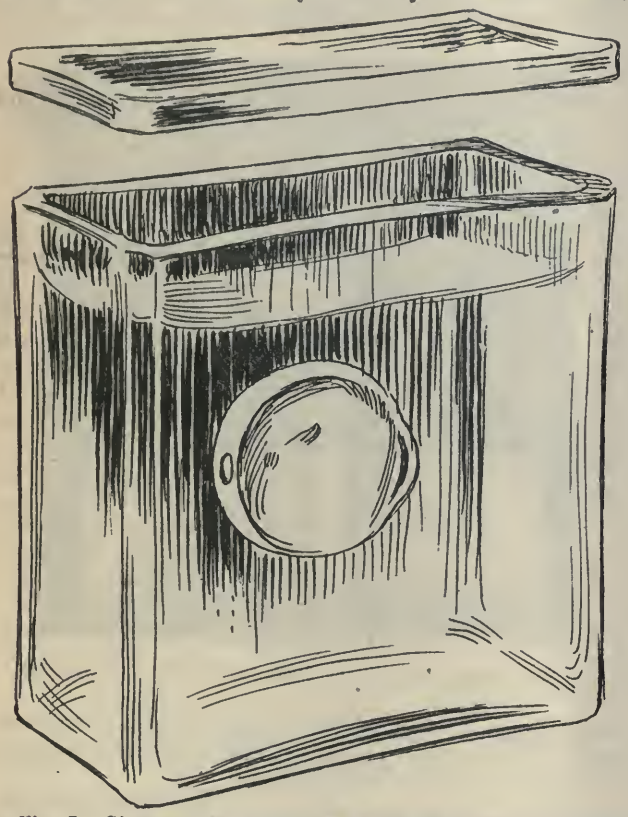

Fig. 7.—Glass jar for mounting macroscopic eye preparations after the Greeff method (E. V. L. Brown).

while good gelatin costs a dollar a package; on the other hand, formalin or Kaiserling solutions are always on hand and inexpensive.

4. The Greeff mount may be kept on a shelf exposed to the light indefinitely, while any gelatin mass will discolor in time.

5. Eyes preserved in formalin or Kaiserling are easier to embed and section for subsequent microscopic study, should this be at any time desired.

Dr. Edward A. Shumway (William Pepper Laboratory, University of Pennsylvania) uses the gelatin mount, as a rule, when it is desirable to make a macroscopic preparation. The gelatin is made in a rather stronger solution than is usually advised—40 grams of gelatin (Coignet et Cie, France, or Conte Fils, Magdeburg, Germany) to 250 c.c. of water. After solution of the gelatin by careful warming, the white of one egg, beaten up in a small quantity of water, is added to the solution, and the whole poured into an agateware pail. This is then placed in an Arnold sterilizer, and boiled vigorously. In this manner the coagulation of the albumin and the clearing of the gelatin are accomplished without danger of burning the gelatin, a very important point, as the least scorching of the vessel around the top of the gelatin will give a brownish discoloration to the mounting medium. It is then filtered through a good quality of filter paper, preferably in a hot water filter, as the percentage of gelatin is very high, and the solution filters slowly. If it stiffens before fil-

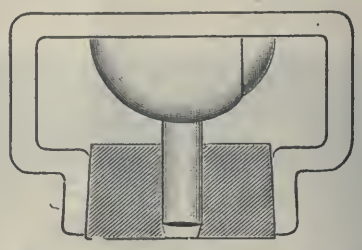

Fig. 8.—Cup, with rounded bases of ebonized wood, for macroscopic specimens.

tration is complete, it may be put back into the sterilizer again, in the agate vessel, and reheated. To the filtrate an equal quantity of glycerin (C. P.) is added, and 1 c.c. of a 2 per cent. solution of commercial formalin (making a dilution of about 1/20,000, which is strong enough to prevent the growth of molds, etc.). The cups are furnished by Wall & Ochs, 1716 Chestnut street, Philadelphia. (See Fig. 8.)

After the gelatin has hardened over the surface of the specimen in the cup it is exposed to the fumes of strong formalin in a covered glass jar, by means of which the surface is hardened to a depth of one-quarter inch.

Fig. 9.—A convenient arrangement for exhibition of macroscopic specimens in the class room, or society meeting. It is composed of a round tray of ebonized wood, to which seven of the wooden bases, used for holding the individual specimens, are screwed. It is made by Wall & Ochs, Philadelphia.

This prevents melting of the surface gelatin, and if, in addition, the cups are inverted, in warm weather, the specimens will rarely be affected. After 24 hours the specimen is removed and allowed to stand under a covered dish several days, and the water which is squeezed out of the shrinking gelatin in the form of drops, over the surface, is removed by filter paper. The cup is then sealed. For this purpose opal glass is used, as it is much cheaper than the "flashed glass," and affords a

better background than transparent glass. The most satisfactory cement I have used is the Imperial Rubber Cement, made by S. C. Moffett, New York, which must be melted in a flame before it is applied, and renders the removal of the disc impossible, unless it is again heated. The danger of evaporation may be further prevented by covering the edge with a ring of asphalt.

Drs. H. V. Würdemann and Nelson M. Black of Mil-

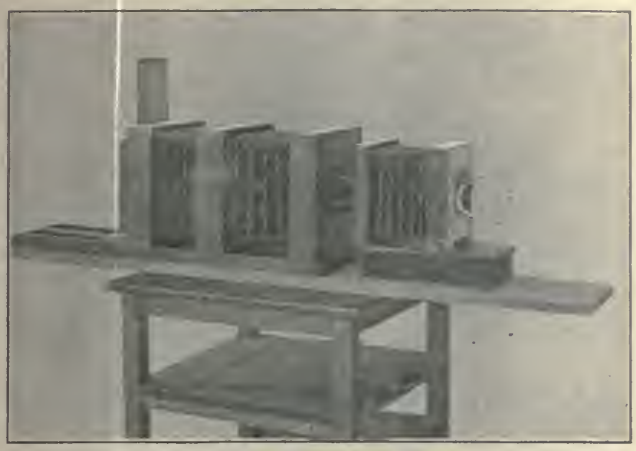

Fig. 10.—The Dixon camera for photographing gelatin-mounted eye specimens.

waukee report that, in their opinion, the two methods of mounting macroscopic eye specimens which seem to give best satisfaction are the glycerin-jelly and the formalin mounting of Greeff. The former has the advantage of being easier to transport without displacing the specimen, but the gelatin has a tendency to become discolored and the preparation of the mount consumes a great deal of time. The Greeff mounting is

Fig 11.—Secondary hemorrhagic glaucoma (Bull). Photograph.

much more effective in appearance, is easier to prepare, can be photographed with much better result, and microscopic specimens can be removed from them at any time, but it has the disadvantage of not standing transportation well.

The following method was first described by Würdemann:[4]

The specimens are first placed in formalin solution (1/10) for 48 hours, then washed with water and hardened in alcohol, beginning with a 33 per cent. solution,

4. Annals of Ophthalmology, p. 674, October, 1897.

remaining a day each in 33, 50, 70 and 80 per cent. solution, respectively, and are kept in the last strength until ready to divide. The eye is then frozen, cut and mounted in glycerin jelly or preserved in a 4 per cent. formalin solution after Greeff's method; or Kaiserling's

Fig. 12.—Anterior staphyloma following ulcer of the cornea (Derby). Photograph of mount.

solution may be used to preserve them in the jar devised by Brown.

Glycerin jelly is prepared by taking 30 gm. of best gelatin (Gold Label, American; Coignet et Cie, France; or Conte Fils, Germany), adding 240 c.c. of distilled water and heating over a water bath. The whites and shells of two white-shelled eggs, or a small amount of Merck's egg albumin, is added and con-

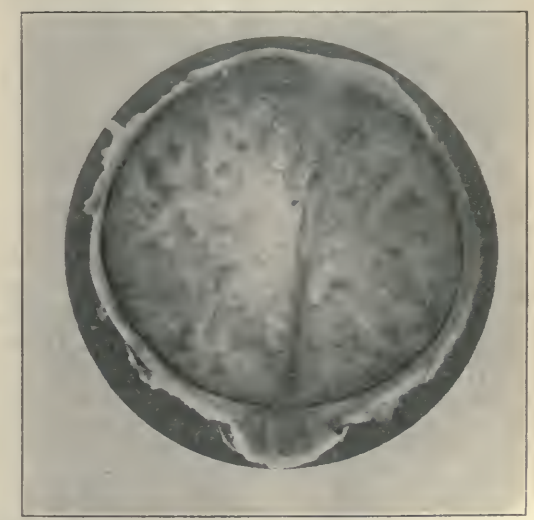

Fig. 13.—Chronic iridochoroiditis following injury twenty years previously (Bull). Photograph of mount.

stantly stirred until the coagulated albumin rises to the top, leaving a clear liquid underneath. Filter through two thicknesses of good filter paper, add an equal volume of C. P. glycerin, 10 c.c. of a 10 per cent. solution of carbolic acid being added to each liter of the jelly to preserve it. The jelly itself is melted by placing the container in hot water, when ready for mounting. The specimens are mounted in small glass jars obtained from Chambers, Inskeep & Co., Chicago. After mounting, the jelly is exposed to the fumes of formalin under a

bell-jar for 48 hours. The glass covers are cemented in place with Freese's cementine, Royal or Le Page's liquid glue.

PHOTOGRAPHING MACROSCOPIC EYE PREPARATIONS.

After an eyeball section has been so successfully preserved and mounted that gross alterations in its tissues are readily distinguished, the question of drawing, photographing or otherwise picturing it naturally arises. Reproduction by photography is, on the whole, the most desirable and most satisfactory method. Dr. George S. Dixon[5] has, among others, discussed its merits as well as its principal difficulties, and, at the request of the committee, has kindly forwarded a number of photographs of gelatin mounts exhibited by him at the New Orleans meeting. Several of these are pictured in the text.

A few trials convinced Dixon that photography of the gelatin-mounted specimens was not as simple as it appeared. The chief obstacle to be overcome was the light reflections from the surface of the glass cup. These produced a good picture of the glass cup, but a very poor one of the mounted specimen. After many experiments it was found that when an ordinary 3½-inch focusing glass, mounted in a metal tube, was placed

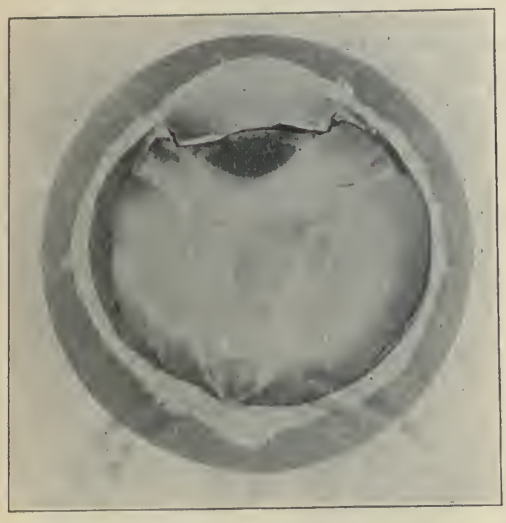

Fig. 14.—Plastic choroiditis (Weeks). Photograph of mount.

over the mount, all direct rays from the surface were excluded, while the eye specimen itself was sufficiently illuminated by light entering the glass sides of the cup. Finally an apparatus was devised which Dr. Dixon regards as the best means of obtaining plates of gelatin mounts. As seen in the figure, it consists of a pair of bellows, the anterior, a single one, being smaller than the posterior. The latter is double and carries the lens and plateholder.

This posterior bellows is securely fastened to a baseboard long enough to project considerably beyond the anterior bellows. The baseboard of the anterior bellows is fastened to a couple of cleats sufficiently high to bring the diaphragm at the back and the object in front, in the optical axis of the lens. Two smaller cleats are screwed to the long baseboard in such a manner as to allow the smaller bellows to be moved backward and forward without lateral motion, independent extension of the bellows on its own baseboard being retained.

The anterior bellows is fitted with a sliding front, in the center of which is a diaphragm sufficiently large for all specimens, varying sizes being supplied with changeable diaphragms of diameters slightly less than the interior of the macroscopic cup, for the purpose of cutting off the direct rays which would otherwise pass through the rim of the cup. This point is essential. A spring is employed to hold the cup in position. As the front slides, it can be removed from the bellows, the object adjusted as desired, and the whole returned to

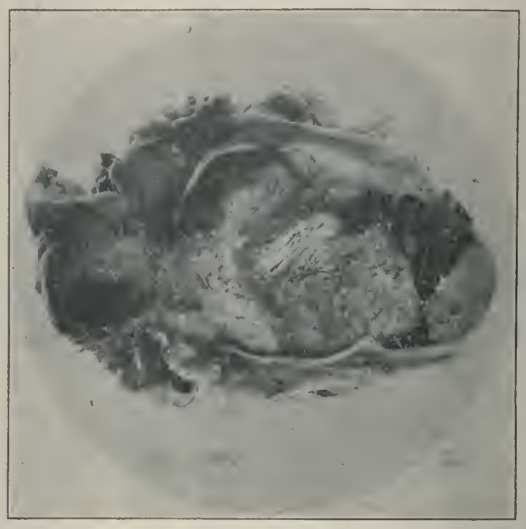

Fig. 15.—Melanosarcoma of the choroid (Noyes). Photograph of mount.

position, when the specimen will be in the optical axis of the apparatus.

The posterior bellows is fitted with a 3¾-inch Gundlach wide-angle lens intended to cover a lantern slide plate, and capable of enlarging an image the size of an eye two diameters with satisfactory detail; an F 32 stop should be employed during exposure.

A wide-angle short-focus Morrison lens, giving an extreme amplification of 2.6 without "breaking," is a

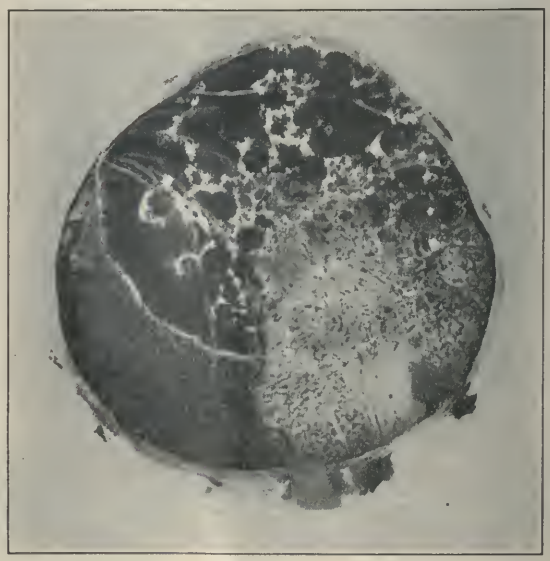

Fig. 16.—Melanosarcoma of the eviscerated globe (Hunter). Photograph of mount.

trifle more satisfactory, but the Gundlach lens answers the purpose fairly well, as over two diameters is seldom desirable.

In the early work with this camera, diffused daylight, preferably in the open air, was employed. The camera as it stands in the cut is in position for exposure. It was soon learned, however, that this method would only

5. New York Eye and Ear Infirmary Reports, 1889.

answer for a limited number of specimens, namely, those presenting a white or a very light substance in the interior of the hemisphere.

Specimens filled with dark tumors, or those in which nothing remained in the interior but retina and choroid, yielded negatives with no detail whatever in the center until the cornea and sclerotic, transparent and white, respectively, were hopelessly over-exposed. To obviate this a white bristol-board truncated cone, with an angle sufficient to throw the rays under the specimen near the center, was placed around the cup, as shown by the dotted lines in the cut. In this instance, instead of diffused daylight, sunlight was reflected into the cone by means of a mirror. Some specimens gave good plates with this method of illumination, but the danger of over-exposing the cornea and sclerotic still remained, and an old difficulty reappeared, namely, the imperfections of the surface of the cup. But the increase in the obliquity of light brought out all the scratches on the surface of the cup, especially if a trifle over-exposed. This in turn was reduced to a minimum by cementing a perfect glass disc to the anterior surface of the cup by means of Canada balsam.

In working with direct sunlight, or the electric arc, it is important to remember that glycerin jelly becomes liquid at a temperature of 105 F.

In many instances the cornea is so transparent, and the sclerotic so white, as to require more contrast than is afforded by the porcelainized glass disc with which our mounts are sealed. This is met by supplying backgrounds made of colored papers such as black, pea-green, a rather dull canary, and neutral gray. Of these, the latter color was most useful. The canary-colored background works well in some cases where it is desirable to "hold back" the sclera, but it is liable to interfere with a transparent cornea.

Color screens have not given any useful results in Dr. Dixon's hands.

On the whole, the most satisfactory plates used were Corbutt's A and B, which require exposures varying from three to twenty-five minutes, depending on the quality of the light, size of stop and character of specimen, as in all other photography.

The method is still imperfect, as will be seen. No single method of illumination yet tried has answered for all specimens, and the color of some is such as to defy all efforts with or without color screens, with different colored backgrounds, with diffused daylight, direct sunlight, or the electric arc.

Other methods are in process of application, the most promising of which is an annular prism at the base of the cup with or without the use of the truncated cone.

TUMORS OF THE CONJUNCTIVA.

ILLUSTRATED BY THE PRESENT EXHIBIT OF MORBID GROWTHS.*

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In response to the request of the Chairman of your Committee on Exhibit of Pathologic Preparations for a paper on some points in the pathology of the eye, as illustrated by our exhibit of the present year, it occurred to me that it would be well to confine myself within the limits of a comparatively narrow subject, and I have therefore attempted to make a résumé of our knowledge of tumors of the conjunctiva. With this aim in view I have obtained a number of preparations showing the various growths which are found on this membrane, and I desire at this time to express my thanks to the gentlemen who have assisted me by loaning sections and mounted specimens from their collections, especially to Drs. G. E. de Schweinitz, Clarence A. Veasey, William Campbell Posey and L. Webster Fox, of Philadelphia; John E. Weeks, Peter A. Callan, Wilbur Marple, Emil Gruening and Edgar S. Thomson, of New York; Dr. Flemming Carrow, of Ann Arbor, and Dr. Brown Pusey, of Chicago. Many of the cases have already been reported, and others will be published in detail at a later time.

The growths of the conjunctiva are of considerable interest, pathologically, because of their great variety, although they are, relatively speaking, infrequent, and constitute only a small proportion of the cases which we see clinically. The conjunctiva may be the primary seat of the growth, or it may be secondarily involved by extension from the neighboring tissues. I shall limit myself to those tumors which originate primarily in the conjunctiva. They may be divided into two main classes: (*a*) Malignant; (*b*) benign.

The malignant growths are represented by carcinoma and sarcoma. They appear clinically in very much the same forms and in patients usually beyond the fortieth year of life. Their point of predilection is at the corneo-scleral limbus, and it is often impossible to distinguish them, except by microscopic examination. The growth of carcinoma at the limbus has been said to correspond with its occurrence elsewhere in the body at the junction of epithelial surfaces of dissimilar structure. The difference at this point between the conjunctival and corneal epithelium is not marked, however, and the etiologic factor is rather the occurrence of true papillæ in the conjunctiva surrounding the limbus, varying from four to thirteen in number, which, as Nakagawa[1] has recently shown, become deeper in old people, and take on a sudden and enormous growth in beginning carcinoma. The carcinomatous growths appear first as small, pale reddish masses, which have but little tendency to spread inward, both cornea and sclera acting as very resistant checks; so they grow superficially, although rare cases have been described in which there was an inclination to extend inward from the start. In contrast to some of the benign epithelial growths, especially papillomas, they have no tendency to the formation of a pedicle, but possess a broad base, and are closely united to the underlying tissues.

The tumors consist of proliferating masses of epithelial cells, which develop directly from the surface epithelium and are separated into alveoli by a connective tissue stroma which is an extension of the connective tissue of the sclera and cornea. The behavior of the surface epithelium is at once a characteristic difference between carcinoma and sarcoma. In the former it is directly involved, while in the latter it passes smoothly over the surface of the growth, which raises it from the structures beneath as it extends. As a rule, carcinoma grows very slowly, but in some cases it forms large, fungous masses on the surface of the eyeball, the microscopic structure of which resembles papilloma very closely, and the examination of superficial portions of the tumor may lead to a very erroneous diagnosis. If allowed to remain, all of the carcinomas will ultimately perforate the eyeball, usually along the vessels and nerves at their point of penetration through the sclera. In

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Nakagawa: Archiv f. Augenheilk., March, 1903.

some cases there is a distinct pigmentation of the stroma, so that a number of cases of melanocarcinoma of the corneoscleral limbus have been reported. Panas,[2] in fact, considered melanosarcoma to be the exception and melanocarcinoma to be the rule.

The question of malignancy is difficult to determine. The rapidity of growth may vary greatly; likewise the involvement of the cornea and sclera. Even superficial growths tend to recur, and while the extension by metastasis is rare, they should be thoroughly removed and the eyeball sacrificed, if it is evidently involved. Our collection shows a number of very good examples of carcinoma—some small and superficial, some showing tall fungous masses, and others extensive infiltration of the cornea and sclera.

SARCOMA.

Sarcoma, like carcinoma, occurs in individuals usually beyond middle life, and most frequently at the corneoscleral limbus. As a rule, the growths are pigmented, the pigment occurring both in the tumor cells, and in the connective tissue stroma, in which the cells are imbedded. As in the case of melanosarcomas of the skin, the conjunctival sarcomas develop chiefly from the pigmented nevi—the so-called pigment spots—on the conjunctiva, and, as Wintersteiner has shown, usually in the area corresponding to the palpebral opening, probably as the result of repeated slight traumatisms. The study of these pigmented nevi, or melanomas, is of importance, therefore, for the correct interpretation of some of the facts concerning sarcomas. Their structure corresponds closely to that of the skin nevi: circumscribed collections of large polygonal cells which are imbedded in a groundwork of subconjunctival tissue. The question as to the origin of these cells has been, and still is, a matter of dispute. On the skin Unna,[3] Kromayer[4] and others have held that they are derived from the surface epithelium, although the direct connection can not always be shown, while Ziegler[5] believes that they are due to the proliferation of the endothelial cells of the lymph vessels. Wintersteiner[6] was unable to find any confirmation of Unna's theory in so far as it related to the conjunctival nevi; on the other hand, as has been mentioned in speaking of carcinoma, Panas[7] long considered that these epibulbar growths were practically all carcinomas, although in a subsequent article he modified his claims and admitted that many were probably alveolar sarcomas, or endotheliomas, and thought that epitheliomas and sarcomas occurred together. In all of the nevi the epithelium is changed, often thinned, but many times it sends processes of cells downward into the tissue. These processes may be replaced by hollow, gland-like tubes, which may be so numerous as to give the growth a glandular or adenomatous appearance—nevus pigmentosus glandulosus. Cysts may often develop from the glandular formations, and may reach a large size and cause the nevus to atrophy by pressure—nevus pigmentosus cysticus. I have been able to secure several good cases of nevus of the conjunctiva, two of them cases studied by Wintersteiner and one loaned by Dr L Webster Fox, in which the overgrowth of the epithelium and the cyst formation are so marked as to overshadow the original growth of nevus.

From these pigment spots the sarcomas develop slowly into soft, vascular growths, which are usually more prominent than the carcinomas, and occasionally possess a pedicle. When they project over the surface of the cornea they are not ordinarily attached to it, but may be lifted away by means of a probe. Laterally, they are more firmly attached to the bulbar conjunctiva, but can usually be moved freely over the surface of the sclera. If they are not removed they continue to grow, and may reach a large size. In the majority of cases the cornea and sclera offer a remarkable resistance to invasion, and very few cases have been reported in which the tumor had invaded the interior of the eye. At times several nodules may appear at the limbus, or secondary nodules may spring up on the lids (Wadsworth and Verhoeff[8]). Recurrence after removal is very frequent, and may take place in the same position, or at a different portion of the limbus. They are commonly said to be less malignant than sarcomas occurring elsewhere, and Panas[7] makes a sharp distinction in this respect between the corneoscleral growths, which he terms "epibulbar," and those occurring at a distance from the limbus, which he calls "peribulbar." Verhoeff and Loring,[9] however, have shown that while the direct involvement of the eyeball is rare, there is a history of recurrence in 81.8 per cent. of the cases in which the patients were subsequently observed, local metastasis in 23 per cent., and general metastasis in 11 per cent. They therefore consider that epibulbar sarcomas are highly malignant, and believe the eyeball should be at once removed, if the patient's consent can be obtained.

Microscopically, the tumor consists of closely packed, spindle-shaped cells, running in definite bundles, or, more frequently, the cells are arranged in distinct alveoli, separated by a connective tissue stroma, and constitute the so-called alveolar sarcoma. In the latter case the cells may be spindle-shaped, but in many they show large, flat forms, which are epithelioid or endothelial in type. The growths are, however, to be distinguished from carcinomas by the absence of any involvement of the surface epithelium. These growths are well represented in the collection of this year. Some possess spindle-shaped cells; others show the epithelioid type.

Primary sarcoma of the conjunctiva of the lids is very rare, although the lid conjunctiva may be involved by implantation or recurrence of an epibulbar growth. Cases of lymphosarcoma of the plica semilunaris and of the fornix have been described as rarities. Lymphoma of the conjunctiva has been found in malignant lymphoma, with general involvement of the lymph glands of the body, and apparently as the first symptom in some instances. Very marked hypertrophy of the adenoid tissue of the conjunctiva, in the transition folds, with the formation of large tumor masses, which may cover the eye and make the opening of the lids difficult, occurs in the condition known as amyloid degeneration of the conjunctiva. Microscopic examination shows, in the beginning stages, great increase of the adenoid cells and the subsequent formation of amorphous masses, which in some instances give the reaction for amyloid, in others for hyaline. Dr. Weeks has loaned a slide which shows amyloid reaction on the surface of such a conjunctival growth, and I am able to exhibit a lymphosarcoma of the transition fold.

Carcinoma and sarcoma occur occasionally as primary growths on the caruncle, and show here much the same

2. Panas: Traité des Maladies des Yeux, Paris, 1894.
3. Unna: Berlin. klin. Wochenschr., 1893, and Virchow's Archiv, vol. 143, 1896.
4. Kromayer: Beiträge v. Ziegler, xxii, 1897.
5. Ziegler: Lehrbuch der Allgemeinen Pathologie und der patholog. Anatomie.
6. Wintersteiner: Ber. der ophth. Geseilschaft, Heidelberg, 1898, p. 253.
7. Panas: Archives d'Ophtalmologie, January, 1902.
8. Wadsworth and Verhoeff: Trans. Am. Ophth. Soc., 1901, p. 274.
9. Verhoeff and Loring: Archives of Ophthalmology, March, 1903.

characteristics as on the skin surface. Carcinoma has much greater tendency to form "pearly bodies" in this position than on the conjunctiva. A good case of primary carcinoma of the caruncle has been loaned by Dr. de Schweinitz,[10] and one of primary sarcoma by Dr. Veasey.[11]

The benign growths of the conjunctiva are either congenital or acquired. The congenital forms are sessile, while the acquired forms are usually polypoid in shape, and possess a pedicle. By far the most frequent of the congenital growths are the

DERMOID TUMORS.

Dermoid tumors form flat, dull white growths of firm consistency, usually situated at the corneoscleral junction, on the temporal side, and quite firmly attached to the cornea and sclera. The surface is often dry and may be covered with fine hairs, or, more rarely, with a few long hairs which irritate the eye by their presence. Microscopically, they represent small islands of skin. The epithelium is thickened, cutaneous in character, and covers a mass composed of dense connective tissue, in which hair bulbs, sebaceous glands and sweat glands may be imbedded. Frequently associated with other congenital anomalies, such as coloboma of the lid, they may take on a sudden, rapid growth in later life, and should be carefully removed. Most of the later writers assume a temporary attachment of the amnion to the eyeball during fetal life as the explanation of their origin. A number of such growths are included in the collection.

LIPOMA.

More rarely, subconjunctival lipomas occur beneath the bulbar conjunctiva. They appear as yellowish masses, situated generally in the outer angle of the eye, between the insertions of the external and superior rectus. Microscopically, they consist of lobules of fat, sometimes associated with considerable fibrous tissue. They frequently contain gland tissue, and as they are congenital, may be more properly termed dermolipomas. Some authors have contended that teratoid elements are always present, although they are easily overlooked. A number of cases, however, have been carefully studied in serial sections, and have proved to be pure lipomas. Occasionally they grow to a considerable size at puberty. They can be removed without difficulty, and show no tendency to recur. Two of these growths have been secured.

OSTEOMA.

As rare congenital tumors, about twelve cases of subconjunctival osteoma have been reported. These have been situated usually in the supero-external portion of the eyeball, which is also the position in which the lipomas are most frequently found. They represent small pieces of true osseous tissue, with lacunæ, bone corpuscles, etc., and are best explained as the result of a temporary adhesion of the amnion to the eyeball, and the subsequent development of bone in the tissue thus formed. They are illustrated by one specimen.

Lymphangiomas and telangiectasias have also been described as very rare congenital growths.

The acquired forms of benign growths are, in the majority of cases, polypoid in form. In the older textbooks all tumors of the conjunctiva which had a distinct pedicle were called polyps. Under this term, however, many different forms were included, and we now know that both soft and hard fibroma, adenoma, papilloma, granuloma, angiosarcoma, and even tubercular conditions, may assume a polypoid appearance, as a result, probably, of the constant movements of the eyelids. As Elschnig[12] states, true polyps, in the strict anatomic sense of the term, i. e., hyperplastic growths of circumscribed portions of the conjunctiva, which include all of its elements, such as are found in the nose, esophagus, intestines, etc., have never been described on the conjunctiva. The term polyp, however, is used by many writers to describe also the soft, edematous fibromas or fibromyxomas which occur in the nose, and although it would seem best, as Axenfeld[13] says, to drop the term altogether, if we are to use an anatomic classification, such good authorities as Fuchs[14] and Panas[2] make a separate class of polyps, and the name may be retained and used to designate the fibromas of the conjunctiva.

FIBROMA.

Fibromas are represented by two forms, soft and hard. The soft fibromas occur chiefly in the fornix, or in the palpebral conjunctiva, grow quite rapidly and possess long pedicles. They are composed of parallel bundles of spindle cells in a finely fibrillar tissue, and often contain many blood vessels. The presence of these vessels is the cause of a characteristic symptom that is often observed in connection with the soft fibromas, viz., severe bleeding on the slightest traumatism. Removal and cauterization of the base with nitrate of silver, or with the actual cautery, usually prevent any recurrence. Less frequent are the hard fibromas, which arise chiefly from the palpebral conjunctiva and from the caruncle. Their surface is smooth and covered with a thin layer of epithelium. The histologic structure is that of fibrous connective tissue, with comparatively few cells and blood vessels. They cause no inconvenience unless large, and when removed have no tendency to recur.

GRANULOMA.

Quite closely related to the soft fibromas are the granulomas which develop in places where a superficial loss of conjunctival tissue has existed, most frequently after tenotomies and enucleations, and also after rupture of chalazia on the internal surface of the lid. They are composed of naked masses of pure granulation tissue: closely packed polynuclear cells in a fine reticulum, which contain numerous capillary blood vessels. There is no epithelial covering, and the little growths may be snipped off, or, if left alone, will finally be constricted off by the contraction of the conjunctival tissue surrounding their base.

The fibromas must also be distinguished from the small growths on the tarsal conjunctiva and about the limbus in spring catarrh. These present themselves in the form of broad, flattened papillæ, which have been likened to paving stones, and while they can not strictly be included among tumors of the conjunctiva, as they occur in the course of an inflammatory process and disappear without leaving any trace, they nevertheless resemble the fibromas very closely in their histologic structure. They consist of dense fibrous connective tissue, the fibers of which may show a peculiar glassy degeneration, and are covered with a thickened layer of epithelium, which, especially in the circumcorneal growths, shows a marked tendency to send invaginating processes of cells into the depth of the tissue, so that the appearance is very similar to that found in cancroid.

10. de Schweinitz: Trans. Am. Ophth. Soc., 1898, p. 324.
11. Veasey: Archives of Ophthalmology, xxvi, No. 2, 1897.
12. Elschnig: Archiv f. Augenheilk., vol. xix, 1889, p. 64.
13. Axenfeld: Ergebnisse der allg. Path. u. patholog. Anatomie von Lubarsch-Ostertag, vol. ii, p. 38.
14. Fuchs: Lehrbuch der Augenheilk., 7th ed., p. 140.

Fibromas are represented by sections loaned by Drs. Weeks and Thomson. There are a number of sections of granuloma, and Drs. Posey and de Schweinitz have sent sections of tarsal growths in spring catarrh.

PAPILLOMA.

Another form of polypoid tumor of still greater importance is papilloma, or papillary fibroma. Elschnig,[12] in his very excellent article, stated that this was comparatively infrequent, but the subsequent papers by S. Fuchs,[15] Wagenmann,[16] Lagrange,[17] Zimmermann,[18] Grunert,[19] Kopetzky von Rechtperg[20] and others have shown that they are among the most common tumors of the conjunctiva. They form small growths, which may be distinguished clinically from the fibromas by the fact that their surface is not smooth, but is covered with tiny papillæ, like the surface of a raspberry. Frequently multiple, they occur chiefly in the neighborhood of the caruncle and semilunar fold, but also on the tarsal and bulbar conjunctiva, and unless removed very thoroughly show a decided tendency to recur. They are composed of branching papillæ of connective tissue, surrounded by thick mantles of epithelial cells, the preponderance of the epithelial cells showing that it is essentially an epithelial proliferation with which we have to deal. The connective tissue may be so little developed that the epithelial cells are found almost in contact with the walls of the capillary vessels. At times they are low and wart-like, at others they show long, villous processes and have a structure resembling a cluster of feathers. The latter appearance is well shown in two cases in the collection—one a case reported by Ayres of Cincinnati, and one obtained from Mr. Treacher Collins in London. When the papilloma originates on the caruncle, the surface epithelium partakes more of the character of skin epithelium, while on the conjunctiva it frequently contains numerous goblet cells. A number of very excellent specimens in the collection testify to the comparative frequency of the growth. The question as to their malignancy is often difficult to determine. When situated on the conjunctiva near the limbus they may be mistaken for an early stage of carcinoma, but on the other hand, while usually benign, they do unquestionably show at times a tendency to undergo carcinomatous degeneration and involve the tissues of the eyeball and lid, as cases by Horner,[21] Lagrange and Mazet,[22] Kopetzky von Rechtperg[20] and Risley and Shumway[23] have shown. Their removal should therefore be complete.

ADENOMA.

Adenomas occur occasionally on the eyeball, in the neighborhood of the caruncle, as pale red, isolated tumors, which may possess a pedicle or have a broad attachment. Only five cases have been reported, four of which have had their origin on the caruncle itself, arising from the tubular gland in this position, as in Veasey's[24] case, sections of which he has loaned, while Schirmer's[25] case on the semilunar fold probably developed from a misplaced gland, as there is normally no glandular tissue in this position. On the conjunctival surface of the lids, adenomas have been found originating in Krause's glands, at the border of the tarsal cartilage in the meibomian glands, and in the modified sweat glands of Moll. At times they show by their rapid growth and involvement of the surrounding structures that they are essentially malignant, or adenocarcinomas. The greater number of such cases originate in the meibomian glands, and show alveoli of large epithelial cells, which degenerate quickly and form large, poorly-staining masses in the center of the alveoli, as illustrated by two cases in the exhibit, one of which was loaned by Dr. Thomson of New York. Of course, these growths are not really conjunctival tumors, but since they may appear as tumors on the conjunctival surface of the lid, they must be mentioned for the purpose of differential diagnosis.

HEMANGIOMA.

Fifty-two cases of hemangioma have been collected by Pergens.[26] They consist of newly-formed capillary vessels, and should be sharply distinguished from varices and aneurisms. If they contain much fibrous tissue they may be termed angiofibromas, and are then closely related to the vascular fibromas. They may be congenital or develop in later life, and occur as primary growths on the palpebral conjunctiva, in the fornix, on the bulbar conjunctiva and plica semilunaris, as round, polypoid and occasionally sausage-shaped growths, the surface of which is sometimes smooth and sometimes nodular. They may remain stationary; at times they grow slowly, at others rapidly, without any apparent cause. When combined with sarcoma, the angiomatous formation is of secondary importance, and their course depends on the sarcomatous character of the tumor. Their histologic structure consists of twisted capillary vessels, which may also be dilated. If large blood cavities are present, we have cavernous angiomas, which are more rare. In their treatment the best results have been obtained by excision.

CYSTS.

Finally, as comparatively rare forms of new growths, we have the cysts of the conjunctiva. These develop in three chief places: on the bulbar conjunctiva, in the fornix and on the palpebral conjunctiva, in the form of transparent vesicles filled with a clear, serous fluid. Those of the bulbar conjunctiva represent usually small dilatations of the lymph vessels, and are hence lymphangiectasias or lymphangiomas. They occur in the neighborhood of the cornea, and are generally multiple, like strings of small, transparent pearls. Sometimes they communicate with each other, and more rarely they form isolated, yellowish cysts, which, however, remain comparatively small, and are thus to be differentiated from the cysts which originate in the conjunctival glands. Very rarely cysts on the bulbar conjunctiva develop from invaginated processes of epithelial cells. These processes, first described by Henle[27] and later by Iwanoff[28] as true glands of the conjunctiva, and known as Henle's glands, are now considered to be, as a rule, folds of the conjunctiva which are lined with epithelium. They are very frequent in chronic catarrh, and especially in trachoma. If the opening of these minute gland-like depressions becomes closed, there may be retention of the secretion from the cells and the formation of cysts. Cysts also originate in the head of the pterygia, by the same process of invagination of the surface epithelium, and subsequent isolation of the cells from the surface. A few cases have been reported of the introduction by

15. S. Fuchs: Archiv f. Augenheilk., vol. xx, 1889.
16. Wagenmann: v. Graefe's Archiv, vol. xl, p. 2, 1894.
17. Lagrange: Archives d'Opht., April, 1899.
18. Zimmermann: Klin. Monatsbl. f. Augenheilk., vol. xxxii, 1894, p. 371.
19. Grunert: Klin. Monatsbl. f. Augenheilk., April, 1899.
20. Kopetzky v. Rechtperg: v. Graefe's Archiv, vol. li, p. 115.
21. Horner: Zehender's Monatsbl. f. Augenheilk., vol. ix, 1871.
22. Lagrange and Mazet: Annales d'Oculistique, vol. cxix, 1898.
23. Risley and Shumway: Annals of Ophthalmology, July, 1901.
24. Veasey: Annals of Ophthalmology, July, 1902.
25. Schirmer: v. Graefe's Archiv, vol. xxxvii, 1, p. 218.
26. Pergens: Klin. Monatsbl. f. Augenheilk., vol. xxxix, January, 1901.
27. Henle: Handbuch der Eingeweidelehre des Menschen.
28. Iwanoff: Heidelberger ophthalm. Gesellschaft, 1878.

traumatism of epithelial portions of the skin, cilia, etc., beneath the conjunctiva and the formation of cysts from these included particles.

Cysts of the fornix may arise from the so-called Henle glands, and less frequently from the accessory lachrymal glands, or glands of Krause, in this position. The excretory ducts of these glands, forty-two or more in number, in the upper lid, and from two to six in the lower lid, may be closed by chronic inflammatory processes, and the retained secretion then widens out the ducts into cysts, which may reach considerable size, in contrast to the lymphatic cysts of the bulbar conjunctiva. When the cysts originate in Krause's glands some of the acini of the gland will usually be found in the neighborhood of the cyst, but this is not always the case, and as their size, position and contents are not diagnostic, the determination of their origin may be very difficult.

From these glandular cysts must be distinguished those due to the presence of the cysticercus. These occur in early life, and constitute, according to Ballaban's statistics, one-sixth of the number of cases of ocular cysticercus. They occur frequently as quite large, pale red, or more often whitish or yellowish vesicles, which are usually movable, but are occasionally attached firmly to the sclera, or to an eye muscle. If the wall of the cyst is thin, the embryo may be seen as a white spot within. Histologically, the wall of the cyst is composed of a thick connective tissue capsule lined with several layers of young cells, and the surrounding conjunctiva shows evidences of reaction due to the presence of the foreign body. Within the cyst wall is the characteristic cysticercus bladder projecting from one side. In the glandular cysts, on the other hand, the wall of the cyst is composed of a single, or at most, a double, layer of epithelial cells.

The cysts from the glands of Henle are quite frequent, both in the transition folds and in the palpebral conjunctiva in chronic catarrh, and in trachoma. They have been studied of late, especially by Fuchs[29] and Wintersteiner,[30] who have described concretions within the cysts, which arise either from the altered secretions of the cells lining the cyst walls, or from conglomerated masses of the dead cells themselves. Fuchs believes that in some cases the concrements are masses of actinomycetic threads. The collection contains the section of a large epithelial cyst of the upper fornix, one of subconjunctival cysticercus, and a very good example of cyst formation in old trachoma, with concrements within the cyst cavity.

29. Fuchs: v. Graefe's Archiv, vol. xlvi, 1, p. 103.
30. Wintersteiner: v. Graefe's Archiv, vol. xlvi, 2, p. 324.

Good Lay Advice to Young Physicians.—If your patients were all reasonable men and women, your task would be easy; but they are not. Even in their best estate they are not all reasonable men and women, and you will have to deal with them when they are not in their best estate, but are morbid. You will have to deal with patients who throw your medicine out of the window, and still expect you to cure them; in one house with a mother busy with other things and careless of the sick child; in another house with a mother whose weak and tearful sympathy does much to negative the influence of your presence and the effect of your medicines. It is not enough for you to know physiology and anatomy and therapeutics; not enough for you to know what your medical school has told you; you must know men and women—their physical constitutions, their mental and moral constitutions. You must understand them—their life, their narrownesses, their prejudices, their unreasonablenesses. You must see into them, that you may minister to them.—*The Outlook.*

PARAFFIN INJECTED SUBCUTANEOUSLY FOR THE CORRECTION OF NASAL AND OTHER DEFORMITIES.*

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HISTORY.

"To Dr. J. Leonard Corning of New York belongs the credit of first experimenting along the lines of subcutaneous injection of oils"; and, although applied to an entirely different purpose to that which paraffin is now devoted, yet of much import, since it was demonstrated that sterilized oils could be used subcutaneously, without resultant inflammation. Following this same idea, directed in a different channel, Gersuny of Vienna, in 1900, published an article stating that melted vaselin, when injected into a yielding tissue, forms a small tumor which remains *in situ,* causing no appreciable reaction. He used this method to overcome the deformity resulting from castration, blemishes due to cavities, depressed scars, and also for narrowing orifices.

Drs. Lynch and Heath appear to be the pioneers in America in the use of subcutaneous injection of paraffin for the correction of nasal deformities.

In 1901, I began a series of investigations on the cadaver to ascertain the action of paraffin beneath the skin. Before injecting the paraffin the temperature of the tissues was raised to 99 F., by hot applications, then I injected beneath the skin, on the dorsum of the nose, an amount of paraffin varying from a half to two drams, without exerting any restraining pressure on adjacent tissues. I found that small injections of the paraffin would remain *in situ,* and assume the conformity of the solid parts over which it was injected; but when the larger quantities were used, a portion would force its way into the soft tissues at the inner canthus of the eyes and along the course of the angular veins. This could be prevented by pressure over these areas. It was also demonstrated that an intimate adherence exists between the skin and the lateral cartilages at the tip of the nose, and hence was noted the importance of liberating the tissues between the skin and cartilages at this point before injecting the paraffin in the living subject. Later I injected melted paraffin into the back, ears and nose of a rabbit, without anesthesia, and with slight apparent pain to the animal. Ten days later, the examination of the tissues around the injected paraffin gave no evidence of acute inflammation. There had been some attempt on the part of the tissues to encapsulate the injected mass, but the paraffin itself had undergone no obvious change. Later another injection was made into the peritoneal cavity of a rabbit, and after a 22 days' period the animal was killed. Here no evidence of inflammation was present—not even the formation of adhesions. The mass had moved about the peritoneal cavity and become rounded in shape, and had finally lodged between the liver and diaphragm. From this I concluded that paraffin must be inert if injected into the tissues under proper surgical precautions. The paraffin used in these cases melted at 110 F.

Dr. A. E. Comstock[1] of St. Paul, Minn., has described the results of his experiments with rabbits along the pathologic line of injected paraffin. He demonstrated the changes in the tissue after injections varying from

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

1. On Paraffin, New York Medical Record, Nov. 1, 1902.

2 to 16 weeks, having used paraffin with melting points from 102 to 112 F. In all cases where paraffin was used with a melting point of 102 F., the animal died within 2 weeks from thrombosis. The best results were obtained with paraffin with the higher melting points. From his very careful investigations, he finds that the harder paraffins are not truly encapsulated in the tissues, but become a part of the new tissue. This theory is further borne out by Walker Downie, who injected paraffin into a carcinomatous breast which was subsequently removed, and microscopic sections made and examined.

DEFORMITIES MOST FREQUENTLY PRESENTED FOR CORRECTION BY INJECTION OF PARAFFIN.

1. Saddleback noses.
2. Depressed scars from mastoid operations.
3. Depressed scars from frontal sinus operations.
4. Depressed scars from traumatic injuries.
5. Smallpox pits.

The saddleback nose occupies the most prominent place in this category, and is the one toward which our attention, as specialists, is most generally directed. The causes of saddleback noses may be mentioned in the following order of frequency, according to my experience: 1, Traumatism; 2, syphilis; 3, heredity; 4, abscess; 5, lupus; 6, scrofula.

At least 50 per cent. of my cases have been caused by traumatism.

ADVANTAGES AND DANGERS.

The advantages to be gained by subcutaneous injection of paraffin over any surgical procedure are:

1. The deformity is corrected without a resulting scar, provided no slough or abscess follows, which is a sequence of surgical uncleanliness or hyperinjection.

2. A 2 to 4 per cent. solution of cocain is all the anesthetic necessary, and completely overcomes the pain of inserting the needle, which is all that attends the operation.

3. The slight reaction following the injection is temporary, and the patient may resume his daily pursuits in 12 hours.

4. The results, when proper care has been exercised, are pleasing alike to patient and operator.

The possible dangers that may result are:

1. Abscess or slough, due to either infection or hyperinjection.

2. Embolism.

3. Deformity from hyperinjection.

The first may be obviated by surgical care, and proper attention to the quantity of paraffin injected, so as not to cut off the blood supply to that area.

Embolism is avoided by injecting the paraffin in a semisolid form, and deformity from hyperinjection is entirely under the control of the operator when using a syringe operated by screw force. This last danger is the only one ever coming under my personal observation, and it resulted then from using a piston syringe.

INSTRUMENTS DEVISED FOR INJECTION.

When the injections of paraffin were begun, it was a far more difficult matter to accomplish the desired result than at present. The most potent difficulty was in the syringe. An ordinary serum syringe or an aspirating syringe was all the armamentarium at hand, and the rapidity of action necessary before the hardening of the paraffin in the needle took place, was sometimes detrimental to a good result. This objection was soon obvious, and experiments were made on a syringe which would relieve the necessity for haste. As the dangers of emboli had been harped on by many, I undertook to devise a syringe by which paraffin could be injected in a semisolid form, and to put at rest all the accusations against the advisability of injecting liquid paraffin into the tissues. After a time I succeeded in designing one that would eject paraffin from its needle in a semisolid form, and without the necessity for haste. The syringe which I have devised and here present is thus described: It consists of a metal barrel of 90 minims capacity, and is constructed with a large diameter and short axis, so that dexterity in its manipulation will not be lost by the distance of the hand introducing the needle from the point of introduction. The needle is also short for the same reason, and is just larger than a hypodermic needle. The piston and all other parts being of metal, obviates the necessity of washers, and thereby renders it more capable of sterilization, lessening the danger of sepsis. The piston rod is graduated in minims, and is surrounded by a course screw worm. Fitted on this rod is a metal thumb screw, which runs up and down, and is made to screw into the upper end of the cylinder at the volition of the operator. When this thumb screw is not fitted into the cylinder the piston works up and down as in any other syringe, and any liquid can be drawn up and expelled readily by manipulation of the piston; but when the thumb screw is put into place, it becomes necessary then to screw the piston down, and by so doing the paraffin is slowly ejected from the needle. When the paraffin is semisolid, it winds out

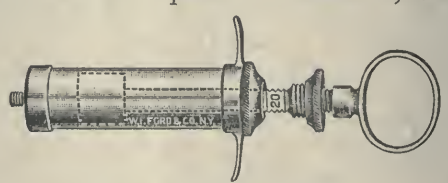

Fig. 1.—The author's syringe.

from the needle in a thin cylindrical thread, but with sufficient force to uplift any tissues not held down by fibrous adhesions. In performing the injection slowly, in this way, ample time is allowed for molding and smoothing the injected paraffin, and the danger of hyperinjection is minimized. The simple mechanical devise which renders the syringe so effective places it at the disposal of any operator, and renders it both portable and free from arrangement other than sterilization.

PARAFFIN EMPLOYED AND ITS METHOD OF PREPARATION.

In my experience, the best results follow the use of a paraffin with a melting point of 110 F. This is not a pure paraffin, but is a mechanical mixture of commercial paraffin, melting at about 120 F., and the addition of petroleum jelly sufficient to bring the melting point down to 110 F. This quantity has to be estimated somewhat carefully, and can not be stated in definite proportions. I have found that while one corner of a plate of paraffin will melt at 120 F., the other will melt at 140 F., so that in having it prepared for use, the chemist makes up a large quantity each time. The melting point must be accurately determined. Test tubes of one-half ounce capacity are filled with the liquid substance, sealed with wax and placed on a sand bath where the temperature is raised to 300 F., thus insuring sterilization.

PREPARATION OF FIELD OF OPERATION AND INSTRUMENTS.

Ordinary surgical technic is all that is to be observed; my routine at the Manhattan Eye and Ear Hospital,

where I have performed most of the operations, and at the office, has been as follows:

1. Scrub the field of operation with green soap and water.
2. Apply alcohol freely.
3. Wipe off with bichlorid solution of 1 to 5000.
4. Pour on a little ether.

The syringe and needle are boiled and then allowed to cool sufficiently for easy manipulation, and the hands are surgically cleansed. At the point of entrance of the needle I usually inject into the epithelial layer of the skin only three to four minims of a 4 per cent. solution of cocain. I believe this does no harm to the tissues, nor is it misleading as to the quantity of paraffin necessary to overcome the deformity, if the solution is just at the point of the needle's entrance into the skin and not beneath it. Some operators prefer a weaker solution. I have in several instances injected the paraffin without any anesthetic, and with but slight pain to the patient, and that only on entrance of the needle. Paget and Walker Downie both use a general anesthetic; but, to my mind, this adds an unnecessary element of danger far greater than the operation itself. To insure still further the sterilization of the paraffin, I have devised a tin receptacle supported on an attached tripod, which raises the bottom an inch from any plane surface on which placed, and closed with a detachable lid. This

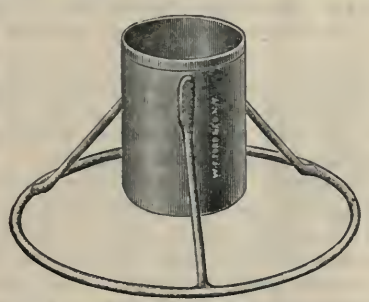

Fig. 2.—The paraffin sterilizer.

arrangement prevents the paraffin from burning and browning. Into this I pour the paraffin, from the test tube, after melting, and place this receptacle into a sterilizer, or any ordinary boiler—surround it almost entirely with water and boil. After I have boiled it for a few minutes, I remove the receptacle and permit it to cool until the paraffin therein is about 120 F. I then draw it up into the syringe which has been sterilized in the same boiler with the paraffin. When sufficient is withdrawn, I evacuate the air bubbles from the syringe by pressing the piston upward, and run my set screw into place. Some two or three minutes are now allowed for the paraffin to assume equal consistency throughout and to cool down to a semisolid state. This may be expedited by placing the syringe in a bowl of sterilized water at 80 F.

Before beginning my injection, I warm the needle of the syringe in some hot sterilized, or even boiling, water, to soften the paraffin which has formed a hard plug in it. This prevents the paraffin from running back of the metal piston, or, as happened in one instance brought to my notice, bursting the needle, when too great force is exerted by means of the screw attachment. Should the paraffin come out in little interrupted spurts of a too liquid nature when the piston rod is revolved, I again cool, warm the needle as before, and continue this routine until the paraffin is ejected in a thin cylindrical thread, easily moldable, and quite impossible of forming an embolus. When the paraffin reaches this consistency it may be kept many hours ready for use, at the temperature of the room, if only the precaution to warm the needle is taken each time before attempting the injection. When this condition is reached, I insert the needle beneath the skin, but above the periosteum, carrying its point slightly beyond the deformity and begin to inject; having the assistant exercise pressure on the soft tissues at inner canthi and on the region of soft tissue at the junction of the nose and forehead. Supporting the syringe with one hand, I mold and smooth the injected paraffin to the requirements of the case, only injecting small quantities at a time, and exercising the greatest care to prevent injecting too much.

In most cases I overcome the deformity at the first injection, but it is by no means advocated, as a rule, and some of the best results have followed three injections. After the first few minims have been injected, I gradually withdraw the needle, making slight additions to the original quantity, and taking every care to mold and smooth the surface, so as to leave the overlying tissues perfectly even.

After withdrawing the needle, I spray the part with ether, which almost immediately hardens the paraffin and insures a better result. The point of entrance of the needle is sealed with collodion and the patient instructed to apply ice cloths for twelve to twenty-four hours. A slight redness generally ensues, somewhat commensurate—in inverse ratio—with the faithfulness with which ice cloths have been kept on. This redness has lasted for a week or ten days in some of my cases, but eventually all disappeared under the application of a 25 per cent. solution of ichthyol.

When the second injection is necessary, I have the patient return in one week, but where circumstances make earlier attention desirable I have not hesitated to make it in three days after the first. The quantity requisite for correcting even a most marked deformity is very small. A dram of paraffin under the skin produces a most astonishing effect, and I believe that, in most instances, a small fraction of a dram is all that is requisite for overcoming ordinary deformities. Since using my syringe, where it can be accurately ascertained just how much is injected, my computations have materially diminished, and I find fifteen to thirty minims is the average amount of injection. Gersuny once injected two ounces in the correction of a deformity of the chest, which represents the maximum amount yet reported. Jukuff found in animals that unpleasant and fatal results occurred only when one-tenth of the bodily weight was used, and in cases where the melting point was below the bodily temperature. From this we may conclude that at present there is no danger to life in the correction of any known deformity. The results obtained are uniformly good, with here and there an unfortunate necrosis, a hyperinjection, or a misplacement, which complications can all be avoided.

CAUSES OF NECROSIS.

1. Surgical uncleanliness.
2. Too much pressure, cutting off blood supply to the part.
3. Injection into the skin and not beneath it.
4. Constitutional disease of patient, as diabetes or Bright's disease.

The hyperinjection may be avoided by the use of syringe, as described, where absolute control of every minim is under the guidance of the operator, and by a little conservatism in attempting to correct the entire deformity at one sitting. The misplacement or lodge-

ment in neighboring parts not intended for the injection, is again the result of a piston syringe, where the needle becomes plugged with paraffin harder than that in the syringe, and on exerting more force this is violently ejected and followed by a volume of liquid paraffin which shoots everywhere beneath the skin and is beyond the control of the assistant or any mechanical device. The most humiliating result is one from hyperinjection or misplacement. The chemical agent that will dissolve out an overplus of paraffin through the skin is not yet within our ken. I have not only been consulted by many unfortunates from other operators' hands, but had a similar result from the use of an aspirating syringe in one of my own cases. An attempt to curette this overplus away through a subcutaneous opening was far from successful. Since then I have obtained better results by cutting away the loose tissue in which the paraffin was imbedded. In one case sent me for correction this method was entirely satisfactory. Here the paraffin had even extended into the soft tissues of the upper eyelid, and its removal occasioned considerable tumefaction, lasting some days. I have never observed any absorption to have taken place in any of my cases, and it has now been two years since the first were begun. No unusual sensations occur over the injected part, except that of numbness immediately following the injection.

Paraffin has been largely employed abroad in filling in the excess of nasal space resulting from atrophic rhinitis. I can not advocate this until further demonstration proves its utility.

SOME OTHER SURGICAL USES OF PARAFFIN.

1. To overcome incontinence of urine.
2. To diminish size of hernial openings.
3. To replace testicles.
4. To cover stumps of amputated bones, preventing wear through flaps.
5. To prevent adhesions in ankylosed joints after first breaking them up.
6. To form plate in trephined skull, preventing dura from adhering.
7. To fill in malformations around neck and in attenuated mammæ.

CASE 1.—W. J. H. No specific history. Injury due to horse's kick when a boy. The nasal bones fractured, septum crumpled and bridge entirely flattened, so that the area between the eyes was entirely flat. In addition a heavy scar ran transversely across this space, from the distal extremity of the right nasal bone to the inner canthus of the left eye. I hesitated at first to attempt operating, but finally decided to do so—aiding the operation by loosening the scar tissue with a spear-headed paracentesis knife subcutaneously inserted. The entrance was perfected under cocain near the tip of the nose, and then carried beneath the skin to the binding scar tissue which I liberated in small quantities. At the same point of entrance I inserted the paraffin needle and followed the line of incision. I raised the tissues quite perceptibly, and no unfavorable results obtained.

Two weeks later I began the same performance, making entrance over the nasal spine. This likewise resulted favorably. A good part of the deformity was now overcome, but I concluded to perfect the operation by a third injection. This time I went in at a point midway between the inner canthus of the left eye and my second incision. In liberating the scar tissue this time I cut too close to the surface, and when I injected the paraffin I noticed the white fibrous tissue was considerably stretched. A few days later the paraffin had worn through a small opening, and the most of the last injection worked out; but either sufficient remained, or new tissue formed to overcome the deformity to the satisfaction of the patient, so that I have not attempted further interference.

CASE 2.—Injury traumatic, operation Oct. 30, 1902. Cocain anesthesia. One injection only was made. Method pursued same as that advocated in paper. Result entirely satisfactory.

44 West Forty-ninth street.

DISCUSSION.

DR. O. JOACHIM, New Orleans—I can support the statements at the end of the paper. In my experience, which is not as large as the Doctor's, I have met the difficulties cited by him in the use of the plain piston syringe. I have seen a case in which there is an objectionable amount of paraffin lodged in the space the Doctor pointed out above the nasal bones. It was due to the paraffin becoming hard and in injecting with some force to overcome the obstructing mass too much was injected. I shall take it out later surgically. The study of this subject has shown that the paraffin of higher melting point becomes encapsulated and the softer paraffin of lower melting point becomes permeated by fibrous tissue. The paraffin I use melts at 104 to 106 degrees. The procedure is a simple one, and to those with a surgical inclination there should be no difficulty in overcoming any abnormality in the shape of the nose or depressed scar after a mastoid operation or after a frontal sinus operation.

DR. J. F. BARNHILL, Indianapolis—Dr. Smith spoke of instances in which injections over the cartilages need to take place and referred to dissecting the cartilage from the skin. I should like to ask the method of doing this. I should think the same thing would be necessary when injecting under scar tissue.

DR. HARMON SMITH—At the tip of the nose, where the skin is adherent, I simply swing the point of the needle around under the skin. In other cases it may be necessary to use a small tenotomy knife to relieve the adhesions.

DR. ROBERT C. MYLES, New York—Those of us who have used the old syringe have had great difficulty in controlling the injections when the paraffin was in a more or less liquid state. My cases have been troubled more with redness of the nose than his seem to have been. He takes it away with ichthyol, but I have not always been so fortunate. I had one man develop red streaks. The pressure of the paraffin on the veins and arteries seems to obstruct them and they become more or less enlarged.

DR. C. M. COBB, Boston—One point that the essayist simply alluded to is the fact that sometimes the skin turns white during the process of the injection. It has alarmed me to see the skin become markedly pale and I have stopped the injection and massaged the skin and then done nothing more for a few weeks. I had one patient with a very satisfactory result, except that the nose was somewhat red. That was more than a year ago and it is somewhat red yet. Peroxid of hydrogen relieves the redness temporarily. Alcohol did him no good. The mixture of clay, bismuth, etc., put on the market under various names, put on at night, did some good.

DR. E. FLETCHER INGALS, Chicago—Would it not be possible to melt the paraffin after injection without injury to the skin? I do not know the highest temperature the skin will tolerate, but I do know it will tolerate at least 113 F., possibly more. I should like to know what temperature could be safely borne. If this could be done we might melt the paraffin and withdraw any excess by an aspirating syringe.

DR. HARMON SMITH, New York—As to what Dr. Myles has said regarding the photographs, there are mistakes made both ways. You never get a picture that looks as bad as the patient before, nor one that looks as good as the patient when it is done. When you ask for an absolute profile, frequently the photographer will give you a three-quarters. The same thing is largely true of the size of the picture. Redness is present in a good many cases. I have seen a case in which the redness lasted over a year, but it gradually disappeared. There seems to be a tendency on the part of Nature to take care of a foreign body, and I think the reinforcement of connective tissue that grows into this mass requires an increased

blood supply, and later, when the blood supply is no longer necessary, the redness will disappear. As to the furnace worker, I think if the man would remain away from his work for, say a week or two, he could then go back without danger of shifting the paraffin. Although it might be made soft and doughy by excessive heat, it would not shift. I do not think the heat would extend far down into the subcutaneous tissue, as body temperature remains the same regardless of external temperatures. Dr. Cobb has spoken of the white appearance that results from getting too much paraffin in. I invariably stop when I see the tissues becoming white, for I think then I am near the danger line. There is then considerable pressure, which is often due to not liberating the adhesions sufficiently. Beware of hyperinjection. Take time and you will have little trouble.

Dr. Ingals has spoken of the possibility of aspirating the paraffin, when for any reason it is desirable to remove it, after first melting it while in the tissues. I have tried almost every method for removal. In one case the patient had tried to iron it out and had failed. In another case, which had been injected by another physician, numerous injections had been made in an attempt to relieve the deformity resulting from atrophy of the muscles of the face, with the result that a number of little balls of paraffin remained under the skin. I tried to iron it out, but without marked success. In this same case, where there was some paraffin escaping from a small opening in the skin, I tried to iron it out, but was only partially successful. However, in this case some time had elapsed since injections were made. I did succeed in smoothing the surface somewhat.

THE SUBCUTANEOUS INJECTION OF PARAFFIN FOR THE CORRECTION OF DEFORMITIES OF THE NOSE.

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LEADVILLE, COLO.

(*Concluded from page 703.*)

INSTRUMENTS.

The instruments necessary for the proper performance of this operation are very simple and very few.

A special receptacle for the paraffin, as described by Smith, while convenient, is not essential.

The syringe is the all-important consideration; an all-metal syringe is to be preferred because of the ease with which it may be absolutely sterilized by boiling. One with the screw worm on the piston rod, and on this the thumb screw that can be attached to the barrel of the syringe, is almost invaluable. The size of the syringe is not so very important; that it be not ungainly in the handling is about the only practical limitation. Smith and many others use one with a capacity of about 90 minims, while Downie employs one that will hold 10 c.c. (2.5 3).

The needle should be short and but a little larger in diameter and lumen than is the ordinary hypodermic needle.

TECHNIC.

As regards the technic, that of Gersuny has not been modified to any considerable extent. With the exception of the special syringes, the instruments are practically the same. The operation may usually be carried out in the following order: 1, preparation; 2, anesthetic; 3, introduction of the paraffin, and 4, after-treatment.

1. *Preparation.*—The most careful and painstaking antiseptic precautions must be observed. The skin of the nose, cheeks, forehead and chin must be given a thorough scrubbing with soap and water twenty-four hours before the time set for the operation, or better, once forty-eight hours, and then again twenty-four hours before the time set for the injection. The night before a moist dressing should be applied over the proposed site of injection, over this oiled silk, and then a bandage to keep it in place.

Immediately before the operation, with the patient on the table, the skin of the nose and face should be once more cleansed. The patient's head and hair should be covered with a sterile cap and the remainder of the body with a sterile sheet. The operator's and assistant's hands are being rendered surgically clean while the instruments are being boiled and the paraffin is being again sterilized.

2. *Anesthetic.*—A general anesthetic is never absolutely necessary. A local anesthetization of the skin, at the site of the entrance of the needle, is all that is necessary in the great majority of cases. There is a diversity of opinion regarding the use of a general or a local anesthetic in this class of cases. Downie says:

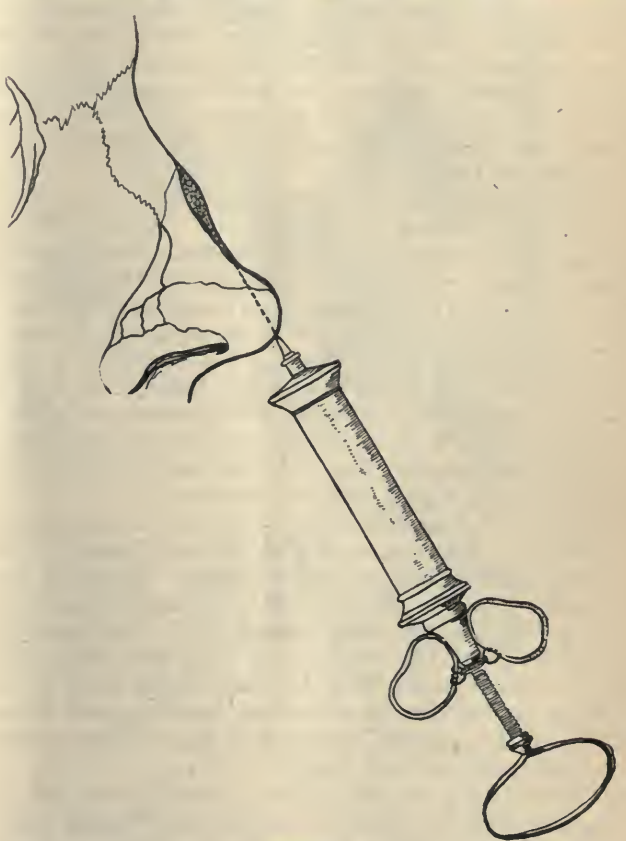

Figure 1.

"The patient may or may not be anesthetized. In many cases there is a distinct advantage in having the patient under an anesthetic. A local anesthetic is, in my opinion, inadvisable."

On the other hand, there is certainly a distinct advantage in having the patient not under general anesthesia, and in certain cases the use of a local anesthetic is the only way that this is possible. While the dangers of general anesthesia are very small, they are, nevertheless, constantly with us and must be considered. The location of the intended insertion of the needle for the injection of the paraffin can be easily anesthetized with a solution of cocain or eucain B., the strength of the solution varying from 1 to 4 per cent., according to different authorities. A 1 per cent. solution was used in all cases by the writer.

Freezing with ethyl chlorid of the site of the future needle puncture may be employed as a preliminary step

before the injection of the cocain or as the only local anesthetic, dispensing with the cocain entirely.

In some cases, the injection of the paraffin has been made without any preliminary anesthesia of any kind, either general or local. But the anesthetization of the skin, at the site of the puncture, is advisable, in order to prevent any sudden movement or jerking of the head at the time of the needle prick, which might be the cause of more or less serious damage or inconvenience.

3. *Introduction of the Paraffin.*—The paraffin, having been boiled with the instruments, is now in the fluid state, and is drawn into the syringe—the barrel of the syringe had best be about three-quarters filled. With the ordinary syringe considerable haste is now required in order to make the injection before the paraffin will solidify in the needle of the syringe, so causing great difficulty and force in its removal, and with the probability of irregularities in the mass because of the unevenness of the force applied during the injection. However, with a syringe such as has been described by Smith and by Freeman, this haste is not necessary, the force being applied by means of the screw arrangement, and the result is always even and satisfactory, no matter how long a time may have elapsed between the filling and the emptying of the syringe.

The air being expelled from the syringe, all is ready for the introduction of the paraffin. The skin of the nose is picked up in a fold, and the needle then inserted under the skin. It has been recommended that the skin be incised with a small scalpel, as a preliminary step, and then followed by the insertion of the needle, in this way hoping to decrease the pain and the resistance to the passage of the needle. The site of entrance of the needle should be away from the region of the greatest deformity. If a saddle-back nose, the needle is usually made to enter the skin at about the junction of the nose with the forehead, about on a level with the eyebrows.

Leonard Freeman, and the writer in his cases, have inserted the needle at the tip of the nose, instead of at the apparently more common situation. The chief advantage of this locality over the one more commonly used is that it allows more freedom in the manipulation of the point of the needle after it is once under the skin. Freeman says: "The thickened tissues at the tip of the nose prevents the paraffin from diffusing itself along the track of the needle, as is apt to occur in the areolar tissue at the base of the nose."

From either point, the needle is carried along subcutaneously until its extremity is at the most distant point of the deformity, and is then gradually withdrawn, leaving its deposit of paraffin as it recedes (Fig. 1). In this way all parts of the deformity may be reached with but the single puncture of the skin. The remote point of entrance is to prevent, in a way, the escape of the paraffin after the withdrawal of the needle. As the paraffin escapes into the cavity of the defect, the needle is slowly withdrawn, and with the finger of the left hand the operator molds and outlines the freshly deposited paraffin, thus preventing the injection of too large an amount, also preventing its extension into regions where it is not desired, and likewise preventing the occurrence of any lumps or irregularities in the artificial body. A little finger inserted into the nostril will prevent an encroachment on the lumen of the nasal canal.

The needle should be well withdrawn by the time the deformity has been fully corrected, after which the needle is removed through normal skin, in which it leaves no paraffin and the puncture sealed with a collodion and cotton dressing.

It has been recommended that the entire defect be not remedied at one injection. This is especially good advice when the tissue to be injected is dense and inelastic. Rather inject too little than too large an amount.

4. *After Treatment.*—If the injection has been made into loose tissue, the paraffin must be kept quiet and free from pressure, otherwise it may migrate into the surrounding structures. Under such circumstances, iced cloths may be applied to the region in an effort to make the paraffin set more rapidly. Sometimes there may be for, perhaps, the first twelve hours after the operation a marked disturbance in the local circulation, as is evidenced by great redness and swelling and, more rarely, pain in the tissues about the eyes and nose. This transitory reaction may also be relieved by the application of cold compresses.

Figure 2.

Paget gives his patients a hand glass as soon as they come out from under the general anesthetic and allows them to mold the nose at that time.

After the first twelve hours the swelling, the redness and the pain rapidly diminish, if they have not already gone, and, as a general rule, no further treatment is required.

REPORT OF CASES.

CASE 1.—Mrs. F., American, widow, aged 42. When a small child was struck in the face with a sharp ax, which resulted in a severe injury to the nose, the nasal bones were broken and followed by a necrosis, which caused a loss of the entire septum, a depression of the nasal bridge and collapse of one nostril.

Examination revealed on a profile view (Fig. 2): 1. A typical saddle-back nose. The extent of this depression, or sinking in of the bridge of the nose, was about one-sixteenth of an inch below the normal line of the nose, the greatest depression being situated at about the junction of the nasal bones with the lateral cartilages of the nose. 2. The tip of the nose was forced upward; this feature was exaggerated by the depression immediately above it. 3. A still more unsightly deformity consisted of a ridge or strip of flesh extending from about the junction of the middle with the superior third of the upper lip to the internal aspect of the tip of the nose. The attachment of this strip at the labial extremity was considerably below the cleavage of the lip and the nose proper, in consequence of this low origin daylight could be seen between the superior margin of this strip and the inferior margin of the nose proper. This artificial column was about half an inch in diameter at the labial insertion, and from that tapered down to about a quarter of an inch at the nasal end.

This objectionable strip of tissue was the result of a previous operation, the object of which was to supply the nose with an

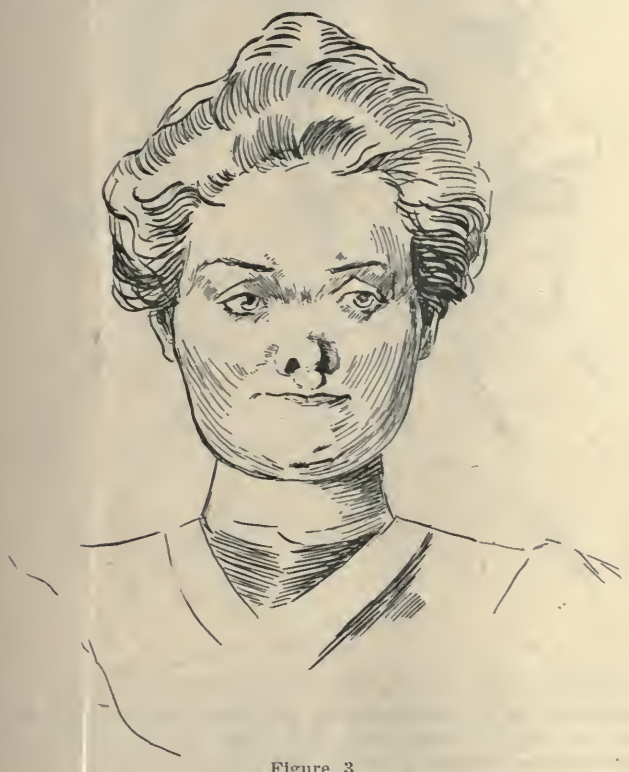

Figure 3.

artificial column, and so to divide the single anterior nares into two, and in this way decrease to some extent, at least, the deformity. In this operation a flap was dissected from the median line of the upper lip, turned on itself and attached to the internal surface of the tip of the nose. This flap healed in place nicely, but it was too large and bulky at the lip, and was attached to the lip at a point too low down, so allowing a space between the new column and the inferior margin of the nose proper.

This operative procedure for the formation of a new columna nasi was first described by John B. Roberts, in the Mutter Lecture of the College of Physicians of Philadelphia, 1900, entitled "The Surgical Treatment of Congenital and Pathologic Disfigurements of the Face." (*Phil. Med. Jour.*, June 23, 1900, p. 1425.) Yet, despite such a prominent publication and as an example of the disregard of American writings by some of the European writers, we find in the *Medizinskoie Obozrenie*, Vol. lviii, No. 15, an article by P. I. Kusmin, entitled "A New Method of Correcting the Destroyed Nasal Septum," which is practically the same method as has been recommended by Roberts and employed in this case.

In this instance the result is unsatisfactory, in that the base of the flap took its origin too far away from the junction of the nose and the lip. This fault was corrected by subsequent operations, but as no paraffin was injected they will not be considered under this title.

On a front view of the face (Fig. 3) the most noticeable departure from the usual was a collapse of the right nostril. That portion of the nose usually held in proper position by the inferior lateral cartilages was flattened and almost in contact with the median line. There being no septum the interference with respiration, especially inspiration, was not marked. The patient usually wore a metal, aluminum, intranasal support, in this way almost correctly remedying the defect. The wearing of this support was irritating, annoying

Figure 4.

and objectionable. The new column was very prominent and bulky at its origin from the upper lip, and appeared as a reddish bunch on the lip. The depression in the bridge of the nose was not so noticeable as in the profile view. The tip of the nose seemed to be tilted upward and the anterior nares seemed to present in an anterior inferior direction, instead of in an inferior direction, as they should normally. On an intranasal examination, there was noted most prominently the absence of a septum. The mucosa lining the cavity appeared to be normal.

The patient came requesting that her nose be improved on; that the artificial septum be raised at its labial extremity so that it might appear continuous with the nose on profile; that the sinking in of the right ala might be remedied so that it would not be necessary for her to wear the intranasal support, and that the depression in the bridge of the nose might be rendered less conspicuous, if not removed.

All these conditions were in time corrected, but, in accordance with the title, this paper will deal only with a consideration of those operations in which paraffin was injected as a prosthetic measure.

Operation 4, Injection 1.—A typical operation for the repair of a saddle-back nose: Cocain, 1 per cent. solution, was employed as the anesthetic. The needle was made to enter the skin at a point near the tip of the nose, and about twenty drops of the paraffin were injected. There was no pain during or soon after the operation; the next day and the day following there was noted a sense of fulness and some uneasiness, but at no time was there any complaint of sensation coming under the heading of pain, in its proper sense.

The second day after the operation there was noticed a slight redness of the skin over the injected paraffin, this increased for about a day and was then pronouncedly red.

This redness remained stationary for about a month, and since then has very gradually decreased, so gradually, in fact, that there is still a distinct reddened area over the bridge of the nose. On pressure this redness will disappear, but returns immediately after the removal of the pressure. A few dilated and tortuous capillaries course their way over this area. The condition is still present fourteen months after the injection. There has been practically no change or decrease

Figure 5.

Figure 6.

in the redness during the last six or seven months, it is not as marked as it was during the first few months, but still requires the profuse application of face powder in order to prevent her nose from being conspicuously red.

There is absolutely no pain, tenderness or abnormal sensation over the injected portion, or any other portion of the nose or face. With the exception of the redness the operation is quite satisfactory in its outcome, both to patient and surgeon; another small injection is needed to make the result perfect (Fig. 4). The obliteration of the dilated blood vessels by means of electricity or by crucial incision of the skin is now under consideration.

Operation 6, Injection 2.—A second injection was made in the same case two months after the first in an attempt to remedy the collapse or flattening of the right wing of the nose. In reviewing the literature on this subject, very meager as it is, no practical method with anything but a remote promise of success seemed to present itself.

Roe advocates in such cases that we incise the lower shield cartilage, and sometimes the upper shield cartilage also, sufficiently to overcome their elasticity, and then to hold the alæ, with their incised cartilages, in the more expanded position, until repair takes place, and the tissues are fixed in their new shape and form. He also recites a case in which the cartilage is dissected subcutaneously and "reset" in its proper, or at least in a better, location.

Such maneuvers in this case were out of the question, as there was no cartilaginous tissue in the ala of the nose on the right side.

The more radical method advocated by Fritz Koenig (*Berl. Klin. Woch.*, Feb. 17, 1902) of replacing the abnormal or diseased ala by a portion of the entire structure of the auricle and suturing this in place on the nose, seemed a trifle too radical for any condition in which there was not an absence of the ala. But no other method of replacing the missing cartilage seemed available. At this time the idea of producing artificial cartilage presented itself and was grasped as a most satisfactory solution to the rather trying problem.

Accordingly the ala was injected with paraffin as follows: After a careful and proper cleansing of the skin and mucous membrane of the nose a preliminary anesthesia, Schleich's solution No. 1, was injected into the site of the proposed par-

Figure 7.

affin injections. After a lapse of about twenty minutes the needle of the syringe containing the paraffin was inserted into the free edge of the ala at a point about half way between the tip of the nose and the cheek. The needle was made to penetrate about three-eighths of an inch, and then about six drops were injected. The needle was withdrawn and the puncture sealed with collodion.

The needle was now introduced at a point three-quarters of an inch above the free border of the ala, in about the center of the lateral aspect of the nose from above downward, for a distance of about a quarter of an inch, and the same amount of paraffin injected.

The intranasal support was now introduced and held the parts in approximately normal relations, iced cloths were applied for twelve hours and the intranasal support allowed to remain in place for ten days.

There was absolutely no pain or inconvenience caused by the injection, and the course of the case was uneventful. There is considerable improvement in the appearance of the nose, but it is not as perfect as it is when the ala is held in proper position by the intranasal support (Fig. 4). The result, while not perfect, was such as to make considerable of an improvement in the countenance and expression of the patient. In a case less complicated, with more substance to act as a foundation, as in congenital deformities, it is probable that a still more satisfactory outcome could be obtained. Unfortunately

the writer has never seen a similar case treated by any other method, and so is unable to draw any comparative conclusions. Parker reports one case treated in this manner, but with no improvement after repeated injections.

CASE 2.—Tim M., miner, Irish, aged 28, in a rough and tumble fight was unfortunate enough to have the tip of his nose bitten off by his opponent. He presented himself, ten hours after the accident, at the St. Vincent's Hospital, with the separated portion of his nose wrapped up in a piece of newspaper, and requested that it be sewed in place. Wet dressings were applied to the abbreviated feature and in due time flaps from the cheek were brought over and the defect covered up. The result was satisfactory in covering the defect with skin, but the configuration of the nose was far from satisfactory, owing to the absence of the tip. The front view was not

Figure 8.

so unusual or remarkable, but the profile presented a marked and conspicuous deformity in the absence of the tip; in fact, the distal third of the appendage was missing (Fig. 5).

This was, in a way, remedied, or rather rendered less noticeable by the introduction of paraffin into the region formerly occupied by the extremity of the nose. After the usual cleansing and the regular preparations, about ten minims of paraffin were injected under the flap and in about the median line, so that it would rest on the remains of the cartilaginous septum.

After a month this procedure was repeated, without any undesirable result after either injection (Fig. 6). The improvement was encouraging and the skin over the injected mass normal in every particular and not at all tense or stretched. Other injections were planned, but the patient disappeared.

The introduction of small amounts, at intervals, is undoubtedly to be preferred to the single injection of larger amounts, in any location and under all circumstances, but it is especially true and important when injecting into a region so notoriously non-vascular and prone to necrosis as the tip of the nose. And of still greater importance is this precaution when the overlying skin of this part has been transplanted from a neighboring region.

CASE 3.—Dick G., laborer, American, aged 37, about eleven years ago fell down a stairway and injured his nose. No physician was called to see him, and he paid little or no attention to the injury; he merely remembers that for about a week or so his nose was tender and his entire face swollen. After the swelling subsided he noted a depression in the bridge of his nose (Fig. 7.), which has remained about the same ever since. It caused him no pain or inconvenience other than the slight deformity. The skin over the depression is normal and moves freely over the cartilage and bone.

A typical operation for "sadle-back" nose was performed, technic as described above; fifteen minims were injected at one sitting. The result was a marked improvement in his appearance and was very satisfactory. No redness of the skin over the injected area or any other objectionable features resulted (Fig. 8).

CASE 4.—Mr. W. E., miner, American, aged 32, three years ago, while in a fist fight, was struck on the nose. He had considerable nose bleed, pain and marked swelling the next morning, at which time he consulted a physician, who told him that his nose was broken, and then proceeded to "set" it. After the swelling had subsided a depression of the bridge was noted, which has remained practically the same ever since (Fig. 9). The greatest depression is at about the junction of the nasal bones with the cartilages and in depth is about one-sixteenth of an inch. The skin and overlying structures

Figure 9.

Figure 10.

are normal and freely movable. Treatment consisted of a subcutaneous injection of paraffin, the same as in the case above, about twenty-five minims were injected at one sitting, and the result was eminently satisfactory in every respect (Fig. 10).

CONCLUSIONS.

1. Corning was the first to use solidifying oils in surgery.

2. Gersuny was the first to recommend and to use paraffin subcutaneously as a prosthetic measure.

3. The use of paraffin as a prosthetic substance is still in an experimental stage.

4. The field of usefulness of paraffin subcutaneously in other than nasal deformities is rapidly increasing.

5. Prosthetic operations, undertaken solely for cosmetic effect, should be absolutely harmless.

6. All cases, regardless of the termination, should be reported, as it is only by a study of a large number of cases that the legitimate place of this method in surgery can be ascertained.

7. The special syringe, with screw pressure, is almost indispensable.

8. A general anesthetic is rarely, if ever, indicated.

9. The needle may be made to enter at either the base or the tip of the nose.

10. Rather inject too little than too large an amount of paraffin.

11. In a series of six cases, but one of the numerous objections was encountered, and that a redness of the skin remaining permanently after the injection.

DISCUSSION.

DR. ANDREW W. MORTON, San Francisco—My experience with paraffin injections has been limited to 25 cases. My method is somewhat different from Dr. Connell's. I bring the melting point of the paraffin to 109 degrees by the use of sperm oil, after which it is sterilized by boiling. I am careful to introduce it just as it is beginning to coagulate. It has been proven thoroughly by Dr. Comstock that we must have the paraffin about the temperature of the blood to prevent embolism; it is also well to have the paraffin a little above the temperature of the blood or it will not support the deformity. For the introduction of the paraffin I have been using the Lures glass syringe. I always introduce the needle at some distance from the deformity beneath the skin, allowing the point of the needle to come just beneath the deformity, then I attach the filled syringe and introduce the paraffin.

It has been used in a great variety of cases, but the principal use, in my opinion, is for the saddle-back deformities of the nose. We know there is no class of deformities where we have need of repair more than in those cases. On account of the weakness of the structures, if we use an artificial bridge it is always causing irritation and operations are not satisfactory. In regard to the quantity of the paraffin, I always use a small quantity and repeat it if necessary, but I think this is very immaterial if we do not produce tension, and I think Gersuny has called attention to that; his experience has shown that the amount injected at one time does not make any material difference. I have introduced 40 c.c. at one time; it was in the case of an absent testicle; the man wished to enter the marine-hospital service, but had been rejected. I injected the 40 c.c. at one time, and there was absolutely no change so far as inflammation was concerned, and the day he went away I could not discern which was the artificial testicle except by palpation.

There is one subject that has not been touched on, and that is, what becomes of the paraffin? It was claimed that it could not be absorbed, and would remain in the tissues as paraffin. Recently I had a case which enabled me to make some very interesting experiments. Some of the paraffin had worked down into the tissues and interfered with the breathing space. I took out sections at the end of one, two, three and four months respectively. In the first section you will see paraffin globules; later you will notice that they have been infiltrated with leucocytes and tissue cells. In the last specimen you see an entire absence of the paraffin. This shows that the paraffin is destroyed and its place is taken by connective tissue. In regard to the shrinking of the paraffin, I believe that it will shrink to a slight degree, owing to the small amount of oil which passes off after the injection. As to the principal dangers of the operation, they are: 1, infection; 2, tissue necrosis, or necrosis of the bone; 3, embolism. The infection can be prevented by being aseptic. It is also possible to prevent sloughing, provided you do not use your paraffin at an extreme degree of heat, or produce a great amount of tension on the skin. In regard to embolism, one case of lung embolism has been reported that we attributed to this method. A large amount of paraffin was used, the operation being done in the physician's office for some prolapsed condition of the rectum, and the patient was allowed to enter a carriage and ride home —not a very cautious thing to do. One of the principal points is not mentioned in the report, the melting point of the paraffin. I do not believe that there is very much danger of embolism if we use the paraffin at a melting point above the body heat.

DR. JOHN P. LORD, Omaha—Dr. Connell speaks of the disadvantages of the reddened area. I want to say that our experience with the *x*-ray in the blanching of unsightly red scars has been so satisfactory that I have perfect confidence in it, and the technic should be that the exposure should be of short duration and the treatment should cover a long period of time, care being exercised not to produce a burn. The *x*-ray obliterates the small blood vessels by producing an hyperplasia of the connective tissue cells which squeeze out the blood vessels. Of course, if the blood vessels are of any size I would recommend the use of the electrolytic needle, but if it is simply a redness I think the *x*-ray can be depended on to accomplish very satisfactory results.

DR. WILLIAM J. MAYO, Rochester, Minn.—The methods employed for the repair of depressed noses may be divided into three groups: first, those by a flap from the forehead or cheek or the tip of the little finger, and things of that kind carried to the nasal defect, the best result being that after we got through most people would say that it did not look much worse than it did before. In the second class we introduce a celluloid bridge. Some exceedingly good results have been obtained, but after a time atrophy necrosis takes place in the majority of cases, and we have to remove the celluloid. Therefore, when this paraffin method came out it was taken up enthusiastically, particularly by my brother, Dr. C. H. Mayo, who has had considerable experience in this line of work. He has operated on a large number of cases and the results have been strikingly good. You see the patient come into the hospital with a deformed nose, and in twenty minutes he goes out again, his appearance so changed that his best friends would scarcely recognize him. In regard to those cases in which the deformity is due to a compound injury, if you were to attempt to inject enough of the paraffin to get a good result you would be very liable to get into trouble, on account of the adhesions of the skin to the deeper parts. In those cases a small knife is introduced and the tissue cut loose a few days previous to the injection; the paraffin can then be injected without trouble. It is advisable in some cases, where you have to sever the tissue in this manner, to use an injection of saline solution to loosen the tissues still further, and follow this in a few days by the injection of paraffin.

MULTIPLE PERIOSTEAL SARCOMATA OF THE CRANIUM,

WITH INVOLVEMENT OF RETROPERITONEAL LYMPH NODES, AND ATTENDING SEVERE, PROBABLY PERNICIOUS, ANEMIA.*

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IOWA CITY, IOWA.

Through the exhaustive work of Warthin the retroperitoneal lymph nodes or hemolymph glands have been given an important rôle in human pathology. Changes in these hitherto frequently unrecognized structures are specially significant of anemia and processes accompanied by hemolysis.

I feel that the case, a description of which I wish to submit, illustrates this relationship in a special way, and offers a few additional points of pathologic interest as to warrant its being presented before this section.

The case occurred in the practice of Dr. C. B. Kimball of West Liberty, Iowa, to whom I feel indebted for calling my attention to it and furnishing me with the principal clinical data, which in brief were as follows:

A. B., girl 5 years of age, who until three months before her death enjoyed good health and had been regarded as an unusually robust child. When first seen by her medical attendant she presented a mild degree of anemia, a slight rise of body temperature, some malaise, impairment of appetite, and physical weakness. During the period of illness mentioned, the anemia assumed a progressive pernicious character, the pyrexia

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

of one to two degrees continued, and the emaciation and physical weakness proportionately increased.

At my first opportunity to see the case, Oct. 5, 1902, the anemia was quite pronounced and the child appeared weak and listless. There was no enlargement of any of the palpable lymph nodes, but over the frontal region a soft subcutaneous sessile tumor-like enlargement, about three centimeters in diameter, was observed, which was apparently attached to the frontal bone.

A hemic murmur was noted over the base of the heart; the lungs were negative; the splenic area of dulness not increased, and the organ not palpable. Area of hepatic dullness not increased, Urine acid, specific gravity 1,022; chemical tests negative. Signs of intracranial pressure were not present.

I saw her again one week before her death, when she appeared in a semicomatose state, the anemia being very profound and emaciation specially marked. There was no noticeable change in the different lymph nodes. The spleen was not enlarged, though a perceptible yet slight enlargement was noted in the hepatic area of dullness. Urine negative. Lungs negative. Hemic murmur still very pronounced over the basal region of the heart.

The frontal tumor had apparently enlarged and four more tumors were now to be detected over the parietal and occipital bones, and one over the left mastoid region. A slight degree of exophthalmus was present. The blood count revealed erythrocytes, 982,000; leucocytes; 9,600; hemoglobin, 30 per cent. Differential count in 17,874 red cells revealed: megalocytes, 473; microcytes, 328; poikilocytes, 45; megaloblasts, 23; normoblasts, 19; leucocytes, polymorphonuclear, neutrophile, 68.6 per cent.; eosinophile, 2.26 per cent.; large lymphocytes, 2.52 per cent.; small lymphocytes, 26.46 per cent.; myelocytes (neutrophile), 63 per cent. Proportion of white to red cells, 1 to 113. Most of the erythrocytes were about the average in size

At this time a clinical diagnosis was proposed of multiple periosteal sarcoma, with attending severe secondary, probably pernicious, anemia.

Report of Autopsy.—Nov. 20, 1902. General emaciation very marked, the skin being extremely pale. No change noticeable in the cervical, axillary, clavicular, and inguinal lymph nodes.

Skull and Cranial Contents.—After removing the scalp seven distinct circumscribed tumors are observed attached to the skull, appearing as cushion-like growths and distributed as follows: One over the frontal bone, two on the left parietal, one on the right parietal, one over the right mastoid, and two on the occipital bone. The tumors are of soft consistency and vary in color from deep gray to pinkish and reddish gray; in diameter they range from 3.5 to 6 centimeters. The growths extend above the bone about one centimeter, and are well defined from the skin and subcutaneous tissues. After the skull cap is removed the tumors are seen to have completely penetrated both the outer and inner tables, the latter presenting a distinct honeycomb appearance; the growths also involving the dura mater.

A considerable amount of subdural serous effusion is present. The brain is pale and anemic, but otherwise negative.

Diaphragm at Fourth Rib, Right and Left.—Pleura and pericardium negative; heart valves intact, musculature anemic and somewhat atrophic. The lungs are pale and freely movable with some passive congestion in the lower lobes; bronchi pale, containing a grayish foamy liquid. Esophagus contains a small amount of foamy mucus, mucosa pale.

No fluid in the peritoneal cavity. The spleen is not enlarged, on section it is a pale brownish red; pulp is soft and bleeds readily. The liver appears slightly enlarged; the surface is smooth; on section the surface is cloudy, and of a pale red chocolate color; a slight fatty smear is left on the knife; outlines of lobules distinct; throughout the liver substance a limited number of light-colored circumscribed areas are noted, ranging from 0.3 to 0.8 centimeters in diameter and having the macroscopic appearance of the cut surface of the cranial tumors. Gall bladder negative. Kidneys are pale; a retention of fetal lobulation exists, otherwise negative. Bladder negative. Pancreas and suprarenals negative. The stomach and intestinal mucosa is pale, but negative in other respects. Mesenteric glands are negative.

In the retroperitoneal region a marked enlargement is noted in the prevertebral lymph nodes or hemolymph glands; extending from the brim of the pelvis upward along the aorta and vena cava are sixteen enlarged and dark red glands, forming in reality a dense mass involving an area of 5x12½ centimeters; the larger glands being 2x3½ cm. in dimensions, and of a dark red color; the smallest examples having a coffee-bean shape, 0.6x1 cm. in diameters; pale and red nodes are noticed placed side by side. A few of the smaller glands extend along the renal vessels. The entire mass is imbedded in fat and very closely connected with the surrounding blood vessels.

The long bones were not opened owing to the restrictions placed on the autopsy, but the cross section of the sternum presented the hemorrhagic appearance of marrow peculiar to severe anemias. The extreme emaciation of the body permitted a good examination of the surface of the different bones, and disclosed an absence of any periosteal growths or enlargement of the bones.

Histologic Examination.—The tissues were all studied in serial paraffin section, and stained by hematoxylin and eosin, Van Gieson's, and Mallory's stain for connective tissue, and the potassium ferrocyanid method for demonstrating hemosiderin.

Periosteal Tumors.—While the general histologic picture is that of round cell sarcoma, there is some degree of variation between the several tumors. The cell element consists of a round cytoplasmic mass with a nucleus rich in chromatin, the latter varying in size, frequently granular, and seen in varying stages of mitosis; a delicate intercellular reticulum is present; the fibrous tissue stroma following principally the blood channels forms an alveolar arrangement in some portions and presents the type of an alveolar sarcoma; again the prominence of blood vessels and hemorrhage give a picture resembling angiosarcoma, while the light gray colored tumors in section reveal a type like lymphosarcoma.

The ordinary lymph nodes present no definite histologic changes. Heart and lungs are negative. Brain is negative.

Spleen reveals a slight degree of fibroid hyperplasia; hemasiderosis is very marked. Adrenals, kidneys and pancreas are negative. The stomach and intestines reveal some signs of catarrhal inflammations.

Liver.—Cloudy swelling in the cells, lobules are not well defined, and interlobular interstitial connective tissue is not increased. Distributed throughout the liver substance are well-circumscribed areas representative of metastatic growths secondary to the periosteal tumors, evident by reason of their identity in structure. Their histology consists of small round cells arranged in distinct alveoli formed by rather delicate fibers of connective tissue, resembling the picture of alveolar sarcoma. Hemasiderosis is present.

Hemolymph Nodes.—The smaller nodes 0.5 cm. in diameter present a histologic picture resembling the so-called marrow-lymph variety of hemolymph nodes, consisting of well-defined sinuses apparently lined by endothelium; throughout these sinuses a delicate reticulum is noted holding in its meshes principally red blood cells and a few leucocytes. Among the red cells normoblasts are observed and an occasional megaloblast. A few eosinophiles are seen. Some of the blood sinuses are very short and irregular. The constituent lymphoid tissue adjacent to the blood sinuses is made up of columns or bands of cells chiefly lymphoid (small mononuclear) in character; these cells also lie in a very delicate reticulum; large mononuclear lymphocytes are observed in small numbers, frequently mitotic figures are seen and again some of the nuclei appear also completely disintegrated. Large collections of hematic pigment are seen in the lymphoid area and the iron reaction is brought out by application of the potassium ferrocyanid stain. A few hyaline bodies are noted.

In the larger examples of hemolymph nodes, especially those having dimensions 2x3½ centimeters, the round or lymphoid cell infiltration completely obscures the essential hemolymph structure.

The cells are arranged in columnar-like collections divided by bands of fibrous connective tissue of greater or less density, forming alveolar areas resembling the picture of alveolar sarcoma; again in some areas the resemblance to lymphosarcoma is very striking. The cells contain large round granular nuclei, with varying figures of mitosis, resembling the cells of round-cell sarcoma.

In the peripheral portions of the enlarged nodes well-defined areas of red blood cells are seen and the lumina of well-formed blood channels are observed, some of which resemble closely the sinuses of hemolymph nodes except that the delicate intercellular reticulum is not apparent. Small areas of caseation are present in some of the cell areas. In all of the enlarged hemolymph nodes hematic pigment is abundant, some of which responds to the iron reaction, phagocytes containing hematic pigment being noted in the blood channels.

Unfortunately the circumstances of the autopsy prevented the histologic examination of the bone marrow.

Summary.—The features that invite interest in connection with this case are the multiple periosteal sarcomata confined to the cranial periosteum, the secondary involvement of hemolymph nodes, and the attending severe, probably pernicious, anemia. The origin of the tumors from the periosteum seems evident by reason of the intimate connection with the surface of the bones; the involvement of the inner table and extradural tissue being the result of extension.

If one of the periosteal tumors is to be regarded as the primary growth and the others as secondary nodules, it would seem like rather an unusual form of metastasis, and I prefer to regard them all as primary tumors.

It must be evident to all that considerable confusion exists in the literature on the various sarcoma-like tumors involving the osseous system, especially those which are attended by leukemic or pseudoleukemic change in other tissues. This is principally true of the multiple periosteal tumors having the histologic character of round cell sarcoma and described as chloroma and lymphosarcoma in which the relationships to pseudoleukemia is rather intimate.

Chloroma is frequently characterized by multiple periosteal plate-like growths especially of the cranium with metastasis in the lymph nodes, different portions of the skeleton and internal organs. In structure they resemble lymphoma or lymphosarcoma and contain a greenish pigment.

The absence of pigment in the case in question, especially in the fresh specimens, excludes chloroma, but in some other respects there is a great resemblance to this peculiar tumor process.

Closely related to chloroma are those non-pigmented pseudoleukemic periosteal tumors having the structure of lymphosarcoma which have been extensively considered by Claus under Marchand's direction, the same appearing as cushion-like growths on the skull, sternum, ribs, pelvis, spinal column and femur with tumor formations in the tonsils, lymph, nodes, liver, and marked enlargement of the spleen. Lazarus, Gussenbauer, Chiari, and Dittrich have described more complicated cases in which the spread of tumors in internal organs was more prominent, giving the impression of a general metastasis, the relation to the primary periosteal localization of the malignant lymphoma, though, being well defined.

As to the tumor nodules in the liver and involvement of the hemolymph nodes with their identity in histologic structure to the primary cranial growths, the findings warrant regarding them as secondary or metastatic formations.

The close resemblance of the arrangement of cells, with numerous mitotic figures in the enlarged hemolymph nodes to that in the periosteal growths is so striking as to permit of no other conclusion than that they are metastatic.

Both of the secondary manifestations must be regarded as examples of vascular metastases, and it must be due to the connection of the hemolymph nodes with the circulatory system that they are more liable to involvement than the other lymphoid structures throughout the body. The fact that the lungs were not involved by metastasis may be attributed to the relatively small size of the constituent tumor cells permitting them to pass through the pulmonary circulation.

That the attending severe, probably pernicious, anemia is the result of hemolysis, is evident from the general blood changes and the hemosiderosis in the spleen, liver and hemolymph nodes. The blood findings are very similar to those of pernicious anemia.

This case offers a further illustration of the relationship between changes in hemolymph nodes and the severe anemias. According to Warthin there is a certain amount of normal hemolysis taking place in these glands, and the hemolysis of severe or pernicious anemia differs from the normal only in degree. As the last named condition is probably due to some circulating poison, the nature of which is as yet unknown, so in the case described it is a circulating sarcoma process, which by reason of its involvement of the hemolymph nodes led to an increased hemolysis in these structures.

It is in this class of sarcoma-like tumors, including chloroma, and those of lymphosarcoma and pseudoleukemic type that a parasitic cause will probably ultimately be discovered.

DISCUSSION.

Dr. E. R. LeCount, Chicago—There is an intimate connection between the tumors in the case described by Dr. Bierring with the growths observed on the one hand, as multiple myelomas, and on the other in cases of chloroma. Had the tumors described in this case been possessed of a greenish cast Dr. Bierring would no doubt have considered his case as one of chloroma. The absence of the peculiar color does not seem to me sufficient reason for excluding the growths in this case from those in pseudo-leukemia, chloroma, multiple myeloma and acute leukemia. Therefore, I would object to the term sarcoma and prefer some name which would indicate their position correctly as examples of multiple growths unconnected with sarcoma in method of origin, growth and extension; for example, "multiple periosteal lymphomata" or "a case of chloroma with absence of the usual pigmentation." The term sarcoma has little to do with tumors that are primarily multiple.

Dr. Henry A. Christian, Boston—Dr. Bierring speaks of the difficulty in such tumors of determining which is the primary growth. The relation that exists between the more or less diffuse processes in bones and definite tumor masses is a very close one, and to say that a certain growth is primary and the others are metastases is very difficult in a case like this. A great many similar examples have been reported and I would like to add one. It was a case in which both kidneys were very much enlarged, four or five times their normal size, but they were not distorted and there were no definite tumor masses in the kidneys. They were both of the same size. Microscopic study showed the kidney tubules to be separated by a growth which proved to be of the nature of a round cell sarcoma, a diffuse sarcoma appearing simultaneously in both kidneys. The bone marrow of the femur showed similar changes. The question is, whether we have here a tumor of the bone marrow metastasing in the kidneys, the development in the kidneys of a tumor, bilateral and simultaneous in origin, or have we some general diffuse condition of the bone marrow which has not found its expression in cellular changes in the blood vessels as in leukemia, but has affected certain organs in a similar manner as the bone marrow.

Dr. Walter L. Bierring, Iowa City, Iowa—I appreciate what Dr. LeCount has said in regard to the terminology of this condition, but I labored for a long time in trying to name this process, and while I know that the term sarcoma is not entirely satisfactory, it seems to me that the various round-cell growths variously termed as chloroma, lymphosarcoma and small round-cell sarcoma are all more or less connected, and I think some day they will be cleared up and shown to be of parasitic origin.

I made a number of inoculations from fresh tissue material under proper precautions on the various culture media, but was unable to obtain any results. All tests for albumin and albumose in the urine were negative.

I regret that the restrictions of the autopsy prevented an examination of the long bones, but in this case I am still inclined to think that they were not particularly affected.

POLITICAL AND PROFESSIONAL ETHICS.*

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I believe that the majority of physicians concede the truth and justice of the philosophy of Bacon, who writes, "I hold every man a debtor to his profession; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves by way of amends to be a help and ornament thereunto." The very acknowledgment of such indebtedness carries with it obligations and duties which we as a body and as individuals can no more shirk than we can the duties and responsibilities we owe our patients. Hippocrates recognized the indebtedness he owed his profession, despite the crudity of medicine as it was then taught and practiced, and notwithstanding the less respected position then occupied by the medical fraternity. Probably the first universally received code of ethics, as offered by this worshiper at the shrine of justice and science, was inspired by the realization of this very indebtedness.

Notwithstanding the lack of erudition and despite the prevailing practice of charlatanry that existed in ancient and medieval times, medical men have, as a body, recognized certain obligations as being due their fellow practitioner and the community, and have commanded and received a certain respect as the inalienable endowment of their profession. We note, too, that as medical knowledge and scientific attainment have become more universal and of more value that the morale of our profession has improved, and with more honest methods prevailing there exists a more perfect sense of our obligations and duties.

Our profession has for ages been composed of men whose high sense of honor and integrity and whose moral and intellectual qualifications entitled them to a social standing second to no other class. The true physician has been and is clothed with habiliments of dignity which it becomes our duty to preserve and to hand to posterity in an unsullied state. The young man beginning his career as a physician receives as a heritage from his profession certain immunities, certain social rights and privileges and certain claims to the respect and esteem of his fellow beings, which by his own unassisted efforts he could only hope to win after years of unremitting devotion to the loftiest moral and ethical principles. It is this unsolicited and unearned inheritance which places the physician in the very springtime of his career under obligation to his profession. While in isolated cases this sense of indebtedness is ignored and the title of physician is prostituted by charlatans, yet I am proud to believe that as a body we have never been justly charged with unfaithfulness to our obligations.

The physician who wilfully devotes his entire efforts to his patients or to his family, who isolates himself from his fellow practitioners, who neglects his political and social duties, who contributes no assistance to medical societies and whose life is spent in his patient's behalf and his own self-aggrandizement, no matter how conscientious are his efforts and how honest his intentions, is not only remiss in the discharge of his entire professional obligation, but his narrow existence has unfitted him for the discharge of some of the most sacred duties he owes his fellow man. When he fails to exert his influence for the elevation of his profession and for increasing its sphere of usefulness, he can not excuse his course with the plea that the demands made on him by his patients are paramount in importance to the duty he owes his profession. For he who persistently adheres to this narrow course, who never looks beyond the horizon of his own private needs, defeats ultimately his own ends by lessening his influence in his immediate sphere.

The average physician is not and obviously could not be a politician after the usual acceptance of the term, but there is none among us who does not recognize the existence of certain political evils which by legislation might be corrected, and certain political reforms that would result beneficially to all. It is an established though unfortunate fact that there is in the public mind a deep-rooted prejudice against any interference on the part of the medical profession in political affairs. Let us as a body pass any resolutions or endorse any enactment for the preservation or improvement of the public health, or for the elevation of the standard of our profession, and our cause is at once prejudiced in the minds of the average individual, who is ready at once to attribute our acts to motives of selfishness and self-aggrandizement. It is only when through the medium of threatened or existing epidemics the public is brought to realize its dependence on the medical practitioner that we as a profession are in a position to dictate legislation suitable to our own and the people's needs. It is a matter of common observation that in the absence of epidemic sickness every community is singularly indifferent to the poor sanitary and hygienic conditions that may prevail, and are peculiarly resentful of any imputation on the healthfulness of their people. Unmindful or ignorant of those factors that might better their condition they lull themselves into a state of fancied security, ignore the advice of the physicians and are only awakened from their lethargy by the frightful ravages of some destroying epidemic. Then it is that they turn to our profession for deliverance, and then it is that the ear of the politician becomes receptive to our council.

I speak advisedly when I say that in our entire country there is not in a single statute book a law passed at the instigation of the medical profession that is not productive of more benefit to the masses of the people than to the physician. I challenge anyone to produce a single statute bearing on medical matters that can properly be construed as class legislation. In the history of legislation in Florida I challenge the production of even a single defeated bill which was endorsed by our profession and which had not for its prime intent the protection of the people of our state. And yet, despite this, any combined effort on our part to influence legislation is at once regarded with suspicion and fails of

* Read before the Florida Medical Association, at St. Augustine.

accomplishment on account of the designing, sordid and selfish motives that are attributed to us.

Our profession unanimously endorses a compulsory vaccination law because in the hands of medical men are statistics proving the miraculous preventive powers of vaccination against smallpox, and it is our contention that it is one of the fundamental laws of sociology that no man has the right to jeopardize the health and life of a community when by the observance of proper precautionary measures it may be avoided. Immediately there is raised the hue and cry that the autocratic doctor is aiming at the personal rights and privileges of the people, and as unselfish a bill as was ever presented to a fair-minded people goes down in defeat. Year after year are bills looking to the elevation of the standard of our profession and the protection of our people from charlatanry and imposition introduced in our legislature and to the din of vituperation and the slogan of interference with personal liberty our colors trail in the dust.

The enlightened physician is broad enough to realize and acknowledge that he as a component part of a community best subserves his own interests by best serving his people. He acknowledges that from a purely commercial point of view the result of epidemic disease would, by impoverishing his community, prove nearly as disastrous to him as to his people, but moved by a humane and altruistic spirit the doctor finds his chief reward in protecting and preserving the life and health of his fellow men even if, as often happens, his efforts encounter the opposition of the very ones he seeks to befriend. If our profession was composed of men of less charity and forbearance, an inappreciative public would be left to their own impotent endeavor to solve the problems of sanitation and protective medicine. It is no wonder that there is a tendency on the part of some of us to abandon a thankless undertaking, for it sometimes seems that in spite of our most loyal efforts it will always be thus, "truth forever on the scaffold, wrong forever on the throne."

Why the populace are less responsive to concerted action on our part than to individual effort can, in my mind, be only explained on the ground that when physicians band together for any accomplishment they are regarded as a trust, and the public generally is antagonistic to organization.

Compare this prejudice to medical organizations with the general approval with which our commercial bodies are regarded, and the result of such comparison is almost disheartening. If a board of trade endorses certain legislative enactments for the protection of the financial interests of a community, the masses of the people have sufficient confidence in the integrity of this board to wisely rely on and be governed by their endorsement. The press will come to their assistance and, if need be, a fund is created for the promotion of the enterprise.

Let a medical organization, on the other hand, originate or endorse measures which have a vital bearing on the health of the same community, and to whom will it look for support? The press in certain instances is subsidized by advertising charlatans, and the people, instead of according us their moral support, are either indifferent to our efforts in their behalf or are ready to rise in denunciation of our most honest purposes. The same confidence that is accorded us as individuals is denied us as an organization. Probably this is because the people, not being aware of their needs, resent as an interference any unsolicited or unrewarded action in this direction; for as concerns other matters of even less importance where the physician's assistance and council is solicited and remunerated, he must needs feel complimented and gratified over the confidence that is reposed in his integrity, ability and veracity. Courts of justice are guided or influenced by our expert testimony, even when the very life and liberty of people are at stake. Civil and military authorities rely implicitly on our statements and opinions, and there is a liberal and generous spirit manifested toward our individual efforts which renders it remarkable that our concerted political influence is so limited. I believe that little has ever been accomplished by the mere adoption of resolutions by medical organizations; and, on the contrary, I believe that the influence we as individuals might exert politically is practically unlimited. And when we note that through defective or unjust legislation our professional institutions are endangered, it becomes as much our duty to exert our political influence as to protect from violation the sanctity of our homes.

I believe that we neglect to utilize our peculiar advantages to educate the people to a realization of our needs and the impositions that they are subjected to at the hands of impostors and degenerates. The physician is in close contact with his patient at a time when his ear is most receptive to instruction and his nature most responsive to our honest appeal for justice. We watch the busy practitioner in the discharge of his daily duties. He it is who ministers to the sick and suffering around us, his the face to welcome to returning life and health those stricken by disease, his the voice to lend comfort and courage to woman on the verge of maternity, his the hand to close the eyes for their eternal sleep and to wipe the death damp from the brow. His the first voice to tender solace and comfort to that family visited by the grim destroyer and bid the stricken souls take hope again. To his patients he is more than a friend and his opportunity for exerting an influence is without limit and without rival. I ask, are we not remiss in the duty we owe our profession when we fail to enlighten the public as to our most pressing needs?

The physician, in order to practice his profession in our state, must, in compliance with the statute, have graduated from a reputable medical college and must further appear before a district board of medical examiners, whose duty it is to pass on his qualifications to practice medicine. An osteopathist, a spiritual or mental healer or Eddyite can, with practically no preliminary preparation and with an absolute immunity from any examination as to his fitness, treat any disease or injury in the domain of medicine or surgery. I protest against the discrimination of requiring the medical man to prove his fitness and placing no restriction on those who are obviously unfit from lack of scientific attainment to practice medicine in any of its branches.

Not less far reaching in its baleful effects is the sale and advertising of patent nostrums throughout our state. I admit the handicap that our profession labors under when it denounces a patent nostrum or appliance of any kind, and from personal experience I am aware of the motives that are attributed to us. But it is no less our duty to make some personal sacrifice and try to create a healthy public sentiment that will protest against this growing evil. In battling with this evil we shall find as our opponents some of our most prominent national legislators, some of the executives of our principal states, the clergy and men and women of every sphere and station in life. That these people, with their pure and irreproachable intentions, will endorse patent nostrums

and quackery that are in most cases not only useless, but positively dangerous, can only be explained on the ground of their ignorance of the evil consequences. Thus we see that it is not only the masses, but the educated and well informed who need to be protected from the results of their own folly.

I protest against the assistance that is accorded quackery by the entire press of our country. I believe that with a very few exceptions newspapers throughout this land will lend their advertising columns to the teaching of doctrines known to be false and for the promotion of the sale of drugs and appliances that are only intended to be used for criminal purposes. Men who are recognized and admitted to be quacks and impostors can, for the slightest compensation, secure the co-operation of and completely subsidize our press for the purpose of defrauding the public, and thus endanger the health and life of a community. That through the medium of the press charlatanry thrives is best evidenced by the fact that as a business proposition the efficacy of newspaper advertisement is recognized by quacks and their patronage continues unabated. Abortifacients of all kinds are daily brought to the attention of the public through the medium of the press; and when a paper knowingly advertises any drug or measure which on the face of it has for its purpose the accomplishment of a crime, judged from every law of morals, the proprietor of that paper is guilty of complicity in crime. That they salve their consciences and excuse their complicity by disowning responsibility for the results of what they term legitimate business, is but a puerile plea and is an admission on their part that for a monetary consideration the columns of their paper are open for any fraudulent accomplishment that is without the pale of the law. If the physician in his practice should advocate the employment of the drugs that are with full license advertised in our press it would be regarded as not only a violation of our statute, but of a higher ethical and moral law as well. What the physician can not and would not do is with impunity accomplished through the advertising columns of our papers; and though it is well understood that death is a frequent result of this disgraceful newspaper complicity, their columns continue to reek with this criminally vile, obscene and noxious effluvium. The efforts and teachings of a hundred thousand physicians are set at naught by this very pernicious practice, and yet it continues unabated. The responsibility is saddled on the ignorant people and the demoralizing and often sad spectacle which we as medical men witness as a result of this disgusting abuse, is set aside by the newspaper proprietor as something aside from his province and unpleasant to contemplate.

As sacred a duty as that we owe the public is that duty we owe our fellow practitioners, and he who isolates himself from his professional workers and is left to his own devices and endeavors, robs himself of the sweetest and most comforting reward of his efforts. To our medical societies is due a full measure of thanks for the spirit of good will and harmony that pervades our ranks to-day. Through their medium we are brought to realize the importance of unifying our interests, to think and act in common, and are taught to feel our mutual dependence on each other. In the hands of no others is a physician's reputation so safe as in the hands of his fellow workers. A physician's whole life is but the history of his accomplishments and endeavors, and no one can so sympathize with his efforts as his confrères.

We watch the physician as he begins his career; the shadows are long in the west, life, strength and commendable ambition are his and roseate dreams fill his fancy. Though alternately elated and disheartened by his successes and failures, he finds with each passing year a more complete reward for his honest efforts. But no matter what might be the measure of his success there is no reward to him so wholesome and pure as the hearty handshake, the friendly nod and blessed words of approval of an older physician. We follow him still further in life's great battle. Throughout every turmoil and strife the physician is found and his presence is inseparably linked with men's greatest sorrows and most perfect joys. Success as a physician may have crowned his efforts, popular adoration may be his, and the world unites in according him just praise for his accomplishments, yet no popular applause, however loud, can overrule the judgment of his fellow workers. Without their friendly council, good will and approval his success will count as naught and his life and reputation will be only a glittering fraud. We follow him still further as he stands in the dim shadows; his race is almost run; the best days of his life, his strength and vitality have been freely given for the betterment of his fellow man, and now the "frosty fingers of time have touched him and turned his locks into a snowy crown." Yet better than the contemplation of his past success the brightest star in all his firmament is the seal of approval set on his life by the members of his own profession.

Until medical men can live together in harmony and concord, until they learn to recognize and admit the good, and cover with the cloak of charity the faults of their fellow workers, then only can they prove their worthiness of the perfect trust and confidence of the laity in their altruism and disinterested motives. I acknowledge with deep humility that we are too prone to turn a willing ear to the tongue of slander and too prone to doubt the honor and purity of those who are most entitled to our perfect confidence. Yet I believe that our profession is on a more exalted plane to-day than ever before, and dissension has no rightful place in our ranks. Every discordant note that emanates from our medical societies and every estrangement between members of our profession serve but to justly disparage us in the public mind and lessen the respect and confidence that is accorded us.

There are most respectable citizens in our profession who are not members of our medical societies and whose standing among medical men is not what it should be, yet these men have in them all those elements which go to making reputable physicians. We owe it to our profession to use our utmost endeavor to induce these men to abandon their selfish and isolated course and to identify themselves with our association. There would be a mutual profit that would ensue to all in consequence of this, and a fraternal communion with men of exalted ethical principles would make of these men useful and honorable members of our body. With an increased knowledge of their fellow workers and increased appreciation of the commendable purposes of our association they would become better men and better physicians and, "like the stained web that whitens in the sun, grow pure by being purely shone upon."

In improving the tone of our profession we advance our material interests by proving to the public our worthiness of their trust and confidence. Merit and genuine worth will not long remain unrecognized and our only hope for a full recognition of our political requirements is based on a strict observance of professional ethics.

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CHOREA AND RHEUMATISM.

Probably no subject in medicine has been more discussed in recent years than that of the possible etiologic relationship between the simple chorea of childhood and acute articular rheumatism. Nevertheless, there is at the present time no subject in which there is more need for clinical observation and for the collection of valuable statistics by the general practitioner than in this problem of the possible connection between these two very familiar affections. At the recent meeting of the British Medical Association two meetings of the Section on Children's Diseases were taken up with the discussion of chorea and rheumatism, and some of the best special authorities in pediatrics took part in it. The report of the section meeting in the *British Medical Journal*[1] shows that while there is an almost universal agreement that chorea and rheumatism are frequently connected, it is now generally admitted that it is more because rheumatism is an infectious disease, with a liability to affect serous membranes, and consequently those of the brain also rather than because some specific action of the presumed microbe of rheumatism acts on the nervous system and sets up the convulsive movements we know as chorea.

Dr. Lees, in opening the discussion on rheumatism and chorea, said that while attacks of chorea are, in his experience, preceded by rheumatism less than once in three times, subsequent attacks of rheumatism occur in chorea patients in considerably more than one-half the cases. An attack of chorea, then, would seem in a sense to be the equivalent of an attack of acute articular rheumatism occurring particularly during the growing period in childhood when the nervous system is under the strain of a constant effort to keep up with its duty of providing innervation for the growing body. In the great majority of cases, Dr. Lees is inclined to consider chorea as a form of cerebral rheumatism. It is thought to affect not only the serous membrane, but also portions of the cortex, hence bringing about the explosions along motor nerve tracks that lead to the characteristic convulsive movements.

Following out this principle of the equivalency of rheumatism and chorea, Dr. Lees has found that the best possible remedies for chorea are the salicylates in what would ordinarily be considered forbiddingly large doses. He gives ten grains of sodium salicylate, with double this amount of sodium bicarbonate every two hours during the day and every three hours at night, so that the child gets altogether ten doses of the two remedies. The original hundred grains of sodium salicylate thus given each day is gradually increased to 150 grains a day, and finally to 200 grains, unless symptoms of salicylism, and especially the deep inspiration simulating the air hunger that occurs so often in diabetes should be noted. Without the combination with the alkali, salicylic poisoning is much more apt to occur, and seems to take the form of the so-called acidemia of diabetic coma.

Not many of the prominent English pediatrists would agree with the suggestion to give salicylates in such large doses as this, and Dr. Ashby, for instance, while confessing that chorea is very frequently associated with rheumatism and consequently should be helped by salicylic remedies, added that undoubtedly many cases of chorea would be seriously injured by large doses of such coal-tar products. He called attention particularly to the fact that chorea not infrequently occurs in overgrown anemic girls, apparently as a consequence of the lack of control over the motor nervous system in conditions in which the blood is lacking in important constituents. In these cases the salicylates are not only not advisable, but are absolutely contraindicated, quite as much as they are in cases of rheumatism after the acute febrile painful stage has passed and the patient is suffering from the intense anemia which develops so rapidly in many cases of acute articular rheumatism.

Dr. Poynton suggested that chorea is practically always due to a microbic cause. The microbe found in many cases is of the streptococcus group and resembles organisms known to occur in rheumatic conditions. Pure cultures of this microörganism when injected into animals have been known to produce choreic movements, and in certain cases also have given rise to joint lesions. These discoveries point to the fact that chorea is due either to focal lesions in the central nervous system of patients or to the fact that the toxins in certain persons whose nervous systems are not in stable condition have a selective action on the motor tract that leads to the nerve explosions represented peripherally by the choreic movements.

As a matter of fact, however, the whole discussion brings out the practical conclusion that the absolute connection between rheumatism and chorea is not yet demonstrated. One unexplained fact of great interest is that while rheumatism is more common in males, chorea is more frequent in females. Neurologists, too, point to the thoroughly accredited observation that a serious fright or some severe emotional strain may be followed by a frank attack of chorea which runs just the same course as the corresponding affection that occurs apparently as the equivalent of an attack of rheumatism. That there is some connection between infection and chorea there is very little doubt, though the infectious material is by no means necessarily limited to the so-

1. Brit. Med. Jour., Aug. 29, 1903. Abstract in THE JOURNAL A. M. A., Sept. 19, p. 750.

called rheumatic group. Other children's diseases may have as a sequel an attack of chorea and even such simple infections as a furuncle, or a whitlow may be followed by a regular attack of chorea. In a word, the subject is still open for significant observations, and as practically every practitioner is in a position to secure valuable data for the solution of the problem, it remains one of the most interesting in the field of clinical medicine.

SUGGESTIVE THERAPEUTICS V. HYPNOTISM.

The recommendations of the Mendel Commission of 1902 as regards the use of hypnotism are combated by Forel at considerable length.[1] He holds that hypnotism has a proper and very important place in therapeutics, and that its legitimate use should be a part of the instruction of the medical student. The lack of this he apparently considers a serious defect in the medical education of the day. The Journal has expressed its opinion at various times in regard to the therapeutic use of hypnotism, and, notwithstanding the high authority of Professor Forel, we can not agree with him as to its importance. We do not, of course, mean here to imply that suggestion is not of importance; suggestion in some way or another, consciously or unconsciously, is daily employed by every physician, and is the sole basis of the success of the Dowieites, Eddyites, etc. It has its limitations, however; there are limits to normal suggestibility, and it is altogether possible that even waking suggestion may have its perils in special cases. Nevertheless, it is a subject that deserves to be more studied by the profession, and when it can be used honestly it will often be found a valuable aid in treatment of a special class of cases.

It is not necessary or even expedient that because it is used successfully by humbugs that we should adopt their methods. No honest physician could pretend to the special magnetic or divine power which is the essential element of the success of charlatans of the pseudo-religious and mind cure variety. The final, as well as the immediate, results must be considered. Hypnotism, as we understand it, is another thing, though Forel considers it the same. The difference is more than one of degree; it is practically the difference between somnambulism and the waking state; hypnotism is a sort of induced trance state or somnambulism, and this is a pathologic rather than a normal condition. Hypnotism, as it is generally understood by the profession, and we believe the understanding is a correct one, is very much more than suggestion; it is the abnormal excitation of hysterical disturbances of consciousness and even what we may call epileptiform conditions of amnesia and, in some cases, double consciousness. Forel is hardly frank, therefore, when he says that sleep is a useful element in treatment, and our adding more or less of it to suggestion is legitimate; hypnotic trance conditions are not abnormal physiologic sleep, nor are they used as such by hypnotic therapeutists to any extent. Nor do we believe that he is correct in calling hypnotism harmless; its dangers have been repeatedly illustrated, and we think they often outweigh its possible advantages, even in skilled hands.

The history of hypnotism itself shows how little it can be relied on. It has been before the profession for the better part of a century, has had many advocates fully as enthusiastic as Professor Forel, and, while he and the other later investigators unquestionably understand it better and utilize it more scientifically than their predecessors, nevertheless they have not gained for it a satisfactory standing with the scientific medical profession, as the report of Professor Mendel's commission shows. The profession is, we believe, more than ever awake to the importance of suggestion, not only on account of the possibilities of its legitimate use, but also on account of its constant employment by quacks and impostors. It leaves hypnotism largely alone, and the number of those who employ it will, we think, be less in the future than in the past. It will doubtless continue to be employed by some special workers who will claim its advantages as they have in the past, and it will probably be useful in a limited number of cases, but we should dread to see its popularization as a therapeutic method. That Forel, Bramwell and others have seen no special bad effects from their careful and skilled use of hypnotism does not prove that it would not be a peril in other hands. Moreover, there is always in our minds the possibility that they do not look on the subject with an altogether impartial eye. That there have been serious effects from hypnotism is undeniable; many cases have been reported, notwithstanding the fact no one would naturally like to report evil results from such measures employed for therapeutic results. We believe that the opinion of the German Commission should carry more weight than the utterances of special advocates and enthusiastic workers in this special line, however eminent they may be.

1. Muenchener Med. Wochen., August 11.

THE DOCTORATE OF PHILOSOPHY IN MEDICAL SCIENCES.

Science recently published a review of the doctorates of philosophy conferred by American universities during the past six years which reveals some facts of interest in connection with medical education. Two hundred and sixty-six doctorates were conferred last year, which is the greatest number of any single year, but there is little evidence of growth in the numbers for the past six years, which are in order 234, 222, 239, 253, 216, 266. Doctorates in medicine are by no means the only ones that are "milled," for it was found that one unknown "university" in Indiana led all others, with a total of forty-five "Doctors of Philosophy." As this institution has no productive funds, and its total income from all sources was $4,500, the production of such doctorates at a cost of $100 a piece, not to mention the other degrees,

makes its position decidedly unique. Needless to say, *Science* has not included these forty-five "doctors."

Four-fifths of the degrees are conferred by seven universities, ranking in order as follows: Yale, Chicago, Harvard, Johns Hopkins, Columbia, Pennsylvania and Cornell. Just about equal numbers of degrees were awarded in science and in the "humanities," and what may seem astonishing to the scientist, there has been no appreciable gain by science on humanities in these past few years. Of particular interest to us, however, is the following table:

DOCTORATES CONFERRED IN THE SCIENCES.

	1898	1899	1900	1901	1902	1903	Total.
Chemistry	27	32	26	28	26	33	172
Physics	11	7	15	23	12	14	82
Psychology	18	15	9	13	8	16	79
Zoology	12	11	11	15	16	12	77
Mathematics	11	13	11	18	8	7	68
Botany	11	11	12	8	11	9	62
Geology	6	5	5	10	6	10	42
Physiology	4	1	4	1	8	8	26
Astronomy	3	2	4	5	2	4	20
Education	0	5	8	2	1	2	18
Sociology	0	5	3	3	4	2	17
Paleontology	0	4	2	1	0	2	9
Bacteriology	0	1	1	1	1	3	7
Anthropology	2	0	2	1	0	1	6
Anatomy	0	0	0	1	0	4	5
Agriculture	0	0	0	0	2	2	4
Engineering	0	0	0	1	0	3	4
Mineralogy	0	2	0	0	1	1	4
Pathology	0	0	0	0	0	3	3
Meteorology	0	1	0	0	0	0	1
Total	105	115	113	131	106	136	706

Here there is shown a most gratifying increase in the degrees in medical science. Physiology has graduated sixteen doctors in the last two years, against ten in the four years preceding. Of seven degrees in bacteriology three were given this year, while four of five degrees in anatomy were also given this year. Pathology makes its first appearance in the list with three degrees, although from a perusal of the titles of all the doctorate theses in science it seems that two of the three are really in bacteriologic subjects. This growth of degree-giving in those biologic sciences most intimately related to medicine is to be attributed to the growth of the spirit of a higher medical education, and is one of the encouraging signs of the times.

That anatomy and pathology have not been taught before in a way that might lead to graduate students taking them up as branches to be followed through the long stretches of labor that are required for the doctorate is regrettable, but that they are now considered as full departments of university work marks a much desired progress in medical education.

REMARKABLE FECUNDITY.

It is stated by one of our British contemporaries that a petition has been presented to the Italian government for a pension in favor of Signora Magdalena Grametta, who during twenty years of married life has been the mother of sixty-two children—fifty-nine boys and three girls. The details are not given, but before one would care to estimate the value to the state of such hyperfecundity, it would be interesting to know how many of these children survived. If the example were to be extensively followed, Malthusian ideas would undoubtedly become popular. The fact is an interesting one, however, in view of the allegations that are made as to the decreasing fecundity of the race in some countries. There seems to be no such defect in Italy, at least in exceptional cases.

KOCH'S RECENT EXPERIMENTS ON BOVINE TUBERCULOSIS.

Koch's experiments on the immunization of cattle against tuberculosis, which have been carried on for two years past, are reported by Neufeld.[1] The results of these experiments, the latter asserts, confirm Koch's statement of the non-identity of human and bovine tuberculosis, in fact, give the key to immunization research. It was possible in animals which were only capable of being affected by one toxin to produce immunity to this toxin by previous treatment with the other. The experiments were made with goats and asses, and later carried on in cattle. Some curious results in regard to the toxic dose of extract of tubercle bacilli were noted, but these will be described more fully in the abstract of the paper to be given in our next number. They find it impossible to produce immunity in guinea-pigs. The problem of producing immunity in man is somewhat different, but the results of these experiments are hopeful in their indications. The article is an interesting one and will undoubtedly receive considerable attention.

THE BRAIN WEIGHT OF THE JAPANESE.

It is not very long since someone stated, and the statement was generally quoted by the daily press, that the Japanese possessed the greatest brain weight of any modern race, and the natural inference was drawn that they would in time show their mastery. We have had few accurate data on which to base such a statement, and the one made may be taken as not specially authoritative. Recently, however, Professor Taguchi has been studying the brain weight of the Japanese and has given figures of the examination of some 597 subjects, which figures are analyzed by Dr. E. A. Spitzka in the last issue of *Science*.[2] Spitzka finds by these statistics that the Japanese certainly do show very respectable brain weights. He has used Professor Taguchi's data as to the relation between brain weight and stature, and, while the methods of tabulation differ to some extent, he finds that they correspond very closely with the figures given for the Germans, and are a little less than those given for the Szechs, as reported by Matiegka from some 306 specimens examined. Calculating also the number of grams per centimeter of the stature, the relative brain weight is about the same in the races mentioned, and only in the very small Japanese individuals is the ratio high. The relation of brain and body weight is not a reliable method, as Spitzka points out, since the mode of death and other factors materially influence the statistics. The figures seem to show that the brain of the Japanese grows more slowly in infancy and early youth than it does in the European, but the adult brain would compare favorably with that of the European of the same stature, and may be shown to be superior in this

1. Deutsche Med. Wochen., Sept. 10, 1903.
2. Science, Sept. 18, 1903.

respect to other races of the same general stature. Spitzka suggests that the facts are not of a little significance in relation to the recent progress of the Japanese.

SUICIDE IN THE UNITED STATES.

THE JOURNAL has previously noticed the communications published by Mr. Frederick Hoffman of the Prudential Life Insurance Company in the *Spectator* on the subject of suicides in the United States. In that journal, August 27, he gives a review of the suicide records of fifty of the principal cities in this country for 1902, with a comparison with the ten years preceding—1892 to 1901, inclusive. The record shows an increase in the rate during the year in twenty-eight towns, a decrease in twenty-one, and in one small town only was the ratio unchanged. The total gives the decided increase of from only twelve in 1890 to over seventeen per 100,000 of the population. Another table shows that the suicide rate has increased during the past thirteen years from twelve per 100,000 in 1890 to 1902. The gradual progressive increase would indicate that a still higher ratio may be reached in the future. To still further illustrate the importance of the subject Mr. Hoffman tabulates the suicides in New York City from 1804 to 1902, showing a marked increase during the last twenty years, though previous to that time there had been a fall which was quite marked between 1842 and 1868. The suicide rate during the first quarter of the century was much higher than during the second, while in the last one-half it has gone far beyond the earlier figures. What these figures indicate is perhaps a subject for some speculation; the great increase of urban population, the vast influence of the foreign element in our population, many of them coming from countries where suicide is much more prevalent than here, and the increasing stress of modern life and the arduousness of its conditions must all have their effect. They also show that in time of great national excitement, as during the 60's, there may be a decided fall in the suicide ratio to be made up for afterward, possibly as the later results of the special form of stress at that time. The figures Mr. Hoffman gives, as stated, are from fifty selected cities, probably those in which the suicide statistics were most available and most reliable. Still the omissions of such places as San Francisco, Denver and Kansas City are notable, and probably may have some influence on the general ratio. A large number of smaller towns are not included in the list, though fully as important and as large as some that are included. Taking it altogether, however, the statistics probably give us a fair showing as to the suicide ratio and its variations in the United States.

A CLERGYMAN'S DEFENSE OF ANIMAL EXPERIMENTATION.

While a few clergymen have committed themselves to the side of antivivisection, especially in Great Britain, there are many others of all churches who take the rational, and not the sentimental and pseudo-humane, view of the subject. Among the latter may be mentioned the Right Rev. Mgr. J. S. Vaughan, one of the most prominent prelates of the Roman Catholic Church in Great Britain. It is unnecessary for any one to bring out new arguments in favor of vivisection, but Monseigneur Vaughan puts the case, in a recent communication to an English periodical, the *Humane Review*, in a way that ought to be convincing. He says:

> Here is, let us say, an ordinary good-natured and able physician whom we will call Dr. X. His whole aim and object is to diminish pain and to allay suffering. It is not in his power to destroy it, therefore he directs his efforts to alleviate it. He knows that men are by far the most sensitive of sufferers. He knows that they are subject to certain painful diseases. He has good reason to think that a certain treatment would bring great relief, and perhaps even produce a cure. But his reasoning may be defective, and he can not ascertain with any degree of certainty whether his opinion be well founded unless and until he can test his theories by actual experiment. That is to say, he must actually apply the remedies. It is essential that he should make the experiment on a living organism of some kind. But on whom? Well, there are but two classes of creatures to choose from. He must make it either on a human being or else on a beast; either, let us say, on a sick child or on a rabbit. The antivivisectionist objects to all experiments on animals, and in effect answers, "The experiment must be made on the sick child, not on the rabbit!" And this is why we call the antivivisectionist cruel. We, on the contrary, hold that the experiment should be made on the rabbit or other beast, and not on the unfortunate sick child. Yet, on that account we are called cruel. Our reason for maintaining this view is, first, because the beast is less sensitive to pain. Secondly, because its loss of life, should the experiment prove abortive, is of far less consequence. Thirdly, because the child is our own very flesh and blood, and a member of our great human family, and has immeasurably greater claims on our pity. Fourthly, because God has given men domain over the beasts of the field.

The antivivisectionists have elevated their zoöphily above Christianity, and it is a satisfaction to have a champion of Christianity whose views of the scriptural side of the subject can not be questioned against this modern Brahminical nonsense which has nothing Christian in it. It is inhumane in its very essence. While God, as we are told by the Savior, takes account of every sparrow that falls, yet we are told in the same connection: "Ye are of more value than many sparrows"—a passage we fear the antivivisectionists would like to have blotted out of Holy Writ.

Medical News.

ILLINOIS.

Personal.—Dr. Everett H. Butterfield, Ottawa, has been reelected physician of La Salle County.——Dr. Homer A. Millard, Minonk, sailed for Germany, September 15.

Faith Cure Case Remanded.—The Appellate Court, fourth district, has rendered a decision in the case of the Board of Health of Illinois versus S. E. Peden of Centralia, who was charged with practicing medicine without a license, and who was tried twice in Marion County. He was first tried and acquitted before a justice of the peace, then before the County Court, with the same result. The State Board of Health then took the case to the Appellate Court, which reversed and remanded it on account of defective instructions, and it will go back to the County Court for another trial. Peden's defense is that his practice is simply laying on of hands, which he contends is in no sense the practice of medicine.

Chicago.

University of Illinois Medical Department.—The regular session of the College of Physicians and Surgeons opens October 1 with an address by Dr. George P. Dreyer.

Fewer Deaths.—The deaths for the week ended September 19 were fewer than in that preceding, being 496, against 504. The death rate per 1,000 per annum was 12.97 per 1,000,

against 13.94 for the week before, and 13.83 for the corresponding week of 1902.

Rush Medical College.—The graduating exercises will be held October 6. The address will be delivered by Prof. Charles Scott Sherrington, the eminent physiologist of Liverpool.——Dr. Frank W. Lynch, formerly of the department of obstetrics and gynecology at Johns Hopkins University, will assume his duties on the staff of the college on October 5.

Personal.—Dr. A. E. Halstead has been appointed attending surgeon to St. Luke's Hospital.——Dr. and Mrs. Daniel R. Brower, Jr., sailed for Europe, September 22, on the *Kaiser Wilhelm II.*——Dr. James Nevins Hyde has returned after a summer on the coast of Maine.——Dr. and Mrs. R. D. Macarthur have returned from Old Orchard Beach.——Dr. E. Fletcher Ingals, who has been rusticating in Connecticut for the last two months, will return to Chicago to-morrow.

Examination for Assistant Bacteriologist.—The Civil Service Commission of Chicago will hold an original entrance examination for the position of assistant bacteriologist of the health department, Oct. 22, 1903, in room 400, City Hall. The salary attached to the position is $1,000. Those taking the examination must have been residents of Chicago for one year, and must file application prior to the examination. Application blanks may be procured by addressing T. J. Corcoran, secretary Civil Service Commission, room 400, City Hall.

IOWA.

Withdraws Resignation.—Dr. Lewis Schooler, Des Moines, has reconsidered his action taken a short time ago and has resumed the chair of surgery in the medical department of Drake University.

Physician Assaulted.—Dr. Edgar L. Bay, Eddyville, while returning from a call in the country, was struck on the head and stunned by an unknown individual, whose motive is supposed to have been robbery.

Colleges Begin Work.—Keokuk Medical College began its work for the year, September 15, with an address by Dr. Alonzo B. Hughes.——Sioux City College of Medicine opened September 8 with an address by Dr. Charles M. Wade.

Many Not Registered.—The county recorder of Woodbury County has discovered that from 10 to 20 per cent. of the practitioners of medicine in that county have not registered their certificates with the county recorder, as required by law.

Reality was Disappointment.—Because an enterprising advertising practitioner of Des Moines used a picture of the state house on his circulars and pamphlets, thereby creating the impression that his sanatorium had five gilded domes and countless windows, he has been indicted on the charge of obtaining money under false pretences.

MICHIGAN.

Press Committee Appointed.—The Wayne County Medical Society has decided to appoint a press committee, whose duty it shall be to prepare the news of the society in digestible form for the lay press.

Personal.—Dr. Robert E. Cooper, Plymouth, has typhoid fever, and has been removed to Harper Hospital, Detroit.——Dr. Jerry M. Jones, Bay City, charged with failure to report communicable diseases, has been discharged.

Communicable Diseases.—Meningitis was reported present during August at 3 places; whooping cough at 36 places; measles at 46 places; diphtheria at 49 places; smallpox at 61 places; scarlet fever at 92 places; typhoid fever at 127 places; and consumption at 226 places. Meningitis was reported present at 2 places less; whooping cough at 4 places less; measles at 39 places less; diphtheria at 6 places less; smallpox at 20 places less; scarlet fever at 4 places less; typhoid fever at 48 places more, and consumption at 10 places more, in August, than in the preceding month.

August Mortality of Michigan.—The total number of deaths in Michigan during August was 2,800, an increase of 147 over the preceding month. The death rate was 13.3 per 1,000 per annum. There were 688 deaths of infants under 1 year, 211 deaths of children from 1 to 4 years, and 697 deaths over 65 years. Important causes of death were as follows: Tuberculosis, 187; typhoid fever, 44; diphtheria, 37; scarlet fever, 16; measles, 2; whooping cough, 37; pneumonia, 100; diarrhea and enteritis, under 2 years, 386; cancer, 157; accidents and violence, 240, including 32 deaths from drowning and 7 deaths from lightning. There were 2 deaths from smallpox.

Comparative Morbidity.—For August, compared with the preceding month, diarrhea, cholera morbus, dysentery, cholera infantum, typhoid fever and inflammation of bowels were more prevalent; and pneumonia, measles and inflammation of brain were less prevalent. For the same month, compared with the average for August in the 10 years previous, pleuritis, tonsillitis, diphtheria, scarlet fever and smallpox were more than usually prevalent; and diarrhea, cholera morbus, dysentery, consumption, cholera infantum, intermittent fever, inflammation of bowels, remittent fever, erysipelas, inflammation of brain, and meningitis were less than usually prevalent. Diarrhea, dysentery, cholera infantum and cholera morbus are usually most prevalent during July, August, September and October, but these diseases were from twenty-six to forty-five per cent. less prevalent than usual in the August just passed.

MISSOURI.

Failed to Register.—The first fruits of the crusade against unregistered physicians in St. Louis were apparent when 85 practitioners were cited to appear before Judge Tracy, on September 18, to explain why they had not complied with the law.

Results of Flood.—Since August 1, 30 deaths from typhoid fever have been reported in Kansas City, and about 75 cases are under treatment in the various hospitals of the city. It is impossible to estimate the additional number of patients under treatment at their homes.

Personal.—Dr. Horatio S. Jones, Kansas City, was recently thrown from a cable car and injured his spine.——Dr. Lemuel T. Hall, superintendent of State Hospital for Insane, No. 4, Farmington, has resigned, and Dr. Frank L. Keith has been appointed temporarily to fill the position.——Dr. John M. Doyle, St. Joseph, who was operated on for appendicitis, September 9, is securely convalescent.

College Year Opens.—Ensworth Medical College, St. Joseph, opened for its twenty-eighth year, September 2.——Central Medical College, St. Joseph, held its tenth annual opening exercises, September 7. Addresses were made by Dr. Thompson E. Potter, president, and Dr. O. Beverly Campbell.——Medico-Chirurgical College, Kansas City, opened its seventh annual term, September 7, with an address by the dean, Dr. George O. Coffin.——Kansas City Medical College began its thirty-fifth year of work on September 9.

NEW JERSEY.

Medical Staff Want Interne.—The board of governors of North Hudson Hospital have decided that an interne should be secured for the institution at a salary of $200 a year. One half of this amount the medical staff has agreed to pay.

New Eye and Ear Infirmary.—A new building to cost $50,000 will be ready next year for the Newark Charitable Eye and Ear Infirmary. The building is to be fireproof, will accommodate 30 in-patients, and an unlimited number of dispensary cases.

Personal.—Dr. John C. Applegate, Bridgton, has moved to Philadelphia, where he has accepted the chair of obstetrics in Temple Medical College, and the position of obstetrician to the Samaritan Hospital.——Dr. Richard R. Rogers, Trenton, on the occasion of his eightieth birthday, was tendered a reception by 300 of his friends, and was presented with a reclining chair by the members of the city board of health.

NEW YORK.

Cornerstone Laid.—Bishop McDonnell laid the cornerstone of the new hospital being erected by the Little Sisters of the Order of St. Dominic, at Jamaica, September 17.

Temple Again.—Franklin Stewart Temple, who attained unenviable notoriety by reason of his connection with "Antonius" the faker of Buffalo, has visited Jamestown, and certain individuals who had been under his care there are now asking the police to try and locate the healer.

Personal.—Dr. Augustus G. Pohlman, Buffalo, has been appointed assistant professor of anatomy in Johns Hopkins University, Baltimore.——Dr. William L. Russell, Willard, has been appointed Medical Inspector of Institutions for the Insane.——Dr. Richard H. Hutchings, assistant physician at the St. Lawrence State Hospital for the Insane, Ogdensburg, has been appointed superintendent, vice Dr. William Mabon, resigned.

New York City.

Sold Free Antitoxin.—Dr. Anton M. Lacina, charged with selling antitoxin furnished him without charge for use of the poor, pleaded guilty and sentence was suspended.

Suicide on the Increase.—In 1902 there was 772 suicides in Greater New York. Ten years ago the number was about 50 per cent. less. Of the suicides 196 were women, 73 of whom were native-born. In Manhattan and the Bronx the suicide rate per 100,000 has increased from 14 to 22 in the last ten years.

The New Gouverneur Hospital.—Plans for the new hospital have been filed. They provide for the erection of the additional west wing to the present five-story and basement main building, also for a one-story rear extension into the courtyard, and for the erection of a two-story ambulance station, with a stable annex. The new building, when finished and furnished, will cost the city about $500,000. The additional wing and extension are to cost $250,000 and the ambulance station will cost an extra $25,000.

Buffalo.

Warning to Milkmen.—The health commissioner has sent each milkman and dairyman of Buffalo a warning note on milk adulteration and adulterants. Any milkman who is guilty of adulterating milk or cream will immediately have his license revoked.

Personal.—Dr. Matthew D. Mann has returned from the lake shore.——Dr. Irving P. Lyon has returned from the Adirondacks.——Dr. Dewitt Sherman has returned from Bar Harbor, Maine.——Dr. Irving M. Snow has returned from abroad.——Dr. John Woodruff is in the Bermudas.——Dr. Frederic Zingsheim is seriously ill with typhoid fever.——Dr. Gustav A. Hitzel has returned from Atlantic City.

Another Eddyite Death.—A girl of 14 died of diphtheria without medical attendance, having been treated by an Eddyite, and in order to comply with the law Dr. J. L. McAdam was called in shortly before death. He refused to issue a certificate, and referred the case over to Health Commissioner Greene, who has given it, with all the facts bearing on the case, into the hands of the district attorney for prosecution.

August Mortality.—The monthly report of the department of health for August shows an annual mortality rate of 16.98 per 1,000. Among the principal causes of death are: Consumption, 37; cerebrospinal meningitis, 4; cholera infantum, 57; diphtheria, 14; measles, 13; typhoid fever, 9; debility, 35; cancer, 26; apoplexy, 19; valvular heart disease, 13; pneumonia, 20; appendicitis, 11; cirrhosis of the liver, 8; diarrhea, 14; enterocolitis, 12; gastroenteritis, 15; nephritis, 23, and violence, 46. The total deaths for August, 1903, were 538, as compared to 520 for August, 1902.

OHIO.

Adjudged Insane.—Dr. Patten McConnell, Arnold, has been adjudged insane and ordered to be committed to the State Hospital.

Personal.—Dr. Francis M. Smallwood, Chillicothe, was stricken with paralysis while crossing Saginaw Bay.——Dr. Ernest C. Voltz, Chili, attempted suicide by poison recently, but an overdose saved him.

The Reeve Anniversary.—The Sisters of St. Elizabeth Hospital, Dayton, gave a dinner to the staff, September 7, in honor of the twenty-fifth anniversary of Dr. John C. Reeve's services as chief of staff.

In the Hands of the Law.—O. P. Cooper was fined $100 and costs at Uhrichsville for practicing medicine without a license.——Dr. Maurice Smith, Massillon, was recently fined $10 and costs for failing to report births and deaths as provided by law.——Warrants have been issued at the instance of the Lorain County Medical Society for the arrest of Mrs. A. Chapel, Mrs. Eva Sokol and Mrs. Mary Miskien, charged with practicing midwifery without license.

College Openings.—Miami Medical College will open as a coeducational institution, October 1.——Ohio Medical University, Columbus, opened September 16; Dr. James U. Barnhill presided.——The forty-eighth year's work of Starling Medical College began with a clinic by Dr. Starling Loving, September 16.——Cleveland College of Physicians and Surgeons opened for the year with an address by Dr. Samuel W. Kelley, on "Medical Students I Have Known."——Toledo Medical College opened for the year on September 24.

PENNSYLVANIA.

Philadelphia.

Child Labor.—Believing that the child labor law is grossly violated in the city, Director of Public Safety Smyth has instructed police lieutenants to ascertain where children under fourteen years of age are employed in stores, factories and mercantile places.

New Building Dedicated.—October 4 formal exercises will mark the dedication of the three new buildings of the Jewish Hospital. These buildings are the Eisner Home for Nurses, already occupied; the Loeb Memorial Operating Building, and the Guggenheim Private Hospital. The latter two will be ready for use within a few weeks after their dedication. The hospital grounds comprise twenty-two acres situated on the Old York Road, containing in all fourteen buildings.

Colleges Open.—Jefferson Medical College was formally opened September 24, with an address by the president of the board of trustees, Hon. William Potter.——All the departments of the University of Pennsylvania, including the medical, were opened September 25. Provost Harrison made an address.——The Medico-Chirurgical College will open September 28, Dr. Geo. H. Meeker, professor of chemistry, delivering the opening lecture.——Class work was resumed at the Woman's Medical College, September 23, there being no formal opening address.

The Typhoid Situation.—New cases of typhoid fever numbering 82 were reported for the week ended September 19, a decrease of 53 from the previous week. Seventy-eight cases have been reported from the Twenty-first ward since August 1 The very large number of cases in this section has led to a special investigation of the cause by Chief Abbott of the bureau of health, with the resulting report that sewage conditions were in many places bad, but that, of the victims in this section, over fifty per cent. were found to have purchased their milk from one dealer. On further investigation, it was found that within the last few months three members of the family of this dairyman had had the disease. On the reasonable assumption that the milk handled by the dealer had been accidentally contaminated, he was ordered to discontinue the sale of milk until thorough disinfecting measures had been carried out.

Segregation.—A handsome and roomy brick and cement building has just been erected in the Philadelphia Hospital grounds in which are to be placed the families of patients suffering from contagious diseases, except smallpox. The patient himself will be taken to the Municipal Hospital, while his relatives are thoroughly sterilized in the new building. There are fifty rooms in the house, each ten feet square, for the accommodation of the occupants, and the receiving ward is separated from the living rooms by porcelain doors. The number of rooms allotted to a family will vary in accordance with its size, but all the families brought there will be made comfortable at the city's expense during the period of their detention. Meanwhile the home of the family will be in the hands of the board of health, and formalin gas diffused through the house for twenty-four hours. In case the patient is suffering from smallpox his family will be taken to the Municipal Hospital with him.

Phipps Institute Lectures.—The Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis has arranged for the coming fall and winter series of lectures by well-known physicians on the various phases of tuberculosis. Some of these lectures will be more or less popular in character and all will be free to the public. The auditorium of the Witherspoon Hall at Juniper and Walnut streets, Philadelphia, has been selected for the purpose, having a seating capacity of nearly twelve hundred people. A cordial invitation is extended to the profession in general to attend these lectures. The first lecture will be given by Dr. E. L. Trudeau of Saranac Lake, New York, during the last week in October, his subject being "The History of the Development of the Tuberculosis Work at Saranac Lake." The following additions to the staff have been made: Dr. M. P. Ravenel has been appointed assistant medical director and chief of the laboratory; Dr. E. A. Shumway, ophthalmologist, and Dr. J. F. Wallis, dermatologist.

Assistant Chiefs Appointed.—Each visiting physician to the Philadelphia Hospital has recently been given the privilege of sending, at times, a representative to look after his wards. Following are the assistants appointed, known as assistant chiefs; Assistant physicians—Drs. B. F. Stahl, Norman G. Gyn, John Da Costa, John H. Cruice, R. H. M. Landis, William

Pepper, H. C. Wood, Jr., J. S. Evans and J. N. Henry; assistant surgeons—Drs. W. P. Hearn, M. B. Miller, R. H. Loux, M. P. Warmouth, J. B. Carnett, D. G. Metheny and T. T. Thomas; assistant obstetricians—Drs. Stricker Coles, J. C. Hirst, P. Brook Bland, E. P. Bainbridge, W. R. Nicholson, M. W. Griscom, and A. P. Berg; assistant neurologists—Drs. A. Gordon, J. W. McConnell, L. C. Peter, D. J. McCarthy, T. H. Weisenberg, and H. Carncross; assistant ophthalmologists—Drs. E. A. Shumway, J. C. Knipe, W. M. Sweet and A. R. Renninger; assistant dermatologists—Drs. E. J. Stout, S. H. Brown and H. J. Smith; assistant pathologists—Drs. John Funke, G. McConnel and R. M. Pearce; assistant laryngologists—Drs. Ralph Butler, M. W. Hinkle and W. G. B. Harland; assistant orthopedic surgeons—Drs. T. J. Rugh and Edward B. Hodge, and assistant pediatrists—Drs. A. H. Graham, Harry Lowenberg, Charles A. Fife and J. H. McKee.

UTAH.

New Isolation Hospital.—A new smallpox house has been erected at Salt Lake City to replace the building which was burned a short time before.

Fire in Hospital.—Heroic work by nurses and attendants prevented loss of life in a fire which damaged the Keogh-Wright Hospital, Salt Lake City, to the extent of $10,000, September 15.

August Vital Statistics.—During August 72 deaths were reported in Salt Lake City, equivalent to an annual death-rate of 11.52 per 1,000. During the same period 134 births were reported. Typhoid fever was multiplied seven-fold, 75 cases being reported during the month, with 2 deaths.

School Children's Diseases and Deaths.—For the year 1902-1903 Dr. Eugene W. Whitney, Salt Lake City, medical inspector of city schools, reports 114 cases of smallpox, 142 of diphtheria, and 110 of scarlet fever. Diphtheria caused 29 deaths; typhoid fever, meningitis and respiratory diseases, each 6; digestive and heart diseases, each 5; accident 3, and scarlet fever, 2. Defects revealed by inspection were: defective teeth, 260; defective vision, 284; enlarged tonsils, 128; mouth breathing, 25, and vermin, 52. Only one out of 45 had any eye disease.

GENERAL.

Plague in Manila.—Bubonic plague is reported in Manila's environs to the number of 100 cases and 80 deaths. Cholera is prevalent in all parts of the islands.

Guest of the Section on Ophthalmology.—Dr. Simeon Snell, Sheffield, England, has accepted the invitation to be the guest of the Section on Ophthalmology of the American Medical Association at the next session—Atlantic City, June 7 to 10, 1904. This news will be appreciated by ophthalmologists.

Hawaii Wars on Mosquitoes.—The endeavor to rid Honolulu and vicinity of the mosquito scourge is being pushed. Stagnant water is being removed and the edges of all streams and ponds are being freed of vegetation to enable the fish to feed there. Public meetings are held to instruct the people in prophylaxis.

Much Yellow Fever in Mexico.—At the city of Linares, Mexico, are reported 600 cases of yellow fever. The mortality is severe. The disease has not yet reached Monterey. Quarantine is strict. Monterey protests against quarantine, but the United States officials are determined to be on the safe side. Linares is almost isolated and business is nearly at a standstill.

Smallpox on the "Sherman."—A case of smallpox was diagnosed, August 1, on the transport *Sherman* at Manila. The ship was at once disinfected and proceeded on her way to Mindanao. The ship surgeon considers the source of the infection was a suit of clothes which was issued to a private in the Seventeenth Infantry in the state of Washington shortly before the transport sailed. The man wore the uniform to make a call on a young woman who had smallpox, and then packed away the uniform till he reached Manila. Here he used it again and received the infection.

CANADA.

The Opening of the New Medical Buildings of Toronto.—The first session of the newly amalgamated medical faculties of Toronto and Trinity will begin October 1, when the fine new medical buildings will be opened.

Montreal General Hospital.—At the regular quarterly meeting held last week, a memorial to the late Dr. Wyatt Johnston was discussed and referred to the committee of management. The ordinary receipts from Jan. 1 to June 30, 1903, amounted to $56,540, and the expenditures to $50,728. In addition to the ordinary income there has been received during the six months legacies amounting to $18,475. Improvements have been made to the extent of nearly $3,000.

Provision for Clinical Study of Infectious Diseases in Toronto.—The medical health officer of Toronto, Dr. Charles Sheard, who is also professor of preventive medicine in the amalgamated medical faculties of Toronto and Trinity, is making arrangements whereby fourth year students in medicine will be given clinical instruction in infectious and contagious diseases. This is a step which medical students at Toronto will very much appreciate as heretofore students have had to go out into practice without ever having seen a case of scarlet fever or diphtheria.

Lady Minto's Hospital Scheme.—Lady Minto addressed a meeting of the citizens of Vancouver, B. C., September 10, in which she outlined her cottage hospital scheme. Learning of the long distances many injured persons had to journey before securing medical aid, the plan was conceived that cottage hospitals established at convenient centers would do much toward relieving this suffering and distress. The Lady Minto Cottage Hospital Fund was started and rapidly grew until at the present time eleven of these hospitals have been established, scattered from the Atlantic to the Pacific oceans. In British Columbia there are three. An endowment fund yielding $5,000 annually is looked for. Already $100,000 has been received from Toronto, Ottawa and Montreal, and but $25,000 more is required.

Vaccinations in Montreal.—The Montreal Health Department has just completed a report of much interest to the citizens of that place. It shows an enormous increase in the number of vaccinations in the past few years. In 1902 the total number of vaccinations was 96,796, divided as follows: In schools, 52,301; in factories, 44,495. Another report shows the vaccinations by years since 1878, in which year there were 3,273. In 1885, when the smallpox was epidemic there, the number was 26,150. In 1895 the number was 2,872; in 1901 the number was 36,976. A very surprising and instructive table, "Smallpox vs. Vaccination," shows that out of 503 cases of smallpox, no less than 443 were never vaccinated. The reason for there being such an enormous increase in vaccinations for 1902 was on account of the compulsory by-law requiring factories, railways, schools and public institutions to exact vaccination certificates from those they employ or receive.

FOREIGN.

Study Tropical Diseases in Africa.—Drs. Dutton, Tod and Christy, of the Liverpool School of Tropical Medicine, sailed from Southampton, England, September 18, for Africa to study the sleeping sickness and other tropical diseases in the Congo River region.

Declining Birth Rate in Prussia.—In 1876 the birth rate per 1,000 in Prussia was 40.9, while in 1901 it had declined to 36.52. That of Berlin has dropped from 46 in 1876 to 26.68 in 1901. In 349 districts the birth rate has constantly declined, while in 210 it has increased. The latter are country districts and all in the west.

Cancer Asylum at Moscow.—This new institution for cancer research—the first of its kind in Russia—was duly completed and opened September 1. It has accommodations at present for sixty patients, and will soon receive a hundred. The expense of construction was nearly $150,000, given by a wealthy Moscow merchant. The building contains operating rooms and an amphitheater for demonstrations.

International Congress for School Hygiene.—This congress will be held at Nuremberg, April 4 to 9, 1904. Communications must be sent to the secretary, Dr. Paul Schubert, Nuremberg, before December 15, 1903. On account of the limited accommodations of this quaint old city those intending to attend the congress are requested to notify Dr. E. Stich as soon as possible in order that quarters may be reserved for them. The fee for the congress is $5, to be paid to the treasurer, Mr. Emil Hopf, 17 Blumenstrasse, Nuremberg.

Campaign Against Malaria in Italy.—The *Riforma Medica* states that quinin was administered regularly to 923 persons in the hotbeds of malaria during 1902, and only 44, that is 4.6 per cent., contracted malaria and the cases were mild. In the corresponding groups of persons not taking the quinin, but otherwise under the same conditions, from 18 to 82 per cent

contracted the disease, an average of 50 per cent. It adds that it has been officially calculated that at an expense of $8,000,000 a year it might be possible in the course of ten years to banish the last case of malaria from Italian soil.

Campaign Against Charlatans in Germany.—Magdeburg, Germany, has had 29 suits against charlatans in the courts during a single year recently. The charge was swindling in 10, personal injury in 2, death from criminal practices in 1, assumption of an unjustified title in 3, and infraction of the police regulations in the remainder. The Prussian and other states have decided to hold the advertisement editors of the press responsible for charlatan ads which promise cures impossible to realize or advertise articles known to be injurious. The editor of the *Osnabrücker Tageblatt* was recently summoned and fined $1.25 on two counts. One was for publishing an ad which lauded a truss without a spring, under the heading "No more hernias." The other advertised a certain eye water for weak eyes claiming that glasses would not be needed longer after two to four weeks' use of the water. The cases were appealed and the higher court confirmed the constitutionality of the decisions. The Carlsruhe board of health has issued a warning to the public in regard to a powder advertised to cure epilepsy in three days. It stated that the powder contained artemisia, which used to be a popular remedy against hysteric convulsions, but is powerless in genuine epilepsy, and that the price charged is extremely exorbitant.

Ankylostomiasis in Western Europe.—The French authorities have been conducting investigations which show that ankylostomiasis has not yet invaded France. Belgium is affected and energetic measures have been taken to stamp out the infection which was first imported into Germany and Belgium by the workmen returning from the construction of the Saint-Gothard tunnel in Switzerland. The Belgian government announced that it did not have the means to undertake prophylactic measures, and the city council of Liège, the point most affected, assumed the task in 1899. It appropriated $4,000 a year for examinations and small pensions to be given to affected persons, hoping in this way to induce the miners to declare the presence of the parasites more promptly. In addition to this, a special dispensary and hospital was established last year for those affected. This not only serves to keep the patients under surveillance during treatment, but is valuable as a means of isolating them and sterilizing the dejecta which otherwise would be a menace to others. The course at the hospital is also a training in hygienic and prophylactic measures so that the discharged patient is able to warn and instruct his comrades. The latest report from Bochum in Germany states that 50,000 out of the 250,000 miners there are affected with the parasite.

LONDON LETTER.

Report of the Commission on Dysentery and Typhoid Fever in the South African War.

In August, 1900, a commission consisting of Colonel Notter, Lieutenant-Colonel Bruce and Dr. W. J. R. Simpson was appointed to investigate the outbreak of dysentery and typhoid fever, which occurred in the South African War. It has just issued a valuable report. To Colonel Bruce was allotted the laboratory work. Regarding the various organisms held to be causative of dysentery his conclusions are mainly negative. He found no relation to amebæ or other species of organism nor any relation between dysentery and typhoid fever. Dr. Simpson fully describes the outbreaks of these diseases. He shows how the very insanitary environment as regards drainage, soil, disposal of excreta, and water-supply furnished ample sources for their spread, and points out how the flies swarmed from the latrines to the nearest unprotected food supply. The total number of cases of dysentery was as follows: first year, 11,143, with 546 deaths, a percentage of 4.9; second year, 13,131, with 427 deaths, a percentage of 3.2. Of typhoid fever there were in the first year 15,655 cases, with 3,647 deaths, a percentage of 23.2; in the second year 15,463 cases, with 2,530 deaths, a percentage of 16.3. The comparative absence of the fatal dysentery which usually attacks armies in the field was probably due to the excellent food arrangements, the soldiers obtaining their rations perfectly fresh and thoroughly cooked. The chief cause of dysentery was probably the drinking of surface water, especially the water of rivers, such as the Orange and Modder, holding in suspension a large amount of organic matter. Dr. Simpson points out a defect of organization: there was no specially trained and organized executive by which the recommendations made to the commanding officer of the various units could be carried out. This was the result of the persistent ignoring, as far as possible, of the medical corps by the military authorities. Dr. Simpson recommends that the medical corps should be divided into (1) a medical branch and (2) a health branch, and that the latter should be specially trained in preventive medicine.

The Anti-Mosquito Campaign in Egypt.

Major Ross has received a report that the anti-mosquito campaign, commenced less than a year ago by the Suez Canal Company (referred to in THE JOURNAL) and carried out according to his instructions, has been remarkably successful. The town of Ismailia is practically free from mosquitoes, which only a short time ago were very abundant. Even mosquito nets can be almost dispensed with, and people can sleep without being bitten. Two marshy swamps on the northeast of the town have been filled up with sand and a third one will soon be dealt with. It will be drained by a pipe 22 cm. in diameter which will convey away the water. A gang of 180 men are employed in filling up pools, moving the coarse grass and undergrowth, and clearing the numerous small channels in connection with the main canal. When they first commenced operations they were worried by swarms of mosquitoes toward evening, but scarcely any are seen now. The statistics of malaria in Ismailia show a remarkable improvement. From January 1 to June 30 of this year there were only 3 cases in hospital, against 52 for the same period last year and throughout Ismailia there were 569 cases from January 1 to May 30 in 1902, against 72 for the same period of this year.

Report of the Royal Commission on the South African War.

This report, which has just been issued, may be regarded as the last word on the so-called "hospital scandals," which caused so much sensation during the war. It clearly shows that before the outbreak of hostilities the military authorities overruled the demand of the surgeon-general for more men. He represented to them that the medical establishment was not even equal to the requirements of peace. When the war broke out practically the whole of the Army Medical Corps, officers and men, was exhausted in supplying the First Army Corps, and in manning the base and stationary hospitals. When, therefore, the Second Army Corps followed, assistance had to be obtained from civilians. Altogether 8,500 men were sent out, but barely a quarter of these were trained Army Medical Corps men. The commissioners attempted to obtain an idea of the percentage of medical strength which a force in the field required. Professor Ogston, who had studied the statistics of modern wars, said that the Medical Department should form about 5 per cent. of the strength of a force, but Surgeon-General Jameson thought that under favorable circumstances 2½ per cent. was sufficient. This was the percentage adopted by the War Office before the war. Including voluntary and outside assistance the medical strength during the war seems to have been from 3 to 4 per cent. of the total forces. The difficulty was in a war conducted over so large an area to secure that the medical personnel should be distributed in accordance with the need of localities or occasions. The most notable example of failure in this respect was the outbreak of typhoid fever at Bloemfontein. One great defect was pointed out: the army surgeon in times of peace had very little opportunity of acquiring surgical experience. The British system was unfavorably contrasted with the German. In Germany the military hospitals are larger and better managed, and every army surgeon can apply at short intervals to be admitted to the practice of civil hospitals. It is believed that the recent sweeping reforms in the service will remedy these defects.

Correspondence.

Health Resorts—The Patient—Home and Resident Physicians.

HOT SPRINGS, ARK., Sept. 5, 1903.

To the Editor:—The number of people visiting health resorts increases yearly. Among them are those suffering from chronic ailments and whose search is strictly for health; in such cases the question arises, how and under what circumstances will the patient derive the greatest benefit? Without a doubt the attending physician at the patient's home has the key to the situation, and it is on this basis that I formulate my deductions.

Dr. James K. Crook, in an article read before the section on general medicine of the New York Academy of Medicine, May 20, 1902, stated that we have within our borders springs that equal and excel those of Europe, with the exception of the sulphated salines, yet this is a matter not generally known, and one to which but little attention has been given by the general worker in medicine. Frequently is it the case that after a patient has been a sufferer for a long time with some chronic malady that a change of climate, surroundings, probably the advisability of a stay at a health resort are considered, either by the patient, the physician, or by both. It is at this time that the physician's help is most needed, his knowledge of the case reinforced by the perusal of literature on health resorts should make him, not the patient, the dictator. The climate, natural advantages, conveniences, and any special virtues of a resort should be thoroughly inquired into and if literature on this subject is not at hand, correspondence with physicians at the contemplated resorts will elicit what is sought after.

Without entering into any detailed discussion I will try to formulate a few definite rules that will tend to give the patient the greatest and best results obtainable:

1. The home physician and the patient should consult on the advisability of visiting a health resort as carefully as the first consultation on the case.

2. The physician should designate the resort to which the patient is to be sent, but only after a careful review of the benefits to be obtained.

3. The home physician should then correspond with a physician residing at the resort chosen, stating the case and requesting any information that may be of value.

4. On sending the patient, he should be given a letter to some resident physician. The case history up to the time of the patient's departure should be concisely and accurately stated, citing advantages and failures of various treatments, any especial idiosyncrasies of the case, etc. This answers the purpose of a consultation for the good of the patient and will frequently prevent the loss of valuable time to the latter and avoid the retracing of work that has proven a failure.

5. The resort practitioner must strive in conjunction with the home physician, through the history sent him, to give the patient every advantage of Nature's resources.

6. When the patient returns, an accurate account should be sent to the home physician, giving full details, so the latter may be thoroughly acquainted with the treatment had while away.

7. The two physicians should work in conjunction on all cases during the patient's stay and the one principal point, the welfare of the patient, should never be lost sight of.

If the above rules were more carefully adhered to, fewer invalids would take it on themselves to seek for health at some resort chosen on a mere empirical basis. The resort physician would thus be placed in immediate contact with the case, and as the question of confidence in the former by the latter is of paramount importance, an advantage point is already gained, the value of which is unmeasurable. It would tend to place our resorts on a higher standard, and before the expiration of a great while the value of a perfect understanding for the good of the patient would be as well recognized here as abroad.

It is the duty of every physician to assist and strive for the welfare of his patients; why, therefore, if they insist and feel as though benefits might be derived elsewhere, does he allow them to go unrecommended and unprepared? The American Medical Association has gathered within its ranks many of the reputable physicians of this country; the present standard of requirement of admission should certainly be sufficient evidence of the good character and professional attainments of its members; every resort in this country is represented by some physicians affiliated with this Association, and the acquiring of the names is but a matter of a few days at most. We all owe our patients our best judgment, and what has been stated above is certainly not a shortcoming in that respect. WILLIAM F. BERNART, M.D.

218 Central Avenue.

The Commission Evil.

MILWAUKEE, Sept. 1, 1903.

To the Editor:—Owing to the vital question of professional ethics involved, the enclosed correspondence may be deemed worthy of reproduction in your pages.

H. V. WÜRDEMANN.

——, Aug. 19, 1903.

DR. H. V. WÜRDEMANN, Milwaukee, Wis.

Dear Doctor:—I have a male patient 58 years old coming to my office with inversion of both eyes, the disease has become very chronic (Right eye) the upper lid has five rows of displaced lashes and he has lost all power to open this lid. the left is not as bad and its seem to me there is shrinking of the conjunctiva from chronic disease, Especially trachoma The sight is fairly good of both eyes, now what in your opinion do you think it would cost him, and what per cent will you give me if I send you all the eye cases from out this way? The reason why I want to know about what it cost these farmers is so I can tell them beforehand to get the money ready, Yours Respt.

(Signed) ——

P. S. Let me hear from you soon.

MILWAUKEE, Aug. 24, 1903.

DR. ————.

My Dear Doctor:—Your letter of the 19th inst. received. On account of the two *business* questions raised in it, and as I have been approached in like manner before, I have taken some time to formulate a proper answer. I intend that this correspondence shall be published for the benefit of other young physicians who might ignorantly at some time raise the same question to their personal detriment.

From the description of your case I think that the eye condition is entropion of the lids, resulting from the cicatricial stage of chronic granular conjunctivitis (trachoma). Plastic operations on the eyelid will probably relieve the entropion.

It would not be fair to either patient or physician to give an estimate of the cost of the work without proper examination. As you well know, professional fees are regulated by several factors: Kind of services rendered, amount of time consumed and the financial standing of the patient. Thus there are no fixed fees for services; the only professional and legal requirements being that they be reasonable and such as are customary with physicians of the class to whom the consultant belongs. Customary office consultation fees in this country range from $5 to $25, depending on the standing of the consultant, as well as the above-named factors.

The above would be a sufficient answer to your letter were it not for your question: *"What per cent. will you give me if I send you all the eye cases from out this way?"* I take it for granted that you consider this question quite correct and honorable! I beg, however, to answer it curtly and completely:

The presumable reason why one physician refers a case to the care of another is that he is either unable or unwilling to give proper attention to the patient and sends him to the other's care purely for the patient's good and not as a business transaction.

The giving or acceptance of commissions by physicians (or other people) for sending patients to consultants is an unethical and dishonest act, which has not been tolerated by true physicians from the days of antiquity. It is *dishonest*, because the patient is deceived, and the collusion is more dishonorable than commission business between the doctor and druggist, which has long been frowned on by both the profession and laity. It is a *cowardly* proceeding if either of the doctors are afraid to let the patient know for what he is paying, that which he has an ethical and legal right to know. *The medical profession is not a trade*, and division of fees without the knowledge of the patient would be degrading the whole profession to the trade level.

I am not practicing medicine as a business, but as a profession, and while I am entitled to a fair fee for the knowl-

edge, time and labor expended on the case, I can not stoop to the tradesman's means of hiring drummers to get me patients. Your proposition would degrade you to a "hired man" or "barker" for the quack who might accept.

You may have, in some instances, spent time in caring for or in accompanying a patient to the consultant's office and felt delicate about submitting a bill for same—why—that is pure cowardice, the laborer is worthy of his hire!

On account of his financial condition your patient may not be able to pay the usual fee of the consultant or surgeon, yet you feel that you are entitled to some payment for such services as above stated. The matter is easily arranged; the patient has but to explain his circumstances and the consultant should be willing to reduce his fees so that the family physician may get some payment, but *all this must be done with full knowledge and consent of the patient.* I am always willing, when necessary on account of the financial condition of the patient, to reduce my bill enough, even to giving my services gratuitously to allow them to pay you, but I will not pay you a part of my fee because you are afraid to demand it of the patient.

In conclusion, I am willing to do any special work for you for what is a customary fee among specialists of my standing, for patients able to pay same; for others who can pay but little I am willing to do the work for the proportion of the usual fee they may be able to give me after paying for your services; and in cases unable to pay anything, I will cheerfully do the work without monetary recompense on your recommendation; but I will not hire any medical "barkers" to drum up trade. My strongest reasons, aside from the ethics of the case, for refusing your request is that I value the esteem of the general profession more than a business which I could not retain, if I abandoned the customs and ethics followed since the days of Galen, yea, even from those of Æsculapius. Yours very sincerely, H. V. WÜRDEMANN.

The Visiting Physician in Berlin.

BY DENSLOW LEWIS, M.D.
CHICAGO.

It has been suggested that I give a little common sense advice which may help the medical man in Berlin to utilize to the best advantage the exceptional clinical material that is there placed at the disposal of every student. I have just returned from a year's residence at that university, and at former periods of my life I have been privileged to study four years in other European cities. This experience may not entitle me to speak by the card, but at all events it authorizes me, I trust, to express views based on actual knowledge of conditions—views which are not founded on the superficial observation of a casual visitor.

To plunge *in medias res*, let me advise every one first of all to learn the language. All German medical men of culture—and they are all cultured—speak and understand English and French, and with invariable courtesy they will on many occasions seek to explain matters to the foreigner in his own language. Nevertheless, they can not be expected to do this all the time, and much of value will be lost to the American visitor unless he has at least a superficial knowledge of German medical terms. Moreover, he can not get about among the natives with any satisfaction nor appreciate the real sociologic conditions unless he can talk the language to some extent.

Before sailing get a Berlitz teacher and start talking. Get Ahn's little book, too, and Waller's "German-English Medical Dictionary." It is astonishing how much can be learned in two months by studying systematically one or two hours a day. Believe me, it is well worth the while. The Latin terms for anatomic conditions and to describe diagnosis and treatment are used more frequently than by us, and the Germans are accustomed to hear foreigners speak the language imperfectly. They catch the meaning if there is half a chance.

On arrival go first of all to a hotel—on the European plan necessarily, for there is no American plan, except in *pensions*, as the boarding houses are called. Then call at Langenbeck Haus, which is the meeting place of different medical societies and the general medical headquarters, very much like the Academy of Medicine of New York. See there the superintendent, Mr. Menzer, or his wife, who will give you the catalogue of the vacation courses, and observe the notices of matters of medical interest posted on the bulletin board. Buy a catalogue of the university lectures at any book store and also a little book entitled *"Das Medizinische Berlin."* By looking over these pamphlets you will learn much regarding the different hospitals and dispensaries—called here respectively *Klinik* and *Poliklinik*—as well as regarding laboratories, lectures and demonstrations. You see at once what is offered and you are prepared to make a choice.

Now about 1 o'clock go to the Terminus restaurant for dinner. This is the meeting place of Americans, whom you will easily recognize, for they have one or two tables reserved. Supplement the knowledge already gained by the pamphlets I have mentioned by getting practical pointers from your compatriots. If you are to stay a few weeks or longer it is cheaper and more convenient to rent a room near the hospital or other institution where you intend to spend most of your time. A suitable room with the usual breakfast of coffee and rolls supplied by the landlady can be rented for two or three marks a day. A mark is a little less than a quarter, so the expense is not great. By arranging by the week or month a cheaper rate may be secured, but beware that you give due notice of your intention to vacate—the fifteenth of the month if you are to leave the first—or you will be called on to pay for an extra month. You can get board and room in a pension at from four to five marks a day. The coffee and rolls are served in your room, as a rule, and dinner is called at 2 o'clock and supper at 8 o'clock. Most Americans find it more convenient to patronize the restaurant of which the name is legion.

It is important to conform to certain customs of the country at once or you may be considered no gentleman. Even if the great influx of Americans makes a deviation from established usage less conspicuous than was formerly the case, it is preferable to show a knowledge of social etiquette and a disposition to do as others do. Indeed, such a practice distinguishes the cosmopolitan traveler and is accepted as a mark of good breeding. You must learn the very first day how to bow. Bring the heels together as if to give a military salute and incline the whole body at an angle of 45 degrees, letting the head drop forward. Do this right and don't think nodding is sufficient. You are expected to take off your hat to those who salute you. When acknowledging the salutation of porters, tradesmen or attachés of hotels or hospitals it is enough to do as we do at home when we salute a lady. But in Berlin if you meet a lady you will not wait for her to recognize you but as soon as she is sighted you raise your hat and, holding it at almost arm's length above your head until she meets you, you make a half circle with your arm while you utter the proper salutation appropriate to the time of day. In this manner you exchange greetings with your professional colleagues and social equals. You will not shake hands when introduced except when the German, who may know of our American custom, offers to do so.

In entering a restaurant you take off your hat and hold it in your hand until you find a table that suits you. You have the pick except when you see a placard with the word *"Bestellt,"* meaning reserved, or *"Stammtisch,"* or *"Für Stammgäste,"* meaning for habitual customers. There is no head waiter as at home to order you to a certain table. If there is a crowd present and you find a vacant place at a table where others are sitting, take hold of the back of the chair, gaze at the seated guests, make the bow as above indicated and ask permission to join the little company by inquiring *"Gestatten Sie?"* The men will half rise from their seats to bow to you and will indicate their permission by the words *"Bitte schoen"* or *"Bitte sehr,"* while the ladies will incline their heads and smile pleasantly at you. When you have finished and have paid the waiter, seize the back of your chair again as in Act 1, bow to the guests and say the mystic word *"Mahlzeit."* The guests will give the countersign by repeating the word or

by saying *"Adieu"* or *"N'Abend"* as they return your salutation.

These expressions must be memorized and also the word *"Morgen,"* which is the equivalent of "good morning," and *"Tag,"* which means "good day." You use the word *"Morgen"* in salutation until about 1 o'clock, then the word *"Mahlzeit,"* which is the contraction of an invocation for a blessing on the meal, until afternoon. In bidding good-bye you say *"Adieu"* or *"Tag,"* and in the evening you say *"N'Abend."* When you enter and leave a shop you say the proper word and uncover while you are making your purchases. An exception is often made when a silk hat is worn. Much respect is apparently paid this article of headgear, which is called a *"Cylinder."* It is often kept on the head in the cafés and stores; in theaters, where it is obligatory to check umbrellas, overcoats and even ladies' wraps and hats, the silk hat is not relinquished, but held conspicuously in the hand or sometimes worn on the head if, for instance, the gentleman has the back seat in a box.

When you are invited to dinner do not fail to accept. You will have an abundance of good things to eat, drink and smoke, and you will find the hospitality most delightful. When your host begs you not to wear a *"Frack,"* as the dress suit is called, wear a Prince Albert, but when he states that evening clothes are not necessary and you know ladies are to be present, it will not be out of place and you will probably feel better if you put on your dress suit as you would do at home on such an occasion. The formal dinner hour is usually 8 o'clock. On arrival you shake hands with the host and hostess and bow low. If guests are assembled they will stand and form a circle around you while you are being introduced. Your name, with your titles, is mentioned and you make your bow. The guests are then named in turn and you bow as they do on each introduction. You then take your place in the circle to be introduced to the next arrival. When all are assembled a servant will hand you a card bearing the name of the lady whom you are to take in to dinner, and if you are a stranger the host will point her out to you. If you are the guest of honor, as was my privilege on several occasions, the hostess will take your arm as the doors to the dining room are thrown open and other couples will join in the march. Otherwise when the hostess gives the signal you salute the lady to whom your card assigns you and proceed to the dining-room with her on your arm.

It is difficult to describe a Berlin dinner party. There is a ceremonious formality and yet a freedom from stiffness and affectation which is most charming. The minute the hostess raises her glass to drink to the health of the guests, the stranger feels that he is among friends, and he at once enters heartily into the spirit of companionable conviviality that prevails. Different persons, in the course of the dinner, may drink to you. They will raise their glass and calling you by name will courteously ask permission. It is advisable for you, before dinner is over, to remember who has honored you and if possible, without any undue effort, to return the compliment. In any event, do not fail to specially drink to your hostess. A gentleman at the other end of the table may send greeting by the waiter. In that event, half rise from your seat to salute him as he drinks to you. When, in the course of two or three hours, the dinner is over, the guests all rise as the hostess gives the signal, they form in line, each lady taking the arm of her escort, and march back to the drawing-room.

Now ensues a pretty German custom which I first learned when I was a student in the little university town of Marburg thirty years ago. The guests salute the hostess and then one and another by shaking hands all around and saying *"Mahlzeit."* They bow low as they salute the ladies, and often kiss their hands. The gentlemen then light their cigars and many of the ladies smoke a cigarette. When leaving, the host and hostess are taken leave of in the drawing-room, and the servant who helps you on with your coat in the ante-room will expect a mark or two from each guest. The dinner call should be made within ten days and at 1 o'clock. The proper costume is the Prince Albert suit and silk hat. Overcoats are left in the ante-room when calling; even ladies are expected to remove their hats and wraps before being announced. The sofa, which is to be found in every drawing-room, is the seat of honor. You will sit on a chair unless it is insisted, as is usually the case, that you change to the sofa. In that event do as requested without undue parley.

(To be continued.)

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

"HEURISTIC."

BUFFALO, N. Y., Sept. 12, 1903.

To the Editor:—In the article on "Infectious Diseases," by Hektoen, in THE JOURNAL, August 15, p. 406, in the twenty-first line from the top of the left column appears the word "heuristic." Is it a misprint? If not, what is the meaning? I have examined many dictionaries and fail to find it. MEDICUS.

ANSWER.—The word is defined in the later and larger dictionaries, Webster's International, the Standard and the Century. In Webster the meaning is given as "serving to discover or find out," in the Standard as "aiding or guiding discovery, inciting to find out or invent," and in the Century Dictionary as "serving to find out or discover." Etymologically the word comes from the Greek εὑρισκειν, to find out. The word has been mostly used in pedagogic literature. In Baldwin's "Dictionary of Philosophy and Psychology" the "heuristic method" is given as one "that stimulates to invention or discovery." The word has not yet come into general use, but it is an excellent one for its purpose, and as it has no single substitute will, we believe, soon come to be more familiar.

Marriages.

GEORGE H. WARDNER, M.D., La Porte, Ind., September 10.

DANIEL R. BROWER, JR., M.D., Chicago, to Miss Olive Pope Magill of Wichita, Kan., September 15.

GEORGE E. REYNOLDS, M.D., Haywards, Cal., to Miss Lydia Platt of Oakland, Cal., September 7.

WM. H. HURLEY, M.D., Northfield, Vt., to Miss Nettie V. Hoffacker, at Baltimore, September 10.

WILLIAM A. COOLING, M.D., Wilton, Iowa, to Miss Ione Parker of Texas, at Muscatine, Iowa, September 11.

H. A. HAYNES, M.D., Ionia, Mich., to Miss Inez E. Harvey of St. Albans, Vt., September 9.

Deaths.

Jesse C. Pfaff, M.D. Medico-Chirurgical College, Philadelphia, 1902, chief of the orthopedic department at the Medico-Chirurgical Hospital, died at St. Joseph's Hospital, Philadelphia, September 6, from typhoid fever, after an illness of ten days, aged 22. The Lehigh County Medical Society, at a meeting, September 8, passed resolutions regarding the death of Dr. Pfaff, and appointed a committee to attend his funeral.

John W. Waughop, M.D. Long Island College Hospital, Brooklyn, 1865, formerly superintendent of the Western Washington Hospital for the Insane, Fort Stellacoom, but for seven years a resident of Keala, Kauia, Hawaii, died at sea, August 31, while *en route* from Hawaii to San Francisco, aged 64.

Norton Folsom, M.D. Harvard University Medical School, Boston, 1864, chief medical inspector of an army corps during the Civil War, and at one time superintendent of the Massachusetts General Hospital, died at his home in Cambridge, Mass., September 12, aged 61.

H. F. Frederick, M.D. Atlanta (Ga.) Medical College, 1894, despondent on account of cancer of the stomach, from which he had suffered for several months, committed suicide by shooting himself through the head, at his home in Hawkinsville, Ga., September 10.

Peter S. Greenamyer, M.D. Jefferson Medical College, Philadelphia, 1872, a member of the American Medical Association, for many years surgeon for the Pennsylvania Lines at Orrville, Ohio, died at his home in that place, September 11, after a prolonged illness, aged 67.

Samuel Richardson, M.D. Toronto University Medical Faculty, 1875, of Detroit, Mich., died at St. Mary's Hospital in

that city, September 3, two weeks after an operation for disease of the stomach, from which he had suffered for several months, aged 58.

Alexander Bruce McMurray, M.D. Western Reserve University, Cleveland, 1871, a member of the American Medical Association and the Ohio State Medical Society, died at his home in Marion, Ohio, after a prolonged illness, September 8, aged 66.

Charles A. Murray, M.D. Geneva (N. Y.) Medical College, 1853, for half a century a practitioner of Vanetten, N. Y., died at his home in that place, September 3, from heart disease, after a short illness, aged 77.

Stephen P. Yeoman, M.D. Rush Medical College, Chicago, 1854, died at the Soldiers' Home Hospital, Marshalltown, Iowa, September 8, several weeks after a fracture of the right hip, aged 81.

Johnson A. White, M.D. Ohio Medical College, Cincinnati, died at his home in Liberty Township, Jackson County, Ohio, September 3, six weeks after an operation for appendicitis, aged 60.

Theodore R. McDonald, M.D. Detroit College of Medicine, 1890, of Detroit, died at Hayden Hospital in that city, September 14, five days after an operation for gallstone disease, aged 41.

Joseph P. Oliver, M.D. Harvard University Medical School, Boston, 1871, of Boston, lecturer on diseases of children at the Harvard Medical School, died in Paris, September 11, aged 58.

John T. Donaldson, M.D. Medical College of the State of South Carolina, Charleston, 1867, died at his home in Eastaboga, Ala., September 3, after an illness of several years.

James C. Harrison, M.D. Barnes Medical College, St. Louis, 1899, died at his home in Webber's Falls, Cherokee Nation, I. T., from malarial fever, September 6, aged 35.

George W. Stevenson, M.D. Tulane University, New Orleans, 1903, died at his father's home in Nicholson, Miss., September 8, after an illness of four months, aged 26.

Robert W. B. Cornelius, M.D. Hahnemann Medical College, Philadelphia, 1874, died suddenly from heart disease at his home in Philadelphia, August 30, aged 50.

Amos E. Heilman, M.D. College of Physicians and Surgeons, Baltimore, 1884, died at his home in Rural Valley, Pa., September 10, from typhoid fever, aged 47.

Isaac J. Newton, M.D. Tulane University, New Orleans, 1858, a retired physician of Hamburg, Ark., died at his home in that place, September 7, aged about 80.

James W. McLaughlin, M.D. University of Toronto, 1864, and gold medallist of his class, registrar for West Durham, Ont., died, August 10, aged 62.

Elias Miller, M.D. College of Physicians and Surgeons, Chicago, 1886, died at his home in Kensington, Ill., September 5, after a lingering illness, aged 65.

William Edward Conroy, M.D. College of Physicians and Surgeons, New York, 1880, died recently at Saginaw, Mich., and was buried September 2.

Frederick J. Locke, M.D. Eclectic Medical Institute, Cincinnati, 1864, died at his home in Newport, Ky., September 11, after a short illness, aged 74.

Albert Dickerson, M.D. Louisville Medical College, 1889, of New Athens, Ohio, dropped dead while making a call near that place, September 7, aged 45.

Elijah J. Puckett, M.D. Medical College of Indiana, Indianapolis, 1881, died at his home in Muncie, Ind., September 10, after a lingering illness.

William H. Poole, M.D. Medical College of Georgia, Augusta, 1868, died at his home in Douglasville, Ga., September 2, from neuralgia of the heart.

Jacob K. Metz, M.D. Jefferson Medical College, Philadelphia, 1852, died at his home in Allensville, Pa., September 11, after a long illness, aged 78.

James W. Hill, M.D. Kentucky School of Medicine, Louisville, 1861, died at his home in Bardstown, Ky., September 1, after a long illness, aged 75.

Lucius S. Ollie, M.D. University of Toronto, 1859, and gold medallist of his class, died at his home in St. Catherines, Ont., August 15, aged 73.

Sidney A. Campbell, M.D. Jefferson Medical College, Philadelphia, 1849, died at his home in West Pittston, Pa., September 12, aged 83.

J. Paul Jones, M.D. New Orleans School of Medicine, 1861, died suddenly from heart disease at his home in Camden, Ala., September 13.

Frank M. Stringfield, M.D. University of Georgetown, D.C., 1881, died suddenly in his apartments in Chicago, September 12, aged 62.

James M. Forbes, M.D. Chicago Homeopathic Medical College, 1889, was murdered in a drug store in Chicago, May 13, aged 44.

David Beeler, M.D. University of Louisville, 1883, died at his home in Powers, Ky., from neuralgia of the heart, September 7, aged 75.

Philip Woolf, M.D. Bellevue Hospital Medical College, New York, 1868, died at his home in New York City, August 31, aged 58.

Joseph M. Donald, M.D. Tulane University, New Orleans, 1854, died at his home in Harrell, Ala., September 4, aged 70.

B. R. Donelson, M.D. New Orleans School of Medicine, 1861, died at Pine Bluff, Ark., recently, from cancer of the liver.

Samuel L. Herring, M.D. College of Physicians and Surgeons, Baltimore, 1881, died recently at his home in Clovis, Cal.

Hiram Hayward, M.D., died suddenly at his home in Worth Township, Sanilac County, Mich., September 1, aged 87.

John H. Dye, M.D. Eclectic Medical College of the City of New York, 1873, of Tonawanda, N. Y., died recently.

C. E. Warren, M.D., died suddenly from heart disease at his home in Roundbottom, Ohio, September 3, aged 29.

James H. Sanford, M.D., of Shelbyville, Ind., committed suicide, September 7, while despondent, aged 65.

John Q. A. Vale, M.D., of Homer, Minn., died in Winona, Minn., September 3, after a long illness, aged 77.

Stuart McArton, M.D. Trinity Medical College, Toronto, 1876, of Paisley, Ont., died August 3, aged 51.

William E. Stewart, M.D. Louisville Medical College, 1875, died at his home in Clanton, Ala., August 31.

DeWitt H. Martyn, M.D. University of Toronto, 1866, Kincardine, Ont., died July 19, aged 66.

John F. Richards, M.D., of Tomah, Wis., died September 3, in Milwaukee, aged 87.

Book Notices.

THE PRINCIPLES OF OBSTETRICS. A Practical Manual for the Student and General Practitioner. By Stanley Perkins Warren, M.D., Portland, Me., Obstetric Surgeon to the Maine General Hospital. Superbly Illustrated by 165 Line and Half-tone Engravings. Cloth. Pp. 385. Price, $3.00 net. New York: William Wood & Co.

This book will be appreciated by students who wish a compact and convenient treatise on obstetrics. It is well illustrated.

ILLINOIS STATE BOARD OF HEALTH. Report on Medical Education and Official Register of Legally Qualified Physicians. 1903. Embracing Medical Practice in Illinois, Medical Colleges in Illinois and Faculties, Medical Societies in Illinois and Officers, Pension Examining Boards in Illinois, Requirements for Practice in the United States, Medical Colleges in the United States, and an Official Register of Physicians. Springfield: Illinois State Register. 1903.

The Illinois State Board of Health republishes this year its Report on Medical Education and Official Registration of Legally Qualified Physicians. It includes a number of valuable facts in regard to medical colleges and societies in Illinois and brief statements of the requirements for practice in the various states and territories brought up to the spring of the present year. There have been some changes since then, as noted in THE JOURNAL, but in most cases the laws are unchanged. The opinions obtained from the attorney-general in regard to the medical practice laws and other subjects are a valuable feature of the report.

A COURSE OF LECTURES ON MEDICINE TO NURSES. By Herbert E. Cuff, M.D., F.R.C.S., Medical Superintendent Northeastern Fever Hospital, Tottenham, London. Fourth Edition. Cloth. Pp. 270. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co. 1903.

Nurses stand in a peculiar relation between the laity and the profession, and the question sometimes arises how far a little knowledge is a dangerous thing. Some nurses, as the one quoted in a recent communication to the *British Medical Journal*, evidently have suffered from a certain amount of

knowledge of disease, not enough in amount, however, to be useful to them. This book may be said to be a small compendium of practice, exceedingly brief and hardly sufficient to guide even a nurse in actual practice, though one that will perhaps meet the natural desire of anyone who is anxious to know something about the various diseases. We notice some little inaccuracies, for example the definition of germs as being invariably of vegetable nature, all belonging to the order of fungi. The book is one that will do no harm in the hands of any intelligent, well-meaning nurse.

Miscellany.

Clippings From Lay Exchanges.

WOUND LOCALIZATION.

"Sheriff Reed has captured Eugene Ledford, the young man who shot Felmet in the West End, two months ago. . . . ."—*Asheville* (N. C.) *Daily Citizen*, Aug. 21, 1903.

WHAT TOADSTOOLS CONTAIN.

"Three families were poisoned last evening by eating toadstools. . . . . Dr. —— says the symptoms indicate that the toadstools contained ptomaine poisoning."—*Chicago Examiner*, Aug. 24, 1903.

WHERE DID HE GET IT?

"Dr. —— has completed his investigations into the death of ——, aged three weeks, and found that death was due to an artificial foot."—*New Haven* (Conn.) *Palladium*, Aug. 15, 1903.

PILES OR PYELITIS?

"Joseph Fuma, the five-months-old son of ——, is at the hospital at . . . . The infant was suffering from an intestinal obstruction called 'pyelitis.' . . . . The obstruction was removed . . . ."—*Richmond* (Va.) *Leader*, Aug. 12, 1903.

SOOTHED BY COMMUNION AND CHLORAL.

"Life . . . . Prolonged by Means of Stimulants and Concentrated Nourishment— . . . .—Soothed Last Evening by Religious Service of Last Communion and a Dose of Chloral— . . . ."—*Johnstown* (Pa.) *Democrat*, July 6, 1903.

NO ANTISEPTIC WAS GIVEN.

"Yesterday . . . . Herbert —— was kicked and painfully hurt by a mule colt. . . . . A physician was summoned . . . . and dressed the wound. . . . . The boy stood the operation very well, considering the fact that no antiseptic was given."—*Durham* (N. C.) *Morning Herald*, Aug. 16, 1903.

IRRITANT ANTIDOTE.

"Joseph B. —— had a most exciting experience . . . . with a copperhead (which bit his finger). On the afflicted hand were several large black spots showing that the poison deposited in the blood was virulent. However, he went home feeling pretty good after the physician had administered a poison irritant."—*Daily Democrat*, Johnstown, Pa., July 7, 1903.

HIS EYE WAS HIS ONLY TOUGH SPOT.

"William —— lost his left eye by the explosion of a dynamite bomb . . . . it is thought the fragment that destroyed his eye would have caused death had it hit him anywhere else."—*De Ruyter* (N. Y.) *Gleaner*, July 9, 1903.—"The opinion of the physicians is that if the fragments of the bomb had struck him in any other place than they did he would probably have been instantly killed."—*Syracuse* (N. Y.) *Herald*, July 6, 1903.

Dentistry in Medical Colleges.—The National Dental Association at the recent meeting held at Asheville, N. C., adopted the following resolution: *"Resolved*, That it is the sense of the National Dental Association that each Medical College in the United States should include in its curriculum a lectureship on oral hygiene, prophylaxis and dental pathology." The committee representing the National Dental Association feels that with the introduction of the teaching of oral hygiene in the public schools, and with the co-operation of medical men who have been specially instructed on this subject, a great stride will have been made toward the prevention of caries of the teeth, not to mention many other good results to the general system, which would surely follow a better care of the oral cavity.

State Boards of Registration.

Next New Jersey Examination.—The regular examination of the State Board of Medical Examiners of New Jersey will be held at Trenton, N. J., on Tuesday, Tuesday evening and Wednesday, October 20-21. Application for admission to this examination should be made before October 10. Applicants must possess a high school diploma issued after four years of study, or its equivalent as determined by the state superintendent of public instruction, and must have had four courses of medical lectures of seven months each in different years.

Oklahoma Report.—Dr. E. E. Cowdrick, Enid, secretary of the Oklahoma Territorial Medical Examining Board, reports that a written examination of 18 applicants was held at Enid, September 17, and 9 passed and 9 failed. The questions asked numbered 72 on 9 subjects and no average was definitely marked against each candidate, the requirement being simply that his answers be 66 2/3 per cent. correct on each subject. Those who passed were graduates from the following colleges, one from each unless otherwise specified: Creighton Med. Coll. (1902); Univ. Med. Coll., Kansas City (1900); Marion-Sims Med. Coll., St. Louis (1903); Maryland Med. Coll. (1903); Western Univ., London, Ont. (1900); Washington Univ., St. Louis (1897); Memphis Hosp. Med. Coll. (1903); and two from Louisville Med. Coll. (both 1903). Those who failed were from: Univ. of Texas, Galveston (1902); Missouri Med. Coll., St. Louis (1894); Kentucky School of Med. (1887); Maryland Med. Coll. (1903); two from Barnes Med. Coll. (1897 and 1892); two from Keokuk Med. Coll. (1881 and 1901), and another was not a graduate, but had had twelve years of practice.

Texas Report.—Dr. M. M. Smith, secretary of the Board of Medical Examiners for the state of Texas, reports that at the examination held at Austin, June 15 to 18, 1903, 24 candidates were examined, of whom 16 passed and 8 failed. Of those who passed, 8 were graduates; of those who failed, 2. Applicants are not required to be graduates of medical schools, but must have attended at least two sessions at a medical college. In the summary below a star indicates an undergraduate. A percentage of 75 is required on a written examination. The number of subjects in this examination was 13, questions, 125.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Ft. Worth Univ. and Univ. of Nashville.	*	78
12	R.	Fort Worth University	*	79
2	R.	Kansas Medical College	1903	75
3	R.	Kansas Medical College	1897	82
4	R.	Tulane University	*	86
14	R.	Tulane University	*	78
5	R.	Maryland Medical College	1903	85
16	R.	Maryland Medical College	*	78
6	R.	Ohio Medical University	1903	82
7	R.	Arkansas University	1903	75
8	R.	University of Iowa	*	83
11	R.	University of Texas	*	88
13	R.	University of Tennessee	1903	84
9	R.	Memphis Hospital Medical College	*	77
15	R.	Memphis Hospital Medical College	1903	88
10	R.	Missouri State University	1901	86

FAILED.

17	R.	Memphis Hospital Medical College	1894	71
22	R.	Memphis Hospital Medical College	*	72
18	R.	Kentucky School of Medicine	*	57
19	R.	Fort Worth University	*	62
20	R.	University Medical College, Kansas City	*	35
21	R.	Hospital College of Medicine, Louisville.	*	62
23	P.	College of Medicine and Surgery (Physio-Medical), Chicago	1899	62
24	E.	Bennett Medical College	1894	53

* Undergraduate.

The questions asked follow:

SURGERY.

1. Give the indications for the ligation of the common carotid artery, and describe the operative procedure. 2. Differentiate a stone in the bladder, in the ureter, and in the kidney. 3. Give the differential diagnosis between dislocation of the hip joint and fracture of the surgical neck of the femur. 4. Name the chief varieties of cancer. 5. In case of threatened death from general anesthesia what methods of resuscitation would you adopt? 6. Describe the

method of passing a hard (steel) catheter on the male. 7. What are the symptoms of dislocation of the lower jaw; and how would you effect its reduction? 8. Describe the symptoms and treatment of fracture of the ribs. 9. Describe the varieties of clubfoot. 10. How would you differentiate between embolus and hemorrhage (intercranial) of one of the branches of the middle meningeal artery? Give treatment and prognosis.

EYE, EAR, NOSE AND THROAT.

1. Give the symptoms of mastoid involvement of otitis media. 2. Give the most frequent causes of otitis media, chronic and acute. 3. Give the symptoms and treatment of adenoids in the pharynx. 4. What is glaucoma? Give its causes, symptoms and treatment of both chronic and acute. 5. How would you recognize and treat polypi?

CHEMISTRY.

1. Into what grand divisions is the subject of chemistry divided? 2. Explain and illustrate the principle of empirical and rational formulæ. 3. What is meant by percentage composition? 4. Explain and illustrate the term isomerism. 5. What is bismuth, and what are the properties of bismuth? 6. On what does Reinsch's test for arsenic depend? 7. Describe the element mercury and name its compounds used in medicine. 8. What are the differences in the tests of arsenic and antimony? 9. What is ozone? 10. Describe carbon dioxid, and name some of the ways by which it may be produced.

PRACTICE OF MEDICINE.

1. Diagnosis and treatment: Of angina pectoris. 2. Of cerebral apoplexy. 3. Of appendicitis. 4. Of asthma. 5. Differential diagnosis of suppurative pleuritis and abscess of liver. 6. Causes and treatment: Of Cholera infantum. 7. Of infantile convulsions. 8. Differential diagnosis of spasmodic croup and diphtheria. 9. Diagnosis and treatment: Of delirium tremens. 10. Of lymphadenoma (or Hodgkin's disease).

OBSTETRICS.

1. Asepsis and antisepsis, how applied in midwifery: (a) As regards the accoucher. (b) As regards the parturient. (c) As regards the child. 2. How should the placenta be delivered at term? What is the management of retained placenta? 3. To what form of morbus Brightii are pregnant women most liable? How would you diagnose and treat it? And how measure the severity? 4. What is placenta previa? Name its causes, varieties, symptoms and management. 5. Describe the symptoms and management of an incomplete abortion. 6. Describe the position of patient and physician for the readiest and safest means of applying the forceps. 7. Diagnose and state how to conduct a head-last labor. 8. Give cause, symptoms and treatment of asphyxia of the new born. 9. Give the prevention, symptoms, treatment and prognosis of ophthalmia neonatorum. 10. What is meant by prolapse of the funis? When does it occur? What are the dangers? How would you manage such a case?

MATERIA MEDICA.

1. What are the physiologic actions: Of iodin? 2. Of salicylic acid? 3. What are the preparations, doses and physiologic actions of ergot? 4. What are the tests for morphin, and give antidote. 5. How would you treat a case of veratrum poisoning and what are the uses of veratrum viride: 6. Give the physiologic action: Of jaborandi. 7. Of opium and antidote. 8. Of cocain. 9. How would you treat a case of copper poisoning? 10. How would you treat a case of poisoning by iodin.

PATHOLOGY.

1. Describe the minute pathology of a liver which has undergone fatty degeneration. 2. How does chronic interstitial differ from chronic parenchymatous nephritis; describe the pathology of each. 3. Describe the pathological condition known as erosion of the cervix. 4. Give pathology of the various stages of acute lobar pneumonia. 5. Give a theory of inflammation, and what are the sequelæ of inflammation? 6. (a) What constitutes malignancy of tumors? (b) Name and give principal locations of malignant tumors. (c) Give causes of tumor cachexia. 7. Give the various theories of causation of fever. 8. Give the pathology of the different inflammations of the spleen. 9. Describe the pathology of a third degree burn of the skin produced by hot metal. 10. What are the forms of pathologic pigmentation?

ANATOMY.

1. Name the bones of the face. 2. Name the ligaments and give the peculiarities of the shoulder joint. 3. What muscles are attached to the crest of the pubes? 4. Give the landmarks for the palmar arches. 5. What veins form the portal system? 6. The axillary glands receive the lymphatic vessels from what part of the body? 7. Give the course and landmark of the duct of the parotid gland. 8. Give the relations of the thyroid gland. 9. Give boundaries and contents of the popliteal space. 10. What nerves supply the diaphragm?

HISTOLOGY.

1. Trace a drop of fluid from a Bowman's capsule to the pelvis of the kidney, naming and giving the structure of the different parts of the uriniferous tubules through which it would pass. 2. (a) Give the shape, size and structure of a human red blood cell. (b) The structure and relative number of the various forms of the white blood cells. (c) Could you tell whether the red blood cells of a given clot were mammillian or not? If mammillian, human or not? Give reasons for your answer. 3. Give the course of the portal blood through the liver, also the course of the bile from the time of its secretion by the liver cells until it reaches the gall bladder, giving the structure of the ducts through which it would have to pass. 4. Describe the structure of the trachea, a medium-sized bronchus, an alveolar duct and an alveolus of the lung. 5. Give a description of lymphatic vessels, lymph cavities and lymph glands, and give examples of each and where each may be found. 6. (a) Describe the structure of involuntary muscle and give three examples of where found. (b) Give structure of heart muscle and the ending of the nerve fibers supplying same. 7. Describe a nucleus, a nucleolus and protoplasm. 8. (a) Give histology of a medium-sized artery. (b) Give histology of a vein. 9. Explain the difference between mucous and serous membranes. 10. (a) Describe a nerve trunk. (b) Describe a non-medullated nerve fiber. (c) Describe a medullated nerve fiber. (d) The two types of nerve cells in the brain and cord. (e) The structure of gangila.

PHYSIOLOGY.

1. What is urea, give the daily quantity excreted, and mention the influences which govern this quantity? 2. Give the quantity of food required per day by a healthy person. 3. The secretions of what glands form the saliva? 4. Give the physiologic action of the saliva. 5. Give the physiologic action of bile. 6. How is the digested food absorbed and through what channels does it reach the circulation? 7. What are the functions of the red blood corpuscles? 8. Give the composition of atmospheric air; what changes occur in it during respiration? 9. How is animal heat produced? 10. What forces cause the blood to flow through the veins?

GYNECOLOGY.

1. Describe a curettement. What are the dangers? 2. Give the indications for and the technic of ventrofixation. 3. Differentiate between retroflexion and retroversion of the uterus. 4. Vaginal douche. What are the indications for and how given? 5. When is an Alexander operation indicated? Give technic of operation. 6. How is a vaginal hysterectomy done? 7. Given a complete laceration of the perineum, how should it be repaired? Name the two most important muscles to be restored. 8. How would you prepare "normal salt solution?" How and when use it by infusion? How and when use it by hypodermoclysis? How and when use it by enterociysis? 9. How would you prepare a patient for a laparotomy? 10. What is the proper way of making a gynecologic examination?

MEDICAL JURISPRUDENCE.

1. Define a poison. 2. Give definitions of an irritant, and one of neurotic poison, and give example of each. 3. Define ordinary and expert witness. 4. What is infanticide? 5. What is paranoia? 6. Define civil malpractice. 7. Define criminal malpractice. 8. What is meant by civil and criminal responsibility? 9. Define the following terms, viz.: (a) Kleptomania. (b) Pyromania. (c) Dipsomania. 10. What are the evidences of death from lightning?

THERAPEUTICS.

1. Give the dose, indications for use, frequency of administration and method of giving diphtheria antitoxin. 2. Enumerate the commonly used bromids, their doses and mention briefly their therapeutic use. 3. Give in detail the use of chloroform as an anesthetic, the preparation of the patient, method of administration, the danger signals and manner of treating same when present. 4. Give the dose and therapeutic use of creosote and its common derivatives. 5. Give the various therapeutic uses of calomel, and the dose employed in each. 6. Give in detail the dose, use and contraindications of iodid of potassium. 7. Describe in detail the general treatment applicable to poisoning from any drug. 8. Give the dose and therapeutic use of veratrum viride. 9. Give the dose and indications for use of quinin and arsenic in the treatment of malaria. 10. Give briefly the treatment of strychnin and opium poisoning.

HYGIENE.

1. What hygienic and sanitary measures should the attending physician take to prevent the spread of typhoid fever? 2. Construct a model school room for the accommodation of 40 pupils. 3. What are some of the evidences of contaminated drinking water, and give the method of purifying the same. 4. Give the origin and prevention of malaria. 5. Give a good method of sewage disposal (municipal). 6. Name the dangerous impurities of the air in crowded, unventilated rooms. 7. What do you understand by preventive medicine? 8. Do you know of any preventive of tuberculosis? 9. Name the communicable diseases of school children. 10. Give the hygiene of the new-born babe.

Medical Organization.

Organization in Texas.

Dr. T. J. Bennett, councilor for the Seventh District, reports that he has organized the following county societies: Williamson, Travis, Caldwell and Lee. Dr. W. B. Russ, councilor for the Fifth District, reports having organized societies in the following counties: Bexar, Guadalupe, Medina, Val Verde, Comal and Maverick.

BROWN COUNTY (TEXAS) MEDICAL SOCIETY.

Physicians of Brown County met at Brownwood the last week in August and organized a county medical society with ten charter members.

MEDINA COUNTY (TEXAS) MEDICAL SOCIETY.

Dr. Witten B. Russ, San Antonio, councilor for the Fifth (western) District, has organized this society with seven members and the following officers: Dr. J. R. Evans, Devine, president; Dr. John F. Beckmeyer, Hondo, vice-president; Dr. John T. Fitzsimon, Castroville, secretary-treasurer, and Drs. J. R. Evans, W. E. Patterson, Medina, and John F. Beckmeyer, censors.

VAL VERDE COUNTY (TEXAS) MEDICAL SOCIETY.

Dr. Witten B. Russ, San Antonio, councilor for the Fifth (western) District, has organized this society with six members and the following officers: Dr. John K. Moeur, Del Rio, president; Dr. Horace B. Ross, Del Rio, vice-president; Dr. S. L. Boren, secretary-treasurer, and Drs. Horace B. Ross, D. T. Atkinson and Oscar C. West, censors.

MAVERICK COUNTY (TEXAS) MEDICAL SOCIETY.

Dr. Witten B. Russ, San Antonio, councilor for the Fifth (western) District, has organized this society with six members and the following officers: Dr. R. N. Lane, Eagle Pass, president; Dr. A. H. Evans, vice-president; Dr. Malone Duggan, Eagle Pass, secretary-treasurer, and Drs. Evans, L. Hume and Duggan, all of Eagle Pass, censors.

GUADALUPE COUNTY (TEXAS) MEDICAL SOCIETY.

Dr. Witten B. Russ, San Antonio, councilor for the Fifth (western) District, has organized this society with an initial membership of 11, and the following officers: President, Dr. Marvin B. Grace, Seguin; vice-president, Dr. F. R. Williams, Kingsbury; secretary-treasurer, Dr. D. A. Watson, and censors, Drs. F. R. Williams, Kingsbury, William Myers, Seguin, and Asa M. Stamps, Seguin.

COMAL COUNTY (TEXAS) MEDICAL SOCIETY.

Dr. Witten B. Russ, San Antonio, councilor for the Fifth (western) District, announces the organization of this society with four members and the following officers: Dr. Henry Leonard, New Braunfels, president; Dr. L. V. Weathers, vice-president; Dr. Alfred H. Noster, New Braunfels, secretary-treasurer, and Drs. Alonzo Garwood, Alfred H. Noster and Henry Leonard, all of New Braunfels, censors.

NUECES COUNTY (TEXAS) MEDICAL ASSOCIATION.

Dr. Arthur E. Spohn, Corpus Christi, councilor for the Sixth (Corpus Christi) District, on September 5, organized this association with the following officers: Dr. Arthur E. Spohn, Corpus Christi, president; Dr. Alfred G. Heaney, Corpus Christi, vice-president; Dr. Henry Redmond, Corpus Christi, secretary; Dr. J. D. Hooker, Alice, treasurer, and Drs. Henry S. Burke, Corpus Christi, W. T. Harris, Mathis, and Walter F. McMullen, Rockport, censors.

BURLESON COUNTY (TEXAS) MEDICAL ASSOCIATION.

Dr. Sam R. Burroughs, Buffalo, councilor for the Eleventh (Brazos Valley) District, met the physicians of the county at Caldwell, September 3, and organized a county society with a charter membership of seven, and the following officers: Dr. James P. Oliver, president; Dr. Joseph W. Matthews, vice-president; Dr. B. O. McLean, secretary and treasurer, all of Caldwell, and Drs. Joseph W. Matthews, Caldwell, Robert E. B. Bledsoe, Somerville, and Duncan M. Broach, Merle, censors.

GRIMES COUNTY (TEXAS) MEDICAL ASSOCIATION.

The physicians of the county met at Anderson, September 5, and were addressed by Dr. Sam R. Burroughs, Buffalo, councilor for the Eleventh (Brazos Valley) District, on the benefits of county organization. A county medical association was then formed with an initial membership of 15, and the following officers: Dr. Fred B. Johnstone, Anderson, president; Dr. William Hayne, Anderson, vice-president; Dr. B. H. Bennett, secretary, and Drs. H. J. Palmer, Yarboro, A. J. Burke and A. J. Whitworth, censors.

Columbia County (Wis.) Medical Society.

This society was organized at Portage, September 9, with 14 members. Dr. James J. Howard, Columbus, was elected president; Dr. John R. Binnie, Poynette, vice-president, and Dr. Frederick D. Bentley, Portage, secretary and treasurer.

Fond du Lac County (Wis.) Medical Society.

Dr. Eugene L. Boothby, Hammond, councilor of the Eleventh District, met the physicians of the county, September 9, and organized a county medical society, of which Dr. Henry Hannum, Bayfield, was elected president, and Dr. H. G. Lampson, Washburn, vice-president.

Tippecanoe County (Ind.) Medical Society.

This society met at Lafayette, September 15, and with the aid of Dr. George F. Keiper, councilor for the Tenth District, reorganized and adopted a constitution and by-laws in conformity with those of the Indiana State Medical Society and the American Medical Association.

Muskingum County (Ohio) Medical Society.

At the annual meeting, September 8, the society adopted the constitution and by-laws recommended by the state and National organizations, and elected Dr. C. U. Hanna, president; Dr. Abdul M. Templeton, vice-president; Dr. William F. Sealover, secretary, and Dr. Charles P. Sellers, treasurer, all of Zanesville.

Forsyth County (N. C.) Medical Society.

This society was reorganized at a meeting held in Winston-Salem, September 8, with the following officers: Dr. H. S. Lott, Winston-Salem, president; Dr. Edward F. Strickland, Bethania, vice-president; Dr. Robert D. Jewett, Winston-Salem, secretary, and Drs. A. Y. Linville, Waughtown; Henry T. Bahnson, Winston-Salem, and David N. Dalton, Winston-Salem, censors.

Jefferson County (Ind.) Medical Society.

This society met in Madison, September 7, and by unanimous vote decided to reorganize in accordance with the recommendations of the American Medical Association. The following officers were re-elected: Dr. William A. McCoy, Madison, president; Dr. Nicholas A. Kremer, secretary-treasurer, and Drs. Charles R. Ryker, Manville, Jefferson Cooperider Madison, and Fred H. Austin, North Madison, censors.

Dade County (Fla.) Medical Society.

On September 3 thirteen physicians of Dade County met at Miami, organized a county medical society, adopted a constitution and by-laws conforming to those of the state society and the American Medical Association, and elected the following officers: Dr. R. H. Huddleston, Miami, president; Dr. N. O. Burnham, West Palm Beach, vice-president, and Dr. E. W. Pugh, Miami, secretary and treasurer.

Ringgold County (Iowa) Medical Society.

The members of this society met at Mount Ayr, August 13, and reorganized under the rules laid down by the state and National organizations. Dr. Benjamin B. Waring, Maloy, is president; Dr. John W. Greenman, Kellerton, vice-president; Dr. Samuel Bailey, Mount Ayr, secretary-treasurer, and Drs. William Horne, Mount Ayr, Cassius T. Lesan, Mount Ayr, and B. H. Miller, Redding, compose the board of censors.

Pearl River-Marion County (Miss.) Medical Society.

This society was recently organized by Dr. Hyman McM. Folkes, Biloxi, councilor for the Tenth District, at Lumberton, with the following officers: Dr. William J. Hunnicutt, Poplarville, president; Dr. Theodore B. Ford, Columbia, vice-president for Marion County; Dr. W. W. Hall, vice-president for Pearl River County; Dr. Charles C. Bass, Columbia, secretary; Dr. Robert W. Thompson, Lumberton, treasurer, and Drs. Stephen B. Harmon, Lumberton, Buford Larkin, Columbia, and L. L. Polk, Purvis, censors.

Benton County (Iowa) Medical Society.

Seventy-five per cent. of the physicians of Benton County met at Vinton, September 8, and organized a county medical society in affiliation with the state and National organizations. The following officers were elected: Dr. Marion Meredith, Vinton, president; Dr. Samuel H. Watson, Blairstown, vice-president; Dr. John E. Luckey, Vinton, secretary; Dr. Clark C. Griffin, Jr., Vinton, treasurer; Drs. Clark C. Griffin and Jay P. Whitney, Vinton, and Irvin S. Boles, Shellsburg, censors, and Dr. James McMorris, Belle Plaine, delegate to the state society.

Societies.

COMING MEETINGS.

American Academy of Railway Surgeons, Chicago, Oct. 1-2.
Colorado State Medical Society, Denver, Oct. 6-8.
Medical Association of the District of Columbia, Washington, Oct. 6.
Idaho State Medical Society, Boise, Oct. 8-9.
Mississippi Valley Medical Association, Memphis, Tenn., Oct. 7-9.
Vermont State Medical Society, Bellows Falls, Oct. 15-16.
New York State Medical Association, New York City, Oct. 19-22.

Hawaiian Territorial Medical Society, Honolulu, Nov. 7.
Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

Iowa State Association of Railway Surgeons.—The tenth annual meeting will be held at Des Moines, October 14 and 15.

American Academy of Railway Surgeons.—The tenth annual meeting will be held in the Great Northern Hotel, Chicago, October 1 and 2, under the presidency of Dr. Luther Sexton, New Orleans.

Canadian Medical Association.—Dr. Simon J. Tunstall, Vancouver, B. C., was elected president; Dr. George Elliott, Toronto, Ont., re-elected secretary and Dr. Henry B. Small, Ottawa, Ont., re-elected treasurer. The next meeting will be held in Vancouver.

Medical and Chirurgical Faculty of Maryland.—The semi-annual meeting will be held September 24 and 25 at Pen Mar on the Western Maryland Railway in the Blue Ridge Mountains. Matters of legislation will be discussed, including changes needed in the medical examination and licensing laws. The constitution and by laws will be so modified as to place the society in full accord with the American Medical Association and the county societies.

Medical Society of the Missouri Valley.—At the sixteenth annual meeting held in Omaha, September 14, the following officers were elected: President, Dr. A. D. Wilkinson, Lincoln, Neb.; vice-presidents, Drs. Robert R. Williams, Manning, Iowa, and J. Harvey Cleaver, Council Bluffs, Iowa; secretary, Dr. Charles Wood Fassett, St. Joseph, Mo., and treasurer, Dr. Donald Macrae, Council Bluffs, Iowa. The next meeting of the society will be held at Lincoln, Neb. An amendment to the constitution was adopted, making Council Bluffs the annual meeting place, the sessions to convene on the fourth Thursday of August of each year. The semi-annual meetings will be held as heretofore at places in the Missouri Valley.

Cumberland Valley Medical Society.—This society was organized at Mont Alto Park, September 8, with the following officers: President, Dr. Robert W. Ramsey, Chambersburg, Pa.; vice-presidents, Drs. James Evelyn Pilcher, U. S. Army, retired, Carlisle, T. H. Weagley, Marion, Pa., and James W. Humrichouse, Hagerstown, Md.; secretary, Dr. John J. Coffman, Scotland, Pa.; assistant secretary, Dr. P. Brough Montgomery, Chambersburg, Pa., and Americus R. Allen, Carlisle, Pa., and treasurer, Dr. John Montgomery, Chambersburg, Pa. Forty physicians from Cumberland Valley towns were present. Dr. Joseph T. Rothrock of the Pennsylvania Forestry Department, who is in charge of the Mont Alto Reservation and White Pine Consumption Sanitarium Camp, made an address on the open-air treatment of tuberculosis. Major James Evelyn Pilcher, U. S. A., offered a motion, which was adopted, that the state of Pennsylvania be urged to appropriate sufficient money for the full development of the sanitarium, which is now so crowded that scores of patients are turned away weekly.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Benzoin Preparations.

The preparations of benzoin have been employed, both locally and internally, with excellent results in the treatment of various conditions. H. R. Coston, in *Ther. Gaz.*, states that they are of service as antiseptics, antipyretics, analgesics, diaphoretics and diuretics. The tincture, compound tincture, benzoic acid, benzoate of lithium, ammonium, sodium, bismuth and potassium benzoate are the preparations most frequently employed. Internally the lithium benzoate has been used most often by the author. A 1 to 1,000 solution of benzoic acid prevents the development of bacteria and a solution of 4 to 1,000 kills them. Locally he uses the compound tincture in sealing healthy fresh cut wounds in preference to any other dressing. Either the tincture or the acid or the bismuth salt yield excellent results in the treatment of cracked nipples, granulating surfaces, bed sores, chapped hands, anal fissures, and is of special benefit in the treatment of frost bites after they reach the secondary period.

Chronic forms of eczema are benefited by painting the parts with the tincture or dusting them with the bismuth benzoate. He recommends the following combination in the treatment of chancres and chancroids:

℞. Bismuthi benzoatis 3iv 15
Aristol 3i 4
M. Sig.: Apply locally as a dusting powder.

The following combination serves as an excellent dressing in scrofulous skin lesions:

℞. Zinci oxidi
Acidi benzoici, āā.....3ii 8
M. Sig.: To be used locally as a dressing.

Where it is desirable to remove superficial layers of the skin in cases of freckles, or what is classified by the author as "liver spots," the following is recommended:

℞. Tinct. benzoini co. .....℥iss 45
Hydrarg. chloridi corros. 3i 4
Aq. cologne, q. s. .....℥viii 240
M. Sig.: Apply twice daily.

In suppurating and foul-smelling ulcers nothing serves better as a dressing than benzoic acid or its bismuth salt, first cleansing the sore and drying it and applying the powder, over which cotton and bandage should be placed. Internally the chief indication is the treatment of cystitis accompanied by ammoniacal urine. The author gives it in 15 to 20 grain (1.-1.30) doses every two to four hours until the urine becomes acid, after that it may be given three times a day well diluted. It is of value in enuresis of children with neutral or alkaline urine, giving three to five grains after meals three times a day.

In the acute diarrheas of children it is of value given in two-grain (.12) doses every three or four hours to a child of one year or over. It may be given to advantage in chronic bronchitis and in the different forms of influenza. [Mention should also have been made of the value of benzoin in the acute inflammations of the larynx and trachea. It is best administered in the form of an inhalation by floating one or two drams of the tincture on boiling water and instructing the patient to inhale the vapor. By this method the paroxysms can be stopped almost instantaneously, and the patient will drop off to sleep until the next paroxysm, which will gradually become less frequent and less severe.] Trochees containing benzoic acid are also efficient in some cases:

℞. Acidi benzoici .....gr. ss 03
Sodii biboratis .....gr. iss 09
Pulv. acaciæ q. s.
M. Ft. trochiscum No. i. Sig.: One every hour dissolved in the mouth.

Rectal Dilatation for Chronic Constipation and Hemorrhoids.

A correspondent writes: "Can you furnish through THE JOURNAL something authentic about the treatment of constipation and hemorrhoids by the use of rectal (sphincter dilatation)? Various advertisers laud instruments for the purpose. I should like to hear something about the method from a qualified physician."

Constipation is not a condition due to a single cause, consequently no single line of treatment, such as dilatation of the sphincter ani, will cure all cases. A certain percentage of cases are due to overaction or spasmodic action of the sphincter, the spasmodic action being due to a hypersensitive condition of the mucous membrane, caused by slight fissures, superficial ulcers, inflamed follicles or crypts, mild hemorrhoidal condition of the veins, etc. Many of these cases will be relieved of the constipation by dilatation of the sphincter, because the dilatation cures the fissures or inflammatory and irritable condition of the anus, and the spasmodic action of the sphincter ceases. Thorough dilatation under anesthesia is preferable to the use of the so-called rectal dilators flooding the market. A selection of cases must be made based on the conditions present, otherwise frequent disappointment will follow the use of the dilatation treatment of chronic constipation.

Seborrhea of Scalp.

The following combinations, according to an abstract in *N. Y. and Phil. Med. Jour.*, are recommended in the treatment of baldness: After correcting any disturbances of the gastro-intestinal tract and giving the proper attention to arthritic diatheses the following should be used locally to remove the oily secretion:

℞. Sodii boratis 3iii 12
Spts. etheris .....ʒss 15
Aquæ .....ʒviii 240

M. Sig.: Shake and apply locally. The following for the glandular secretion:

℞. Potass. sulphid. .....gr. xv 1
Tinct. benzoini 3ss 2
Aq. destil. .....ʒiii 90

M. Sig.: Locally as a lotion to the scalp.

And to assist in stimulating the growth of the hair, the following:

℞. Lac. sulphuris .....gr. iii 20
Olei ricini .....m. vi 40
Acidi acetici (glacial).....gtt. xv 1
Resorcin 3ss 2
Chloralis hydratis 3i 4
Tinct. jaborandi 3i 4
Tinct. cantharidis 3ii 8
Alcoholis .....ʒvi 180

M. Sig.: To be applied locally.

In the loss of hair following an attack of typhoid fever or pregnancy, the following is recommended:

℞. Spts. chloroformi
Tinct. benzoini
Olei ricini, āā.....3i 4
Olei pini .....m. vi 40
Alcoholis .....ʒvi 180

M. Sig.: Locally to the scalp.

Chronic Diarrhea.

Chronic diarrhea, according to an abstract in *Amer. Med.*, depends on: 1. Autointoxication; 2, an intestinal lesion; 3, insufficiency of gastric digestion. In any case the cause must be treated. In diarrhea due to uremia the patient should be confined to a milk diet. In those cases due to exophthalmic goiter, faradization of the goiter will check the diarrhea. In chronic dysentery a combination of calomel, ipecac and opium is of great value, prescribed as follows:

℞. Pulv. ipecacuanhæ .....gr. i 06
Hydrarg. chloridi mitis.....gr. 1/3 02
Ext. opii .....gr. 1/15 004

M. Ft. pilula No. i. Sig.: Five to eight pills daily.

The author recommends that one or two teaspoonfuls of Rochelle salts be taken two or three times a week in hot water, before meals. In some cases the following powder may be given twice a day before meals:

℞. Pulv. simarubæ .....gr. v 30
Pulv. catechu
Ext. krameriæ, āā.....gr. iv 25
Bis. subnit. .....gr. x 65

M. Ft. chart. No. i. Sig.: One powder twice a day before meals.

If severe colic is present a small quantity of paregoric may be given. Adrenalin is also recommended in doses of five or ten drops of a 1 to 1,0000 solution taken in a little water on arising and before retiring. In diarrhea due to gastric disturbances the proper dietetic measures must be observed. When the mouth is foul in these different forms of diarrhea, Rochelle salts should be taken on an empty stomach, unless there is marked gastric disturbance. A teaspoonful of sodium sulphate in a glass of hot water, to which has been added ten drops of dilute hydrochloric acid, will aid in correcting the condition. It should be taken after meals.

In the treatment of dysentery Roger and Rocaz recommend the use of rectal injections of neutralized hydrogen dioxid in water. The commercial hydrogen dioxid being acid in reaction must be neutralized before using. It may be mixed with an equal quantity of a 4 to 1,000 sodium bicarbonate solution. Another method of neutralizing is by mixing the hydrogen dioxid with Vichy water. The quantity to be injected should be varied to suit the case under treatment. The amount may range from one pint to a quart in adults, and three to six ounces for infants. Two or three injections a day, in benign cases, will be sufficient, which may be increased in severer cases. It is said by this treatment that the pains and tenesmus rapidly diminish and the mucus and blood disappear from the stools. This may be used in any form of enteritis.

In the treatment of chronic dysentery Bjorkman, in *Merck's Archives*, recommends enteroclysmata of silver nitrate, grains 30 (2.00) to the pint (480.00) of water, using five or six pints of such a solution at each irrigation. Severe tenesmus may be relieved by the following suppositories:

℞. Ext. belladonnæ .....gr. iss 10
Butyr. cacao. .....gr. xl 2 65

M. Ft. suppos. No. x. Sig.: One to be inserted into the rectum three times daily; or:

℞. Acidi tannici .....gr. iiss 15
Pulv. opii .....gr. ss 03
Butyr. cacao.....gr. xxx 2

M. Ft. suppos. No. i. Sig.: One per rectum three times a day.

Medicolegal.

Arbitrary Enforcement of Sanitary Code Necessary.—The Court of Appeals of New York says, in the case of People vs. Vandecarr, that, in great cities, where, in certain sections, life exists under crowded conditions that can not be fully comprehended unless seen, and where many articles for table consumption by all classes of the community are liable to pass through processes and conditions little short of appalling unless regulated by law, the full and vigorous exercise of the police power in the interests of the public health and general welfare is absolutely essential. It is quite impossible that every offender against the provisions of the sanitary code should be accorded due process of law, as embracing jury trial and the slow results of the ordinary procedure in the courts. The vesting of powers more or less arbitrary in various officials and boards is necessary, if the work of prevention and regulation is to ward off fevers, pestilence, and the many other ills that constantly menace great centers of population. It is true that there may be provisions inserted in a sanitary code that, after giving the police power full effect, are unconstitutional, violative of well-established legal principles, and subversive of the rights of the citizen. The courts are always open for the correction of such evils. But a requirement of the sanitary code that no milk shall be sold without a written permit from the board of health the court holds is reasonable, and violates neither the federal nor state constitution, and is in accordance with law and long-established precedent.

Liability for Railway Spine.—According to the Supreme Court of Louisiana, the case of Patterson vs. the New Orleans & Carrollton Railroad, Light & Power Company, was brought to recover damages for personal injuries alleged to have been sustained by the party suing in a street-car collision. He and the medical experts on his behalf testified that the injuries so received had resulted in partial paralysis. On the other hand, medical experts called on behalf of the company, whilst conceding that he was not responsible for his condition, and also conceding the possibility that such a condition might have resulted from the causes to which he attributed it, propounded the theory that he was suffering from "railway spine"; that is, that he was the victim of his imagination, and believed that he was paralyzed, whereas he was, in fact, affected by no physical ailment. Under these circumstances, the court says, that it had to choose between the alternatives of holding that the party was actually suffering from the physical disability of which he complained, or of holding that, by reason of a mental conditon for which he was not responsible, he believed that he was suffering from that disability, and as a consequence, for all practical purposes, was in the condition in which he believed himself to be. But it was not assured that he was

any more likely to get well in the one case than in the other, and as, in either case, it was the company that was responsible for his condition, it says that it was not clear that it made any difference, so far as the claim here made was concerned, which alternative was chosen. In other words, it says that as it did not appear that he was any more likely to get well in the one case than in the other, and as, in neither case, was he responsible for his condition, it was not clear that it would make any difference, for the purposes of the present claim, whether he was really paralyzed or was merely laboring under a fixed belief to that effect. But, considering the whole evidence, the court reaches the conclusion that the company's theory was not sustained, and affirms a judgment against it for $4,000 damages.

Holding of Postmortem Without Notice to Company.—In the case of Loesch vs. the Union Casualty & Surety Company, an action brought on an accident policy by a mother to recover for the death of a son insured for her benefit, the Supreme Court of Missouri, Division No. 1, says that, on the day after the son's death, the physician in attendance told the mother that he desired to hold a postmortem examination, to which she assented, or, at least, made no objection. He called in some other physicians to assist him, and they made a postmortem examination. After it was done, and the body was sewed up, the physicians came out of the room, and then the mother handed the attending physician the policy in suit, and asked him what she should do in regard to it. He examined it, and discovered a clause declaring that, if a postmortem be held without notice to the company in time to have its medical adviser present all claims under the policy should be forfeited. He went immediately to the office of the company, and notified them of what had occurred, and on behalf of the mother offered to hold another postmortem with their medical adviser if they so desired. But they expressed no such desire, and the mother, after holding the body until the next day, caused it to be buried. The court says that it is satisfied that the holding of the postmortem examination without notice to the company, under the circumstances shown by the evidence in this case, did not have the effect to forfeit the mother's rights under the policy. A clause of forfeiture is not to be strictly construed in favor of the company in such case. On the contrary, whilst it should be given a reasonable interpretation, yet the inclination of the court should be against the forfeiture. The design of this clause in the policy was to enable the company to learn the cause of the death of the insured, as that cause might be shown by a postmortem examination, if one should be held. Whatever such an examination might show, the company was entitled to an opportunity to know. It is a reasonable requirement under reasonable interpretation, and a violation of its terms under circumstances reasonably showing disadvantage to the company would work a forfeiture of the policy. But there was nothing in this case to indicate any such disadvantage. In the first place, it was very doubtful if the mother was responsible for the act. If it occurred without her knowledge or consent, it would be no defense to the suit. She testified that she did not know what the word meant, and did not know what the physicians were doing. But, however that might be, as soon as the attending physician saw the policy and read this clause, which was immediately after the postmortem had been held, he went to the office of the company, and informed them what had been done, and offered to allow them to make a reexamination, as before stated. There was no suggestion in the record of any fact or theory which would tend to show that a re-examination of the body at that time would not disclose to the eye of the company's surgeon everything that the first disclosed to the physicians who made it. The court does not say that the first examination might not have disclosed facts that could have been hidden from one making a second examination; but there was no such suggestion in this record, and it was not led, therefore, into such an inquiry. Wherefore, the court holds that the fact that the postmortem examination was held without notice to the company was no bar to the mother's action under the circumstances disclosed by the evidence in this case.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

September 12.

1 *Labia Urethræ and Skene's Glands. (To be concluded.) Howard A. Kelly.
2 *A Study of Uncinariasis in Porto Rico. (Concluded.) Bailey K. Ashford and W. W. King.
3 *Splanchnoptosis Caused by Omental Adhesions. Daniel H. Craig.
4 *On the Condition of the Blood in Rheumatoid Arthritis and Osteoarthritis. William G. Erving.
5 *Eclampsia. Hubert Richardson.
6 Infantile Tetany. H. C. Masland.
7 Some Notes on Nassau. Samuel A. Fisk.

1. **Labia Urethrae and Skene's Glands.**—In this article Kelly describes an anatomic formation which has apparently not been noticed by previous writers, that is, the mucous folds which surround the female urethral orifice and apparently have a protective influence against noxious vaginal discharges, etc. He illustrates various forms of these and their changes with senility. In the second part of his paper he begins the description and history of Skene's glands, the function of which is to exercise an office for the urethral orifice precisely similar to that of the vulvo-vaginal glands in relation to the vaginal orifice, to provide a lubricating fluid to protect the delicate mucosa from harmful attrition.

2. **Uncinariasis in Porto Rico.**—The treatment of uncinariasis is detailed by Ashford and King. They have come to rely on thymol given in the morning on an empty stomach in doses of 30 gr. repeated after two hours and preceded by a full dose of magnesium sulphate. If the bowels had not moved by noon another dose of salts was given. They have seen no bad effects from thymol, though such might be expected if alcoholic liquors were taken with it, as in the case reported by Thornhill. Caution, however, must be used in treating children and patients with great debility, especially in weakened heart conditions, and the dose reduced in proportion and heart stimulants and tonics given. Thymol should be repeated every eight or ten days until the ova have ceased to appear in the stools or longer if the percentage of hemoglobin does not rise. The best results in blood regeneration have been obtained with large doses of Blaud's pills and Vallet's mass. Some benefit was also derived from the use of adrenalin chlorid used as a circulatory stimulant in cases of weak heart. Of the patients treated 58 were completely cured, 25 were improved, 13 of whom are still in the hospital, and will be cured unless unforeseen accidents occur; 5 are not improved, but 3 of these are tuberculous; 6 died of anemia, 3 of tuberculosis, and 1 of pernicious malaria when nearly well of the anemia. The details of the cases are given.

3. **Splanchnoptosis Caused by Omental Adhesions.**—Craig reports three cases, and warns in the surgical treatment of these conditions against injury to the omentum. Traction on this in case of adhesion might tear the colon or do other harm.

4. **The Blood in Rheumatic Arthritis and Osteoarthritis.**—Erving reports the results of an inquiry into the condition of the blood in these diseases in some 40 cases, and finds that it is not such as would be expected in diseases of such a general wasting nature. The formed elements of the blood are practically unaffected. The slight leucocytosis noted seemed to have no relation to the duration or severity of the symptoms.

5. **Eclampsia.**—Richardson thinks that from the physiologic facts known, the similarity of symptoms of eclampsia to those of hypothyroidea, and the observations of Lange on pregnancy, it seems probable that a considerable proportion of cases of eclampsia are due to thyroid insufficiency.

New York Medical Journal.

September 12.

8 *The Value of Confirmatory Cultures in Diphtheria. John S. Billings, Jr.
9 The Roentgen Ray as a Therapeutic Agent. Cyril Fulton.
10 *Surgical Shock, with Special Reference to the Solar Plexus as a Factor. L. J. Dandurant.
11 *The Preparation of the Patient for Nose and Throat Operations Under Local Anesthesia. Nathan G. Ward.

12 *The Leucocytes in the Summer Diarrhea of Infants. John Zahorsky.
13 *The Prognosis and Orthopedic Treatment of Acute Anterior Poliomyelitis. (Concluded.) Walter G. Stern.
14 *Straight Splints in Elbow Fractures. J. Hubley Schall.

8. **Diphtheria.**—The usefulness of confirmatory cultures in diphtheria is discussed by Billings, who finds that while in a certain small percentage of cases the diphtheria bacillus fails to appear in the first cultures, the failure is generally due to a conjoined infection with the septic micrococci. Aside from these cases, the statement that the case is probably not diphtheria can be made on one negative culture up to the tenth day of the disease. Valid reasons for requesting a confirmatory culture in negative cases are: 1. Where there is no growth whatever on the culture media; 2, where there is complete contamination and liquefaction of culture media, in cases which are clinically diphtheria; 3, cases where there are suspicious bacilli; 4, in croup cases where the membrane is limited to the larynx and the duration of the disease is less than five days. Dryness of culture media, scanty growth and the recent use of antiseptics with satisfactory growth of other organisms than the diphtheria bacilli, do not alone furnish sufficient grounds on which to request a confirmatory culture. These regulations govern the system of second cultures in the diagnosis laboratory of New York City.

10. **Shock.**—Dandurant notices particularly the type which he calls the solar plexus shock characterized by a lack of symptoms, except rapid and erratic heart action and pulse. He thinks in the majority of these cases the perverted condition of the solar plexus is a factor in the production of the phenomena.

11. **Nose and Throat Operations.**—The importance of preliminary treatment for nose and throat operations under local anesthesia is insisted on by Ward, who outlines it as follows:

1. Local treatment, to free the nose and nasopharynx from mucus and relieve congestion.
2. Laxatives, diaphoretics and diuretics, to stimulate elimination.
3. Tonics, to tone up the nervous centers and restore general functional activity.
4. Atropin, to prevent reflex inhibition.

These precautions will assure less shock, prevent complications and hasten repair.

12. **Summer Diarrhea of Infants.**—Zahorsky concludes with Knox and Warfield that the leucocyte count in this condition is too variable to be of special diagnostic importance, but holds that the differential count is extremely valuable in the estimation of the intensity of the intoxication. The normal ratio of the polymorphonuclears to the lymphocytes in healthy infants is 2 to 3 or 4. In gastroenteric disease this ratio becomes changed; the leucocytes gradually increase and the lymphocytes diminish, when the ratio becomes 1 to 1, 4 to 3, etc. This predominance of polymorphonuclears, therefore, reveals an intensity of the morbid process and means that the baby is pretty sick, whatever other signs may indicate.

13. **Acute Anterior Poliomyelitis.**—The orthopedic treatment of this condition is described by Stern, who insists on the importance of treatment, if only to prevent deformity, and gives details as to tendon transplantation, arthrodesis, etc.

14. **Elbow Fractures.**—Schall advocates the use of straight splints extending from the upper third of the arm to the wrist with slight divergence at the elbow, the hand and arm being kept supine. To prevent the olecranon from becoming displaced, small strips of adhesive plaster were passed just above the fragments down and around the splint. He objects to complicated fracture dressings in injuries about the elbow, and to the extremely flexed position.

Medical News, New York.

September 12.

15 *Infantile Scorbutus. Thomas M. Rotch.
16 *Notes on Experimental Surgery. A Modification of the McGraw Elastic Ligature. J. W. Draper Maury.
17 *A Proposed Apparatus for the Treatment of Empyema. Francis M. C. Usher.
18 The Advisability of a More Definite Course of Instruction in Physics in the Medical Curriculum. Allen J. Smith.
19 Mental Therapeutics in Medicine. J. M. Alkin.
20 *Uses and Limits of Non-Physical Therapy. Smith Baker.
21 *The Significance of Albumin and Casts in Surgical Patients. John C. Munro.
22 Later Impressions of the "Non-heredity of Acquired Characters." Lewis S. Blackwell.
23 *Therapeutics of Potassium Copaibate. Louis Kolipinski.

15. **Infantile Scorbutus.**—Two cases are reported by Rotch to impress on the profession the great care that should be taken to differentiate between the advanced bone lesions of this disease and those of osteomyelitis and osteosarcoma. In the first case, three separate operations had been performed and a large portion of the tibia removed. The diagnosis of infantile scorbutus was suggested by him in consultation and orange juice recommended, followed by the steady improvement in the condition of the child. In the second case scorbutus was diagnosed as probable, and a diet of plain cow's milk and orange juice employed with excellent results, though there was very marked swelling of the bone suggesting the presence of osteosarcoma, and it had been suggested that amputation for osteosarcoma would be needed.

16. **The McGraw Elastic Ligature.**—Maury has employed the McGraw elastic ligature in such a way as to insure its "punching out," instead of leaving a linear aperture which may be broken up by adhesions. He makes a square stitch, the technic of which is described as follows:

Decide on the size of the square desired, and, after approximating the surface, gut and gut or stomach and gut so that there may be no unnecessary tension, place a Lembert stitch of silk to join the two viscera at each of two points destined to be the diagonally opposite angles of the completed square. These stitches will hold the parts together and will serve as guides for the introduction of the ligature. The needle is introduced into one of the apposed viscera at a point selected for one of the remaining angles and brought out beside one of the guides. From here it is passed through the opposite organ, care being taken that the needle thoroughly pierces the mucous membrane—which is somewhat resistant in a dog but not so in a pig—and out again at a point diagonally opposite the starting place. From this point to the point of beginning the steps are directly reversed, viz.: the needle re-enters the first viscus, emerges at the first guide, re-enters the second viscus and emerges as nearly opposite the starting point as possible. The stitch is then just half done; two sides of the square are completed, and the arrangement of the elastic ligature may be correctly represented by a figure 8 bent in the middle. The remaining two sides of the square are completed in the same manner, care being taken to make the distal loops of the two figures of 8 interlock.

He gives and illustrates the results of experimental work with this on dogs and offers the following conclusions:

1. The McGraw elastic ligature can be so inserted as to "punch out" as large an area of the juxtaposing walls as may be desired, with at least as much certainty and with greater safety than the Murphy button.
2. That the margins of such openings are smooth and not unduly cicatrized.
3. That the elastic ligature may remain *in situ* after punching the openings, although this is less likely to happen if tied with iodized catgut.
4. That such retention in the mucosa of so soft a material is not apt to be harmful or permanent.
5. That the time required is not sufficiently increased to render the use of this technic impracticable.
6. That perhaps enough has been suggested to stimulate further research by others, so that the actual facts in these most interesting problems may shortly be brought to light.

17. **Empyema.**—The apparatus suggested by Usher consists of a metal box with a screw cap arranged for the application of suction, etc., and fastened down to the body so as to exclude air by means of rubber plaster or bandage rubber.

20. **Non-Physical Therapy.**—Baker thinks that quacks and irregulars, honest and dishonest, are defining a field of non-physical therapy, which needs investigation by the highest skill and training and promises favorable results.

21.—See abstract in THE JOURNAL, xl, p. 1669.

23. **Potassium Copaibate.**—This preparation, which Kolipinski finds decidedly advantageous, is prepared by mixing 8 parts by weight of copaibate with 1 part of potassium hydrate in a small quantity of water. On stirring, saponification results. By standing three or four days, the volatile oil stays at the top, potassium copaibate in the middle, and the lowermost layer is the residue of uncombined alkali in water. It is gelatinous at 50 F., thick and oily at 63 F., and quite liquid at 70 to 80 F. Its reaction is alkaline. It dissolves rapidly in alcohol, ether, and chloroform. It is best given in gelatin capsules in doses of 50 to 150 gr. per day. Four to twelve capsules represent the average daily amount. The average man will tolerate two capsules three times a day; robust men twelve daily, and those easily purged will not be able to take more than four for some length of time. Its by-effects are similar to those of the crude drug,

though less severe. It has all the virtues commonly ascribed to copaiba, with special ones due to its solubility, and it is more palatable than the latter. It reduces the danger of complications to a minimum so that gonorrheal bubo, epididymitis, cowperitis, prostatitis, vesiculitis, cystitis and stricture are seldom seen to arise.

Boston Medical and Surgical Journal.

September 10.

24 *Cancer of the Intestine, etc.; Its Surgical Aspect, with Report of Cases. Homer Gage.
25 *The Relations Existing Between Respiratory and Intrapelvic Diseases. Daniel H. Craig.
26 Carcinoma of Choroid Metastatic from Prostate. Allen Greenwood.
27 A Case of Carcinosis, with Secondary Nodule in the Eye. E. E. Southard.
28 Mechanical Vibration: Its Theory and Application in the Treatment of Disease. Maurice F. Pilgrim.

24. **Cancer of the Intestine.**—Gage first notices the unfavorable statistics of Fitz and then reviews the results of Korte, McEwen and Krönlein, which he thinks to a certain degree are favorable, especially in cases of ileocecal cancer. Four cases are reported by him, two of which were apparently quite successful. In 2 the acute intestinal obstruction was the first indication of the existence of any serious trouble, and he remarks that the diagnosis in these cases can not be made without exploratory incision, and when symptoms suggest a chronic appendicitis, or obstruction, its desirability is evident. If the disease, however, has invaded the mesentery, lymphatics, etc., he would not operate further, and he would confine the use of the exploratory incision to cases in which the earliest symptoms were those of acute intestinal obstruction, appendicitis and chronic intestinal disturbance where there is a clear presumption against very advanced malignant disease. As regards colostomy, while it may be useful, he thinks it can have only imperfect and merely temporary good effects.

25. **Ovarian Prolapse.**—Craig's paper makes the point that reflexes or contrecoup from above in coughing, etc., with rigid chest and abdomen are responsible for ovarian prolapse, and details some of his experiments to determine the amount of force thus produced. He finds that a pressure of 14 ounces causes complete prolapse and that the force engendered by coughing is slightly in excess of that required. The wearing of corsets has much to do with producing the bad results. He suggests that the congestion of menstruation in conjunction with that of respiratory diseases is always harmful and should be guarded against even in the nulliparous, and that corsets had better be proscribed during any severe or long persistent cough-accompanied lesion, especially during the catamenia. By requiring the patient to assume the prone position for a few minutes after violent coughing, disengorgement of the pelvic vessels is favored and gravity assists the ovarian supports. If ovarian or pelvic involvement is suspected, the pelvic respiratory massage suggested by Williams may be of advantage. This consists in having the patient assume the genu-pectoral or knee-elbow posture and aspirate the pelvic vessels by slow force-expiration about fourteen times per minute.

Medical Record, New York.

September 12.

29 *Post-typhoid Sepsis. Francis Delafield.
30 *The Joint Complications of Acute Pyogenic Osteomyelitis, with Especial Reference to the Treatment of the Purulent Forms of Arthritis. A. A. Berg.
31 Ancient Jibes at the Doctors. Jonathan Wright.
32 Some Experiences with Ichthyol in Puerperal Fever. J. D. MacPherson.
33 *The Surgical Treatment of Colitis. C. L. Gibson.

29. **Post-Typhoid Sepsis.**—Delafield illustrates cases of typhoid with relapses during convalescence, rigors, chills, etc., which he thinks indicate that at the end of typhoid fever there may come in a new infection resembling the streptococcus infection, either mild or severe. He suggests that with care this can be usually distinguished from typhoid, and the practical point is that it calls for different management. The best results are obtained if the patients are fed and taken out of bed.

30. **Purulent Arthritis.**—Berg points out the indications for operation in acute joint disease, the necessity for careful blood cultures beforehand as an essential for treatment and the importance of evacuation and drainage in case of suppuration. In the mild forms there is very little tendency to the destruction of the synovial membrane or ligaments, and septic symptoms are not severe, but in the severer cases there is more or less destruction. For the milder grades the old methods of single or multiple incision of the joint, evacuation of the exudate and drainage give very good results and may restore the joint to perfect function. In the severer cases he follows the plan of Mayo of making a transverse anterior incision through the patella into the joint, with partial dislocation of the femur and the tibia by extreme flexion and dry packing of the synovial cavity. Of course, this destroys the future function of the joint, but this can not be avoided in any case, and he suggests from his experience that good results may follow the same treatment in the other large joints, especially the elbow, ankle and wrist. In the after-treatment of arthritis immobilization of the joint should be employed until the acute inflammation subsides and then passive motion cautiously applied. Forcible passive motion is to be deprecated. For the periarthritis, the Priesnitz cold pack, combined with douches and massage are employed with satisfactory results. The pseudoarthritis and periarthritis leave no ultimate impairment of the joint function, nor do the serous, serofibrinous or catarrhal types of arthritis, though prolonged drainage of the joint for pyarthrosis is usually followed by fibrous ankylosis. This, however, varies, and he has had cases where the joint function was completely recovered.

33. **Colitis.**—Gibson's method, suggested in 1902, is briefly redescribed. It consists particularly in reproducing the technic of Kader's gastrostomy, making a valvular opening into the intestine and introducing a drainage tube through which treatment can be carried on. When it is removed the valvular arrangement completely closes it, and to obtain permanent closure of the fistula when required it is only necessary to discontinue the treatment by omitting to pass the catheter into the gut. The Weir modification of this, with the use of the appendix, has the apparent advantage of making the simple operation still simpler, but the valvular formation is wanting and the after-treatment is less agreeable. Gibson says that the results of this operation have been such as to justify the hope of marked amelioration or cure of the symptoms, while it offers the advantage that it is devoid of every disagreeable feature of an artificial anus. It calls for only a short confinement to bed. If a prolonged course of treatment is required, it may be carried out if necessary by the patient himself. A change of climate, so often beneficial, is made possible. Its performance is perfectly simple and safe. The intermuscular incision greatly reduces the risk of a subsequent hernia, and the prompt closure of the fistula is certain and spontaneous.

Cincinnati Lancet-Clinic.

September 12.

34 Intraligamentous Sarcoma of Right Broad Ligament Arising from Periosteum of Second Sacral Vertebra. J. M. Withrow.
35 Hematoma of the Ovary. P. C. Layne.
36 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

September 5.

37 Nasal Monstrosities in Italy Before the Age of Augustus. Emory B. Lease.

American Gynecology, Baltimore.

August.

38 *Urine Changes in Pregnancy and Puerperal Eclampsia. E. L. Whitney and Clyde A. Clapp.
39 *The Diagnosis and Prognosis of Tuberculosis of the Kidney and Ureter. J. Wesley Bovée.
40 *The Value of Conservative Operations on the Uterus and Its Appendages. W. P. Manton.
41 *Suburethral Abscess, or Incomplete Internal Urethral Fistula; Report of Three Cases. C. Jeff Miller.
42 The Card System in Gynecology. H. J. Boldt.

38. **Urine Changes in Pregnancy.**—Whitney and Clapp describe elaborately their methods of urine examination, and proclaim that there is an unmistakable tendency during pregnancy for a lessened output of urea nitrogen, together with a

slight increase of ammonia nitrogen as compared with the non-pregnant condition. In eclamptic women urine analysis shows that the essential change consists in a decrease in the percentage of nitrogen which is eliminated as urea, with an increase of the amount which is precipitated by phosphotungstic acid and readily decomposed by heating with sulphuric acid at a temperature of 160 C. Unfortunately our knowledge is incomplete as to the exact nature of these substances. In some cases, they think, the loosely combined nitrogen is derived from ammonia and in others it may be attributed to some as yet undetermined antecedent of urea. The variability of the ammonia increase in the different cases is attributed to the fact of the imperfect metabolic processes, the proteid destruction not proceeding as far as the ammonia stage, while in other cases the ammonia is retained either in the body fluids or stored up in excessive quantities, especially in the nervous system. We are still in the dark as to the cause of the alteration in metabolism that characterizes eclampsia. It is possible that the hepatic function may be in some cases at fault; the fact that the urinary changes last after delivery for some time would seem to indicate that the hepatic lesions do not immediately disappear after delivery. Further study will be required to fully elucidate the question, and to determine whether these urinary changes are constant enough to be of value in predicting the occurrence of eclampsia.

39.—See abstract in THE JOURNAL, xl, p. 1526.

40. **Conservative Gynecology.**—Manton reviews his experience in 62 conservative operations on the uterus and appendages in 53 patients. There have been 94.3 per cent. symptomatic cures, 5.6 per cent. of failures with no deaths. The mortality seems to have certainly been better in these cases than with the ordinary radical operations. The general health of the patients and the maintenance of normal function of the reproductive organs are also to be taken into account. Pregnancy has occurred since in 5.6 per cent.

41. **Suburethral Abscess.**—Miller describes three cases of this condition, one apparently due to an urethral diverticulum, one possibly of gonorrheal origin, and one probably originating in Skene's glands or in one of the urethral crypts. The symptoms are principally painful urination, sensation of heat and distress. Palpation will detect the thickened edges if the trouble follows periurethral inflammation. The urethral speculum is of use in revealing the locality of the pus discharge. The treatment that he advises is surgical; prompt incision and perhaps excision of the sac. After incision of the sac, a retention catheter should be worn for a time or the bladder at least emptied at regular intervals with a soft rubber catheter to prevent contamination of the wound.

American Journal of Insanity, Baltimore.

July.

43 *Presidential Address, American Medico-Psychological Association. G. Alder Blumer.
44 *The Symptomatology and Treatment of Traumatic Insanity. A. B. Richardson.
45 *Results of Brain Surgery in Epilepsy and Congenital Mental Defect. William P. Spratling.
46 *Additional Notes on Tent Treatment for the Insane at the Manhattan State Hospital, East. A. B. Wright and C. Floyd Haviland.
47 *A Consideration of the Hereditary Factors in Epilepsy. R. E. Doran.
48 *Prevalence of Insanity in California. John W. Robertson.
49 *The Nature and Genesis of an Insane Delusion. J. W. Wherry.
50 *Examination of the General Cerebrospinal Fluid in General Paralysis. Jost D. Kramer.
51 *Hospital Provision for the Insane Criminal. H. E. Allison.
52 Address on the Death of Dr. A. B. Richardson. H. C. Rutter.

43.—This article appeared elsewhere. See THE JOURNAL of July 25, ¶81, p. 284.

44. **Traumatic Insanity.**—Richardson does not recognize any special symptomatology of mental disturbances from trauma, though he describes a certain class of cases that may be the result. Many of the symptoms, however, belong to the neurotic rather than the psychic type, and these are intermingled in nearly all cases. Even in the purely functional neuroses there is the psychic disturbance, the relation of the *ego* to the environment is disturbed, the judgment is at fault, the emotions are deranged and the mental strength somewhat diminished. In the great majority of cases, moreover, there is a complication of a prospective damage suit which in some cases is the principal cause of the disorder, though the patient may be perfectly honest. Settlement of the suit will sometimes entirely remove the trouble without any evidences of intentional malingering.

45. **Brain Surgery in Epilepsy.**—Spratling gives the results of operation in 33 cases of epilepsy. In 21 there was no improvement; in 8 the attacks lessened, but operation was only a part of the treatment and not the most effective in his opinion. In 3 the condition was aggravated. In one a gynecologic operation seemed to produce recovery, the uterus being a retention cyst it was removed with all appendages. The patient has been free from the disease since that time. She had had an operation on the brain for traumatic trouble, to which the epilepsy was attributed, but this did not relieve, as the epilepsy was evidently the result of an autointoxication. In none of the cases was operation itself fatal, which is in contrast to the results in idiocy, where there is considerable mortality. He also reviews the effects of surgery in 111 cases of idiocy. The improvement was comparatively insignificant. He says surgical interference may be still used in isolated cases of idiocy, but it seems clear that it is slowly finding its position in rational surgery along a plane far lower than what at first seemed possible at the time of its inauguration.

46. **Tent Life for the Insane.**—Wright and Haviland report very encouraging results from the care of the insane in tents, aiding not only the tuberculous patients, but as also of use in other forms of insanity. They think it is worthy of application as a therapeutic measure in the modern treatment of insanity.

47. **Hereditary Factors in Epilepsy.**—Doran analyzes a number of cases of epilepsy and calls attention particularly to the following points noted in the study of heredity in the histories of 1,300 epileptic patients in a public institution:

Though it was impossible to secure data in many cases, yet a definite history of the various neuroses of alcoholism was found in 46.5 per cent. of the total. Alcoholism, epilepsy and insanity combined were responsible for 38.6 per cent. of the total cases, and paternal alcoholism existed in 18 per cent. of all cases. Diseases other than those connected with the nervous system have little hereditary influence in epilepsy. The age of onset is influenced by the character of the heredity.

48. **Insanity in California.**—California is now just a little over fifty years old. In its beginning insanity was almost unknown, but in 1860 the ratio was 1 to 1,000, in 1870 it was 1 to 500, and at present the registered insane number 1 to 260 of the general population. There are a number of reasons given by Robertson for this large ratio: One is the universal state care, bringing out all the cases; another is the large proportion of mental derangement in the foreign-born population, due to change of environment, homesickness, etc. The foreign born do not comprise more than 25 per cent. of the population, but they supply 57 per cent. of the insane, and immigrants from other states also furnish a considerable proportion. Heredity does not figure conspicuously, but the mild climate favoring long hours of working, etc., the briefness or absence of vacations, etc., all have their influence. Education and age seem to have but little necessary effect, but the disproportion of men to women is remarkable. Of the 5,494 patient, 3,448 are men. He speaks particularly of beer drinking as a cause. California beer contains 3 to 5 per cent. alcohol and the drinking of twenty steins, which is not unusual for some, means the absorption of 12 ounces of alcohol. Neither whiskey nor wine, though they may be more stimulating, are so insidiously poisoning. In conclusion he notes the difficulties of ascertaining the correct statistics for comparison as in many other states the number of insane reported is evidently only those acutely insane, those that happen to be under special care, or those who have been committed as deranged.

49. **Insane Delusions.**—Wherry sums up an insane delusion as an idea born in subconscious cerebration; projected into consciousness in times of stress; believed implicity and strenuously defended by the originator, but which no one else will accept as true.

50. **Cerebrospinal Fluid in Paresis.**—Kramer has studied the composition of the cerebrospinal fluid in 11 cases of paresis, 13 cases of dementia precox and several cases of other forms of insanity, counting the number of leucocytes. He finds that the results agree with those of Joffroy and Mercier in the greater prominence of leucocytosis in paretics. He thinks that the method may be a valuable one in making the differential diagnosis in doubtful cases.

51. **The Criminal Insane.**—The care of convicts and criminals committed as insane is discussed by Allison, who urges greater vigilance on the part of prison officials to detect insanity, and the erection of special hospitals for the criminal and dangerous insane and the commitment thereto by judicial order of all that belong to that category that they may be kept until fit to be released. Lastly, in all institutions for the care of criminals and defectives there should be greater vigilance in ascertaining the personal history of each inmate with a view to detecting and deporting all aliens who may have entered the country in violation of the immigration laws.

Annals of Surgery, Philadelphia.

August.

53 *Thyroidectomy and Sympathectomy for Exophthalmic Goiter. B. Farquhar Curtis.
54 *The Surgical Treatment of Exophthalmic Goiter. John B. Deaver.
55 Bilateral Bony Ankylosis of the Temporomaxillary Articulation of Traumatic Origin and Its Surgical Treatment. W. J. Roe.
56 *The Anatomy of the Inferior Ethmoidal Turbinate Bone, with Particular Reference to Cell Formation; Surgical Importance of Such Ethmoid Cells. Howard A. Lothrop.
57 *The Gradual Surgical Occlusion of Large Arteries: Its Relative Advantages, Together with an Experimental Inquiry as to Its Feasibility. Robert T. Stratton.
58 *The Treatment of the Peritoneum in Diffuse Peritonitis. Joseph A. Blake.
59 *A Proposed Method of Retroduodenal Choledochotomy for the Removal of Impacted Calculi in the Retroduodenal and Papillary Portions of the Common Bile Duct. Albert A. Berg.
60 *A Chemical Hypothesis for the Etiology of Cancer. John Rogers, Jr.
61 *The Method of Infection of Actinomycosis in Man. Fritz Maass.

53.—See abstract in THE JOURNAL, xl, p. 1669.

54. **Exophthalmic Goiter.**—Deaver concludes as follows from his observations and the study of others' work:

1. That, as surgical treatment is recognized as the most satisfactory in exophthalmic goiter, so is complete bilateral cervical sympathectomy to be considered the operation of choice. 2. The operation should not be performed during the height of psychical irritation or tachycardia, nor by an operator who has not an absolute knowledge of the anatomy of the neck and a large experience in dealing with difficult operative procedures, or the means at hand to cope with any emergency. 3. The results of the operation are far better than the other procedures, the mortality is much lower and, in cured cases, the improvement is permanent. 4. In chronic glaucoma, especially after the failure of iridectomy and sclerotomy, this operation may restore vision completely, unless the disease is too far advanced, with absence of light perception. 5. In recurring attacks of epilepsy, sympathectomy should be resorted to. The results warrant the operation. Jonnesco has reported 12 cures and 4 improvements in 49 epileptics operated on before 1899.

56. **The Inferior Ethmoidal Turbinate.**—Lothrop's article is largely anatomic, describing and illustrating the conditions in the nose with special reference to cell formation in the inferior ethmoidal or middle turbinate, which may in certain cases produce trouble. The treatment of the condition is surgical.

57. **Gradual Occlusion of Large Arteries.**—Stratton has experimented on dogs with gradual occlusion of large arteries with special reference to its feasibility as a preliminary to permanent ligation, extirpation of tumors and other operative procedures. While it is impossible to exactly compare the conditions in lower animals with those in man, he thinks the method has its advantages and may be of decided value where closure of the abdominal aorta is concerned, not, however, for permanent ligation, as that would be fatal, but in arteries of lesser caliber, except for special reasons which might determine its use for aneurism. The forcible or weak blood current, together with the presence or absence of arteriosclerosis and the accompanying lack of general tissue-vigor, would determine the desirability of adopting gradual closure or ordinary ligation.

58.—See abstract in THE JOURNAL, xl, p. 1595.

59. **Retroduodenal Choledochotomy.**—The method proposed by Berg is practically as follows: A small, round, hard cushion should be placed under the lower dorsal region of the patient, throwing the parietes forward. Next, abdominal incision through the right rectus from the costal arch to the umbilicus. Then free exposure of the descending portion of the duodenum, separation of adhesions, division between the two ligatures if vascular. The liver is drawn upward by a broad retractor, the stomach pushed over to the left and the transverse colon downward by gauze compresses and held away by the assistant. Next, mobilization of the descending duodenum: Three or four cm. external to the right border of the duodenum, the posterior parietal peritoneum is incised in a longitudinal direction from the flexure of the duodenum above to the transverse mesocolon below. Then with the finger the internal or left portion of the divided peritoneum is elevated from the parietes up to the right duodenal border; the finger is passed behind the duodenum, gently separating it up to its inner border, from the vertebræ, inferior cava and aorta. It is now only loosely fixed at its flexure above, at the transverse mesocolon below, and along its inner concave margin, and is easily rotated to the left around a longitudinal axis passing through its inner margin. This brings its posterior surface and the retroduodenal and papillary portions of the common duct anteriorly, and affords an excellent exposure. The duodenal branch of the pancreatic duodenal artery lies anterior to the duct about one-fourth of an inch. The accompanying vein lies just behind the duct and sometimes a branch of the vein crosses it. The superior mesenteric branch of the portal vein is considerably internal to the duct and the vena cava posteriorly to it. The duct is readily recognized and can be grasped between the fingers, incised, and impacted calculi removed. The site of incision into the duct should be covered by a narrow wick of gauze and the descending duodenum allowed to fall back to its original position. If drainage of the common bile and hepatic duct is required, the common duct is incised in its free portion in the gastrohepatic ligament, and a drainage tube inserted into this opening. The incision into the retroduodenal portion of the duct can be easily sutured, though this should not be necessary. This operation works well on the cadaver, and he asks those who think well enough of it to try it and report results.

60. **Cancer.**—Rogers suggests as a theory of the etiology of cancer that it is due to enzymes assimilating from the blood the carbohydrate to form the glycogen necessary for the life and growth of the cells, and by an excess of nutriment causing outgrowth beyond the natural limits in the shape of malignancy. That there is an enzyme in cancerous tissue has been shown by Buxton in a yet unpublished document, though he does not affirm that its amount is in proportion to the malignancy, but this the author suggests as an inference. He applies this theory to the clinical facts and reports experiments which are as yet, however, incomplete.

61. **Actinomycosis in Man.**—Maass offers the following as facts or disputed points made prominent by the cases of actinomycosis which form the basis of his paper:

1. The diagnosis of "primary pulmonary actinomycosis," even in the absence of all abdominal symptoms, must remain doubtful without a postmortem examination. 2. In abdominal, as well as in pulmonary actinomycosis, the patient should be closely questioned regarding any previous more or less indistinct symptoms of appendicitis and sores at the anus. 3. Fecal concrements found in the appendix in cases of actinomycosis should be microscopically examined. 4. In actinomycosis following typhoid-like symptoms, a Widal test should be made. 5. At the postmortem special attention must be paid to intestinal scars, which may easily avoid detection. 6. Experiments and clinical observation indicate that the fungus can not enter the human or animal body without a wounded surface. 7. Must the wounded body also be the carrier of the infectious material, or can infection take place secondarily through a granulating accidental wound or the chronic ulcers described? 8. Human actinomycosis of the skin or actinomycosis of the jaw in pasturing cattle may offer a suitable object for investigation in regard to point No. 7.

Alienist and Neurologist, St. Louis.

August.

62 *Unrecognized Toxic Insanities. T. D. Crothers.
63 *Outlines of Psychiatry in Clinical Lectures. C. Wernicke.
64 *Consideration of the Medicolegal Aspects of Aphasia. Charles H. Hughes.
65 *Subcutaneous Drainage in the Surgical Treatment of Hydrocephalus Internus. Nicholas Senn.

66 Idiopathic Bilateral Atherosis. V. Krafft-Ebing.
67 *Mixoscopic, Adolescent Survivals in Art, Literature and Pseudo-ethics. (To be continued.) James G. Kiernan.

62 (and 172). **Unrecognized Toxic Insanities.**—Crothers holds that toxic insanities, especially from drugs and spirits, are increasing. This is evidenced not only by the records of courts and hospitals in the degenerate classes, but also in the higher walks of life where unexpected crimes or aberrant conduct startles society. When these are studied they are found to be dependent largely on alcohol and drug habits. Close study, he says, reveals a distinct origin, progress and development of these degenerative psychoses with progressive brain and nervous disorders. Alcohol is the most prominent of these causes, but it is a probable fact that a large per cent. of all insanities occurring in the more well-to-do classes are directly or indirectly the result of alcohol or drugs, and are largely unrecognized except in the later stages, and then often do not attract attention except by accident. The changes in the conduct, character, habits, etc., in alcohol and drug users can only be explained as true psychoses. He remarks that fully one-fourth of medical practice in this country among the better off is directed to the correction of injuries produced by these habits, though the actual psychologic condition is often unrecognized and unknown. Among the lower classes it is evident that a very large proportion of the crime and insanity is due to this cause.

63. **Acute Hallucinosis.**—In this lecture Wernicke describes a case of hallucinatory paranoia, a type of psychosis, under this name, and which must be differentiated from delirium tremens from the simple acute psychoses of apprehension and from cases of chronic development. In former writings he has called it chronic hallucinosis. The course of the disease is characterized by acute, rapid onset and the descending condition of its curve. Its treatment is only possible in the acute stage at an insane asylum, and under these circumstances the prognosis is favorable, but it is quite frequently only the initial stage of a rapidly progressive sensory psychosis, which, he says, deserves the name of acute progressive hallucinosis.

64. **Aphasia.**—In this lecture Hughes notices the medicolegal bearing of aphasia, taking the view that if a patient is conscious of his crippled condition and attempts to compensate for it, he is capable of making legally valid wills or documents. The severe forms of altered speech utterances due to irritation of the speech centers or their psychologic areas are also alluded to, such as the gibberish of idiocy, but more especially the irritative functional sort of the disorder involving the speech center, such as a tendency to verbal autorhythmic forms of speech repetition. The repetition of a word, tone or phrase is more characteristic of the transitory functional disorders than of organic speech center damage. They are mostly examples of mental aberration with coexistent speech center rhythmic excitation, and we should be guarded and not mistake the counterfeit for the genuine aphasia.

65. **Hydrocephalus Internus.**—Senn reports a case of attempted subcutaneous drainage of an internal hydrocephalus, the object being to avoid infection. The patient died rather unaccountably—no postmortem was allowed—though marked improvement seemed to follow the operation. The case indicates to him, however, that subcutaneous drainage is preferable to open drainage, and proves conclusively that the cerebrospinal fluid is quickly absorbed by the connective tissue elements as soon as it escapes from the ventricle.

67. **Myxoscopic Adolescent Survivals.**—Kiernan, in this installment of his article, notices the cases of Pope, Rousseau and Sacher-Masoch as instances of this type. The histories and comments are interesting and instructive. They illustrate, he thinks, how adolescent storm and stress often dominate mentally long after adolescence, even in those who have apparently passed through the period without nervous breakdown. Many instances of morbid mentality show that the relationships between genius and idiocy are of this kind.

Archives of Otology, New Rochelle, N. Y.

August.

68 *Should the Deaf Be Debarred from Accident Insurance? James A. Spalding.
69 *Tinnitus, with a Plea for Its More Accurate Musical Notation. James A. Spalding.
70 The University Clinic for Diseases of the Ear and Throat in Rostock. O. Koerner.
71 Three Clinical Communications to Otology (Scotoma Auris, Syncope, etc.).

68. **Deafness and Accident Insurance.**—Spalding notices his own case and concludes from his personal experience and study that owing to the greater care the deaf person takes of himself because of his defect, and his better perception of sounds in street noises, than in the case of those who can hear, and also in his better bone conduction by which he readily becomes aware of approaching danger, he is as good a risk against pedestrian accidents as are those who can hear well.

69. **Tinnitus.**—Spalding has studied the musical pitch of tinnitus and suggests the usefulness of testing this. He thinks in some cases it may be of practical value both in the relief of the condition and, if it is true, as Zaufal has suggested, that there is a certain set of auditory cells more easily affected by irritation than others, we can probably in no better way discover what those cells are and where they are situated in the labyrinth than by studying and investigating their location-pitch as exhibited by their tinnitus when they are irritated.

Annals of Ophthalmology, St. Louis.

July.

72 *The Accommodative Asthenopia of Donders. George J. Bull.
73 *Why Not Employ Intra-capsular Irrigation in Cataract Operations? H. O. Reik.
74 A Case of Tuberculosis of the Conjunctiva; Recovery without Local Interference. F. L. Henderson.
75 Papillomata of the Conjunctiva and Cornea. R. H. Johnston.
76 A Clinical Lecture on the Art of Extracting for Cataract. C. Bell Taylor.
77 Report of a Case of Purulent Metastatic Ophthalmia in Meningitis, Giving Rise to Meningitic and Sympathetic Symptoms After Thirteen Years; Enucleation; Recovery. C. Zimmermann and Brown Pusey.

72. **Accommodative Asthenopia.**—Bull argues that the so-called accommodative asthenopia of Donders is more a disorder of function of the motor nerves of the eye than of the accommodation or refraction. He asks whether the name accommodative asthenopia should be maintained, and whether the term muscular asthenopia should not be limited to cases of insufficiency of the internal recti.

73. **Intracapsular Irrigation.**—Riek advocates the use of intracapsular irrigation in cataract operations and finds that he is in accord with McKeown in favoring this method. His conclusions are in substance that the introduction within the eye of sterilized saline solution is harmless, and that the removal of cortex is a mechanical process and regulated by ordinary physical laws, and that from the anatomic structure and conditions irrigation is more efficient in removing cortex than any other method. It also removes blood and bubbles of air. It shows the condition of the capsule, gives tone to and replaces the iris and is effectual in making the toilet of the wound. Free irrigation by the nozzles may be practiced without fear. The irrigation does not tend to cause prolapse of the vitreous, and secondary operations are required in a very small percentage of cases.

Journal of Eye, Ear and Throat Diseases, Baltimore.

July-August.

78 *The Bacteriology of Acute Otitis Media. E. C. Ellett.

78. **The Bacteriology of Acute Otitis Media.**—From a study of cases, including some 40 in private practice, in which bacterial determinations were made, Ellett concludes that all the usual varieties of pyogenic organism are associated, apparently as the cause, with acute otitis media. We can not tell from a bacteriologic study which cases are likely to prove severe and of long duration or mild and brief. A classification of otitis media from a bacteriologic point of view is possible, if care is taken, but its value is questionable.

Ophthalmic Record, Chicago.

August.

79 *How Shall We Open the Capsule? A. J. Erwin.
80 Interstitial Keratitis, Complicating Ophthalmia Neonatorum. Alvin A. Hubbell.
81 Complete Absorption of an Injured Crystalline Lens in a Man 46 Years Old. G. F. Keiper.
82 *Concerning the Terms Antimetropia and Anisometropia; Brachymetropia and Hypometropia in Place of Myopia; Hypermetropia and Hyperopia. G. F. Suker.

79. **Capsulotomy.**—Erwin advocates opening of the capsule and describes his method. After dilating the pupil he passes the cataract knife in the corneal margin at the equator. Then advancing on a plane declining 10 degrees from the horizontal he transfixes the capsule, then raises the point of the knife and counter punctures the cornea two or three mm. above the equator, and completes the corneal flap in its clear margin. Unless the capsule is especially brittle the knife will pass up under it to the pupillary margin, cutting a smooth central flap about the size of the ordinary pupil, which will be enlarged by the passage of the lens. This large flap will naturally fall to the lower segment of the capsule, leaving a clear pupil. This operation, he thinks, is so safe and complete and easily done he wonders why it has not been generally adopted. His last one hundred cases thus operated on have not shown a single case of sepsis, iritis or luxation, and only 8 cases have required a secondary operation.

82. **The Correction of Ophthalmic Terms.**—Suker pleads for the more correct use of the terms antimetropia and anisometropia, the former meaning a different kind of refraction and the other an unequal amount or degree of the same kind of refraction in the two eyes, supplanting a less useful term at the present time. He also suggests the use of brachymetropia and hypometropia in place of myopia and of hyperopia as expressing the relative amount of sight of one eye in comparison with the other without any reference to its actual refraction—simply the greater acuity of vision—instead of confusing it with hypermetropia, as is too often the custom. He notices the various definitions of these words and shows the present confusion in their current use. He urges that the term myopia should be discarded, as in its basic sense it signifies merely blinking or winking.

Washington Medical Annals.

July.

83 *Three Cases of Tetanus Successfully Treated. J. Ford Thompson.
84 Report of a Case of Malta Fever in Washington, D. C. W. B. Banister.
85 The Practical Mosquito Work Done at Havana, Cuba, Which Resulted in the Disappearance of Yellow Fever from that Locality. W. C. Gorgas.
86 Cholelithiasis. J. Ford Thompson.
87 Case of Amyloid Liver and Spleen in Ulcerated Pulmonary Tuberculosis. D. S. Lamb.
88 The Normal Age of Man. T. A. R. Keech.
89 Two Cases of Pachymeningitis Hemorrhagica Interna. D. S. Lamb.
90 The Need of a Hospital and Better Facilities in Washington for the Treatment of Nervous Diseases. I. S. Stone.
91 A Case of Excision of the Cecum for Sarcoma in a Woman Who Had Had Symptoms of Appendicitis. I. S. Stone.
92 Case of Endothelial Sarcoma of Urinary Bladder. D. S. Lamb.
93 *Drugs and Their Adulterations and the Laws Relating Thereto. H. W. Wiley.
94 Some Studies in Connection with the Virulence of Tubercle Bacilli. E. A. de Schweinitz.
95 Human and Animal Tuberculosis. D. E. Salmon.
96 Case of Hernia; Gangrenous Intestine; Operation. George T. Vaughan.
97 Case of Cancer of Pylorus; Operation. George T. Vaughan.
98 Case of Intestinal Obstruction. A. A. Snyder.

83. **Tetanus.**—Thompson reports 3 cases, all cured by chloral and bromid treatment, and in 2 supplemented by carbolis acid injections according to the Bacelli method.

93. **Drugs and Their Adulteration.**—Wiley's article is a very interesting, but rather a long one, showing how drug adulteration is often done, its saving of expense and the amount of swindling of the public which is carried on in this way. He mentions especially the substitution of acetanilid, which is worth about 2 cents per ounce, for phenacetin, which is retailed for about $3.20, making a profit something like 160 times the original value; the use of wood alcohol in extracts, etc. He notices the results of state board examinations, and the practice of the courts in regard to the question. He thinks that good national and state laws properly formulated would not require numerous annoying persecutions because the reputable dealer would be likely to readily fall in with the law.

Texas Medical Journal, Austin.

August.

99 *Experiments to Determine the Disinfecting Value of the Morris Formaldehyd Generator. Allen J. Smith.
100 Tenotomy as a Preliminary Procedure for the Reduction and Cure of Talipes; Report of Eight Cases. J. S. Wooten.
101 Suggestions on the Preparations of the Lying-In Chamber. W. B. McLaughlin.

99. **Formaldehyd Disinfection.**—Smith's article is an experimental one with the Morris formaldehyd generator. A large proportion is taken up with tabulated statements of experiments. The room used for disinfecting experiments was not large and its absolute closure not possible, but from his trials it would seem that 1,000 c.c. of alcohol thus used are sufficient to effectually destroy the organisms in three hours' time in a room containing 850 cubic feet of air space or when the gas is generated in the proportion of 1.6 per cent. by volume or above. It would probably be best if the charge could be so arranged as to give approximately 2 per cent. per volume in rooms having more apertures. Under the conditions used in these experiments the gas generator is efficient in the destruction of the *Streptococcus pyogenes*, the *Bacillus typhosus*, the *Bact. anthracis*, the *Mycob. diphtheriæ* in from three to six hours of exposure. Its efficacy was evidenced by its distinct destruction of the sporulating anthrax. There are, however, some organisms that are resistant, as shown by the type of the *Bacillus subtilis* producing contamination, but this is not remarkable as special forms of this organism have been found to resist streaming steam for sixteen hours.

The Laryngoscope, St. Louis.

August.

102 *An Unusual Case of Spontaneous, Bilateral Hemorrhage from the Ear. M. A. Goldstein.
103 *Localized Hemorrhage into the Tympanum, with Intact Membrana Tympani. Seymour Oppenheimer.
104 Exploratory Puncture of the Drum Membrane in Certain Diseases of the Middle Ear. Dunbar Roy.
105 A Case of Lipoma of the Tonsil. Clement F. Theisen.
106 *Facial Neuralgia, Six Cases, Due to Diseases in the Nose and Antrum, with Comments. A Case of Immediate Tracheotomy for Foreign Body. W. Peyre-Porcher.
107 Notes on Cases of Sarcoma of the Nose, with Presentation of Pathologic Specimens and Micrographs. J. Price-Brown.
108 A Case of Empyema of the Frontal Sinus with Complications. T. W. Moore.

102. **Bilateral Aural Hemorrhage.**—Goldstein reports a case at length which had been thoroughly studied by other physicians as well as himself. He excludes by the history the charge of malingering, though that diagnosis had been made by leading authorities. He considers it largely a hysterical condition. The source of bleeding he could never absolutely ascertain, though he located it as nearly as possible in the angle formed by the posterior wall of the auditory canal in the plane of the membrana tympani. While he has seen it appear all at once he was not able to locate the bleeding point. The case seemed to be cured by radical suggestive therapy. The patient was anesthetized, the auditory canal dried out and the entire head put in a plaster-of-paris bandage. The patient was kept in the recumbent position and watched for forty-eight hours. A stiff crinoline bandage was then applied for forty-eight hours and renewed daily for one week. At the end of that time the dressings were removed and the patient announced cured and there has been no recurrence. He thinks the case is without a parallel in otologic literature. He reproduces all the other cases of bilateral hemorrhage of the auditory canal that he has found in the literature.

103. **Hemorrhage into the Tympanum.**—Oppenheimer reports cases showing this phenomenon and illustrating the tolerance of the tympanic cavity to large amounts of blood. While trauma is perhaps the most frequent cause, it may follow other diseases, as in the cases reported by Hektoen, Kümmel and others. The symptoms are impairment of hearing and tinnitus. Vertigo is absent as a rule. There may also be a history of otitis media as in the so-called hemorrhagic otitis media described by McBride.

106. **Facial Neuralgia.**—Peyre-Porcher holds that the most frequent cause of severe facial neuralgia is localized inflammation in the nose, antrum or teeth. In the last 6 cases treated by him the chief and only cause of the trouble was found in these organs. In 2 of the cases which he reports there had been removal of the gasserian ganglion without effect, and the nasal conditions had been entirely overlooked.

Therapeutic Gazette, Detroit.

August 15.

109 *The Results of the Treatment of 408 Cases of Typhoid Fever, with a Report of Experiments with a New Method. H. G. McCormick.
110 *Change of Climate in the Treatment of Phthisis. H. S. Bissey.
111 *The Silver Antiseptics. V. Coblentz.
112 Effects of Gases and Powder Smoke on Coal Miners' Eyes, and the Treatment to Be Used. G. R. Glibert.
113 A Case of Priapism of Spinal Origin. H. D. Stitchter.
114 Instructions to Students Administering Ether. George Morton.
115 Cesarean Section Versus Abortion or Miscarriage in Women with Deformed Pelves. M. H. Bishop.

109. **Typhoid Fever.**—McCormick reviews his 22 fatal cases and details his treatment in the successful ones. His plan is to keep the bowels open first with calomel and then with saline, licorice powder or other laxative, using also camphor as an arterial stimulant in some cases, with the local application of guaiacol for the reduction of temperature both by topical applications and hypodermically, and in some cases preceding it with a hypodermic injection of 1/100 gr. of nitroglycerin. For hemorrhage he objects to the use of opium and relies on strychnin to support the circulation with hypodermoclysis of saline solution. He prescribes an easily digestible diet of animal broths, buttermilk, etc., not relying on any one thing. A careful examination of the stools is the guide for the diet. For an intestinal antiseptic he employs acid sulphate of soda and gives his results, also detailing extensive experiments on guinea-pigs and *in vitro*. He employed this drug in 4 cases and concludes from his observations:

That the acid sulphate of soda is germicidal to typhoid bacilli in a solution of 1 to 300. 2. That it does not have a toxic effect when used hypodermically on guinea-pigs in a solution of 1 per cent. 3. That it increases leucocytosis and, in this way, helps nature to combat the disease. 4. That it neutralizes typhotoxin, and must, in a measure, lessen the delirium, fever, diarrhea and mental stupor, and modify various other symptoms attributed to this poison. 5. That it prevents, to a great degree, the congestion of Peyer's patches and the other lymph follicles of the intestines. 6. By so doing it prevents, to some extent, hemorrhage and perforation. 7. That it will resist the bacilli or toxin in any portion of the body. 8. That it will greatly lessen the complications of the disease. 9. That it is a prophylactic, as it can be taken by mouth in large quantities in an antiseptic strength, and as it will not be neutralized in the stomach, although the susceptible typhoid stomach is one of subacidity. 10. That this acid sulphate of soda will replace physiologically the deficient hydrochloric acid. 11. That it furnishes an abortive treatment, since if it lessens the intestinal involvement it would necessarily shorten the disease. 12. It may be used to purify contaminated drinking water by allowing the solution to stand from twelve to fifteen minutes before being taken.

110. **Climate in Phthisis.**—Bissey's article chiefly treats of the climate of New Mexican resorts, the advantages of which he points out.

111. **Silver Antiseptics.**—Coblentz describes the various new silver preparations which have been brought forward as obviating the disadvantages of silver nitrate. Argentamine, (ethylene diamine silver nitrate) is less irritating than silver nitrate, though it still has this bad quality to some extent. Tachiol (silver fluorid) and silberol (silver sulphocarbonate) are mentioned as drugs in regard to which the literature is as yet too scanty to afford an opinion. Ichthargan is said to have an astringent as well as an antiseptic action, being a combination of silver nitrate and ichthyol sulphonic acid. Citrate and lactate of silver, which have been used by Credé in surgical practice both in solution and as dusting powders, are discussed. Care should be used in their application as they discolor the clothing. Argonin is a combination of silver, casein and alkali and argonin-L contains twice the strength in silver. Albargin is a combination of gelatose with silver nitrate; largin, a combination of para-nucleo-proteid with silver, containing 11.1 per cent. of the latter, a gray powder soluble in water; nargol, a combination of nucleinic acid and silver; argentol (silver oxychinolin sulphonate); collargol (argentum soluble Credé, or argentum colloidale), protargol and argyrol or silver vitellin. Nearly all of these are unstable preparations and require to be protected from the light. Their principal use has been in gonorrhea and eye troubles. The conclusions which he reaches are that the organic silver preparations represent a real addition to modern material medica. All of them are less irritating than the nitrate of silver, and therefore much better tolerated by the patient. The fact that they are not precipitated by albumin and chlorids enables them to penetrate more deeply into the tissues, and therefore promotes their germicidal activity. The percentage of silver is of much less importance than the special combination in which the silver exists.

Journal of the Michigan State Medical Society, Detroit.

September.

116 The Bougie-catheter. Schuyler C. Graves.
117 Railroad Injury to the Pelvis with Rupture of the Urethra. Ralph H. Spencer.
118 Ectopic Gestation, with Report of Cases. William F. Metcalf.
119 Differential Diagnosis of Typhoid Fever. W. A. Ferguson.
120 The Abuse of Inflation and Massage of the Middle Ear. Emil Amberg.
121 Some Observations on Deranged Metabolism, with Clinical Application. Samuel Bell.

Kansas City Medical Index-Lancet.

August.

122 Surgical Tuberculosis. L. P. McCuiston.
123 Prostatic Surgery. Benjamin M. Ricketts.
124 Address, Medical Association of the Indian Territory. Fred S. Clinton.
125 Medical Malingering and Intentional Fraud. John Punton.

Kansas City Medical Record.

August.

126 Dysentery. Edgar A. Dulin.
127 Pelvic Disorders in the Etiology of Neurasthenia. W. M. Reitzel.

Alabama Medical Journal, Birmingham.

August.

128 Transmissibility of Diseases of Animals to Animals of Other Species. George T. McWhorter.
129 Some Symptoms by Which Cardiac Disturbances May Be Detected Clinically, and the Necessity of Careful Diagnosis, Prognoses and Treatment. L. W. Johnston.
130 Hydrotherapy. Carl Fox.
131 Flat Foot. William T. Berry.
132 The Creosote Treatment of Lobar Pneumonia. M. N. Due.
133 Some Remarks Concerning Education and the Results of the Examination of Over Two Thousand Young College Women. D. L. Wilkinson.

Southern California Practitioner, Los Angeles.

August.

134 Nursing from a Legal Point of View. Henry W. O'Melveny.
135 Address to the Graduates of the Agnew Sanitarium, San Diego. Elbert Wing.
136 Crime; Its Prevention and Cure. Walter Lindley.

Pacific Medical Journal, San Francisco.

August.

137 Ovarian Proliferating Cystadenoma. Winslow Anderson.
138 Excision of the Superior Maxillary Under Medullary Narcosis. A. W. Morton.
139 *Remedial Faults in the Editorial Work of Medical Journals. T. D. Crothers.

139.—This article is practically the same as that abstracted in THE JOURNAL of August 1, ¶71, p. 338.

Carolina Medical Journal, Charlotte.

August.

140 Primary Tuberculosis of the Tonsils. Richard H. Johnston.
141 Treatment of Typhoid Fever. L. F. Griffith.

Old Dominion Journal, Richmond, Va.

August.

142 Medical Organization. J. Harris Pierpont.
143 The Use and Abuse of the Nitrites. A. B. Greiner.
144 Pathology and Symptoms of Constipation. Mark W. Peyser.
145 Gelatine Treatment in Aneurism. Ennion G. Williams.
146 The Exaltation of Animal Magnetism. William H. Taylor.

Journal of the Kansas Medical Society, Topeka.

August.

147 Hare Lip and Cleft Palate Complicated with Protrusion of Intermaxillary Bone. P. D. Hughes.
148 The Present Status of Alcoholics. E. Smith.
149 Deaf Mutism. H. E. Williamson.
150 Some Thoughts Concerning Treatment of Syphilis of the Eye. H. L. Alkire.

Vermont Medical Monthly, Burlington.

July 25.

151 Some Observations on Urinary Diagnosis. A. B. Bisbee.
152 Quinsy. William F. Waugh.
153 What Should Be the Requisite for Raising the Quarantine in Diphtheria? G. G. Marshall.

Medical Standard, New York.

August.

154 A Neurological Clinic. Daniel R. Brower.
155 The Responsibilities of the Medical College. Carl S. N. Hallberg.
156 The Uterine Segment of the Ureter. Byron Robinson.
157 Correct Breathing. James M. Brown.
158 The World Is Idea. Herman Gasser.

September.

159 Some Cases of Leg Ulcer. E. A. Fischkin.
160 Ulcers of the Leg. Henry G. Anthony.
161 The Proposed National Bureau of Medicines and Foods. George P. Engelhard.
162 The Antiseptic Treatment of Typhoid Fever. William F. Waugh.
163 The Hydriatic Management of Typhoid Fever. David Paulson.
164 The World Is Idea. (Concluded.) H. Gasser.

New York State Journal of Medicine, New York.

September.

165 Typhoid Fever. Philip M. Neary.
166 One Hundred Days of Typhoid Fever. Frank Kenyon.
167 Otitis Media Purulenta Followed by Mastoiditis as a Sequelæ of Typhoid in the Recent Epidemic of Ithaca. John S. Kirkendall.
168 Hints on the Hygiene and Dietetics of Infancy. H. F. Gilette.
169 A Case of Melancholia Agitans. W. E. Douglas.
170 *The Present Position of Gallstone Surgery. William W. Seymour.
171 Principles Involved in the Repair of Lacerations of the Pelvic Floor. James H. Burtenshaw.
172 *Unrecognized Toxic Insanities. T. D. Crothers.

170.—This article appeared in THE JOURNAL, April 18, 1903, p. 1052.

172.—Abstracted under ¶62 above.

Mississippi Medical Record, Vicksburg.

September.

173 Puerperal Eclampsia; Report of Recent Cases. M. O. Shivers.

Canadian Practitioner and Review, Toronto.

September.

174 Therapeutics of Arteriosclerosis. John L. Davison.
175 The Cardiac Aspect of Arteriosclerosis. T. W. G. McKay.
176 Eye Symptoms in Arteriosclerosis. J. Cameron Connell.
177 Cerebral Aspect of Arteriosclerosis. H. A. McCallum.
178 The Medical Expert as a Witness. W. R. Riddell.
179 The Significance of Albumin in Urine. John A. Amyot.
180 Some Cases of Antepartum Hemorrhage. K. C. McIlwraith.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Practitioner, London.

September.

1 *Is the Urban Hospital Treatment of External or Surgical Tuberculosis Justifiable? A. H. Tubby.
2 The Treatment of Gout in Carlsbad. (Continued.) B. London.
3 Amentia. Idiocy; Imbecility; Feeblemindedness. A. F. Tredgold.
4 Some Impressions of the Sanatorium Treatment by a Healthy Patient. P. Horton-Smith.
5 Headache. Guthrie Rankin.
6 *The Treatment of Paraplegia in Tuberculosis of the Spine. J. Jackson Clarke.
7 Recent Work in the Field of Anesthetics. J. Blumfield.
8 A Case, with Comments. A Case of Henoch's Purpura. John Orr.

1. **Surgical Tuberculosis.**—Tubby's article is a plea for the country hospital rather than treatment in city hospitals, on the ground that the air of cities is not good for the patients. He has taken the statistics of four municipal hospitals in London and one country hospital which he has been able to obtain, and finds that out of 218 cases treated in city hospitals only 68, or 31.2 per cent., were cured, while 58.6 per cent. were relieved. Relief is no cure in tuberculosis, and half cures are worse than none. Taking the statistics of one country hospital which he has obtained it does not, he says, have a fair chance, as many of its patients were sent down from London hospitals after treatment had been tried and failed. The operative work has not been specially successful there, and the total number of operations was 3. The results, however, showed 14 cures and 24 relieved out of 42 cases, and, therefore, while the stay in the hospital was much longer than in the city hospitals the proportion of cures was very much greater. The advantages of the country hospitals are the smaller number hospitals the proportion of cures was very much greater. The rural hospital, he thinks, should be devoted to but the one object, being conducted on definite principles. No limit should be made as to age; cases once admitted should stay until they are cured or clearly proven to be incurable and separate establishments should be provided for the latter.

6. **Tuberculosis of the Spine.**—Clarke reviews the recent work on this subject and gives reports of cases, personal and otherwise. From the experience derived he concludes that when paraplegia develops rapidly and involves the sensory as well as the motor functions operative interference is necessary, but in other cases rest in bed with some form of extension should be tried; this failing, a skiagraphic examination should be made and the choice then lies between laminectomy and lateral drainage. Removal of the transverse process alone, when guided by a skiagraph, will be sufficient to open a large abscess. He advises against curetting out the abscess cavity, as the cord may be exposed behind it. When there is a sharp angular deformity in the spine the cord will not be in danger of being bruised during the introduction of the tube, but when the spine is nearly straight the tube should be introduced in a forward direction. The daily injection of a small quantity of carbolic lotion may be made through the tube. The transverse processes on both sides of the spine may be removed in order to obtain thorough drainage. Clarke considers Keeley's operation too dangerous in ordinary hands. Menard's costo-transversectomy involves the risk of injury to the pleura. If the removal of a transverse process does not reveal an abscess, laminectomy may be proceeded with, either immediately or after an interval, and the presence of a lateral opening will produce an easy outlet for further suppuration and probably prevent extension of tubercular infiltration around the spine. He objects to weight extension as confining the patient to bed too closely. If bedsores threaten, a water bed should be used. He thinks that the frame of iron gas-piping of Bradfrod's, on which canvas is stretched and on which the patient can be carried is better than weight extension. Plaster-of-paris corsets and poroplastic supports are hot and heavy, but for temporary use molded troughs of plaster-of-paris or felt are useful.

Archives Gen. de Medecine, Paris.

Last indexed page 752.

9 (Vol. CXCII, No. 29.) Le pouls veineux périphérique dans l'insuffisance tricuspidienne. P. E. Launois and M. Loeper.
10 (No. 30.) Eosinophilie pleurale. Cyto-diagnostic et cyto-prognostic. F. Barjon and A. Cade.
11 (No. 31.) Synovitis of the Sheath of the Abductor Longus of the Thumb. G. Marion.—La synovite de la gaine du long abducteur du pouce.
12 L'excrétion chlorurique et ses rapports avec la marche des pleurésies. Ch. Achard and others.
13 (No. 32.) Insuffisance hépatique par paludisme. Délire maniaque par insuffisance hépatique suite de paludisme. Diabète par anhépatie. J. Carrive.
14 Variations de l'ureogénie sous l'influence de la glycosurie alimentaire provoquée. F. X. Gouraud.

Presse Medicale, Paris.

15 (No. 67.) *Le paludisme en Algérie. H. Gros.
16 *L'arthritisme et ses rapports avec le diabetes. Le diabète albuminolque. E. Fiquet.
17 (No. 68.) *Sur la présence de corps étrangers (substances cristallines et microbes) dans la cellule nerveuse. G. Marinesco.
18 *De la centrifugation employée comme moyen rapide pour apprécier la valeur nutritive du lait (of milk). Fabre.
19 *La voie vagino-périneale dans la cure des fistules recto-vaginales superieures. F. Legueu.

15. **Malaria in Algiers.**—Among the points mentioned by Gros in reviewing his experience are that intense heat seems to affect the mosquito as unfavorably as extreme cold or dry weather. This explains the variations in the number of mosquitoes in different years.

16. **Relations of Arthritism to Diabetes.**—Fiquet argues that the arthritic temperament predisposes to certain diseases, but is not an affection in itself, being merely insufficiency of intracellular oxidations. It manifests itself differently, according to the kind of oxidation which is defective. If oxidation of the carbohydrates is insufficient, then diabetes mellitus appears. The oxidases which normally aid in the combustion of sugar are defective or absent, but those which preside over the combustion of albumin and fats may be present in abnormal amounts to make up for their deficiency. If the defective oxidases are those which aid in combustion of fats, then obesity results, while if the missing oxidases are those which aid in combustion of albumin, then a variety of diabetes ensues for which he proposes the name "albuminoic diabetes." Treatment is similar to that for ordinary diabetes, only the albuminous substances and not the carbohydrates must be omitted from the dietary. Cases of this kind may be detected in the early stages and impending serious disease warded off by a

hydrocarbonate and vegetable diet, iron to favor oxidations, massage and hydrotherapy to promote cellular functions in general and the oxidations in particular, and rest in country surroundings. The diagnosis is based on examination of the urine. Determination of the "coefficient of oxidation," that is, the proportion of the ureic nitrogen to the total nitrogen, is important, but not enough alone for the diagnosis. This is established by determination of the alimentary substances which have escaped the action of the oxidases. The best technic for the purpose is by precipitation of these substances by phosphomolybdic acid, which is as valuable for these cases as Fehling's reaction for diabetes mellitus. He adds to 15 c.c. of urine 10 c.c. of fluid containing in 15 gm. of distilled water, 1 gm. of the acid in crystals, and 25 gm. of an 1.18 per cent. solution of hydrochloric acid. The precipitate can be weighed or merely measured in a graduated test tube.

17. **Foreign Bodies in Nerve Cells.**—Marinesco's article was reviewed on page 690. It is copiously illustrated here.

18. **Centrifugalization as Test of Milk.**—Fabre recommends the practice which has been long in use at his clinic to determine the nutritive value of breast milk. After the child has been nursing for two or three minutes 10 c.c. of the milk are drawn into a graduated tube and three drops of methylene blue are added, which does not stain the cream. It is centrifugalized for five minutes, and the amount of space occupied by the cream determines the nutritive value of the milk. He sometimes proceeds further to test the amount of albumin, lactose, etc. In pathologic conditions the information derived has proved of the greatest value for further care of the infant.

19. **Vagino-Perineal Approach to Recto-Vaginal Fistulas.**—Legueu gives cuts of the various steps of his method of obliterating a fistula in the upper part of the recto-vaginal septum. He detaches and incises the rear wall of the vagina up to and beyond the fistula. He then sutures the rectal wall, and later the vaginal wall separately. The site of the lesion is amply exposed, while the disadvantages of incising the perineum proper are avoided.

Semaine Medicale, Paris.

20 (No. 34.) *La neurofibrosarcomatose, variété particullère de sarcomatose primitive du système nerveux. Raymond.
21 La tachycardie orthostatique. J. Thomayer.

20. **Neurofibro-Sarcomatosis.**—Raymond has observed 2 cases of this affection, both in young subjects with tuberculous parentage. The symptoms developed suddenly without apparent cause, suggesting a brain tumor with its principal localization at the base of the brain. In some cases on record spinal symptoms were also observed, but not in his patients, and yet the spinal cord was the seat of multiple tumors in the case that came to autopsy. The main tumor is usually in the cerebello-protuberantial angle, of fibroplastic nature and adherent to the meninges. The nodules in the peripheral nerves usually escape discovery. Treatment can be only palliative owing to the multiplicity of the nodules. He believes that the condition may be regarded as a mesodermic tumor, a primary lesion of the connective tissue of the nervous system. The elements of ectodermic origin are not involved in the process.

Beitraege zur Klin. Chirurgie (v. Bruns'), Tuebingen.

Last indexed page 640.

22 (Esmarch Festschrift Concluded, XXXVII, No. 3.) Exostose bursata mit freien Gelenkkörpern (with free bodies). O. Riethhus.
23 Die aseptischen Operations-Räume der Zuricher Klinik und ihre Bedeutung für die klinische Unterricht. Krönlein.
24 Ueber ein mit Roentgen-Strahlen erfolgreich behandelten Fall von Carcinoma Mammæ. J. v. Mikulicz.
25 *Embolic Transportation of Projectiles. H. Schloffer.—Ueber embolische Verschleppung von Projektilen nebst Bemerkungen über Schussverletzungen des Herzens und der grossen Gefässe.
26 Procedures for Exposure of Posterior Temporal Bone and Cerebellum, with Reports of Cases. F. Krause.—Zur Freilegung der hinteren Felsenbeinfläche und des Kleinhirns.
27 *Treatment of Fissure and Prolapse of Rectum. V. Czerny.—Behandlung der Fissur und des Vorfalles des mastdarmes.
28 Resektion des 3 Ast des Trigeminus am Foramen ovale. O. Hildebrandt.
29 Extra-abdominal Treatment of Intra-abdominal Rupture of Bladder. Ibid.—Extra-abdominale Versorgung intra-abdominaler Blasenrisse.
30 *Surgical Experiences in Kidney Disease, with the Latest Methods of Investigation. H. Kümmel.—Chirurgische Behandlung Nierenkrankheiten unter Anwendung der neueren Untersuchungsmethoden.

25. **Embolic Transportation of Bullets in Heart or Large Vessels.**—Schloffer reports 2 cases of this kind. In one a bullet entering the heart was swept into the subclavian artery. The symptoms were pains in the arm and ischemic paralysis of the right forearm. In the second case a bullet entered the upper third of the femoral artery and was carried into the posterior tibialis posticus. The bullets were removed by an operation in each case. He has found 10 similar cases in the literature in which the bullet entered the circulatory system and remained at the spot or was swept along a certain distance. Experimental research also has confirmed the possibility of such an occurrence. The patients all died in this series. He has collected 23 cases of bullet wounds of the heart, and only 6 survived more than two months. In all of these the right ventricle had been the seat of the lesion.

27. **Treatment of Fissure and Prolapse of Rectum.**—Czerny describes a case of prolapse treated by operative intervention through a parasacral incision exposing the rectum and taking a lengthwise tuck in it with a row of button sutures. The stitches did not pass into the mucosa and the tuck projected toward the lumen of the intestine. The rectal wall was sutured at the same time with several catgut stitches to the severed fibers of the ligaments. By these procedures the wall of the rectum was made smaller and stiffer and it was suspended, thus completely counteracting the tendency to prolapse. He treats fissure by excision in profound anesthesia, uniting afterward the tip of the wound in the mucosa with the opposite point of the wound in the skin, drawing it out for the purpose by a suture passed through the mucosa at the tip of the incision. The rest of the wound is united with two to four stitches. The fissure is thus radically extirpated and the defect left is lined with sound mucosa. He has found the operation a success in his 6 cases treated in this way.

30. **Surgical Experiences in Kidney Disease with Functional Diagnostic Measures.**—Kümmel reviews his extensive experience at the general hospital at Hamburg, which includes 205 cases, with 228 operations. He states that kidney stones were diagnosed by the Roentgen rays in 18 cases, and in 16 they were found at the operation and in 2 at the necropsy, thus confirming the radioscopy in every instance. He regards silk catheters for the ureters as a great improvement, as they can be boiled freely. He boils them in a saturated solution of ammonium sulphate and keeps them in a dry glass cylinder. The information to be derived from cryoscopy is reviewed. His record includes 95 nephrectomies, with a mortality of 16.8 per cent., and he proclaims that since the new functional diagnostic measures have been introduced it has been reduced to 6.4 per cent. The article fills nearly 200 pages and is profusely illustrated. His total mortality was 31, and 174 of the patients were cured. He removed the kidney in 30 out of 35 cases of tuberculosis of the organ, with nephrotomy in 5, and reports 28 recoveries in this group.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

31 (No. 34.) *Biochemistry of Pregnancy. E. Opitz (Olshausen's clinic, Berlin).—Zur Biochemie der Schwangerschaft.
32 *Alkalinity of Blood. W. Orlowsky.—Zur Frage der Alkaleszenz des Blutes.
33 *Case of General Thrush Infection. O. Heubner.—Fall von Soor-Allgemeininfektion. (Commenced in No. 33.)
34 *Treatment of Skin Affections with Roentgen Rays and Concentrated Light. W. Scholtz (Königsberg). (Commenced in No. 33.)
35 Ueber die Verwendung des Adrenalins in der Gynäkologie. H. Cramer.
36 Historical Sketch of Medical Faculty at Münster. G. Sticker. Zur Vorgeschichte der med. Fakultat in Münster i. W.
37 (No. 35.) *Zur antitoxischen Tetanus-Therapie. E. v. Behring.
38 *Congenital Malignant Growths. E. Joseph.—Ueber angeb. bösartige Neubildungen.
39 Hydrops intermittens. Heilung durch Iodoform-Glycerin-Injektion. Wiesinger.
40 *Ueber mechanische Behandlung der Blepharoptosis. G. Abelsdorff.
41 *New Method of Quantitative Determination of Sugar in Urine. E. C. Behrendt (Berlin).—Neue Methode quant. Bestimmung von Zucker im Harn.

42 Alleged Substitutes for Quinin. Mühlens.—Ueber angebliche Ersatzmittel für Chinin bei der Malaria-Behandlung.

31. **Bio-Chemistry of Pregnancy.**—Opitz describes experiments with what he calls a "syncytiolytic serum" derived from rabbits, goats, a heifer and a horse, previously injected with tissue from human placentæ freed from blood. The results of the tests were negative in regard to Veit's assumption in regard to syncytiolysis, but, on the other hand, the serum displayed an antitoxic power against the assumed syncytiotoxins which Opitz assumes to be circulating in the blood in eclampsia and to bear a causal relation to it. As soon as the maternal blood penetrates into the trophoblast, cells from the periphery of the ovum drop off into the maternal blood and are swept into various organs. These deported cells perish sooner or later under the action of cytolysins formed in the blood, and the products of their disintegration have a toxic action as foreign bodies. A substance is then produced to neutralize these toxic substances, an anti-syncytio-toxin. This process can be copied in animals by injection of placental tissue, and their serum then acquires the properties of an anti-syncytiotoxin. Opitz has applied this new serum in the treatment of several cases of eclampsia in Olshausen's service, and the results have encouraged the preparation of the serum on a larger scale, and it will soon be put on the market. He does not give any details of the effects on eclamptic subjects further than that it proved absolutely harmless, reserving the particulars for a later communication.

32. **Alkalinity of Blood.**—Orlowsky examined 63 patients with various affections to study the alkalinity of the blood in different morbid conditions. He found that in health it ranged from 240 to 267 mg. NaOH in 100 c.c. of blood with the litmus test, and that in various diseases the alkalinity is proportional to the number of red corpuscles, declining when there are few reds and increasing with them. Artificially increasing the alkalinity of the blood by internal administration of an alkali or by a tepid alkaline enema, has only transient effect. The action of the latter is more pronounced than that of the former.

33. **Generalized Infection with Thrush.**—Heubner's patient was a child of sixteen months, brought to the clinic with symptoms of a diphtheroid affection, suggesting the presumptive diagnosis of generalized infection with thrush. It was confirmed by the postmortem findings. The child died in less than a month after the first symptoms had been noticed. Injection of animals reproduced the syndrome and the anatomic changes. In both the little patient and the animals there was the same period of incubation, the high septic fever, the extreme acceleration of pulse and severe dyspnea without lung findings, with retention of consciousness and the rapidly fatal course. The lungs were the only organs free from the overgrowth of the fungi. The invasion could be traced from the necrotic tonsils into the lymph capillaries and thence into the general circulation. Without close attention and study of the case it would have been erroneously diagnosed and labeled diphtheria.

34. **Radio-Therapy of Cutaneous Affections.**—Scholtz reports his experience with different combinations of salves, *x*-rays, the iron lamp and the curette in skin affections, lupus in particular. By varying the combination he found it possible to obtain excellent effects.

37. **Antitoxin Treatment of Tetanus.**—Behring affirms that the day, even the hour, the minute, when the antitoxin can be applied, is of the greatest moment. He urges that it should be accessible at all times, as only by this means can a correct judgment as to its efficacy be formulated. A blank circular is given now with each vial, which the physician is requested to fill out with the details of the case and return.

38. **Congenital Malignant Growths.**—Joseph publishes from Czerny's clinic a case of a mixed tumor removed with the left kidney from a weakly child sixteen months old. Several varieties of tissue were found in the tumor which had evidently developed from the Wolffian body, including pure sarcomatous granulations. The infant has grown since into a remarkably healthy child, with no indications of recurrence of the malignant neoplasm. It was peculiarly interesting from the fact that the tumor formed a movable thrombus in the renal vein. It was the size of a fist, and weighed 600 gm. He reports also a second case, an embryonal tumor in the abdominal wall, in malignant degeneration, removed from an infant five months old, with no recurrence to date. The mothers were healthy in both these cases. The fetus can thus become affected with malignant disease, although apparently protected from the causes to which we are inclined to ascribe its etiology, and it can develop without affecting the maternal organism.

40. **Mechanical Treatment of Blepharoptosis.**—Abelsdorff had a spring applied on the inner side of the glasses the patient was in the habit of wearing, starting from the nose-piece. When putting on the glasses the latter lifted the drooping eyelid on the spring and thus mechanically corrected the deformity. No trace of the spring can be seen in the cuts showing the glasses in place.

41. **Quantitative Determination of Sugar in Urine.**—Behrendt points out that the Fehling reaction is unreliable in case of the presence of organic combinations of iron in the urine. He has been seeking to remedy this and describes a technic which is simple and sufficiently accurate. He uses an alkaline solution of bismuth nitrate which differs from Nylander's reagent in that only one-tenth of the amount of the nitrate is used. He weighs out 32.747 gm. of the sediment after dissolving the nitrate in distilled water. Then 500 c.c. of double normal soda solution is poured over it and the precipitate dissolved in 50 gm. Seignette salt (potassium sodium tartrate), and distilled water added to make a liter. He adds 10 c.c. of this fluid to 10 c.c. of the urine in an Esbach tube, and heats in the water-bath for half an hour. It is then set aside for fifteen to twenty minutes. The amount of the precipitate (bismuth oxydul) is the index of the sugar, as 1 c.c. corresponds to 1.4 per cent. sugar.

Mitteilungen a. d. Grenzgebieten, Jena.

Last indexed page 754.

43 (XI, No. 5.) *Ueber Struma mit Knochen-Metastasen (metastasis in bones). K. S. de Graag.
44 *Lymphatics of Esophagus and Vicinity. K. Sakata.—Ueber die Lymphgefässe des Esophagus und über seine regionären Lymphdrüsen mit Berücksichtigung der Verbreitung des Carzinoms.
45 *Tuberculosis herniosa. R. Lewisohn (Frankfurt a. M.).
46 *Hyperalgesia After Bullet Wounds in Head. Wiims (Leipsic).—Hyperalgetische Zonen bei Kopfschüssen.
47 *Ueber Spondylitis infectiosa. H. Quincke (Kell).
48 *Chronic Inflammation of Spine. R. H. Focken (Heidelberg).—Ueber chronische ankylosierende Entzündung der Wirbelsäule.

43. **Struma with Metastasis in Bones.**—De Graag found metastases in the lungs and in the tenth and eleventh thoracic vertebræ in case of an adeno-carcinoma in the thyroid gland. The metastases, however, under the microscope resembled more the structure of the original thyroid gland than the structure of the neoplasm.

44. **Lymphatics of Esophagus Region.**—Injection of the cadavers of children by Gerota's method showed that the lymphatics of this region originate in two separate sets, with no direct communication between them. The first set is arranged lengthwise in the lower layer of the mucosa, while the second is not so large nor so regular, and forms a network on the surface of the perimysium. The lymphatics communicate directly with those of the pharynx above and those of the stomach below, although the intervening vessels may run a long way in the submucous tissue or against the wall before reaching them. The close clustering of glands around the recurrent nerve explains the paralysis of this nerve frequently observed in cases of carcinoma of the esophagus. He noted it in 18 out of 236 cases, and in 13 it was unilateral. The glands may, therefore, be grouped as the near and the distant. The latter are represented by the deep, lower cervical glands, found in the angle formed by the subclavian and internal jugular veins.

45. **Tuberculosis of Hernial Sac.**—About 58 cases of this condition have been published and Lewisohn has observed 4 more.

The affection may occur with or without effusion and with or without nodules. The diagnosis is difficult in the absence of evident tuberculosis elsewhere, but is suggested by an existing tubercular peritonitis, reducible, fluid contents of the sac, large nodules on the floor of the sac and smaller nodules leading toward the inguinal canal. The hernia may increase rapidly in size or may become tender. Operative treatment is urgently indicated, with extensive resection of the sac. The prognosis after operation is good; in some cases it was followed by the healing of an existing tubercular peritonitis.

46. **Hyperalgesia with Bullet Wounds of Head.**—Wilms noticed transient zones of hyperalgesia in the neck and back of the head in 4 cases of bullet wounds of the head. The zones did not correspond to peripheral nerves but to the cervical segments, and may be explained by assuming injury of the sympathetic at the sinus cavernosus. In one case the bullet was found at this point, and in 2 others it might have lodged there temporarily.

47. **Spondylitis Infectiosa.**—Quincke has observed a case of spondylitis consecutive to typical pneumonia, another consecutive to a streptococcus pleuritis and one after typhoid. He thinks that the bone marrow of the spine is affected in case of infections the same as the spleen, but that the abundance of blood in these organs renders them more resistant generally than the marrow of the long bones. This assumption of the involvement of the spine in severe infectious diseases explains many hitherto puzzling symptoms during convalescence. It also renders urgent the protection of the spine against trauma and over-exertion at this time.

48. **Spondylitis Deformans.**—Focken does not believe that a close distinction can be drawn between the Bechterew and the Marie-Strümpell types of chronic spondylitis with a tendency to ankylosis. Both in etiology, symptoms and the pathologic anatomy there is close resemblance between them. He thinks it probable that the same injurious agent which affects the ligaments acts also on the nervous system.

Wiener Klin. Rundschau, Vienna.

Last indexed page 757.

49 (XVII, No. 29.) *Certain Nervous Skin Affections and Their Treatment. Max Joseph (Berlin).—Ueber einige nervöse Hauterkrankungen und deren Behandlung.
50 (No. 30.) *Application of Bone Fillings to Osteomyelitis. N. Damianos.—Die v. Mosetig'sche Iodoform-Knochenplombe und ihre Anwendung bei Osteomyelitis. (Commenced in No. 27.)
51 (No. 32.) *Diseases and Accidents of Woodworkers. K. Steiner.—Holzarbeiterkrankheiten und Unfälle. (Commenced in No. 29.)
52 (No. 33.) *Nephritis in Early Stages of Syphilis and Its Treatment. E. Schlechtendahl (Barmen).—Ueber Nierenentzündung im Frühstadium der Syphilis und deren Behandlung.
53 *Difficulty of Determining Anatomic Changes from the Clinical Manifestations in Appendicitis, and Technic of Operating. Carl Beck (New York).—Ueber die Schwierigkeit, das Verhältnis der anat. Veränderungen zu den klin. Erscheinungen bei der Entzündung des Wurmfortsatzes zu würdigen, und über die Operationstechnik. (Commenced in No. 31.)

49. **Treatment of Nervous Cutaneous Affections.**—Joseph calls attention to the diagnostic value of the secondary lesions that develop after scratching an itching affection. In scabies and prurigo an eczematous process develops secondarily to scratching, but in lichen, after scratching, nothing but a recrudescence or new eruption of the lichen nodules is seen. Consequently in dubious cases the discovery of an eczematous lesion decides against lichen. The absence of eczema is also notable in pruritus, although in certain cases of circumscribed pruritus a lichenification of the scratched patches may be noticed, to which the name simple chronic lichen has been given. These lesions do not heal like lichen planus with little if any tendency to recurrence, but recur again and again and always at the same spot or spreading from these points. In the treatment of pruritus he has found nothing so effective as bromocol, a combination of dibromin and tannin, which he was the first to introduce into dermatology. Time has confirmed its value, especially of the mixture with glycerin, zinc oxid and starch, which dries at once into a varnish, rendering further dressing unnecessary. He recommends this as a very valuable remedy for pruritus of various origins, also for strophulus infantum and urticaria due to autointoxication. Bromocol plaster has proved a particularly convenient method of applying the bromocol in certain nervous affections.

50. **Treatment of Osteomyelitis with Iodoform Filling.**—Damianos illustrates a number of specimens and cases to support his assertions that chronic osteomyelitis is essentially an affection of the spongiosa, which fact has been overlooked heretofore in treatment. In reality, the irregularly distributed foci of granulation are the principal cause of the development and persistence of chronic myelitis. The spongiosa should be removed far into sound tissue, and this has been rendered possible by Mosetig's filling. He exposes the bone with a semi-circular incision and turns back the flap of soft parts, which includes the periosteum. He then removes the tissues affected, far into sound tissue, and fills the cavity left with the iodoform mixture described in THE JOURNAL, xl, p. 1,544, ¶75. Damianos gives radiograms of a number of patients thus treated with complete success, the limb functioning perfectly, free from pain and any tendency to recurrence of the bone affection.

51. **Diseases and Accidents of Wood-Workers.**—Steiner's practice in Herzegovina and Bosnia brings him in contact with men working in saw-mills and lumber camps, and his article is a comprehensive study of the subject, especially from the standpoint of industrial insurance. He notes that the largest number of accidents occur on Monday, and that the proportion of accidents is very much higher when the hours of work are long than when they are short, fatigue evidently rendering the men less cautious.

52. **Nephritis in Early Stages of Syphilis.**—Syphilitic infection may induce acute nephritis in hitherto sound kidneys, but it yields speedily to mercurial treatment. The effect at first seems to be an aggravation, as the kidney casts off the cells that have been injured by the syphilitic process, but when these have been expelled, the nephritis will be seen to have been cured by the specific treatment.

53. **Appendicitis.**—Carl Beck gives 12 cuts of interesting specimens and cases from his experience in America, and says a good word for the term "appendicitis" as descriptive and apt. The condition is not a typhlitis nor a perityphlitis nor a paratyphlitis, and these terms should not be applied to it. The Germans should use either the word "appendicitis" or their home term "Wurmfortsatzentzündung," which is etymologically correct if not very melodious. He also describes his operative technic with which Americans are familiar.

Zeitschrift f. Orthop. Chirurgie, Stuttgart.

Last indexed XL, page 746.

54 (XI, 3.) *Die habituelle Luxation der Patella. P. Bade.
55 *Value of Mikulicz's Plastics of Foot. J. Wietung.—Zur Verwerthbarkeit der Mikulicz'schen Fussplastik.
56 Forcible Reduction of Deformities of Foot. K. Vogel (Bonn).—Einige neue Apparate zur gewaltsamen Redression von Fussdifformitäten. (Pes varus, planus and excavatus.)
57 *Fracture of Neck of Femur in Young Subjects. A. Hoffa.—Ueber Schenkelhalsbrüche im kindlichen und jugendlichen Alter.
58 Correction of Curvature of Spine. P. J. v. Modlinsky (Moscow).—Zur Correctur der Rückgratsverkrümmungen.
59 Reply to Bade's Article on Scoliosis in No. 1 A. Roth (Budapest).
60 (No. 4.) *Zur chronischen Arthritis des Kindes (of children). H. Spitzy (Pfaundler's clinic, Graz).
61 Zur Ehren-Rettung des Hessing-Corsets. K. Hasebroek.
62 Beitrag zur Thier-Skoliose (in animals). Ottendorf (Vulpius' Institute, Heidelberg.)

54. **Habitual Luxation of Patella.**—The luxation was of traumatic origin in 3 of the 4 cases in Bade's experience. The other was a young girl with abnormally lax joints. In all the cases of habitual luxation the patella is unusually movable and the musculature relaxed. Treatment should be essentially the wearing of a splint which allows only extension and flexion of the knee. Direct fixation of the patella is seldom necessary, and a knee-cap is usually superfluous. Operation should not be attempted unless the gait is interfered with to an extent that disturbs the working capacity and depresses the patient. If surgical intervention is decided on it should

be thorough, some osteoplastic operation combined with shortening the capsule or osteotomy as indicated.

55. **Mikulicz's Plastic Operation on the Foot.**—Wieting shows by radiograms and description of several cases the gratifying results obtained by this method of operating on deformed feet without mutilating them. It is astonishing, he adds, how quickly the circulation becomes re-established in the remodeled foot through the narrow bridge left. The dorsal flexors are the only muscles left, but they impart elasticity to the foot. He thinks that the principle of the operation should be extended to other interventions.

57. **Fracture of Neck of Femur in Young Subjects.**—Hoffa remarks that since the introduction of radiography we have learned that fracture of the neck of the femur occurs more frequently in young subjects than the profession had hitherto imagined. No cases in children had been observed in the 75 fractures of the neck treated at König's clinic, and only 3 in the second decade, as reported a few years ago, but since then Hoffa has found 78 cases on record and 10 have been observed in his practice. In 1899 Gerstle was able to collect 53 cases of traumatic detachment of the epiphysis. In the total of 84 cases of injury of this part of the femur in which the age was mentioned, 17 of the subjects were under 5; 18 between 6 to 12; 34 from 13 to 16, and 15 from 17 to 20. Hoffa gives the details of his own and of some of the other cases. The symptoms at first of fracture of the neck or detachment of the epiphysis are slight. There is sharp transient pain, but the subjects are usually able to walk notwithstanding the injury. They are not confined to their bed long and the disturbances from the trauma are not apparent until after an interval of weeks or months. Very few are correctly diagnosed from the start; the injury is treated as a mere contusion and later as a coxitis, or, after healing, as a coxa vara statica. The absence of muscular atrophy and of reflex muscle spasms speaks against coxitis and also the sudden onset, and radioscopy will locate the lesion. The prognosis to date has not been good as to function. The epiphysis is apt to lose its slant and heal in a more or less vertical position, which changes also the direction of the neck as it develops further. Immobilization should be applied with a plaster cast if the fracture is seen early, and even after due consolidation of the fragments the patients should not be allowed to use the limb freely for a year at least, but should wear an appliance to relieve the thigh of the weight of the body, with massage and exercises to strengthen the muscles. When seen late, if massage and gymnastics and a supporting apparatus do not relieve, an operation is necessary, either resection or subtrochanteric oblique osteotomy.

60. **Chronic Arthritis in Children.**—Spitzy describes in detail the clinical history of 17 cases and the results of treatment, with numerous illustrations. He found systematic massage extremely useful, even in some cases rebellious to all other measures, especially when combined with active hyperemia. Immobilization was necessary in most cases at first, but he warns against its too prolonged use. The pernicious form of nodular rheumatism has always proved intractable. Not a single case of recovery is on record, but if a bacteriologic etiology can be determined serum treatment may supply the needed weapon.

Gazzetta degli Ospedali, Milan.

63 (No. 65.) *Di alcune basi scientifiche del valor curativo dell' alcool. S. Mircoli.
64 La diagnosi di rene mobile (movable kidney). G. Corsini.
65 Risultati clinici sopra l'uso di un catgut preparato in un modo estremamente semplice. C. Mariani. (Claudius' method.)
66 Laringo-spasmo e pseudo-meningite da ascaridi lombricoidi. G. Pierantoni.
67 (No. 67.) *Significato immunizzante della auto-emolisi da alcool. S. Mircoli and A. Gervino.
68 (No. 68.) *Ricerche clinico-sperimentali sulla para-ganglina Vassale nell' atonia gastro-intestinale. U. Baccarani and A. Plessi.
69 *Agglutinating and Antitoxic Properties of Horse Serum. T. Caffarena.—Sul potere agglutinante ed antitossico del siero di cavallo normale e di immunizzato contro la tubercolosi.
70 New Instrument for Endo-urethral Injections. G. Franceschini (Vicenza).—Un nuovo strumento per le inlezioni endo-uretrali nella blenorragia.
71 (No. 71.) *Graphic Tracings of Kidney Function. S. Mircoli.—Fasi del lavoro renale, grafica e latenze di lesioni renali.
72 *Ricerche sperimentali sull' uso di una antitossina tubercolare per via gastrica. F. Figari.
73 *Lime as Hemostatic. T. Silvestri.—Sull' uso del calcio come emostatico.

63. **Alcohol in Therapeutics.**—Mircoli has previously proclaimed that the blood serum of persons accustomed to the use of alcohol—but not to a pathologic extent—possessed the power of neutralizing the action of tuberculin. He is convinced that alcohol confers an increased resisting power in respect to tuberculous infection. Experiments on rabbits under the influence of alcohol showed that they displayed a much more vigorous local reaction to inoculation of tubercle bacilli than the controls, and frequently the local lesion healed without general infection. Other experiments with rabbits given a large amount of alcohol at once produced results exactly opposite to those induced by the same amount in fractional doses over a long period. He also found that rabbits under the influence of a large dose of alcohol required twice the usual amount of tetanus toxin to induce symptoms. One of the rabbits after a large dose of alcohol showed pronounced autohemolysis and hemoglobinemia, urobilinuria and hemoglobinuria, additional testimony in regard to the action of alcohol on the composition of the blood.

67. **Significance of Auto-Hemolysis from Alcohol.**—Mircoli further states that the serum from healthy men accustomed to drink two or three quarts of wine a day proved bactericidal *in vitro* for cultures of the typhoid bacillus. Other experiences have demonstrated that besides this direct bactericidal action, the alcohol also stimulates the organism to elaborate greater quantities of more powerful alexins, thus aiding in repelling bacterial invasion. He suggests that it may be dangerous to deprive patients of their daily modicum of alcohol in case of an infectious disease affecting a person accustomed to its use. The production of alexins under the influence of alcohol is transient and ceases on its suspension. He thinks that his research has confirmed the fact that alcohol confers antitoxic, bacteriolytic and bactericidal properties on the serum, and enhanced resisting powers on the tissues. This does not occur directly, but by the participation of the organism thus temporarily stimulated by the alcohol.

68. **"Paraganglina" in Atony of Stomach or Intestines.**—This name has been applied to an extract of the medullary substance of the suprarenal capsule of beef cattle. It is not affected by the gastric juice, and is well tolerated by the stomach, while it has a decidedly favorable action on the motor function of the digestive tract administered by the mouth or rectum. The relief and improvement were so prompt and so remarkable in many cases of gastrointestinal atony and general asthenia, that Baccarani believes the symptoms must have been primarily caused by insufficiency of the suprarenals. The extract does not seem to have any cumulative action, but has a tendency to raise the blood pressure, increase the frequency of the pulse, the amount of urine, and the elimination of nitrogen and phosphoric acid in the urine, while the nitrogen in the feces is diminished.

69. **Agglutination with Horse Serum.**—Normal horse serum has no agglutinating or antitoxic properties, Caffarena reiterates, but acquires them by the addition of minute amounts of antituberculosis serum. Serum from horses immunized against tuberculosis has marked agglutinating power, up to 1/400.

71. **Graphic Tracings of Kidney Function.**—Mircoli points out a source of error in the findings of the methylene blue functional test of the kidneys. This is the "bioscopic" power of the serum, which varies in different conditions. Certain toxins also have an effect on the color of the stain, and the liver may influence its elimination. The findings are also unreliable in incipient or well-compensated kidney lesions, as the sound part may substitute the defective part. He also doubts the reliability of the phloridzin test, as injection of phloridzin increases the proportion of sugar in the blood even after extirpation of the kidneys. In other tests phloridzin was artificially circulated through one kidney, but no sugar was de-

tected in the ureter on this side, while it existed in the other ureter. He refers to recent experiences which suggest that the variations in the freezing-point are not absolute indices of the morbid conditions as some believe. The freezing-point remained the same before and after an uremic crisis in a case of glomerular nephritis consecutive to scarlet fever. The findings are liable to be influenced by ingestion of water, by change of diet and by the capacity of the tissues for absorption and retention. He has been conducting research along different lines, and believes that valuable information may be obtained by studying the spontaneous urine at different periods during the twenty-four hours, recording the frequency of micturition and the quantity of the urine, with its specific gravity at various hours, showing the relations between the secretion of water and of the solid elements dissolved in it. By the two curves thus obtained an insight into the actual work done by the kidneys is afforded. It can be expressed by the formula: Work equals the specific gravity multiplied by the number of cubic centimeters to the hour. The two lines representing the elimination of water and of solid materials parallel each other in health, and diverge or cross in parenchymatous nephritis. In the interstitial there is more or less irregularity, but the tendency is more towards a parallel. These graphic tracings may reveal disease, still latent, that escapes other tests.

72. **Experimental Administration of Antituberculosis Serum by the Stomach Route.**—Figari reports experiences with desiccated specific serum administered to guinea-pigs and to one patient in the clinic. The results established beyond question, he thinks, that it is possible to obtain effective curative results with specific serum treatment by the mouth the same as by subcutaneous injection. The serum of the animals acquired marked agglutinating property, and in the patient it rose from 1/10 to 1/50. His results corroborate those obtained by Roncagliolo with tuberculosis antitoxin administered by the mouth in his clinic.

73. **Lime as a Hemostatic.**—Silvestri's tests on dogs confirm the fact that lime has a coagulating effect on the blood and may prove effective in arresting hemorrhage. He administered it by the mouth to a patient with a tendency to hemophilia and found that after taking fractional doses of calcium hypophosphite for seven days the blood which at first did not coagulate for twelve hours, clotted abundantly in less than nine. He took at first 7 and then 4 gm. a day.

Bolletino d. Ostetricia e Ginecologia, Florence.

Last indexed XXXIX, page 811.

74 (II, No. 1.) 3 casi di eclampsia puerperale curati col veratrum viride. Pinzani.
75 Urine in Pregnancy. Boni.—Alcune ricerche chimiche sopra le orine delle gravide.
77 (No. 2.) *Endometrite tubercolare in puerperio. Cova.
78 Pneumonia During Pregnancy. Santi.—Polmonite in gravidanza. Proprietà agglutinante sul diplococco del sangue materno e fetale.
79 3 casi di endometrite emorragica curati colla corrente galvanica. Gelli.
80 Idrocefalo ectromele con schistoprosopia e pede varo. Roster.
81 (No. 3.) Trattamento sotto-peritoneale del peduncolo nell' ovariotomia. Sfameni.
82 Frontal Presentation in Twin Pregnancy. Guicciardi.—Gravidanza gemellare, Anomalia del III e IV tempo.
83 *Physiologic Action of Veratrum Viride. Chidichimo.—Azione fisol. del veratro verde.

77. **Puerperal Tuberculosis of the Endometrium.**—Cova describes the clinical history and postmortem findings of a case of tuberculous endometritis, the first symptoms of which appeared in the form of diarrhea during the pregnancy. It was evidently aggravated by the puerperium and proved rapidly fatal. He has observed a second case of tuberculous endometritis, which was likewise rapidly fatal after delivery. Veit and Franqué have also reported cases of accelerated progress of genital tuberculosis after childbirth. Davidson and Merletti have published instances of miliary tuberculosis in the puerperium. Cova thinks that there are no mechanical reasons which can explain this increased gravity of tuberculous lesions in the peritoneal or genital regions such as explain the acceleration of tuberculous lesions in the lungs by the process of pregnancy and parturition. He suggests as a possible explanation for the extraordinary malignancy of tuberculous infection during the puerperium that the tubercle bacilli may find in the pregnant woman a particularly favorable soil for their development. Roster mentioned in the discussion that followed, a case of puerperal tuberculous infection of the peritoneum which took the form of periuterine exudates, followed by symptoms of pulmonary tuberculosis, although the patient survived for some time.

74 and 83. **Action of Veratrum Viride in Health and in Eclampsia.**—Chidichimo's researches on dogs and other laboratory animals indicate that veratrum viride has a marked depressant action in physiologic conditions. It rapidly reduced the temperature, and this reduction continued for hours, while about thirty hours were required before the drug was eliminated from the organism in case of rabbits and dogs. The facts observed indicate also that it acts mainly as a toxin on the muscles. On the whole his experience would impel him to proclaim that veratrum viride should be banished from the treatment of puerperal eclampsia if it were not for the possibility that the organism in the stress of eclampsia may react differently to the drug than might be expected from its physiologic action on animals. Pinzani reports in No. 1 three cases of puerperal eclampsia treated with this drug. He made 2 subcutaneous injections of 1 c.c. of the Italian fluid extract of veratrum viride, with a half-hour interval, after forceps extraction of a dead fetus. The same amount was given in a single dose to the second patient. The fetus was extracted later with forceps, as it was seen to be succumbing. The same amount was injected in the third case, but with a longer interval. Improvement was marked in all after the injections, as also in 6 other cases treated in the same way and previously reported. The women all recovered but the fetus did not survive. In one case he gave it by the mouth. The total amounts ranged from 1 to 4 c.c., never more than 3 c.c. in one dose. Saline infusion or enemata were the only other measures used. The pulse is the guide; as this becomes less rapid, under the influence of the veratrum, the convulsions subside.

Medizinskoe Obozryenie, Moscow.

Last indexed page 586.

84 (XXX, No. 1.) *Cyclic Psychoses. P. B. Ganushkin and S. A. Sukhanoff.
85 *Psychosis After Burn. N. Toporkoff.—Psychose poslye ozhoga.
86 *Hepatoptosis. N. Saveljeff.
87 Obstinate Leg Ulcer Cured by Injections of Calomel. G. Meshtcherski.
88 (No. 2.) *Ob actinomykoz legkikh (of lungs). I. K. Spizharny.
89 *Ob anginye Vincent'a i eya oslozhneniyakh (and its complications). A. Ivanoff.
90 *Gastrointestinal Surgery. L. Varnik.—K kazuistikye zhelodotchno-kishetchnoe chirurgii.
91 *K patologitcheskoe anatomii leukemitcheskago Retinita. K. K. Orloff.
92 (No. 3.) *Multiple Sclerosis. P. P. Tutyshkin.—K symptomatologii mnozhestvennago skleroza.

84. **Cyclic Psychoses and Mania.**—This communication and the previous one in No. 19, treating of mania, both issue from the Moscow clinic for mental diseases. The writers urge the importance of distinguishing between a cyclic course in mania, melancholia and amentia and the true cyclic psychoses. The former may terminate in recovery, and this has led to the belief that the true cyclic psychosis is curable. They observed 86 cases of the latter, including 34 men. It formed 1.94 per cent. of all the mental diseases, but men afforded only one-third of the contingent. In two-thirds of all the cases the affection commenced between 16 and 25, as was also noted with mania, and it was usually ushered in with a phase of depression. Hereditary influences were noted in 87.5 per cent. of all the cases of mania, which numbered .56 of 2,840 male patients and 1.51 per cent. of 1,594 women. Heredity was also a factor in the cyclic psychoses in nearly the same proportion. Melancholia was much more common, especially in women, in whom it occurred seven times oftener than mania.

85. **Psychosis After a Burn.**—Toporkoff's patient recovering from childbirth developed an acute amentia with hallucinations after a burn of the third degree. As the general health improved the mental affection vanished.

86. **Displacement of Liver.**—Savelyeff describes in detail the clinical picture and methods of treating hepatoptosis.

88. **Actinomycosis of Lungs.**—Spisharny's 3 cases all terminated fatally, notwithstanding vigorous potassium iodid treatment and evacuation of the abscess in the wall of the thorax. The focal process deeper in the lung was not operated on as no communication could be found between it and the abscess. He is convinced that the focal process sometimes spreads by actual metastasis.

89. **Complications of Vincent's Angina.**—Ivanoff has observed 2 cases and reviews 9 on record to call attention to the complications liable to be encountered. There may be a polymorphous erythem and pains in the joints; occasionally, albuminuria, abscesses and even appendicitis have been observed. In his personal cases he discovered streptococci in the throat associated with Vincent's bacilli, and he ascribes the complications to their participation. He mentions that they are most liable to occur after stomatitis and glossitis.

90. **Surgery of Digestive Tract.**—Warnek's communication describes an extensive operation on the cecum, and in another case resection of part of the stomach, 9 by 15.5 cm., on account of a carcinomatous scirrhus at the pylorus. Both patients were in good health at time of writing, several months later.

91. **Leukemic Retinitis.**—Orloff gives cuts of his histologic findings to sustain his assertion that the tumor-like formations observed in the retina in the course of leukemia are merely accumulations of leucocytes at points where the walls of blood vessels have been destroyed. They occur only along the route of the vessels.

92. **Symptomatology of Multiple Sclerosis.**—Tutyshkin describes a case which he was able to diagnose correctly before the classical symptoms of nystagmus, tremor or disturbance in speech had developed. The progress of the affection confirmed his dictum. He based his diagnosis on the absence of the abdominal and cremaster reflexes and the discovery of the Babinsky sign on the right side only. The paralytic and spastic symptoms were also most pronounced on the right side. Among the early symptoms were periodical attacks of vertigo lasting several days, but then completely subsiding. He also noticed briefly transient attacks suggesting apoplexy: congestion with transient disturbance in speech and weakness in the right hand.

Russkii Vratch, St. Petersburg.

Last indexed page 758.

93 (II, No. 6.) *Resection of Nerves in Ablation of Tumors in Neck. S. P. Fedorow.—K Casuistik izsyetcheniya krupnykh nervnykh stvolov pri udalenii opukholei shei.
94 *Embolism of Aorta as Complication of Typhoid. S. F. Orlowski.—K Caauistik oslozhenii brushnogo typha. Embolya aorty.
95 Necessity for Chair of Hygiene and of Professional Hygiene in Particular in the Technical Colleges. D. P. Nikolsky.—O predodavanii hygieny, etc.
96 (No. 7.) *Technic for Repeated Cesarean Section. V. N. Orloff.—K technikye proizvodstva povtornago kesarskova syetcheniya.
97 *Endogenic Infection as Origin for Eye Affections. J. V. Zelenkovsky.—Endogennoe zarazhenie, kak pritchina bolyeznei glaza.
98 *Action of Adrenalin on Living Organism. P. P. Byelaventz.—O dyestvie adrenalina na zhevotnii organizm.
99 *Differentiation and Treatment of Aneurism of Abdominal Aorta. M. Y. Gurevitch.—O raspoznavanii i lyetchenii aneurizmi brushnoi aorty.
100 Clinical Experiences with Colloid Silver. A. I. Dvoretzky.—Dalnyeishiya nablindenlya, etc., rastvorimago serebra.
101 The Dark Side of Sterilization of Milk. N. P. Danilow.—Otritzatelniya storony sterilizatzie moloka v dyelye iskustvennago vskarmlivaniya dyetei.

93. **Resection of Nerves in Ablation of Tumors in Neck.**—Fedorow had occasion to resect the nerves in the neck in 4 cases of sarcoma which had grown around the nerves. He describes the cases in detail, the results showing that no disturbances followed resection of the spinal accessory nor of the nerves of the cervical plexus and short branches of the brachial plexus. Complete anesthesia of the skin of the side of the neck followed after the roots of the cervical plexus had been severed. His experience demonstrates that even extensive tumors in the neck can be successfully operated on, but those requiring resection of the vagus are most dangerous, especially when the common carotid and the jugular vein have to be resected also. Severe secondary symptoms may also follow resection of the long nerves of the brachial plexus, but, on the whole, his results are encouraging. All his patients recovered.

94. **Embolism of Aorta in Typhoid.**—Orlowski states that thrombosis of the abdominal aorta in the course of an infectious fever has been reported only 36 times, and he was able to find only 2 that corresponded to the case he describes. The patient was a young man, and on the fifteenth day symptoms developed suggesting myocarditis. The necropsy showed that thrombosis evidently followed, in the left ventricle, with embolism in the descending aorta.

96. **Repeated Cesarean Section.**—Orloff emphasizes that when a second operation of this kind is found to be necessary the prognosis is much better than for the first. The conditions are known and the patient is more tranquil. He describes a case in which a woman was thus delivered of a healthy child twice, with an interval of fifteen years. In operating, the probability of encountering adhesions must be borne in mind and the incision not made in the same place as the first. A "fundal" incision may prove advisable for these cases.

97. **Endogenic Origin of Eye Affections.**—Zelenkovsky publishes an account of experimental studies which indicate that the eye is liable to participate when there is infection elsewhere. The effects reach the eyes through the circulation and the anterior chamber is most liable to be affected. The posterior segment of the eye affords better conditions for microbes and consequently when they gain access to this part of the eye the resulting affection is more serious. Irritation of any kind and traumatism facilitate the entrance and lodgement of germs in the eye. On the other hand, he asserts that endogenic infection is not a factor in sympathetic ophthalmia.

98. **Action of Adrenalin on Animal Organism.**—Byelaventz has been experimenting with adrenalin on animals and noted that the rise in the blood pressure was due partly to spastic contraction of the vessels from stimulation of their walls and partly to stimulation of the heart action. It has at first a stimulating and then a paralyzing action on the centers of the vagus. When the pulse becomes accelerated the drug should be suspended. In small doses it promotes the gaseous interchanges, but in larger doses reduces them and with them the temperature. Death in intoxication from adrenalin is due to paralysis of the respiration center. The functional activity of the central nervous system is diminished by the drug. In conclusion he warns that he found it inconstant in its action and consequently urges great caution in administering it by the intravenous or subcutaneous routes.

99. **Differentiation and Treatment of Aneurism of Abdominal Aorta.**—Gurevitch remarks that the aneurism is almost invariably to be found on a level with the superior mesenteric artery. He has found that better results followed hygienic-dietetic measures than others. Subcutaneous injection of gelatin and internal administration of sodium iodid did not display much efficacy in his experience. The iodid is useful, however, when syphilis may be assumed. He reports three cases.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. For Practitioners and Students. A Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and the Kindred Branches, Including Much Collateral Information of an Encyclopedic Character, Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc., etc. By W. A. Newman Dorland, A.M., M.D., Editor of the "American Pocket Medical Dictionary." Flexible Leather. Pp. 798. Price, $4.50 net; with Thumb Index, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-patient Medical Department of the Jefferson Medical College Hospital. Volume III. September, 1903. Diseases of the Thorax and Its Viscera, Including the Heart, Lungs and Blood Vessels; Dermatology and Syphilis; Diseases of the Nervous System;

Obstetrics. Cloth. Pp. 398. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1903.

AMERICAN TEXT-BOOK OF SURGERY. For Practitioners and Students. Edited by William W. Keen, M.D., LL.D., F.R.C.S. (Hon.), Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; and J. William White, M.D., John Rhea Barton Professor of Surgery, University of Pennsylvania, Philadelphia. Fourth Edition, Thoroughly Revised and Greatly Enlarged. Handsome Octavo of 1363 Pages, with 551 Text Illustrations and 39 Full-page Plates, Many in Colors. Cloth. Pp. 1363. Price, $7.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the Hospital of the University of Pennsylvania. Containing the Pronunciation and Definition of all the Principal Terms Used in Medicine and Kindred Sciences, Along with Over 60 Extensive Tables. Fourth Edition, Revised and Enlarged. Flexible Leather. Pp. 566. Price, $1.00. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TEXT-BOOK OF OPERATIVE SURGERY. Covering the Surgical Anatomy and Operative Technic Involved In the Operations of General Surgery. Written for Students and Practitioners. By Warren Stone Bickham, Phar.M., M.D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York. With 559 Illustrations, Entirely Original. Cloth. Pp. 984. Price, $6.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M.D., Formerly Instructor in Chemistry, Harvard University Medical School, Boston. Second Revised Edition. Illustrated, Including 11 Plates; 9 of Them in Colors. Cloth. Pp. 418. Price, $3.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M.D., President New York State Commissioner in Lunacy. Fourth Edition, Thoroughly Revised and Enlarged. With 338 Illustrations. Cloth. Pp. 922. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

LESSONS IN DISINFECTION AND STERILIZATION. An Elementary Course of Bacteriology, Together with a Scheme of Practical Experiments Illustrating the Subject-matter. By F. W. Andrewes, M.A., M.D. Oxon., F.R.C.P. Lond., D.P.H. Cantab., Lecturer on Pathology, Pathologist and Sanitary Officer to St. Bartholomew's Hospital, London. Cloth. Pp. 222. Price, $1.05. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

A COMPEND OF HUMAN ANATOMY. By Samuel O. L. Potter, M.A., M.D., M.R.C.P. Lond., Formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco. Seventh Edition, Revised and Enlarged. With 138 Wood Engravings; also Numerous Tables and 16 Plates of the Arteries and Nerves. Cloth. Pp. 372. Price, 80 cents net. Philadelphia: P. Blakiston's Son & Co. 1903.

CHEMISTRY, INORGANIC AND ORGANIC, WITH EXPERIMENTS. By Charles Loudon Bloxam. Ninth Edition, Rewritten and Revised. By John Millar Thomson, LL.D., F.R.S., Professor of Chemistry, King's College, London; and Arthur G. Bloxam, F.I.C., Consulting Chemist and Chartered Patent Agent. Cloth. Pp. 871. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Sixth Edition, Thoroughly Revised. Fully Illustrated. Cloth. Pp. 1,300. Price, $5.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA. For Students of Medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia. Fully Illustrated; a Number in Colors. Cloth. Pp. 629. Price, $3.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TEXT-BOOK OF OBSTETRICS. By J. Clarence Webster, M.D. Edin., F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology, Rush Medical College, in Affiliation with the University of Chicago. With 383 Illustrations; 23 in Colors. Cloth. Pp. 761. Price, $5.00. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A HANDBOOK OF THE DISEASES OF THE EYE AND THEIR TREATMENT. By Henry R. Swanzy, A.M., M.B., F.R.C.S.I., Surgeon to the Royal Victoria Eye and Ear Hospital. Eighth Edition. With 168 Illustrations and Zephyr Card of Holmgren's Tests. Cloth. Pp. 580. Price, $2.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A COMPEND OF THE DISEASES OF THE SKIN. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine. Third Edition, Revised and Enlarged. With 100 Illustrations. Cloth. Pp. 291. Price, 80 cents net. Philadelphia: P. Blakiston's Son & Co. 1903.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. With 394 Text Illustrations, many in Colors, and 7 Full-page Colored Plates. Cloth. Pp. 933. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

SERUM THERAPY, BACTERIAL THERAPEUTICS AND VACCINES. R. T. Hewlett, M.D., M.R.C.P., D.P.H. Lond., Professor of General Pathology and Bacteriology, King's College, London. Cloth. Pp. 262. Price, $1.75 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. With 746 Illustrations; 39 of Them in Colors. Cloth. Pp. 900. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

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The Public Service.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Sept. 5, 1903:

Asst.-Surgeon R. A. Bachmann, detached from the naval station, Cavite, P. I., and ordered to naval station, Guam, L. I.

Surgeon M. F. Gates, detached from the *Atlanta* and ordered to the Naval Hospital, Philadelphia, September 21.

Surgeon W. B. Grove, detached from the Naval Hospital, Philadelphia, and ordered to the *Atlanta*.

Asst.-Surgeon J. A. Murphy, detached from the *Celtic* and ordered home to wait orders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 12, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Aug. 22-29, 2 cases.
Illinois: Chicago, Aug. 30-Sept. 5, 2 cases.
Massachusetts: Fall River, Aug. 30-Sept. 5, 6 cases.
Ohio: Cincinnati, Aug. 29-Sept. 4, 2 cases; Dayton, Aug. 30-Sept. 5, 1 case; Toledo, Aug. 30-Sept. 5, 1 case.
Pennsylvania: Pittsburg, Aug. 8-15, 46 cases, 15 deaths.
South Carolina: Charleston, Aug. 30-Sept. 5, 1 case.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Aug. 8-22, 3 deaths.
Brazil: Rio de Janeiro, July 26-Aug. 9, 22 deaths.
British Guiana: Demerara, July 4-18, 3 deaths.
Canada: Vancouver, Aug. 1-31, 1 case.
Colombia: Barranquilla, Aug. 16-23, 3 deaths; Bocas del Toro, Aug. 18-25, 1 case.
Great Britain: Dundee, Aug. 15-22, 1 case; Leeds, Aug. 8-29, 24 cases; Liverpool, Aug. 15-22, 10 cases; London, Aug. 15-22, 13 cases; Newcastle-on-Tyne, Aug. 15-22, 5 cases, 1 death; South Shields, Aug. 15-22, 2 cases; West Hartlepool, Aug. 15-22, 1 case.
India: Bombay, Aug. 4-11, 8 deaths; Calcutta, Aug. 1-8, 1 death.
Italy: Catania, Aug. 20-27, 1 death.
Mexico: Vera Cruz, Aug. 22-29, 2 cases.
Russia: Moscow, Aug. 8-15, 1 death; Odessa, Aug. 15-22, 3 cases; St. Petersburg, Aug. 8-15, 3 cases.
Straits Settlements: Singapore, July 11-18, 1 death.
Turkey: Constantinople, Aug. 16-23, 1 death; Smyrna, July 19-Aug. 9, 60 deaths.
Venezuela: Maturin, Aug. 17, present.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 25-Aug. 9, 5 deaths.
Colombia: Bocas del Toro, Aug. 24-31, 2 cases, 1 death.
Costa Rica: Limon, Aug. 20-27, 2 cases, 1 death.
Mexico: Citas, Aug. 23-30, 45 cases, 7 deaths; Coatzacoalcos, Aug. 22-29, 1 case, 1 death; Merida, Aug. 16-29, 21 deaths; Progreso, Aug. 16-22, 2 cases, 1 death; Tampico, Aug. 16-29, 30 cases, 26 deaths; Tehuantepec, Aug. 16-29, 8 deaths; Salina Cruz, Aug. 16-29, 10 cases, 6 deaths; Vera Cruz, Aug. 22-29, 61 cases, 15 deaths.

CHOLERA—FOREIGN.

China: Amoy, July 18-Aug. 1, 650 deaths.
India: Bombay, Aug. 4-11, 3 deaths; Calcutta, Aug. 1-8, 9 cases.
Peru: Pacasmayo, Aug. 13, present.
Straits Settlements: Singapore, July 4-11, 15 deaths.

PLAGUE—INSULAR.

Philippine Islands: Cebu, Sept. 3, present.

PLAGUE—FOREIGN.

Bolivia: La Paz, Aug. 13, present.
Brazil: Rio de Janeiro, July 25-Aug. 9, 8 deaths.
China: Amoy, July 18-Aug. 1, 100 deaths; Hongkong, July 18-25, 13 cases, 11 deaths.
India: Bombay, Aug. 4-11, 56 deaths; Calcutta, Aug. 1-8, 9 deaths.
Peru: Arequipa, Aug. 13, present; Molendo, Aug. 13, present.

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Original Articles.

THE BACTERIA CONCERNED IN THE PRODUCTION OF EYE INFLAMMATIONS.*

ROBERT L. RANDOLPH, M.D.

BALTIMORE.

I do not think we are called on to discuss the so-called eye bacteria from a historical point of view, for that would mean a consideration of nearly all these bacteria in their causal relationship to the diseases with which they were first identified. As a matter of fact, we have not found any bacteria which are pathogenic only for the eye, though the possibility of there being such bacteria is suggested when we think of sympathetic ophthalmia and trachoma, two diseases which appear to be peculiar to the human race, and one of which, in all probability, is due to a specific bacterium.

Before speaking of the bacteria which we usually regard as pathogenic for the human eye, I may be pardoned for introducing matter which to many of you may seem very elementary, but which may help to a better understanding of what follows. Bacteria may be divided into two classes, the saprophytes, or those which obtain their nutrition from dead organic material, and the parasites, or those which live at the expense of some other living organic creature. The activities of the saprophytes lead to decomposition, putrefaction and fermentation, while the activities of the parasites result in disease and death. The saprophytes resolve dead animal and vegetable bodies into simpler compounds, carbonic acid, water and ammonia, which serve as food for vegetation, and for this reason this group of bacteria may be regarded as benefactors, while the parasites exist at the expense of some living organic creature, or to put it stronger, at the expense of sight and life. It is to the second class, the parasites, that the group of eye bacteria belongs. In this group we will find two of the grand divisions of bacteria in general micrococci or cocci and bacilli, these names being given them according to their individual outline, the cocci being round or sphere-shaped, the bacilli being rod-shaped. The third grand division of bacteria, the spirilla, finds no representatives in the group of so-called eye bacteria.

In the group of micrococci we find the *Streptococcus pyogenes,* the *Staphylococcus aureus* and *albus,* the pneumococcus and gonococcus. In the group bacilli, we have Weeks' bacillus, the diplobacillus of Morax-Axenfeld, the diptheria bacillus, xerosis bacillus, tubercle bacillus, *Bacillus pyocyaneus* and colon bacillus. Several of these bacteria are often found in the normal conjunctival sac, and the *Micrococcus epidermidis albus* may be regarded as an almost constant inhabitant of this location, and to a somewhat less extent this is the case with the xerosis bacillus. These two bacteria, then, can not be regarded as actually pathogenic for the human conjunctiva, but I have included them in the group of eye bacteria because they are so closely associated with the life history of the eye, and as I have observed elsewhere, both these organisms under certain conditions can become pathogenic and cause inflammation. Very recently I have had occasion to make repeated cultures from the conjunctival sac of an individual with intense monocular conjunctivitis, which, clinically speaking, was indistinguishable from "pink eye," and I was never able to get anything in either culture or cover-slip but the xerosis bacillus. What rendered this micro-organism pathogenic in this particular case I am unable to say. More than once I have been forced to the conclusion that the *Micrococcus epidermidis albus,* which I have found so often in the normal conjunctival sac, was apparently the cause of an intense conjunctivitis which I was treating. The colon bacillus is another organism which is not generally considered pathogenic, but there is sufficient evidence to warrant the belief that it does become very pathogenic under certain circumstances, so that its presence in diseased conditions while possibly accidental, not infrequently means its direct causal relationship to the disease. A number of cases of catarrhal conjunctivitis have been reported where the colon bacillus was found in the conjunctiva in pure culture, and several years ago I reported a case of panophthalmitis in which I obtained this organism from the vitreous in pure culture. These three organisms, then, are the least pathogenic of the group. When we pass to the other members of this family or group the element of pathogenicity comes out stronger, being most marked in the diphtheria bacillus, then in the gonococcus, Weeks' bacillus, pneumococcus, diplobacillus of Morax-Axenfeld, tubercle bacillus, streptococcus and *Staphylococcus aureus.* The latter organism, as it is found so frequently associated with a normal condition of the conjunctiva and lids, may almost be classed with the three organisms which I have indicated as being relatively less pathogenic. The streptococcus is another organism which is most inconstant in its effects. At times it will seem to have little, if any, virulence, no matter how tested, while again, it exhibits very marked pathogenic properties. When found as the active factor in an ophthalmia we usually have a very intense reaction, as seen in the streptococcus diphtheria of the conjunctiva, also in Parinaud's conjunctivitis. Of course, my grading these bacteria as regards their pathogenic value is an

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, being Part I (accompanied with lantern slide demonstration) of a symposium on the Bacteriology of the Eye by a committee consisting of Robert L. Randolph (chairman), Brown Pusey and Edgar Thomson. Approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

entirely arbitrary arrangement, but judging from the effects produced by their toxins, the arrangement seems to me a reasonable one. All these organisms, however, irrespective of their pathogenicity, require to some extent a helping hand to render them capable of doing harm. While it is impossible to demonstrate always the exact nature of this co-operative agency, it is almost certain in a great number of cases that it consists in an abrasion or injury of the epithelium. Whatever lowers local resistance favors the multiplication of any bacteria which might happen to be in the conjunctival sac, and in overwhelming numbers ordinarily harmless bacteria can become dangerous. The more pathogenic an organism the greater would be the odds against the eye in case of mechanical injury, and I am convinced that the freedom of the eye from suppuration after penetrating wounds from accidents as well as from operations, while due in larger measure to the natural resistance of the eye to the disease, is also to no little extent due to the feeble pathogenic properties of those bacteria which are so often found in the conjunctival sac. No matter how pathogenic the bacteria if they fail to multiply it means that the battle is not to them. The sooner we realize, in dealing with the normal conjunctiva, that the latter is adequately equipped for adversity, the better will be the results of our operative work, and I look forward to no distant day when antiseptic irrigations of the normal conjunctiva in cataract operations will have been generally abandoned, and I am sure that during the past few years there has been a steady growth in the realization of the principle, clean hands, clean instruments, clean cocain, and leave the rest to the tissues of the eye. These rather practical thoughts suggest themselves to me in speaking of the bacteria which are found in the normal conjunctiva. Sometimes I am almost tempted to think that the bacteria which are so often found in this location perform certain important functions in the life of the normal conjunctiva, and that it is not intended we should disturb this relationship. We know that efforts to bring about intestinal and vaginal antisepsis have been followed by worse than failure, and that in the case of one enterprising obstetrician a large crop of puerperal fevers resulted. It is the same story here, bacteria ordinarily harmless are rendered harmful because our mental attitude toward bacteria in general is hostile, but I am convinced that with increasing knowledge we will be compelled to take up another position, even perhaps to regard some of the bacteria which are found in our bodies as benefactors, as blessings in disguise.

BACTERIA IN THE EYE,

AND NOTES ON SOME RECENT WORK IN OPHTHALMOLOGIC BACTERIOLOGY.*

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CHICAGO.

Such an appropriate opening of a subject as that which is forced on me is seldom given to a man. The natural manner in which to consider my subject is to begin with the bacteria that may infect the human conjunctiva, and of these the bacillus of acute, contagious conjunctivitis must first have attention. In the writings of a celebrated German ophthalmologist we find the sentence: "For the principal work in the investigation of this microörganism and the real demonstration of it as the cause of a particular form of conjunctivitis, we are indebted to him who in 1886 described the first cases, in which he was able to prove this microörganism to be the cause of this disease." I have the pleasure of showing a specimen containing the organisms spoken of in the above sentence, which bear the name of the investigator referred to—Weeks, the chairman of our Section. My quotation is from the writings of a gentleman who was to have been the guest of this Section—Professor Uhthoff.[1]

The specimen is a smear from a conjunctival discharge. This statement reminds me of the fact that in studying bacteria in the conjunctival tissue we are greatly handicapped, because many of the organisms that cause conjunctivitis in man do not lend themselves to experimentation in the conjunctivæ of animals. Such is the case with the bacillus of Weeks, the Morax-Axenfeld diplobacillus, the diphtheria bacillus and the gonococcus. It is a curious and interesting fact that the last-named organism has never been found as a parasite in other animals. These organisms will not grow in the conjunctiva of animals, and, as we can hardly excise human conjunctiva for the purpose of such a demonstration, I can not show them in tissue.

In passing, I may refer to the fact that Weeks[2] and Morax[3] have examined tissue containing the small bacillus, and of the severe forms of conjunctivitis Randolph[4] has obtained such tissue from rabbits by injecting diphtheria toxin.

Taking up the chronic forms of conjunctivitis, I am fortunate in the possession of a specimen of leprosy of the conjunctiva, stained to show the lepra bacilli.

Of the chronic forms of conjunctivitis, none is so important as trachoma, and it would be most appropriate if I could at this point show the microörganism of this disease. You will all join me in my regret that such a demonstration is still impossible.

Before leaving the subject of the conjunctiva, I wish to refer to the very important recent work of the chairman of our committee—Dr. Randolph.[4] He has investigated the rôle of the bacterial toxins in inflammations of the eye, and has demonstrated for the first time that, in general, these toxins are incapable of absorption from the intact conjunctival surface, hence such toxins instilled into the healthy conjunctival sac do not produce inflammation; but if they are injected into the conjunctiva or anterior chamber, they invariably set up local inflammation. His conclusions are most interesting, and his experiments, as he says, are in harmony with clinical experience, in that a lesion of continuity is shown to be important, not only in opening a path for invasion by bacteria, but in permitting the entrance of toxins, which constitute the weapons by which the bacterial cells do injury. In this important work Randolph records a study of the bacteriology of the normal conjunctiva of the rabbit, based on an examination of

* Read, with stereopticon illustration, at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Uhthoff, W.: Ueber die neuren Fortschritte der Bakteriologie auf dem Gebiete der Conjunctivitis und der Keratitis des Menschen Sammlung zwangloser Abhandlungen aus dem Gebiete der Augenheilkunde, ii, 5, p. 17, 1898.

2. Weeks, J. E.: The Bacillus of Acute Conjunctival Catarrh or "Pink-eye," Knapp's Arch., xv, p. 441, 1886.

3. Morax, V.: Recherches bacteriologiques sur l'etiologie der Conjunctivites algues, etc., Thèse de Paris, 1894.

4. Randolph, R. L.: The Rôle of the Toxins in Inflammations of the Eye, Amer. Jour. Med. Sci., November, 1902; also, Bulletin Johns Hopkins Hosp., March-April, 1903.

forty-seven cases. The value of this latter will be appreciated when it is recalled that practically all the experimental work of the ophthalmologist is done on the rabbit's eye, and heretofore no work had been done on the bacteriology of the eye of this animal.

Passing from the conjunctiva to the eyelids, I would call attention to the work of Hala[5] in demonstrating microörganisms in chalazion. In this work he verifies the findings of Professor Deyl, and it is of such interest that I venture to quote from his conclusions:

"Chalazion is an infectious bacterial process. The bacilli in incipient chalazion are in all their characteristics identical with that group of bacteria which are designated as xerosis bacilli. The so-called xerosis bacilli which exist in the normal and particularly in the different pathologic conditions in the conjunctival sac, get into the conjunctival tissue by rubbing of the irritated eyes, and cause an acute inflammatory process, which terminates in a chronic swelling filled with granulation tissue. The different catarrhal conjunctival affections, and the asthenopias, are predisposing factors. Contrary to the view of Baumgarten concerning the absolute avirulence of the so-called *Bacillus xerosis,* we have the experimental production of the chalazion process in the eyelids of rabbits by these bacilli, which are derived not only from human chalazion, but also from other pathologic processes. The chalazion is not a retention cyst, and it presents no signs of and has no relation to tuberculosis."

The histologic findings in chalazion make one a little uncertain in accepting unhesitatingly the last statement. The findings of Hala increase our interest in the *Bacillus xerosis* and make the article of Denny,[6] on its morphology and the morphology of its kindred forms (*B. diphtheriæ* and *B. pseudodiphtheriæ*) of more importance to us.

While on the subject of the eyelids, I may call attention to a suggestive paper by Dr. P. Friedenberg.[7] Starting with the fact that the hair follicles, crypts and glands of the lid margin may, even in apparently healthy lids, retain sebaceous matter, fatty detritus and a varied flora of bacteria, he demonstrates the importance of expression of the lid margins as a therapeutic measure in blepharitis and its complications.

Further important, recent work is that of Römer,[8] Mayer[9] and Hiroto[10] on the subject of the conjunctival sac as a route of general infection. General infection, which has been produced in numerous animal experiments by the introduction of organisms, e. g., pneumococci, into the conjunctival sac, may well give rise to interesting speculation. Hiroto, agreeing with Römer, concludes that in cases of infection by this route, the bacteria enter the circulation not directly from the conjunctiva, but from the mucosa of the nose, to which they are carried by the tears.

Of the serious eye affections, corneal ulcer is in the first class. Of corneal ulcers none is worse than the serpent ulcer. It has been given to Professor Uhthoff[11] [12] and his colleague, Professor Axenfeld, to demonstrate that the serpent ulcer is due to infection with the pneumococcus. The great importance of this work will be appreciated when we think of the possibilities in the treatment of these awful ulcers with antipneumococcic serum.

The next slide shows pneumococci on the edge of the cornea; this section is from an eye enucleated because of an epithelioma, and evidently has been obtained in the beginning of the infection with the diplococcus. The next slide shows these organisms in an eye that went to pieces from a serpent ulcer, and the following section shows the tissue stained with hematoxylin-eosin, and some of the results of the action of the organisms. For the sections from the serpent ulcer, I wish to acknowledge my indebtedness to Dr. E. A. Shumway. We are familiar with the histologic findings in such an ulcer of the cornea, but I wish to emphasize the extension of these organisms in colonies between the corneal lamellæ and the character of the leucocytes in the anterior chamber — polymorphonuclear leucocytes. The next section, for which I am also indebted to Dr. Shumway, shows staphylococci in the cornea.

Hematoxylin usually is not a satisfactory stain for bacteria. This is due to the fact that in ordinary infected tissue there are many nuclei of fixed as well as mobile cells, that take this stain and interfere with the recognition of organisms. I would call attention to the fact that the scarcity of nuclei and the absence of blood vessels in the cornea and, consequently, the slower emigration of leucocytes, allow this stain to show bacteria unusually well in the corneal spaces.

The next section shows gonococci in the cornea. For this section I am indebted to Dr. Gertrude French[13] of Portland, Ore. She got the material from the private practice of Dr. Gruening of New York. For evident reasons, such material is very rare.

Before leaving the subject of ulcer of the cornea, I would allude to the fact that our branch of the science of medicine is abreast of the times in the field of serum therapy. The use of diphtheria antitoxin in diphtheritic conjunctivitis is ancient history, and I believe it is appropriate here to register the ophthalmologist's debt of gratitude to von Behring. Recent work in the subject of serum therapy applies to that miserable ulcer of the cornea—the serpent ulcer. This work has been done by Römer,[14] and in his last communication he reports results that give us reason to expect that by the use of this serum this ulcer will lose its terror.

While dealing with this region of the eye, I may direct attention to a recent and interesting suggestion of Mr. Collins[15] as to a reason why wounds of the ciliary region are especially apt to be followed by sympathetic ophthalmia. He calls attention to the facts, that perforation of the globe in the region of the choroid is not apt to be followed by prolapse—the uvea tends to retreat

5. Hala: Zeitschrift für Augenheilkunde, 1901, 6.

6. Denny, F. P.: Observations on the Morphology of *B. diphtheriæ, B. pseudo-diphtheriæ* and *B. xerosis,* Jour. of Med. Research, 1903, ix, 2, p. 117.

7. Friedenberg, P.: Expression of the Lid Margin as a Therapeutic Measure in Blepharitis and Its Complications, N. Y. Med. Jour., March 7, 1903, p. 413.

8. Römer, P.: Experimentelle Untersuchungen über Infectionen vom Conjunctivalsacke aus., Zeitsch. f. Hyg., 1899, xxxii, p. 295.

9. Mayer, G.: Zur Kenntniss der Infection vom Conjunctivalsacke aus., Münch. Med. Woch., 1900, No. 34, p. 1169.

10. Hiroto, K.: Ueber die Infection vom unverletzten Bindehautsacke aus., Centraibl. f. Bact., 1902, xxxi, p. 225.

11. Uhthoff u. Axenfeld: Beiträge zur pathol., Anatomie und Bacteriologie der eitrigen Keratitis des Menschen, v. Graefe's Arch., xlii, 1, p. 1, 130.

12. Uhthoff u. Axenfeld: Weitere Beiträge zur pathol., Anatomie und Bakteriologie der eitrigen Keratitis des Menschen, v. Graefe's Arch., xliv, 1, p. 172.

13. French, C. G.: Description of an Eyeball Lost from Gonorrheal Ophthalmia, N. Y. Eye and Ear Infirmary Reports, January, 1897, p. 62.

14. Römer, P.: Weitere Untersuchungen zur Serumtherapie des Ulcers corneæ serpens, Bericht der Ophth. Gesell., Heidelberg, 1902, p. 2.

15. Collins, E. T.: The Erasmus Wilson Lectures on the Anatomy and Pathology of the Eye, Lancet, Feb. 24, 1900, p. 523.

from the sides of the wound; in wounds of the cornea, the iris may prolapse, but it is not left with a vascular membrane over it; while in the ciliary region, a wound is apt to result in a prolapse, and such a prolapse will be covered with a vascular membrane—the conjunctiva—which is very prone to inflammation. "The possibility of subconjunctival entanglements of the iris or ciliary body forming the track along which inflammation (bacteria), likely to excite sympathetic disease, may enter an eye any time after the receipt of an injury, may be one reason why wounds of the ciliary region are specially liable to be followed by this complication."

The next specimen, for which I am also indebted to Dr. Shumway, is one which shows streptococci in the lens. This resulted from a penetrating wound.

The next shows the tubercle bacillus in an eye with tubercular iridocyclitis, which Dr. Hotz enucleated, and which I have recently examined. My experience in staining fully twenty-five sections of this material before I found one single bacillus illustrates one of the difficulties in this kind of work. The section of this material stained with hematoxylin-eosin explains the scarcity of bacilli in it, for it shows vigorous granulation tissue and an abundance of phagocytes. In such tissue tubercle bacilli are always hard to find. I would call particular attention to the character of the cellular infiltration in this process—large mononuclear leucocytes—in contrast to the cells which were shown in the anterior chamber of the eye that was destroyed by the serpent ulcer—polymorphonuclear leucocytes; and after seeing these two specimens, it is interesting to recall the views of Metchnikoff on phagocytosis—the large mononuclear leucocytes, as befits their slower and more unwieldy character, have a preference for animal cells and for bacteria of chronic disease, e. g., for tubercle and leprosy, while the polymorphonuclear leucocytes show a preference for the microörganisms causing acute disease. I would point out the fact that the anterior chamber, being practically a large lymph space with more or less fixed walls, has long been a particularly good region in which to study some of the general pathologic processes.

The next slide shows tubercle bacilli from a case of miliary tuberculosis of the choroid, and the next is a section from this case stained with hematoxylin-eosin, showing several foci of infiltration. I may say here that there is a great temptation in some of these specimens to point out interesting histologic features. I have resisted this so far as possible because of the time limit.

The next two sections illustrate difficulties that may be encountered in a search for bacteria in iridocyclitis or panophthalmitis. The section is from an eye sent to me for study by Dr. C. Zimmermann of Milwaukee, who enucleated it because of an acute inflammatory condition. It will be seen to have all the features of a bacterial process. In a search for bacteria, I stained and studied many sections. With Weigert's modification of Gram's method I found areas like the one illustrated by the next slide. I may say that more than one excellent bacteriologist, on examining this section, pronounced this a probable colony of bacteria. Without any question, these are not bacteria, but are granules of cells, probably mast cells. It will be recalled that mast cells are uncommonly abundant in the eye in inflammatory conditions, and it will be seen that, on account of the staining reaction of the granules of these cells, they here easily may mislead one. As was said, a thorough examination failed to demonstrate bacteria in this eye, although they must have been the cause of the acute process. This points to another possible difficulty in demonstrating bacteria in panophthalmitis, i. e., the bacteria may very quickly disappear. That microörganisms may quickly disappear has been experimentally demonstrated lately by Silberschmidt.[16] Working with a form of the hay bacillus, which caused panophthalmitis when injected into the eye of a rabbit, he discovered that on the third or fourth day after the infection the organisms could not be found in smears, and cultures remained sterile. In the case of the eye that I have just spoken of, it was removed four days after the general practitioner noticed that it was inflamed.

16. Silberschmidt, W.: Zur Aetiologie der Panophthalmie noch Hackensplitterverletzungen, Bericht der Ophth. Gesell., Heidelberg, 1902, p. 222.

THE ESSENTIALS AND NON-ESSENTIALS OF OPHTHALMIC ASEPSIS.*

HAROLD GIFFORD, M.D.
OMAHA.

There are two fundamental propositions which should be kept in mind in our attempt to do aseptic eye surgery. First, that the conjunctival sac in the great majority of cases, and probably always, contains germs which are pathogenic, or which can, under certain conditions, become so. The white pus coccus is probably as constant an inhabitant of the conjunctival surface as it is of the skin. The pneumococcus of Fraenkel is frequently found there and probably occurs more often than most experimenters would have us think. I judge this to be the case from the difficulty with which it is grown and the ease with which its colonies are overlooked, when other germs are plentiful. The germ which occurs in the largest numbers in the conjunctival sac is the so-called xerosis or pseudo-diphtheria bacillus; and, although it is generally described as non-pathogenic, some of the best authorities regard it as a variety of the true diphtheria germ, and believe that, under proper conditions, it may become virulent. I have found it as the sole inhabitant of small abscesses in the lids, and Hala,[1] who has made the most careful study of the subject, believes it to be the common cause of chalazia. Kastalskaja[2] has found it in two cases of panophthalmitis, and it has recently been reported by Warnecke[3] as a cause of purulent otitis media.

The second premise to keep in mind is that to rid the conjunctival sac of these germs is a practical impossibility. This fact has been asserted often enough, but many operators still seem to dote on the idea that by rinsing out the sac with sublimate 1 to 5,000, or some other equally harmless mixture, they can obtain an aseptic operative field. In the latest work of that master of ophthalmology, Panas,[4] this notion evidently prevails, for he says: "The removal of the microbes and other impurities is not complete unless the lids are widely opened by the lid holder and the fluid, in the shape of a stream, is forced under them," etc. If there are any present who believe in the efficacy of such measures they need only make a few cultures from the retrotarsal folds of eyes that they have thus prepared for operation, to be convinced of their error. Furthermore, the germs can

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Zeitsch. f. Augenheilk., November, 1901.
2. Abst. in Arch. f. Augenheilk., 36, 3, p. 165.
3. Abst. in Centralblatt f. Bacteriologie, 30, 18, p. 710.
4. Am. Jour. Ophthal., March, 1903, p. 74.

not be rubbed out without injuring the tissues; and even if a small portion of the conjunctiva be everted and isolated by means of a Desmarres clamp, the area thus brought into plain view can be thoroughly wiped with moist swabs and treated with various antiseptics, and still, after waiting a minute or two, a scraping from it will show the presence of germs. The lashes also are a favorite abiding place for pathogenic bacteria. The main body of the lashes can apparently be freed from germs by thorough scrubbing with fat-dissolving agents, but none of these has any marked influence on the germs gathered about the roots of the lashes. I have tried all the most highly recommended methods and have found invariably that if, after the attempted sterilization, the lashes are pulled out instead of being cut off, a growth of germs, generally the white pus cocci, will be obtained from the roots. The method of Von Pflugk,[5] which consists in scrubbing the lashes with swabs dipped in benzine, is no exception to this statement. In the trials which I have given this method there has generally been no growth of germs from the shafts of the lashes; but from the roots germs have grown, as in all my previous experiments. I have said nothing about the tear passages because, while we recognize them as a constant possible source of infection, they could be cut off by one means of obliteration or another, if, by doing so, we should be certain of an aseptic field.

Starting with these premises, it is evident, I think, that a certain share of the precautions which general surgeons are apt to consider necessary, can, for the ophthalmic surgeon, be regarded as unessential or even to a certain extent detrimental. To begin with the bath: many operators in describing their technic refer with evident pride to their insistence on every patient taking a full bath. Now, while for esthetic reasons this may be eminently desirable, it seems to me that for an eye surgeon to have his patients take a full bath with any idea that he will on that account get better results from his operations, is on a par with the logic of the medicine man who beats a tom-tom to drive out the spirit of disease. Furthermore, the rigid enforcement of such a rule may occasionally lead to serious trouble. I have in mind an old Irish woman who, so far as I could learn, had never taken a full bath in her life, but who had, nevertheless, lived very happily and in perfect health to the age of eighty. On being sent to the hospital, the head nurse, as a matter of routine, had her stripped and put into the tub, and this unusual experience so excited the old lady that her mind became unbalanced and she was so unruly during her stay in the hospital that it was only through the purest good luck that she did not lose her eye. With regard to the preparation of the skin of the eye lids, it is obvious that the vigorous measures frequently employed in surgery to rid the skin of germs can not be used to advantage here, and unless the operation actually involves the skin, it is questionable whether the latter really needs any special attention, although there can be no objection to any such cleansing as can be done without irritating the eye. Where the skin of the lids is involved, besides scrubbing it carefully with sterile swabs, I think it advisable to paint the skin with 4 per cent. silver, allowing the latter to dry on. I have adopted this plan because I have found that by touching sutures with this solution once a day they can frequently be left in for a week or more without causing any suppuration, even if no bandage is applied. For cleansing the lashes, the benzine method of Von Pflugk is perhaps better than any other, but since it may be that some of the apparent efficacy of this method is due, not to the germs being killed or even removed by it, but to the remnant of some non-volatile impurity of the benzine being left on the lashes, I believe the safest plan in all operations on the globe is to cut off the lashes and, after scrubbing the roots with benzine swabs, to anoint them with an oxid of zinc or some other stable ointment, so as to hold in the germs which are invariably left on them. It may be asked why not pull out the lashes as recommended by Schiötz. My objections to this are that it is decidedly painful, and that it generally causes a marked reaction due, in my estimation, to the increased activity of the germs which must inevitably be left behind in the lash sockets.

The lid margin can apparently be temporarily sterilized by wiping it carefully with sterile swabs, though in doing this care should be taken to wipe away from the palpebral fissure and not to go over the same ground more than once with the same swab. All of these preparations, however, with the exception of cutting off the lashes, are probably non-essential for reasons which will be made evident when discussing the form of bandage.

The preparation of the normal conjunctiva, for an operation on the globe, should be conspicuous for its simplicity or even absence. Realizing that no plan has been discovered which will rid the sac of its germs, we naturally conclude that nothing must be done which will injure the conjunctival epithelium or excite any unavoidable irritation. All irritative antiseptics are worse than useless, and while I formerly wiped out the sac with a moist absorbent cotton toothpick-swab immediately before important operations, I found so many patients in whom even this simple procedure could not be carried out thoroughly without a certain amount of violence that I have abandoned it in all cases where the conjunctiva is entirely normal, limiting my interference with the conjunctiva to wiping it carefully at the point at which I intend to enter the knife; with the addition of an occasional irrigation of the field during and after the operation. As an irrigating fluid, a freshly made and freshly sterilized normal salt solution is probably the least objectionable, but in practice I generally use a boracic acid solution, since the salt solution, if kept in stock, is more apt to permit a growth of fungi which, though easily killed, might nevertheless render the solution somewhat irritating and unstable, while the boracic acid solution, if kept in a vessel with a layer of undissolved crystals at the bottom, is practically free from such growths.

Anything in the way of a preparatory bandage is to be abjured. Numerous experiments have shown that these always increase the number of germs in the normal sac. With regard to the tear passages, if there is any obstruction in the duct or inflammation of the sac, preliminary treatment should, of course, be instituted if there is a reasonable chance of restoring normal conditions in a short time; otherwise, as a preparation for a cataract extraction, it is probably better to extirpate the sac or close up the tear points with the galvanocautery; though I must confess that I have never attempted the latter procedure and have doubts as to whether the cautery will close the points as readily as some seem to imagine. In the case of patients who can be seen several days before a cataract extraction, I believe it is a good routine to slit the upper tear points slightly and inject some indifferent solution in order to be sure of the patency of the duct and the freedom of the sac from even minute quantities of pus; but where the patient must be operated on within twenty-four hours or so, if

5. Arch. f. Augenheilk., 45, 3.

the conjunctiva seems perfectly normal and there are none of the ordinary signs of obstruction of the duct or inflammation of the tear sac, this precaution may be omitted, since it is almost impossible to dilate either punctum without abrading the membrane; and any such abrasion, until entirely healed over, may furnish the breeding place which will convert a tolerably innocent germ into a pathogenic one. The practice of putting on a bandage twenty-four hours before an operation in order to test the condition of the conjunctiva and tear passages is, as I have previously suggested, decidedly objectionable. With regard to the bandage, there are, I think, very few who believe in using absolutely no protection for the eye after a serious operation. If our patients were all rational both when awake and when asleep this plan might be worthy of consideration, but as it is, I believe it to be a waste of time to discuss it. Whether to leave the eyelids entirely free under some sort of a shield is a more open question. It seems to me that it is decidedly easier for a patient to keep his eye still if a gentle uniform pressure is exercised on the lids, and the quieter the eye is kept for the first twenty-four hours and perhaps longer, the smaller the chance of secondary infection. I am aware of the claim that the action of the lids helps to rid the conjunctival sac of germs, and as previously mentioned, it is certain that in an eye not operated on the number of germs in the sac is increased by bandaging; but these considerations are more than outweighed, in my mind, by the rest which the binocular bandage secures to the operated eye; and as a matter of practical experience I have gained the impression that where an eye operated on is left open under a shield there is more apt to be an increase of secretion and irritation than where some sort of covering for the lids is used. The experiments of Genth[6] indicate, as one might *a priori* conclude, that the sterilization of the bandage materials is a matter of little moment. Genth made numerous operations on the rabbit's eye and applied bandages of cotton infected in the grossest way with pathogenic germs; and, in spite of this, obtained an infection in only six out of sixty-four cases. All of the infections occurred in a series of fifty operations in which the cotton placed next the eye was completely saturated with a fresh bouillon culture of virulent germs, while in fourteen other experiments in which the bandage cotton was infected in a number of places by wiping off the germs from a spatula dipped in the cultures, no infection took place. When we consider the exaggerated way in which these bandages were infected the conclusion is natural that under ordinary conditions the danger of infection from the average unsterilized cotton is so slight as to be hardly worth considering.

Not knowing just what process was adopted in the preparation of our best absorbent cotton and gauze bandages, I had several samples from standard manufacturers examined in the laboratory of the University of Nebraska in the hope that they might be found sterile. Portions of fresh packages of cotton and of gauze bandages were taken from the outside roll, from the inner rolls and from the ends, but with two exceptions germs growing on agar were found in all the experiments. The germs were not numerous nor were they of well-recognized pathogenic varieties, probably all belonged to the common atmospheric bacteria, but to allow for the possibility of some pathogenic germs being present, I have since then, as before, placed next the eye after all serious operations a layer of cotton which has been freshly boiled for ten minutes in a boracic acid solution. These experiments of Genth also indicate the slight importance of attempting to cleanse the lashes and the outside of the lids, although, on account of the real danger of touching the lashes with instruments, I believe, as previously stated, in cutting off the lashes.

There has never seemed to me to be any sense in sterilizing the roller bandage which is applied outside the cotton.

In deciding whether the cotton which comes next the eye should be moist or dry I have been influenced by the fact that the secretions from the conjunctiva never stick to moist cotton, while if there is any discharge under a dry cotton dressing it is always found stuck both to the lids and to the cotton. This convinces me that where there is any discharge containing mucus or pus, a moist dressing, or a dressing with some stable ointment, can alone be relied on to furnish good drainage. But if wet cotton is used it must, of course, be covered with rubber tissue or something similar to keep it moist. These, however, are matters of minor importance in comparison with the question of how best to apply the dressing so as to secure its prime object, namely, the protection of the eye from external violence and from infection by the patient's fingers. The best protection from external violence can only be secured by using one of the various shield dressings which provide an arch of some firm material, whether it be pasteboard, celluloid, gutta-percha, or metal; and to secure safety from the patient's fingers, nothing approaches the certainty afforded by pasting down the edges of the shield or bandage with thin strips of absorbent cotton and collodion.

The importance of distinguishing between the essentials and non-essentials of ophthalmic asepsis is in no way so well illustrated as by the various and, from a bacteriologic standpoint, heterodox methods employed by oculists in sterilizing their instruments. An operator who will insist on his patients taking a full bath and on sterilizing every scrap of bandage or cotton that comes within reach of the patient, will rely on some totally inadequate measure for sterilizing his instruments. In the paper by Panas, previously referred to, he says: "All objects used for bandaging, gauze compresses, silk threads, must be sterilized by steam at a temperature of 120 degrees for at least one-half hour. The absorbent cotton, whether in rolls or pledgets, is sterilized in tin boxes or wire baskets at a temperature of 150 degrees." This is not altogether necessary, but it certainly can not be objected to, but the sterilization of the instruments, the most important part of all, he dismisses with the following sentence: "All instruments of whatever kind must be previously immersed into boiling sterilized water to which has been added some bicarbonate of sodium which prevents rusting." Other operators put their instruments for a short time into one of the so-called antiseptic solutions. Now, there are few more pathetic things in the history of medicine than the innocent faith with which many excellent men, with no first-hand knowledge of bacteriology, have relied on the efficacy of everything that any investigator has seen fit to declare a germicide; and nothing has proved more deceptive than a vast amount of work which has been supposed to demonstrate the germicidal value of this or that chemical. The reason for this is found in the ease with which many germs, with their vitality in no way impaired, can be prevented from growing by minute traces of the chemical under investigation. And all the while we have in boiling water a disinfectant which all investigators agree in declaring infallible within certain limits. The comparative unpopularity among oculists

6. Arch. f. Augenheilk., 46, 2.

of the disinfection of instruments by boiling depends perhaps on the idea that boiling harms the keen edges and points of our instruments. I can not say that boiling has absolutely no such effect, but I do say that after having used the method for seventeen years, I have seen no evidence of it. That instruments are frequently injured while being boiled is true enough; but this is due, in my opinion, to their being rattled about together with the edges unprotected; while if the precaution be taken to wrap the points and blades tightly in cotton, no harm is done by the boiling itself. I have in my case a keratome which I have used at least a dozen times, boiling it from eight to ten minutes each time, which still cuts as well as the day that it came from the sharpener; but to obtain this sort of result, it is necessary also to have the instrument wiped and rewrapped immediately after it has been used. Boiling certainly spoils ivory or bone handles, but not those made of hard rubber, which I prefer to metal. There is one danger, however, which the disinfection by boiling opens the way for: If the instruments are not perfectly dry, a drop of fluid is liable to run down from the fingers to the eye; and to avoid this I have the instruments boiled immediately before each operation and have the water, while it is still boiling hot, poured out of the vessel; the heat which the instruments retain quickly drying off the moisture on the handles, the cover being replaced until the operation begins. A one per cent. solution of carbonate of sodium is perhaps as good as any thing to prevent rusting. Just how long the boiling should be continued is a somewhat open question. The ordinary pus cocci and probably all bacteria, except when in the form of spores, are killed by from one to two minutes boiling in a closed vessel. The spores of most, if not all, the germs commonly recognized as pathogenic are killed by about five minutes' boiling in a closed vessel; while, on the other hand, the spores of certain well-known saprophytes, such as the peptonizing bacilli of milk, will stand from ten to sixteen hours of boiling without apparent injury. Luckily, these germs are entirely harmless, but to allow for the possibility of some new pathogenic germs of unusual resisting powers being present, some compromise, such as a ten-minute boiling, has seemed to me reasonable, always, of course, boiling in a closed vessel. I will confess, however, that when in a hurry I sometimes boil the instruments five minutes only.

Collyria may, of course, be sterilized by boiling, but as cocain solutions lose their strength when boiled repeatedly, I sterilize a small quantity immediately before each operation, by suspending the tube which contains it in a pan in which the swabs for the operation are boiled for ten minutes. After the sterilization of the instruments it is not always so easy to keep them sterile until after the operation is completed, and, while it may seem superfluous, it will, I think, bear frequent repetition that the fingers of the operator, the skin, lashes and lid margins of the patient should all be regarded as more or less septic, no matter how carefully they may have been cleansed, and should not under any circumstances be touched by any instrument that must enter the globe; and the conjunctiva itself and the fluid in the sac should be touched as little as possible.

The management of the thread to be used for sutures is one of the most difficult tasks which the surgeon who wishes to be aseptic has to encounter. The threaded needles can be boiled with the other instruments if the silk be wound on bits of rubber tubing to keep it from getting tangled; but in introducing sutures into the conjunctiva it is very difficult to keep the thread from touching the lashes or skin of the eyelids, even if the patient wears a gauze mask.

With regard to the person of the operator, the full bath can, from a surgical standpoint, be classed with the luxuries, and the same may, I think, be said of the more elaborate attempts at disinfection of the hands, except in the rare cases in which the oculist must touch the tissues with his fingers. In my own experience, I can recall but three cases in which this has been necessary, the disease in each of these being a tumor of the orbit. It is now universally recognized that no method can be relied on to completely sterilize the hands, nevertheless the general surgeon tries to come as near the ideal as possible; but for the oculist it seems to me that anything beyond a good scrubbing with sterile soap and water and a careful drying on a sterile towel is a waste of time except in the rare cases mentioned. With regard to the dress of the operator, a surgical gown or jacket presents a good appearance and may be of some use, but it is far less essential than some form of protection of the nose, mouth, beard and hair, partly on account of the danger of dandruff falling directly on the operative field, but chiefly to hold back the germs from the nose and mouth which, as Flügge and his pupils have shown, are constantly shot out into the air while talking, coughing or sneezing. It is tolerably easy to have caps with face pieces made for this purpose, but nothing is so simple as a double thickness of gauze, about eight inches broad and a yard long. The center of this is placed over the nose, mouth and chin, and the ends crossed behind the head and brought around so as to cover the vertex and forehead as well.

I have thought it best to discriminate against the non-essentials in ophthalmic asepsis because if the methods are simplified there is a better chance that the essentials will receive the scrupulous attention which they deserve.

A paper of this kind necessarily deals with tedious details, and if it has seemed unusually tiresome I can console you with the assurance that I could easily have made it much more so without exhausting the really important features of the subject.

DISCUSSION

ON PAPERS OF RANDOLPH, PUSEY AND GIFFORD.

Dr. Casey A. Wood, Chicago—There is one condition from which it seems to me especially desirable to protect the eye: chronic dacryocystitis with dilatation of the sac and infection of the canaliculus and parts surrounding it, in any operation that involves the opening of the eyeball. I have recently had two cases where I was faced by this problem. It was not possible to treat the condition according to the Hirschberg method for two or three months. I have the same objection that Dr. Gifford referred to in speaking of the use of the galvanocautery. I also object to the extirpation of the sac; it takes too long to heal. I have resorted in a few cases to a little device mentioned by Knapp in his article in Norris and Oliver's System, i. e., shutting off the canaliculi by means of a simple suture, the thread being passed around the canaliculi as near the puncta as possible. No harm results, the suture does not cut through within nine or ten days after the operation, so that the wound in the cornea or sclera has time to heal. My two cases (of chronic dacryocystitis with double cataract) acted so nicely that I can recommend it to you as a simple and efficient device. Before tying the canaliculi I in one case filled up the sac and canaliculus with argyrol; and when the sutures were removed the brown fluid flowed out from both puncta, showing that no adhesion of the walls of the small canals had taken place at the site of the sutures.

Dr. Ira J. Dunn, Erie, Pa.—Dr. Randolph speaks of the action of streptococci not being persistent. I would like to

report a case in which they were to me painfully persistent and active.

A foreign body had remained in the cornea for nearly a week. The eye was treated after removal of the foreign body one week when the patient was sent to me. A large sloughing ulcer had formed near the center of the cornea. It was cleaned and cauterized. and iodin, iodoform, etc., were applied in the very careful manner so fully discussed and advised in this Section last year, but with no avail.

The eyeball perforated, panophthalmitis resulted and the eye was enucleated. Infection of the orbit followed, and this extended to the lower lid. The cheek and neck of the corresponding side became swollen and edematous. The opposite side was involved also, but did not slough. Temperature rose above 103. It was in an elderly subject and there was much discomfort and nervous agitation from the systemic disturbance. Three doses of antistreptococcus serum were given within a few hours and after the first dose the temperature began falling, the progress of the orbital inflammation began subsiding and the patient became quiet and comfortable. While there was a large slough in the lower lid there was no further anxiety and little deformity resulted, an artificial eye being comfortably worn.

DR. W. H. DUDLEY, Easton, Pa.—For some time I have been in the habit of making an examination of the secretion of inflamed conjunctivæ, and within the past few weeks two cases have come to my office which have demonstrated the importance of doing this as a routine measure in any suspicious case. There is a certain class of cases in which the acute conjunctivitis with the Weeks bacillus will produce a very severe attack. There is usually very little difficulty in diagnosticating a case of gonorrheal ophthalmia, though it may occur.

The first case I refer to was one of gonorrheal ophthalmia, and examination of the secretion in the office at the time showed at once any number of the organisms of Neisser.

A week or two later one of the physicians of our town came in with his lids and conjunctiva swollen almost a duplicate in appearance of the former case. I asked if he were treating any patients with gonorrhea, and he said he was, several. The condition looked alarming. I made an examination of the secretion at once and found it consisting of a pure culture of the pneumococcus. Of course we were both greatly relieved, and this demonstrates the usefulness of making these examinations of the conjunctival secretion when there is a possible question of its character.

DR. ADOLPH O. PFINGST, Louisville, Ky.—This subject is of the greatest importance to all of us. The mere fact that the conjunctival folds harbor such pathogenic organisms as the streptococcus, staphylococcus and pneumococcus is a point that should make us consider carefully a thorough sterilizing of the sac. I believe we should carefully cleanse the conjunctival surface of the lids and the edges. We should get out hands as sterile as possible and be prepared in every way just as the general surgeon is. We should leave no possibility of getting these germs into our wound. As to the sterilization of instruments I think the heat doesn't affect the edge of the knives as much as is usually supposed. The dullness is caused more by the operation, cutting through such tissue as the cornea than it is by the boiling.

DR. A. R. BAKER, Cleveland, Ohio—It has been my custom for many years to wrap my knives and forceps in cotton and place them in boiling water. I boil them only a short time. Then while waiting for the anesthesia I amuse myself by wiping the points of the instruments with bits of sterile absorbent cotton held between the forceps in the boiling water. I adopted this practice many years ago from some experiments made for me by a young bacteriologist. We had fewer growths with this way of cleaning the instruments than with any other method. This method of wiping the knives has proven to be sufficient to remove the bacteria.

DR. E. C. ELLETT, Memphis, Tenn.—I would like to mention a method I recently adopted to prevent infection in case of cataract extraction. The case was one of incurable conjunctivitis due to a mixed infection of the staphylococcus and pneumococcus, and the method I resorted to was this: preceding the operation I incised the conjunctiva all around the cornea and dissected it up from the eyeball for a space of about a half inch away from the cornea. I then did the operation of extraction, and picking up the edges of the conjunctiva brought them up over the cornea and sutured them in that position. There was not an undue amount of reaction. The sutures were removed on the fourth day, when the corneal wound was healed and the conjunctiva eventually slipped back to its normal position. The patient got vision of 20/30 without a needling operation.

DR. W. R. PARKER, Detroit—I want to mention one case on which I operated after the method of Dr. Ellett. Without going into details, I followed his method, suturing the conjunctiva over the entire cornea. The sutures were removed on the third day. At the end of the second day after sutures were removed the whole lower portion of the cornea was exposed, and on the third day the whole cornea. Vision was 20/40.

DR. J. H. CLAIBORNE, New York—The health and vitality of the patient have much to do with the healing of cataract wounds. I had one case that illustrates this very well. An old man of seventy-two, apparently healthy, with clean conjunctiva, was operated on by the combined method. The wound remained unclosed for nine days, and at the end of that time became infected. Inside of ten days or two weeks he developed acute nephritis. I could not trace any source of infection, and could only assume that his vitality had been very much lowered and his tissues were unable to resist the presence of the bacteria in the sac. The older Critchett used to say he would never do a corneal section where the patient was not in good health.

DR. HAROLD GIFFORD, Omaha—In regard to Dr. Ellett's method, while I do not question its originality so far as he is concerned this is a tolerably old idea. De Wecker recommended the purse-string suture for protecting corneal wounds and Kuhnt has been recommending a flap drawn down from above as a protective measure in some cataract extractions. For the last three years I have been using a modification of this method, putting in a purse-string suture beginning and ending at the lower margin of the cornea, but dissecting up only the upper half of the conjunctiva. The suture is thus ready to tighten the instant the extraction is finished, and still the lower part of the cornea is left free. I have used the method in four or five cases of dislocated lens with good results. I have also used it in one case of cataract extraction with dacryocystitis, without a trace of infection.

As to the method referred to by Dr. Baker of sterilizing his instruments, there is no doubt that if you use sterile cotton in this way you can get off most or all of the germs. At the same time you can not tell but what you may just loosen up some of the bacteria which do not come away on the cotton but are ready to come away on your tissues. I think it is certainly safe to boil the instruments for ten minutes. Of course some of the more resistant spores can not be destroyed in that time, but the ordinary pathogenic germs are killed in a few minutes by boiling in a closed vessel; and in ten minutes you can be reasonably sure that your instruments are safe.

He Can Not Afford It.—No man, irrespective of the amount of work he is doing, can afford to remain out of the medical society in his county. He needs the society and the society needs him, and his active work in the society means a broadening of the influence and sphere of usefulness of both. Too many medical men are now in a rut for want of the influence and advantages offered by contact with other medical men in medical societies, and it is to reach such a class of men and to stimulate active members of medical societies to increased effort, that the organization scheme has been proposed by the American Medical Association. The movement is in the right direction and should receive the encouragement and support of all physicians who have their own interests as well as the interests of the medical profession at large in view.—*Ft. Wayne Med. Jour.-Mag.*

SOME CLINICAL ASPECTS OF TUBERCULAR PERITONITIS.*

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Among the many startling results that have followed the introduction of laparotomy, exploratory or curative, none shows a more decided departure from beliefs of a former generation than the present attitude of the profession with regard to tubercular peritonitis. The surprising clinical fact, recorded by Sir Spencer Wells, that a case of tubercular peritonitis, accidentally opened under a mistaken diagnosis of ovarian tumor, should not only recover from the immediate effect of the operation, but promptly go on to apparent recovery, and end in perfect restoration to health was so anomalous a history that it savored of the miraculous. This was before the days of bacteriology, and while the battle as to the single or dual nature of tuberculosis was a great pathologic issue. With the knowledge of the bacillus as the one essential feature in causation, and with the great advance in surgical technic, the pathologic relations, as well as the clinical features, have received a more critical study, and much light has been gained.

Brunn[1] gives a most comprehensive review of the literature of this subject from 1885-1900. Our knowledge may be said to have reached its greatest development in this period. Many of the tables and references are taken from an analysis of this review. Of some 28,000 cases coming to autopsy, many of these were healed, many showed co-existing diseases of other organs. Tubercular peritonitis was found in 2¾ per cent. As early as Morgagni we find descriptions of tubercular peritonitis, with the significant statement that it frequently occurred with pulmonary tuberculosis, and a suggestion of the similarity of adhesions here formed with those observed in the pleuræ and pericardium. Almost a century of study has thus been given to this particular form of tubercular disease.

The peritoneum may be one of the sites of local manifestation of a generalized miliary tuberculosis, but the term tubercular peritonitis is generally understood to apply to the chronic form of the disease, which in a measure constitutes a distinct affection. Even here the process is usually secondary to disease, appearing primarily in some distant part, most commonly the lungs; or the peritoneal involvement may follow by direct extension or by dissemination through the lymph paths, or by a simple process of grafting from a previously ruptured tubercular focus having access to the peritoneal sac, and sowing, as it were, the elements of the disease over the entire membrane.

As primary foci near the abdominal cavity may be mentioned psoas abscess, caries of the vertebræ, tuberculosis of the genitourinary tract in both male and female, including the suprarenal gland, tubercular ulceration of the intestine, solitary tubercle of the spleen, and tubercular disease of the retroperitoneal glands. Some cases of tubercular peritonitis appear to be primary, as shown partly by the manifestly greater age of the diseased parts of the peritoneum when contrasted with the evidence of tuberculosis in the other organs, in part by the absence of any other discoverable tubercular deposit. In children the appearance of primary tubercular peritonitis is more frequent than in adults; of 22 cases reported by Rilliet and Barthez, 12 were classified as primary.

Tubercles may be distributed uniformly, more or less thickly set, over the entire peritoneum, or they may form nodular masses of varying sizes which undergo caseous or ulcerative changes, and thereby furnish the nucleus of secondary daughter tubercles in the vicinity.

With such multiplicity of lesions, and with the symptoms of the primary pathologic process complicating most irregularly the clinical picture of the peritoneal affection, it is not surprising that there should be a wide range in the symptomatology. On the basis of the postmortem findings various classifications have been made. The simplest recognizes two forms, the dry and the exudative, including under the latter head the caseous and the purulent varieties.

From a clinical standpoint Hawkins divides all cases into four varieties:

1. Latent.
2. Severe, with ascites and a spontaneous tendency to remissions or encapsulations.
3. Cheesy purulent form, with frequent formations of large caseous masses and adhesions.
4. Fibrous-adhesive form.

The French and English authorities generally describe three varieties:

1. Ascitic.
2. Fibro-adherent.
3. Ulcerative form with or without suppuration; while Galvani gives five, and Aldibert has some eleven subdivisions.

Judging by inoculation experiments, differences in the pathologic product of the bacilli depend in some degree on the source of infection. Injection into the peritoneum made with fluid obtained after weakening of the bacilli in sputum by exposure to a temperature of 60 degrees, produces rather the fibroid; the use of a fluid rich in bacilli or of unemulsified sputum, the cheesy, purulent variety.

Injection of the first tuberculin of Koch produced no reaction, whereas the tuberculin R caused proliferation of the intestinal serosa.

The general symptoms of tubercular peritonitis are pain, fever, emaciation, anemia, anorexia, to which are to be added as more purely local manifestations, change in the contour of the abdomen, ascites, diarrhea, or constipation; and, occasionally, redness or inflammation about the umbilicus, with possible perforation and formation of a suppurating sinus or of a fecal fistula; profuse and very exhaustive sweats occur in the caseous and ulcerative varieties. Of physical signs, the most important may be properly said to be the alteration in the impressions conveyed by palpation, whether in the dry or exudative cases. In children, particularly, the examiner is apt to be impressed by the manifest malnutrition, so that there is a striking contrast between the distended abdomen and the general emaciation. With the patient on the back and the abdomen relaxed to the utmost possible extent, there will usually be noted an oval or round distension of the cavity, very different from that due to ascites, arising from other causes. There is not the tendency to bagging in the groin, or above the iliac fossa. If liquid be present, it is rarely perfectly free in the abdominal cavity, being bounded in one or other direction by firm adhesions. After absorption of this fluid the exploring hand experiences a sense of tension or hardness in the abdominal wall, a peculiar elastic resistance, which, according to Grisolle,

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is found in no other malady, and which has been described by DeMussy as an incomplete elasticity with resistance, as though the hand were plunged into firm dough.

In addition to this the abdominal wall may, over certain areas, give an impression of plaque-like thickening, there being in these places increased induration and resistance. Palpation should always be made by laying the whole hand gently yet evenly on the abdominal wall, and then carefully indenting the fingers, preferably moving all the fingers together, so that no indentation of the walls occurs at any one point. In this maneuver it will occasionally be found that adhesions and loops of intestine, particularly when distended, may simulate tumors, especially in the region of the cecum. Occasionally loops of intestinal coils may be seen and felt through the thinned muscular wall; this is exceptional. Palpation will also show the presence of fluids, which may or may not obey the law of gravity with the patient's change of posture.

Attention has already been directed to the cases with exudation as constituting a special class; yet the value of such classification may well be questioned, when it is remembered that in very many cases the presence of abundant fluid constitutes rather a phase than a form of the malady. In children, for the most part, and in many adults, the so-called ascitic form is only transitory, and the fluid is later resorbed; so that the value of effusion as a symptom may depend on the period at which the case is seen. It may even happen that as the effusion disappears, the contour of the abdomen changes, though a permanent meteorism usually occupies the space occupied by the fluid. Thomayer has called attention to a physical sign of some value. In the shortening of the mesentery resulting from tubercular infiltration, retraction takes place toward the base of attachment, so that the entire mass of intestinal coils, when not previously adherent, is drawn upwards, backwards, and to the right, while the fluid exudation accumulates below, and to the left.

By this change the symmetry of the abdomen is often disturbed, as may be verified by inspection, palpation and percussion. Palpation will also disclose the presence of the transverse induration about or just below the level of the umbilicus, due to the infiltrated and curled-up omentum. This sign is wanting where, as often happens, previous adhesions have fixed the omentum to some of the pelvic viscera or to its brim. Where tubercular ulceration exists, particularly if multiple, movable cylindrical masses, in reality the hose-like, greatly infiltrated intestine can also be outlined. In some instances a distinct friction rub, either localized or more general, will be noted; it may be a very mild friction, what the French writers term starch-like, *amidonienne,* or an unmistakable harsh, rasping rub. Auscultation may be employed to control or check the results of palpation. During palpation one observer describes the condition as suggesting that the abdominal wall and subjacent viscera, firmly united by adhesion, could not glide over each other. The friction rub is felt more frequently in the upper quadrants. Percussion corroborates the presence of the fluid, and its data should be carefully noted. It will inform us as to whether the fluid is movable or sacculated in small pockets, as often happens; according to Grisolle, in one-tenth of the cases.

A careful record of the areas of dullness should be kept from day to day, for, as Christie has remarked, a striking feature consists in the atypical character of the percussion data, changing slowly and imperfectly with change of posture, but often varying spontaneously. It can usually be determined that the quantity of the fluid is inconsiderable; it may amount to 2 or 3 liters, but never equals the enormous amounts encountered in cases of obstructive lesions of the portal vessels.

Of the general symptoms fever is perhaps the most inconstant. It may be encountered at one stage of the disease (usually in the earlier periods) to disappear for many weeks or months and return when ulceration takes place in some of the caseous masses. The number of observations on the temperature is not very extensive, yet enough has been collected to show the frequent absence of fever in cases where the diagnosis has been confirmed by autopsy or by laparotomy. It has been absent in the majority of my own cases. In 16 cases observed by Hinterberger there was fever following the operation in 14; five times it had existed before, 9 times it developed for the first time after operation, and two cases remained afebrile throughout. In several cases occurring in my own practice, other physicians, while inclined to the diagnosis of tubercular peritonitis, had found the absence of fever an insuperable barrier to such a conclusion. High fever usually accompanies ulcerative tissue destruction. Pain may be entirely absent. It occurs in the majority of all cases; it is oftentimes constant and fixed, though it may change both in intensity and location. Its development is often very gradual, consisting at first in a sense of uneasiness, which becomes accentuated where any weight rests on the abdomen, and is certainly felt on pressure. Despite the fixity of the lesion, the pain may be erratic, and its maximum intensity may not correspond with the location of the trouble. When not spontaneously present it may often be developed by suddenly releasing the abdominal wall, previously depressed by firm and gradual application of the flat of the hand, as suggested by Henry. In adults persistent abdominal pain, with no other symptom than progressive emaciation, would suggest a possible tubercular peritonitis. The tenderness over infected viscera may become extreme.

Diarrhea is the regular accompaniment of tubercular ulceration of the intestine, but in other forms constipation is the rule. There may be but one movement daily, but the dejections are liquid, and this fact may be utilized in diagnosis. In children the stools are often acholic (Berggrün and Katz), though there is no jaundice or bile-coloring matter in the urine, the clay color of the stools being due to excess of fats. On the other hand, the constipation may be most aggravated, and may go on to complete intestinal obstruction, due to the pressure of strands of adhesion, twisting or paralysis of the bowels, or the formation of large tumor masses in which intestinal coils become adherent. The obstruction usually ends by yielding either spontaneously, or with medication, after some days. Death has resulted, the end coming slowly after twenty to thirty days. Anorexia is frequent; vomiting, especially in children, is very rare.

Periumbilical inflammation may occur in other forms of suppurative peritonitis, but is most frequently due to tuberculosis. From this hasty summary, it will appear that there is no absolute sign that clears the diagnosis, which is often to be made only by exclusion. Age has a most important bearing. While exceedingly rare in children under one year of age, one case only in 300 collected by Carr, the early periods of life contribute the largest contingent, a fact frequently overlooked because of the tendency to spontaneous cure; it is infinitely the

most common form of peritonitis between the ages of six and ten, and, though beginning acutely, may soon become subacute and thus continue throughout.[2] Spontaneous cure has baffled many students; yet no one would to-day repeat such a criticism as this of Siredey: "We believe that Hilton Fagge suffers from a strange illusion when he says that the majority of children suffering from tubercular peritonitis may be cured by mercurial liniments, and we hasten to add that such observations as he has cited in support of his views are absolutely valueless." It is difficult to divorce from the professional mind the idea of necessary fatality in connection with tuberculosis of any internal parts.

In doubtful cases with ascites, the withdrawal of fluid has been recommended for agglutination and inoculation tests. Benedix claims to have found a positive agglutination test in a dilution of one to ten, while a non-tubercular ascites failed; both conclusions were corroborated by autopsy, the second case showing cirrhosis. The inoculation test in lower animals would, however, appear to be the main reliance. Bacteriologic examination of the fluid withdrawn may show nothing, yet the same fluid will promptly give rise to an inoculation tuberculosis in guinea-pigs. A most important factor in diagnosis is the coexistence of tuberculosis in other localities, particularly tuberculosis of other serous membranes. Aran has formulated his view that tuberculosis of the peritoneum often is a part of a more generalized process affecting serous membranes. Goddier says: "Where there is tuberculosis of the peritoneum, there is always tuberculosis of one or both pleuræ as well," and other observers have directed attention to what is termed an isolated tuberculosis of serous membranes. As the starting point for this form of tuberculosis is often found in the genital tract, a very careful examination of these organs is essential. In women nodular masses of varying sizes will frequently be found in and about the pelvis.

Laparotomy does not always establish the diagnosis. Even with the entrails exposed, error is possible. Echinococcus vesicles, the eggs of the tenia, and simple cell inclusions have all given rise to tubercular formations, whose macroscopic diagnosis was impossible. The nature of the fluid is often suggestive, the sacculation of the exudate, the whitish opacity or bloody tinge of the liquid with its viscid, jelly-like consistence, all argue for tuberculosis; absolute certainty is, however, only possible with the microscope or inoculation test; but tuberculosis may be generally assumed as the cause of nearly all nodular tumors, merely on the doctrine of averages.

We now come to the question of laparotomy. The example of Spencer Wells, of performing an operation under a mistaken diagnosis, for a condition which then promptly improved, has been unintentionally repeated several times, and probably will continue to be repeated. Too much credit for the recovery can not fairly be assigned either to the operation or the operator. König undoubtedly is responsible for the popularization of laparotomy as an element in the treatment; and since his day there have been many undoubted cases, as shown by autopsy or by survival for many years of healed tuberculosis following abdominal section. Indeed, some cases are on record of coexisting tuberculosis of other organs, in which, following operation, these additional lesions presented notable improvement. Has this not been another instance of the *post hoc*? The operation is constantly urged by the surgeon, and Pribram goes so far as to advise its performance in every case, which shows no improvement after a few weeks of medical treatment, even where there is a pulmonary complication.

Good results have followed simple incision, irrigation of the cavity, drying of the peritoneum, resection of diseased parts, and other modifications. The essential feature seems to be an incision, even when not carried into the cavity; for there are many cases in which the cavity no longer exists. Some regard as essential the mere access of air, and Mosetig, to be on the safe side, merely punctured the abdomen, and then inflated it with sterilized air, thinking thereby to impart some altered quality to the bacilli. Then it has been held with unconscious humor that the opening of the abdomen allows of such rapid drying that the bacillus dies. Others regard the effect as due to more pronounced reaction of the serous membrane after operation. In cases with ascites the mere mechanical relief following withdrawal of the fluid can be easily understood; the diminution of pressure may also allow better conditions for resorption and improve the circulation. It is a widely entertained opinion that operation assists the peritoneum to more effective isolation of tubercular foci by stimulating the growth of new formed connective tissues. Another more modern theory would explain the action by the agency of antitoxins, whose formation is started by the operation, or of alexins generated in the blood; while another view attributes the improvement to the actual escape of the bacilli and their spores through the incision the moment they have a chance to get out!

After all this elaborate effort at explanation, the true answer to the question as to why laparotomy cures tubercular peritonitis, is: "Because it does not." The percentage of recoveries without operation, for all ages, and with or without complications, is greater than with operation. This is admittedly true of all forms except that with effusion, and here the results of medical treatment have been most satisfactory; for these are the cases which tend most commonly to spontaneous cure. In the course of five and a half years Herringham observed twenty-five cases diagnosed as tubercular peritonitis, of which nineteen recovered without operation, and three were unimproved. He finds the only justification for operation is a return and increase of the ascites, after puncture. Hawkins reported fifty-nine recoveries, all but three of whom were treated by internal medication. From a collective report of 112 cases treated by operation, Hawkins concludes that the percentage of recoveries is as great without as with operation, the indication for which is furnished by the presence of marked ascites. The distinguished surgeon, Czerny, cautions against expecting too much from the operation, whose mortality in his hands has been very high, for out of ten cases operated on, but two survived after three months. Leyden asserts that operation furnishes no better results than can be secured without it. He attaches little importance to experimental inoculation or the detection of the bacillus, and thinks general symptoms sufficient for the diagnosis. Where abdominal tension from fluid is great, he recommends occasional punctures. According to Pic, the ulcerative form may heal in children, never in adults; the fibroid form heals in both, and the form best adapted for operation is tuberculosis with ascites. Wheeler declares that the operation is absolutely contraindicated where there is no exudation in the abdomen, or where there is abundant development of nodules and bands, or where there is marked tuberculosis of other organs, especially intestinal ulceration. With this view

2. The proportion of the sexes is nearly equal before ten years, but the female sex furnishes a much larger contingent after this.

I am heartily in accord. Wheeler also advises against drainage, owing to the likelihood of a fistula, fecal or tubercular.

The operation has been particularly recommended for exudative cases in children, but in the last number of the *Archives of Pediatrics*, Guthrie gives a summary of some personal experience showing recoveries with and without operation in the ratio of 16 per cent. to 50 per cent. His language in condemning the operation is not without a tinge of bitterness.

Jaffé has shown that many cases reported as cured still contained at the time when they subsequently came to autopsy, smoldering foci of tubercular disease, which required apparently but the merest accident for general dissemination, or for reappearance of the local process in active form.

The opinion that a diagnosis of tubercular peritonitis calls for immediate laparotomy is certainly erroneous, not to say vicious. It would be responsible for many deaths. In the hands of the most skilled surgeon the mortality incidental to the operation *per se* is not less than 10 per cent. Cases requiring relief by operation can be temporarily improved by simple puncture and withdrawal of the fluid. The majority of such cases under the tonic regimen will end in recovery without operation. It will be found that some cases will disappoint every expectation of improvement, under any plan of treatment, and again complete recovery will follow under conditions apparently most unpromising. What the particular factor is that determines the issue must still be doubtful, but increasing experience and most careful analysis of figures would lead us to place it in that unknown chemical and physiologic property, the native resistance of tissues. We may assume a variability in the toxic properties of bacilli, even as we see variations in structural details; and this variability plus the equally variable inherent constitutional resistance gives us our equation, whose resultant is naturally most inconstant. It is certain that the peritoneum, perhaps even in greater degree than most other serous membranes, possesses the property of finally disposing of the tubercle bacillus, by a process of fibroid inclusions, so effective that it not only results in a limitation of the infected area, but often in the actual destruction and disappearance of the pathogenic germ. We find ourselves coming back to the standpoint, which Virchow investigated in his studies of the "combat between the cells and the bacilli," and, while sparing no endeavor to limit the possibilities of entry of the bacillus, and to render innocuous those sources of infection easily controlled, it will be found that our best weapon lies in so fortifying the cells which, in the final test, must bear the brunt of the fight, that the natural processes of reactive inflammation may lead to the development of organized fibroid tissue. As in the fight against tuberculosis in the larger arena, so here the solution will be found in giving to the patient, in greatest abundance, good food, pure air, unbroken rest, and ease of mind. It is not that we would slight the surgical management of such cases; but surely that science is best which by early recognition of diseased conditions and prompt institution of appropriate remedies protects the patient from the necessity of submitting to the hazard of operation, with the possibility of no permanent relief. Immediate recovery from the effect of the operation can not be counted an advantage. It remains for collective investigation to show the percentage of patients in good health six months after the operation, before determining the position of laparatomy.

As illustrating somewhat different types, I append a brief history of the following cases:

CASE 1.—Discrete tubercles of peritoneum, probably secondary to appendicitis, with ulceration discovered at operation for appendicitis. Recovery.

S. R., aged 12. Has had repeated attacks of appendicitis, some very severe, others of less duration and intensity, coming on as often as every two months in the year preceding operation. Boy always pale, thin and feeble. Bowels habitually constipated; no appetite. In intervals between attacks no tenderness of abdomen, no induration or sensitiveness anywhere about abdomen. Operation for removal of appendix in February, 1892. Appendix thickened, surrounded by adherent omentum and intestinal coils, small perforation with sacculated cavity containing a few drops of pus. Neighboring loops of small intestine, and parietal peritoneum showed limited number of gray nodules, firm, translucent, surrounded by a pigmented crescent, but apparently giving rise to little, if any, local reaction. Recovery after operation prompt. No subsequent symptoms except slight hernia in line of incision relieved by second operation. Young man to-day enjoys excellent health. There was no family history of tubercular disease; no signs of pulmonary or other involvement preceding operation.

CASE 2.—Generalized chronic tubercular peritonitis, with special localization about liver, producing chronic perihepatitis. Ascites. Repeated puncture. Death.

J. H. patient male, aged 54, single; generous liver. Family history good. History of persistent alcoholism, never carried to excess. Taken sick with sudden pain in abdomen, most marked in right hypochondrium; chills, fever of intermittent type; anorexia, constipation, gradually increasing distension of abdomen, dyspnea, emaciation, anorexia, subsidence of fever, but increase of abdominal swelling. No cardiac or renal disease; no jaundice. Physical examination shows abdomen distended with ascitic fluid, freely movable. Liver dulness not easily made out. Some tenderness or palpation over abdomen. After withdrawal of 2½ gallons of straw-colored fluid liver dulness found to be slightly increased. Abdominal walls apparently thickened and unusually resisting. No fever. Reaccumulation of fluid in very brief period. Death six months after onset of symptoms from exhaustion. Autopsy confined to abdominal cavity. Chronic perihepatitis (capsule thickened so as to measure half an inch), generalized tuberculosis, parietal peritoneum about one-quarter inch in thickness, intestinal coils showing few adhesions. Retroperitoneal glands enlarged, reddened, no tubercular infiltration. Diagnosis corroborated by microscopic sections.

CASE 3.—Dry adhesive peritonitis with caseous salpingitis. Operation. Final recovery after prolonged suppuration from tubercular sinus.

L. B., aged 21, dressmaker. Fairly well nourished, single. Family history, several deaths from tuberculosis in direct ancestry. Never been very robust, menstruation at 15, fairly regular, painful. Appetite poor, chronic constipation. No fever. Some pain in back and tenderness over abdomen. Physical examination, no pulmonary involvement. Abdomen oval, distended, rather resistant, no mass or induration. No fluid. Diagnosis, tubercular peritonitis. Under general measures and attention to bowels some improvement. Four months later patient passed through attack of typhoid fever of moderate severity, during which persistent abdominal distension was most distressing symptom. Complete recovery from typhoid. Pain in abdomen dull, heavy and variable, continued. Operation. General matting together of all viscera; omentum stretched tightly in front had to be detached from borders of pelvic cavity, showing caseous tuberculous infiltration and softening of both tubes, several tubercular abscesses in pelvic cavity. Following operation patient has gained some in weight, the temperature slightly lower in range, but still persistent. Exudate still being poured out, however, showing the process still active.

Removal of adnexa, cleaning out of tubercular debris, irrigation and drainage. Tedious recovery and persistence of dis-

charge from sinus left after removal of drainage tube. Irrigation of fistulous tract with zinc chlorid solution; no effect. Following use of small quantity of peroxid of hydrogen, marked and sudden increase of pain in abdomen with collapse, probably giving way of adhesions due to pressure of liberated gases when peroxid reached deeper parts of tract. From this time on marked aggravation of symptoms, increased discharge, great pain on movement, some fever, final and complete recovery about five months after operation.

Case 4.—Chronic tubercular peritonitis with sacculation by formation of an artificial diaphragm across lower part of retracted intestines and mesentery. Operation for movable kidney a year earlier showed no tubercular disease in abdomen. History furnished by Dr S. P. Kramer, with whom this case was seen in second operation. Tubercular fistula, still discharging.

Mrs. E. T., housewife, aged 33. Mother of five children, all healthy. One brother dead from tuberculosis. Other family history negative. March 20, 1902, operated for floating kidney, right side. At that time pelvic organs normal. Present illness of about six months' duration. Abdominal distress, intestinal indigestion, great deal of flatus and pain in bowels. For past two months gradually increased dropsical swelling in lower part of abdomen. Temperature ranges from 99 F. in morning to 101 in evening. Examination shows fluid in abdomen, serous in character. Confined to lower segment of abdomen and pelvis. Abdominal walls tense, protruding; eversion of umbilicus, no tumor discoverable. Bowel resonance does not change when position of patient is changed. Abdominal walls thickened by peritoneal deposits. Ovaries and tubes matted together so that they can not be palpated. Menstruation regular and normal. Urine normal. Feb. 12, 1903, laparotomy. Ovaries and tubes markedly tubercular; parietal peritoneum, having deposits of tubercles and tubercular hypertrophy. Pelvic organs separated from intestines by about three quarts of bloody serous fluid, which became partly gelatinous on exposure. Above the fluid there had formed a diaphragm of adhesion completely walling off the intestine from the cavity occupied by the fluid.

Ovaries and tubes removed. Abdomen closed without drainage. Primary union. On the twelfth day discharge from the lower angle of wound of about half pint of same fluid as before. At this point there formed a fistula the size of a pin head, which continued to discharge serous fluid up to date of discharge, March 14, 1903.

Case 5.—Tubercular peritonitis wih slight ascites. Chronic pleurisy, operation, no improvement. Occurred in gynecologic service of my friend Dr. Withrow at Cincinnati Hospital.

E. Y., female, aged 32, housework, colored. Family history not known. Menstruation at 16, regular, lasting four to five days. Complains of pain in abdomen, especially low down in left side, extending down left leg. Some backache coming on in paroxysms; never pregnant. Admitted to Cincinnati Hospital Jan. 18, 1903. Unable to work for three months past. Swelling of abdomen began about three weeks before admission so severe that she could not wear her clothes. Swelling at first more marked on left side. Swelling varied from time to time. Not much pain. T. 100.2, P. 108, R. 24. Slight tendency to constipation. No appetite. Some resistance on palpation over lower half of abdomen, where resistance is more marked, where there is no tenderness on deep pressure. On day after admission dulness over left lower quadrant; remainder of abdomen tympanitic. Enema to unload bowel did not change physical signs. Next day dulness had completely disappeared. Vaginal examination negative. Evening temperature 102. Five days after admission dull area in lower left quadrant again present, extending somewhat beyond median line to right. Two days later dull area on left side does not reach to median line. I saw the case eleven days after admission. There could then be made out a small quantity of fluid in left chest, an indurated mass lying transversely across abdomen just below umbilicus, about 1½ inches in thickness, 4½ inches in length, not tender, slightly movable. Peculiar doughy elasticity of abdominal walls. Evening temperature reached 104. Laparotomy February 4. Incision 1½ inches in length in median line. Peritoneum thickened and gelatinous. About a quart of straw-colored fluid escaped. Peritoneum everywhere thickly studded with tubercles, those in the pelvis larger than on intestinal or parietal layers. Wound closed. Union by first intention. Apparently nothing gained by operation. Temperature ranges for next month, during which time patient was under observation, continued same as before.

Case 6.—Tubercular peritonitis, secondary to ulceration of intestine. Indurated bowel palpated through abdominal wall. Laparotomy; death in eight hours.

Mrs. E. D., aged 48. Married, one child, housewife. Still menstruating, never robust, but always well until one year ago. Began to have some pain in abdomen. Pain at first not constant; abdomen always sensitive, so that weight of hand accidentally resting on it as she lay in bed was painful. Not much appetite. Fever for three months with pretty constant diarrhea. Large liquid stools. Anorexia. Lately very profuse sweating. Abdomen tense, oval distension. A movable cylindrical mass felt in right iliac fossa. No pulmonary symptoms. Vaginal examination negative. Diagnosis, tuberculosis of bowel with peritonitis. Operation. Several areas of cylindrical induration of bowel discovered, making resection impossible. Pelvic viscera and entire parietal and visceral peritoneum covered with recent tubercles. Wound closed. Patient never rallied. Death in six hours.

Case 7.—Secondary to tubercular pleurisy, adhesive form. Laparotomy. Death in three days.

J. H., saloonkeeper, aged 37. Brother died of phthisis. Always well until two years ago; had grippe. Pleurisy with exudation, relieved by repeated aspiration. Final obliteration of pleural sac. Abdominal distension gradually growing worse for six months. Slight fever, emaciation, obstinate constipation. Physical examination shows dulness over the base of the right lung posteriorly, due to the greatly thickened pleura. Breath sounds very distant. The abdomen distended, irregular areas of dulness in the midst of tympanitic resonance. Diagnosis, tubercular peritonitis with sacculation. Operation. All viscera matted together. A few small pockets of fluid are broken up; possibly eight ounces of turbid liquid escaped. Wound closed. Death on the third day.

Case 8.—Pain in abdomen. No ascites, no fever.

Child, aged 11. Family history good. No previous illness. Sick four months. Characteristic distension of abdomen. Tenderness on pressure slight. Principal pain comes on after eating so that the boy fears to take food. Steady emaciation. No fever. Bowels constipated. In right iliac fossa a mass can be felt as though made up of adherent omentum; this is not particularly tender. Owing to prominence of gastric symptoms, test meal was given. Analysis showed normal condition of gastric juice. Treatment, rest in bed. Forced feeding. Still under observation.

Frequency, as Determined by Autopsy Findings.

	Cases.	Autopsies.
Schalmack .....(378)	54	5,425
Münsterman .....(383)	46	2,837
Phillips .....(384)	107	2,230
Sick .....(521)	46	2,500
Steger .....(395)	283	3,493
Adossides .....(396)	74	4,815
Herringham .....(586)	56	2,297
Borske .....(394)	226	4,250
Total	792	27,847

Cases.	Males. Per cent.	Females. Per cent.	Males. Proport'n.	Females. Proport'n.
Under 10 years....	45.5	54.5	7.0	9.0
10 to 20 years.....	14.3	85.7	1.0	6.0
Above 20 years.....	6.7	93.3	1.0	22.5
	(Lindner.)		(Dresduer.)	

	Males.	Females.
Adossides' table of children	34 per cent.	66 per cent.
Adossides' table of adults	10 per cent.	90 per cent.

	Cases.	Males.	Females.
Vierodt	24	19	5
Fenwick	46	30	16
Schalmack (in 5,425 autopsies)	54	33	21
Munsterman (2,837 autopsies, 903 tub.)	46	33	13
Phillips (2,230 autopsies)	107	89	18
Sick (2,500 autopsies)	46	31	15
Steger (3,493 autopsies, 929 tub.)	283	151	132

	Cases.	Males.	Females.
Adossides (4,815 autopsies)	74	53	21
Haene	46	18	28
Schnitz (all children under 13)	32	15	17
Schroeder	24	9	15
Total	782	481	301

Relative morbidity of male and female: Total, 782 cases; males, 481 cases; females, 301 cases.

DISCUSSION.

DR. E. J. BROWN, Decatur, Ill.—Dr. Fenger, several years ago, advised against operation in these cases, showing that the mortality with the so-called medical treatment was less than with the surgical treatment. I think it is very discreditable to the profession to give a bad prognosis in tuberculous peritonitis. I have seen three cases, in which the surgeon who was called in consultation advised operation, all improve without operation.

DR. JAMES TYSON, Philadelphia—As a physician my experience with tuberculous peritonitis has not been large, but so far as it has gone I have about concluded that to treat it medically is to temporize; in other words, that there is but one treatment that is likely to lead to satisfactory re ults, and that is surgical.

TUBERCULOSIS IN THE NEGRO.*

SEALE HARRIS, M.D.

Health Officer of Bullock County from 1895 to 1903; President of the Southeastern Alabama Medical League; Councilor of the Alabama State Medical Association.

UNION SPRINGS, ALA.

Tuberculosis was a rare disease among the slaves in the southern states, yet, after a little more than a quarter of a century, it causes more deaths among the emancipated negroes than all the other infectious diseases. The negro death rate from tuberculosis is more than three times that of the whites from the same disease.

These statements, as startling to some as they are true, announce the motive which induced me to select for my theme on this occasion, "Tuberculosis in the Negro"; and if I can be the means of inciting any of you to consider the causes of this enormous mortality from that disease in the negro race and the measures to be taken for their relief, the objects of this paper will have been attained.

From the best information which I can gather, tuberculosis is unknown among the savage tribes in the interior of Africa. It is also unquestionably true that the negroes along the west coast of Africa were not affected by tuberculosis until the infection was carried there by the slave traders and colonists. However, since their exposure to the infection, the negroes in their native clime are not only more susceptible to tuberculosis than the white colonists who reside there, but the disease is more fatal among them. This is shown by the following table (Dr. Rudolph Matas, "The Surgical Peculiarities of the Negro"), which gives the mortality from tuberculosis in the English colonies for the negroes and whites on a basis of each 1,000 deaths:

	English.	Negroes.
Jamaica	7.5	10.3
Dominica	8.3	16.8
Guiana	6.4	17.9
Ceylon	4.9	10.5
Gibraltar	5.3	43.0

Tuberculosis was so rare among the slaves in the southern states that some physicians contended that the negro was immune to tuberculosis. I have heard large slave owners, and several physicians who had large practices among the slaves in Georgia and Alabama, say that they never knew of a case of consumption among the negroes prior to the war. The disease was so rare that in 1830 a Cincinnati physician reported a case of a negro with "undoubted consumption," in which the autopsy showed "unmistakable evidences of the disease." There were no doubt a few cases among the slaves, but the disease was rare and confined almost entirely to the slaves in the cities, where they were overcrowded and the sanitary conditions were bad. The fact that there were so few cases of tuberculosis among the negroes while they were slaves was a great triumph of intelligent, though enforced, hygiene, and it also proves that tuberculosis is a preventable disease, because prior to the war it was not of infrequent occurrence among the whites of the South. That consumption is almost a scourge to the emancipated negro we all know, and the only reason why it was not so with the slaves was that their habits and sanitary surroundings were better than those of many of their masters.

Because of their indolence and improvidence, I am sure that the majority of negroes in the South do not get a sufficient amount of the proper nourishing food and the other necessities of life on which to maintain health and vitality up to the normal, and such lack of nutrition, added to the worst possible ignorance and carelessness pertaining to personal hygiene, renders his tissues less resistant to bacterial infection of all kinds. In other words, it makes the tissues of the negro a suitable pabulum or soil for the invasion and propagation of the bacillus of tuberculosis. We also know that unless the tuberculous subject is well nourished he has but little hopes of recovery, and I am sure that one of the reasons why there are so few recoveries from tuberculosis in the negro race is that, as a rule, they are not provided with a sufficient quantity of palatable and nutritious food.

The following statistics of Charleston, S. C., which have been accurately kept for many years, show the increase in tuberculosis among the negroes since their emancipation: In 1860 the negro death rate was the same as for the whites, i. e., 12.00 per 1,000. The last census gives the white death rate in that city as 21.4, and the negro death rate of 43.1 per 1,000 of population. The deaths from "consumption," calculated at ten-year intervals, were in 1865, whites 57, negroes 74; 1875, whites, 54, negroes, 132; 1885, whites 57, negroes 209; and in 1895, whites 39, negroes 194. Estimated population in 1895 was, whites, 28,870; negroes, 36,295.

The census returns for the year 1900 show, in the "registration area," in which the statistics may be regarded as fairly accurate, that for every 100,000 of population there died from "consumption" 126.5 native whites and 485.0 of negroes.

I regret that I am unable to give any statistics regarding the mortality from tuberculosis in Alabama and the other southern states. I studied the census returns carefully and found but little that I thought would be of interest or value. The following letter came to my relief, and caused me to destroy most of the data which I had compiled from the census report, and I quote from it to show the fallacy of deductions based on mortality statistics of the United States Census Report, except those for the "registration area":

CENSUS OFFICE, WASHINGTON, D. C., Sept. 20, 1902.

Dr. Seale Harris, Union Springs, Ala.

Dear Sir:—I regret to state that this office can not furnish you any data that are of any value concerning either the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

general death-rate of the white and colored in the United States as a whole, the southern states, or for South Carolina and Alabama individually, or the mortality of these classes from tuberculosis.

The return of deaths in all of the southern states and in most of the other states was secured by inquiry of the enumerators, and falls very far short of being complete. In fact, the return is absolutely worthless for the purpose of computing death rates and any conclusions based on them would be erroneous. It is only in those states and cities that have efficient systems of registering deaths that we are able to secure anything like a correct return of the deaths that actually occur which can be utilized for determining the death rates. Unfortunately, there are no southern states, and very few cities which have a complete system of registration, and prior to 1890 this source of information was not utilized in any way in census statistics. Very respectfully,

W. A. King, Chief Statistician.

The statistics for some of the southern cities are regarded as being as accurate as those for the registration area, and below I give reports of five representative southern cities:

Rates per 1,000 of Population.

	All Causes.				Tubercular Diseases.			
	1890.		1900.		1890.		1900.	
	Wh.	N.	Wh.	N.	Wh.	N.	Wh.	N.
New Orleans	24.8	39.4	20.7	39.7	2.50	5.87	2.38	6.13
Mobile, Ala.	21.5	34.5	21.0	32.5	3.04	6.08	3.08	6.09
Charleston, S. C.	21.4	42.2	21.4	43.1	3.55	6.86	1.65	6.21
Savannah, Ga.	24.7	37.8	22.6	42.2	3.71	5.44	2.64	4.91
Richmond, Va.	22.3	37.6	18.1	32.8	2.30	4.11	2.05	3.94

The statistics which I have collected for Union Springs, with an equal population of whites and negroes, and which I think are reliable, show that in the past eight years there have died from tuberculosis fourteen whites and thirty-nine blacks; and of the considerable number of negro deaths reported with the cause of death unknown, I am sure that several died of tuberculosis. I do not know of any other statistics of any value for the small towns or rural districts of the South, for the reasons that the majority of deaths occur without the attendance of a physician, and are reported by midwives and undertakers, who know nothing of the causes of death.

The great prevalence of tuberculosis is not so much due to any inherent tendency to the disease as to their habits and environments, which render their tissues less resistant to the tubercle bacilli, and for the same reasons they fall easy victims to its ravages. However, it is no doubt true that there is a less development of lung tissue and the accessory muscles of respiration among the negroes than for the whites. Dr. McDowell, a surgeon in the United States Army, made frequent autopsies on white and colored troops during the Civil War, from 1861 to 1865. He found that their chest measurements were full (up to the army standard), but their lungs were always lighter and smaller than those contained in the same sized chest among the white troops. The statistics of Otis and Woodward for the same period are interesting. They found a less lung capacity and smaller brain for the negro troops than for the whites. They also found that of whites who contracted tuberculosis during the war, one out of two and one-half died, while of negroes twelve out of thirteen died. Dr. Russell, another army surgeon, states that the average weight of the negro was four ounces less than that of the white.

F. L. Hoffman[1] gives the following interesting table, which he compiled from the report of the Provost-General (Vol. I), and the reports of the Surgeon-General, U. S. A., 1893-94-95, which shows the difference in chest expansion of the slaves who entered the army, and of the emancipated negro of thirty years later:

Comparative Chest Mobility of U. S. Recruits, 1861-65 and 1892-94:

Age Periods.	U. S. Army, 1861-65. White.	U. S. Army, 1861-65. Colored.	U. S. Army, 1892-94. White.	U. S. Army, 1892-94. Colored.
Under 20 years	3.26	3.17*	2.82	2.56*
20 to 24 years	3.25	3.28†	2.86	2.52*
25 to 29 years	3.22	3.25†	2.93	2.62*
30 to 34 years	3.22	3.19*	2.96	2.64*
35 to 39 years	3.26	3.18*	2.94	2.57*
40 to 49 years	3.18	3.34†	2.84	2.52*
All ages	3.24	3.23*	2.93	2.58*

* Excess in favor of white. † Excess in favor of colored.

This table clearly proves that there has been a diminution in the chest expansion of the negro since his release from slavery.

Gould has proven that the average lung capacity of the negro is considerably less than that of the white. Thus, for the average height of 5 feet 8 inches, the pulmonary capacity was for the whites 188.5 cubic inches, for the negro, 167.5 cubic inches—giving a mean difference in favor of the whites of 15.0 cubic inches. The pulmonary capacity of the average chest measuring thirty-six inches in circumference was for the whites 186.5, for the negro, 170.5—thus showing a mean difference of 16 cubic inches in favor of the whites.[2] Dr. R. M. Cunningham[3] has called attention to the "more or less encroachment of the abdominal organs on the thoracic viscera, and for that reason the perpendicular diameter of the chest of the negro is less than that of the same sized white." My observations, carried out on the line of Dr. Cunningham's ideas, from the examination of many healthy chests among the negroes, show that the normal liver dulness on the right side, sometimes extending as high as the fifth rib, and the tympanitic note over the stomach on the left side (Traube's semilunar space) of the negro are higher than that of the whites. I have also noted that Litten's diaphragm phenomenon is less marked in the normal negro than in the white.

Thus all observers agree that there is less development of the lungs of the negro than for the whites, and this physiologic difference no doubt accounts for, in a measure, the inordinate mortality from consumption, pneumonia, and the other pulmonary diseases among the negroes.

Dr. M. L. Perry, pathologist of the State Sanitarium of Georgia, examined the brains of 100 whites and the brains of 100 negroes. He found that the average weight of the brain of the negro was 100 grams, or 3½ ounces less than that of the whites. It is also well known that in the brain of the negro the convolutions are less complex, and the sulci are shallower than that of the Caucasian, which, added to the fact that his brain is smaller, gives the negro considerable less gray matter than for the white. Thus the negro's brain approaches nearer the Simian type than that of the Caucasian, which, according to our ideas of evolution, would place him on a slightly lower scale as a man than his white brother. Probably for this reason they are lacking in the inherent vital nerve forces which in serious illness is sufficient to make them succumb to all diseases, particularly those of a wasting nature like tuberculosis, than does his white brother, who is endowed with a better developed brain structure. I am sure that even under the most favorable circumstances, which I am sorry to say is given to but few of their

1. Race Traits and Tendencies of the American Negro, page 161.

2. Gould, Military Statistics, pp. 480 and 493.

3. The Negro as a Convict, Transactions of the Alabama State Medical Association, 1893, p. 321.

sick, the negro dies more readily from all forms of disease. I have known of many whites who have recovered from consumption when the treatment was begun early, but of the large number of cases which I have treated among the negroes I have seen but a few who showed even temporary improvement, and only one who recovered from the disease.

I would not be understood as meaning that there are any inherent differences in structure of the tissues of the whites and blacks—only a difference in development. The whites have many centuries of enlightenment and civilization under such varied conditions that there has been the psychical and physical development, which fits him to endure the manifold dangers of disease which beset us in our struggle for existence in this complex age, while the negro, a century or two ago, was a savage, perhaps a cannibal, who needed only to provide himself with food, of which nature so lavishes both animal and vegetable in the forest of the tropics of Africa. The heat of that climate made it unnecessary for him to have clothing to protect his body, and with the low altitude and the warm, humid atmosphere, less oxygen was required to maintain body temperature, so there was a corresponding lack of development of the lungs of the native African. This, the hygienic life which he was compelled to lead as a slave, was overcome to a great extent, as is shown by the table compiled by Hoffman, which makes it clear that the chest expansion of the negro was nearly, if not quite, equal to that of the whites in 1861-5, while in 1892-4 it was considerably less. However, the life of a slave did not fit the negro to provide for himself in a climate entirely different in environment to that which his ancestors had lived for ages, and the utter incapacity of the majority of negroes to take care of themselves and families in this climate is the great underlying reason why tuberculosis, which finds its victims in those of a lowered state of vitality, has increased so rapidly, and almost always proves fatal among the members of this unfortunate race.

The filthy habit of spitting shows its highest development among the colored population. Nearly all the men chew tobacco and their women use snuff, and the healthy and the tuberculous alike spit on the floors of many of their homes and churches. The best of their churches are provided with boxes filled with dry sand or sawdust into which they expectorate. The sputum, either on the floors or in the boxes, becomes dry and gets into the dust of the atmosphere, and the bacilli are inhaled in large numbers, and, lodging on lung tissue already weakened from the causes of which I have spoken, they find a favorable soil for their development. When we remember that the consumptive, with a cavity in his lungs, expectorates from 2,500,000,000 to 4,000,000,000 germs in twenty-four hours (Nuttall), and that tuberculosis is so prevalent among the negroes, we can see that this is no chimerical idea that their churches are among the great disseminators of tuberculosis.

Syphilis is not in the least allied to tuberculosis, but it is a well-known fact that syphilitics die from tuberculous diseases. Syphilis is certainly one of the great predisposing causes of tuberculosis, and the great increase in syphilis in the past thirty years has been *pari passu* with that of tuberculosis.

Gonorrhea, on account of their habits of licentiousness, is one of the most frequent diseases among negro men, and every physician who has examined many negro women knows how frequently they are afflicted with "pus tubes." Osler says: "Tuberculous peritonitis in America is a more common disease in the negro than in the white race, and recently collected statistics show that females predominate." Kelly has shown that a very considerable proportion of all cases is secondary to tuberculosis of the fallopian tubes. It is also well known that in man tuberculosis of the seminal vesicles often precedes the development of the disease in the peritoneum. My own observation has been that tuberculous peritonitis is a very much more frequent disease in the negro than in the white race, and that it is several times more frequent in women than in men. For this reason I am inclined to the opinion that gonorrheal salpingitis, prostatitis and seminal vesiculitis prepare the soil for the bacilli of tuberculosis, and from these loci minoris resistentiæ the disease originates and extends to the peritoneum. Therefore, it seems that the gonococcus is the indirect cause of a considerable proportion of negro deaths from tuberculosis.

A great many negro children die from tuberculous peritonitis, which is frequently secondary to the disease in the intestines, and I have no doubt but that the causes of death in many cases reported as gastroenteritis are really enteritis and peritonitis of tuberculous origin.

Nasal catarrhs, tonsillitis, bronchitis and other troubles which are commonly called colds, which are frequent precursors of phthisis pulmonalis, are very prevalent among the negroes, and are rarely ever treated. They are exposed to all kinds of weather, and in winter many of them do not have sufficient clothing to keep the surface of the body warm. Their lack of personal cleanliness, as is demonstrated by their proverbially characteristic odor, which, by the way, is not so noticeable in those who bathe frequently and regularly, prevents the skin from acting freely, therefore, predisposing factors in the development of so much consumption among the negroes, and for the same reasons they are prone to the most virulent types, i. e., acute pneumonia phthisis, phthisis florida or "galloping consumption." Those of us who have treated many cases of tuberculosis among the negroes have seen them die from the acute pneumonic type in a few days or weeks. I am quite sure that many of the deaths reported as due to pneumonia really result from acute pneumonic or bronchopneumonic phthisis.

While the lungs of the negro are the organs most frequently attacked by tuberculosis, he is subject to all its protean forms. Tuberculous pleurisy and meningitis and tuberculous disease of bones and joints are of frequent occurrence among them. Indeed, there is hardly a tuberculous condition which I have seen described that I have not seen in the negro. Lupus seems to be less prevalent among them than any other form of tuberculosis. Lupus, however, seems to be a rare disease in the South.

That tuberculosis is so prevalent among the negroe everyone admits, yet every year goes by and almost nothing is done to stay the hand of this fearful disease, which, with the other diseases to which the emancipated negro is especially prone, threatens the extinction of the negro race and, indeed, greatly endangers the happiness and lives of the whites of the South. This is no new theory with me. Hundreds of other physicians in the South hold to the same opinion, but the whites generally and the negroes do not seem to realize the danger which threatens to almost exterminate the "ward of the nation."

F. L. Hoffman[4] says: "It can be proven at the present time that the colored race is subject to an inordinate

4. Race Traits and Tendencies of the American Negro, p. 82.

mortality from consumption and respiratory diseases, which will menace the very existence of the race in the not far distant future."

Dr. Cunningham says in his paper on the "Negro as Convict": "In conclusion, I will submit that the race problem will be largely settled in the event of public works being established throughout the South, which means ready money for the negro; that means the profitable practice of prostitution; that means gonorrhea and consequent sterility; tuberculosis will do the rest."

Dr. Rudolph Matas,[5] in his splendid and comprehensive paper on "The Surgical Peculiarities of the American Negro," makes the following statement: "Tuberculosis has been called the "great white plague"; but if we look at this matter statistically and through the eyes of all experienced observers we would with greater propriety call it the black plague, as it is unquestionably the dominant cause of the increasing death rate of the negro in this country."

Dr. P. B. Barringer, Chairman of the Faculty of the University of Virginia, in his masterly address before the Montgomery (Ala.) "Race Congress," placed tuberculosis as the principal factor in "that grand but ghastly tragedy—the sacrifice of a race."

I am not an alarmist, and this paper, which calls particular attention to the weak points of the negro, is written for no other purpose than to call attention to the alarming increase of tuberculosis in that race, with the hope that something may be done which will lessen the frightful mortality of the disease in this generally kind-hearted people. The South is doing a noble part by the negro in the line of education, and I am glad that it is so, because without the guiding and protecting hand of a master, the African and his descendants in this climate and this strenuous age can only hope to survive the struggle for an existence through the education of their minds and the training and development of their bodies. If for no other reason than that of self-protection, it is high time that the whites of the South, on whom must fall all the cares and responsibilities of managing the affairs of state for the public good, should take steps to prevent the continued spread of tuberculosis among the negroes. If our cooks, nurses and other servants have the disease there is danger of our families becoming infected. Incidentally, I will mention that I do not believe that tuberculosis is decreasing among the whites of the South, and whatever steps are taken to lessen the prevalence of the disease should apply equally to the whites and negroes.

The methods to pursue in limiting an infectious disease like tuberculosis should be directed toward (*a*) increasing the strength and vitality of the individuals of the race, thereby rendering their tissues an unsuitable soil for the invasion and propagation of the specific germs of the disease, and in (*b*) preventing his exposure to the infective agent, as by the isolation of those already afflicted, and by destroying the organisms causing the disease.

The first proposition presented is the development and upbuilding of the minds, morals and bodies of a "child race," an alien people, placed under conditions and environments which would seem to be unfavorable to the growth and stability of the race, and wholly unlike those under which his ancestors had lived for centuries. In a paper like this I can only discuss this phase of the question briefly, but those who are interested I would strongly urge to read "The Race Tendencies and Traits of the American Negro," by F. L. Hoffman, the able statistician of the Prudential Insurance Co. of America. He has collected and published in this book, at an enormous expenditure of time and energy, the largest and most valuable statistics bearing on all phases of the negro question that I know of in all the literature on the subject. He has applied statistical methods in forming his deductions, and, being a German by birth, and, therefore, free from the so-called race prejudice, his conclusions are of great value, and the facts and figures which he has presented can hardly be questioned.

Much may be done to develop the negro through education applied on the right lines. He has every opportunity in the South that the whites have of obtaining both a common-school and collegiate education, but the moral, physical and hygienic education of the race is almost wholly neglected. By educating the children in these matters they would instruct their parents on the hygiene of their persons and their homes. Their school buildings should be inspected by the health officers in every county and should be kept in a sanitary condition. Regular physical exercises, directed especially toward developing their lungs and the accessory muscles of respiration, should be a part of the daily routine of school duties. The children should be taught the importance of taking frequent and regular baths; that filth means disease, and cleanliness should be required of them. They should be shown the direful effects of immorality on their bodies as well as their souls. A higher standard of morals and education in their ministry and among their teachers would help much in this direction.

Regular daily lessons and talks on practical hygiene should be a part of the curriculum of every school. They should be taught how to live in their homes; that there "cleanliness is next to godliness"; that fresh air and sunlight are among the great boons to humanity, and if they would have health they must have plenty of both in their homes. They should be shown the dangers of overcrowding; that health can not be maintained when more than two or three sleep in the average-sized room; that there is danger in sleeping in the room with any sick person, especially one with a cough. They should be doubly impressed with the danger of spitting on the floors, walls, or any place where the sputum can dry and dust particles get into the atmosphere; that the germs of consumption, which disease, the youngest of them know, is the cause of many deaths of their relatives and friends, is carried through the atmosphere and breathed into their lungs, and that the dried sputum is practically the only source of infection. They should be instructed in the hygienic management of a case of tuberculosis; that there is danger in even a casual association with a consumptive who is careless in his habits of spitting, but that there is little danger of contracting the disease even by close association with a person who has consumption, and who is cleanly in his person and at his home, and who is careful to expectorate into vessels containing dilute solutions of an antiseptic fluid, or into spit cups, which are burned before the sputum has time to dry.

They should also be taught that health and happiness come from regularity of habits and work, diet, recreation and sleep, and that a liberal quantity of all are required to keep in perfect health. Above all, they should be taught the manliness and honor of physical labor, and that their education fits them for their life's work, and not for a life of ease and luxury; that there is as much honor in farming as in teaching or preaching.

5. Transactions of the American Surgical Association, vol. 14, p. 523.

Industrial education is, therefore, a movement capable of doing great good for the race. They should be taught to economize, to save their money and put it in homes and farms. That for their race the dangers of Sodom lie in the towns and cities; that there lurk consumption and death.

These things, and much more, should be taught to the negroes, not only for the sake of right, but to make them stronger physically, so that they may resist the infection of tuberculosis.

The isolation of those infected with tuberculosis would unquestionably limit the disease in a great measure, but the difficulties of enforcing or carrying into effect in any way the isolation of the thousands of indigent tuberculous negroes in every state in the South are so great as to make the suggestion impracticable, though something may be done on that line.

The state could enforce the isolation of the tuberculous patients in their convict camps and penitentiaries, which are often great harbingers of the infection of tuberculosis.

The establishment of sanatoria for the isolation of the tuberculous should receive more attention from philanthropists and the civil authorities. In Massachusetts and other states they have been successfully conducted by the state for several years. Such establishments need not call for expensive buildings, but rather the cottage system, or even on the plans of the plantation quarters for slaves, where the negroes enjoyed such immunity to tuberculosis. They should be located in the country, where the inmates can get plenty of outdoor exercise and when able do farm work, and assist in paying the expenses of such institutions. Very few negroes would be able to pay their expenses at these sanatoria, and they would necessarily have to be charitable institutions, but they could be maintained at a probably less per capita expense than those at the hospitals for the colored insane, and I am sure that the same number of tuberculous negroes are a source of greater danger to their families and to their friends than the same number of their insane, if left in the care of their families. Aside from the isolation feature of sanatorium treatment for consumptives, the hygienic education that it gives to the patient and through him to his relatives and friends will materially aid in protecting many who are exposed to the disease.

There should be several such sanatoria in every state. Even if they should entail a great expense to the state, in the end it will be economy, because in a few years, perhaps a quarter of a century, when tuberculosis will have a chance at the weakened offspring of this and the coming generation of negroes, the havoc will be so great among that race and the danger to the whites so clear that enormous expenditures will have to be made in order to relieve the acuteness of the situation. The state and municipal authorities will spend thousands to prevent an epidemic of smallpox or yellow fever, yet spend almost nothing to prevent the spread of a disease which destroys a hundred times as many of our citizens, and which entails far greater and more prolonged suffering than both of those diseases, besides the direful effects on the offspring of its unfortunate victims.

Unquestionably, tuberculosis should be managed by the health authorities, as are the other infectious diseases. In some of the cities every case of tuberculosis is required to be reported to the health officers, who instruct the patient and his family as to the methods to use to prevent the spread of the disease. The patient is not interfered with in any way, except that he is expected to employ the usual methods of destroying the sputa, and to follow the simple rules of hygiene to protect those with whom he comes in contact. After the removal or death of the patient the patient's room, or house, is disinfected just as for other infectious diseases.

The health officer of every city and county should be required to understand the use of a microscope, and it should be a part of his duty to examine, without charge, every specimen of sputum sent to him. He should also be skilled in physical diagnosis, so that the physician or patient could call him in to clear up the diagnosis in cases of doubt, as is required of him in the other infectious diseases. We all know that tuberculosis is one of the curable diseases if the diagnosis is made early and intelligent treatment is applied. If the public could be educated to call in the health officer in the early stages of tuberculosis and thereby become certain of the diagnosis, not only would many of the patients be saved, but it would aid in lessening the infection, because it would give the health officer the opportunity of instructing the patient and his family on the hygienic measures necessary to prevent the spread of the disease before the home had become infected.

Since the tuberculous patient is dangerous to his friends and the community only from his ejected sputa and directly in proportion to his habits of spitting, the antispitting ordinances, which are already in force in all cities for their public buildings, cars and streets, are doing great good by lessening the chances of breathing the infection from the atmosphere. The states should adopt such ordinances for public buildings of all kinds, including schools, churches and depots. Of course, they would not always be enforced, but a placard announcing the ordinances and stating the reason for their adoption, would call attention to the dangers of spitting, and would aid in molding public opinion against the spitting evil.

Physicians who come in contact with negroes at their homes should, more than any other class of whites, consider it a duty to instruct them in the simple methods of hygiene, particularly when one of the family is afflicted with tuberculosis. The whites should be educated along the same lines, and when the laity, both among the whites and blacks, properly understand the nature of tuberculosis, the life history of its germs, and the methods to employ to prevent its spread, then, and not until then, may we hope to limit the ravages of this disease, the greatest enemy to mankind, and which is the principal agent that threatens the extinction of our "brother in black."

PUBLIC HEALTH POWERS.

WHERE UNDER OUR FORM OF GOVERNMENT DO THEY RESIDE AND HOW SHOULD THEY BE EXERCISED?*

W. H. SANDERS, M.D.
MONTGOMERY, ALA.

The theme for discussion involves the analysis of two questions:

1. Where under our form of government do public health powers reside?

2. How should they be exercised?

In dealing with the first of these questions it becomes necessary to call attention to a few fundamental principles and distinctions that apply to all forms of govern-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

ment. Obviously, in all governments power must be lodged somewhere, and on the seat of its lodgement depends the form of government. In a pure democracy all power resides in the people; in an absolute monarchy it resides in the ruler or king. Between these two antipodal forms of government many modifications exist, in which power varying in kind and degree is delegated to the legislative bodies or to officials, civic or military.

Every governmental power, therefore, that is true to the type of government to which it belongs must be derived from the source of power corresponding with that form of government, that is to say, in a democracy every governmental power that can be legitimately exercised must be derived, either directly or indirectly, from the people; while in an absolute monarchy every such power must come in legitimate descent from the king or ruler.

Without delaying time to deal with modifications of these two generic forms of government, it may be said that in any form of government the exercise of a power not clearly derived in accordance with the principle just stated is illegitimate, and therefore revolutionary and dangerous. It follows, therefore, that a public health power in order to be legal must be logically and legitimately derived from the source of power existing in the form of government of which it is a function.

This principle announced, we are now ready to enter on a specific discussion of the first division of the subject, namely, where under our form of government do public health powers reside?

All will concede that after the independence of the states was achieved and before the formation of the Union was accomplished all governmental powers of every kind, including, of course, public health powers, must have resided in the states, or in the people thereof. By the adoption of the federal constitution a national government was created, and to it certain powers were delegated, the powers so delegated being specifically enumerated. Unless it can be pointed out in the constitution that public health powers were surrendered to the national government, they must remain with the states, where they originally belonged. It may be safely asserted that no clause in the constitution can be pointed out that transfers public health powers from the states to the nation, hence the conclusion is irresistible that they still belong to the states. Any one who may take issue with this proposition is challenged to point out in the constitution the clause that overthrows it.

An official who occupies a national position in reference to public health matters was once asked by the writer to point out such a clause, whereon he forthwith cited the power to regulate interstate commerce, conferred on the national government by the constitution. The citation was utterly fatal to his contention.

Before concluding this paper evidence will be furnished from the highest possible source—the Supreme Court of the United States—to prove that while power to regulate interstate commerce does belong to the national government, power to regulate health does not so belong, the two powers being entirely separate and distinct.

Some persons assume that because the power of the national government is supreme in some things it must be so in all things, forgetting that the constitution itself specifically points out the spheres of supremacy of the national government.

"Inclusio unius est exclusio alterius," or the inclusion of one is the exclusion of the other, is a logical law of interpretation that applies to the constitution of the United States as to all other documents.

By applying this law we are able to formulate the definite and incontrovertible proposition, namely, that all powers not specifically or impliedly conferred on the national government are reserved to the states.

Other persons assume that the national government possesses public health powers in and over the states because they think it should be so; that is, they permit their preferences, and not the constitution, to decide the question. Such a position is not entitled to any respect whatever; therefore, time will not be consumed in combating it. The question is, not what should be, but what is.

In this connection it may be well to quote the tenth amendment to the constitution, adopted soon after the ratification of that instrument by the states. It reads as follows:

> The powers not delegated to the United States by the constitution, nor prohibited by it to the states, are reserved to the states, or to the people.

In the face of these plain and strong words, and in the absence of any specific or implied grant of public health power to the national government, the conclusion can not be avoided that such power belongs exclusively to the states.

We now appeal to the highest tribunal in the land, namely, the Supreme Court of the United States, for an interpretation of the constitution on this point.[1]

In Gibbons vs. Ogden, 9th Wheaton, p. 203, Chief Justice Marshall said:

> Inspection laws, quarantine laws, health laws of every description, as well as laws for regulating the internal commerce of a state and those which affect turnpikes, roads, etc., form a portion of that immense mass of legislation which embraces everything within the territory of a state not surrendered to the general government. No direct general power over these subjects is granted to Congress, and consequently they remain subject to state legislation.

In Fertilizing Company vs. Hyde Park, 97 U. S., p. 667, Mr. Justice Swayne said:

> That power (the police power) belonged to the states when the federal constitution was adopted. They did not surrender it, and they all have it now. It extends to the entire property and business within their local jurisdiction.

In Patterson vs. Kentucky, 97 U. S., p. 505, Mr. Justice Harlan said:

> Hence the states may, by police regulations, protect their people against the introduction within their respective limits of infected merchandise. A bale of goods on which duties have or have not been paid, laden with infection, may be seized under health laws, and if it can not be purged of its poison, may be committed to the flames. So may the states by like regulations exclude from their midst not only convicts, paupers, idiots, lunatics and persons likely to become a public charge, but animals having contagious diseases.

Judge McLean, in the Passenger cases, 7 How., p. 400, said:

> In giving the commercial power to Congress the states did not part with that power of self-preservation which must be inherent in every organized community. They may guard against the introduction of anything which may corrupt the morals or endanger the health or lives of their citizens.

In the Passenger cases, 7 How., p. 414, Mr. Justice Swayne said:

> The states of the union may, in the exercise of their police powers, pass quarantine and health laws, interdicting vessels

1. For the extracts from decisions of the Supreme Court introduced the writer is indebted to a masterful argument on "Federal and State Powers as to Quarantine," delivered by Hon. Edgar H. Farrar of New Orleans, at a quarantine convention held in Mobile in February, 1898.

coming from foreign ports, or ports within the United States, from landing passengers and goods, prescribe the places and time for vessels to quarantine, and impose penalties on persons for violating the same; and . . . . such laws, though affecting commerce in its transit, are not regulations of commerce. . . . .

Feb. 25, 1799, Congress passed the following act:

The quarantine and other restraints established by the health laws of any state, respecting any vessel arriving in or bound to any port or district thereof, shall be duly observed by the officers of the customs revenue of the United States, by the masters and crews of the several revenue cutters, and by the military officers commanding any port or station on the sea coast; and all such officers of the United States ,shall faithfully aid in the execution of such quarantine and health laws, according to their respective powers, and within their respective precincts, and as they shall be directed from time to time by the Secretary of the Treasury.

The above extracts from decisions of the Supreme Court of the United States, to which many others of similar tenor might have been added, seem to prove beyond controversy that public health powers belong wholly to the states.

While regarding this principle as thoroughly established, the writer stands on record as having repeatedly expressed the opinion that certain public health powers should be conferred on the general government, the nature and scope of which will be discussed later on in this paper. It would seem that such a grant of power could not be conferred in any other way than by an amendment to the constitution.

We are now prepared to enter on the consideration of the second division of our theme, namely, how shall public health powers be exercised, or, in other words, how shall a public health system suited to our form of government be formulated and executed?

Ranking the public health system of a country as quite equal, if not superior, in importance to that of a judicial or military system, the answer to the question just propounded is worthy of close and critical study.

A categorical statement of the cardinal principles that should be embodied in a public health system for this country may be made as follows:

1. The system should conform closely to the spirit and genius of our government.

2. It should, as far as possible, recognize and respect the principles of local responsibility and of local self-government.

3. It should be co-extensive with the country, and susceptible of immediate enforcement whenever and wherever needed.

4. It should be based on a uniform, coherent and complete organization of the medical profession of the entire country.

5. Boards and bureaus of health should be composed of physicians only, and eligibility for positions in such bodies should depend on membership in the organized medical profession.

6. All medical health officials should be elected by the organized medical profession of the territory or district over which their several jurisdictions extend. All non-medical officials should receive appointment, either directly or indirectly, from the same source.

7. The system should be widely divorced from politics, and should be wholly independent of commercial influence.

8. It should be substantially uniform for municipalities, counties and states.

9. The first function of the system should be advisory; the final one, executive.

10. Economy of administration should be a distinguishing feature of the system.

Should any of these propositions be deemed vulnerable or impracticable, attack on them is invited, as the writer flatters himself they are susceptible of easy and successful defense. Before proceeding further, however, it might not be amiss to briefly comment on some of the propositions.

The first proposition affirms a truth the value of which can not be overestimated. The public health system of a monarchy and that of a democracy must, in some respects, radically differ. In a monarchy, the power needed to operate the system must be drawn from the king or ruler, and all health officials must receive their appointments from, and be responsible to, the same source; while in a democracy the power to operate the system must, in the last analysis, be drawn from the people; and all health officials—medical and non-medical —must, either directly or indirectly, be responsible to the people. That is, the public health systems of these two forms of government must be supplied with vitality and power from two opposite poles or sources.

The same principle applies, *mutatis mutandis,* to all modifications of these two forms of government.

If in the construction of a public health system this principle be violated, either tyranny, on the one hand, or anarchy, on the other, will, sooner or later, terminate the life of a system that fatally transgresses a fundamental law of jurisprudence. We may just as well transplant a tree by placing its branches in the soil and its roots in the air and expect it to grow and flourish and bear fruit as to expect that a public health system constructed to suit a monarchy will permanently live and prosper in this country. Should such a system become a permanent institution in this government it will be because the people have abandoned the faith of their fathers and turned their backs on the blood and treasure spilt and spent in purchasing rights they prized more than life itself.

The second proposition follows naturally and logically on the first, and simply reaffirms the doctrine of local self-government, a doctrine that has been so inbred in the blood and bone of our body politic as to become an integral part of its organic life.

The third proposition will be accepted on its mere statement.

The fourth will also, I hope, as it stands with relation to some of the propositions that follow as premise to corollary.

The soundness of the fifth and sixth propositions will not, I presume, be questioned by a body of medical men, but their practicability may be. An argument on this point will be offered a little later.

The seventh, eighth and tenth propositions will, I feel confident, be accepted without argument.

The ninth proposition may need some explanation. This will be given in another and more appropriate connection.

An effort will now be made to apply the principles just enunciated to the hypothetical construction of a public health system for this country, and in so doing use will be made of a diagram, with the hope that thereby the work of construction can be both shortened and rendered more complete and perspicuous. The same unit of construction will be adopted as that generally agreed on for the organization of the medical profession of the country, namely, the county.

The first problem, therefore, to be solved is to formulate a public health system for a county that will be sus-

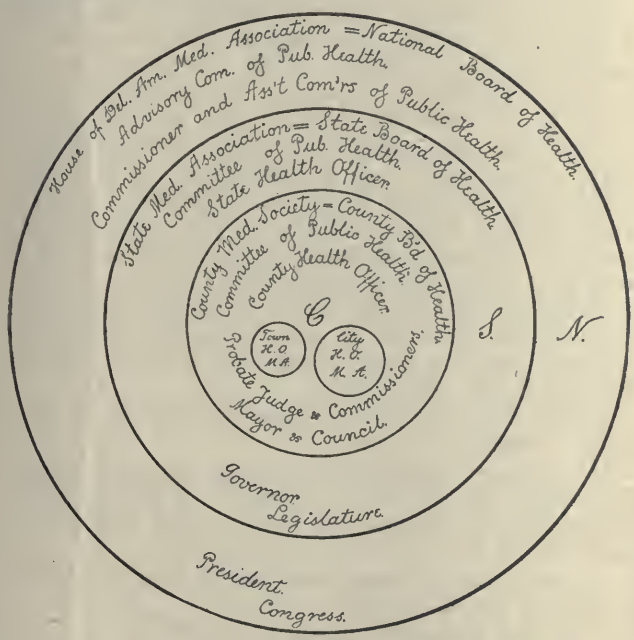
ceptible of application to all counties, wherever situated. Let the inner or smaller of the three concentric circles in the diagram (in the center of which is the letter C) represent the territory of a county, within which are two smaller circles, one representing an incorporated city, the other, an incorporated town. Within the circle C and within the smaller circles are enumerated, respectively, the authorities that should co-operate in the protection of the health of the people of a county and of all incorporated cities and towns therein.

For the county, it will be seen that these authorities are given as follows:

1. A county medical society, to membership in which all reputable and licensed physicians in the county, including those in incorporated cities and towns, should be eligible.

2. A committee of public health, composed of from five to ten of the most experienced and trustworthy members of the county medical society.

3. A county health officer, with an assistant for each beat, or for two or more beats, according to the size and population of the beats.



4. County authorities, that is, the probate judge and commissioners, or officials corresponding thereto.

For incorporated cities and towns the authorities are indicated on the diagram as follows:

1. City health officer (City H. O.).
2. Town health officer (Town H. O.).
3. Municipal authorities (M. A.).

A little analysis will show the wisdom of an arrangement of authorities such as that proposed, and also of the partition of power that will be made among them.

The organization of a county medical society, composed of the legal and reputable physicians of the county, is a basic principle of construction that must be laid in order to build up a public health system best adapted to our form of government.

Such an organization, aside from being the logical bedrock of the system, would materially promote the advancement of scientific and practical medicine, and by rapidly disseminating among the members the well-digested results of research and experience would render them more skillful and resourceful than they would otherwise be when called on to do battle against disease.

The county medical society should be by law constituted the board of health of the county, and in that capacity should be made the legal adviser of county and municipal authorities on all sanitary and public health questions, subject, however, to such supervision by the state board of health as might be provided for by law. Endowment with such advisory power would naturally stimulate the members of the county board of health to devote more or less special study and attention to sanitary and public health problems, and thus to better equip themselves for the responsible position accorded them.

Further, the meeting-hall of the board would furnish the best possible field for the discussion of all public health questions that might arise, and whatever conclusions might be reached each member would be disposed to accept them in good faith as the judgment of a majority of the members, rendered after full and fair discussion.

Without such a court of last resort differences of opinion as to the best methods of procedure would be continually arising, and in danger of disturbing the harmony, if not of destroying the perpetuity, of the system.

To endow a few physicians of a county with plenary public health powers, without allowing their colleagues any voice whatever in the discussion or direction of public health policies to be pursued under critical conditions, would inevitably lead to discord and disruption and possibly at times to unwise and injudicious action.

In times of peril or pestilence the combined sanitary wisdom of all of the members of the county board of health should be made available, which can not be done in any other way than by making the county medical society the county board of health.

Such a body could, in its regular meetings, discuss broad sanitary questions and indicate general lines of policy to be pursued under varying conditions, but, obviously, a county board of health thus constituted would be too large and unwieldy to meet emergencies, hence the necessity for the second one of the county health powers mentioned above, namely, a committee of public health.

As already stated, such a committee should be composed of from five to ten of the wisest and most experienced members of the county board of health. While large discretionary powers should be delegated to such a committee, it should be required to report its action from time to time to the parent body, when, after thorough review and discussion, such action could be either approved or disapproved. Such a committee would soon become trained in its work and could be very safely trusted to act for the best interests of all concerned.

Next in the list of authorities come the executive officers; that is, a county health officer, with assistants, for the county, and city and town health officers for the incorporated cities and towns.

While the general duties of these officers should be definitely fixed by law, yet in the performance of those duties they should be subject to the guidance and control of the committee of public health.

Lastly, the scope of authority of the county and municipal powers must be fixed, namely, that of the probate judge and commissioners and of the mayor and councilmen. These officials are supposed to be laymen, and, although unacquainted with disease and sanitary science, they must play an important part in executing a public health system suited to a democracy.

They are the legal custodians, respectively, of the treasuries of the counties and of any incorporated cities and towns therein. To them only should belong the

right of appropriating the people's money for public health purposes, except such sums as may have been by law specifically set aside for definite purposes and placed at the disposal of the medical health officials. The county and municipal authorities, being elected by, and, therefore, responsible to, the people, should properly be held accountable for the wise and judicious expenditure of the people's money for public health purposes, as for all other purposes. For violation of this obligation the people could punish said officials by displacing them from office, a check that could not under the proposed system be applied to the medical health officials, they being elected by the organized bodies of the medical profession, and not by the people.

As a public health system can not be executed without money, these county and municipal authorities must, from the treasuries they respectively control, furnish this indispensable lever; hence, as said, they occupy a very important relation with respect to the enforcement of a public health system.

According to the system thus briefly sketched for a county, it will be seen that the advisory and executive health officials, county, city and town, are to be physicians and representatives of the organized medical profession of the county, and that in the application of the teachings of sanitary science to the prevention of diseases they shall avail themselves of the resources of practically all the physicians of the county; that is, the medical health officials would be expected to furnish the expert knowledge necessary to execute a public health system for a county; while the county and municipal authorities would be expected to furnish the money necessary to execute such a system.

When the expenditure of money has been authorized by the county or municipal authorities, as the case may be, to the corresponding medical health officials should be accorded the right of directing the mode of expenditure. If expert knowledge is needed to point out what should be done to protect the public health, the same kind of knowledge is needed to direct how it should be done, else the expenditure of money for such purpose would often be injudicious and wasteful.

In the practical enforcement of the proposed system in a county, including incorporated cities and towns therein, the consecutive steps to be pursued by the coordinate authorities may be stated as follows:

1. The medical health officials of the county, or of the municipality, as the case may be, would advise what should be done.

2. The county and municipal authorities would decide as to whether or not money should be expended.

3. If money is to be expended the medical health officials would supervise the mode of expenditure; that is, the first function of said officials would be advisory, the final one executive.

A little reflection will show the wisdom of such division of authority and of such partition of power.

The members of the medical profession of a county are unquestionably more competent than others to judge of the personal and professional fitness of one another for filling public health positions; hence to no other electors could the selection of expert advisers be so safely and wisely entrusted as to the organized medical profession of the county.

For even stronger reasons the people should exercise the right of selecting the guardians of their treasuries. These guardians, although not physicians, are usually intelligent men, and, therefore, fully capable of deciding on the wisdom or not of expending money for public health purposes, when the reasons therefor are laid before them by physicians in whose knowledge of sanitary affairs and in whose interest in the welfare of the community they repose entire confidence.

Were medical health officials, elected in the way proposed, permitted to expend money for public health purposes (except definite sums set aside for specific uses) without the endorsement of officials elected by, and responsible to, the people, very soon the cry of unwise and lavish expenditures, however unfounded they might be, would overthrow and utterly destroy such a system.

The only way, therefore, of achieving the best results is to so frame a public health system as to place the selection of the medical officials in the hands of those most competent to name them, and at the same time to leave to the people, acting through the custodians of their treasuries, the right to decide whether or not they will provide the means for operating the system.

Objection might be offered to a system that is made dependent on such a contingency, but the answer is easy.

If the people will not provide the means for operating a public health system they will not enact a law making it mandatory on the custodians of their treasuries to provide the means; hence either alternative leads at last to the same test—the will of the people. But if a public health system be provided that works promptly, efficiently and economically, the people will give it their warm support, and such a contingency as that mentioned will not be apt to happen. However, should it occur through antagonism on the part of incumbent county or municipal authorities, popular clamor could soon bring the offending authorities to terms, and at the next election such officials could be retired from office. Any difficulty that might arise in this way would be infinitely less than would result from any other system that can be devised.

We are now prepared to enlarge the system so as to make it comprehend a state.

Let the next larger circle in the diagram, marked S, represent the territory of a state. In that circle are enumerated the powers that should enact and enforce public health laws for the state, to-wit:

1. A state medical association, which should be by law constituted the state board of health.

2. A state committee of public health, composed of ten or more members elected by the state board of health.

3. A state health officer, elected by the state board of health.

4. The governor, as the state executive officer.

5. The legislature, as the law-making power.

The arguments advanced in support of a similar division of public health authorities for a county apply with even more force to the above division of state authorities, and, therefore, need not be repeated here in detail. Some explanation, however, may not be out of place.

The state medical association, hereafter to be called the state board of health, should consist of an organic union of the county boards of health; that is, membership in a county board of health should, *ipso facto,* carry with it membership in the state board of health, conferring the right to attend all meetings, to introduce new measures, to participate in discussions, etc. The voting privilege, however, should be so regulated as to give to each county board of health its due share of strength.

A state board of health thus organized would furnish the medical men of the state a forum for the discussion of public health questions and a tribunal for their set-

tlement—so far as they are concerned—that would tend more than all else to cement the profession together, and to promote that harmony and unity of action without which a thoroughly efficient public health system suited to our form of government can not be maintained.

A state board of health organized as indicated above would for a stronger reason than that applied to a county board be too large and unwieldy to act quickly, or to meet sudden demands, hence the absolute necessity for the existence of the two next authorities mentioned above, namely, an advisory committee of public health and a state health officer. Both of these should be elected by, should act for, and should be responsible to, the parent body—the state board of health.

The state health officer should be clothed with executive authority, but should receive counsel and help from the advisory committee whenever he applies for it, or whenever the committee chooses to give it to him.

The relations between the several state officials should correspond with those outlined for county officials; that is, the function of the medical health officials should be to furnish the advisory and executive skill necessary to enforce a public health system, and that of the governor should be to authorize the expenditure of money for such enforcement, whenever in his judgment the facts represented and the recommendations submitted seem to justify such expenditure.

The function of the legislative authority should, of course, be to enact a code of sanitary laws for the state, in doing which it should freely avail itself of counsel from the state board of health.

Lastly, it remains to see how naturally and logically the system applied to counties and states can be applied to the nation, and made to comprehend certain well-defined public health powers.

Let the largest of the three circles in the diagram, marked N, represent the territory of the nation. Within that circle the following arrangement of health powers is proposed:

1. The House of Delegates of the American Medical Association as a national board of health, to which the health officer of each state should be one of the annual delegates from his state.

2. A commissioner of public health and two or more assistant commissioners, elected by the House of Delegates.

3. An advisory committee of public health consisting of the health officers of the several states.

4. The president, as a national executive officer.

5. Congress, as the national legislative power.

In order to determine what public health powers should be conferred on the national authorities just enumerated, let us assume that every incorporated city and town in the United States does all it should do for the protection of the health of its people; that every county in the United States likewise does all it should do; and, finally, that every state does all it should do, obviously, what remains undone, and what could be better done by all the states working together than by each state working separately, will then become clearly apparent.

Public health powers falling in either one of these categories should be delegated to the national authorities. A little analysis will show what these powers are.

In the first category, or what would remain wholly unprovided for, one function only can be mentioned. That function would be:

To provide an appellate tribunal for the adjudication of any conflicts that might arise between state boards.

In the second category, or what could be better done by all the states working together than by each state working separately, several functions may be mentioned:

1. To adjust the public health relations of this country with foreign countries, under which head would fall the ascertainment of the health conditions prevailing in said countries, maritime quarantine and disinfection, and the examination of immigrants to ascertain their fitness for admission.

2. To supervise interstate quarantine.

3. To determine what infectious and contagious diseases should be controlled by law, and to fix the periods of incubation of such diseases, thus establishing uniformity in these matters among the states.

4. To establish uniform tables of nosology, and to regulate the forms according to which vital and mortuary statistics should be collected by the states.

5. To provide for the inspection of foods and drugs.

6. To exercise supervision over the pollution of streams flowing from one state into another state.

7. To adopt uniform rules governing the transportation of the bodies of deceased persons from one state to another state.

8. To establish on a broad scale a laboratory for the study of the causation, course, pathology and prevention of diseases.

Under such grants of power the national officials should exercise their authority according to the same principle as that laid down for county and state officials; that is, the medical officials elected by the American Medical Association would furnish the expert knowledge and executive supervision necessary for national public health purposes, and the officials elected by the people—the president and Congress—would authorize the expenditure of money for such purposes.

Objection might be alleged against this principle of procedure on the ground that the time consumed for interviews and correspondence between the medical officials, on the one hand, and the corresponding municipal, county, state and national authorities, on the other, before action could be taken, would render the system inadequate for meeting emergencies. Such, however, need not be the case.

A city or county health officer could communicate very quickly with the officials whose coöperation would be needed; a state health officer would be required to consult the governor only, and the national commissioner, the president. Beside, great and pressing emergencies are not very frequent, and in the event of their occurrence provision could be made for permitting medical officials to incur necessary expense in meeting them until such time as all formalities could be complied with.

The coöperation among officials, from a municipality up to the nation, which the system demands, would very soon establish such mutual confidence as to guarantee the utmost harmony on all occasions.

SUMMARY.

The views expressed in this paper may be briefly summarized as follows:

1. Public health powers reside in the states.

2. Counties and municipalities derive all public health powers they exercise from their respective states, and, therefore, are subject to supervision, and, in the last analysis, to absolute control by said states.

3. For the common good, certain public health powers, already enumerated, should be conceded by the states to the nation, provided that the states are allowed

representation in selecting the executive officer who is to exercise these powers, and also representation on the advisory committee for such officer.

4. The selection of all advisory and executive health officials—county, state and national—should be delegated to the organized medical profession of these divisions of government, respectively.

5. Municipal, county, state and national officials, who have been elected by the people, respectively, must control the expenditure of money for public health purposes, except such sums as have been legally appropriated for specific purposes and placed at the disposal of the medical officials.

6. Each division of government, that is, each municipality, county, state and the nation, should provide the funds for executing public health measures ordered by its officials.

By agreement, however, the nation, a state and a county, or municipality, might concentrate their skill and money on any point at which a great menace to the public health exists.

Thus might be formulated and operated a homogeneous, logical and coherent public health system for this country—one whose foundations would be deeply laid in the soil of every county of the United States, whose superstructure would embrace the harmonious systems of all the states, and whose dome would culminate in a crown of conceded and beneficent national authority.

Think of the possibilities of such a system! Aside from securing the removal of unsanitary conditions, the collection of vital and mortuary statistics, the prevention or suppression of outbreaks of infectious diseases, reports on the topography and climatology of every county in the United States, the system could provide for a close and critical study of the domestic, sanitary, industrial, educational and racial conditions existing in every precinct—yea, every household—of the country.

From such data, the statistologist, demographist and sanitarian could evolve truths and principles easily susceptible of being applied to the elevation of the material, physical, mental and moral welfare of the people. Indeed, no better force than the public health officials of a county under the proposed system could be provided for taking the census at the decade periods, they being better acquainted with the people and with existing conditions than any appointees that could be named.

It goes without saying that the medical men of the counties, of the states and of the nation, true to the traditions of the profession, would offer to contribute, "without money and without price," their advisory skill toward the building up of such a system. For the executive health officials only, a large part or all of whose time would be occupied, need remuneration be provided. This should be done by the civil divisions corresponding with their respective jurisdictions.

In view of the "eternal fitness of things" and of the immense, valuable and unrequited services that would be rendered by the great body of the profession in executing such a system, the demand that boards and bureaus of health should consist of medical men only would certainly be deemed both modest and just.

That the proposed system can be built up does not admit of a doubt. If the medical men in every state will resolve that it shall be done, and will then proceed to educate the people in the merits of the system, the end will unquestionably be achieved.

DISCUSSION.

DR. H. A. MOODY, Mobile, Ala.—Every citizen likes to feel that whatever may be the governmental arrangements above him he has some means of controlling them, some way of correcting errors and some way of punishing any faults or acts on the part of the officers in charge, should they be contrary to the laws of the country or to the public good. It seems to me that any system which controls the health of a city or a state or a nation ought to be controlled by the citizens of that city, state or nation, and not by any one individual. I am very glad to be able to say that to-day we are under the charge, so to speak, of a gentleman against whom no one can say a word. He is a good man and a good officer, and everybody likes him; so no one can attribute to him, personally, any criticism we may make of the system itself. But we must look to the future as well as the present, and the day may come when we should regret very much that it is impossible for us to change a health officer located in any city or state, no matter how obnoxious he may be, or however he may neglect his duty. Here will be a man in control of our health affairs who is entirely unsatisfactory to us in every way, and yet we will not be able to help ourselves. I say, I am glad to refer to this matter now when conditions are so satisfactory, in order to call attention to our plight if at any time conditions should change for the worse.

A few days ago I met a gentleman from one of the Gulf states, who expressed himself as satisfied with the turning over of quarantine matters to the Marine-Hospital Service. I asked him how he would like to have foreign officers in control of the police of his state. "Oh," he said, "the doctor has appointed all of our old officers, and so it is all right." That is the way it is. If they will appoint officers who are familiar with and satisfactory to the people, and who know all the requirements of the neighborhood, it is all right. But a day may come when some one else will be in charge, and he may appoint officials who are obnoxious to the people, so much so that it may almost raise a riot in some of our states if they are placed under the control of such an agent.

So I think it not only desirable but necessary for this Association to study the subject and see if we can not have it arranged on a republican basis, and not on the basis of a dictatorship, as seems to be the case at present.

I am not sufficiently informed in quarantine matters to discuss other points raised by the paper and which struck me very forcibly; but, like every other American citizen, I want to have a voice in the appointment of the officers over me. At present I have no voice whatever, and it is only because the gentleman in charge is so acceptable personally, and so thoroughly in sympathy with us, that the system is satisfactory; but when the satisfactoriness of any system depends on the personality of the officer at the head of it, it is not a good system to live under.

DR. R. D. MURRAY, Key West, Fla.—I do not speak as a government officer, but as a "locked-in" man. I sympathize with those people who do not like to have officials forced on them, but I am sure I never went into a place that I did not leave it full of friends. I do not believe a locally acquainted man is always a proper man to control an epidemic. As to the head of the service being fit or unfit, you must remember that he is under the control of a civil officer of this government, who is appointed by the President and confirmed by the Senate, and you can reach him, if you want to, very readily.

Wherever I have been I am proud to say I have left the places full of friends of Murray. On the whole, I think it is better for a foreigner to come down and help people in distress than for a local man to be placed in charge. The local men, as a rule, have too many animosities, belong to too many churches, or have been black-balled in too many clubs. And you know the women cut a figure, gentlemen, at times.

DR. H. D. HOLTON, Brattleboro, Vt.—We have all given expression, especially in the American Public Health Association, to the necessity for a school for health officers, where all who are called to administer the sanitary affairs of a community could have an especial preparation for such duties. It would seem wiser that the health organizations of the Nation, state or municipality should be under the control of trained sanitarians rather than that of the National, state or local medical organization composed of medical men who have

received little, if any, special sanitary training. At the present time the medical men who have the sanitary affairs of states in their keeping are medical men who have acquired what sanitary knowledge they have since their graduation. The great difference in duties imposed on county officials by the constitutions and laws of the different states would make it impractical to have the sanitary affairs of a county administered by the officers of counties in some of the states.

I am in accord with the gentleman from Florida that better and more satisfactory work is accomplished with less friction by having a general officer outside of a particular locality pay an official visit to that particular bailiwick and direct the work. He is free from the prejudices and the fascinations to which the gentleman alluded, and he can and does do his duty without fear or favor.

Regarding a National health organization having any power in the sanitary work of a state, or any interstate authority, I should say that we all recognize that all power conferred on health officials is a police power. Congress and the National executive have the right to regulate interstate commerce, which is not only the interchange of commodities, but also of personal intercourse of the inhabitants of one state with those of another; therefore, if persons affected with any communicable disease in a given state attempts to exercise that part of interstate commerce which consists in personal business intercourse with persons or the transporting of infected goods into another state, it is clear to my mind that National authority has the right to say on what conditions and under what restrictions these transactions shall be conducted. May I ask the author of the paper in his final summing up to make plain the principle of a National health department which should be organized without this power?

Dr. J. M. Lindsay, Havana, Cuba—I will start out by saying that I have no bouquets to throw, and have no knife up my sleeve for any one. I have been working for six months, leaving Havana for the purpose, to see whether we could not get the same quarantine regulations in all the ports of the Gulf. I first came to the American Public Health Association, and got them to endorse a paper I was taking around on an educational tour of the south. The majority agreed with me. (I found only one or two who refused to sign the paper.) I assert that quarantine should be under only one head, but to-day we have it under two. We have it under the U. S. Public Health and Marine-Hospital Service and we have it under the trust known as the Galveston Conference, which we can not get at to save our lives, though we can get at the Marine-Hospital Service. That is under the government, and they do not dare not to answer any letter we write. If they did, we know how to get an answer—through our senator. I have a friend from my district who can always get my letters answered if I can not. I want to say, however, in this connection, that so far all my communications to the department have been answered.

Now, as to the different states: After leaving Florida we come to Dr. Sander's own state. We find there a peculiar condition. The state has nothing to do with the matter. A board is appointed; composed of physicians? No; part physicians and part commercial men, but controlled and run by two people.

I visited that state and asked them to give us the same quarantine regulations at Mobile that we had at Pensacola, Fla., and at Gulfport, Miss. They said: "It is a bitter pill to swallow. Florida and Mississippi are open, but we are tied down by that Galveston Conference and can not do anything. Beside, we do not know what Dr. Sanders, who has charge of all the counties outside of Mobile, will do." There is your condition in Alabama.

I next came to Louisiana, and I asked them to let me come before them and discuss the matter, so as to get them in line with the U. S. Public Health and Marine-Hospital Service, and give us the same regulations as in Mississippi and Florida. They said they could not call a meeting of the board to hear any such proposition, but at the next meeting, which would be at some time in the near future, or in four or five months, they would take the matter up. While I was in Chicago on business, I received a dispatch that they were going to call a meeting, but I could not get there in time.

One of the things I wanted them to do was to use the Marine-Hospital inspectors in those tropical ports where the United States had placed such officials, and not to appoint a man from Louisiana; because it was really not under the police power, and they had no right to collect $200 to pay these men in foreign ports. They would not agree to that. Then I asked them if they could not call a meeting of that conference and break loose from it, because I believed there was no law giving to Louisiana, Alabama and Texas the right to form a trust. I believe in state rights, but when the states seek to give up those rights to a trust, then I believe we had better go under a trust that we can reach through our senators and representatives, and not a trust that we can not touch at all. I believe to-day, instead of fighting fifteen or twenty years to form a new organization, we had better fall in line with the U. S. Public Health and Marine-Hospital Service and get them, as far as possible, to take charge of the entire matter, give us scientific laws, and not be afraid that the south will not support them, because the south will support any scientific quarantine regulations. They say they can not do anything because the people of the south are not educated on the subject. Well, I find that they are educated, and where they are at all deficient it is the fault of the men who know all about it, but who refuse to go out and explain, but seek, on the other hand, to retard the movement in every way.

We have not had a case of yellow fever in two years; still, this port and those of Alabama and Texas have decided that every piece of baggage, every passenger (I believe they use bichlorid of mercury; which is what we used to do when we were looking for fomites) must be disinfected at the port of departure and again at the port of entry. And they will never assume any of the responsibility, but will always try to put it on some one else.

Some six months ago I happened to be in Nashville, and I said to a friend of mine up there: "Judge, you have been losing golden opportunities in the south because of quarantine regulations. I am trying to get the people to give us better regulations in this regard, so we can get the trade of forty millions of people, and I believe it is time the people of the north took charge down there. These are Gulf ports simply because they happen to be on the Gulf geographically, but as a matter of fact they are the ports of the entire nation, and the forty million people in the north have a right to tell these men that they are entitled to protect themselves so far as their health is concerned, but they have no right to make every ship that comes in pay a bonus to get into American ports." He said: "Well, you are going to try to wake them up?" I said: "Yes, sir; that's what I am going to try to do." He said: "Well, I feel sorry for you." "Why?" "Because they will declare it unconstitutional. We in the south declare everything unconstitutional. We have had the shell long enough, and it is time now to change around, because we want the oyster."

To get into Florida and Mississippi costs nothing. To get into Alabama or Louisiana the ship must be disinfected at its expense. Now, I say that when they tell a ship, "You can not do business in this port unless you contribute so much a month to the pay of our inspectors," they go beyond their police powers and enter the National province. They should not be allowed to take that subsidy from the ships, and the sooner we get a new system the better—not such a one as Dr. Sanders proposes, because I tell you when you go up against that you won't have any regulations at all. I know if I had my choice to go up against the Marine Hospital or that trust, known as the Sanders' trust, I would take my chances with the United States every time.

Dr. W. H. Sanders, Montgomery, Ala.—The gentleman who has just taken his seat has indulged in details and personalities that had no connection whatever with my paper. He has set up his opinion on great constitutional questions against the consecutive opinions pronounced by the Supreme Court of the United States since its foundation by the government down to the present time; he has talked about state

rights and trusts and has connected me with what he calls the "Sanders' Trust." I decline the prominence he gives me as being at the head of a monopoly. I am simply the executive officer of the organized physicians of Alabama, selected by them, and I am removable by them at will.

DR. J. M. LINDSAY—I had reference to this trust which you are trying to form.

DR. SANDERS—I have simply proposed a scheme for forming and conducting a democratic system of public health, not one under a single man or a single corporation. The gentleman speaks of the "Galveston trust." I do not know anything of that, and therefore can say nothing of it. Without going into the details he injected into his remarks, and which have nothing whatever to do with the matter under discussion, I will remind him that the first division of the question under discussion is: Where, under our form of government, do public health powers reside?

I attempted to show, and believe I did show, by decisions of the Supreme Court, that they reside in the state governments and not in the general government.

DR. LINDSAY—Have they the right, under the police power, to place a man outside, as they do, to work in the foreign countries?

DR. SANDERS—By consent of those countries. The general government can not put a man there without consent.

DR. LINDSAY—I mean to hold up ships and make them pay; is that police power?

DR. SANDERS—When a ship arrives at the borders of a state the state can deal with it, under her police powers, as she thinks proper.

DR. LINDSAY—When she gets to that state?

DR. SANDERS—Yes, sir.

DR. LINDSAY—Not before?

DR. SANDERS—No, sir; neither can the general government nor the Marine-Hospital Service acting for it. If Cuba, for instance, allows the general government or the state of Alabama to place representatives in Havana to disinfect ships, it is merely a permission and not a right at all.

Now, Mr. Chairman, many positions have been taken that should be answered. Should all public health powers be concentrated in one service, the Marine-Hospital Service, for instance, then all diagnostic power must be conceded to the same service. The officials of that service must do our diagnosing for us. I undertake to say that within the past few years distinguished representatives of the Marine-Hospital Service have made conspicuous errors in diagnosis. If we surrender the public health power now possessed by the states we must also surrender the right to say whether an infectious disease is present or not. In 1897 a fever began to prevail on the Mississippi coast. A number of medical gentlemen, I among them, went there, and after a prolonged investigation decided the prevailing sickness to be yellow fever. The chief of the Marine-Hospital Service selected an ex-official of his service, one who had served in it a number of years, a Cuban by birth, who had grown up with yellow fever, and had attained sufficient prominence in the profession of this country to be filling the chair of pathology in the University of Pennsylvania (I allude to Dr. Guiteras), and sent him down to the Gulf coast to investigate and report. Dr. Guiteras examined into the disease and declared, despite the opinion already announced, that the disease was not yellow fever. I would have conceded in advance that no better man than Guiteras could have been chosen for the work. On a certain Monday morning the announcement went out unanimously from the medical men on the ground that the disease was yellow fever. Dr. Guiteras arrived the following Wednesday, and on Friday telegraphed the chief of the Marine-Hospital Service: "I have examined 29 cases, 25 are dengue, 4 doubtful." Not very long after that Dr. Guiteras accepted the diagnosis that had been made before he reached the scene.

Since then I have seen other members of the service make mistakes in diagnosis. If you surrender the right to control these matters, I repeat, that you must also surrender the right to say whether any infectious disease exists that needs control. That is a dangerous power to concede.

I can not accept the proposition that it is better to have some one come from a distance to regulate these matters. I have had six years' experience as a public health official in my state, and it has been an active one. I should have said that this scheme I have inadequately explained is based on the public health system that has prevailed in Alabama for twenty-five years. It is no visionary scheme, and can easily be projected into a National bureau. Everything proposed inside of that state line (indicating on the diagram) has been in existence in Alabama for twenty-five years.

DR. LINDSAY—What about Mobile?

DR. SANDERS—About ten years ago a number of the commercial men of Mobile went to the legislature, then in session, and, as a very powerful lobby, secured the passage of a special law creating the Quarantining Board of Mobile Bay, which is out of harmony with our system. It would require considerable detail to explain how this was brought about. We are biding our time, and probably by waiting we will see the true system prevail again at Mobile.

With the exception of the Quarantine Board of Mobile Bay, not a commercial man has served on any Alabama board of health for twenty-five years. The members of such boards are physicians, and in no other way can these matters be taken out of politics. Boards of health should be composed of physicians, and health officials should be selected by the organized physicians of the locality over which such officials are to preside. In Alabama the state or county authorities can decline to act on our advice, but if they do the responsibility rests on them. Our authority is merely advisory in the beginning, but if the state or county authorities authorize the expenditure of money, then our authority becomes executive. That is to say, our authority is at first advisory, but if money be appropriated it becomes executive. We have found the system to work admirably for twenty-five years, and we are anxious to see it propagated to other states, and also projected into a National bureau of public health that will correspond to our democratic form of government, and not with a monarchy.

DR. H. D. HOLTON, Brattleboro, Vt.—You said something about interference with interstate commerce. I don't quite understand that.

DR. SANDERS—If the counties do all they should to protect the health within their borders and the states all they should to protect it within their borders, nothing remains for the Nation to do but regulate interstate and foreign quarantine. That is all that remains undone for the Nation to do. It is constitutional for the National government to aid the states in the enforcement of public health laws. The National Bureau of Public Health that formerly existed was founded on that idea. The National government can aid any city or state in trying to control an epidemic, and can appropriate money for that purpose, and send a representative to aid in the struggle. Suppose an epidemic should appear in this city, and the Nation should send here a representative, a sanitarian fully equipped and competent to aid in dealing with the situation, and authorized to aid financially, do you doubt that the health officer of the city of New Orleans and the health officer of the state of Louisiana would accord to that representative of the Nation due consideration and to his opinions due weight?

DR. HOLTON—Suppose the National health officer insisted on regulating things in his own way, would he have any right to do that?

DR. SANDERS—Under the scheme outlined three officials would be on the ground, the city, the state and the National officials, two of whom would be a majority and decide the policy to be pursued. To give the National representative absolute control would require an amendment to the constitution, and, in my opinion, would be very unwise.

Further, the expenses of a campaign against an outbreak of sickness could be equally divided between the city or county, as the case might be, the state and the National government. That would offer a premium on early and prompt action on the part of the county or city. The local officials would know that

by acting promptly they would get the help of the state and of the Nation, which would stimulate them to promptness of action and not to ignore conditions under the idea that by shutting their eyes to them they could get rid of them.

Dr. Lindsay—Where is that ultimate advisory power? In the American Medical Association?

Dr. Sanders—Yes, sir; the American Medical Association should have advisory power for the Nation, for the President, and for Congress; advisory power in the first instance, and then, by suitable laws, it could be invested with certain executive power. Let the Nation be guided in public health matters by its sanitarians, its physicians. When advice from such a source should be laid fully before the Nation, as is done in the state of Alabama, the Nation could either accept or reject it; but if the Nation should act on such advice, then let the American Medical Association, through a National bureau of commissioners of public health, execute its own advice. That is the policy in Alabama.

Dr. Lindsay—That is democratic?

Dr. Sanders—Yes, sir.

Dr. Lindsay—For the Nation to give over this right to the American Medical Association?

Dr. Sanders—The Nation is competent to delegate authority to the American Medical Association, or to any class of men it chooses. I think that is a fundamental principle which can not be successfully controverted. The Nation is competent to delegate its power to any body of men; and if it chooses to delegate it to men selected by the American Medical Association, who can dispute the right?

Before taking my seat I will say that in 1897 yellow fever prevailed in several places in Alabama before its presence was discovered at Ocean Springs, Miss., its original seat. Since then not a case has occurred in Alabama, although the states alongside, Florida on the one side and Mississippi and Louisiana on the other, were overrun, more or less, with yellow fever in 1898, 1899, and, to some extent, in 1900. Not only so, Alabama protected her people and her commerce at a remarkably small cost. For three years the total expense of conducting the state quarantine in Alabama was in round numbers $20,000, and for two of those years the state was entirely protected. My information is that for the same three years Mississippi expended more than $100,000 and got no protection either year. The other states mentioned doubtless expended large sums for the same years and likewise were overrun with the fever. Is not that simple statement of fact a strong endorsement of the Alabama system?

The United States Public Health and Marine-Hospital Service seems to be gradually but certainly usurping the public health powers of the states, which the Supreme Court has said many times is unconstitutional. In addition to being unconstitutional, I believe such usurpation unwise and impracticable. The officials of that service acquire their positions by undergoing examination, and are not chosen either by the people or by their colleagues of the organized profession, consequently they sustain absolutely no representative relation either to the people or to the profession. The chief of that service, who dictates the public-health policy to be pursued by his service, need not be a member of any local medical organization or of this Association, and therefore is entirely independent of any advice or recommendations that might proceed from this body.

Here are assembled representative medical men from the states, and it seems a fair proposition that they should have a representative commissioner of public health of their own selection, through whom they could advise the Nation on public health questions, and whom they could displace from office on his refusal to obey their recommendations.

Venesection and Saline Infusion in Heatstroke.—It is reported by a contemporary that in two cases of heatstroke in Cincinnati twelve ounces of blood were withdrawn, and replaced by an equal amount of physiologic salt solution, with excellent results. Temperature was reduced, convulsions ceased, and the patients fell into refreshing sleep within an hour.—*Med. Age.*

ONE THOUSAND CASES IN STUDENTS' OUTDOOR OBSTETRIC PRACTICE.

REPORT OF FIRST SERIES IN THE OUTDOOR OBSTETRIC DEPARTMENT OF THE UNIVERSITY COLLEGE OF MEDICINE.

JOHN F. WINN, M.D.

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RICHMOND, VA.

I have the pleasure of submitting my report of the first series of 1,000 cases in the outdoor obstetric department of the University College of Medicine for the period of (nearly) eight years, ending Oct. 23, 1902. To be strictly accurate, a service of seventy-six months is represented, the two stations not being provided with regular attendants during four of the college vacations.

Of course, the average number of patients treated annually increases year by year, as the service becomes better known. As far as I know, this work is the first attempt on the part of any medical school in the southern states to conduct a systematic and regularly organized free service for lying-in women at their own homes. Each office or station is centrally located in a laboring district, and fitted up for the residence of three students who respond to obstetric calls only.

It is befitting to add that the successful results of the undertaking are to be attributed, in a large measure, to the hearty co-operation of the students and to their uniform courtesy and professional dignity in the performance of their duties.

The armamentarium of the attendants at each of these two obstetric stations consists of a leatherette telescope or satchel about twenty-two inches long, ten inches wide and eight inches deep, containing the following:[1]

Three agate wash basins.
Towels.
Green soap.
Hand brushes.
Scissors.
Linen bobbin tape.
Sterile gauze.
Absorbent cotton.
Bichlorid tablets.
Lysol.
Boric acid.
Chloroform.
Ergotol.
Fluid extract ergot.
Croton oil.
Strychnia tablets.
Chloral hydrate solution.
Fountain syringe.
Catheter.
Perineal pads.

SIMPLE TECHNIC.

With the unsanitary environments usually encountered, it must, of course, be remembered that anything approaching a complete aseptic technic is impossible; yet the greater necessity for cleanliness is impressed on the minds of the students, and all attendants constantly endeavor to observe, as rigidly as circumstances will admit, the principles of asepsis in reference to vaginal examinations. In doing this no claim is made for any great array of antiseptic or aseptic paraphernalia. On the contrary, the aim is to reduce everything to the simplest possible system of disinfection and asepsis. While the students are not limited as to the number of vaginal examinations, they are encouraged and advised to practice abdominal palpation in all cases if time permits, not only for verification of diagnosis, but for the purpose of reducing to a minimum the danger of infection by vaginal touch.

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1. Students provide themselves with hypodermic syringes and clinical thermometers. The satchel is not furnished with forceps or other instruments, for the reason that all operations are performed by me; and if such instruments were so accessible, the temptation to use them in my absence might lead to disastrous results. The absence of instruments from the above list is thus explained. A valuable acquisition to this satchel will be found in the form of a large copper pan, like one I have been using for a long time in my private obstetric bag. Its dimensions will correspond with the inside of the telescope, and it will afford a more capacious and ready sterilizer in these homes, and will also serve a useful purpose when asphyxiated infants need to be placed in hot water.

Before making the antiseptic solutions the basins are prepared as follows: They are thoroughly scrubbed with soap and water. One basin is then made the container for boiling the brushes, scissors and tape. Another serves as a cover while the boiling is going on. Before this is completed the third basin is substituted for the second. When all have been sterilized, one basin is used for the bichlorid, another for lysol solution. The third serves as the wash basin. The hands and forearms of each attendant are scrubbed not less than five minutes with hot water and green soap, the water being changed at least once. After the hands have been immersed in bichlorid solution (1/1000) for five minutes, the inner surface of the patient's thighs and the whole of the external genitalia as far as the introitus vaginæ receive the same soap and hot water scrubbing with a soft brush or a gauze sponge, followed by a bichlorid bath. Over the vulva is now laid a pad of gauze or absorbent cotton wrung out of lysol solution (one teaspoonful to one pint).

The patient having been prepared, the hands are again scrubbed and immersed in bichlorid and, finally, in lysol solution before they are considered ready for vaginal touch. Vaselin is never employed as a lubricant. The examining finger is carried directly from the lysol solution into the vagina. The lysol has always proven to be a most efficient lubricant.

More than ordinary care is observed in the manner of making a vaginal examination. The patient is brought to the edge of the bed in the dorsal posture. All bed covering is turned back by an assistant, the genital organs being thus left in full view. While the knees are held apart by another, the labia are carefully and widely separated by the thumb and forefinger of one hand in such a manner that when the index and middle fingers of the other hand are introduced they come in contact with the walls of the vagina only. Just here I will state that the antepartum vaginal douche has never been used in this service. Observation and experience had convinced me that those cases in private practice which did not receive the douche always had a better puerperium than those which did; hence, without knowing why, and even before Krönig's announcement that there were no pus-producing bacteria in the vagina of a pregnant woman, vaginal douches were deemed unnecessary. The effort is made to keep the hands, and especially the examining hand, sterile, but, as a further safeguard against infection, the rule is to repeat the entire process of hand and genital disinfection in all its details every time a vaginal examination is made.

STATISTICAL SUMMARY.

As regards the statistical part of this report, there have been attended:

White cases	129
Colored cases	871
Total	1,000

Representing:

Full-term deliveries	893
Abortions, immature and premature deliveries	107
Vertex presentations	953
Breech presentations	38
Face presentations	2
Brow presentation	1
Shoulder presentations	6
Prolapsed hand	3
Prolapsed funis	3
Imprisoned placenta (not adherent)	14
Eclampsia	10
Postpartum hemorrhage	6
Placenta previa:	
At twenty-seventh week (marginal)	2
At twenty-eighth week (central)	1
At twenty-eighth week (partial)	3
At thirty-eighth week (marginal)	1
	7
Podalic version by internal method	11
Low forceps	18
Median forceps	4
High forceps with axis-traction (living child)	1
High forceps with axis-traction (asphyxiated child, died in a few hours)	1
High forceps with axis-traction (dead-born child)	2
Intra-uterine tamponade	2
Induction of labor at thirty-sixth week; rachitic pelvis (living child)	1
Curettement for inevitable abortion	5
Curettement for retained membranes	18
Perineorrhaphy	12
Extensive laceration of cervix above vaginal junction	1
Twin births	14
Ophthalmia neonatorum (no prophylactic treatment received)	2
Visits	4,421
Septic cases	4
Deaths from all causes	5

In studying the relation of morbidity and mortality to the number of cases, it must be borne in mind that the patients represented, for the most part, the extremely destitute portion of the white and black population, and, consequently, that the work was prosecuted amidst the most unfavorable and unhygienic surroundings.[2] The questions arise, why do not all of these people suffer from the worst forms of sepsis, and why is the death rate greatly lower than that recorded in private practice, and amid even ideal sanitary environments? I confess my inability to account fully for the immunity which this class of lying-in women possesses.

MORTALITY.

In view of the facts mentioned, it is gratifying to find that, out of the 1,000 cases, there have been but five deaths, and, since this portion of the report is significant and especially important, I have deemed it best to give the details connected with each case.

The first death, that of a colored multipara, occurred Aug. 10, 1898. I did not see this case myself, being engaged with a delivery in my private practice, but from the history given by the third-year student in attendance and confirmed by two of our then recent graduates, Dr. M. E. Nuckols and the late Dr. J. Travis Taylor, who saw the case at my request, the woman had had a postpartum hemorrhage. She had reacted well, however, and was believed to be out of danger; but, on attempting to walk across the room (supposedly for water) while alone for a few moments, she fell on the floor and died instantly. I do not like the term "heart failure," but if such is ever admissible, I think it would be quite appropriate for the cause of death in this case.

The second death resulted from eclampsia. A young colored primipara had traveled eighty miles by rail less than thirty-two hours preceding the outset of labor. This was two weeks before her expected confinement. The attendants at the Seventeenth-street station were summoned a short time before the birth of the child. Five hours after delivery they were called back on account of the first convulsion. I saw the case from this time on.

2. The following, one among many similar instances that might be cited, will serve as an illustration of this point: The patient, a colored v-para, occupied the only bed in a small, dark, ill-smelling room. The day was cold. A small coal fire was in a broken-down grate. Around this fire stood four small children. In this room the whole family lived, cooked and slept. There were just two chairs and one dirty kitchen table in the room. Three plates and two cups and saucers were scattered on this table. On the floor, in one corner of the room, was a washtub half full of dirty soapsuds, left from the washing of clothes the week before, and which emitted a horrible stench. The patient asked for a drink of water, whereupon the oldest girl of the family advanced towards the washtub and, with cup in hand, proceeded to dip from a wooden water bucket which was floating around in the foul-smelling mass of soapsuds. On being reminded of the possible contamination of this drinking water, the patient remarked, "O! that's all right." It is needless to say that some of the neighbors were depended on to furnish hot water for the case in hand. The mattress on which the woman lay was exceedingly dirty. An old quilt, equally as black and greasy, served as a coverlid. This woman was up attending to her household duties at the end of a week, with no ill effects.

Notwithstanding heroic treatment, both sedative and eliminative, and, in addition, the constant services of a trained nurse, the patient died ten hours later.

The third death resulted from general septic peritonitis, supervening on rupture of a gonorrheal pus tube, as revealed by the autopsy. This was a colored primipara with a true conjugate of just three inches. I sent the patient to the Virginia Hospital and effected a delivery with forceps, the labor being too far advanced to render version safe. The child, already weak, died during delivery. The patient did well for four days, when peritonitis developed, ending in death three days later. Being anxious to know the cause of this infection, an autopsy was made, with the assistance of Drs. H. M. Taylor and Virginius Harrison, who happened to be in the hospital at the time, and, instead of finding traumatism of the lower segment of the uterus, as was suspected, we found a ruptured pus tube on the right. Inquiry of the patient's mother brought out the statement that she had been treated for gonorrhea two years before.

The fourth death occurred in a multipara at the eighth month, greatly reduced in flesh and strength by tuberculosis. She lost more than the usual amount of blood at delivery, and, though the uterus responded quickly to friction and ergot, the patient proved to be unequal to the shock of this hemorrhage in her already weakened condition. Despite active treatment for shock, the patient died ten hours later.

The fifth death resulted directly from apoplexy, induced by puerperal convulsions. The history of this case is unique and is worthy of record. A young, robust primipara, eight months pregnant, complained, while seated at the breakfast table, of severe headache, numbness of the left arm and leg and also soreness of the tongue. This was about 7 o'clock. She had walked down a winding stairway to the room below. While eating she had a severe convulsion which lasted several minutes. In a quarter of an hour she had another convulsion, more severe than the one preceding and soon passed into a state of coma. The attendants at the Seventeenth-street station saw her for the first time three hours later. I saw the case a few moments afterward. It was soon noticed that the recurring convulsions were confined entirely to the right side. Venesection, followed by saline transfusion directly into the vein, was resorted to with seeming benefit for a short time. The hot pack was also used to aid elimination, but I wish to emphasize one procedure which was pushed vigorously and which gave promise of good results. I refer to prolonged high irrigation of the colon, carried to the point of inducing a free flow of bile. Not less than thirty gallons of saline solution first, and plain hot water later, were used by the return flow rectal tube. This treatment has been used almost to the exclusion of all other eliminating methods in the Paris Maternity, with the result of reducing the mortality from 27 per cent. to 6 per cent. in comparative series of fifty cases, and I am encouraged to give it a further trial. Of course, this case is not a fair test; neither would I be justified in drawing conclusions from one patient; yet I am inclined to believe that, had there not been this cerebral hemorrhage, the eclamptic symptoms would have been held in abeyance. In reverting to the history of this case the patient unquestionably had convulsions during the night, which were responsible for the hemorrhage in the arm and leg center.

While there have been five deaths, it will be seen that not one of these resulted from outside or preventable infection.

It is equally gratifying to know that there have been only four cases of sepsis, and two of these had been attended by midwives before coming under the care of this service. Of the other two cases, one has already been referred to—the case of ruptured pus tube resulting in general peritonitis and death. The fourth and last case of sepsis was a white multipara who had a most extensive laceration of the cervix, extending above the vaginal junction. A great quantity of blood had been lost and she was in a bad condition to resist infection. She was taken to the Virginia Hospital thirty-six hours after delivery, when the symptoms were strongly suggestive of general peritonitis. A careful examination now revealed the cervical injury. Her condition for several days was critical, owing to the large pelvic abscess, which developed under the right broad ligament. On leaving the hospital at the end of six weeks, an inspection, with the aid of Dr. H. Ward Randolph, resident physician, showed that the vaginal portion of this tear had nearly cicatrized. There was yet some discharge which communicated by a sinus with the abscess. The uterus was firmly fixed and drawn to that side. She was sent home with the promise of operative intervention at a subsequent period.

COMPARATIVE MORTALITY RATES.

I have already emphasized the fact that this service was outdoor work (only seven cases receiving hospital treatment) for the special reason that I wish just here to introduce a comparative study of the mortality statistics of some of the oldest and best known obstetric clinics abroad, in some of which the service is more evenly apportioned between indoor and outdoor cases.

For example: Our own mortality is exactly .005 (one-half of 1 per cent.), while that of the obstetric clinic at Prague is reported to be .0085, the School of Baudelocque at Paris .0066 and the University Frauen Klinik at Berlin .0193. Compared with the Society of the Lying-In Hospital of New York City, whose prestige covers more than 100 years, I find reported for their outdoor department 2,723 labors in one year, with ten deaths, or a mortality rate of nearly .0037.

A MODIFIED CREDE METHOD.

In addition to the precautions taken against infection during the first and second stages of labor already referred to, a very important factor in this reduction of morbidity and mortality is believed to be the scrupulous care bestowed on the genital tract during the third stage of labor, not only in guarding it against the invasion of pathogenic organisms, but also in observing the time for and the manner of delivering the placenta. So thoroughly am I convinced that the hasty or precipitate resort to Credé's method is largely responsible for the incomplete delivery of the placenta and its membranes and for the sepsis frequently dependent thereon that it has been the uniform rule in this service to wait for Nature's signal for expelling the after-birth before adopting any method to excite uterine contraction.

Before describing the procedure observed in this clinic, I wish to say that the placing of one hand over the uterus as a sentinel, immediately after the child is born, must not be confounded with the grasp of the uterus in the Credé method. To be explicit: immediately on the birth of the child, one hand is gently placed over the uterus, especial care being taken neither to make friction nor to excite contractions so long as the uterus remains firm. This hand is regarded as a sentinel for Nature's signal that the placenta is separated, this signal being a slight rising of the fundus while it is yet

firm, giving to the hand the sensation of being pushed up, as pointed out by Pinard and Schroeder some years ago. The discovery made by the foregoing authorities was not generally accepted at first, but is now being recognized. This lifting up of the uterus may occur in much less time than the average—"twenty minutes"—or it may be delayed thirty minutes or longer. As soon as this condition is observed, the uterus is grasped firmly, for the first time, with one or both hands and pressed downward in the axis of the superior strait. If, after waiting three-quarters of an hour, there is still no sign of placental separation, as described above, the typical Credé method is resorted to without further delay.

When it comes to the delivery of the membranes, the practice in this clinic is again a slight divergence from the general custom. Instead of twisting them into a rope, as recommended by many, we have found that the possibility of leaving behind a portion of the membranes is greatly lessened by simply waiting a few minutes to allow them to trail out, provided the grasp on the uterus has been lessened to admit of that normal relaxation which follows uterine contraction. In general terms, all attendants act on the principle that every placenta, at full term, has its own time to separate, and that it is better to wait until that time arrives before resorting to artificial stimulation of the uterus. By the rigid observance of this rule, it has been a rare occurrence in the past few years to have even a "retained" placenta, and, as for an adherent placenta, such a condition has not been met with at all.

Broadly speaking, the students in this clinic are taught to regard the genital tract absolutely as a *noli-me-tangere* after the child is born, and experience has demonstrated the fact that, just in proportion as it is so regarded will the puerperium be marked by fewer deviations from the normal.

CONCLUSIONS.

Among the deductions from this report are believed to be the following:

1. The results in this service are confirmatory of Krönig's statement that the vagina of a pregnant woman is free from pus-producing bacteria.

2. Thorough and continuous disinfection of hands and external genitalia are the chief safeguards against infection.

3. The unhygienic surroundings in the homes of the poorer classes must be considered as minor factors in the causation of sepsis. They become operative only when scrupulous care is not observed with regard to vaginal examinations.

4. Not only is the puerperal morbidity and mortality among outdoor clinics greatly below that in private practice (the mortality rate in this clinic being one-half of 1 per cent.), but it would appear that this class of patients is endowed with powers of resistance not found in the higher walks of life.

5. Nature has her own time for separating and expelling the placenta as indicated by a signal easy of recognition.

6. Any method designed to excite uterine contraction before Nature indicates that the placenta is ready to be cast off must be regarded as precipitate, and not in accord with natural processes.

7. Just in proportion as the genital tract is regarded absolutely as a *noli-me-tangere* after the child is born, will the puerperium be marked by fewer deviations from the normal.

Special Article.

THE PURIFICATION OF WATER SUPPLIES BY SLOW SAND FILTRATION.

I.

GENERAL PRINCIPLES AND METHODS.

During the last fifty years the individual or family water supply has been gradually supplanted by the public water supply in nearly all civilized countries. In the United States the number of waterworks has increased from 83 in 1850 to 598 in 1880 and 3,196 in 1896. This fundamental change in the manner of procuring household drinking water has brought in its train many new problems. In several respects the substitution of public for private control is distinctly in the direction of sanitary betterment. The abandonment of the shallow well, for example, has been of unmixed benefit even in communities of moderate size where pollution of the soil is not extreme. It has been noticed that in a general way the introduction of public water supplies is coincident with a remarkable decline in typhoid fever death-rates (Fig. 1).

Although it is thus true that a public water supply is better than the average private supply, it is evident also that the public supply is not without its own peculiar danger. The peril to the whole community is in a

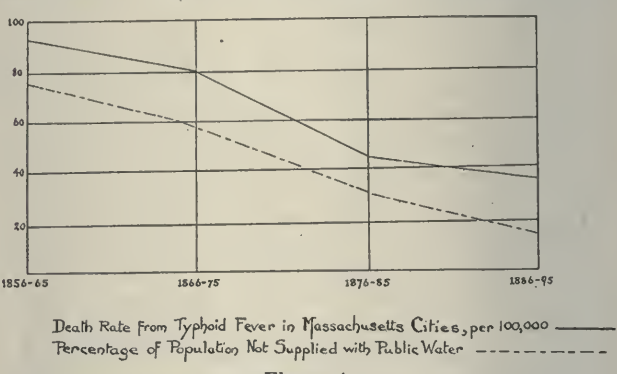


Figure 1.
(From the Twenty-eighth Annual Report of the State Board of Health of Massachusetts, 1896, p. 781.)

sense greatly enhanced by the introduction of a public supply, since if contamination of the general supply ever occurs a much larger number of persons will be infected than under conditions where each family is supplied from an independent source. The proper methods of controlling and safeguarding municipal water sources have become, therefore, a matter of moment to the whole community.

The largest and most satisfactory city water supplies in this country and in Europe are obtained by one of three methods. One of these consists in the impounding or damming of small streams that drain uninhabited or but sparsely inhabited areas. This method usually involves the construction of reservoirs with a large storage capacity, a procedure possessing a notable advantage in that the sanitary quality of water is known to improve during storage. The majority of the satisfactory water supplies of large cities in the United States are of this character, the New York and Boston supplies being well-known examples. This method is applicable especially where the topography of the country is suitable for storage. In a flat region or a densely populated one, supplies of this character are rarely available.

A second method of obtaining a water supply is by utilizing the so-called ground water; that is, water which

has apparently become partially or thoroughly purified by percolation through layers of soil. The "spring" waters and the "deep well" and "artesian" waters belong to this class. Such water is usually clear and palatable, although often "hard"; that is to say, containing in solution certain mineral salts which cause the formation of "boiler scale," lead to an excessive consumption of soap, and are otherwise economically undesirable. On the sanitary side, the quality of ground waters is frequently unexceptionable, although lately they have come to be looked on with less favor than formerly. Several of the largest European city supplies are of ground water origin. The city of Paris, for example, is chiefly supplied with ground water brought from several distant places at great expense, and, although the present supply is somewhat inadequate, a large portion of it is of excellent quality. Many other European cities, such as Vienna, Budapest, Brussels, Leipsic, Cologne, Munich and others are similarly supplied. In the United States no city of the first rank is at present wholly supplied with ground water, although many cities and towns of small size have successfully introduced water of this character. A very large amount of water is demanded by most American municipalities, and the limitations placed by geologic conditions on both the quality and quantity of ground water restrict the use of this source of supply to certain localities.

A third method of obtaining a wholesome water supply consists in treating surface waters, such as the water of rivers or large lakes, by the process of sand filtration. This method of obtaining a good supply is very largely used at the present time in England and on the continent of Europe, especially in Germany and Holland. It is estimated that a population of nearly twenty-five millions in European cities is now furnished with water purified in this way. The list of cities using sand filters includes Berlin, Hamburg, Breslau, London, Amsterdam, Antwerp and St. Petersburg.

In the United States many cities are so situated that neither the first nor the second method of obtaining an ample water-supply is available, and in nearly all instances such cities have up to the present contented themselves with the use of unfiltered surface water from the nearest lake or river. The possible opportunities of contamination to which a surface water in a populous district is exposed are well known and need hardly be considered in detail. It is only too common in many parts of the United States to allow objectionable drainage to pass into a stream from which some town or city derives its water supply. Rivers have been allowed to become open sewers, lakes gigantic cesspools. The danger from this source is generally recognized. In Germany the use of surface waters for public supply without filtration is altogether prohibited. Since it seems to be true that by far the larger number of city dwellers in the United States must continue to depend on some kind of surface water for a supply, it is important to consider what the method of purification of surface water by sand filtration really implies, under what conditions a sand filter may be installed and effectively operated, and what results may be reasonably hoped for in the way of benefit to the public health.

The first sand filter of which any record exists was built in 1829 for the Chelsea Water Company in London. The primary object of this filter was to clarify the water, although the sanitary advantages seem to have been in part recognized. In 1855 the filtration of all the surface waters supplied to London was made compulsory. Soon after this time sand filters were constructed at various places on the continent of Europe, at first from the designs and under the supervision of English engineers. The Berlin filter plant was built in 1856 by an English company and was purchased by the city in 1873. In late years the installation of filters has become very general throughout northern Europe.

The accumulated experience of the last fifty years in the construction and operation of filtration systems has led to the working out of a fairly uniform method of procedure. The unit filter consists of a water-tight masonry tank or reservoir, with a surface area ranging in practice from about one-half of an acre to nearly two acres. On the floor of these reservoirs a series of perforated pipes or loose underdrains is laid, over which are deposited layers of crushed stone and gravel of increasing fineness, and on the gravel is laid finally the bed of sand that constitutes the efficient body of the filter. This layer of sand usually varies from about two feet to four feet in depth. In Germany the law stipulates that the minimum thickness of the sand layer shall not be permitted to fall below twelve inches.

In nearly all instances where filter beds are used it has been found highly advantageous to provide a settling basin through which the raw water shall pass on its way to the filter. Many of the surface waters that are used for public supplies are so turbid that their direct application to the sand bed would cause rapid clogging, and preliminary sedimentation is, hence, most, desirable.

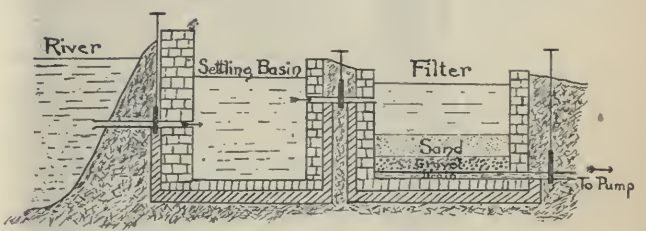


Fig. 2.—Diagram showing general plan of filter plant. (Adopted from Hazen.)

The accompanying diagram (Fig. 2) illustrates the usual relations between the source of the raw water, the sedimentation basin and the filter bed proper.

OPEN AND COVERED FILTER BEDS.

The question of providing covers or roofs for filter beds in cold climates is one that always demands special consideration. The great additional cost of the covers renders their construction inadvisable on economic grounds except where they are absolutely required by the climatic conditions. Under certain circumstances roofing of the filters is imperative. In many parts of Germany it has been found necessary to provide covers for filters which were originally constructed on the open system. The great obstacle to the use of open filters consists in the formation of ice which interferes with the effective operation of the filter, and not only increases the difficulty of cleaning the surface of the sand in winter, but materially lessens the hygienic efficacy of the filter. In Berlin an epidemic of typhoid fever occurring in 1889 was traced to the injurious effect of cold weather on the working of the filter, and this event led to the abandonment of open filters in that city. In the city of Altona, a suburb of Hamburg, a slight epidemic of cholera appeared in the winter of 1893 which was likewise attributed with excellent reason to the disturbance of the filters by ice. The various degrees of difficulty experienced from the formation of ice in those cities possessing an open filter system have led to the estimate that the use of covers is necessary in all locali-

ties where the average January temperature is below 32 F. On this basis, the area in the United States within which covered filters would be necessary lies north of a line passing through Philadelphia, Pittsburg, Cincinnati and St. Louis. The use of covered filters possesses the additional advantage that, owing to the inability of algæ to grow in the dark, the clogging of the filter is diminished and the frequency and expense of cleaning thereby reduced.

RATE OF FILTRATION.

It is evident that the higher the rate of filtration, the smaller is the filtering area needed to supply a given quantity of water. The maintenance of a high rate therefore diminishes proportionately the cost of construction of the filter-plant. In practice it is not found possible to exceed a certain maximum rate without impairing the quality of the filtered water, since if the filter is forced beyond its capacity, efficient purification is not achieved and the aim of the whole system is defeated. The rate that can be successfully used in any given locality depends primarily on the character of the water to be treated. A turbid and polluted water can not be filtered rapidly with as satisfactory results as water from a clearer and purer source. The rate maintained for most European works averages between two and three million gallons daily per acre of filtering surface. The filter beds at Hamburg, where the highly polluted water of the Elbe river is treated, are operated at the rate of about 1,600,000 gallons daily per acre. At Zurich, where a clear and relatively pure lake water is used, the very high rate of over 7,000,000 gallons is successfully maintained. A rate of 3,000,000 to 4,000,000 gallons would probably be a very satisfactory rate for the class of surface waters that would most frequently be dealt with by filtration in this country. In adjusting the rate it is important to maintain a fairly uniform head, since sudden changes are likely to produce disturbances in the upper sand layers, and thereby reduce the efficiency of the filter.

Nearly all the sand filters in actual use are operated on the principle of continuous application of the water, and a body of water of substantially uniform depth is allowed to stand constantly over the surface of the sand. At a few places, however, the system of intermittent application of water is practiced, but it possesses no material advantage over the continuous process and is somewhat more troublesome to operate. The city of Chemnitz, Germany, is one of the best-known instances where intermittent filtration is used for a municipal water supply.

OPERATION OF FILTERS.

In the life of every sand filter the time comes sooner or later when the filter is so clogged that a satisfactory quantity of water no longer passes. The filter must then be cleaned and put again into a condition for effective operation. This is accomplished by draining off the water from the surface of the filter and scraping away a thin layer of sand. The scraping is done by workmen with wide shovels and the sand is usually removed in barrows to some spot where it can be carefully washed and saved for subsequent replacement. A layer varying from .5 of an inch to slightly over one inch is ordinarily removed at a single scraping. The frequency with which scraping has to be practiced depends chiefly on the quality of the water, a turbid water naturally producing clogging more rapidly than water that contains little suspended matter. The rate of filtration and the size of sand grain are also important factors in determining the frequency of scrapings. Twenty-five days is perhaps a fair average of the life of a filter between scrapings. In well-managed works the interval should rarely fall below ten days, and if the preliminary sedimentation is effective, it may well range much higher than this. When the depth of the sand layer has become reduced by successive scrapings to the minimum thickness deemed desirable (never less than 12 inches), the filter is remade, generally with the sand which has been previously removed in scraping, and which after washing is now restored to it. Since a certain proportion of a given filtering area is always out of service while the cleaning process is going on, it is necessary in constructing a filter to plan for a somewhat greater area than would suffice if continuous operation of the whole surface were feasible.

COST OF FILTERS.

The cost of constructing filters depends largely on local conditions. If a very turbid water, for example, is to be treated, an unusually large filtering area must be provided, and the cost of construction is proportionately increased. In Berlin, covered filters of about .6 acre each have been built for approximately $70,000 per acre. One engineering authority estimates that the cost of carefully constructed covered filters in Europe averages about $68,000 per acre of filtering surface. The total cost of the Hamburg plant, one of the most recent of European filtering systems, was nearly $2,280,000. This system includes thirty-four acres of filtering surface, and was designed to supply a population of about 600,000. The data that exist concerning the cost of sand filters in the United States indicate that, owing to the use of more economical designs and to the employment of concrete, the cost of construction should be considerably lower than for European filters. Within the last few years several American filter plants of moderate size and with covered beds have been built at an expense of about $45,000 per acre.

COST OF OPERATION.

The chief sources of outlay for operation are due to the necessity for scraping the sand beds, washing the sand and for supervising the efficiency of the plant. For this latter purpose all well-equipped filter plants include a bacteriologic laboratory, or in some way make provision for testing the quality of the filtered water. The cost of scraping and handling the sand ordinarily ranges from 80 cents to $1.20 per million gallons of filtered water. If the conditions are such as to require special labor for the removal of ice, the total operating expense may be greatly increased. At Lawrence, Mass., where in spite of the cold climate open filters are in use, the cost of removing ice ranged as high in one year as $2.00 per million gallons. Engineering authorities have estimated that, in general, the total cost of filtration, including depreciation and interest on the expense of construction, as well as operating expenses, averages about $7.00 to $9.00 per million gallons of filtered water.

EFFICIENCY OF FILTRATION.

Since the main object of sand filtration is to secure a wholesome water, it is necessary for the engineers in charge of the waterworks to be guided by carefully-drawn regulations concerning maintenance of a safe rate, the quality of the effluent, and other factors of importance. The German Imperial Board of Health has formulated rules requiring that each sand filter shall be tested daily by bacterial methods, that the rate of filtration shall not exceed one hundred mil-

limeters per hour (about 2,600,000 gallons daily per acre), and that the filtered water shall be admitted to the mains only when it contains less than one hundred bacteria per cubic centimeter, the number being determined by a specified method. It has not been found difficult to secure a high bacterial efficiency under these standards. In many cases raw river waters containing several thousands or even tens of thousands of bacteria per c.c. can be made to yield an effluent containing a relatively insignificant number of microbes. At Berlin, for example, during one series of observations the number of bacteria in the water applied to the filters ranged from 4,400 to 7,980, and the effluent during the same period contained from 22 to 52. In general, over 99 per cent. of the bacteria are removed by sand filtration. The experiment of applying particular and easily recognizable kinds of bacteria to the filter beds and testing at frequent intervals for their appearance in the effluent has shown that the actual bacterial efficiency is even greater than the above figures indicate, and that the number of bacteria found in an ordinary effluent does not represent the number actually passing through the filters, but is swollen by a certain proportion of microbes washed out of the underdrains or by accidental contamination during collection. It is a significant fact that in well-conducted filter works, while the number of bacteria in the applied water may vary greatly from hour to hour and from day to day, the number in the effluent remains fairly constant.

A more conclusive measure of efficiency than the percentage of removal of bacteria is afforded by the prevalence of typhoid fever in communities supplied respectively with filtered and unfiltered water. The experience of the city of Hamburg is one of the most convincing instances of this nature. The average death rate from typhoid fever from 1887-1891 was 47.2. A modern sand filter was installed and put in operation in May, 1893, with the result that the typhoid fever death rate for the five years 1894-1898 fell[1] to 7.2. It is true, without exception, that whenever a city has changed from the use of a raw surface water to a sand-filtered water, the typhoid fever death rate has at once responded with a marked and permanent decline.

The relative exemption from typhoid fever possessed by cities that are supplied with sand-filtered water as compared with those using raw surface water is shown by a comparison of the typhoid fever death rate in certain European cities using sand filters with the rate in certain American cities, some of which are provided with a surface water deemed to be fairly well guarded and free from the grosser forms of pollution: Berlin, 0.50; London,[2] 1.40; Hamburg, 0.90; Rotterdam, 0.20; Boston, 2,79; New York, 1.81; Baltimore, 4.50; St. Louis, 4.70.

(To be continued.)

1. The cholera year 1892, and the year 1893, in which the filter was not operative during the whole period, are omitted from the comparison.

2. About five-sixths of the total supply is filtered.

Coffee-Drinking.—Notwithstanding the scare advertisements of health substitutes for coffee, says the *American Journal of Pharmacy*, there is no cause for apprehending danger to the race at large from coffee-drinking. After generations of almost universal coffee-drinkers, our own times see men of gigantic intellect in all realms of activity, our athletes are able to make sudden bursts of effort equal to any in history, and our soldiers aquit themselves manfully in fatiguing campaigns in torrid climes. The life-insurance companies, constantly warring against all that lessens longevity or conduces to abnormal organs, nerves and actions, seem content to accept the use of coffee as one of the ordinary elements of every-day life.

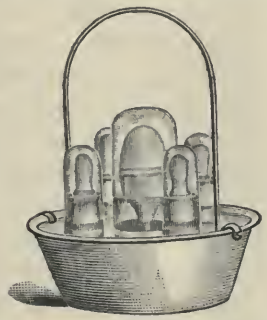
New Appliance.

AN OPHTHALMIC TREATMENT OUTFIT.*

WM. CAMPBELL POSEY, M.D.
PHILADELPHIA.

This appliance is presented to the Section with a view to facilitating and further perfecting the details of treatment of ophthalmic cases. It consists of a series of bottles, contained in a nickel-plated caster-like holder, which in its turn rests in an enameled pan. The bottles are five in number; one, with a capacity of four ounces, holds a boracic acid or other mild antiseptic solution for the purpose of flushing the eye; the other four are one-ounce bottles and contain such drugs as may be required. Each bottle is provided with a pipette, which serves as an accurately fitting stopper, and also with a glass cover, to further prevent the entrance of germs or dust into the bottle or dropper.

By this arrangement there is secured for each patient in hospital service a complete set of bottles for his individual



use, thereby avoiding possible infection from other patients or the instillation into his eyes of drugs intended for another. The outfit may be employed in operations and will be found convenient in the treatment of cases in their own homes, either after operations or where there is inflammation requiring protracted treatment and the employment of a number of drugs. The pan is intended to hold ice when ice compresses are to be applied, or as a vessel in which to heat the water, when hot compresses are desired. The pan is attached to the caster-like holder by a double spring, and although the outfit is intended to rest on the table at the bedside, it can be carried about if occasion demands. The various parts of the outfit can be readily sterilized and may be used in successive cases.

Clinical Report.

CASE OF SKIN GRAFTING.

JAMES FREDERIC CLARKE, M.D.
Lecturer on Hygiene, State University of Iowa, Department of Medicine,
FAIRFIELD, IOWA.

A few weeks ago a patient presented with contraction of the upper eyelid from a burn. The cilia was drawn high on the forehead. An incision was made 2 mm. above the cilia, the lid was dissected down and the upper and lower lids stitched together. The exposed surface was at once covered with one piece of skin taken from the forearm of the patient. The piece removed from the forearm was an oval 1¾ by 3 inches in size. This was held in place by 6 or 8 sutures, covered with gutta-percha tissue and a cotton compress. On removing the dressings on the fifth day the skin graft was pink in color and sensitive to the touch. It had a well-established circulation and sensation in this short time. The complete success of the transfer of this large piece of skin was quite a satisfaction, seemingly so much better than sliding skin from the temple, which would have increased the scars.

* Exhibited before the Section on Ophthalmology of the American Medical Association at the Fifty-fourth Annual Session

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SATURDAY, OCTOBER 3, 1903.

NEPHROTOXINS.

The existence and experimental production of specific cell poisons, the cytotoxins or cytolysins of which we hear so much nowadays, have been the means of greatly stimulating the interest in cellular reactions. Many enthusiastic investigators believed that in this field would be found the quick solution of some of the obscure problems in the genesis of disease. Of the cytotoxins for the cells of solid organs nephrotoxins, or special poisons for the cells of the kidney, have been studied most extensively. The renal cells seemed to respond readily to normal and to artificially-produced toxins, and the resulting functional and morphologic changes presented such analogy to the changes in some forms of nephritis that it appeared to many as if we had come into possession of the key that would unlock the mysteries connected with the etiology and genesis of nephritis and the accompanying disturbances of the circulatory apparatus, as well as uremia.

It is as yet too early to decide definitely to what extent the new method of investigation will give final solution of these complex problems. The conservative observer might be tempted to say somewhat sneeringly that so far not much else has been accomplished than to substitute new names for the old and that the ultimate mechanism of nephritis is still unknown. A fair consideration of recent work in this field, however, can not but lead to the conviction that actual progress in renal pathology is making as the direct result of the study of nephrotoxins. A brief review of the experimental study of nephrotoxins by Pearce[1] will serve to make this point clear.

It has been claimed by several European investigators that the ligation of one ureter or of the vessels of one kidney leads to degenerative changes in the opposite kidney due to the action of toxic substances which have been called autonephrolysins or autonephrotoxins. Pearce made careful experiments to test this conclusion with the result that no other changes were established in the undisturbed kidney than would follow simple nephrectomy, thus demonstrating that the products of dissolution of one kidney have no direct, specific harmful action on the fellow kidney. Pearce, furthermore, controverts the claim that "isonephrotoxins" are easily obtainable. By isonephrotoxin is meant a poison for the kidneys of animals of the same species as the one furnishing the poisonous serum. Such serum has been claimed to develop after unilateral ligation of the ureter or the renal vessels as well as after repeated injection of, let us say, rabbit's kidney into rabbits. In Pearce's experiments it was found that the injection of pure, untreated, normal rabbit's serum causes as great changes as the injection of supposedly isonephrotoxic serum. Pearce succeeded in producing a strong nephrotoxin by immunization of rabbit's with dog's kidney. In order to eliminate so far as possible the simultaneous production of a toxin for the red corpuscles of the dog (hemolysin) it was necessary to use organs well washed to free them from blood. Now, in previous experiments with heteronephrotoxic serum the action of this hemolysin has not been excluded. The action of the hemolysin consists in laking red blood corpuscles in such numbers as to cause hemoglobinuria, and this is in itself sufficient to cause changes in the kidneys of the animal used. Pearce found that even after the use of washed kidneys for injection there developed hemolytic properties in the serum of the animals injected, but in much less degree than in the animals treated with unwashed organs. Heteronephrotoxic serum thus produced causes albuminuria, cast excretion, degeneration in the epithelium and glomeruli, but no noticeable interstitial changes. Chronic renal lesions could not be established by the repeated injections of toxic serum, and there were no immediate changes in the blood pressure. Pearce also found that hepatotoxic serum, produced by injecting rabbits with dog's washed liver, causes changes in the kidneys of dogs, thus bringing into prominence a correlative action of several kinds of serum which has been noted also by previous observers. In the course of his work he had occasion to note that in dogs spontaneous nephritis is not at all infrequent, and the serum of nephritic dogs is toxic for the renal cells of normal dogs.

We see that the work of Dr. Pearce, to a large extent, consists in disproval of extravagant claims of previous workers and in eliminating manifest sources of error. This somewhat unpleasant task is often necessary in order to clear the field for actual progress. There remain, principally as the result of Pearce's own work, some important well-established facts, namely, that the renal cells of the dog are altered in function and form by the injection of serum of rabbits treated with dog's kidney; that toxic serums are correlative in their action, indicating that various cells are similar in chemical structure, and, finally, that the serum of nephritic dogs is nephrotoxic for normal dogs. The question of the source and nature of this nephrotoxic substance furnishes interesting problems for future work. We believe that the study of somatogenic cytotoxins is on a firmer basis as the result of the investigations of Dr. Pearce, but it is evident that the explanation of chronic nephritis, for instance, is still far off.

1. Univ. of Penn. Med. Bulletin, 1903, xvi, 217-234.

MANUAL TRAINING FOR GIRLS.

In an address[1] to the graduating class of Johns Hopkins Hospital Training School for Nurses, Isabel

1. Bulletin of Johns Hopkins Hosp., September, 1903.

Hampton Robb, formerly superintendent of the school, has discussed some of the defects in trained nurses. She insists that "inefficiency, superficiality and lack of thoroughness belong not to the graduate nurse alone, but are the common property of modern woman, and belong to the average American household." Out of 175 applicants for admission to our training school for nurses only forty were considered worthy. The deficiency of women in the practical knowledge of the affairs of the house is strongly emphasized. An effort is now being made in many of the more progressive training schools for nurses, both at home and abroad, to overcome, by means of a preliminary course, this deficiency as regards the care of the household and the properties of food. Desirable as this is, it is only an effort to accomplish for the few what should be a part of the education of every girl in the public schools. No one knows better than the physician how inadequate are the ideas of women in general regarding the proper preparation of foods, and how impossible it is to obtain proper food for the sick in a great many households. Improperly prepared and unwholesome food is a most fruitful cause of disordered digestion, and careful observers have even ascribed much of the use of alcoholics by the poorer classes to this cause.

While there is a tendency to give manual training an important place in the education of boys, is it not possible that manual training for girls is of equal importance? In the case of girls this training would naturally have to do with the subjects which would not only develop manual dexterity, but which would also serve to stimulate intelligent interest in the things with which they would have to deal in the home. Is there any reason why a girl should not be as much instructed and interested in the making of a dress, a stocking or a loaf of bread, as her brother is in the construction of a box or a machine? In this way the use of the needle, the cooking and preparation of foods, cleanliness and the care of the house could be made matters of interest instead of drudgery, and the school girl would introduce the elements of domestic hygiene into many homes into which they could not be forced by health officers and all sorts of legislation.

If such instruction were given to girls in the public schools, it would perhaps help to dispel the idea which has unfortunately become so prominent in the minds of young women that "housework" is mere drudgery and calls for only an inferior degree of intelligence. Anything is worth while which will teach girls that the problems of the home call for the exercise of the highest degrees of intelligence, training and education, and that the pleasures and satisfaction of doing household duties intelligently in the end can not be compared with the routine work of the shop and the factory.

We wish that the excellent address of Mrs. Robb could be read by every one who has to do with the education of girls. Many an intelligent and conscientious mother would find in it ideas and stimulus that would benefit directly the household and all its members, especially the women, and in the end serve to reanimate the interests of woman in her special work.

RECENT WORK ON THE BACTERICIDAL ACTION OF SERUM OF ANIMALS SUSCEPTIBLE TO ANTHRAX.

It is a well-established fact that normal human serum and the serums of many of the lower animals possess *in vitro* strongly bactericidal properties for many pathogenic bacteria, and yet both human beings and animals are often susceptible to infection with the organisms which are killed by their serums in test-tube experiments. As examples of such cases may be mentioned typhoid fever, dysentery and anthrax. One c.c. of normal human serum in a test tube will kill thousands of typhoid bacilli or dysentery bacilli and yet there are times when these organisms gain entrance into the body, multiply and produce their respective disease. Rabbits are very susceptible to infection with anthrax bacilli in spite of the fact that their blood serum is capable of killing thousands of these organisms when added to a small quantity of the serum in a test tube. On the other hand, it has been found that dogs are relatively immune, and chickens are almost absolutely immune from anthrax, though their extravascular blood serums possess no bactericidal properties for *B. anthracis*.

The serum of a rabbit which has died of anthrax has not lost its bacteriolytic serum-complement, and it is still capable of killing anthrax bacilli, showing that the infection can not be explained on the score of a loss of the complement in the serum. It is evident, therefore, that there is here a sharp disagreement between the facts found by test-tube experiments and those observed in the living animal body; this goes to show that the results obtained by test-tube experiments may be very far from representing what takes place in the animal body, because the conditions are so widely different.

Test-tube experiments, however, are at present one of the best means we have for attacking such problems as immunity, and the aim of the experimenter must always be to approach, in the test tube, the conditions found in the animal body. A decided step in this direction was recently taken by Bail and Pettersson[1] in their work on anthrax. Normal rabbit's serum, as indicated above, is strongly bactericidal for *B. anthracis*, when the latter is added to a small quantity of the serum in a test tube. The experimenters mentioned have found that the results are very different if instead of clear serum they had used serum to which had been added finely emulsified fresh organs (such as liver, kidney or muscle) from the rabbit which yielded the serum. Serum thus treated with organ-suspensions is deprived of its germicidal property, even if the tissue cells and fragments are centrifugalized out before the bacteria are added. The addition to the serum of a few drops of extract from these organs, in physiologic salt solu-

1. Centralbl. f. Bakt., 1903, xxxiv, 445.

tion, has a similar effect. It is interesting to note that these extracts in themselves have no bactericidal properties. Heated beef serum and dog's serum which are normally not bactericidal for anthrax bacilli are rendered so by treating them with fresh bloodless organs of rabbits. The normal beef and dog's serum may also be activated by the addition of traces of a rabbit's serum which has been inactivated by the admixture of organ suspensions.

It may be objected that the conditions here were very different from those found in the body because the experimenters were working with dead cells, even if they were removed from the body only two hours previously. It is nevertheless a decided advance toward approximating, in the test tube, the conditions found in the body. We believe that the observations of Bail and Pettersson constitute a step in advance toward the explanation of the apparently paradoxic phenomena noted above in regard to certain infections. These observations show once more the wonderful complexity of the phenomena of infection and immunity.

LEGISLATION AGAINST THE SALE OF COCAIN.

A bill has been introduced in the legislature of Alabama regulating the practice of pharmacists, establishing a state laboratory at the capital where all applicants for license will be examined. A special provision—and this is why we call attention to the matter—throws additional restrictions on the sale of cocain, the use of which has become so great an evil among the negroes of the South. Druggists will be prohibited, if the law is passed, from selling cocain except on the prescription of a physician, and the physician must, if called on, give good reasons for prescribing the drug. While this last measure seems a little extreme, it is possible that there may be physicians who would prescribe dangerous drugs without good reason, simply to meet the appetite of patients, and such may very well come under the provisions of the law.

MASSACHUSETTS "ALLOPATHS."

The Massachusetts Bureau of Labor Statistics has been taking a census of persons employed in "gainful" occupations. Whether or not the majority of physicians are engaged in "gainful" occupations they are included in these statistics. The *Boston Medical and Surgical Journal*,[1] among other comments, has the following:

> The number of physicians and physicians and surgeons who were willing to answer to the nick-name of "allopaths," was 1,432, of whom 56 were females. There were also 385 who answered to the name of "homeopaths," 83 eclectics, 77 specialists, and 2,213 who were not specified. Of the 4,188 persons employed in the profession of medicine, 486 were females.

It may not be altogether amiss to call the attention of the Massachusetts State Medical Society to the fact that while it has 2,607 members, according to our contemporary, there are said to be only 2,290 physicians in the state who are not sectarians, i. e., eclectics, homeopaths or "allopaths." Is not an "allopath" as much a sectarian as a homeopath? Seriously speaking, is it not time that the physician who is not a sectarian disregarded the nicknames given him by others and was satisfied to be just a plain physician? In this case an ignorant census-taker may have classed a physician as an "allopath" in spite of the physician's clear statement of his status, and much to his dismay on seeing the published report, but one such occurrence should put him on his guard. Let it be eternally understood that we are not "allopaths."

1. Sept. 17, 1903.

SAN FRANCISCO'S MAYOR AND BOARD OF HEALTH.

The report of the San Francisco Board of Health to the Hon. E. E. Schmitz, the mayor, is interesting reading. The reporting to the mayor was evidently purely perfunctory, and it seems also from a statement in the *Occidental Medical Times*, in which the report appears, that its publication in regular channels was denied. This is not to be wondered at, considering the fact that it contains the strongest kind of indictment of the honorable official to whom it is made, and that without any circumlocution or evasion whatever. The mayor is practically shown up as a falsifier and his various offenses against good morals and sanitation are thoroughly brought to light in language the reverse of complimentary. It is a curious thing that politicians who are generally supposed to be wary and far-seeing (though this latter is perhaps open to question) deliberately go to work to make history in which they appear in the most unfavorable light.

THE ORIGINATOR OF THE STOMACH TUBE.

We have briefly noticed in our Current Literature Department[1] an article by Friedenwald in the *Johns Hopkins Hospital Bulletin*, calling attention to the fact that the discovery of the stomach tube should be properly credited to one of our early American physicians, Dr. P. S. Physick, and not to Jukes and Bush, the English practitioners, to whom the honor of its invention has been assigned. It appears clear from this publication that Dr. Physick had employed the method for years when he published his first article on the subject in the *Eclectic Repertory*, Vol. III, p. 110, October, 1812, under the title of "An Account of a New Mode of Extracting the Poisonous Substances from the Stomach." In a later issue of the same journal Dr. Physick makes a correction to do justice to Dr. Alexander Monro, Jr., of Edinburgh, to whom he magnanimously surrenders the credit of the invention because the latter had mentioned its possibility in a thesis published in 1797, to which Dr. Physick's attention had been called since the publication of his article. The fact is, however, as shown by the article, Dr. Monro never utilized the suggestion, and Dr. Physick conceived the idea independently and had tubes made for the purpose as early as 1803, and in his lectures to students, as shown by several communications from former students, was in the habit of recommending the method at that early date. In those days the medical and scientific world did not look to America for important inventions, and it was easy for the English inventors to get the honor as against Dr. Physick. Credit was given to the

1. Page 879, abstract 43.

former, though little attention seems to have been paid to the matter. Dr Friedenwald's article does justice to this early American pioneer of medicine.

PROFESSOR SHERRINGTON'S VISIT.

At the opening of the new medical buildings of the University of Toronto on Thursday of this week, the address of the occasion was delivered by Prof. Charles Scott Sherrington of the University College of Liverpool. The new buildings in Toronto, beside being admirably adapted for the teaching of the medical sciences in a modern way, have been especially constructed and outfitted for the prosecution of original research. It is peculiarly fitting, therefore, that the distinguished director of the Thompson Yates Laboratories, who is England's greatest research physiologist, should have been chosen to make the formal address at the opening ceremonies. Modern physiologists are roughly divisible into two groups, one approaching the problems of physiology from the viewpoint of medicine and interesting itself, therefore, chiefly in the physiology of vertebrates; the other, from the viewpoint of general biology, physics and chemistry, more concerned perhaps with the simpler forms of life as met among the invertebrates. Both groups have in them representatives of the highest order of productive scholarship. To the former of the two groups Professor Sherrington belongs, though his researches and his publications show that he is not unsympathetic with the work of members of the other group. Professor Sherrington has enriched knowledge in every field of physiology in which he has worked, but his most striking services perhaps are those he has rendered to the physiology of the nervous system. His studies of the spinal nerves and of the segmental relations and especially his researches into the functions of the cerebrum of the vertebrates which stand nearest to man, have given him a fame that is world wide. We understand that Professor Sherrington is to visit some of the medical centers of the United States before he returns to England. We can assure him of a most cordial welcome in American physiologic laboratories, and we may perhaps hope that when he returns to Liverpool he may favor us with some impressions of American medicine as seen through an English physiologist's eye.

THE EYE IN NEURASTHENIA.

While the eye symptoms of neurasthenia are well known to many neurologists and ophthalmic specialists, it is possible that their true relation to the general condition is often overlooked. This is probably the more likely to be the case when there exists an actual defect of refraction which when detected is credited with the whole trouble. In a recent paper[1] Gradle calls attention to these facts and emphasizes the importance of attention to still other general systemic disorders that may reveal themselves most prominently in symptoms referred to ocular defects or accent such defects when they exist to a slight extent. These symptoms frequently involve more than merely the eyes, headaches, dizziness, etc., and are not uncommon. The most frequent of the underlying conditions he finds is anemia, while a general neurotic tendency, inherited or acquired, unhealthy environment, lack of exercise and other debilitating influences are hardly less important. Intestinal derangements may also play their part, and when any of these conditions coexist with a slight optic error, the unpleasant possibilities of the latter all come to the fore, sometimes to a distressing extent. Even with perfect emmetropia, intense asthenopic distress may result from pronounced anemia or intestinal autointoxication. Gradle deprecates, therefore, the tendency to treat these conditions by ordering weak glasses without due attention to the general condition, which may alone suffice to give relief. While he considers here only cases without muscular insufficiencies and expresses his doubt whether muscular anomalies that can only be demonstrated by suppressing binocular vision by prisms, etc., can cause asthenopia, it is almost impossible to avoid the suggestion that some of the troubles attributed to muscular eye-strain may be also due to such general conditions, associated it may be with latent refractive anomalies, or it may be, with latent muscular weakness, of itself incapable of causing the trouble under normal health conditions. Psychic influences, as Gradle points out, may have like effects, either through over-attention to the eyes or by exaggerating the effects of some slight and transient injury or inflammation. In these cases the hysterical character can be suspected after exclusion of other conditions and the possibility of suggestive therapy is indicated. It may succeed, but many cases are difficult to affect in this way. It is probable that closer attention to the systemic causes of ocular symptoms is needed not only on the part of the general practitioner, but sometimes possibly on the part of the ophthalmologist.

1. Arch. of Ophth., July.

Medical News.

ALABAMA.

Personal.—Dr. Felix A. Gillespie, Hanceville, has been obliged to leave his work and go to Texas on account of his health.

Appropriation for Medical College.—The house of representatives has passed the bill appropriating $5,000 annually for four years to aid in the repairs and extensions of the buildings and the equipment of the medical department of the University of Alabama, Mobile.

Cocain Sale.—In the bill endorsed by the Alabama State Pharmaceutical Association, there are provisions prohibiting druggists from selling cocain except on physician's prescriptions, providing that the physician, if called on, shall show reason for prescribing the drug.

Neckties and Water.—A colored man, calling himself "Dr." S. M. Miller of Boston, who has been claiming to cure all diseases by selling the patient a necktie and "throwing in" a bottle of alleged medicine, has been arrested on complaint of the Lawrence County Medical Board, and despite his plea that the bottles contained nothing but water, was sentenced to pay a fine of $50 and to be imprisoned for six months, for practicing medicine without license.

CALIFORNIA.

Verdict Against Hospital.—A judgment for $350 against the French Hospital, San Francisco, was rendered, September 21, in the damage suit for $2,450 brought by Charles Pala, who claimed to have been unnecessarily burned by a hot-water bag while a patient at the hospital.

Epidemic at McCloud.—The investigation instituted by the State Board of Health regarding the epidemic of typhoid fever at McCloud has disclosed the facts that milk cans from a dairy in the neighborhood were washed in water from a stream

contaminated by sewage, and found to contain the typhoid bacillus.

The Law and the Doctors.—Luigi Gardini and G. B. Gerino, San Francisco, have been arrested, charged with practicing medicine without license.——Samuel R. Chamley, San Francisco, the cancer "specialist" whose license to practice was recently revoked by the state board, has begun an action against the board in the Superior Court, to have the revocation declared void, contending that the statute of Aug. 1, 1901, under which the board acted, is unconstitutional.

Personal.—Dr. Hubert N. Rowell, Berkeley, was kicked in the side by his racing mare, fracturing three ribs.——Dr. Robert F. Winchester, local surgeon for the Southern Pacific Railway at Santa Barbara, has resigned.——Dr. Beverly S. Nourse, Sacramento, has been appointed physician to the State Penitentiary, Folsom, vice Dr. A. B. Plant, resigned.——Dr. and Mrs. Dudley W. Stewart, Los Angeles, celebrated their fortieth wedding anniversary, September 9.——Dr. A. M. Smith has been appointed surgeon for the Southern Pacific Railway at Merced, vice Dr. William A. Whitlock, resigned.

CONNECTICUT.

Winsted Hospital Gets Bequest.—By the terms of the will of the late Salmon Swift the entire estate is devised to the Litchfield County Hospital, Winsted. The estate is appraised at from $5,000 to $10,000.

Infectious Diseases.—During August 6 cases of smallpox were reported, 80 of measles, 107 of scarlet fever, 1 of cerebrospinal fever, 89 of diphtheria. 43 of whooping cough, 170 of typhoid fever, and 15 of tuberculosis. A decided increase was noted in typhoid fever, the August average for the five preceding years having been 150.

August Deaths.—During August 1395 deaths were reported, equivalent to an annual mortality of 17.8 per 1,000. Of this number, 496, or 35.5 per cent., were due to infectious diseases, including diarrhea. Consumption caused 113 deaths; diarrhea, 290; nervous diseases, 166; heart disease, 79; violence, 73; whooping cough, 29; typhoid fever, 28; pneumonia, 51, and typhoid fever, 13.

A Plea for Medical Inspection of Schools.—The State Board of Health, in its August Bulletin, makes the following eloquent plea for medical inspection of schools:

> The laws of Connecticut are imperious in compelling attendance at school during school age. The laws of nature are more imperious and infallible than the laws of man. It is one of the laws of nature that a school child staying in the same school room with another who has a contagious malady is liable to contract such disease and then must accept its fate to endure it until recovery or a fatal termination.
>
> If our lawmakers compel our children to take such exposures, it is surely their duty to take every known means to reduce to the minimum the risk to health and life.
>
> It has been demonstrated that in all our well-filled public schools dangerous contagious diseases are continually present. It has long been observed that epidemic diseases are more prevalent during the school sessions than in the vacation periods. It is not the school children only that are concerned—the general public is involved.
>
> The situation is a simple one, but full of reasons for anxiety and solicitude. Our public schools have been determined by the surest tests to be centers of infection of dangerous diseases.
>
> The laws of Connecticut compel the exposure of our well children to incur this serious risk. Do not the dictates of humanity demand that immediately a life-saving service be organized and established? The most effective means of safety known is a daily systematic medical inspection of all the schools and the exclusion of such pupils as have contagious diseases until they recover.

DISTRICT OF COLUMBIA.

Bequest to Hospital.—By the will of Anna D. Mansfield of Washington, $5,000 is bequeathed to the Episcopal Eye, Ear and Throat Hospital, to be known as the Charles Davies Mansfield Memorial Fund, to maintain a bed in the hospital.

Well-Known Anatomist Dies.—Adolph J. Schafhirt, for many years an employe of the Army Medical Museum, an expert anatomist and preparer of sections and specimens, and a frequent contributor to medical literature, died at his home in Washington, September 14, aged 62.

Under New System.—On October 1 the Emergency Hospital and Central Dispensary, Washington, was placed under the entire charge of a male medical superintendent, who is in fiscal and professional control of the affairs of the institution. Dr. Charles S. White, Washington, is the first incumbent under the new system.

New Filtration Plant.—By the aid of a congressional appropriation of $3,500,000, Washington is installing a filtration plant on land 35 acres in extent, on which filtration beds are being constructed. There are 29 distinct reservoirs, into each of which the water is filtered through beds of clean sand. When the sand becomes polluted, the water is cut off from that particular division and the sand taken out and cleansed. The beds are thus renewed in rotation, 4 of the 29 being always in process of cleaning. An article describing the filtration system of water purification appears on pages 850 to 852 of this issue of THE JOURNAL.

ILLINOIS.

Aged Physician Injured.—Dr. David R. McKinney, Gifford, fell from a train near Fithian, Ill., September 16, breaking his left leg and right arm.

Grant's Home a Hospital.—General Fred D. Grant, and his brothers and sister, wishing to preserve the Grant homestead in Galena, have presented it to the city and it will probably be converted into a hospital.

Oglesby Hospital Incorporated.—Oglesby Hospital Association, Decatur, was incorporated September 2, the purpose being to establish and maintain a hospital ward for the sick and helpless veterans of the Civil War.

Hospital for Children.—The Cook County Board has instructed the county architect to draw up plans and specifications for a hospital for children on ground adjoining Cook County Hospital, the expense not to exceed $50,000.

Combination of Dental Schools.—The College of Dental Surgery of Chicago has been merged with the dental department of the University of Illinois. During the present college year both schools will be continued and the usual courses given.

Personal.—Dr. Lewis D. Dunn and wife of Moline entertained the physicians of Moline, Rock Island and Davenport, September 18, the occasion being Dr. Dunn's birthday anniversary. Dr. Peter H. Wessel, on behalf of the guests, presented Dr. Dunn with a chain and locket.

Sanitary Condition of Cities.—Late in August the State Board of Health began a systematic investigation of the sanitary conditions of all towns in the state of 2,000 or more inhabitants. It is the intention of the board that an inspector shall personally visit each city and confer with the health officer or the board of health and also with the local physicians; inquiring into unsanitary conditions, investigating the system of sewerage and water supply and making such recommendations and giving such advice as may be found necessary. It is the intention also to have a careful chemical and bacteriologic analysis made of all public water supplies. The analyses will be conducted in Chicago under the direction of Professor Long, chemist of the board. The administration of the act to regulate the practice of medicine will also receive the attention of the inspectors, as well as the administration of the birth and death law of 1903. Dr. E. F. Baker, inspector of the State Board of Health, handed in a report, September 22, of his investigation of the sanitary conditions in the cities of Quincy, Pittsfield, Virden, Belleville, East St. Louis, Alton, Jerseyville, Collinsville, Edwardsville, Madison and Litchfield. He reports the sanitary conditions in each city to be good, with the exception of Edwardsville, where a large ravine exists, into which the sewage of the city empties. This was found to create a bad condition of sanitation, and the authorities were asked to remedy the matter, and promised to do so.

Chicago.

Personal.—Dr. L. Harrison Mettler has been appointed consulting neurologist to the Norwegian Lutheran Deaconess Home and Hospital.

Acquitted.—Dr. Ladislaus Slominski, who was held to the grand jury on the charge of performing a criminal operation, has been exonerated by the grand jury.

Fined for Speeding.—Dr. Leonard L. Skelton, whose automobile is said to have injured a man, was fined $10 and costs by Justice Doyle for exceeding the speed limit of the West Park ordinance.

Cornerstone Laid.—Mrs. Helen Barker, treasurer of the National Woman's Christian Temperance Union, laid the cornerstone of the Frances E. Willard National Temperance Hospital, September 28.

Deaths of the Week.—During the week ended September 26, 498 deaths were reported, equivalent to an annual mortality of 13.76 per 1,000. Acute intestinal diseases caused 61 deaths; consumption, 45; violence, 46; heart disease, 41; Bright's disease, 34, and pneumonia, 32.

Early Medical Chicago.—The city of Chicago has been celebrating its centennial during this week. One hundred years

ago the United States sent some soldiers to the spot where Chicago now stands, and they built a fort, which was called Fort Dearborn. The building of this fort in 1803 was the foundation of the city of Chicago. The first physician of record in Chicago was John Cooper, a surgeon's mate from Poughkeepsie, N. Y., who entered on his duties at Fort Dearborn, Dec. 31, 1810. He was succeeded by Dr. Isaac Van Vorhis, also from Dutchess County, N. Y. He was killed in the Fort Dearborn massacre, Aug. 15, 1812. The first civilian physician was Dr. Alexander Wolcott, who was also Indian Agent at Fort Dearborn in 1820. Ten years later Dr. Elijah D. Hamon came to Chicago and entered private practice, also acting as post surgeon. He was in charge of health matters when cholera was brought to the city by the United States troops in 1832. The first medical college—Rush—was incorporated in 1837, but lectures were not given until Dec. 4, 1843. A year later the first medical college building was erected at Dearborn Ave. and Indiana St., the present location of THE JOURNAL, and the first course of lectures commenced Dec. 11, 1844. The first medical society was the Cook County Medical Society, whose initial meeting was held Oct. 3, 1838, Dr. Levi D. Boone being secretary. The first general hospital was established in a portion of the old Lake House at Rush and South Water Sts., in 1850, with 12 beds. As those who had promised to support the hospital failed, the hospital was turned over to the Sisters of Mercy on the condition that it was to be undenominational and that clinical facilities be offered to medical students. The City Hospital was established at La Salle St. between Cross and Old Sts. in 1856, and was opened in November of the next year with a capacity of 300 beds. The first city board of health was appointed in 1834 and consisted of Drs. William Cluet and Edmund S. Kimberley.

The first directory of Chicago was published in 1844, at which time Chicago was a rapidly growing town of 7,000 inhabitants. This directory contains the cards of twelve physicians, practically all who were practicing in the town, showing that even in 1844 physicians in small towns did not disdain to advertise. The following cards will illustrate the style:

V. A. BOYER,
PHYSICIAN AND SURGEON,
JUSTICE OF THE PEACE.
OFFICE.—CLARK ST. nearly opposite the City Hotel.

DOCTOR BLANEY,
Professor of Chemistry and Materia Medica,
IN RUSH MEDICAL COLLEGE,
May be consulted professionally, at his office, on Clark Street, near South Water St. Dr. B. will also attend to CHEMICAL ANALYSIS, in all its branches.

DANIEL BRAINARD, M.D.
PROFESSOR OF ANATOMY AND SURGERY,
In Rush Medical College,
Office on Clark St. Opposite the Post Office.

DOCTOR H. H. BRAYTON.
Having established his residence permanently at
CHICAGO,
Respectfully tenders his professional services to the inhabitants of the City. TWENTY-FIVE years' Study and Practice, and constant application to professional duties, he hopes will entitle him to the confidence of those who may demand his Services.
FRESH VACCINE VIRUS
Now, and always on hand. Office & Residence
On the East side of CLARK ST. first door South of the Methodist Church.

DOCTOR J. BRINKERHOFF,
Office Clark Street, Opposite Public Square.
DRUG STORE, 143 LAKE ST.

DOCTOR EGAN
Can be consulted in private cases at his Residence or Office, but cannot attend to out-door practice.

M. L. KNAPP, M.D.
PROFESSOR OF OBSTETRICS, &c.
In Rush Medical College, Chicago,
May be consulted professionally at the Mansion House,
NO. 82 LAKE STREET.

The cards of a homeopath, Dr. R. E. W. Adams, and of Drs. John W. Eldridge, Benjamin F. Hale and D. S. Smith, also appear.

And at this early day the quack was there:

PHRENOLOGICAL AND MAGNETIC EXAMINER,
At His Residence, 2nd House N. of the Ep. Church,
DR. TEW,
MAY be consulted in all cases of Nervous or Mental difficulty.—The application of his Remedies will enable him to relieve, or cure, any case of Monomania, Insanity, or recent Madness, where there is no inflammation or destruction of the Mental Organs. His attention to the diseases of the Nervous System, such as the St. Vitus' Dance, Spinal Affections, has resulted in some remarkable Cures. Having been engaged, for the last five years, in teaching Mental Philosophy, as taught by Phrenology, together with his numerous Phreno Magnetic Experiments, enable him to give correct and true delineations of Mental Dispositions of different persons; which will be every way profitable to all who wish to understand the mysteries of their own natures, and how they may use their talents to the best advantage.

The announcement of Rush Medical College in the directory referred to gives the faculty as consisting of Danial Brainard, M.D., Professor of Anatomy and Surgery; James V. Z. Blaney, M.D., Professor of Chemistry and Materia Medica; John McLean, M.D., Professor of the Theory and Practice of Medicine; M. L. Knapp, M.D., Professor of Obstetrics and Diseases of Women and Children, and A. W. Davisson, Prosector to the Professor of Anatomy. The name of E. S. Kimberley, M.D., also appears on the list of trustees. It is announced that "the annual course of Lectures for the first session commences on Monday, December 4, 1843, and will continue sixteen weeks"; that "the requirements for graduation are three years' study with a reputable physician, two courses of lectures, one of which must be in this institution (or two years' practice will be received in lieu of one course). The candidate must be 21 years of age, of good moral character, must present a thesis on some medical subject of his own composition, and in his own handwriting, which shall be approved by the faculty; and pass a satisfactory examination on all the branches taught in this college." In conclusion, it is stated that "Good board and room can be obtained in Chicago at from $1.50 to $2 per week." Happy times now past!

INDIANA.

College Opens.—The Central College of Physicians and Surgeons, Indianapolis, opened for its twenty-fifth year, September 22.

Much Typhoid.—For the first half of September 56 cases of typhoid were reported in Indianapolis, two more than for the corresponding period of last year. The board of health is actively examining well water, and condemning wells.

Personal.—Dr. C. Homer Stalker, Borden, has been appointed assistant physician at the Indiana State Soldiers' Home, Lafayette.——Dr. A. Grant S. Brubaker, Indianapolis, was thrown from his buggy, September 12, and severely bruised.——Dr. Bruce Easley, New Albany, has gone to Europe.

Deplore Hibberd's Death.—The City Council of Richmond met in special session, September 10, and passed resolutions eulogistic of the character of Dr. James F. Hibberd. The Allen County Medical Society held a special meeting at Fort Wayne, passed resolutions and deputed Dr. Miles F. Porter to represent the society at the funeral.——The Wayne County Medical Society passed resolutions eulogistic of "its most distinguished member."

LOUISIANA.

Illegal Practitioner Enjoined.—The State Board of Medical Examiners secured an injunction against "Dr." D. O. Holmes, 1306 Magazine St., New Orleans, restraining him from practicing medicine in Louisiana, on the ground of his being an "illegal practitioner."

Typhoid Reports Requested.—The City Board of Health has issued a circular letter to the physicians of New Orleans urging their co-operation in tracing the sources of typhoid in-

fection, and reminding them that it is their duty under the law to report all cases of typhoid fever. The health officer states that a death certificate is often his only notification.

Asylum Overcrowded.—The State Insane Asylum, which has a capacity for about 1,200 patients, now contains 1,353, and more than 100 applications are on file. Owing to the congested condition of the dormitories it has been necessary to place cots in some of the corridors formerly used as sitting rooms. To relieve this congestion, an insane asylum for colored persons is being built at Pineville, Rapides Parish, which will accommodate about 450 patients.

Alarming Increase of Insanity.—In speaking of the increase of insanity throughout the country, Dr. G. A. B. Hays, superintendent of the State Insane Asylum at Jackson, says that he had recently visited Missouri and Texas and found that the situation was as bad as in Louisiana. Both these states have several asylums and each is having a new one erected. From this fact Dr. Hays contends that the conditions now obtaining in Louisiana are not peculiar to that state alone but are simply an expression of a state of affairs that is widespread throughout the country.

Prisons for Insane Criminals.—There are a number of criminals who have been adjudged insane, confined in the Louisiana State Insane Asylum. The superintendent thinks that this class of insane should be held in some specially-prepared portion of the state prison, where they could be placed under proper treatment and at the same time have the possibility of escape minimized. Not long ago one of the assistants at the asylum narrowly escaped death at the hands of one of these men. The handling of these patients should be the subject of special attention.

Cottages for Insane Consumptives.—Dr. G. A. B. Hays, superintendent of the Louisiana State Insane Asylum, suggested to the board of directors of the asylum that two cottages be erected for white consumptives now in the asylum, one for each sex. The matter was favorably considered by the executive committee and will be submitted to the board at its meeting October 5. The matter of sequestering the insane suffering from tuberculosis is one that has been acted on in a number of asylums in other states, and it would greatly alleviate the lot of the unfortunate inmates if the plan is carried out in Louisiana.

MARYLAND.

Personal.—Dr. Walter Hutchins, My Lady's Manor, Md., has gone to New Mexico for his health.

Typhoid Investigation.—Health Officer Dr. Christian R. Scheller, Hagerstown, is investigating the cause of the epidemic of typhoid fever at Clear Spring, Washington County, where 31 cases are reported.

A Nuisance.—Dr. F. A. Ruhl, sanitary officer of the Thirteenth District, Baltimore County, has reported the Claremont Chemical Company's plant at Sextonville a nuisance and "dangerous to health." "Inhaling of the dangerous gases lowers the vitality of the body and causes headaches, nausea and irritation of the respiratory organs."

Baltimore.

College Opens.—The twenty-third annual session of the Baltimore Medical College opened September 24 with an address by Prof. J. Frank Crouch.

Death and Disease.—The number of deaths for last week was 171, an annual death rate per 1,000 of 15.80. The chief causes of death were consumption, 30; cancer and cholera infantum, each 11; Bright's disease, 10; pneumonia, 6, and typhoid fever, 4. The most prevalent epidemic diseases were diphtheria, scarlet fever and typhoid fever; one case of smallpox was reported.

Personal.—Drs. Howard Kelly and William Osler returned home last week.——Dr Harry M. Hurd is spending his vacation in the Blue Ridge Mountains.——Dr. John T. King has returned from a trip abroad.——Dr. Charles Lewis Allen, formerly connected with Georgetown University Medical School and Vanderbilt Clinic, has been made lecturer on nervous diseases in the University of Maryland.——Dr. Alan Welch Smith has located in Portland, Ore.

PENNSYLVANIA.

Philadelphia.

New Buildings Opened.—New buildings containing operating rooms and an amphitheater were recently opened at the Samaritan Hospital.

Bequest to Hospital.—The late Samuel Cummings left an estate of $40,000 bequeathed to his widow, which, on her death, is to be equally divided among four institutions, the Methodist Episcopal Hospital being one of the four beneficiaries.

One American Selected.—The International School of Hygiene has selected one man from each country in the world as a representative. Dr. J. K. Shell of Philadelphia is invited to represent the United States at the next annual conference at Güttenburg, Germany, next fall.

Woman's College Opens.—At the opening of the Woman's Medical College, September 23, it was announced that to fill vacancies in the faculty Dr. Edith Womer Cadwalader had been elected professor of obstetrics and Dr. Ruth Webster professor of physiology and hygiene. The chair of anatomy made vacant by the death of Dr. William H. Parrish will not be filled this year.

Poisoning Case.—In the trial of Emma Williams, charged with poisoning her children, several medical experts have testified that the children died with symptoms of arsenical poisoning. The chemical expert testified to finding several grains of arsenic in organs examined. One line of defense announced is that the children were poisoned by "spit balls" which they made of wall paper. An effort has been made to show that the colored herb "doctor" Hossey supplied the poison to the accused.

Appeal for Jefferson.—Hon. William Potter, president of the board of trustees of Jefferson Medical College, in his introductory address on September 24, made a strong appeal for the benevolence of the wealthy in behalf of his own and like institutions concerned in the saving of human life. While great liberality has marked the giving to libraries and other institutions of learning, gifts for the endowment of medical schools have been strangely meager. President Potter spoke in high terms of the Jefferson Hospital now building, and announced the purchase of properties in Walnut street, where it is proposed to erect a nurses' home.

The Typhoid Epidemic.—For the week ended September 26 there were 81 new cases of typhoid fever. The health authorities who have been energetic in their efforts to find the source of infection in sections of the city where the disease has been almost epidemic—districts supplied with filtered water—have, they believe, found the true sources. In addition to infected milk supplies, it has been discovered that a well and a spring from which many secured their drinking water are contaminated. While the typhoid bacillus was not detected in the water, it was found to contain the colon bacillus and other impurities, indicating contamination from cesspools. Eighteen new cases of smallpox were reported for the week.

GENERAL.

Yellow Fever Close to Texas.—One case of yellow fever was reported from Laredo, Mexico, last week, which is just across the Rio Grande from Laredo, Texas. The number of guards patroling the river has been increased and all communication between the cities stopped. A case is again reported from Monterey and again denied. United States officers say the truth is hard to obtain. In Victoria only a dozen cases now exist, and the authorities think they will soon have the disease stamped out. Tampico now has seven cases weekly, and the number is diminishing. War against the mosquito is carried on.

FOREIGN.

Police Regulations in Prussia Against Hypnotism Exhibitions.—The Prussian authorities have cautioned the police against allowing any exhibitions of magnetizing, suggesting or hypnotism or any such measures.

Pasteur Treatment of Hydrophobia at Rome.—The mortality among the patients treated at this institute, which is in charge of Professor Celli, has been only .5 per cent. since its organization in 1899. During this period 2,000 persons have received treatment, averaging about 38 a month.

The Sanatorium Movement in Denmark.—The National Antituberculosis Association was founded in Denmark two years ago, and has now 30,000 members. A model public sanatorium has been just opened at Silkeborg, the first in the country. It has accommodations for 122 patients, with 112 rooms facing the south. Each patient has a minimum of 900 cubic feet of space.

Quinin in Italy.—All the provinces of Italy now have quinin bisulphate for sale everywhere, standardized by the government and sold at the postoffice in places without a drug store. The

maximum price allowed to be charged is about two and a half cents a gram, and the charitable organizations are supplied with it to be distributed gratuitously among the poor in the most malarial regions.

False Testimonial Ends Insurance Benefit.—A German manufacturer was in regular receipt of an indemnity paid by a sickness insurance company, on account of a serious stomach trouble. He recently applied to a charlatan, and in order to obtain a reduction in the charges of the latter signed a certificate to the false effect that he had been entirely cured of his stomach trouble after a week's treatment. This certificate was published in the charlatan's ads with the consequence that the insurance company naturally at once suspended further payment of the indemnity.

Popularizing Medical Lore in Russia.—The St. Petersburg Red Cross Society has inaugurated a two years' course of instruction of laymen in the principles of hygiene, disinfection, massage, emergency operations, internal, venereal and cutaneous affections, surgery, etc. The practical demonstrations will be given in a military hospital, and in some of the city public hospitals. The aim of the course is to disseminate information among the people in regard to the onset and care of disease, and diplomas will be conferred on those who complete the course. Our medical exchanges regard the project with disfavor, fearing that the smattering of knowledge thus gained will be an incitement to enter the ranks of the charlatans.

The Anti-Seasickness League Ship for the Lisbon Congress.—The Ligue contre le Mal de Mer chartered a vessel on the occasion of the International Congress at Moscow in 1897 and conveyed a number of members of the congress from England to St. Petersburg and return. The league now proposes to have a ship in readiness for the International Medical Congress at Lisbon in 1906. The vessel will start from Hamburg and touch at intermediate ports, taking the members after the congress to the Mediterranean European ports. It is proposed to install in the vessel a complete exposition of everything bearing on the subject of the prevention of seasickness, and to institute experiments on the passengers on request. The permanent address of the league is Ligue contre le Mal de Mer, Paris V, Boulevard Porte Royale 82.

The Syphilized Chimpanzee.—It is announced from Paris that the chimpanzee successfully inoculated with syphilis this summer now presents the symptoms of the secondary stage. When Metchnikoff and Roux exhibited the animal at the Académie de Médecine, July 28, the primary chancre was recognized as specific by Fournier and others, and the eruption, swollen glands and enlargement of the spleen are now likewise qualified as specific by experts, as Metchnikoff proclaimed at one of the meetings of the International Congress of Hygiene and Demography, which has just closed its sessions at Brussels. Attempts to inoculate other monkeys from this animal—selecting those a degree further removed from man—have proved negative. It seems to be established by this research that the anthropoid apes alone are susceptible to syphilis. The previous communications on the subject were reviewed in THE JOURNAL, page 752.

Crusade Against Tuberculosis in Buenos Ayres.—Stringent measures have been enacted in Buenos Ayres and a penalty of about $192 is enforced for every householder who neglects to comply with the regulation that every house in which a tuberculous person has passed even a single day is to be regarded as infected and disinfection required. Spittoons are to be placed in all public places holding carbolized water renewed twice a day and a penalty of $2 to $5 enforced if a person spits elsewhere than into the receptacle provided. Spitting on the floor of street cars is punished by a fine of about $10; the police are instructed to enforce these regulations. Public vehicles must be thoroughly disinfected twice a year and their floors twice a week. Cars must be disinfected with formalin once a month. No tuberculous person is to be allowed to serve as waiter, cook, butcher or deal in any way with articles of food. Repetition of an offense entails a double penalty.

Cancroin in the Austrian Hospitals.—When Adamkiewicz first presented his cancroin for the treatment of cancer, Albert and Billroth offered him every opportunity in their clinics to prove its efficacy. After the most thorough tests and long experience they concluded that the remedy had no curative action nor power to arrest the disease. Their verdict has not been contradicted in the medical world during the ten years since, but the minister of the interior has recently notified the public hospitals throughout the empire that cancroin must be now given a thorough and objective testing, and a special ward for the treatment of cancer by this method is to be established in some hospital and placed in charge of Adamkiewicz. Our Austrian exchanges comment, as might be expected, on this innovation, which is such a contrast to the usual lethargy in regard to medical matters on the part of the administration—"usually it requires years of red tape before a university, to say nothing of any special faculty, is able to obtain a microscope or even some needed washstand, and every request for some of the modern, well-tried remedies always meets with the reply that the testing of new drugs is not in the province of the hospitals." The Austrians have been chagrined lately over the refusal of a number of prominent German professors to accept the chairs left vacant at Graz, Innsbrück and Vienna by the death or retirement of eminent men. One after another declined as the chairs were offered to them.

International Congress of Hygiene and Demography.—September 2 to 8 witnessed the gathering at Brussels of the eleventh international congress of hygiene and demography, the semi-centennial of such assemblies. There were 1,900 registered members, and 500 were delegates from various countries. The congress was a model of perfect organization we are told. More than 100 sessions were held in all, and each discussion occurred at the time and place as planned from the outset. Among the resolutions adopted was one favoring preventive antidiphtheria treatment and tests of the antimicrobian strength of the antitoxin as well as its antitoxic power. Another resolution adopted was to the effect that "infant consultations" under the care of physicians should be established, and that young girls should be given practical instruction in the hygiene of infants, visiting the "consultations," etc. Circulars proclaiming that bottle feeding can never take the place of breast feeding should be given with the marriage license and when a birth is declared. A number of resolutions were voted in regard to school hygiene and prophylaxis of the plague, among them one to the effect that quarantine against the plague should be abandoned when possible to substitute close surveillance for ten days, reducing it to five days if the passengers consent to prophylactic inoculation with antiplague serum, even when cases of plague have occurred on the vessel during its trip. Ships touching at infected ports should be supplied with antiplague serum so that passengers and crew could be vaccinated when plague occurs on board. The physicians entrusted with the prophylaxis of the plague should be appointed by the central powers, independent of the navigation companies. In regard to tuberculosis, the resolutions were based on the principle that it is eminently a social disease. In the section on demography the statistics presented confirmed the fact that infantile mortality is mainly during the first year, and Bertillon pointed out that 90 per cent. of the infants succumb to a microbian affection, and that the aim should be to treat infants with the same care with which a wounded person is tended. The pressing need is for the mothers to be educated in the principles of asepsis. The section adopted a resolution urging that the accessory circumstances should be recorded with the births, including the premature and the stillborn. The next congress will be held at Berlin in 1907, a national congress of hygiene at Marseilles in 1904, a congress of physical education at Geneva in September, 1904, and a section on hygiene will be one of the features of the international and universal exposition which Liège is preparing for 1905.

Correspondence.

The Danger of Methods Often Used at Present in Dusting Waiting Rooms, Cars and Other Public Places.

BALTIMORE, Sept. 21, 1903.

To the Editor:—The day before yesterday on my return from the Parry Sound District in Canada, at the close of a long holiday, I was delayed for about an hour in the Pennsylvania railroad station at Harrisburg. It was in the small hours of the morning, and being weary I nodded and fell asleep for awhile as I sat on the bench, only to be suddenly awakened with a stifling, gasping, choking sensation caused by thick clouds of dust raised by two sweeping men who were vigorously plying their brooms and stirring up all the desiccated filth deposited on the floor by the great continuous traffic of the previous day and night. The waiting room was crowded, late as it was, and all who remained in the room were forced

to breathe the pulverized debris which had been tracked in from the streets, mingled with the dried expectorations of hundreds of men, women and children of the preceding day.

I need not argue so transparent a case with any intelligent medical man, nor need I dwell on the variety of infectious diseases of the respiratory passages, coryza, bronchitis, whooping cough, pneumonia, tuberculosis, as well as diphtheria, etc., etc., which are at present disseminated over the length and breadth of our land, day by day, by just such atrocious death and disease-dealing procedures, which sin against the simplest and best-known laws of hygiene.

As for myself, although in splendid health ever since I left this country for Europe on April 10 last, I developed immediately a fever and a wretched cold in the head, which is traveling down through my larynx, producing a cough and almost completely unfitting me for work for a few days.

My object in writing this letter to THE JOURNAL is to enlist the entire medical profession as a committee on the whole to expostulate in strong terms, to insist, to write vigorous letters to the daily papers if needs be, or even perchance to be almost ready to resort to personal violence to put a stop to such atrocious practices.

I want my confrères to note the great prevalence of this practice of atomizing the dried filth of our streets and forcing people to inspire it, in many public institutions, in hotels, and in Pullman cars. I am sure it must have long been an offense to many decent clean men to be obliged to submit to breathe the dust thrown in their faces by the currents of air raised by the whisk broom of the Pullman porter as he belabors the coat, the trousers, the hat and the overcoat of the next dusty passenger. Dr. McCormack tells me that the street cars of Baltimore are cleaned by a woman, who enters the car when it goes into the shed and raises clouds of dust with her duster, much of which settles in the upper parts of the car. The car then goes out, and as it jumps over the rails the light dust descends to be inspired by the passengers.

In spite of the general corrupt political state of our country I think a continued vigorous protest from the countless thousands of natural guardians of the public health, my brethren of the medical profession, would soon effect a radical change in the methods of removing and collecting dust and filth from floors and clothes, as it appeals so directly to the selfish instinct of self-preservation.

Let me ask this pertinent question: What right have you or I, my medical brother, to be longing for the dawn of a new era in medicine when we shall be in possession of a toxin for every disease, for tuberculosis and for kindred ailments, so long as we fail to utilize the far better and simpler efficient methods of preventing disease which we already have at hand, when, for example, such a city as Philadelphia, once noted for its cleanliness, becomes conspicuous for its filthy streets, when in our homes, in our streets, in our public places, that most modest of all virtues, cleanliness, holding in her beneficent hands a reduction of the morbidity and of the mortality of so many of the scourges of our modern "civilization," to a point far below 50 per cent. of its present ratio, when cleanliness, I say, is unknown? Must we have magic to please our people? Must the remedy be a poison manufactured in a dramatic way and injected into the veins of the disease-stricken patient, in order to arouse our languid interest?

We put the whole noble army of bacteriologists to utter blushing shame when, as a result of all their arduous labors, they give us such a preciously simple remedy, when after having explained the causes of many of our most frightful diseases in a manner so simple that a child in a kindergarten can both understand the method of invasion and apply the remedy; we shame them I say when, after having thus done all the most sanguine imagination could have proposed, we dumbly plod along the same old dusty, dirty road, waiting to crown the discoverer of an antitoxin.

The specialist in disease of the lungs, throat and nose may exclaim that these are but trite observations, the very A, B, C of his science, iterated and reiterated in medical society meetings. But I care not how old the observation is or how often repeated if men do not heed it. And of one thing I am certain, and that is that the dormant medical profession at large is the proper police body to take the body politic by the throat and shake it out of its disgraceful lethargy.

A distinguished president of one of our great universities told me some ten years ago that he had joined an association known as "the kicking society," the members of which were obliged to object every time they saw gross violations of the law and injustice done.

Let us constitute then a kicking society from Maine to California and insist on clean streets, clean houses, clean public buildings, and clean cars. Let it be recognized as a grave offense and an insult to force a neighbor to inhale myriads of pathogenic germs. The primary inviolable right of every man is to pure air and pure water and sunlight when the sun is shining. See, my brethren, that he is not robbed of his rights.

HOWARD A. KELLY, M.D.

Mental Status in Phthisis.

NEW YORK CITY, Sept. 14, 1903.

To the Editor:—Under the above title a correspondent in THE JOURNAL of the American Medical Association, August 29, p. 767, asks two questions concerning the mental condition of patients with pulmonary tuberculosis. May I, by reason of a somewhat extensive experience with phthisical patients, be permitted to reply and start a discussion, trusting that the interesting subject may cause others, specialists in phthisiotherapy, and particularly general practitioners, to express their opinions through the medium of THE JOURNAL?

The family physician more than anyone else should be heard from on this subject, for he must of necessity be more familiar with the psychologic and mental condition of the members of a family which he has attended for years, than the specialist or consulting physician could be.

The first question was: "Are persons who are afflicted with pulmonary consumption prone to attribute their physical weakness to some other cause than consumption?"

Yes, many consumptives are apt to do so, but the reason for this is not a condition brought about by the disease itself, but by the fear of the disease. Invalids know that many people will shun, or wish to shun them if they are called consumptives. Many still consider phthisis an incurable disease, and try to delude themselves, their families and friends as long as possible, feeling that to pronounce them consumptives would be to sign their death warrant. Others have no suspicion of their true condition and are sure they have no tuberculous disease. Thus I have not infrequently seen consumptives, even among the most cultured and educated, who would ascribe a hemorrhage from the lungs to a little bleeding from the throat or nose; the cough to bronchitis or to a derangement of the stomach; the pleuritic pains to intercostal neuralgia or heart trouble; their general weakness to an overtaxing of the nervous system. I have even found medical men suffering from tuberculosis who believed their symptoms were due to anything and everything else except to the development of a typical pulmonary phthisis.

Whether and when it is wise to leave the patient under these delusions will largely depend on the state of mind of the individual invalid and the good judgment of the physician. At times I have found it best to dispel all such illusions at once; in other cases it was necessary to proceed gradually and with the utmost tact. In view of the infectiousness and the curability of the disease under proper care the patient should, as a rule, be made acquainted with his true condition as soon as possible. If he is told that he will get well quicker if he calls his disease what it is and takes proper care, than if he calls it something else and neglects it, he will have more courage, be in a better mental condition and will then be careful not to infect others or reinfect himself.

The second question was: "Are persons afflicted with pulmonary consumption more easily turned against their dearest friends by designing people than when in a normal state of health?"

I would answer this strange query with a most emphatic

"No." If such instances occur they are the exception, not the rule, and are then due to a peculiar psychologic state of the individual. Consumptives as a class are grateful to their friends, physicians and nurses and devoted to their families. At the beginning of the disease, it is true, a decided irritability may often be noticed, with a dislike or indifference to pleasure or work; but beyond this no distinct psychologic changes can be observed. Many consumptives are very sanguine about the outcome of their disease, others are depressed, some totally indifferent. Even in the case of a fatal termination most of them retain a clear intellect until the last. The character and disposition of the consumptive varies as it does in well people; but to say that by reason of his disease he is easily turned against his friends by designing people would be absurd and do him the greatest injustice.

There is enough phthisiophobia in the world already, and let us not give the phthisiophobic another cause to increase his fear of or dislike for the unfortunate consumptive. Thousands of these are as noble, true and generous as any other class of invalids or well people.

Consumption is a preventable, curable, communicable, but by no means a dangerously contagious disease. Among those who were once afflicted with it and were ultimately lastingly cured we count the brightest minds, the most generous and truest hearts. The German poet Goethe, our own Peter Cooper, the French poet Coppée, were among them. The greatest German specialist Herman Brehmer, who cured himself, and thousands of others from this disease; his two greatest contemporaries and co-workers, still alive and active. Dettweiler in Germany and Trudeau in this country, all are examples of the highest type of men. The story of the lives and work of those who have passed on and those still with us give evidence of their great qualities of heart and mind, their truth and devotion to friends, family and mankind in general.

16 West Ninety-fifth Street. S. A. Knopf, M.D.

Suggestive Therapeutics vs. Hypnotism.

Chicago, Sept. 26, 1903.

To the Editor:—In The Journal, Sept. 26, 1903, appears an editorial under the above heading, which challenges some comment. . . . Hypnotism, as now understood by men who have had personal experience with it, is really synonymous with suggestion. The Charcot school is responsible for the term artificial hysterical state occasionally cropping up in medical literature. Charcot conducted his experiments with hypnotism on about a dozen or more hysterical patients which were demonstrated to the whole world in order to prove his theories. The peculiar method used and the frequency with which these patients were hypnotized contributed toward their becoming perfect automatons of unconscious suggestion. Hypnotism as practiced now is nothing else but suggestion administered during a state of greatest susceptibility to suggestion. I can not conceive how you can recommend suggestive therapeutics and condemn hypnosis when to successfully practice the first the second is often an absolute necessity. Not all people are alike suggestible and particularly are hysterical patients refractory to suggestions from without, for they are mostly dominated by autosuggestions. If suggestion is to be of value it must be administered during the time of greatest susceptibility. Many people are susceptible to suggestion in the waking state and these are the proper subjects for indirect waking suggestions by means of innocuous drugs, electricity, etc. In some cases we are forced to place such patients into the condition of greatest receptivity for our suggestions, I mean into hypnotism. The so-called dangers from hypnotism are imaginary, and although I have hypnotized hundreds of times I have never seen any ill effects from its use. Bernheim, Liebault, Ford, Wetterstrand and a host of others who practiced hypnotism thousands of times have had similar experiences. Because of the Mendel commission having assumed an unfavorable attitude toward hypnotism is no valid argument against its use by the physician in properly-selected cases.

Julius Grinker, M.D.

Physiology in the University College of Medicine.

Chicago, Sept. 28, 1903.

To the Editor:—My attention has been called to the fact that in my report on Curriculum in the National Confederation of State Medical Examining and Licensing Boards (The Journal, Aug. 15, 1903, pp. 456-461), the University College of Medicine, Richmond, Va., is not credited with any work in physiology. This college devotes to this study 53 hours of lectures and 27 hours of recitations. I am informed by the proctor that the number of hours has been increased for the coming session. Any other errors noted in the above report will be corrected most cheerfully if sent to the undersigned.

70 State Street. George W. Webster, M.D.

The Visiting Physician in Berlin.

by denslow lewis, m.d.
chicago.

(*Concluded from page 798.*)

With a slight knowledge of social usage and with the ability to speak the language to a reasonable extent, the American visitor's sojourn in the German metropolis will be most enjoyable and profitable. The wealth of clinical material is unsurpassed elsewhere, and the sensible manner in which it is utilized will be appreciated. The friendly reception extended to Americans and the invariable courtesy that prevails on all sides combine to make the visitor welcome and to facilitate his studies. The months of April and August are vacation months when many medical men leave town. The months of March and October are also vacation months, but especially valuable to the medical visitor for the vacation courses (*Ferienkursen*) are given at this time. These courses are unusually interesting, for it is here that the younger teachers have a chance to exploit themselves and the older men to bring forward prominently special points in diagnosis and treatment. The cost is insignificant. For ten dollars a month you can see Lexer and others connected with Bergmann's Klinik perform major operations every morning, and you can do minor operations yourself in the Poliklinik, where over 20,000 patients are treated every year.

If one's stay is to be protracted it is well to matriculate and be enrolled as a student. It is imperative to show a passport, and it is customary to present the diploma. I had forgotten to bring either, but I procured the passport from our Embassy for about ten marks and I showed the dean a copy of my "Obstetric Clinic" I had with me to give to Olshausen. In arranging to matriculate consult the man in charge, called the "*Pfoertner*," or better still, his wife, who is an English woman. They keep the buffet in the university building and supply the student with information as well as sandwiches and drinks. They told me the day and hour I was expected to appear in person and qualify.

When the appointed time arrived I found myself, together with some fifty others, seated in the "*Aula*," as the assembly hall of the university is called. At one end of this hall is a throne or pulpit arrangement with leather chairs in front and seats along each side of the room. I learned afterward that this is where the candidate for graduation takes leave of the university by publicly defending three theses before all the world—a function known as "*promovieren*." At the other end of the room is a large table at which are seated several dignified gentlemen who superintend the matriculation. When my name was called I approached the table and was interviewed by the gentleman at the end. He looked at my passport and compared the name with the name in my book on obstetrics. Being satisfied apparently with my credentials, I was directed to the rector, who wrote my name and his own on a large Latin document, which I deciphered later and learned that it was my certificate of matriculation. I then passed along to another gentleman, who had me write my name and address in a large book. The next gentleman had me write my name on a numbered student's card, which I was instructed always to have on my person and which, I learned afterward, exempted me from arrest or interference by the police. The next

gentleman, who is the "*Ober-Pedell,*" collected eighteen marks and gave me my "*Anmeldebuch,*" in which to record the lectures attended. I went back to my seat and waited until all present had similarly run the gauntlet. Then the rector arose and made a short speech. He said we had all done well at our high schools and he hoped we would do equally well at the university. He admonished us against the temptations of the metropolis, and we formed in line and marched past him so that each one could receive from him the academic handshake. The medical students were directed to meet the dean the next day at a stated hour, on which occasion, by showing our student cards and matriculation certificates, we received another Latin document of smaller size, which indicated that we were inscribed as students of medicine.

The next thing to do is to decide which lectures are to be chosen, or, as here expressed, "*belegt.*" You must choose at least one course or your name does not appear in the catalogue. You have the first six weeks of the semester in which to look the field over and make a decision. During this time you visit the different men, hear them teach or see them operate. This is called "*hospitieren.*" Having made your choice you visit the "*Questor*" at the university building between the hours of 9 and 1, and in addition to paying for the courses you select you pay also twelve marks and a half each semester for incidentals, including free medical attendance in case of illness or accident. The amount paid and the courses chosen are written in the "*Anmeldebuch,*" which must be taken to each professor for his signature at the beginning and end of each semester. When leaving the university a certificate of attendance called an "*Abgangszeugniss*" can be procured by the payment of twelve and a half marks and the presentation of your "*Anmeldebuch*" properly attested. This certificate shows the studies you have "*belegt,*" and in conventional terms it is stated regarding your conduct while a student of the university that there is "*Nachteiliges nicht zu bemerken,*" that is, "nothing detrimental to be remarked."

Regarding the different courses of clinical instruction I will not now write in detail. The medical man who contemplates visiting Berlin will soon learn about them on arrival or, at trifling expense, he may procure the announcements in advance through almost any American bookseller. Many of the best courses are free and no one will ask for the student card at the others. Indeed, in some of the best-known courses few persons pay the fee. Lassar's course on skin diseases, for example, is "*belegt*" by only five or six in a semester, although his auditorium is crowded every day. He often jokes about this, but he is so popular and so extremely amiable that every visitor is made welcome. The vacation courses, however, must be paid for, as well as all special arrangements for individual instruction. The facilities for instruction of this kind are ample, so that, at insignificant expense, one may pursue almost any line of study in the most practical manner.

Some of the best operating is absolutely free. Israel, Krause, Sonnenberg, Körte, Hoffa, Rotter; Dührssen, Mackenrodt, Jansen or Neumann—Hahn's successor at Friedrichshain—may all be seen, each at his respective klinik, by presenting your visiting card. To see Olshausen, who is the best known gynecologist in Germany, it is advisable to make a formal call about 5 o'clock, at his residence adjoining the Frauenklinik, of which he is the director. He is a most affable gentleman and will invite you to be present at his laparotomies, which occur early each morning. It is customary to give his "*Portier,*" who is in charge of the door of the Frauenklinik, about two marks a week if you are a constant visitor. You will receive from him a postal card every day, and if the case is urgent he will telephone you or send a messenger in search of you.

A few words, in closing, about graduation at the Royal Friedrich-Wilhelm University, as the institution is called in Berlin. Three Americans graduated there last summer and another from New York is now a student. These gentlemen all began their medical studies in Berlin. On matriculating they were obliged to show their passports and a "*Zengniss der Reife,*" that is, evidence of having an amount of knowledge equivalent to that possessed by a graduate of a German gymnasium. This is perhaps represented by the completion of the sophomore year at one of our American colleges. When candidates for graduation they had to show nine semesters' work, including anatomy, chemistry, physics, physiology, histology, biology, internal medicine, obstetrics and gynecology, surgery, ophthalmology and two semesters of pathology. They visited the dean, paid 440 marks each for the examination and presented their credentials. A day or two afterwards they were called before the dean for the "*tentamen medicum,*" which is a written examination lasting two hours. The subject assigned may be in any department of medicine. On one occasion last July the subjects were puerperal eclampsia, preparation and therapeusis of atropin, pernicious anemia and croupous pneumonia. The next day the result was announced and the day set for the "*examen rigorosum,*" which was oral.

There are three divisions of the faculty composed of five members—commissions as they are called—who conduct this examination. The candidate may be assigned to either commission. In one instance he will be examined in anatomy, obstetrics and gynecology, materia medica, ophthalmology and internal medicine. In another commission the professors represent pathology, physiology, surgery, internal medicine and obstetrics and gynecology, while the third commission examines on neurology, hygiene, surgery, pediatrics and anatomy. Of course, each professor may examine in any department of medical science, but he rarely goes outside of his own. The candidates, faultlessly attired in evening clothes, present themselves by appointment at 5 o'clock at the dean's office, where they are received by each member of the commission in turn. Each interview lasts an hour. The number of candidates at any one time may not exceed five. Wine and cake for their refreshment are on a table in the anteroom. Shortly after 10 o'clock, when all five professors have compared their markings, the result is announced.

When a candidate does not pass he may be re-examined at the end of the next semester by paying a small additional fee. When he does pass he is said to have graduated "*rite,*" that is, successfully, or "*cum laude,*" meaning with praise. My young friend Teague of Alabama received this honor last July. The other two distinctions, *magna cum laude*" and "*summa cum laude,*" are rarely attained by foreigners. Once during the past four years an Armenian received the "*magna,*" and his thesis was considered so exceptional that the dean added an extra point, which entitled him to the "*summa.*"

The thesis, or "*Arbeit,*" as it is called, is prepared under the direction of a privat docent or professor, who assigns a subject, supplies the bibliography or, if the subject is clinical, provides the patients. When completed it must be approved and recommended to the dean as the "*Doktorarbeit.*" The dean examines it and the candidate is directed to a printer, who will strike off 440 copies, 340 of which remain the property of the university, at an expense of 120 to over 200 marks, according to its length. The page proof is submitted to the dean, who either signs it immediately or keeps it to look over. The printer is fined for printing an "*Arbeit*" without the dean's approval. The page proof approved by the dean is kept by the printer, who prints on the title page the date of graduation, a date also ordered printed on the diploma.

The last function when the candidate receives his parchment diploma, also a duplicate on heavy paper and seven printed copies, is known as "*promovieren.*" It takes place in the "*Aula*" of the university at a set hour—usually 2 o'clock. The candidate defends three propositions, called "*Thesen,*" before all the world. He arranges for three opponents to be present, one to speak against each proposition. When my friend Stephens of Tennessee went through the ordeal I had the honor to be one of his opponents. I put on evening clothes, brushed my silk hat, polished my patent-leather shoes and invested in a pair of white kid gloves. Thus attired I joined the candidate at the appointed hour. His friends were seated at either side of the room, while he and his opponents, all in full dress, awaited the entrance of the dean. Presently the door at the other end of the room opened and the dean

advanced toward us. He was dressed in a flowing gown of red silk or velvet and wore a large turban of the same material. The candidate met him at the middle of the room and presented him with a bound copy of the "*Arbeit*," which contained the three "*Thesen*" to be defended and the names of the opponents. The dean seated himself at one side, the opponents in front of the stage, the candidate mounted the rostrum and reading off a set form in Latin declared that he had fulfilled all requirements and was now prepared to defend three "*Thesen*," which, with permission. he would read in the German language.

When my turn came the candidate announced that in puerperal eclampsia immediate delivery is indicated. I knew, of course, the day before that I was to dispute this proposition, and I had told the candidate he might as well maintain that it was light when the sun was shining. I arose and remarked that even if the delivery were immediate aseptic precautions should not be forgotten, for it was hardly worth while for a woman to recover from eclampsia if she were fated through neglect to die later of sepsis. I referred to Löhlein's statistics, the best in the world, and I called to mind that his treatment was morphin hypodermically. The candidate gave me a look of scorn. He told us that the practitioner of to-day realized the value of asepsis, and it was, he hoped, unnecessary to insist on it on every occasion. As regards Löhlein's twelve cases, he maintained that the number was insufficient on which to generalize, much less to attempt to formulate a treatment. Indeed, his own experience, as "*Unterarzt*" at the Frauenklinik, was much greater than Löhlein's, and for that reason, if for no other, he must persist in his demand for immediate delivery in those cases. Under this denunciation all I could do in reply was to acknowledge the candidate's contention.

When all three opponents had been vanquished the candidate asked if any one else had anything to say against his propositions. He stared his friends on either side of the room boldly in the face, but no one ventured a word. The candidate with an air of triumph then bowed to the dean, who ascended the pulpit and called the candidate to him to administer the Hippocratic oath. This completed, the dean made some more remarks in Latin—undoubtedly felicitous in character—and presented the diploma. The candidate replied with more choice Latin, in which I understood that he was bidding good-bye to the dean, the university and the assembled guests. The dean now offered his congratulations and retired while the candidate —now a candidate no longer, but a full-fledged M.D.—received the good wishes of those present.

The diploma does not entitle the recipient to practice. Indeed, among the Germans it is an honor and not a necessity. The essential thing is to have passed the "*Staatsexamen*." The German student is a graduate of a gymnasium or "*Realschule*" and matriculates as described. He studies first anatomy, physiology, chemistry, physics, botany and zoology for at least four semesters and then applies for examination in these branches. He must show that he has passed this "*physicum*"—which is an oral examination—before he can attend clinical lectures. At the beginning of the tenth semester the student may apply to the government for permission to take the "*Staatsexamen*." He must show in addition to his attendance on lectures nine "*Praktikantenscheine*," that is, certificates that he has stood the quiz before the class to the satisfaction of the professor. Two of these certificates must be in obstetrics and gynecology, two in surgery, two in internal medicine, one in children's diseases, one in ophthalmology, and one in vaccination. It is rumored that a tenth certificate—the subject not announced—will soon be required. The "*Staatsexamen*" is an oral examination and very difficult. It is usual to examine three days in each subject, and it takes about six months to complete. The title received is "*Praktischer Arzt*," or practicing physician, and is a license to practice. If the "*Doktorwürde*," or degree of M.D., is also desired the applicant must write "*Arbeit*" and "*promovieren*," but the commission that now examines him orally is composed of three instead of five members of the faculty.

92 State Street.

Marriages.

JOHN G. CRAIG, M.D., to Miss Alma Willett, both of Chicago, September 16.

J. J. DALLAL, M.D., to Miss Ellen Collins, both of Norcatur, Kan., September 2.

EVLAN SARGENT, M.D., to Miss Winnie Compton, both of Moline, Ill., September 9.

JAMES M. BLAINE, M.D., to Mrs. Ida Ladair Green, both of Denver, Colo., September 16.

GEORGE D. MORTON, M.D., Philadelphia, to Miss Josephine H. Griswell of Norwood, Pa., June 30.

REIN K. HARTZELL, M.D., Allentown, Pa., to Miss Jennie A. Kuntz of Treichlers, Pa., September 15.

JOHN HENRY SIEDLER, M.D., Buffalo, N Y.., to Miss Theresa Marie Brick, at Brantford, Ont., September 9.

LEONARD E. WELCH, JR., M.D., Albany, Ga., to Miss Frances Laundis of Alabama, at New York City, September 9.

CHARLES F. CULVER, M.D., Sioux Falls, S. Dak., to Miss Grace Isabel Cameron, of St. Paul, Minn., September 2.

BEN PERLEY WEAVER, M.D., to Miss Lucile Porter, daughter of Dr. Miles F. Porter of Fort Wayne, Ind., September 16.

WILLIAM JORDAN TAYLOR, M.D., Cincinnati, son of Dr. William H. Taylor, to Miss Katharine Warren Weston of New York City, at Cascade-in-the-Adirondacks, N. Y., September 16.

Deaths.

Robert Newman, M.D. Long Island College Hospital, Brooklyn, 1863, for many years a member of the American Medical Association, and of the New York State and County Medical associations, died suddenly at his country residence, Monument Beach, Mass., August 28. He was an honest, painstaking and indefatigable worker in the field of electrotherapeutics, and suffered not a little for his persistent advocacy of the treatment of urethral stricture by electrolysis. During the past year his friends had noticed with regret that his health and strength were on the wane, but he would not listen to their admonitions, and insisted on working to perfect the arrangements for the meeting of the American Electrotherapeutic Association. Even gout and dysentery could not curb his will, and he continued to attend to his practice until his wish to "die in harness" was gratified, for his death came to him while he was sitting in his office chair.

Hugh Morrison Lash, M.D. Cincinnati College of Medicine and Surgery, 1870, professor of mental and nervous diseases in the Central College of Physicians and Surgeons, Indianapolis; consulting physician to the Union State Hospital; member of the American Medical Association, Indiana State Medical Society, Marion County Medical Society, and some-time president of the Indianapolis Medical Society, and a member of the city board of health, died from cardiac asthma at his home in Indianapolis, September 19, after a long period of ill health, aged 59. At a special meeting of the Indianapolis Medical Society, September 20, eulogistic resolutions were adopted.

Samuel Hollingsworth Stout, M.D. University of Pennsylvania, Philadelphia, 1848, surgeon and medical director of hospitals of the Department of Tennessee in the Confederate service during the Civil War, some-time professor of surgical and pathologic anatomy in Atlanta Medical College, and at the time of his death emeritus professor of medicine in Baylor University College of Medicine, Dallas, died at his home in Clarendon, Texas, September 18, aged 81. The Dallas County Medical Society, at a specially-called meeting, appointed pallbearers and committees on resolutions and flowers.

Luther Martin Irwin, M.D. Rush Medical College, Chicago, 1882, of Lafayette, Ind., a member of the Indiana State Medical Society, and once vice-president of the Tippecanoe County Medical Society, died suddenly from heart disease in the office of Dr. Richard B. Wetherill in that city, September 17, aged 48. The Tippecanoe County Medical Society, at a special meeting, September 18, pronounced eulogies on Dr. Irwin and appointed committees on resolutions and flowers.

Andrew H. Kimbrough, M.D. Jefferson Medical College, Philadelphia, 1858, a charter member of the Vermilion County Medical Society, and a member of the Illinois State Medical Society

for many years, died at his home in Danville, Ill., September 17, after an invalidism of two years, aged 70.

Isaiah D. Morgan, M.D. University of Pennsylvania, Philadelphia, 1858, a surgeon in the Confederate service during the Civil War, and local surgeon of the Alabama Great Southern Railway, died at his home in Eutaw, Ala., September 17, after an illness of more than a month, aged 73.

Charles Gardiner, M.D. Jefferson Medical College, Philadelphia, 1879, a member of the American Medical Association and a prominent surgeon of Emporia, Kan., died suddenly from heart disease while performing an operation in Emporia, September 24.

Eli Edwards Josselyn, M.D. New York University, 1873, a physician in the woman's department of the Pennsylvania Hospital for the Insane, Philadelphia, died suddenly in a corridor of that institution, September 13, from heart disease, aged 57.

William M. Cox, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1860, a member of the American Medical Association, died at his home in Mount Sterling, Ill., September 14, from persistent hiccough, after an illness of one week, aged 65.

Egbert Guernsey, M.D. New York University, 1846, New York City, for many years editor of the *Medical Times*, died at his summer home in Fishkill Landing, N. Y., September 19, from bronchopneumonia, after an illness of five days, aged 80.

Benjamin G. Kimmel, M.D. Miami Medical College, Cincinnati, 1870, of Youngstown, Ohio, died at the City Hospital, Youngstown, September 19, from skull fracture received in a fall from his bicycle the day before, aged 62.

John K. Dick, M.D. Rush Medical College, Chicago, 1890, formerly of Champaign, Ill., died at his home in Lincoln, Ill., September 20, from typhoid fever, after an illness of three weeks, aged 49.

James S. Hall, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1875, was found dead in his store at Manville, Wyo., September 16, supposedly from the effects of an overdose of morphin.

Franklin N. Morton, M.D. Eclectic Medical Institute, Cincinnati, 1871, died from brain disease at his home in Little Cooley, Pa., September 19, after an illness of ten days, aged 68.

John C. Rhoden, M.D. Rush Medical College, Chicago, 1896, of Elk Point, S. Dak., a member of the American Medical Association, died in a hospital at Council Bluffs, Iowa, September 19.

R. Howard Edmonston, M.D. University of Buffalo, Brooklyn, N. Y., died at the Kingston Avenue Hospital, Brooklyn, September 8, from diphtheria, after an illness of four days.

William Taliaferro, M.D. of Tappahannock, Va., died at the University Hospital, Baltimore, September 17, from diabetes, which appeared after an operation for carbuncle, aged 58.

Will Stephens, M.D. Barnes Medical College, St. Louis, son of Dr. Andrew J. Stephens, died in his father's office, September 21, from the effects of morphin taken with suicidal intent.

Warren H. Blood, M.D. Cooper Medical College, San Francisco, 1885, died at his home in West Oakland, Cal., September 12, from pneumonia, after an illness of two weeks, aged 39.

John A. Draughon, M.D. Bellevue Hospital Medical College, New York, 1875, of Nashville, Tenn., died at the home of his daughter in Springfield, Tenn., September 18, aged 49.

Myron S. Brownson, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1871, died at his home in Kingsley, Mich., September 20, after a lingering illness, aged 58.

Robert Bruce Shaw, M.D. McGill University, Montreal, 1896, of Charlottetown, P. E. I., died September 13 at the Massachusetts General Hospital, Boston, from appendicitis.

Charles S. Williamson, M.D. University of Maryland, Baltimore, committed suicide by taking poison at Winifred, Kanawha County, W. Va., September 15, aged 26.

Theodore Hartwig, M.D. University of Marburg, Germany, 1845, who came to Cedarburg, Wis., in 1846, died at his home in that place, September 20, aged 83.

A. S. Hayley, M.D. Louisville Medical College, 1883, of Yakima City, died at the North Yakima Hospital, September 9, after a long illness, aged 40.

Thomas J. Barton, M.D. Albany (N. Y.) Medical College, 1855, of Tivoli, N. Y., died at the Albany City Hospital, September 11, aged 73.

Joseph Bechtel Mintzer, M.D. Medico-Chirurgical College, Philadelphia, 1891, died at his home in Philadelphia, September 18, aged 48.

Bennie E. Grove, M.D. Kansas City (Mo.) Medical College, 1900, died at his home in Augusta, Okla., September 9, from typhoid fever.

Wesley M. Landon, M.D. Cincinnati College of Medicine and Surgery, 1863, died at his home in Quincy, Ill., September 11, aged 75.

Murdock McLean, M.D. University of California, San Francisco, died September 13 at Placerville, Cal., from fever.

Deaths Abroad.

Dr. Matheus dos Santos, professor of hygiene and president of the medical faculty of Bahia, Brazil, died in Berlin last month.——**Dr. V. V. Muravieff**, an eminent Russian neurologist, died at Moscow, August 20.

Miscellany.

Five-Cent Novel Medicine.—In a "powerfully written and graphically portrayed" story for boys, price five cents, entitled "The Knowlhurst Mystery, or the Strange Adventures of Leslie Norton," appears the following choice bit:

When the doctor had declared that he was too late, he really believed Peter Norton to be dead.

The little clot of blood which had formed on the base of the brain had so numbed him that coma, like unto death, had set in.

A very slight movement of the muscles of the neck caused the doctor to try an experiment.

He had with him a little pellet of nitroglycerin.

It was a new invention, and the physician trembled at the consequences of using it.

It might destroy the little vitality left, or, on the other hand, it would, perhaps, give life and power to the heart.

In Norton's case, the doctor felt safe in using it, for he was convinced nothing short of the almost miraculous could restore him to life.

He opened the old man's teeth, and placed the pellet on his tongue.

There was no attempt made at swallowing it.

A small quantity of whiskey, poured gradually on the tongue, caused the pellet to glide softly down the throat.

Presently the effect was seen.

The nitroglycerin had dissolved; the shock was felt in every part of the body.

Norton's face became purple, then gradually the blood diffused itself over his body; the shock had dispelled the clot. He opened his eyes and looked around; then closed them, and fell into a calm sleep.

Medical organization in the United States has at last made a movement that will only result in a most satisfactory success, says the *Southern Practitioner*. Since the grand meeting at New Orleans quite a number of states that were hanging back, hesitatingly, doubtingly, as if the movement was one possibly to result in binding them to means and measures that were not calculated to result in general good, have accepted the method of reorganization as suggested, of making the county membership the unit of representation. By the plan now satisfactorily demonstrated to be the only correct and practical one, we have a definite representative body, controlled by the membership of the profession at large through their duly qualified and selected representatives in their state organizations; those in their turn selecting the representatives in the National organization, to whom is entrusted the welfare, individually and collectively, of the profession. In our own state, since the annual meeting held in this city, quite a number of counties have placed themselves in line, and fifty-two county medical societies, composed of the best and most representative men in their respective localities, have been chartered as regularly affiliated and component societies of the State Medical Association. This has so far resulted in increasing more than three-fold the membership in the state organization; and with the work that will be carried on during the months intervening between now and the next annual meeting, we have every reason to believe that but few, if any, counties in the state will fail to affiliate with and be represented in the state association. Furthermore, in counties in which a fair organization had previously existed, there has been quite an accretion of membership. To our friends in this state, as well as in others, we would respectfully but earnestly say—organize! *organize!!* yes, ORGANIZE!!! If you have no organization in your county, at once take steps to get one properly under way. If you have a county organization, and it has not yet properly affiliated with your state organization, see to it that it does so before the next annual meeting; and if you *have* a properly organized and affiliated

county medical society, do not let your efforts rest here, but go on with the work, and induce any reputable member of the profession within your acquaintance to join you and your associates. Individual work with your clientele, in your library, in your laboratory, at the bedside of your patients, is all very well; yet a little time given to your county, state and National organizations will benefit both you and your patients in many ways. It is a duty you owe to yourself, to the profession of which you are a member, and to your patrons. No man has a greater necessity for organization and conference with his fellows than the physician. No one can be greater benefited thereby. If medical science and medical and surgical success depended alone on empiricism, each one might flock by himself, and the most successful would be the one with the best memory to remember and utilize the uncertain methods and measures of the empiric. Yet how much grander, how far more beneficent results will accrue to each and every one, and those relying on them, if each one from day to day brings his grains of observation and place them in a granary to which all have access. Again we say, organize in your counties, hold your meetings weekly, semi-monthly, monthly, quarterly or semi-annually, the oftener the better, and if but two or three are gathered together at each meeting, only good can come from your conference, and others will soon be induced to follow the good example you set them. One question we would ask—and its answer will be as strong an argument for organization as could be desired—whether you have been a member of the medical profession one year or fifty years—you know something about the standing of other medical men—then, who occupy the best, the most enviable, the most satisfactory position socially or professionally? Now just take a look around—and whether it be far or near—in the great metropolitan centers of the nation, in the larger towns and cities of your state, do you not find at the head of the profession men who are identified with medical associations? Whether in county, state or National association you will find the cream of the profession—its most progressive, its most successful members—if they can see a benefit therein, why not you?

Book Notices.

A Nurse's Handbook of Obstetrics. For Use in Training Schools. By Joseph Brown Cooke, M.D., Fellow of the New York Obstetrical Society. Cloth. Pp. 391. Price, $2.00. Philadelphia and London: J. B. Lippincott Company. 1903.

The author has endeavored to bring together the principal points that the monthly nurse must know, or ought to know, to make herself an efficient helper. The illustrations are good and the instructions given seem to us in the main sensible and complete.

My Child and I. In Sickness and Health from Pre-natal Life Until Sixteen. By Mrs. F. L. S. Aldrich, M.D., Member of the American Medical Association. Cloth. Pp. 429. Price, $1.50. Philadelphia: P. W. Ziegler & Co. 1903.

This is a book for the laity. The statements made seem to be in the main fairly correct, and the book may be taken, in general, as a fairly reliable guide for parents. The only difficulty is that it may lead to too much home treatment, to the child's disadvantage. The book is rather showily gotten up and has some moderately good pictures. Its style is good.

Quantitative Chemical Analysis. Adapted for Use in the Laboratories of Colleges and Schools. By Frank Clowes, D.Sc. Lond., Emeritus Professor of Chemistry in the University College, Nottingham, and S. Bernard Coleman, A.R.C.Sc. Dublin, Professor of Chemistry in the Southwestern Polytechnic, Chelsea, S. W. Sixth Edition. Cloth. Pp. 602. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

In this new edition of Clowes and Coleman's well-known work on quantitative analysis numerous alterations and additions have been made in the text. The section on organic chemistry has been revised and the processes of determining molecular weight by the elevation of the boiling point and for the analysis of aluminium alloys have been added. New woodcuts illustrative of the above molecular weight determination process, a new form of container and of the method of drying in vacuo have been inserted. Tables of four-figure logarithms have also been introduced to facilitate calculation.

A Text-Book of Surgical Principles and Surgical Diseases of the Face, Mouth and Jaws. For Dental Students. By H. Horace Grant, A.M., M.D., Professor of Surgery and Clinical Surgery, Hospital College of Medicine. Octavo Volume of 231 Pages, with 68 Illustrations. Cloth. Price, $2.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This little work was written for the dental student. The author makes no claim to original thought, nor does he present an elaborate or scientific discussion of the subjects considered. About one-third of the work is devoted to surgical principles; bacteriology, inflammation, repair, general infections, etc. Then follows a brief description of the various affections of the face, mouth, jaws and neck, presented in a plain, simple manner, such as would interest the dental student, for whom the work was written. It is not comprehensive nor scientific enough to be of material value to the surgeon.

The Exact Science of Health Based Upon Life's Great Law. By Robert Walter, M.D. Vol. I.—Principles. Leather. Pp. 302. Price, $2.00. New York: Edgar S. Werner Publishing Company. London: Kegan Paul, Trench, Trubner & Co., Ltd.

There are books that are published for various purposes; in many cases the author gets so full of the subject that it is woe to him if he does not preach his gospel with the aid of printer's ink. The present work probably gives much more satisfaction to the author than it will to the average reader. The main point which he apparently tries to make is that there are three great forces in nature, vitality, chemical affinity and gravitation, co-existent and analogous. In this way he is practically a sort of materialist; we can not say that he has proven his case, or that his arguments and reasoning are such as would convince others as to the probability of his views.

A Thesaurus of Medical Words and Phrases. By Wilfred M. Barton, M.D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and Walter A. Wells, M.D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Flexible Leather. Pp. 534. Price, $2.50 net; with Thumb Index, $3.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The value of a volume like this for the physician who writes is so evident that it is a little remarkable that one has not been produced before. The authors have given a very complete list of technical synonyms, and the book will be correspondingly of service. It is neatly gotten up and is evidently the result of a good deal of careful labor. Worthy of note is its dedication to Dr. John B. Hamilton, the late editor of The Journal, as an appreciation of the services which he rendered the authors and as a tribute to his learning and skill. We believe that the book will be a very useful one.

The Latin Grammar of Pharmacy and Medicine. By D. H. Robinson, Ph.D., Late Dean of the School of Arts, and Professor of Latin Language and Literature, University of Kansas. With an Introduction by L. E. Sayre, Ph.M., Professor of Pharmacy in, and Dean of Department of Pharmacy, University of Kansas. Fourth Edition, with Elaborate Vocabularies. Thoroughly Revised by Hannah Oliver, A.M., Assistant Professor of Latin, School of Pharmacy, University of Kansas. Cloth. Pp. 277. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

This is a useful work for physicians and pharmacists. Its study will help do away with the mistakes too often made which show such a lack of culture in the humanities, as they used to be called. The editor states in his preface that a chapter on prescription writing is contributed by Professor Sayre, as well as a list of pharmaceutical and medical terms with their definitions. The latter we find, but the chapter on prescription writing is apparently confined to only a few paragraphs in a chapter on other subjects. A full treatment of the subject would have added to the value and completeness of the book. Aside from this point we see little to criticise. The volume will be a useful one for many students of medicine and pharmacy.

A Text-Book of Chemistry. For Students of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M.S., M.D., Medical Analyst and Microscopist; Professor of Chemistry and Metallurgy in the Colorado College of Dental Surgery. With 78 Illustrations, including 9 Full-Page Half-tone Colored Plates. Pp. xii-523. Cloth. Price, $3.00 net. Philadelphia: F. A. Davis Company.

This book of 523 pages includes the subjects of medical physics, chemic philosophy, inorganic chemistry, organic chem-

istry, qualitative and quantitative analysis, incompatibility, sanitary chemistry, toxicology, physiologic chemistry, pathologic chemistry, clinic chemistry, not to mention an appendix and a glossary. The various topics are not handled with any great degree of completeness; as a matter of fact, the attempt to condense has in many instances seemed to be at the expense of lucidity. It is stated that it is intended for the use of students of medicine, pharmacy and dentistry; it is certainly not adapted for a student desiring much more than a quiz-compend knowledge of the subject. As a condensation of the subjects it covers, however, it seems quite complete and accurate. Modern work on physical chemistry seems to have been slighted.

DISEASES AND INJURIES OF THE EYE, with Their Medical and Surgical Treatment. By George Lawson, F.R.C.S. Eng., Surgeon-Oculist-in-Ordinary to Her Majesty, the Late Queen Victoria. Sixth Edition, with 249 Illustrations. Revised and, in Great Measure, Rewritten. By Arnold Lawson, F.R.C.S. Eng., Assistant Surgeon to the Royal London Ophthalmic Hospital. Cloth. Pp. 587. Price, about $5. London: Smith, Elder & Co. 1903.

It seems appropriate that this well-known text-book should be continued by a relative of the great ophthalmologist who first wrote it. The fifth edition was published in 1885, since when several additions have been made to the original chapters. In the present work fresh articles have been written on heterophoria, affections of the eye in disease of the nervous system, the pupil, the development of the eye and elementary optics. Gradually the fact that anomalies of the extrinsic ocular muscles may be productive of functional disturbances without apparent deviation of either eye is gaining ground even in conservative England. Whatever be the status of heterophoria in the causation of symptoms, near and remote, it is at least a considerable satisfaction to notice that this latest of the British text-books does not neglect even the subject of cyclophoria, a condition whose pathology Savage has done so much to elucidate, but which has not received that recognition its importance deserves. We regret that no reference has been made to several instruments which we are accustomed to use on this side of the Atlantic; among them the electric ophthalmoscope and the ophthalmometer with the self-illuminating mires. The illustrations are entirely in black, but are unusually well drawn and, especially when they depict minute changes in the fundus or elsewhere, are, in consequence, more valuable than those glaring color patches that so often in some treatises misrepresent ophthalmoscopic and other findings. The formulæ (seventy in all) at the back of the book, fairly represent the best of the ordinary remedial mixtures now used in diseases of the eye. Probably it is because they have not as yet reached the "text-book age" that dionin, argyrol, jequiritol, and other agents (which some of us believe to be of considerable value) have not been mentioned.

BREWER'S SURGERY. A Text-Book of Surgery for Students and Practitioners. By George E. Brewer, A.M., M.D., Lecturer on Clinical Surgery at the College of Physicians and Surgeons (Medical Department of Columbia University), New York. With 280 Engravings and 7 Plates in Colors and Monochrome. Cloth. Pp. 712. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1903.

The author has attempted to write a text-book on surgery in a single small volume of six hundred and eighty pages. The author says he "has endeavored in the present work to give the essential facts in practical surgery as briefly as is compatible with clearness." While brevity and condensation in writing are often desirable qualities, there is such a thing as condensing matter until all the information which it contains is squeezed out, and that is what the author has done frequently in this work. For instance, the subject of gangrene in all its varieties is covered in twenty lines. Only seventeen pages are devoted to "tumors," and as there are several large illustrations included in these seventeen pages, the text amounts to little more than a simple definition of the various kinds of new growths. Under treatment of aneurisms is mentioned "the subcutaneous injection of a 1 per cent. solution of gelatin in normal salt solution," but nothing is said of the amount to be injected; of the necessity and great difficulty of thoroughly sterilizing gelatin solutions, and of the danger of fatal tetanus (which has occurred now a number of times) following the use of solutions of gelatin not properly sterilized. In a matter of this kind the advice to use a solution of gelatin without giving the details of the method is positively dangerous, and brevity becomes a great mistake. Ganglion is described as "a hernial protrusion of the synovial membrane through the fibrous portion of a tendon-sheath." This is a mistake, as the majority of so-called ganglions have no connection whatever with the tendon sheaths. The spasmodic and the contractured varieties of torticollis are confused and considered as one affection, although they are decidedly distinct conditions. The treatment of empyema is dismissed with a single sentence as follows: "The treatment of empyema is by establishing free drainage of the pleural cavity." The success of the treatment, however, depends so much on the method and detail of carrying it out that a little advice here would have been desirable. The freezing point of the blood serum is given as 0.36 C. This is evidently a typographical error, as it should be 0.56 C. Ligations of arteries, amputations, etc., are considered in the stereotyped way, except perhaps a little more condensed. Brevity is the greatest fault of the work, as many of the subjects are considered so superficially that the practitioner will usually look in vain for advice that will help him out of his difficulties, but to the student who is obtaining his first general idea of surgery the work may prove of value.

State Boards of Registration.

Indiana's First Preliminary Examination of Students.—The first examination of prospective medical students held by the Indiana State Board of Medical Registration, was held at the State House, Indianapolis, September 18; 15 applicants appeared.

Texas Announcement.—The Board of Medical Examiners for the State of Texas will hold its next meeting in Fort Worth, Oct. 13 to 16, for the examination of applicants to practice medicine. For further information address the secretary, Dr. M. M. Smith, Austin.

Georgia Examination.—The regular board of State Medical Examiners for Georgia will meet in Atlanta, Ga., on Tuesday, Oct. 13, 1903, at the Capitol, for examination of applicants for permanent license. A diploma from a medical college recognized by the Medical College Association is required.

Virginia Report.—Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports that at the examination held at Richmond, June 22 to 25, 1903, the number of subjects examined in was 9 and the percentage required to pass was 75; 196 persons were examined, 99 passed, 22 failed, 3 withdrew and 72 were not graduates and took only a partial examination. The questions were partly written and partly oral.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
1	R.	University College of Medicine	1903	81
7	R.	University College of Medicine	1903	83
25	R.	University College of Medicine	1903	77
27	R.	University College of Medicine	1903	80
28	R.	University College of Medicine	1903	82
29	R.	University College of Medicine	1903	75
31	R.	University College of Medicine	1903	79
32	R.	University College of Medicine	1903	83
33	R.	University College of Medicine	1901	78
45	R.	University College of Medicine	1903	76
67	R.	University College of Medicine	1903	79
68	R.	University College of Medicine	1903	81
70	R.	University College of Medicine	1903	80
74	R.	University College of Medicine	1903	76
75	R.	University College of Medicine	1903	83
77	R.	University College of Medicine	1903	75
80	R.	University College of Medicine	1903	82
90	R.	University College of Medicine	1903	75
98	R.	University College of Medicine	1903	78
99	R.	University College of Medicine	1903	78
102	R.	University College of Medicine	1903	82
122	R.	University College of Medicine	1903	84
125	R.	University College of Medicine	1903	82
130	R.	University College of Medicine	1903	85
151	R.	University College of Medicine	1903	87
158	R.	University College of Medicine	1903	76
159	R.	University College of Medicine	1903	76
194	R.	University College of Medicine	1903	81
179	R.	University College of Medicine	1903	81
11	R.	University of Boston	1903	80
62	R.	University of the South	1903	79
76	R.	University of the South	1900	76
165	R.	University of the South	1903	75
166	R.	University of the South	1903	75
185	R.	University of the South	1903	77

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
66	R.	University of Maryland	1903	85
196	R.	University of Maryland	1867	85
124	R.	University of Maryland	1903	85
88	R.	University of Virginia	1903	83
91	R.	University of Virginia	1901	75
93	R.	University of Virginia	1903	80
94	R.	University of Virginia	1903	79
96	R.	University of Virginia	1903	77
103	R.	University of Virginia	1903	79
104	R.	University of Virginia	1903	83
109	R.	University of Virginia	1903	85
123	R.	University of Virginia	1903	79
126	R.	University of Virginia	1903	79
138	R.	University of Virginia	1903	85
144	R.	University of Virginia	1903	82
174	R.	University of Virginia	1898	82
177	R.	University of Virginia	1899	82
178	R.	University of Virginia	1899	87
86	R.	University of Virginia	1903	76
142	R.	University College of Virginia	1903	75
181	R.	University of New York	1897	77
182	R.	University of New York	1889	77
195	R.	University of Michigan	1903	80
3	R.	Medical College of Virginia	1903	80
14	R.	Medical College of Virginia	1903	79
15	R.	Medical College of Virginia	1903	81
54	R.	Medical College of Virginia	1903	81
134	R.	Medical College of Virginia	1903	80
135	R.	Medical College of Virginia	1903	77
136	R.	Medical College of Virginia	1903	80
137	R.	Medical College of Virginia	1903	81
152	R.	Medical College of Virginia	1903	76
153	R.	Medical College of Virginia	1903	79
155	R.	Medical College of Virginia	1903	78
156	R.	Medical College of Virginia	1903	84
161	R.	Medical College of Virginia	1903	79
163	R.	Medical College of Virginia	1903	79
167	R.	Medical College of Virginia	1903	84
168	R.	Medical College of Virginia	1903	81
170	R.	Medical College of Virginia	1903	79
173	R.	Medical College of Virginia	1903	79
8	R.	Columbian University	1903	84
30	R.	Columbian University	1903	89
71	R.	Columbian University	1903	81
9	R.	North Carolina Medical College	1902	80
12	R.	Howard University	1902	79
107	R.	Howard University	1903	78
13	R.	Leonard Medical College	1896	75
19	R.	Leonard Medical College	1903	79
140	R.	Leonard Medical College	1903	77
145	R.	Leonard Medical College	1903	75
23	R.	Johns Hopkins University	1903	77
191	R.	Johns Hopkins University	1902	85
41	R.	Tulane University	1903	87
81	R.	Maryland Medical College	1903	77
84	R.	Maryland Medical College	1903	78
133	R.	Maryland Medical College	1903	78
95	R.	Baltimore University	1898	80
114	R.	College of Physicians and Surgs., Atlanta	1903	81
176	H.	Hahnemann Med. College, Pennsylvania	1894	82
187	R.	University of Louisville	1889	78
189	R.	Cincinnati College of Med. and Surgery	1876	75
190	R.	Louisville Medical College	1890	81
193	R.	College of Phys. and Surgs., Baltimore	1878	75

FAILED.

10	R.	University College of Medicine	1903	73
44	R.	University of Virginia	1903	74
78	R.	University of Virginia	1902	74
110	R.	University of Virginia	1900	73
160	R.	University of the South	1903	61
169	R.	University of the South	1903	71
141	R.	Maryland Medical College	1903	65
100	R.	Maryland Medical College	1903	..
16	R.	Columbian University	1902	74
17	R.	Medical College of Virginia	1903	74
52	R.	Medical College of Virginia	1903	72
154	R.	Medical College of Virginia	1903	72
157	R.	Medical College of Virginia	1903	74
172	R.	Medical College of Virginia	1903	74
36	R.	Leonard Medical College	1903	65
55	R.	Leonard Medical College	1902	71
106	R.	Leonard Medical College	1902	55
49	R.	Baltimore University	1903	58
97	R.	Baltimore Medical College	1901	70
118	R.	University of Maryland	1902	70
105	R.	University of Maryland	1903	74
188	R.	Louisville Medical College	1890	68

Connecticut Report.—The report of the examinations by the examining committee of the Connecticut Medical Society, July 14 and 15, is received. The percentages are not given; all that passed exceeded 75. those that failed were below this figure. Of those that passed 8 were graduates of the medical department of Yale University, 4 of the College of New York, 4 of the College of Physicians and Surgeons, New York, 4 of the Baltimore Medical College, 2 from Jefferson Medical College, 2 from the University of Vermont, and one each from the Cincinnati College of Medicine and Surgery, the Royal College of Physicians and Surgeons, London, Medical College of South Carolina, Harvard Medical College, New York University, Niagara University, Cornell University and Long Island College Hospital. Of those that failed 4 were from the College of Physicians and Surgeons, Baltimore, and one each from the College of Physicians and Surgeons, Boston, University of the South, Tufts Medical College, and the medical department of Yale University.

Iowa Report.—Dr. J. F. Kennedy, secretary of the Iowa State Board of Medical Examiners, Des Moines, reports that 149 candidates were examined in June and July, of whom 128 passed and 21 failed.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
1	H.	Chicago Homeopathic Medical College	1903	89
2	H.	Chicago Homeopathic Medical College	1903	82
3	H.	Chicago Homeopathic Medical College	1903	‡75
4	R.	College of Phys. and Surgs., Chicago	1903	81
5	R.	College of Phys. and Surgs., Chicago	1903	79
6	R.	College of Phys. and Surgs., Chicago	1903	86
7	R.	College of Phys. and Surgs., Chicago	1903	89
8	R.	College of Phys. and Surgs., Chicago	1903	87
9	R.	College of Phys. and Surgs., Chicago	1903	80
10	R.	College of Phys. and Surgs., Chicago	1903	80
11	R.	College of Phys. and Surgs., Chicago	1903	83
12	R.	College of Phys. and Surgs., Chicago	1902	*85
13	R.	College of Phys. and Surgs., Chicago	1903	83
14	R.	College of Phys. and Surgs., Chicago	1903	76
15	R.	College of Phys. and Surgs., Chicago	1903	81
128	R.	College of Phys. and Surgs., Chicago	1903	81
16	R.	College of Phys. and Surgs., New York	1903	91
17	R.	Denver and Gross Medical College	1903	87
18	H.	Hahnemann Medical College, Chicago	1903	82
19	H.	Hahnemann Medical College, Chicago	1903	79
20	H.	Hahnemann Medical College, Chicago	1903	81
21	H.	Hahnemann Medical College, Chicago	1903	81
22	H.	Hahnemann Medical College, Chicago	1903	83
23	H.	Hahnemann Medical College, Chicago	1903	82
24	H.	Hahnemann Medical College, Chicago	1903	84
25	H.	Hering Medical College, Chicago	1903	*78
26	R.	Illinois Medical College, Chicago	1901	81
27	R.	Iowa College of P. and S., Des Moines	1903	82
28	R.	Creighton Medical College, Omaha	1903	80
29	R.	Creighton Medical College, Omaha	1903	79
30	R.	Creighton Medical College, Omaha	1903	83
31	R.	Creighton Medical College, Omaha	1903	82
32	R.	Keokuk, Iowa, Medical College	1903	*79
33	R.	Miami Medical College, Cincinnati	1902	87
34	R.	Milwaukee Medical College	1903	78
35	R.	Northwestern University, Chicago	1903	81
36	R.	Northwestern University, Chicago	1903	87
37	R.	Northwestern University, Chicago	1903	89
38	R.	Northwestern University, Chicago	1903	85
39	R.	Northwestern University, Chicago	1903	85
40	R.	Northwestern University, Chicago	1900	91
41	R.	Northwestern University, Chicago	1903	85
42	R.	Northwestern University, Chicago	1903	88
43	R.	Northwestern University, Chicago	1903	87
44	R.	Northwestern University, Chicago	1902	88
45	R.	Northwestern University, Chicago	1903	86
46	R.	Northwestern University, Chicago	1903	83
47	R.	Northwestern University, Chicago	1903	87
48	R.	Northwestern University, Chicago	1903	84
49	R.	Northwestern University, Chicago	1903	85
50	R.	Northwestern University, Chicago	1903	81
51	R.	Northwestern University, Chicago	1903	89
52	R.	Northwestern University, Chicago	1903	87
53	R.	Northwestern University, Chicago	1903	85
54	R.	Northwestern University, Chicago	1903	84
55	R.	Northwestern University, Chicago	1903	88
56	R.	Northwestern University, Chicago	1903	79
57	R.	Northwestern University, Chicago	1903	82
58	R.	Northwestern University, Chicago	1903	87
59	R.	Northwestern University, Chicago	1903	84
60	R.	Northwestern University, Chicago	1903	77
61	R.	Omaha Medical College	1902	83
62	R.	Rush Medical College, Chicago	1901	92
63	R.	Rush Medical College, Chicago	1903	90
64	R.	Rush Medical College, Chicago	1903	78
65	R.	Rush Medical College, Chicago	1884	82
66	R.	Rush Medical College, Chicago	1903	86
67	R.	Rush Medical College, Chicago	1903	87
68	R.	Rush Medical College, Chicago	1882	78
69	R.	St. Louis College of Phys. and Surgeons	1901	75
70	R.	St. Louis College of Phys. and Surgeons	1900	84
71	R.	Toronto University	1903	87
72	R.	University of Iowa, Iowa City	1903	82
73	R.	University of Iowa, Iowa City	1903	81
74	R.	University of Iowa, Iowa City	1903	86
75	R.	University of Iowa, Iowa City	1903	86
76	R.	University of Iowa, Iowa City	1903	79
77	R.	University of Iowa, Iowa City	1903	87
78	R.	University of Iowa, Iowa City	1903	86
79	R.	University of Iowa, Iowa City	1903	87
80	R.	University of Iowa, Iowa City	1903	84
81	R.	University of Iowa, Iowa City	1903	83
82	R.	University of Iowa, Iowa City	1903	87
83	R.	University of Iowa, Iowa City	1903	83
84	R.	University of Iowa, Iowa City	1903	86
85	R.	University of Iowa, Iowa City	1903	85
86	R.	University of Iowa, Iowa City	1903	84
87	R.	University of Iowa, Iowa City	1903	79
88	R.	University of Iowa, Iowa City	1903	83
89	R.	University of Iowa, Iowa City	1903	85
90	R.	University of Iowa, Iowa City	1903	81
91	R.	University of Iowa, Iowa City	1903	92
92	R.	University of Iowa, Iowa City	1903	88
93	R.	University of Iowa, Iowa City	1903	83
94	R.	University of Iowa, Iowa City	1903	80
95	R.	University of Iowa, Iowa City	1903	86
96	R.	University of Iowa, Iowa City	1903	82
97	R.	University of Iowa, Iowa City	1903	79
98	R.	University of Iowa, Iowa City	1903	85

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
99	R.	University of Iowa, Iowa City	1903	79
100	R.	University of Iowa, Iowa City	1903	89
101	R.	University of Iowa, Iowa City	1903	90
102	R.	University of Iowa, Iowa City	1903	82
103	R.	University of Iowa, Iowa City	1903	90
104	R.	University of Iowa, Iowa City	1903	86
105	R.	University of Iowa, Iowa City	1903	90
106	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	83
107	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	82
108	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	85
109	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	84
110	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	82
111	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	85
112	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	83
113	H.	Coll. Homeopathic Med., Univ. of Iowa.	1902	83
114	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	80
115	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	83
116	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	81
117	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	83
118	R.	University of Michigan	1902	92
119	R.	University of Michigan	1903	85
120	R.	University of Michigan	1903	88
122	R.	University of Michigan	1903	89
123	R.	University of Minnesota	1903	87
124	R.	University of Nebraska, Omaha	1903	82
125	R.	University of Nebraska, Omaha	1903	88
126	R.	University of Nebraska, Omaha	1903	81
127	R.	Washington University, St. Louis	1903	91

FAILED.

129	H.	Hahnemann Med. College, Kansas City.	1902	67
132	H.	Hahnemann Medical College, Chicago..	1903	73
130	R.	Keokuk, Iowa, Medical College	1895	33
134	R.	Keokuk, Iowa, Medical College	1903	*66
131	R.	Rush Medical College, Chicago	1900	55
133	R.	Meharry Medical College, Nashville....	1895	68
135	R.	University of Nebraska	1903	71
138	R.	University of Iowa, Iowa City	1874	69
136	R.	Kentucky School of Medicine	1898	71
137	R.	Omaha Medical College	1903	69
139	R.	Creighton Medical College, Omaha	1903	66
140	R.	Barnes Medical College, St. Louis	1900	†62
146	R.	Barnes Medical College, St. Louis	1902	73
143	R.	Barnes Medical College, St. Louis	1903	70
141	R.	University College of Med., Kansas City	1902	*65
145	R.	University Med. College, Kansas City..	1903	42
149	R.	University Med. College, Kansas City..	1903	*72
142	R.	Iowa College of P. and S., Des Moines..	1903	*74
144	E.	Eclectic Medical Institute, Cincinnati..	1903	64
147	R.	St. Louis College of Phys. and Surgeons	1903	69
148	R.	College of Phys. and Surgeons, Chicago.	1899	73

* Second examination. † Fourth examination. ‡ Fifth examination.

Medical Organization.

Monroe County (Fla.) Medical Society.

By the efforts of Dr. Joseph N. Fogerty, Key West, councilor for the Fourth District, a reorganization of the old Key West Medical Society, which was organized in 1872, and discontinued in 1884, was effected with the following officers: Dr. Robert D. Murray, president; Dr. Emilio Rousseau, vice-president; Dr. G. R. Plummer, U. S. Navy, secretary, and Dr. Katharene W. Allee, treasurer, all of Key West.

Putnam County (Ohio) Medical Society.

At Ottawa, Ohio, on August 27, under the direction of Dr. Julius H. Jacobson, Toledo, councilor for the Fourth District, this society was organized with the following officers: President, Dr. John C. McClung, Leipsic; vice-president, Dr. C. F. Douglass, Kalida; treasurer, Dr. Warren F. Reed, Ottawa; secretary, Dr. Wiley D. Hickey, Leipsic, and board of censors, Drs. Charles E. Beardsley, Ottawa, Harry A. Lewis, Continental, and Dr. Alva L. Paul, Ottawa.

Pocahontas County (Iowa) Medical Society.

The physicians of Pocahontas County recently met at Pocahontas and organized a county society, adopted the constitution and by-laws as recommended by the American Medical Association and elected the following officers. Dr. Andrew L. Belt, Gilmore, president; Dr. Edmond W. Wilson, Rolfe, secretary and treasurer; Dr. I. D. Wallace, Plover, vice-president; Drs. A. H. Thornton and J. W. Starr, Pocahontas, and Frank E. Heathman, Havelock, censors, and Drs. Oscar H. Barthel, Pocahontas, Charles R. Whitney, Fonda, and J. D. Wallace, Plover, committee on public health and legislation.

South Dakota Second District Medical Society.

On September 15 about twenty-five physicians met Dr. Edwin T. Ramsey Clark, councilor for the Second District, at Watertown and completed the organization of a medical society for that district, which comprises the counties of Clark, Codington, Deuel, Hamlin, and part of Grant. The constitution and by-laws recommended by the American Medical Association were adopted and Dr. Edwin T. Ramsey, Clark, was elected president, and Dr. James B. Vaughan, Castlewood, secretary. Meetings will be held every two months, and the whole day will be devoted to the interests of the profession, the morning being taken up with clinics, the afternoon and evening being devoted to the reading and discussion of papers.

Societies.

COMING MEETINGS.

Colorado State Medical Society, Denver, Oct. 6-8.
Medical Association of the District of Columbia, Washington, Oct. 6.
Idaho State Medical Society, Boise, Oct. 8-9.
Mississippi Valley Medical Association, Memphis, Tenn., Oct. 7-9.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Oct. 13-15.
Vermont State Medical Society, Bellows Falls, Oct. 15-16.
New York State Medical Association, New York City, Oct. 19-22.
American Public Health Association, Washington, D. C., Oct. 26-30.
Hawaiian Territorial Medical Society, Honolulu, Nov. 7.
Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

Colorado State Medical Society.—The annual meeting will be held in Denver, October 6, 7 and 8, under the presidency of Dr. William W. Grant, Denver.

Louisville Medical and Surgical Society.—At the annual meeting held September 21 Dr. Frank J. Kiefer was elected president; Dr. Irvin Abell, vice-president; Dr. A. Henry Falconer, treasurer, and Dr. William T. McKinney, secretary.

Union Meeting.—On September 15 the Cheshire County (N. H.) Medical Society, Franklin District (Mass.) Medical Society, Connecticut River Valley Medical Society and Windham County (Vt.) Medical Society held a joint meeting at East Northfield, Mass.

Carroll County (N. H.) Medical Society.—At the annual meeting held at Sanbornville, September 2, Dr. W. S. Davis, Sanbornville, was elected president; Dr. Ervin W. Hodsdon, Centerville, secretary, and Dr. Nathaniel H. Scott, Wolfboro, treasurer. The 1904 meeting will be held at Wolfboro.

Crawford County (Ill.) Medical Society.—At the meeting held in Robinson, September 10, Dr. Columbus Barlow, Robinson, presented a motion that the constitution be so amended that any legally registered physician in good standing in the county may be entitled to membership in the society. The matter was laid on the table until the next meeting.

Kankakee Valley District (Md.) Medical Society.—At the fourth annual meeting held in North Judson, September 8, Dr. David J. Loring, Valparaiso, was elected president; Dr. John M. Ward, Kewanna, vice-president; Dr. George E. Hoffman, Rochester, secretary, and Dr. G. W. Thompson, Winamac, treasurer. The next meeting will be held in Hammond, December 8.

Association of Surgeons of the Pennsylvania Railway System.—At the annual meeting held in Fort Wayne, September 18, the following officers were elected: President, Dr. G. W. Thompson, Winamac, Ind.; vice-presidents, Drs. Montgomery Linville, Newcastle, Pa., and Clarence W. Coulter, Oil City, Pa., and secretary and treasurer, Dr. Richard J. Morgan, Van Wert, Ohio.

Houghton County (Mich.) Medical Society.—At the annual meeting held in Houghton, September 7, Dr. E. C. Dudley of Chicago delivered an address on "Some Practical Points in Gynecology," and the following officers were elected: Dr. Joseph E. Scallon, Hancock, president; Dr. Albert B. Simonson, Calumet, vice-president; Dr. James E. Hosking, Kearsarge, secretary, and Dr. A. G. McLeod, treasurer.

Mississippi Valley Medical Association.—The program for the entertainment of the members of the association at its meeting in Memphis, Oct. 7, 8, and 9, includes a trolley ride, a reception and ball and an old-fashioned Southern barbecue.——Dr. W. Britt Burns has been made chairman of the committee of arrangements, vice Dr. Edward C. Ellett, resigned.——The

Chicago members of the association will leave Chicago via the Illinois Central at 6:20 p. m. Tuesday, October 6.

Little Kanawha and Ohio Valley Medical Association.—At the annual meeting held in Parkersburg, September 3, the following officers were elected: President, Dr. Thomas A. Harris, Parkersburg; vice-presidents, Drs. Alexander J. Mitchell, Burning Springs, John H. Kelley, Parkersburg, and J. Riley McCollum, St. Mary's; treasurer, Dr. Charles W. Hudson, Parkersburg; secretary, Dr. Rolla Camden, Parkersburg, and assistant secretary, Dr. Steidger D. H. Wise, Parkersburg.

Washington County (Vt.) Medical Society.—The annual meeting was held at Montpelier, September 8. The following officers were elected: Dr. Myron L. Chandler, Barre, president; Dr. Walter D. Berry, Waterbury, vice-president; Dr. Orlando G. Stickney, Barre, secretary; Dr. Charles E. Chandler, Montpelier, treasurer; Drs. Carlos A. Shaw, Northfield, and Michael F. McGuire, censors, and Drs. Lester W. Burbank, Cabot, and Dr. V. C. Goodrich, Barre, delegates to the Vermont State Medical Society.

American Public Health Association.—The following railroad rates have been secured for the thirty-first annual meeting of this association at Washington, D. C., Oct. 26 to 30, 1903: In the New England, Trunk Line, Central and Southeastern territories the rate will be one and one-third fare, certificate plan, for the round trip. A certificate must be obtained from the ticket agent for each going ticket purchased and be presented to Dr. E. W. Reisinger for signature and vise of the special agent at the meeting. First-class tickets must be purchased direct to Washington, free fare one way. No stopovers en route will be granted. A charge of 25c. will be made on each certificate signed at the meeting. Arrangements with Canada and western territory have not been completed, but are expected to agree with rates granted as above. Tickets are on sale three days prior to date of meeting, good to return three days after closing date, Sundays excluded in each instance. At present the rate is one and one-third fare for the round trip, certificate plan, throughout the entire United States, except in territory west of Chicago and St. Louis, Peoria, and north of Missouri River. The committee expects to secure additional time extension on return tickets.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixteenth Annual Meeting, held in Chicago, Sept. 22-24, 1903.

The association met under the presidency of Dr. L. H. Dunning, Indianapolis.

Dr. William A. Evans, Chicago, delivered an address of welcome on behalf of the local medical profession, which was responded to by President Dunning.

The New Officers.

The following officers were elected for the ensuing year: President, Dr. Walter B. Dorsett, St. Louis; vice-presidents, Drs. A. B. Miller, Syracuse, N. Y., and W. D. Haggard, Nashville, Tenn.; secretary, Dr. Wm. Warren Potter, Buffalo, N. Y., re-elected; treasurer, Dr. X. O. Werder, Pittsburg, Pa.

The time and place for holding the next annual meeting of the association were left to the executive council to decide.

Following are some points brought out in the principal papers read.

The Relation of the Colon to Abdominal Tumors.

A paper with this title was read by Dr. James F. Baldwin, Columbus, Ohio. The colon, while it is quite movable, has its mesocolon well fixed to the abdominal parietes. By inflating the colon, when necessary, by pumping air in at the anus, its relationship to abdominal tumors can be quite definitely determined, and this relationship will enable an accurate diagnosis of the tumor to be made in many cases in which such diagnosis would otherwise be impossible. This is particularly true in differentiating tumors of the spleen, pancreas, kidneys, liver, including the gall bladder, etc., from tumors originating in the pelvis or in connection with the small intestine and mesentery.

DISCUSSION.

Dr. J. Henry Carstens, Detroit, had seen cysts of the kidney which were attached to the left side and had extended down into the pelvis, pushing the colon and everything on to the right side, so that it was impossible to differentiate them from a cyst of the ovary.

Dr. L. H. Dunning, Indianapolis, described an echinococcus cyst of the pancreas, which was supposed to be a cyst of the kidney.

Dr. Baldwin said that 95 per cent. of tumors of the pancreas appear above the transverse colon; if at the tail of the pancreas, partly to one side: if at the head, the other side, while tumors of the kidney appear behind the colon. A tumor of the suprarenal capsule might be mistaken for a tumor of the tail of the pancreas, but not of the kidney substance itself, if the colon was fully distended.

Cesarean Section.

Dr. M. Stamm, Fremont, Ohio, read a paper on "The Value of Vaginal Cesarean Section," giving to Dührssen of Berlin the credit for having introduced this valuable method and quoting the latter's list of indications and technic. The essayist stated that the majority of the 60 or more recorded cases of vaginal cesarean section were for cancer of the uterus, but the number performed for puerperal convulsions is increasing rapidly, and this trouble will furnish the chief indication in the future. Most authorities agree that rapid delivery is the most important measure to reduce the mortality in eclampsia.

THE LIMITATIONS OF CESAREAN SECTION.

In a paper with this title Dr. E. Gustav Zinke, Cincinnati, analyzed 88 cesarean sections, reported by fifty-two different authors since January, 1900. Out of 81 mothers 66 lived, 81.5 per cent. But by excluding the deaths of 5 of the mothers which were due to malignant disease, death taking place two months, four months, one year and two years respectively after the operation, 71, not 66, mothers lived, and the maternal mortality was 12.34 per cent. Of the 90 children born, 56 lived, but excluding 13 cases in which the result as to the child has been omitted, and the cases of death before the operation, etc., the immediate fetal mortality is reduced to 25.26 per cent. When two years ago the author advocated the adoption of cesarean section for certain cases of central placenta previa, there was quite a marked opposition, and but few supported the speaker in his recommendation of the operation for this always alarming obstetric complication. Much has been said and written against it since, and still to-day nearly every new text-book on obstetrics and other recognized authorities on this subject admit that cesarean section may be justifiable under favorable conditions in the class of cases of a placenta previa then referred to.

DISCUSSION.

Dr. Charles S. Bacon, Chicago, believes vaginal cesarean section is undoubtedly of great value, not only for cancer, but also in cases where cesarean section is indicated for other reasons, when there is no contraction of the pelvis, and no sepsis, as, for instance, in cases of premature detachment of the placenta, a complication which defies all reasonable treatment. In placenta previa, however, there would be the same objection that has always obtained in regard to the typical operation. The other means of treating placenta previa are so perfect, so far as the mother is concerned, that it would only be in the case of a very competent operator, and in probably rare instances, that this operation or the typical one would be chosen. When we come to puerperal eclampsia, there is ground for either one of the operations. He believes that there is a future for the vaginal operation in cases of puerperal eclampsia, particularly those that are very carefully selected.

Dr. Walter B. Dorsett, St. Louis, narrated a case of successful vaginal section and delivery for placenta previa lateralis. He believes that possibly the operation is more applicable in placenta previa cases than in cancerous disease.

Dr. Frederick Blume, Pittsburg, asked Dr. Dorsett whether he would advise incision of the cervix in cases of six months' gestation with placenta previa, and whether he would practice it in every case.

Dr. Dorsett replied: Yes, judging by the experience I have had with this case.

DR. EDWIN RICKETTS, Cincinnati, advised administering veratrum before the anterior and posterior incisions are resorted to.

DR. J. HENRY CARSTENS said that when the gynecologist encounters a contracted pelvis, vaginal section is out of the question unless it is a case of five or six months' pregnancy. Where a woman has had a convulsion and then recovers consciousness, such a case requires premature slow delivery. If cancer is adherent to the pelvis, rectum and bladder, it requires cesarean section, as advocated by Dr. Zinke.

DR. RUFUS B. HALL, Cincinnati, emphasized the importance of early cesarean section to avoid infection, and cited a case in point.

DR. CHARLES L. BONIFIELD, Cincinnati, commended vaginal cesarean section in cases in which there is danger of infection in doing the suprapubic operation.

DR. JAMES F. BALDWIN, Columbus, Ohio, has made five, possibly six, cesarean sections since 1900 without maternal or fetal death. He heartily agreed with Dr. Zinke.

The Gilliam Operation.

DR. EDWARD J. ILL, Newark, N. J., has done Gilliam's operation 86 times, or in 68 per cent. of all cases operated on for retrodisplacements. There were no deaths; 51 cases have reported themselves as entirely well, 6 as markedly improved, and 4 as no better; 7 have become pregnant, and two have given birth normally; only 1 of the 4 reported as no better had a relapse of the malposition. This one was operated on again and an atrophy of the distal end of the round ligament discovered. Dr. Ill modified Dr. Gilliam's operation by not piercing the whole abdominal wall, fearing a weakness from which hernia might result. He separates the rectus abdominis from its anterior sheath and pierces the rectus muscle, the inner sheath, and the perineum, and progresses as taught by Dr. Gilliam, fastening, however, the round ligament to the posterior surface of the anterior sheath of the rectus muscle with chromicized catgut, thus leaving a strong fascia intact.

DISCUSSION.

DR. HERMAN E. HAYD, Buffalo, questioned whether it is necessary to open the abdominal cavity for uncomplicated retroversion. If there is a complicated condition, such as an adherent retroverted uterus, diseased tubes and ovaries, with probably diseased appendages, then it is all right to open the peritoneal cavity, although there is great danger attending it. It is not a question of mortality altogether, but of future complications, because as the result of opening this cavity adhesions will take place. He has been compelled to open the abdominal cavity and operate for obstruction of the bowels in three cases simply from an operation in which he had opened the peritoneal cavity and did conservative work on the tubes and ovaries.

DR. ALBERT GOLDSPOHN, Chicago, regarded the Gilliam operation as the next best thing to the Alexander for shortening the round ligaments, provided all of the indications could not be met through the inguinal canal. No operation, aside from shortening of the round ligaments through the inguinal canal, the so-called Alexander operation, had such a column of cases collected that had stood what he called the double test of pregnancy as had the Alexander.

DR. D. TOD GILLIAM, Columbus, Ohio, said that the results of pregnancy following this operation were gratifying to him as they must be to anyone who had adopted the method. He was receiving reports from medical men all over the country with reference to the occurrence of pregnancy after this operation, and with one or two exceptions the patients had passed through pregnancy without any more trouble than under ordinary circumstances.

Analysis of Common Causes of Death Following Pelvic and Abdominal Operations.

DR. JOSEPH PRICE, Philadelphia, said that post-operative complications and incomplete abdominal procedures perplex him more and more as he grows older, and give him the only mortality he now has in his cases. He told of operating on a case four months after an incomplete operation had been done in another hospital and finding a huge four-foot gauze towel anterior to the uterus. Post-operative sequelæ and deaths from gauze are very common. He is satisfied that they are thrice more common than from sponges. For a number of years he used sponges and valued them for clean work, for packing, or for a dry operation, and he believes viscera troubled him less than at the present time. He was then wholly ignorant of post-operative sepsis in his own work, and in that of his pupils. Had he now the time to take care of his sponges, he would go back to them, as highly as he values gauze. To his mind it is one of the most valuable materials in surgery. He spoke of the value of good nursing in the reduction of mortality rate.

A number of good operators attribute their low mortality wholly to the use of gloves. After adopting gloves he reduced his death rate to about nil, but his precautions were all redoubled. For example: After operating on a septic case, other operations were postponed for thirty-six to forty-eight hours.

Vaginal incisions and perforations favor a high mortality in later operations, made for the clean removal of the remaining pelvic pathology. Puriform tubes and ovaries, suppurating tubes and ectopic pregnancy seldom allow sufficient improvement in vital force and stamina to bear well the complete operation—suprapubic—after they have been incised through the vagina. Primarily they would all have been easy by complete methods and without mortality. The choice of method and material is of paramount importance to good work, and the suprapubic procedures, when complete and done early, drainage used when necessary, should, like the infrapubic, when done by one of the finished operators, like Jacobs, Segond or Pryor, give a mortality close to nil. He does a large number of vaginal hysterectomies for malignancy of the uterus, cervix or fundus, and for small fibroids without a death, and it is one of the easiest operations he is asked to do. In suppurative forms of tubal and ovarian disease he does not consider the vaginal route complete surgery, because the adherent omental and bowel adhesions and the diseased appendix are wholly neglected.

(To be continued.)

WASHINGTON STATE MEDICAL ASSOCIATION.

Fourteenth Annual Session, held at Spokane, Sept. 1-3, 1903.

The president, Dr. Charles McCutcheon, Tacoma, in the Chair.

Welcome.

About fifty physicians of the state were present at the opening session when Hon. W. F. Townsend delivered the address of welcome to the visiting members. The social features comprised a reception and dance at the Elks' Temple and a reception and musicale at the residence of Dr. and Mrs. N. Fred Essig.

Papers Read.

At the afternoon session of the first day papers were read by Dr. Guy S. Peterkin, Seattle, on "Acute Gonorrhea in the Male"; by Dr. Nathan M. Baker, Spokane, on "The Kidneys in Pregnancy"; by Dr. Park Weed Willis, Seattle, on "A Few Reasons for Early Operation in Gallstone Disease"; and by Dr. David DeBeck, Seattle, on "Rheumatic Chorioretinitis."

The second day was devoted to the reading and discussion of papers, prominent among which were "An Analytical Study of the Surgical Treatment in Prostatic Hypertrophy," by Dr. G. W. Hawley, Seattle; "Surgical Technic," by Dr. Elmer M. Brown, Tacoma; "The Pathology of Nephritis," by Woods Hutchinson, Portland, Ore., and "The Surgical Treatment of Bright's Disease," by Dr. Frantz H. Coe, Seattle.

A paper was read by Dr. Victor C. Vaughan, Ann Arbor, Mich., on "The Hygiene and Dietetic Treatment of Chronic Nephritis," which will appear in THE JOURNAL.

Typhoid Fever.

DR. VICTOR C. VAUGHAN, dean of the medical department of the University of Michigan, delivered an earnest and practical address, the central thought being that a pure water supply ensured to the state is better than anything else in the preven-

tion of typhoid. He urged his audience to see to it that its water supply is not contaminated. He said that the yearly deaths in the United States from typhoid fever numbered more than 50,000 and the cases more than half a million, causing an outlay estimated at more than $80,000,000. This sum, properly applied, said Dr. Vaughan, would forestall the appearance of the disease and would prevent many deaths and untold suffering now resulting from its ravages. He recommended that the Spokane officials secure absolute control of the water of the Spokane River and especially of that portion near the up-river plant. By so doing the city can control the water supply and ensure its purity. He dwelt on the contagious qualities of the disease and emphasized the fact that typhoid never appears except by infection, either direct or indirect, and that its prevention by careful watching of the water supply and other measures of less importance is far easier and better for the community than is disease eradication when it has once gained a foothold.

Resolutions Regarding Dr. Waughop.

The committee appointed for that purpose presented resolutions on the death of Dr. John W. Waughop, formerly of Chicago, who presided at the session held at Spokane in 1897, and who died on his way from Honolulu to the United States. The deceased was a prominent physician of Puget Sound, and had been a member of the state association almost from its beginning.

Election of Officers.

The following officers were elected: Dr. Frantz H. Coe, Seattle, president; Drs. William C. Cox, Everett, and George B. Wilson, Pullman, vice-presidents; Dr. James B. Eagleson, Seattle, treasurer; Drs. Elmer M. Brown, Tacoma, and Ralph N. Gordon, North Yakima, members of the judicial committee; Dr. Henry W. Dewey, Tacoma, delegate to the American Medical Association, and Dr. Robert L. Thomson, Spokane, alternate. Dr. Arthur H. Coe, Spokane, the secretary, has still two years to serve.

Next Meeting.

The invitation of the physicians of Seattle to hold the 1904 meeting of the society in that city was accepted.

ROCKY MOUNTAIN INTERSTATE MEDICAL ASSOCIATION.

Fifth Annual Session, held in Salt Lake City, Sept. 1-2, 1903.

The president, Dr. Charles H. Solier, Evanston, Wyo., in the Chair.

Welcome.

Gov. Heber M. Wells of Utah extended a hearty welcome to the society and paid an eloquent tribute to the medical profession. In the absence, on account of illness, of Dr. Alexander C. Ewing, Dr. Henry La Motte welcomed the association in behalf of the Salt Lake County Medical Society.

Program.

Among the notable papers on the program were a symposium on syphilis; papers on "Intubation" by Dr. Frank E. Waxham, Denver; "Treatment of Tuberculosis of the Lungs," by Dr. Edgar P. Hershey, Denver; "Operation for Chronic Nephritis," by Dr. Elias S. Wright, Salt Lake City, and "Volvulus of the Stomach," by Dr. Charles D. Spivak, Denver.

Banquet.

At the banquet held at the Commercial Club rooms about fifty physicians of the intermountain states were in attendance. Dr. Harry D. Niles, Salt Lake City, acted as toastmaster and toasts were responded to by Drs. Leonard Freeman, Denver, and Josiah N. Hall, Denver; R. Harvey Reed, Rock Springs, Wyo.; Donald Campbell, Butte, Mont.; Union Worthington, Salt Lake City; Samuel D. Hopkins, Denver, and Robert Levy, Denver.

Election of Officers.

The election of officers resulted as follows: President, Dr. Harry D. Niles, Salt Lake City; vice-presidents, Drs. Robert Levy, Denver, Colo., and T. J. McKenzie, Anaconda, Mont.; treasurer, Dr. Donald Kennedy, Denver; recording secretary, Dr. Henry La Motte, Salt Lake City, and corresponding secretary, Dr. George A. Moleen, Denver.

THE MEDICAL SOCIETY OF VIRGINIA.

Thirty-fourth Annual Session, held in Roanoke, Sept. 15, 16 and 17, 1903.

President, Dr. John N. Upshur, Richmond, in the Chair.

Welcome.

The first session of the society was held on the evening of September 15, when Mayor Cutchin, on behalf of the city of Roanoke, welcomed the visitors, and Dr. Merwin Branch, in behalf of the local profession, delivered the address of welcome. Dr. William S. Christian, Urbana, responded to the addresses of welcome in most pleasing style.

President's Address.

Dr. John N. Upshur, Richmond, devoted the greater portion of his address to reorganization. He referred to the report of the delegates from the society to the American Medical Association at the New Orleans meeting, and said that the society was now brought to the point where it would have to decide what action it would take regarding reorganization. The society had lived and prospered for many years and many of its older members were reluctant to see it relinquish any of its old landmarks. Still, the material interests of the profession and the future progress from a scientific standpoint demanded that the society should follow such a course as would not only increase its membership, but would give the profession of the state an influence in public affairs, especially those of a professional nature, and in the shaping of legislation which should make the organization a factor in the body politic to be not only felt but respected. Up to this time efforts to obtain legislation in matters of importance to the profession have met only such meager success as to be almost valueless, had been obtained by compromise or had been ignominious failures.

Report of the Delegates.

At the morning session on September 16 Dr. Stuart McGuire, Richmond, presented the report of the delegates to the American Medical Association. The committee states that the meeting was a great success, that the attendance was large, the scientific papers read of high order, the business of the Association satisfactorily transacted, and that the social pleasures were such as only New Orleans and her hospitable people could furnish.

Dr. McGuire then gave a summary of the principal proceedings.

Committee on Legislation.

Dr. George Ben Johnston, Richmond, made the report for this committee, endorsing the laws of the state governing the practice of medicine, which was enthusiastically received and a rising vote of thanks tendered the committee, which was instrumental in having passed the so-called "osteopath" bill.

New Constitution.

A great part of the time of the society was taken up by a spirited discussion on the adoption of a new constitution. This discussion, which was begun at the morning session of the second day, consumed the entire session of the afternoon and evening. Final action was postponed until the session of next year.

Advertising.

At its evening session the society decided that physicians might place business cards and advertisements of private hospitals in the newspapers.

Judiciary Committee.

Dr. Oscar Wiley, Salem, chairman of the Judiciary Committee, reported regarding Dr. Bittle C. Keister, Roanoke, that his course in advertising his residence and the diseases he treated has not been in keeping with the spirit of the principles of ethics. As regards Dr. William H. T. Shackford,

Walkerton, the committee found that he had not been a member of the society since 1890, and they therefore had no jurisdiction. The charges of contract practice against Dr. H. L. Tutwiler, Singerglen, were sustained, he acknowledged his error and promised not to offend again.

Election of Officers.

At the afternoon session the following officers were elected: President, Dr. Joseph A. Gale, Roanoke; vice-presidents, Drs. William E. Anderson, Farmville, S. T. Anderson Kent, Ingram, and Israel Brown, Norfolk; recording secretary, Dr. Landon B. Edwards, Richmond (re-elected); corresponding secretary, Dr. John F. Wynn, Richmond; treasurer, Dr. Robert M. Slaughter, Alexandria; orator, Dr. William S. Gordon, Richmond, and delegate to the American Medical Association, Dr. George Ben Johnston, Richmond. Richmond was selected as the next place of meeting.

Entertainment.

The social features offered by the Richmond physicians included trips to Bedford and the Palisades of the New River, and to Fries, a reception given by Mrs. T. E. Lewis to the wives and daughters of the members, and a trolley ride, and a reception at the Country Club, also for the ladies. The annual banquet was held at the Hotel Roanoke.

Presentation.

Dr. John N. Upshur presented an ivory and ebony gavel to the society and Senator Harvey was presented with the pen with which Governor Montague signed what is popularly known as "The Osteopath Bill."

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Chronic Purulent Otitis Media.

The following combination is recommended by *Bul. Med. de Nantes* as local treatment for chronic otorrhea:

℞. Resorcin ..... gr. xx 1 | 20
Tinct. opii ..... gtt. xv 1
Aq. destil. ..... ʒii 8

M. Sig.: A few drops to be introduced into the ear.

The ear should be thoroughly irrigated with a warm boric acid solution and dried with absorbent cotton. A few drops of the foregoing solution is then dropped into the ear and allowed to remain a few minutes.

According to Dench, in his treatise on "Diseases of the Ear," there are two objects aimed at in the treatment of chronic purulent otitis media:

1. To stop the discharge.

2. To relieve the subjective symptoms and to improve the hearing.

In order to accomplish these results the ear must be kept clean by irrigation. In irrigating the ear the patient must be carefully instructed as to the method of syringing or all the pus will not be removed. The ear should be drawn upward and backward, thus straightening the auditory meatus. The syringe should have a blunt nozzle, rendering it impossible to be carried into the ear far enough to do injury to the membrana tympani. The syringe should be directed downward and forward toward the tip of the nose. The fluid should be injected with moderate force and the temperature of the solution should be carefully observed, for if it is either too hot or too cold pain will be produced; so the patient should be the guide in choosing the proper temperature. Not less than one pint should be used at each irrigation. The author advises a 1-5,000 bichlorid solution, a saturated solution of boric acid or a 2 per cent. solution of carbolic acid. The patient should be instructed to wipe out the ear with small pledgets of cotton twisted about a small toothpick or metallic holder. He condemns the use of powders, as crusts may be formed and act as barriers to the outflow of pus. In the hands of experienced physicians, he states, astringent or stimulating powders are of value, especially after the discharge has greatly reduced and only a small amount of moisture remains. In such cases the insufflation of boric acid, zinc oxid, iodoform, or a mixture consisting of equal parts of alum and boric acid is of great service in entirely checking the secretion. Only a minute quantity must be used. If pain should again arise, the patient must be instructed to again syringe the ear and to follow out the same procedure if the discharge should set up again. If granulations form they may be touched up with chromic acid or silver nitrate fused on a metal probe. The use of chromic acid for this purpose is preferred.

In using the bichlorid solution some authors prefer the following combination in the treatment of otorrhea:

℞. Hydrarg. bichloridi ..... gr. ss | 03
Acidi tartarici ..... gr. xx 1 | 30
Aquæ ..... ʒiv 120

M. Sig.: To be used as a wash for the ear.

The powerful toxic character of the bichlorid should be remembered and care exercised in its use, no matter what strength solution is used.

In cases of moist eczema of the external auditory passages the following is recommended:

℞. Alumenis (burnt)
Amyli, āā ..... ʒii 8
Zinci oxidi ..... ʒss 2

M. Ft. pulvis. Sig.: To be used locally on the affected parts.

The following combination containing carbolic acid is recommended in the treatment of otorrhea:

℞. Acidi carbol.
Plumbi acetatis, āā ..... gr. x | 65
Tinct. opii ..... ʒii 8
Aquæ ..... ʒviii 240

M. Sig.: Warm the mixture and irrigate the ear twice daily; or:

℞. Acidi carbol.
Zinci sulph.
Plumbi acetatis, āā ..... gr. x | 65
Aq. destil. ..... ʒviii 240

M. Sig.: Inject into the ear night and morning.

Facial Acne.

In the treatment of acne of the face, according to *Médicine Moderna*, hot water should be applied locally, after which the following applications should be employed:

℞. Hydrarg. bichloridi ..... gr. viiss-xv | 50-1.00
Eau de cologne ..... ʒviii 240

M. Ft. lotio. Sig.: Apply locally.

And as an ointment or cream the following is recommended:

℞. Aq. rosæ ..... ʒss 2
Lanolini (anhydrous) ..... ʒiss 6
Aquæ ..... ʒiiss 10

M. Sig.: Apply locally.

Laxative Combinations.

The *Presse Médicale* recommends the following combinations as serviceable remedies in correcting constipation in adults:

℞. Extracti frangulæ flu.
Extracti cascaræ flu. āā ..... ʒvi 24
Glycerini ..... ʒiii 12

M. Sig.: One or two teaspoonfuls at bedtime; or:

℞. Ext. cascaræ ..... gr. 3/4 | 05
Podophyllin ..... gr. 1/7 | 009
Ext. hyoscyami ..... gr. 1/7 | 009
Euonymin ..... gr. 3/7 | 025
Pulv. saponis q. s.

M. Ft. pil. No. i. Sig.: One or two such pills at bedtime; or;

℞. Euonymin
Podophyllin, āā ..... gr. 3/10 | 02
Ext. hydrastis Canaden.
Pulv. saponis, āā ..... gr. ss | 03

M. Ft. pil. No. i. Sig.: One such pill at bedtime.

Chorea.

The following combinations are of value in the treatment of chorea, according to Yeo in his *Clin. Ther.:*

℞. Asafetidæ .....gr. xx | 1|30
Ext. valerianæ .....gr. xx | 1|30
Zinci oxidi .....gr. x | 65
Ext. belladonnæ .....gr. ii | 12

M. Ft. pil. No. xx. Sig.: One or two, night and morning; or:

℞. Ferri reducti .....gr. i-iii | 06-.20
Quininæ sulph. .....gr. ii-v | 12-.30
Acidi arsenosi .....gr. 1/50 to 1/30 | 0012-.0020

M. Ft. cap. No. i. Sig.: One such capsule after meals three times a day.

As a hypodermic injection the following combination is recommended:

℞. Sodii arsenatis.....gr. iss | 09
Acidi carbol. .....m. iii | 20
Aquæ destil. .....ʒiiss | 10

M. Sig.: Five minims to be injected daily.

Cerebral Arteriosclerosis.

The following outline of treatment is recommended by an abstract in the *N. Y. and Phila. Med. Jour.* in the treatment of cerebral arteriosclerosis:

℞. Pulv. scammonii .....gr. vi | 40
Pulv. jalapæ
Pulv. gutta perchæ, āā.....gr. iiss | 15

M. Ft. chart. No. ii. Sig.: One powder at bedtime; the second to be taken in twenty minutes.

These powders should be taken every ten or fifteen days. In the meantime the following is advised:

℞. Pulv. aloes
Euonymin, āā .....gr. 3/4 | 045
Podophyllin .....gr. 3/20 | 01
Ext. hyoscyami
Ext. belladonnæ, āā.....gr. 3/40 | 005
Saponis q. s.

M. Ft. pil. No. i. Sig.: One such pill at bedtime.

During three weeks of the month the following should be prescribed:

℞. Pot. iodidi .....gr. xlv | 3
Aq. destil. .....ℨx | 300

M. Sig.: One tablespoonful twice daily after meals.

And during the remaining ten days the following should be substituted:

℞. Theobromin. .....gr. viiss | 50
Sodii benzoatis .....gr. iv | 25
Lithii carb. .....gr. iiss | 15

M. Ft. cap. No. ii. Sig.: Two such capsules night and morning.

Drug Eruptions.

The following division of drug eruptions is made by Pernet, according to an abstract in *Amer. Med.:*

1. Erythematous, papular and urticarial eruptions. They may be caused by atropin, arsenic, quinin, copaiba, antipyrin, chrysarobin or mercury and iodoform locally. The diagnosis, according to the author, is not easy. From scarlet fever the differentiation is made chiefly by the mode of onset, the examination of the urine and the absence of corroborative symptoms. Multiformity of lesions is rather in favor of drug origin. The existence of a disease likely to be treated by one of the foregoing drugs, as gonorrhea (copaiba), headache (antipyrin), should be inquired into.

2. *Vesicular* and *bullous* lesions may be caused by antipyrin, quinin, arsenic, salipyrin, or the salicylates and less often by morphin, chloral or mercury. Iodids rarely cause bullas unmixed with pustules.

3. Pustular eruptions are most commonly due to bromids or iodids. The bromid rash has frequently been mistaken for syphilis. It must be remembered that bromids are found in many of the proprietary remedies,

4. Purpuric rashes may be caused by those drugs mentioned in the first paragraph.

5. Pigmentation is caused by arsenic, especially on those parts of the body not exposed to the air. [It is occasionally observed in cases of chorea treated by arsenic.]

The coal tar preparations have also been known to produce a permanent pigmentation of the skin. The silver salts may produce a blue discoloration.

Medicolegal.

Ten Thousand Dollars for Loss of Left Hand.—The Court of Civil Appeals of Texas says, in Texas & Ft. Smith Railway Company vs. Hartnett, that it has not been able to find a single case where damages have been adjudged any one in the amount assessed by the jury in this case, namely $15,000, for the loss of the left hand, and it holds $10,000 to be full compensation to a locomotive engineer for such loss and the physical and mental suffering incident thereto.

Answers of Applicant for Insurance as to "Serious" Illness.—The Court of Civil Appeals of Texas says, in Supreme Ruling of the Fraternal Mystic Circle vs. Crawford, that it seems to it that the answer of an applicant for life insurance on his own life that he has never had any serious illness should be considered as a mere expression of opinion as to the character of the sickness, and should not avoid the policy, even though such answer was untrue, provided, of course, the applicant did not know of its falsity. The form of the question necessarily calls for an opinion, and an agreement to warrant the truthfulness of the answer is no more than to warrant that the applicant will make a bona fide answer as to his opinion of the character of his ailment.

Indictable Conspiracy to Get Examination Questions.—In the case of the State of Washington vs. James G. Stewart and O. V. Lawson, the Supreme Court of Washington holds that a cause of action was stated by an information which alleged that these parties conspired to obtain from a member of the State Medical Examining Board a set of questions to be propounded at the ensuing examination for a consideration in money ($600); Stewart, it was agreed, was to prepare the answers and to deliver the questions and answers to Lawson, and it was understood that Lawson would thereby be enabled to fraudulently pass the examination, and would obtain from the board a license entitling him to practice medicine and surgery under the laws of the state. There was the intent then and there, on the part of each of the accused, to defraud and injure the people of the state, etc. It was stipulated in the case to be conceded that no person charged in or connected with the conspiracy charged in the information applied to or obtained from any member of the board a set of questions agreed on by the board to be propounded at the next ensuing examination; that no such application was made by any such person for a consideration of money or otherwise; that no member of the board was approached on the subject by any such person. The proof showed that Lawson and Stewart dealt with each other through an intermediary, one Braid. Stewart represented to Braid that he would obtain these questions and answers from one Dr. Wilson, whom he represented to be a member of the board. It developed during the trial that in all probability Wilson was a fictitious character. The Supreme Court holds that, so far as the stipulation was concerned, it could make no material difference whether the questions were obtained from the board or not, or whether they were obtained at all or not, as the offense charged was the unlawful agreement to so obtain them. It says that it appeared plainly from the testimony that the intent of the accused was to unlawfully obtain for Lawson the certificate or license desired. The crime was completed when they entered into the agreement to defraud the state medical board in the manner proposed. Neither the character nor the proper definition of a crime is dependent on the success or failure of the enterprise. Nor did it make any difference that Lawson thought that the medium through whom the questions and answers were to be obtained was Wilson instead of Stewart, or even that he thought that the name of the man with whom he was conspiring was Wilson in-

stead of Stewart. The two men actually arranged the terms and conditions of the unlawful combination through the aid of the go-between, and they were as responsible as though they had dealt with each other in person. Accepting the definition of the accused, that to constitute an indictable conspiracy there must be a combination or agreement of two or more persons to commit some act known or recognized as an offense punishable as a crime or prohibited under penalties of statute, or there must be a combination and agreement between two or more persons to accomplish a lawful purpose by unlawful means, the court thinks the information and proof were sufficient. For, it says, while it was not unlawful to pass the medical examination or to attempt to pass it, the information alleged, and the proof showed, that the accused conspired together for the purpose of assisting Lawson to do a lawful thing in an unlawful manner. While not unlawful in its nature, it was unlawful in respect to the means to be used in accomplishing it.

Evidence of Inability to Bear Children Inadmissible.—In the case of Ricards vs. the Safe Deposit & Trust Company of Baltimore, where a childless couple, the wife aged 53 years and the husband several years younger, sought to have a property trust terminated in which any child born to them would have an interest, the Court of Appeals of Maryland was confronted with what it characterizes as the serious and delicate question of whether it was competent for the parties to prove by medical testimony that the wife was incapable of bearing children. The court says that there are some early English cases which upheld or sanctioned a presumption that a woman of this one's age was incapable of bearing children. The more modern English cases have not adopted or relied on this presumption. In Lawson on Presumptive Evidence, p. 302, it is said: "In a number of cases the English courts have acted on the presumption that a woman beyond a certain age is incapable of child-bearing. No case can be found in the American courts in which such a presumption has been given effect to." At best, such a presumption is speculative. It is, as the very term "presumption" implies, a mere inference and not a certainty; and it would be exceedingly unsafe to permit property rights to depend on so precarious a basis. But the proposition here went further. It did not contemplate reliance on a simple presumption. Physical conditions had been testified to by medical witnesses who had expressed the opinion that there was no possibility of the life tenant being the mother of children. Can such evidence be received in a court of justice to affect the devolution of property, or to divert the course marked out for it to follow? The admission of such evidence in a case like this, where the avowed purpose of the proceeding is to cut out or strike down an estate in remainder, would or might be productive of most disastrous results. If, because of physical degeneracy, atrophy or decay, a medical man may, in a controversy involving title to an estate, testify that a woman is incapable of bearing children so that a trust deliberately created for her benefit during her life only may be brought to an end, with a view of vesting an absolute interest in her, or so that the vesting of a remainder may be accelerated, no one can foretell to what lengths such a precedent would lead. A surgical operation extirpating the uterus, for instance, would make it absolutely certain that no issue could be borne. If proof like that here under consideration were admitted, on what principle could evidence showing that an operation of the kind indicated had been performed be excluded? And, if not excluded, what would prevent interested parties from resorting to such or similar operations, if by a resort to them a mere equitable life estate could be converted into an absolute interest? It is wholly immaterial whether the inability to bear children arises from natural or artificial causes. It is not the cause, but the fact, that alone controls the question, and the single fact to which the law looks is death. On a case of first impressions, as this case is, the court goes on to say that it is bound to examine and weigh the results that may lie beyond the narrow horizon of an isolated controversy, and to consider the moral aspects of the situation, in reaching a conclusion which, when reached, may be fraught with such dangerous and demoralizing consequences. It is obviously not the province of courts of justice, and especially courts of equity, to encourage in any way a resort to a method like this for defeating a settlement or terminating a trust. If the evidence set out in the record should be received, no line could be drawn restricting or marking its limits, and no satisfactory reason could be given for the exclusion of the other species to which allusion has been made; and, if the latter sort of evidence be admitted, a court of conscience would be made the instrument for the promotion or encouragement of acts most manifestly subversive of good morals. And the court says that even had the question as to the admissibility of this kind of testimony been decided in other jurisdictions adversely to the view it takes, it should feel constrained, on grounds of a sound public policy, to exclude the testimony in a contention like this.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

September 19.

1 *The Pathology and Treatment of Rheumatoid Arthritis. Edward M. Merrins.
2 *Birth Palsies. M. H. Bochroch.
3 The Results of Brain Surgery in Epilepsy and Congenital Mental Defect. (To be concluded.) William P. Spratling.
4 *Some Anatomical Varieties of Inguinal Hernia. George R. White.
5 The Etiology and Treatment of Subacute and Chronic Catarrhal Affections of the Upper Air Passages in Children. James A. Patterson.
6 *Observations on 100 Cases of Gastrointestinal Diseases Treated at the French Lick Springs. George D. Kahlo.

1. **Rheumatoid Arthritis.**—Under this head Merrins understands a constitutional polyarthritic disease, most frequent in women, commencing at the periphery and advancing symmetrically towards the trunks, accompanied with irregular fever, pain, anemia, vasomotor disturbances, deranged reflexes, muscular atrophy, tremor and cramps, and in children with splenic and lymphatic enlargement. Recent investigations indicate that the trouble is first in the synovial membrane, accompanied with effusion, then involving the capsule of the joint with erosion of the bone, contraction of fibrous tissue and rarefying osteitis. Ankylosis is usually fibrous, but may be bony. The etiology seems sometimes to have been a rheumatic attack, but more often follows some acute infectious disease, menstrual disturbances, absorption of toxins, cystitis and especially nervous depression. He thinks it is a condition due to toxins liberated in the system, not from a single germ, but from many infections, with impaired nervous vitality as a dominating predisposition. The germs and toxins which produce the arthritis exert at the same time a selective poisonous action on the nervous system. It occurs more frequently in persons with the rheumatic diathesis or with nervous systems that have been impaired by physical injury, shock, worry or anxiety. The history and general clinical aspect point to chronic poisoning rather than to the direct action of a specific germ. There are a few cases closely resembling rheumatoid disease which seem to depend wholly and directly on some functional or organic disorder of the nervous system, since they can not be traced to any source of infection. The treatment consists in removal of all sources of toxic absorption and the elimination of poisons from the system by baths, etc., the administration of medicines which check intestinal fermentation and the repair of the ravages of the disease by a liberal diet and restorative and tonic medicines. In extreme cases surgery is advised to obtain movement in the ankylosed limb. For the relief of pain he suggests the use of heat by salt or sand bags, the use of liniments, blisters to the spine or cold applications and, as a last resort, drugs. In the early stages much can be done to arrest the disease and bring about recovery. Later it is very intractable, but much can still be done to relieve the patient.

2. **Birth Palsies.**—Bochrock remarks that in spontaneous labor we should not be in too great haste to deliver the trunk, and traction on the head should not be made except in case of

necessity. If the axilla is hooked traction should be mild. In forceps extraction, expression should be used and one should remember the Walcher position and bring the forceps not far outside the direction of the axis of the body. Slight pendulum movements may be used, but extreme ones avoided. During extraction by means of the feet, the arms should be quickly attended to, in case they are interfering, by the Mauriceau procedure; resorting in grave cases to expression, and, if necessary, to Walcher's position. If the extraction of the head offers considerable difficulties, it is an indication for the application of forceps to the aftercoming head to avoid stretching of the axillary nerves. The treatment of brachial palsies may be both surgical and medical. In some cases where the nerves are torn, suturing should be indicated, though whether it can be carried out is a question. Treatment of brachial palsy once established resolves itself into the use of massage and electricity. In some cases the paralysis disappears, but this is not the rule when the condition is marked. The arm should not be allowed to hang helpless at the side, but should be supported in a sling or a Velpeau bandage.

4. **Hernia.**—White describes the different forms of inguinal hernia depending on the condition of the peritoneal diverticulum, whether closed or not, such as congenital hernia when the tunica vaginalis remains patent; congenital funicular hernia when the middle of the canal is closed but not obliterated; infantile or encysted hernia when a pouch of the peritoneum from the abdominal cavity is pushed down into an abnormally large cavity of the tunica vaginalis, and the ordinary acquired hernia.

6. **Gastrointestinal Diseases.**—Kahlo describes the effects of the waters of the French Lick springs at West Baden on gastrointestinal diseases. He finds the best results in chronic gastritis with deficient secretion and excessive mucus, also in cases complicating hepatic cirrhosis and nephritis, except in one case where there was evidence of marked renal degeneration. Myasthenia and hypersthenic gastritis are not so well affected, but are not contraindications. The majority of purely nervous myasthenics were benefited, probably due as much to the environmental and hygienic influences as to the water. Colitis of the mild type with constipation showed considerable improvement. Constipation due to atony was markedly improved. In enteritis of the severe type he does not think the waters indicated. He has seen albuminuria and glycosuria disappear in some cases, but he can not say as to the duration of the cure. Persons should exercise freely while drinking the water. It should be taken not less than one hour before or two hours after meals. It is also important to obtain a complete evacuation of the bowels early in the treatment. He gives analyses of the different springs and a description of the accommodations. The diet should be regulated. Alcohol is naturally contraindicated and he warns against the overuse of the waters.

Medical Record, New York.

September 19.

7 *Differential Leucocyte Count in the Early Days of Typhoid Fever. Henry A. Higley.
8 A Case of Leucosarcoma of the Choroid. Thomas R. Pooley.
9 The Range of Osteoplasty as an Aid in the Conservative Surgery of Bone Traumatism. Thomas H. Manley.
10 *Some of the Mistakes We Have Inherited. Mark I. Knapp.
11 Early Symptoms of Dementia Precox. A. R. Diefendorf.

7. **Typhoid Fever.**—Higley finds that many cases of typhoid fever, contrary to the common notion, showed a characteristic differential leucocyte count within the first week of the disease. The value of the differential leucocyte count in the early diagnosis of typhoid is as yet a question, but it seems certain that when used in addition to the total leucocyte count more information may be obtained than by employing the total count alone. He gives blood counts of a number of cases of malarial fever and reports in some detail the counts and reactions in several cases of typhoid.

10. **Mistakes We Have Inherited.**—Knapp questions whether vomiting is ever a reflex phenomenon, and considers it always due to gastric irritation, the direct cause always lying within the lumen of the alimentary canal, no matter what outside cause there may be. Green vomit in the majority of cases does not mean bile but the growth of green mold, and chocolate-colored vomit need not necessarily mean blood, but may mean red mold. Of course, either of these may coexist with bile or blood. Another mistake he calls attention to is trusting too much to the appetite as a sign of healthy gastric conditions, and still another is the dietetic value of stale bread. It is not the freshness of the bread that harms, but the quantity. Too much is taken. Constipation from dietetic causes is noted as a condition in regard to which we have erroneous views. We are inclined to prescribe too much fruit, whole-wheat flour, sweets, etc., in these cases. They are liable to produce gaseous fermentation and irritation and may be decidedly injurious and help to produce organacidia gastrica or organacidia enterica, which he proposes later to describe. What may be beneficial in small quantities becomes absolutely dangerous when taken in large amounts, and once recommended they are liable to be taken in excess.

Medical News, New York.

September 19.

12 *The Etiology and Chemical Pathology of Gallstones. C. A. Herter.
13 *The Modern Treatment of the Acute Suppurations of the Knee Joint. Arpad G. Gerster.
14 *What Ought We to Expect from Cardiac Drugs in Heart Weakness. O. T. Osborne.
15 *A Study of Good Results in Hip Disease. V. P. Gibney.
16 *Chronic Nephritis without Albuminuria. Arthur R. Elliott.

12.—See abstract in THE JOURNAL, xl, p. 1598.

13. **Suppuration in the Knee Joint.**—Gerster describes the different forms of gastric suppuration, metastatic or pyemic, that due to osteomyelitis and traumatic suppuration. He speaks very highly of the Mayo incision as the best method for reaching and draining the parts, especially in osteomyelitic cases.

14. **Cardiac Drugs.**—Osborne describes the various cardiac tonics, naturally putting digitalis in the first place. He thinks it is, as a rule, indicated in chronic cardiac weakness, except when due to myocarditis or fatty degeneration. In acute endocarditis complicating acute rheumatism it is hard to say whether it should or should not be used, but its slowing of the heart is likely to do good. In the feeble heart of myocarditis it is a question whether it is to be used. We should not deny the patient the possible benefit where it seems to be of value, though its action should be closely watched. It should not be used in endarteritis or atheroma, and ordinarily not in aneurism. It is often a good soporific in the insomnia of neurasthenia. No fixed rule can be given as to its use in renal inflammation. It is of benefit in the anemic edema of the lower extremities and effusion without kidney lesions, and in chronic liver disease it is always of benefit combined with other treatment. In uremic poisoning or low vasomotor tension with weak heart, digitalis should be cautiously tried. If it does not give good results in 36 to 48 hours it should be stopped. Its contraindications are high tension of the arteries, atheroma, weak cardiac muscle and ordinarily a serious kidney lesion. The best substitute for it is strophanthus, which can be used when a cardiac tonic is needed, and digitalis produces nausea and vomiting or the blood pressure is high, and when a rapidly acting tonic is desired, when there is more nervous irritability and heart weakening than actual muscular debility or incompetency, and in children who are very susceptible to digitalis. Spartein sulphate is a substitute for digitalis, which can be used in case of irregularity and nervous irritability of the heart with general nervousness. Muscle or fatty degeneration of the heart, low pulse tension and dilatation or cardiac weakness contraindicate it. Cactus does not increase the cardiac strength as does digitalis, but has no cumulative action and does not wear itself out. Convallaria and adonidine have been unsatisfactory in his experience. Suprarenal acts as a vasomotor and cardiac stimulant only when absorbed from the nose or mouth, not by the stomach. Strychnin Osborne considers overused at the present time, but he speaks highly of caffein, as a cardiac, cerebral and muscular stimulant and as a diuretic and an antidote in poisoning. Its contraindications are palpitation, irritable heart, high blood pressure, cerebral or spinal inflammations or irritations, in-

somnia, neurasthenia and acute genitourinary inflammations. As to alcohol, he thinks in small doses it may be of value in relieving the heart by its vasodilator action, though too large doses are contraindicated. It should be given concentrated. To combat continuous cardiac failure or depression, alcohol is the poorest stimulant we can use and exaggerates the depression. He has also obtained as good circulatory results in sthenic fever from small doses of nitroglycerin as he has from alcohol. The narcotic effect of the latter in certain serious feverish conditions may, however, be of advantage.

15. Hip Disease.—Gibney discusses what are and are not good results in these conditions, and thinks that we should seek for the best results, that is, as full a restoration of function as possible. Where the treatment has been too long delayed and the head and neck of the femur have suffered severely, fair results may be obtained by attention to details, though fine results are hardly to be expected. In the later stages we have to be content with correcting the deformity and eradicating necrotic areas and sinuses. Results that will satisfy can be obtained if we maintain the best position of the limb.

16. Chronic Nephritis Without Albuminuria.—Elliott reports cases and points out that chronic interstitial nephritis may have latency of symptoms through the entire course of the disease, though this is most likely in the early stages. It does not constitute a point of absolute distinction between the early and advanced stages or between the mild and severe forms. Albuminuria is very frequently absent during the early stages and may be up to the end or through the entire course of the disorder. It is a very unreliable diagnostic sign. More dependence can be placed on the diminution of urinary solids and especially on the presence of casts. Chronic interstitial nephritis never exists as a clinically recognizable condition without casts in the urine. The secondary circulatory changes following the disease are so characteristic as in most cases to furnish ground for its recognition before the urine is examined. The inconstancy of the urinary symptoms puts them much in the same diagnostic category as murmurs in valvular heart disease.

American Medicine, Philadelphia.

September 19.

17 *Labia Urethræ and Skene's Glands. (Concluded.) Howard A. Kelly.
18 *The Rational Treatment of Pulmonary Tuberculosis, with Report of Cases. F. M. Pottenger.
19 *The Treatment of Chronic Round Ulcer of the Stomach. Frank H. Murdoch.
20 The Bacillus of Syphilis. Justin DeLisle.
21 *Placenta Previa and Its Treatment, with Special Reference to Combined Version. Daniel Longaker.
22 A Contribution to the Prophylaxis of Venereal Diseases. G. Morgan Muren.
23 English Surgery as Practiced by Richard Wiseman, Sargeant Chirurgeon, in 1676. John D. Singley.

17. Labia Urethrae and Skene's Glands.—Kelly's article is finished in this issue. He thinks he has made clear the following points: 1. That one often finds definite labia overlapping the urethral orifice. 2. That their function is protective and in part sexual. 3. That attention must be more regularly directed to Skene's glands. 4. That these structures are veritable glands (Schüller). 5. That their function is to lubricate the labia urethræ and is also largely sexual. 6. He calls attention to the simple method of constructing a hairpin speculum to expose the orifices of these glands, and 7, presents a simple and safe method of injecting them, a decided improvement over the hypodermic syringe. 8. He also calls attention to 2 cases in which smegma bacilli in large numbers were lodged in the glands.

18. Pulmonary Tuberculosis.—Pottenger insists on the value of pure, moderately dry, aseptic air, a maximum of sunshine, freedom from storms, a dry porous soil, a liberal diet with a maximum of nourishment, and a minimum expenditure of digestive energy. The use of hydrotherapy, especially the cold morning rub, is also advised with regulated exercise and a general regulation of the habits of life. He thinks serum therapy in this disease is of decided value and increases the patient's chances of cure at least 20 per cent. Direct medication of the air passages, while it can not be considered curative, in many cases alleviates symptoms. He mentions intratracheal injections of menthol, olive oil, camphor and iodoform or izal from 1 to 10 per cent. in Price's redistilled glycerin. The pneumatic cabinet is also mentioned as a useful adjunct of treatment. Drugs are of secondary importance, but for the correction of symptoms cinnamic acid seems to him of some little benefit, though his experience is limited. Ichthyol apparently facilitates expectoration and aids digestion in some cases. Creosote and creosotal he only uses for intestinal putrefaction, and he also employs creosotal in pneumonia. Aside from this his drugs are mainly stomachics, intestinal antiseptics and general tonics where they are indicated. He gives his results in detail.

19. Gastric Ulcer.—Murdoch thinks that women suffering from gastric ulcer require absolute rest in bed, and if this is impossible they should dispense with corsets and tight waistbands and keep as quiet as possible. Men, on the other hand, with chronic gastric ulcer do not ordinarily require rest, and manual laborers even get along without quitting their work. Brain workers must be relieved of their mental work and worry, at least during the early months. The condition of the gastric secretion must be looked after unless there are other reasons than the ulcer for not passing the stomach tube. If free or normal hydrochloric acid is found milk must form the principal article of food and be given with other liquid foods. He speaks well of bismuth and silver nitrate in chronic gastric ulcer when there is hyperchlorhydria or achylia. This last probably acts by producing a thin film of coagulated albumin over the inflamed and sensitive mucous membrane around the sore. He does not believe in discontinuing the liquid diet until epigastric tenderness has disappeared, the time varying from four weeks to very much longer periods. The complications of hemorrhage and perforation are noted. In the former he advises absolute rest in bed, ice, either by the mouth or rectum, an ice bag applied to the epigastrium, and nourishment should be given by the bowel. In case these are insufficient, gelatin injections by the mouth and adrenalin are suggested. In persistent hematemesis Ewald's recommendation of washing out the stomach with ice water should be tried, but if all these fail, operation should be considered.

21. Placenta Previa.—Longaker reports 11 cases treated by the plan of combined version first introduced by B. Hicks with the result of 6 babies born alive. He thinks we do well in these cases not to hurry the birth after turning.

Boston Medical and Surgical Journal.

September 17.

24 The Ill Health of Francis Parkman. George M. Gould.
25 *Minor Surgery in Country Practice. Clifford S. Chapin.
26 *The Dietary Treatment of Constipation. Henry F. Hewes.
27 Hyperchlorhydria. Roscoe W. Swan.
28 A Mastoid and Auricle Retractor. Frederick L. Jack.

25. Minor Surgery in Country Practice.—Chapin suggests the importance of a thorough knowledge by the country practitioner of bandaging aseptically and antiseptically, and also the necessity of knowing how to do strapping and do it well. The advantages of understanding the technic of poultices and intravenous injection and infusion of saline solution are also mentioned. The necessity of the country doctor knowing something about the proper method of anesthetizing is important and he thinks is neglected. It is, moreover, essential for him to know how to meet hemorrhage and shock, and Chapin gives details. There are certain operations in which teaching has been deficient such as in the treatment of fractures. He insists also on a thorough knowledge of the management of strangulated hernia which is essential in emergencies.

26. Constipation.—The factors bearing most directly on the physiologic function of the intestines are enumerated by Hewes, such as the habit of a regular period of defecation, a proper amount of physical exercise and a proper diet. The physician must at the start advise as to these. The first two explain themselves. As regards the latter he points out the necessity of having a proper selection of foods containing sufficient unabsorbed residue, and gives a diet list for constipation. Fats may also be of use if taken in considerable quantity, and foods which contain or generate considerable quantities of organic acids which by their action on metabolism or the

nerve centers after absorption increase the intestinal activity, such as tamarinds, prunes, plums, etc., and certain vegetables. His patients were advised to give up drugs and are instructed as to exercise and the necessity of following a diet list made up according to the indications mentioned above, such as whole-wheat or rye bread, cabbage, beets, turnips or lettuce, and prunes or tamarinds for dessert. Enemata were used when necessary at the start. The diet was kept up from one to two weeks, and in some cases prunes stewed with senna were prescribed (1 ounce of senna leaves stewed with 3 or 4 dozen prunes). In some special cases a fat excess in the diet was prescribed. He says in the very large majority of cases of constipation the chief and possibly the only cause is failure to follow a normal physiologic manner of life. In such, a complete cure can be obtained by a proper direction of general régime and diet.

Cincinnati Lancet-Clinic.

September 19.

29 *A Case of Basicranial Fracture Followed by Status Epilepticus and Death. H. S. Allen.
30 Charlatanism. George J. Monroe.
31 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

29. **Status Epilepticus.**—Allen reports a case of an epileptic patient who suffered from a fracture of the base of the skull during a fall in a fit, and which was followed by fatal status epilepticus. He discusses the latter condition and its mortality, which is very high.

St. Louis Medical Review.

September 19.

32 Report of Tetanus Cases. William S. Deutsch.

Bulletin of the Johns Hopkins Hospital, Baltimore.

August.

33 Bichat. William S. Thayer.
34 Some Early Autopsies in the United States. Walter R. Steiner.
35 A Case of Neuro-fibromatosis (von Recklinghausen's Disease) with Paralysis and Muscular Atrophy of Arms and Legs. H. M. Thomas.
36 *The Cure of the More Difficult, as Well as the Simpler Inguinal Ruptures. W. S. Halsted.
37 *The Pathology of Smallpox. William Royal Stokes.

September.

38 The Quality of Thoroughness in Nurses' Work. Isabel Hampton.
39 *The Anatomy of the Pancreas. Eugene L. Opie.
40 Uncinariasis: Report of a Case of Infection with the American Species. Thomas R. Boggs.
41 Solitary Tubercle of the Stomach. Roy McL. Van Wart.
42 The Control of Hemorrhage Following Pelvic Operations by Packing the Pelvis with Gauze Through a Proctoscope and Maintaining Counter Pressure by Packing the Vagina. John A. Sampson.
43 *Note on the Discovery and First Use of the Stomach Tube by an American Physician. Julius Friedenwald.
44 *On a Rapid Method of Staining Neuroglia. Roy McL. Van Wart.

36. **Hernia.**—In this paper Halsted calls attention to certain special points, such as excision of the veins, utilization of the right rectus muscle to close the lower part of the right inguinal canal and utilization of part of the cremaster muscle, which was formerly cut away. The illustrations explain almost better than the text, but the steps of the operation are given as follows: 1. Division of the aponeurosis of the external oblique and reflection of the flaps. 2. Splitting of the cremaster muscle and fascia a little above the center of the cord. 3. Freeing the internal oblique muscle as much as possible. Here it may be advisable to make relaxation cuts in the anterior sheath of the rectus muscle under the aponeurosis of the external oblique, but doing this after sewing of the internal oblique to Poupart's ligament is begun when the tension can be better gauged. 4. When the veins are large, as is usual, they should be excised with very great care to avoid even the slightest extravasation of blood, avoiding any handling of the vas deferens if possible. 5. Ligation of the sac by transfixion or purse-string suture at the highest possible point. 6. Use of the lower flap of the cremaster muscle and its fascia by drawing it up under the mobilized internal oblique, holding it in position by fine silk stitches, which, having engaged firmly a few bundles of the cremaster, perforate the internal oblique, preferably where it becomes aponeurotic and are tied on the external surface of the latter. 7. Mobilization of the internal oblique, possibly further release by incising the anterior sheath of the rectus muscle. 8. Overlapping of the aponeurosis of the external oblique muscle by the so-called Andrew's method. 9. Closure of the skin with a buried continuous silver suture and covering of the incision with five or six layers of silver foil. It is unnecessary to dress or examine the wound closed in this manner for two weeks, when the wire may be withdrawn. The patients are kept in bed from 18 to 21 days. If during the dissection of the sac the cord is torn from its bed and subjected to traumatism and the testicle withdrawn from the scrotum, the veins should not be excised. In such cases Halsted would advise the transplantation of the vein alone. In children the veins should not be excised, as the probability of atrophy is greater than in adults.

37. **The Pathology of Smallpox.**—Stokes reports and illustrates the findings in smallpox, which he summarizes as follows:

Although we have only studied five cases of smallpox at autopsy, yet some conclusions can be drawn from the work. The early skin lesions indicate that the primary infection in smallpox takes place in the lungs, probably by inhalation. The poison, when it enters the circulation, shows a selective influence on the epithelium of the skin and respiratory tract, and many cases are probably not further affected. The serious and fatal lesions of smallpox are caused by the secondary infection from the skin and respiratory tract, and the infectious agent is usually the streptococcus pyogenes. This organism is so distributed throughout the lesions as to explain most of the visceral changes, such as thrombosis, local necrosis and the various pulmonary changes. This streptococcic septicemia is the most striking feature of fatal smallpox, and if it were possible to overcome this condition by a special serum, the mortality from the disease would be greatly reduced.

39. **The Pancreas.**—Opie describes the anatomy and histology of the pancreas and calls attention in conclusion to the fact that the organ consists of two functionally diverse elements—on the one hand, cells which supply to the intestine important digestive ferments, and on the other hand, cells having no communication with the ducts of the gland, but an intimate relation to the blood vessels. In the second place, he also calls attention to the fact that the close anatomic relation of the pancreatic duct to the common bile duct favors transmission of the morbid processes from the liver to the bile passages and the pancreas.

43. **The Stomach Tube.**—Friedenwald points out that the invention of the stomach tube is to be credited to Dr. Philip S. Physick of Philadelphia, rather than to Jukes and Bush, who have been considered its inventors. He brings forward evidence and seems to make the case clear that Physick used the tube as early as 1800, and published the report of successful results with it in 1812, while the work of the English inventors first appeared in 1823.

44. **New Neuroglia Stain.**—Van Wart recommends the following process as a rapid method, possessing the advantages over the Mallory technic that it can be applied to any formalin-fixed tissue without prolonged special preparation and only requires a few minutes:

1. Fix in 10 per cent. formalin (4 per cent. formaldehyd). The tissue should be obtained within ten hours of death and fixed, preferably in small pieces. 2. Embed in paraffin (preferably the aniliin oil method). 3. Cut 5/15 micra sections and mount on slides in the usual way. 4. Remove the paraffin by means of xylol, absolute alcohol and 95 per cent. alcohol. 5. Cover the section with a saturated aqueous solution of picric acid for two minutes. The section should be of a deep yellow color. 6. Wash in water. 7. Cover the section with a 10 per cent. aqueous solution of ammonium bichromate for two minutes. The yellow color should be completely removed. If not, repeat. 8. Wash in water. 9. Stain five minutes in a mixture of 8 c.c. of crystal violet saturated solution in alcohol (95 per cent.) and 42 c.c. of aniliin oil water, made by shaking 5 c.c. of aniliin oil with 95 c.c. of distilled water and filtering. This solution should be freshly prepared. A similar solution of gentian violet or methyl violet may be used, but the stain is not so intense. 10. Wash in water and blot. 11. Cover a 5 per cent. solution of potassium iodid, which has been saturated with iodin, one minute. 12. Wash with water and blot until the section is dry. If all the water is not removed the differentiation will be imperfect in the portions containing water. 13. Differentiate in aniliin oil and xylol, equal parts. 14. Wash thoroughly in xylol. 15. Mount in balsam. The sections if not exposed to light will keep well. The portions of the section where the neuroglia is abundant are of a deep violet color. The rest of the section is nearly colorless. The method is based on that of Mallory.

Transactions of the Chicago Pathological Society.

May 11 and June 8.

45 *Blood Cultures in Lobar Pneumonia and Agglutination of the Pneumococcus. Edward C. Rosenow.
46 *A Statistical Study of the Postmortem Findings in 171 Cases of Lobar Pneumonia. Ellis Kirk Kerr.

47 Demonstration of a Dissecting Aneurism of the Root of the Aorta Involving the Walls of the Heart. Frederick Tice.
48 The Effects on Streptococci of Blood Serum from Cases of Scarlatina. George H. Weaver and G. F. Ruediger.
49 A Study of the Hemolysis of Rabbit's Blood Corpuscles by Human Serum in Various Diseases, Especially Erysipelas. D. E. W. Wenstrand.
50 *A Fever Following Rat Bite. W. A. Evans.
51 The Action of Certain Ions on the Lysins in Human Serum. Ludvig Hektoen.
52 Network Formations in the Right Auricle, with Demonstration of a Specimen. E. R. LeCount.

45. **Blood Cultures in Pneumonia.**—Rosenow finds that with improved technic and the using of large quantities of blood for inoculation the pneumococcus can be recovered in all cases of pneumonia, and in obscure cases the blood culture may be a valuable diagnostic aid. The pneumococcemia in pneumonia does not mean a specially unfavorable prognosis. On account of the difficulties involved agglutination of the pneumococcus is at present of scientific, rather than of practical, value. Normal and pneumonic blood serum appear to have no bactericidal influence on the pneumococcus. His studies do not settle the question whether lobar pneumonia is the primary result of direct local infection or secondary localization in the lung.

46. **Pneumonia.**—From a study of 171 cases Kerr finds that the age of maximum frequency of deaths from pneumonia is from 35 to 40 years, while that of the greatest number from all causes is between 40 and 50. Fatal cases are somewhat more frequent in males. Unilateral cases predominate, the right side over the left and the lower over the upper lobe. Crossed pneumonia is rare. The majority of cases reach the stage of gray hepatization, and while abscess and gangrene are uncommon, pulmonary edema and bronchitis are frequent. Acute parenchymatous changes occur in the parenchymatous organs with marked frequency. The serous membranes are involved in the following proportion: pleuritis, 70 per cent.; pericarditis, 12 per cent.; endocarditis, 8 per cent.; meningitis, 6 per cent.; peritonitis, 5 per cent.; and arthritis, very rarely. Pericarditis occurred with pneumonia of the lower lobes in all but two cases, and of the right middle lobe in these two. The preponderance of vegetative endocarditis and the preference for the mitral valves in this series differs from the usual experience; the frequency of meningitis associated with endocarditis is also noteworthy. Jaundice in pneumonia does not seem to be accompanied by any uniform change in the liver. Kerr notes the importance of pneumonia as a terminal infection. The presence of chronic pathologic lesions in a large number of cases is remarkable. These are mostly of importance from a prognostic point of view.

50. **Fever Following Rat Bite.**—Evans has seen 3 cases of this fever, and has looked up the literature, finding 2 cases reported in European circles, while 15 appeared in American and 38 in Japanese journals. There are also slight references to others. He reviews the literature and analyzes the symptoms as they appear. The disease seems to come on late, in a large proportion of cases after a number of days, though the incubation period varies, and the duration of the fever may be weeks and months. The wound usually heals promptly. In general, after an interval of 10 to 21 days the fever appears, with pain, swelling and some discoloration at the point of bite. There is some chilliness and a general neuralgia and rather noticeable sweating. The peculiarity of the fever is its tendency to intermissions, which may last for days and weeks, and the patient feel well in the interval. Local glandular enlargement is marked; there may be a general adenopathy. Three deaths probably from this cause are recorded. The pathology, so far as known, is rather negative, except hyperemia of the cord and the increased cerebrospinal fluid in Miura's case. Suppuration either in the wound or glands has not been noticed of recent years under modern treatment.

Archives of Ophthalmology, New York.
September.

53 Clinical Contributions to the Knowledge of Rare Affections of the Conjunctiva and Skin of the Lids. J. v. Michel.
54 *Epiphora as an Initial Symptom of Basedow's Disease. E. Berger.
55 *Experiments on Endogenous Infection of the Eye. J. Zelenkovsky and M. Woizechowsky.
56 *The Value of Ophthalmic Examinations in the Differential Diagnosis Between Typhoid Fever and Acute Miliary Tuberculosis. Clarence Loeb.
57 Buphthalmos in a Subject of Congenital Dislocation of the Crystalline Lens. F. W. Marlow.

54. **Epiphora in Basedow's Disease.**—This symptom is considered by Berger in the case he reports as a secretory neurosis of the lachrymal glands similar to the other secretory neuroses of Basedow's disease. He rejects the mechanical explanations that have been offered. If this theory is correct, of course sounds and astringent injections are useless. The best treatment is that which relieves the general symptoms as well as the epiphora, though in obstinate cases perhaps the internal use of atropin or local instillations of cocain might be tried. For annoying dryness of the ball he has suggested the instillation of sterile salt solution, which has been employed with good results.

55. **Endogenous Infection of the Eye.**—The important facts deduced from the investigations of Zalenkovsky and Woizechowsky, as mentioned on page 819, are that in experimental endogenous infection of the eye the vitreous is a more favorable soil for the propagation of bacteria that have gained entrance than the aqueous, but that the entrance of bacteria is effected with more difficulty. The bacteria circulating in the blood can enter the aqueous and the vitreous in the absence of all inflammatory, embolic, or thrombotic processes in the vessels of the eye; their trophic action on the vessel walls is sufficient to permit their passage, but these conditions favor it.

56. **Typhoid Fever and Miliary Tuberculosis Differentiated.**—Loeb reports a case of general miliary tuberculosis, and to some extent discusses the literature. He finds that tubercles occur on the choroid probably in at least 50 per cent. of the cases of general miliary tuberculosis, though their absence does not disprove the presence of the general process. When present, especially when the development can be followed with other characteristic symptoms, they are pathognomonic of general miliary tuberculosis, and in cases of supposed typhoid fever running an atypical course, especially when the Widal reaction is negative, the eye should be examined. The presence of tubercles may not affect the therapeusis, but there are cases where a correct diagnosis is important from the forensic standpoint as well as being otherwise satisfactory.

American Journal of Obstetrics, New York.
September.

58 A Case of Pregnancy in a Dwarf Weighing 39 Pounds; Abdominal Hysterectomy. W. G. Willard.
59 *The Surgical Treatment of Puerperal Infection; a Part of the Symposium on Puerperal Infection. H. J. Boldt.
60 *The Bacteriology of the Puerperal Uterus; Its Relation to the Treatment of the Parturient State. S. Marx.
61 *The Treatment of Puerperal Sepsis. Hiram N. Vineberg.
61½ Uterine Myomas. William H. Baker and W. P. Graves.
62 *Postoperative Cystitis in Women. G. Kolischer.

59. **Puerperal Infection.**—The conclusions of Boldt's article are given as follows:

> In the acute form of puerperal septicemia and pyemia in which it is probable that the general circulation has been invaded by micro-organisms, whether a bacteriologic examination of the blood at the time of making the examination proves this or not, no method of surgical intervention is of benefit; on the contrary, it is likely to shorten life. In all puerperal infections the form of surgical intervention, if one be indicated, must be left to the judgment and conscientiousness of the physician, and the prognosis will vary according to the condition to be combated. With our present knowledge no strict rule by which one should be governed can be laid down.

60. **The Bacteriology of the Puerperal Uterus.**—Marx concludes that the normal puerperal uterus is a sterile organ. The presence of bacteria in the absence of general evidence of constitutional disturbance, means the introduction of such bacteria by accidental contamination. Their presence in the uterus accompanied by fever means in all probability sepsis arising from the uterus. Their absence in the presence of general symptoms means that we should look to other organs for the source, such as the vagina or vulva or some general disturbance accompanying the puerperal condition. He holds that the genitourinary tract is at all times well protected in ordinary cases in healthy women and only the operator's hands

can be a source of infection. Intrauterine douches can not clear the uterus from infecting germs. The only way to do this is to cause firm contraction of the uterus and limit infection, together with the use of a remedy to aid rapid absorption, and which, by its antiseptic properties, will destroy the germs. For this purpose he finds firm packing with reliable iodoform gauze the best method.

61.—See abstract in THE JOURNAL, xl, p. 1530.

62. **Post-Operative Cystitis.**—This condition, especially when occurring after ureteral denudation, Kolischer thinks is probably due to nutritive changes causing a point of less resistance for the immigration of micro-organisms which probably come from the intestine. Trophoneurotic changes also appear probable at the end of a denuded ureter. It is important always to make sure of the condition of the bladder before operation, and to consider also the possibility of cystitis occurring some time after operation as not having anything to do with the latter but being due to other causes.

Clinical Review, Chicago.
September.

63 Report of Two Cases of Labor in Deformed Pelves. Joseph B. DeLee.
64 *Pathogenesis of Locomotor Ataxia. G. B. Hassin.
65 *Semilunar Cartilages; Their Anatomy and Surgery. H. A. Sifton.
66 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

64. **Pathogenesis of Locomotor Ataxia.**—Hassin's article on this subject is concluded in this issue. He finds that tabes dorsalis is the result of an affection of the posterior roots of the spinal cord; chiefly mechanical, due to compression on the part of the membranes of the spinal cord or of the brain. Its cause is everything that may produce meningitis, taking cold, sexual abuses and infectious diseases, chiefly syphilis. The treatment must be mechanical; surgical in those forms of tabes where it can be applied (tabes cervicalis, tabes dorsalis). Such treatment, if taken early, will stop further development. In studying the clinical forms of tabes, all the newest methods applicable in the study of meningitis must be applied: Kernig's symptom, cryoscopy, cytoscopy and hemolysis of the spinal fluid of tabetic patients. Hassin presents elaborate arguments in support of this view of the pathogenesis and urging the importance of the minutest microscopic examination of the spinal membranes and the brain and experimental research for better knowledge of the subject.

65. **The Semilunar Cartilages.**—Sifton has found comparatively little literature in regard to injuries of these bodies. Simple displacement of the cartilage in the knee would be often taken for sprain. The joint will usually be locked in a position somewhat short of complete extension. This symptom is not found in any other injury of the joint except in cases of a floating body which is practically the same as a loose cartilage. For treatment the cartilage should be reduced if possible; if it is torn loose it can not be reduced by any form of manipulation, but if it is only dislocated it can readily be replaced by fully flexing the knee, rotating it outward or inward and then quickly extending it. If the cartilage is prominent, pressure should be made on the prominent point, while manipulations are carried on. Any form of splint which can give the knee rest should be applied. After a week this splint should be removed daily for careful massage and passive movements. Eight to twelve weeks are required for the cartilage to become fixed after the first injury. Some cases, however, do not completely recover and are likely to get out of place again at the slightest provocation. Elastic knee bandages and braces are then worthless, and relief can be obtained only by operative measures, completely removing all detached or loose portions of the cartilage. The operation should be under the most careful asepsis. He describes his technic as follows, with the details of 2 cases operated on:

> The best form of incision for the removal of a semilunar cartilage is the U-shaped, with the convex border towards the patella. Turning the flap down to the required extent the joint is opened by a transverse incision above the upper surface of the cartilage. This incision should be made as far above the cartilage as possible, for the reason that there is a considerable artery immediately beneath the lower border which might be wounded if the incision was made close to the cartilage. I believe that the U-shaped incision of the skin and overlying tissues is much preferable to a straight incision, for the reason that it divides the resulting scar into three parts and is, consequently, more flexible than if all the tissues had been divided in the same line. If the incision is carried well forward it will not be necessary to interfere with the lateral ligaments, ample room being obtainable by running the cut well forward. By retracting the patella and manipulating the joint a good view of one-half of the knee is easily obtained. As above stated, I would not recommend, under any circumstance, an attempt to suture the cartilage, but would remove all the detached portion. This can best be done by a strong, narrow-bladed scissors. I think no fluid should be introduced into the joint unless considerable hemorrhage has been encountered and it becomes necessary to wash out blood clots which have accidentally obtained access to the cavity. The rule which should always be followed is to produce as little traumatism as possible and attain the object necessary. The joint should be closed by a continuous, fine catgut suture and the skin incision then closed. The limb should be put at rest by means of a plaster dressing for two weeks, at the end of which time, the wound being entirely united, gentle manipulation of the joint is commenced, the patient being also allowed to bear some weight on the leg.

Physician and Surgeon, Detroit and Ann Arbor.
July.

67 *The Iodin Reaction in Surgery. Conrad George.
68 *Pathologic Changes Following Lacerations of the Cervix. Ralph L. Morse.
69 *Displacement of the Pelvic Organs. James G. Lynds.

67. **The Iodin Reaction in Surgery.**—This reaction which has been known for over twenty years and with which the leucocytes of the blood contain granules showing a reddish-brown stain with iodin, has been studied by George. He finds as a general result of his investigation that the reaction alone and apart from a study of the history of the case is not of much value. It can be regarded as a symptom of a little more value than leucocytosis, but not as pathognomonic in any degree. The diagnosis of abscess or sepsis can only be made by a careful study of the reaction in connection with other symptoms, and no one symptom can be taken as an indication for operation.

68. **Cervical Lacerations.**—Morse reviews the pathologic changes of cervical lacerations, the variations in the columnar epithelium, stimulating it to proliferation, and the acid and infected vaginal secretions producing so-called erosions and probably favoring the occurrence of malignant disease.

69. **Displacement of the Pelvic Organs.**—Lynds holds that in a considerable proportion of cases, especially with a large, heavy, retroverted uterus with lacerated cervix and prolapsed and diseased appendages and the patient nearing the menopause, he would remove the organs. In younger patients he would amputate or repair the cervix and perform an anterior or posterior colporrhaphy as indicated, and strengthen the pelvic floor. Then, if necessary, he would perform a ventrofixation or shorten the round ligaments as seems best. In many cases, however, anterior fixation does not prevent a return of the prolapse. His experience has been that even in partial procidentia the greater amount of the suffering is only partially, if at all, removed by the internal shortening amputation and operation on vagina of the organs. He does not advocate hysterectomy in all cases of prolapse, or even in all cases of procidentia, but thinks there is a class of cases where nothing short of it will give relief. Each case must be studied individually. There are few conditions requiring greater judgment as to the measures to be taken.

Texas Medical News, Austin.
August.

70 The Public Control of Tuberculosis. William S. Carter.
71 Appendicitis from a Surgical Point of View. A. B. Small.
72 Acute Traumatic Tetanus. R. McDaniel.
73 Herpes Zoster. The Use of Faradic Current for the Pain and Permanent Relief of this Annoying Symptom of Derangement of the Special Nerves Affected. E. N. Shaw.

Chicago Medical Recorder.
September 15.

74 *Some Causes of Bladder Hemorrhages Not Commonly Recognized. Louis E. Schmidt.
75 The Physician as a Business Man. Darwin R. Stockley.
76 Brown-Sequard Paralysis. R. S. Loving.
77 Medical Gymnastics and Massage in the Treatment of Sprains. Carl Kellberg.
78 *Notes on the Treatment of Puerperal Infections. Thomas J. Watkins.
79 Chronic Bright's Disease and Diabetes Mellitus; Diagnosis; Cause and Similarity. B. F. Felch.
80 *Improved Methods and Details in the Care of Patients During Surgical Operations. Fenton B. Turck.

74. Bladder Injuries.—Among the causes of bladder hemorrhages not usually recognized by the physician, Schmidt enumerates ulceration due to breaking down of gonorrheal infiltration of the mucosa, atheromatosis of the blood vessels, cystitis with extravasation, varicose degeneration of the bladder veins, a peculiar condition of the mucosa of the trigonum making it appear fluffy, like a piece of fine fabric and bleeding at the slightest irritation, which has been seen as yet only in women, and direct medical interference such as bi-manual examination or obstetrical operations, and traumatic granulation of the bladder which follows injuries to an already inflamed bladder wall.

78.—This article appeared elsewhere. See THE JOURNAL of July 4, title 74.

80. Protection During Surgical Operations.—Turck describes two or three improvements in the technic of surgical operations. For instance, to avoid peritoneal contamination in abdominal operations he proposes a square sheet of rubber dam with two small openings 3 to 6 in. apart, reinforced by a rubber band forming a collar. This is laid over the wound and the part to be incised, the stomach, for example, in gastro-enterostomy, is drawn through one of the openings, which stretches and hugs closely to the protruding viscus. The loop of intestine selected for the anastomosis is drawn through the other opening. The two parts drawn through the opening are completely isolated from the rest of the peritoneal cavity, as the rubber overlaps the edges of the wound. When the anastomosis is performed the shield is slit open with scissors, the viscera set free, and replaced in the abdominal cavity. Contamination of the peritoneum as the viscera are opened is absolutely prevented. The constricting band around the viscera also prevents hemorrhage and any considerable escape of their contents. The same principle can be used in different operations such as cholecystotomy. As the rubber-covered viscus is grasped and not the viscus directly, there is less danger of injury. Another valuable protective device is what he calls a rubber drainage coffer-dam. Around the drainage tube at the point of insertion—as for example in cholecystotomy where drainage of the gall-bladder is desired—the thin flexible rubber cylinder is stretched around the neck of the gall bladder, and fits snugly to the outer wall, but not enough to shut off circulation. A few stitches hold it in place. A drainage tube is then inserted within the rubber cylinder and stitched into the gall bladder in the usual way. Between the inner drainage tube and the coffer-dam a few strands of suture material are placed for drainage. Gauze can be packed around it in the usual way. Other devices which he uses for preventing shock are small, thin, hot-water bags inserted into the abdominal cavity and the use of heat stimulation of the soles of the feet to prevent shock. To provide heat at a constant temperature during surgical operations he has devised what he calls hot-water-coil slippers, a device which has been of service in the prevention of shock in his own experience. Even when shock is not imminent the use of heat to the soles has a good effect on the circulation and better elimination is established.

Dominion Medical Monthly, Toronto.

August.

81 *The Buried Animal Suture; Its Value in Aseptic Surgery. Henry O. Marcy.
82 *The Operative Treatment of Goiter. George A. Bingham.
83 Successful Operation on Four Cases of Goiter in a Septic Condition. Herbert A. Bruce.
84 His Mother's Legacy. Robert A. Hood.

81. Buried Sutures.—Marcy gives the history of the use of buried animal sutures (preferably tendon) and points out their utility. He thinks the time will come when they will hold the first place in the technic of modern aseptic wound treatment. He advocates the continuous rather than the interrupted sutures, as they do not leave pockets for the accumulation of fluids, and a parallel rather than a glover's stitch, the needle inserted within the tissue parallel to the long axis of the wound, each succeeding stitch made by introducing the needle exactly opposite the emergence of the preceding one. The continuous suture, moreover, requires but a single knot, and is less liable to produce undue constriction since compensation occurs, equalizing the force applied to the entire suture. This he considers of the utmost importance since injury and devitalization follow the earlier method. Fatty tissues should be avoided for buried sutures, but they seldom require independent suturing. He remarks that the interrupted suture is the legacy of the fathers, and was used for the purpose of removal of a stitch as desirable. If our tailor made our clothes in this manner we should wonder at his bungling methods.

82. Goiter.—While a case of benign goiter should only be operated on for relief of definite symptoms, in malignant disease excision of the gland is the only hope. To avoid compression of the important organs Bingham would operate even in advanced malignant disease. He has also operated in exophthalmic goiter and thinks that any case failing to respond to prolonged medical treatment with steady increase of growth should be given the benefit of operative interference. These cases are somewhat more dangerous as regards anesthetics, but he has used chloroform, though the ideal would be local anesthesia. In bad cases of dyspnea he stops the anesthetic as soon as the skin incision is done, and thinks by the intelligent co-operation between surgeon and anesthetist, the patient can be nursed along through the operation without suffering and with a minimum amount of damage, and, being so lightly anesthetized, by his unconscious phonation is able to give an assurance of the safety of the recurrent laryngeal nerve. He makes a shallow U-shaped incision across the tumor from one sterno-mastoid to another, passing through the skin and subcutaneous tissue, platysma and deep cervical fascia. Two flaps dissected up and down, and if necessary the anterior jugular is cut between ligatures. Then the pretracheal layer of the cervical fascia is very carefully incised in the median line. Just below this the capsule of the tumor appears. If it is opened up hemorrhage may be difficult to control. The surgeon should work outside but close to the capsule. The opening in the pretracheal fascia is enlarged as required, the finger introduced, and adhesions between the fascia and capsule broken down. It is then swept around the outer and upper margin of the tumor, forcing the pretracheal fascia and muscles over the edge of the mass, and the superior thyroid vessels are recognized and cut between clamps. This usually releases the outer part of the lobe, which may now be drawn forward and with the finger everything is stripped away from the posterior wall of the capsule. If care is taken to strip closely and from the posterior part of the capsule, the recurrent laryngeal will be pushed away from the inferior thyroid vessels or tied off close to the tumor and the lobe is completely freed, and we see the rings of the trachea to which the isthmus is adherent. No violence must be used in separating the isthmus. The tracheal wall will probably be atrophied by pressure and special care is required. He has often left a portion of the isthmus rather than risk its separation. The junction of the isthmus with the opposite lobe is now transfixed with silk and tied off and the mass cut away. The ligating of the pedicle, while unnecessary so far as hemorrhage is concerned, serves a purpose, he thinks, in preventing the escape of thyroid secretion into the wound. Every possible bleeding point should be tied and care taken to obliterate the huge "dead space," which he does by a series of quilting sutures. Temporary drainage is employed by the Cheyne method, cutting a buttonhole through the lower flap, just above the sternum and drawing a small tube through, the inner end of which lies in the lower part of the wound behind the sternomastoid. A provisional suture is placed in this little wound and tied when the tube is withdrawn after forty-eight hours. If the pretracheal or sternomastoid muscles have been cut, they should be sutured and the wound in the pretracheal fascia closed, running a suture of fine silk close against the wound and applying plenty of dressing. The head is supported between two sandbags. The nurse is instructed to prevent any violent movement of the head when the patient is recovering consciousness, and to compress the dressing gently during vomiting. Tachycardia

and high temperature may be controlled by digitalin and ice bags. In case of adenoma or cystoma of the thyroid, the procedure is modified. The capsule is cut through, the tumor enucleated and hemorrhage is rapidly controlled. There may be partial or complete aphonia after the operation, but it is usually only temporary.

Medical Summary, Philadelphia.

September.

85 A Case of Skin Grafting by Skin Scrapings. Carl Seiler.
86 The Treatment of Acute Dysentery. Robert C. Kenner.
87 Exterminate the Fly; He Is an Insidious and Formidable Foe. William H. Vail.
88 Opium and Its Effects on the System. J. L. Wolfe.
89 The Therapeutic Value of Sulphur; Some Phases of Indigestion. A. Atkinson.
90 Passiflora in Nervous Reflexes. O. Henley Snider.
91 Body Protection vs. Financial Protection. N. B. Shade.
92 Dr. Littlefield's Discovery. Luigi G. Doane.
93 Typhoid Fever. J. A. De Armand.
94 Concordia Discors—Discordant Harmony. F. S. Tripp.
95 Flash Lights. Zachary Taylor.

Memphis Medical Monthly.

September.

96 Uterine Conditions Demanding the Services of the General Practitioner. T. J. Happel.
97 Notes from a General Practitioner's Case Book. John A. Blackmon.
98 Some Notes from the Eye and Ear Service of the City Hospital, May and June, 1903. E. C. Ellett.
99 Something About Finsen Light Treatment. Eaton K. McNeill.
100 The Technic of Urinalysis. B. F. Turner.
101 Hepatic Abscess Following Appendicitis. Frank D. Smythe.
102 Leukemia; Leucocythemia. William B. Burns.

Merck's Archives, New York.

September.

103 Phytolacca Decandra. W. H. Blake.
104 The Use of Ichthyol in Diseases of the Upper Respiratory Tract. Lewis S. Somers.
105 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.

Colorado Medical Journal, Denver.

June.

106 Anesthesia, with Special Reference to the Use of the Schleich Principle. Robert M. Stone.
107 Case of Exophthalmic Goiter Accompanied by Dysmenorrhea. Minnie C. T. Love.
108 Report of a Case of Gastric Ulcer. Saling Simon.

Journal of the Kansas Medical Society, Topeka.

September.

109 Conservatism in Pelvic Surgery. F. H. Martin.
110 Traumatic Epilepsy; Report of a Case. A. Haggart.
111 Ethics and State Legislation Controlling the Qualifications to Practice Medicine. George A. Boyd.

Northwestern Lancet, Minneapolis.

September 15.

112 Some Problems in Gynecologic Surgery. A. E. Benjamin.
113 The Surgical Prospect of Gastric Cancer. J. H. Dunn.
114 Case of Sarcoma of the Femur Recurring After Amputation and Cured by Injections of Coley's Fluid. H. B. Sweetser.
116 Fatal Poisoning by Oil of Chenopodium. Edwin T. Ramsey.
117 Aristochin; a New and Better Quinin Preparation. E. Klaveness.

Virginia Medical Semi-Monthly, Richmond.

September 11.

118 Remarks About Eye Injuries, with Cases in Point. Joseph A. White.
119 A Case of Ptomaine Poisoning Simulating Smallpox. Llewellyn Eliot.
120 Properties of the Syrup of Iodid of Iron. M. D. Hoge, Jr.

Denver Medical Times.

September.

121 Ophthalmic Neonatorum, with a Brief Report of 50 Cases. L. W. Snow.
122 Subscription Problems. C. F. Taylor.
123 A Clinical Outline of Dropsies. Edward C. Hill.

Medical Age, Detroit.

September 10.

124 Acute Suppurative Ethmoiditis. John A. Thompson.
125 Report of a Case of Pancreatic Cyst. William F. Cheney.
126 Origin and Development of Human Sensation and Thought from an Embryologic Standpoint. J. M. Fort.

Oklahoma Medical News-Journal, Oklahoma City.

September.

127 Placenta Previa. P. J. Bartle.
128 The Importance of Urinalysis in the Diagnosis of Disease. W. E. Dicken.

Journal of Medicine and Science, Portland, Me.

September.

129 General Practitioner or Specialist in Medicine? Is It to Be One or Both? Franklin Staples.
130 Some Interesting Cases Treated in the Maine Eye and Ear Infirmary, Portland, May, 1903. F. C. Lord.

American Medical Compend, Toledo, Ohio.

September.

131 Surgery of the Biliary Tract; Report of Cases. Hal C. Wyman.
132 Are There Specifics in Medicine? J. B. Casebeer.
133 A Few Thoughts on Tuberculosis. J. P. Dewitt.
134 A Few Remarks Concerning Uremia. Auguste Rhu.
135 The Successful Treatment of a Severe Case of Diphtheria. E. Park Edwards.

Kansas City Medical Index-Lancet.

September.

136 Paralysis Agitans, Complicated with Delusional Mania, with Report of Case. John Punton.
137 Ulceration of the Bowel. J. R. Phelan.
138 The Emergency Treatment in Cases of Acute Poisoning. Richard L. Sutton.
139 The Clinical Use of Pepto-mangan. John Punton.

Medical Fortnightly, St. Louis.

September 10.

140 Human Asymmetry. Maskel Lee.
141 Smallpox. James E. Free.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

[NOTE.—The *British Medical Journal* and the *Lancet* of September 5, being their "educational numbers," contained no original articles.]

British Medical Journal, London.

September 12.

1 *Inoculability of Human Tuberculosis on Bovines. D. J. Hamilton.
2 *Two Cases of Obliterative Arteritis in Young Men Leading to Gangrene in Extremities. E. Michels and F. Parkes Weber.
3 *A Discussion on Miners' Phthisis. Thomas Oliver, J. G. Adami and others.
4 *Discussion on the Pathology of Splenic Anemia. H. D. Rolleston and others.
5 Changes in the Spinal Cord in a Case of Diphtheria and of Alcoholic Paralysis. J. Michell Clarke.
6 The Purin Bodies of Human Feces in Health and Disease. I. Walker Hall.
7 Classification Cards for Use in Bacteriology. Kenneth Goadby.
8 A New Method for the Determination of Uric Acid in Urine. A. F. Dimmock and F. W. Branson.
9 Leucocytosis and Lymphocytosis in Malignant Disease, Lymphadenoma, Leukemia, etc., with Tables of 42 Blood Examinations. F. G. Bushnell.
10 Case of Syphilitic Nephritis in an Infant Aged 5 Months. George Carpenter.
11 *Adenoid Vegetations in Infancy. R. C. Dun.

1. **Human and Bovine Tuberculosis.**—Hamilton replies to the critics of his experiments and claims that the tests were adequate and conclusive. He admits that in 4 of the 19 cases of calves inoculated with human tuberculosis a negative or doubtful result was obtained. The criticism made that he did not use the tuberculin test in all his experiments he thinks is useless. If the tuberculin test had been made the charge might then have been that immunity was produced by it. In regard to two cases inoculated with human tuberculosis from one calf to another, with the result of increased virulence, he maintains they were not due to mere accidental over-susceptibility of the animals employed. The opposite side of the question—whether bovine tuberculosis is transmissible to man, of course, can never be proven experimentally.

2. **Obliterative Arteritis.**—In the two cases described by Michels and Weber there was no obvious cause of the endarteritis. The authors seem to think there is a variety of obliterative endarteritis commencing in the arterioles of the extremity, especially in the muscles and subcutaneous tissue, that may possibly be explained by the presence of a nervous element, though the peripheral nerves were found normal. The presence of a nervous etiologic element would form the connecting link with some cases of Raynaud's disease and erythromelalgia.

3. **Miners' Phthisis.**—The subject of miners' phthisis is discussed by Oliver, who arrives at the following conclusions, which, he thinks, cover the points for discussion:

1. That miners' phthisis is not the result of the inhalations of gases given off by the strata, nor evolved by the explosives used in mines. 2. That it is a disease in which there is a marked

excess of fibrous tissue in the lungs, embedded in which can be seen numerous particles of coal dust and siliceous material; in which also cavities may be seen and tubercle occasionally detected. 3. That it is a disease of occupation, due to the irritating action of dust, which renders the individual liable to repeated catarrh; that it is non-tuberculous, not only in the early stages, but may even remain non-tuberculous throughout; that when tubercle is present it is an accidental infection, which, while hastening the end, does not exercise any very marked influence on the pre-existing structural alterations caused by dust, unless it be a tendency towards disintegration. 4. That it is a local disease, purely personal to the individual, and never assuming hereditary characters. 5. That, accepting this view of the pathology of the disease, miners' phthisis, as experience in this country has shown, may be largely prevented by improved ventilation and by the adoption of means for the removal of dust or for the allaying of dust by water.

In the discussion following Adami agreed with Oliver that the disorder was non-tuberculous, as did also Hamilton, who considers it rather an aseptic sloughing due to the altered condition of the lung; that is, in coal miners. In stone masons the lung complication with tubercle at the time of death or sometimes before is frequently met.

4. Splenic Anemia.—By this disease Rolleston understands a condition characterized by splenic enlargement and not correlated by any known cause, with absence of enlargement of the lymph glands, and with anemia of a type midway between secondary anemia and chlorosis. The disease is also characterized by leukopenia or at least no increase of the white blood corpuscles. It has an extremely long course, lasting years with a tendency to periodic hemorrhages, especially of the gastrointestinal tract. He reviews the conditions, the morbid anatomy, especially of the spleen, bone marrow and lymph glands and sums up the important points as follows:

1. Accepting chronic splenic anemia as a clinical entity, is there sufficient evidence to accept it as an established pathologic entity? 2. What significance can be attached to the structural changes in the blood, spleen, bone marrow, etc.? 3. What is the exact relation between splenic anemia and Banti's disease? 4. What is the nature of the disease? Is it an intoxication or an infection? Until the last question is fully answered, any reply to the first must either be suspended or be in the negative.

The subject was discussed by several authorities, among them Senator, who concludes that the reason for the swelling of the spleen is to be found in an abnormal blood condition due to various causes; in some cases, such as those occurring with malaria, rickets, etc., this may be due to a specific blood alteration due to the original infection. In other cases of unknown etiology it must be assumed that injurious substances reach the blood from the intestinal tube through the lymphatics. This is justified by the fact that the abdominal lymph glands are always more or less involved, even where no other swollen glands are found. The spleen is the primary point of attack, and this is supported by the fact that in a number of cases the disease was cured by splenectomy.

11. Adenoids.—Dun has observed cases in the Liverpool Infirmary for Children and finds from his studies that in the great majority of cases the symptoms are slight and do not materially affect the health and development of the child; that medical treatment is sufficient and operative interference uncalled for. On the other hand, there are some cases, comparatively few in number, with definite and severe symptoms, producing marked ill health, usually symptoms of nasal obstruction and catarrh with occasional reflex nervous phenomenon and septic processes. These cases are most satisfactorily treated by removal of the growths.

The Lancet, London.

September 12.

12 *The Influence of Brain Power on History. Norman Lockyer.
13 *Some Points in Abdominal Surgical Diseases. E. Stanmore Bishop.
14 *On the Virulence of the Bacillus of Bovine and Human Tuberculosis for Monkeys. Allan MacFadyen.
15 Bromid of Ethyl as a General Anesthetic and as a Preliminary to Ether. William R. Huggard.
16 On the Detection of Lead in Urine and Postmortem Specimens. J. W. Mellor and Frank Shufflebotham.
17 A Case of Umbilical Calculus. J. R. Harper and C. G. Seligmann.
18 A Case of Splenic Anemia. George Peacock, Thomas E. Gordon and J. Alfred Scott.
19 A Case of Rupture of the Esophagus from an Accident. T. R. C. Whipham.
20 *The Treatment of Cancer and Other Forms of Malignant Disease by Electric Osmose. Clarence A. J. Wright.
21 *The Treatment of Plague by Large Doses of Carbolic Acid Given Internally. J. Mitford Atkinson.
22 A Case of Presumed Ptomaine Poisoning. T. B. Broadway.
23 Postgraduate Work Abroad. 1. Paris. A. A. Warden.

12. Influence of Brain Power on History.—The title of Lockyer's address is a paraphrase of the well-known work of Capt. Mahan on "The Influence of Sea-power on History." Lockyer compares the educational facilities and the universities of Great Britain to those of Germany and the United States, greatly to the disadvantage of the former, and claims that as the work of Capt. Mahan has aroused the British nation to its needs for naval defense so it should be stirred up to national effort to meet the competition of outsiders in the matter of education. He says to sum up:

I have endeavored to point out to you how the nation at present suffers from the absence of a powerful, continuous, reasoned expression of scientific opinion, urging that we shall be armed as other nations are, with efficient universities and facilities for research to uphold the flag of Britain in the domain of learning and discovery. I have also endeavored to show that, in addition to our many existing councils, another is required to secure that the benefits which a proper co-ordination of scientific effort in the nation's interest can bring shall no longer be neglected. Let me also remind you that in 1859, when the late prince consort occupied this chair, he referred to "impediments" to scientific progress, and said: "They are often such as can only be successfully dealt with by the powerful arm of the state or the long purse of the nation."

13. Abdominal Surgical Diseases.—Bishop calls attention to certain points in regard to abdominal surgery, especially the question of perforation in appendicitis, in gastric and duodenal ulcer, etc. He discusses the symptoms and illustrates by cases the points he makes. He says the abdominal cavity with the structures contained in it may be pathologically looked on the same as a large joint, and the first and automatically present result of inflammatory changes in the peritoneum will be and must be rigidity of the muscles, which ordinarily produce movement between the intestines and abdominal wall. It is more important to emphasize this because it is not persistent, but may disappear early in the case. This particular factor will apply to any case of perforation, duodenal, gastric, enteric or appendiceal and slighter and more localized degrees of it may be seen in localized peritonitis. The fact of having one certain sign to rely on as evidence renders the absence of that sign a tremendous comfort to all concerned. Another point is that of intussusception. Here he calls attention to the misleading remarks on diagnosis of some of the text-books, viz., the classical symptom of sausage-shaped mass in the abdomen, the passage of blood and mucus in the stools, the sudden pain and vomiting and an os-uteri-like body to be felt per rectum. He remarks that if we are to look for any thickened segment of the intestine in these cases that must be at the time it is contracted on itself which is during a paroxysm of pain. It is just at this time that the examination is apt to be neglected. The child is crying violently and is turned over to its mother to be soothed and petted into peace. Then when he is quieted again, when both he and the muscular contractions of his bowel are exhausted, the examination is resumed, and failing to find any trace of it, its existence is ignored. Another symptom often missed, but which must be present in every case, is a bloody exudation of mucus. Intussusception means more than simply the compression of one segment into another; it means strangulation of the mesenteric vessels to some extent. The fluid is prevented from escaping and the capillaries are enlarged. Blood is effused into the lumen of the gut. As for feeling for the end of the intussusception per rectum, it is a most dangerous waste of time. Consider how far it must travel in, say the ileocecal variety, which is the most common, before it can possibly come within the reach of the finger. He also points out the hopelessness of attempting to reduce intussusception by the injection of air or water and is dubious as to the reported cases of success in this way. Maunsell's operation is the only resource. He also notices ectopic gestation and its diagnostic points. The points on which he lays stress are the occurrence of abnormal blood discharges in women with some of the signs of early pregnancy who have had a missed or even slightly delayed period and who complain of pain in either or both thighs extending toward the knee in the course of the obturator or anterior crural nerve. Bi-manual examination in such cases should be done at once. If a small mass is found beside the

uterus, abdominal section should be done at once without delay. Another condition in which somewhat similar symptoms may occur is that of tumor in which the pedicle is twisted, and the tumor becomes engorged. This may occur from a fall or from no apparent cause at all, but there is usually some previous history of an abnormal mass to suggest the condition to be found.

14. **Bovine and Human Tuberculosis.**—MacFadyen has experimented on monkeys with bovine and human tubercle bacilli and found that the animals proved susceptible to the bacillus of bovine tuberculosis either directly or after one passage through the organism of the guinea-pig.

A certain number of the animals died in two or in ten days after feeding with bovine and human tuberculous material. Normal human sputum did not produce this effect and the result suggested some form of intoxication. The monkey fed thrice, twice, or once with the bovine material succumbed to a general tuberculosis in from about one to two months, and, fed with the human material, the same results and fatal effect were produced in about the same period of time. The young monkey proved to be equally susceptible to the bovine and human strains of the tubercle bacilli. The striking difference in the effects produced occurred in the digestive tract. Intestinal lesions were found in the case of every monkey that had been fed with human tuberculous material, while none of the monkeys fed with the bovine material presented any evidence of tuberculous ulcers in the intestine. Within the limits of these experiments it would appear that virulent bovine tubercle bacilli may pass through the intestinal wall in large numbers without any detectable lesion of the gut being produced. It would also appear that a food tuberculosis can be as readily brought about by the bovine as by the human strain of the tubercle bacillus in the young monkey.

20. **The Electric Treatment of Cancer.**—Wright describes the mechanism of cataphoresis and gives the results of his experiments with it in cancer. He finds that the mineral acids thus used would cause a resolution of the skin and tissues, while the metallic salts give rise to necrosis. Alcohol gives rise to the immediate coagulation of albuminous constituents and produces subsequent fibrosis. With liquid paraffin substances can be transferred into the tissues. Iodin, salicylate of soda, lithium, salts and pilocarpin produce their own specific reactions. In his experiments on cancer he employs either a dilute glycerophosphate alcoholature or liquid paraffin in emulsion as a vehicle for the salts employed. The chief of these are cinnamate of strontium, glycerophosphate of lime and strontium. citric acid, iodin, and suprarenal extract. He relies mostly on the first named, but the glycerophosphates have proven useful in assisting in casting off a slough and promoting healing after an application of acid nitrate of bismuth. Citric acid is used for subduing neuralgic pain either alone or in conjunction with phenazonum. Iodin is chiefly used for reducing the indurated glands and promoting absorption, although a strong solution was occasionally used for escharotic effects on the tissues. The suprarenal extract he employed as a preliminary to treatment in most sittings to limit absorption and concentrate the action of the drug. Of the 23 cases of which he has notes he has had good results in 5, which he reports.

21. **Carbolic Acid in Plague.**—Atkinson reports six cases of plague treated by large doses of carbolic acid; 10 gr. being given every two hours for various periods, internally. The blood examination was made for the bacilli during treatment and they were found to have disappeared.

Journal of Tropical Medicine, London.

September 1.

24 *Observations on Akatama, a West Central African Disease. Frederick C. Wellman.
25 Mosquitoes in Relation to Malaria in the Province of Huelva, Spain. Ian MacDonald.

24. **Akatama.**—This is the name given to a sort of peripheral endemic neuritis of obscure origin, characterized by numbness and intense prickling and burning sensations in the presence of cold or damp which are temporarily relieved by the application of dry heat. It is found all over the territory occupied by certain tribes in West Africa in whom 3 to 5 per cent. are more or less disabled by it. The theories of the disease are various. The more probable would be that it might be due to sudden changes of temperature, though the prevalence of the disease is not always coexistent with the exposure. Its being an intoxication analogous to beri-beri is possible, but there are no motor symptoms and it is not especially localized or affected by change of residence. The theory of nerve starvation is not borne out since these tribes are well fed. The diagnosis is easy; the patient himself generally understands what is the matter with him. The prognosis is good as to life and general health, but the treatment is unsatisfactory. Some cases seem to undergo a spontaneous cure.

Presse Medicale, Paris.

26 (No. 69.) La thérapeutique par les agents physiques au XVIII siècle. A. Brocchi.
27 *Torsion du pedicule des cystes du ligament large. P. Sikora.
28 (No. 70.) La survie au point de vue médico-légal. P. A. Mesnard.
29 Schémas dulbo-protubérantiels. P. Bonnier.
30 Fracture de la base du crane (of the skull). A. Mignon.

27. **Cysts in Broad Ligament.**—Sikora reviews 3 cases and adds another personally observed in which a large cystic tumor, supposed to be an ovarian cyst, proved to be a parovarian cyst with a twisted pedicle. The pedicle is always wide, 4 to 6 cm., and the torsion is never abrupt, but slow and gradual. The hemorrhage was always too small to induce appreciable symptoms.

Semaine Medicale, Paris.

31 (XXIII, No. 35.) *L'hérédité pathologique et la théorie du plasma germinatif. S. Jankelovitch.

31. **Pathologic Heredity.**—Jankelovitch discusses the later scientific researches which show that in certain families there is an undue tendency to alkalinity of the plasm or to toxicity on the part of the organic fluids or to hypothermia, thus checking the vital action of the phagocytes, or some other similar abnormal condition transmitted from generation to generation which the clinician may in time learn to determine with precision. He accepts this as the scientific foundation for the old theory of the "predisposition" and the mystic conception of the "temperament." Weismann's theory of the germ plasm does not interfere with this conception of pathologic heredity. Admitting that all the ancestral properties are localized in the innumerable biophores or molecules of the germ plasm, we may easily assume a number of combinations between them sufficient to explain all the variations which may occur in the descendants of a single family. We can conceive that the spermatozoa and the ova do not all possess absolutely identical properties, and consequently the product of each fecundation will have only the properties derived from a single spermatozoön and a single ovum. The resulting combination of properties varies for the product of each fecundation.

Archiv f. Gynaekologie, Berlin.

Last indexed XL, page 1685.

32 (LXIX, No. 1.) *Fractured Pelvis. L. Blumreich.—Zur Lehre vom Frakturenbecken.
33 *Ueber die Behandlung der Placenta previa mit der Methode Bossi. W. de Paoli (Genoa).
34 *Changes in Ovaries Accompanying Uterine Tumors and Vesicular Mole. E. Runge (Dresden).—Ueber die Veränderungen der Ovarien bei syncytialen Tumoren und Blasenmole, zugleich ein Beitrag zur Histogenese der Lutein-Cyste.
35 *Study of Two Cases of Death in Eclampsia. L. Seitz.—2 sub partu verstorbene Fälle von Eklampsie mit vorzeitiger Lösung der normal sitzenden Plazenta; mikroskopische Befunde an Plazenta und Eihäuten.
36 *Anatomische und klinische Beiträge zur Vaporisation des Uterus. H. Fuchs (Kiel).
37 *Differentiation of Fetal Heart Sounds and Umbilical Sounds. O. Hoehne (Ibid.).—Zur Differential-Diagnose von Nabelschnurgeräusch und fötalem Herzgeräusch und zur Indikationsstellung bei intra partum erkannten fötalem Herz-Fehler.
38 *Experiences in Treatment of Suppurative Affections of Adnexa and of Pelvic Connective Tissue. P. Jung (Greifswald).—Erfahrungen bei der Behandlung eitriger Aff. der Adnexe und des Beckenbindegewebes.

32. **Fracture of Pelvis.**—Blumreich's patient fell from a second story when she was 18, alighting on the left side. This side of the pelvis became obliquely contracted, and during childbirth 5 years later did not participate in the birth act. The fetus was perforated, but in a second pregnancy she was delivered of a living child, 42 cm. in length, after application of the metreurynter. Delivery occurred as in case of a generally contracted pelvis.

33. **Treatment of Placenta Previa by Bossi's Method.**—De Paoli reports 19 cases thus treated. The portio was dilated in five to twenty-five minutes without laceration sufficient to

require suture. One of the mothers and 3 of the children succumbed. The purpose of the Bossi method in such cases is solely to prepare the way for immediate extraction of the fetus. De Paoli advocates it instead of cesarean section for placenta previa, and in other cases in which the mother's life is in danger. He thinks asepsis is more certain with it than with metreurynters, etc., and that it is a boon to the general practitioner.

34. **Changes in Ovaries Accompanying Uterine Tumors.**—Runge investigated the adnexa in 7 cases of "syncytial tumors" and in 1 of a vesicular mole, and found the ovaries in cystic degeneration in each instance. The lutein cells also exhibited a marked tendency to proliferation. He did not find these changes in the ovaries accompanying other uterine tumors. He reviews the literature on the subject and adds that the changes described are not the inevitable accompaniment of the moles or tumors. In a recent case an ovarian tumor was found with the structure described, and inquiry revealed a history of expulsion of a mole two years before.

35. **Microscopic Study of the Genitalia After Death in Eclampsia.**—Seitz discovered evidences of inflammation in the decidua, involving part of the fetal membranes and the uterine musculature, in a case of eclampsia in which the patient died during delivery. In a second, similar case nothing of the kind could be detected. The findings are illustrated in colored plates.

36. **Application of Steam to Uterus.**—Fuchs reports 103 cases of hemorrhage treated at the Kiel clinic by curetting and vaporization. In 68 more than four months have elapsed since treatment was concluded, and in 60 of these the treatment has proved a permanent success. The most strikingly favorable results were obtained in cases of preclimacteric hemorrhages. Of course the procedure is applicable only to women past the child-bearing age or as an alternative to extirpation of the uterus. After mild curetting the steam is applied for thirty seconds, at a temperature of 120 C., and the patient is kept in bed for a week to ten days afterward. He gives a cut of the simple apparatus, the steam generator with the thermometer in the top, the small, long tube conveying the steam and the large, protecting "celluvert" tube that is slipped over the steam tube to prevent burning the vagina, etc.

37. **Differentiation of Fetal Heart Defect by the Sounds.**—Hoehne diagnosed, intrapartum, a fetal cardiac defect, confirmed by the anatomic findings. He noticed a rough sound, not synchronous with the maternal pulse, diffused over an area corresponding to the fetal heart while the usual fetal heartbeat was perceptible. This diagnosis was made in 6 out of 7 cases on record. Five of the children died, and the necropsy revealed tricuspid stenosis in 4 and aortic in 1. Two of the children survived, with no special abnormalities.

38. **Experiences with Suppurative Pelvic Affections.**—Jung states that the mortality of 134 cases of suppuration in the pelvis under observation at Greifswald, was 20.5 per cent.; while it was 18 per cent. of the 117 cases operated on. In a third of the fatal cases a communication between the tubal pus pocket and the rectum was discovered, sometimes no larger than a hair in diameter. The pus contained pyogenic cocci in 35.8 per cent. of the total cases; tubercle bacilli in 24.6 per cent., and gonococci in only 14.8 per cent. The mortality in 72 operations without drainage was 23.6 per cent., and 25 per cent. in the 20 cases drained. He has abandoned the practice of rinsing out the cavity, as he found that it washed germs into remote and inaccessible parts.

Archiv f. Klin. Chirurgie (Langenbeck's), Berlin.

Last indexed page 683.

39 (LXX, No. 3.) *Ueber die operative Behandlung der otitischen Thrombose des Sinus cavernosus. Heine (Berlin).
40 *Hepatoptose. N. Savelieff (Dorpat).
41 *Methods of Filling Cavities in Bones. G. Fantino and A. Valan (Bergamo).—Ueber einige Verfahren künstlicher Ausfüllung von Knochenlücken.
42 Changes in Cartilage in Case of Tuberculous Joint Affections. Schablowski (Königsberg).—Die Veränderungen des Knorpels bei tub. Gelenkerkrankungen.
43 *Zur Kasuistik und Statistik der Patellar-Frakturen. G. Müller (Berlin).
44 Der Mechanismus der Luxatio ossis lunati, nebst Bemerkungen über die Entstehung der Fraktur desselben Knochens. H. Gross (Jena).
45 *Cancer in Animals. L. Loeb (Buffalo).—Ueber den Krebs der Tiere.
46 *Experimental Studies of Anastomosis Formation of Vas Deferens After Resection of the Epididymis. W. Bogolyuboff. —Exp. Untersuchungen über die Anastomosenbildung an den ableitenden Samenwegen bei der Nebenhodenresektion.
47 Urinal. Dobrotvorski.—Ueber eine neue Modifikation des Harnrezipienten bei permanenten suprapubischen Blasenfisteln.

39. **Operative Treatment of Otitic Thrombosis of the Transverse Sinus.**—It is the rule at Lucae's clinic to open up the sinus at once in every case of high fever occurring in an adult in the course of suppuration of the middle ear when a suppurative meningitis can be excluded. If the sinus is full of blood or the diagnosis is dubious or a thrombus adherent to the wall may be assumed, treatment is expectant at first and the sinus not opened unless the symptoms continue a progressive course. If the thrombus obliterates the sinus, then it must be opened up and the suppurative thrombus removed. It is not necessary to remove with it the soft thrombi until the blood flows. The jugular is not ligated unless there is primary or secondary thrombosis of the medulla with pyemic general infection and the vein itself already affected. In case it is impossible to reach the central end of the decayed thrombus the results of the operation on the sinus are awaited and only in case the pyemic symptoms still persist is the jugular ligated. In every case the ligation of the jugular must be followed by free exposure and evacuation of the focus in the sinus and medulla. He describes a number of cases in detail.

40. **Wandering Liver.**—Savelieff's article is based on 2 cases personally observed and 116 collected in the literature, discussing the etiology, symptoms, diagnosis and treatment. His cases are illustrated.

41. **Filling for Cavities in Bones.**—Fantino and Valan insist that it is necessary to supply the bone salts needed for the regeneration of bone. They accomplish this by filling the cavity with scraps of calcined bones. New bone tissue forms in and through them, utilizing the salts in the bone scraps, and the cavity is completely filled in this way in three to eight months, as shown by radioscopy. In case the cavity is not unconditionally aseptic, they use a mixture of 3 parts pulverized calcined bone, 1 part thymol and 2 parts iodoform. This is pasty at 75 C. and sets at 60 C., forming a mass as hard as bone. In case of osteomyelitis or other suppurative lesion, they first sterilize the cavity by filling it with 10 per cent. iodoform glycerin, which they boil in the cavity by introducing the thermocautery into the fluid. After the sterility of the cavity has been ascertained by test cultures, the cavity is filled with the calcined bone as above. In case the soft parts are sound they can be sutured at once. They have applied this technic in 40 cases and the results were extremely satisfactory in 23 out of 30. The pulverized bone alone is absorbed too rapidly for successful regeneration of bone, but by mixing it in a cement as above described, the aim sought is fully realized as their three years of experience have established.

43. **Sutured Versus Non-Sutured Fractures of the Patella.**—Müller does not attempt to generalize from his material as it is so limited, merely 4 cases of fracture of the patella treated by suture and 11 cases treated by bandaging alone. The healing was complete in 93.1 days in the first and in 98.7 days in the second group, but the after-treatment required 153 days in the first and only 71 in the second, while the mobility of the joint was only 90 degrees at the close of the after-treatment in the first and 120 degrees in the second group. Working capacity was also impaired by 40 per cent. in the first and 24.6 per cent. in the second group.

45. **Cancer in Animals.**—Loeb mentions that he has frequently discovered carcinomata in the eyes of animals, and adds that they are comparatively frequent in cattle at the Chicago Stock Yards. At least one a week is found, and sometimes 2 or 3. During 1899 only 2 external carcinomata were noted elsewhere than the eyes, in the 50,000 cattle slaughtered. On a certain farm in Wyoming carcinoma in

the eyes of the cattle seems to be endemic. No cases occur in the neighborhood. He states that of the 61 cattle he has observed with carcinoma in the eyes, all but 2 were cows. In 1 there was a carcinoma in each eye, and in another one eye and the vulva were affected.

46. **Anastomosis After Resection of the Epididymis.**—Rasumowsky's method of implantation of the sound vas deferens after resection of the epididymis was tested on animals by Bogolyuboff. He found that the continuity of the efferent seminal passages became re-established in time. An intermediate space forms in which the vas deferens debouches from one side and the vasa of the epididymis from the other. The operation has been performed eleven times at Kazan, all on account of tuberculosis, and all on 7 patients. In 4 the epididymis was totally and in 7 partially resected. The clinical and experimental results are extremely encouraging.

Beitraege zur klin. Chirurgie (v. Bruns'), Tuebingen.

Last indexed page 814.

48 (XXXVIII, 1.) Pathologic Anatomy of the Appendix. O. Lanz (Amsterdam).—Die path.-anat. Grundlagen der Appendicitis.
49 Ueber Wachsthum und Architektur der unteren Femur-Epiphyse und oberen Tibia-Epiphyse. Beitrag zur Roentgen-Diagnostik. K. Ludloff (Königsberg).
50 Ueber tiefsitzende Lipome. K. Dertinger (Carlsruhe).
51 Tuberculosis in Form of Cystic Tumor Above the Mamma. G. W. Maly.—Eine seltene Lokalisation und Form der Tuberkulose.
52 Ueber Hydradenitis axillaris. L. Talke (Königsberg).
53 Resektion und Naht der Trachea bei tracheal und diaphragmatischer Larynxstenose. Kander (Carlsruhe).
54 (No. 2.) *Consequences of Ligating the Femoral Vein Below Poupart's Ligament. L. Halberstädter.—Folgen der Unterbindung der Vena femoralis unterhalb des Lig. Poupartii.
55 Experimentelle Beiträge zur Chirurgie der Harnblase (of bladder). J. Nagano (Breslau).
56 *Extensive Resections of Small Intestine. Ibid.—Zur Frage ausgedehnter Dünndarmresektionen.
57 Neogrowths Originating in Bursæ. C. Adrian (Strasburg).—Ueber die von Schleimbeuteln ausgehenden Neubildungen.
58 Operative Treatment of Carcinoma of Large Intestine. H. Schloffer (Prague).—Zur op. Behandlung des Dickdarmcarzinoms. 3 zeitige Radikal-Operation. (Commenced in No. 1.)
59 Ueber Mycosis fungoides. H. Gebele (Munich).
60 *Esophagoskopie und Esophagotomie bei Fremdkörper in der Speiseröhre. J. Kaloyeropulos.
61 In-suture of Gangrenous Folds in Intestines. Crampe.—Uebernähung gangrän-verdächtiger und gangränöser Schnurfurchen im Darm.
62 Results of Operative Treatment of Cancer of Stomach. Ringel (Hamburg).—Resultate der op. Behandlung des Magencarcinoms.

54. **Consequences of Ligating Femoral Vein.**—Halberstäder relates a case from his own experience at Königsberg to show that this procedure is by no means always free from danger. His patient was a man of 52; a piece of the femoral vein 5 cm. long was resected below Poupart's ligament in removing a tumor. Notwithstanding every known precaution, gangrene followed, but still he thinks that a favorable result is possible when collateral routes exist in sufficient numbers and the femoral artery is intact.

56. **Extensive Resections of Small Intestine.**—Nagano cites 12 cases in which more than 200 cm. of the ileum was resected. Six of the patients are entirely restored to health.

60. **Foreign Bodies in Esophagus.**—The statistics of 215 operations for this cause are tabulated with various details. Artificial teeth form 40.7 per cent. of the total, and pieces of bone 7 per cent. The mortality from the latter is the largest, being 15.38 per cent.

Berliner Klin. Wochenschrift.

63 (No. 30.) Zur Frage über die experimentelle Albumosurie. M. Halpern.
64 *Simple Method of Distinguishing Between Organic and Psychic Sensory and Motor Disturbances in the Fingers. E. Müller.—Zur Unterscheidung zwischen organisch und psychisch bedingten Sensibilitäts- und Motilitätsstörungen an den Fingern.
65 Experimentelle Studien zur Pathogenese akuter Psychosen. H. Berger.
66 *Ueber Embryomata und andere Geschwulste (tumors). J. Beard.
67 (No. 31.) *Erythema exsudativum multiforme, Chorea, Rheumatismus nodosus, Endopericarditis. M. Hohlfeld.
69 *Ueber bovine Impf-Tuberkulose. O. Lassar.
70 Ueber den Werth der Agglutination für die Diagnose des Abdominal-Typhus. R. Stern. (Commenced in No. 30.)
71 (No. 32.) *Treatment of Bullet Wounds of Lungs. König.—Aphoristische Bemerkungen zum Verlauf und Behandlung der Friedensschussverletzungen der Lunge.
72 *Transverse Spinal Paralysis from Malignant Neoplasm. Nonne.—Ueber akute Querlähmungen bei maligner Neubildung der Wirbelsäule.
73 *Zur Lehre von den neutrophilen Granulationen des Blutes. M. Mosse.
74 *Ueber Organ-Therapie beim endemischen Cretinismus. M. Levy.
75 Mosquitoes and Yellow Fever. W. Havelberg.—Ueber die Beziehungen der Moskiten zum gelben Fieber.
76 *Self-protection in Roentgen Work.—C. Beck (New York).—Zum Selbstschutz bei der Roentgenuntersuchung.
77 *Application of Osmic Acid in Clinical Microscopy. C. Posner.—Zur Anwendung der Osmiumsäure in der klinischen Mikroskopie.
78 (No. 33.) *Zur Narkose beim Ileus. W. Kausch (Breslau).
79 *Fall von Henoch'scher Purpura. C. Rommel (Munich).
80 Ueber Strumitis post-typhosa und den Nachweis der Typhus-Bazillen im Struma-Eiter. K. A. Krause and C. Hartog (Cologne).
81 *Die epiduralen Injektionen durch Punction des Sacral-Canals. A. Strauss (Barmen).
82 (No. 34.) *Omentum as a Protecting Organ. E. de Renzi and G. Boeri.—Ueber die schützende Thätigkeit des Netzes.
83 *Study of Action of Credé's Collargol. J. Bamberger.—Betrachtungen und Untersuchungen über die Wirkungsweise des "Collargol Credé."
84 Action of Killed Tubercle Bacilli and Toxins. F. Klingmüller (Breslau).—Zur Wirkung abgetöteter Tub.-Bac. und der Toxine von Tub.-Bac.
85 Location of Foreign Bodies with X-Rays. Levy-Dorn and M. Jacobsohn (Berlin).—Zur Untersuchung auf Fremdkörper mit Roentgen-Strahlen.

64. **Method of Differentiating Organic Sensory and Motor Disturbances in Fingers.**—The method is based on the illusion experienced by contact of the crossed fingers, the sensation of contact being attributed to the wrong finger or part of the finger. This illusion occurs constantly in persons with psychogenic anesthesia of the parts, while in subjects with true organic anesthesia there is none of this illusion. Müller has devised a means of applying this test in the clinic and illustrates its various applications. The hands are clasped together, with the interlacing fingers turned outward, in front of the neck. The subject is thus unable to see his fingers and the illusion is very pronounced.

66. **Embryomata and Other Tumors.**—Beard's idea is that all tumors are of embryonal origin, due to displacement of primary germinal tissue cells. Any part whatever of the life cycle of normal development may manifest itself as a tumor. Carcinoma is the sole exception, and this, he states, bears the stamp of the pre-embryonic life cycle.

67. **Relations Between Chorea, Rheumatism, Etc.**—Hohlfeld suggests that the four affections enumerated in his title may possibly have a single origin, and that their frequent combination is not a mere coincidence. He calls special attention to the occurrence of various members of the group in different members of the same family.

69. **Inoculation of Man with Bovine Tuberculosis.**—Lassar describes several cases from his own experience in which butchers or persons who had much to do with diseased cattle acquired superficial lesions which seemed to be undoubted cases of inoculation of bovine tuberculosis. He gives cuts of some of the subjects and microscopic findings.

71. **Firearm Wounds of Lungs.**—König advocates expectant treatment of a bullet wound of the lung even with considerable extravasation. Thoracotomy may be necessary if after two or three days the hemothorax still induces fever and dyspnea. It is likewise indicated at this date or later if the hemothorax persists, even in the absence of urgent symptoms. If absorption proceeds very slowly, puncture may be advisable.

72. **Transverse Spinal Paralysis from Neoplasm.**—Nonne's case was distinguished by the fact that the paralysis was not due to compression by the malignant neoplasm but merely to simple degeneration of the cord under the influence of the toxins generated by the primary tumor in the prostate and the metastases affecting all the vertebræ.

73. **Neutrophile Granulations of Blood.**—Mosse believes that he has established that the myelocytes are the essential neutrophile elements, and that we must accept a basophilia of greater and lesser degree.

74. **Thyroid Treatment of Cretinismus.**—M. Levy found that thyroid treatment proved very beneficial in 7 cases of endemic cretinism, the same as in the sporadic form. In this his experience differs from that of Schulz at Graz, who was unable to detect any improvement in 100 cases of the endemic variety treated with thyroid extract. Possibly the endemic cretinism in Alsace, where Levy's tests were made, is not so deep-rooted as at Graz.

76. **Self-Protection in Roentgen Work.**—Beck suggests that the tubes should be tested on the bones of a hand or arm fastened on pasteboard, instead of testing them on the operator's own hand or arm as is too often done.

77. **Osmic Acid in Clinical Microscopy.**—Posner states that he has found the fumes of osmic acid very useful for fixation of fresh specimens of blood or other organic fluids. It "suffocates" the cell and preserves it in its natural outline better than any other substance. He keeps a few crystals of osmic acid in a jar with a close cover. The object glass to be examined is laid over the top of the jar with the cover above it, and the fixation is complete in 40 seconds.

78. **Narcosis in Ileus.**—Kausch prefers general narcosis for operating in ileus except when the operation is so trifling that local anesthesia will prove sufficient. In order to obviate the danger of aspiration of vomited matters during the narcosis he plugs the opening of the stomach into the esophagus. This is done by means of a rubber bag on the end of a fine tube tied to the sound. The bag is introduced into the stomach with the sound, which projects a little below the bag. The latter is then inflated through the narrow tube, thus completely closing the entrance into the esophagus. The contents of the stomach and intestines can find their way out through the sound if necessary, as he operates with the pelvis raised.

79. **Henoch's Purpura.**—Rommel describes a typical case observed in a boy 3 years old. Bacteriologic examinations were negative and nothing abnormal could be discovered in the heart. No treatment displayed any efficacy except possibly the opiates. The affection showed a pronounced tendency to recurrence.

81. **Epidural Injections in Treatment of Incontinence, Etc.**—THE JOURNAL described Cathelin's method of epidural injections, vol. xxxvii, pages 150 and 793, and vol. xxviii, page 1282, and has recently chronicled a number of successes with it in the treatment of urinary incontinence, etc., page 527, ¶117, and page 757, ¶124. The needle is inserted at a point just above a line drawn across the bases of the bony pro-

Figure 1.

tuberances that form the triangle visible or palpable at the lower segment of the sacrum, x in Fig. 1. The needle is inserted as shown at A in Fig. 2 until it nearly touches the bone, then the handle is depressed until the needle parallels the bone, when it can be freely inserted quite a distance without coming in contact with bone or other tissues. The best position is the erect, but it may be necessary to have the subject recline on the left side and flex the limbs to bring the bony triangle into prominence. It is never exactly in the

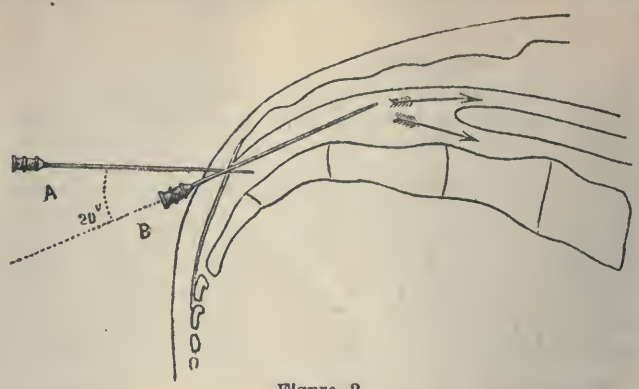

Figure 2.

anal furrow but a little above it as the subject reclines on the left side. For further particulars see references above.

82. **The Omentum as a Protecting Organ.**—The researches on dogs reported establish that the omentum has more functions than hitherto appreciated. If, for example, the circulation of the spleen is entirely cut off, the omentum gradually envelopes and forms a capsule around the spleen inside which it is in time completely absorbed. If the omentum is removed after the circulation in the spleen is cut off, the organ does not become encapsulated and the animal speedily dies. When toxins are generated by gangrenous degeneration of the spleen or other organ the omentum seems to possess the power of neutralizing these toxins. Foreign bodies introduced into the abdominal cavity were likewise encapsulated by the omentum.

83. **Studies of Action of Collargol.**—Bamberger describes experimental researches and tests on his own person which show that the silver salts do not remain dissolved in the serum, and that they have no particular bactericidal action. Their unquestionable beneficial action is due, he thinks, to the mobilization of the leucocytes which they induce.

Centralblatt f. Bakteriologie, Etc., Jena.

Last indexed page 754.

86 (No. 10.) Ueber die Gruppe des Bacillus proteus vulgaris. B. Weber.
87 Immunity to Anthrax. O. Bail and A. Pettersson (Prague).—Ueber nat. und künstliche Milzbrandimmunität.
88 Ueber die verschiedenen Agglutininen des Typhus-Serums. A. Joos (Brussels).
89 Mode of Action of Anti-trypsin of Blood Serum. M. Ascoli and C. Bezzola.—Ueber die Wirkungsweise des Antitrypsins des Blutserums.
90 Bactericidal Action of Disinfectants in Alkaline Solutions. Engels (Marburg).—Ueber die bakt. Wirkung in Alkali gelösten Desinficienten auf Bakterien-Kulturen.
91 Das Aetz-Sublimat und das Formaldehyd in der Desinfektions-Praxis. F. Abba and A. Rondelli (Turin).

Deutsche Med. Wochenschrift, Berlin and Leipsic.

92 (XXIX, No. 36.) *The Housing Question and the State. F. Hueppe.—Staatliche Wohnungsfürsorge.
93 Elaboration of Specific Antibodies After Cutaneous Infection. F. Kasten (Institute of Infectious Diseases, Berlin).—Ueber die Bildung von spec. Antikörpern nach kutaner Infektion.
94 *Ueber chronische Gonorrhoe und Gonococcen-Nachweis. F. Meyer.
95 (No. 37.) *Ueber Immunisirung gegen Tuberkulose. F. Neufeld (Institute for Infectious Diseases, Berlin).
96 *Traumatic Late Apoplexy. H. Kron (Berlin).—Zur Frage der traum. Spätapoplexie.
97 *Ueber wandernde Phlebitis. E. Neisser (Stettin).
98 *Dependence of Cyclic Albuminuria on the Circulation. P. Moritz (Greifswald).
99 Paraffin Prothesis. A. E. Stein (Wiesbaden).—Ueber die Verwendung von hartem oder weichem Paraffin zu subkutanen Injektionen.
100 Report of Committee on Foot-and-mouth Disease, 1901-2. Loeffler (Greifswald).

92. **The Housing Problem.**—Hueppe discusses the recent regulations on this subject in Prussia, and recommends among other things that a building line should be established in residence districts a certain distance back from the street, back of which nothing in the way of buildings should be allowed,

with fences not over six feet in height between the different yards. This would give an open square in the center of the block, even if the street front were built up solid, and he remarks that the air in such a square is surprisingly good, sheltered from the dust of the surrounding streets. He states that up to the end of the seventeenth century the arrangement and building of German cities were considered matters of public concern and accommodations were provided ample for all, with rents low. In the unprecedented flocking of the people from the country to the city in the last century the provisions for housing the multitudes proved inadequate. He insists that small houses are cheaper to build and maintain and more remunerative for a district in the end than many-storied tenement houses, especially if, as the new Prussian law contemplates, the special assessments, water tax, etc., are reduced 25 per cent., when it is shown that the houses are occupied by the poorer classes.

94. **Chronic Gonorrhea and Its Treatment.**—Meyer has followed 90 cases of chronic catarrhal urethritis for months or years, controlling the microscopic findings with cultures and clinical observation. He advocates making cultures from the secretions as a routine procedure of the greatest importance for treatment and indispensable to a proper understanding of the case. By repeated inoculation of the secretions on suitable culture media he succeeded in demonstrating gonococci in 50 per cent. of the total 90 cases. In 58 cases the microscope and the cultures gave identical results, while in 29 cultures developed when the microscope findings were negative. The microscope sometimes revealed the cocci after a preceding irritation of the mucosa, but the cultures revealed them without the necessity for this irritation. The culture medium found best adapted for the purpose was Kiefer's mixture of 3.5 per cent. agar, 5 per cent. peptone, 2 per cent. glycerin, and .5 per cent. salt, adding one-third by volume of sterile ascitic fluid.

95. **Successful Immunization of Cattle Against Tuberculosis.**—Neufeld presents the official report of the researches which Robert Koch has been conducting during the last two years, and which have established the possibility and feasibility of rendering cattle absolutely immune to tuberculosis. They also confirm his assertions in regard to the non-identity of human and bovine tuberculosis. His conviction that the agglutinating power and the degree of immunity are intimately connected has also been confirmed as the method of treatment which induced the highest agglutinating power ensured the highest degree of immunization. The non-identity of human and bovine tuberculosis was the key that solved the problem of immunization, as he found it possible by preliminary treatment with one kind of virus to immunize the animal against the other kind. Neufeld mentions that this possibility has been suggested by Macfadyan, von Behring, Pearson, Leonard and Gilliland, but Koch's researches had been long under way before their publications and his technic is different. He delayed publishing his report for the reason among others that he was hoping to be able to immunize other animals, such as the guinea-pig, which is very susceptible to both bovine and human tuberculosis. This wish has not been realized to date. The general plan of the immunization was to commence with injections of dead tubercle bacilli and then continue with increasing doses of living cultures, first of human tuberculosis and then of bovine tuberculosis—*Perlsucht*, reaching as large doses of each as possible. This general plan was varied in a number of ways, as, for instance, some of the animals were treated with the living bacilli from the first, and it was possible to confer immunity by this means likewise. In all the animals, however, asses, goats and cattle, it was soon found that a limit was speedily reached beyond which it was impossible to go. This limit is not established by the action of the infection, but by the action of the toxins of the cultures. In this respect human and bovine tuberculosis proved to be about on a level, or rather the toxic action of *Perlsucht* is unmistakably stronger than that of the human cultures. It was impossible to determine the minimal fatal dose, as the susceptibility to the toxin varied in different animals, and even in the same animal at different times. In asses it ranged from 50 to 100 mg. of human tubercle bacilli, while goats tolerated only 30 mg. of human and 20 mg. of bovine tubercle bacilli, and even 10 mg. sometimes proved fatal. This toxic action of the cultures established a limit to the process of immunization beyond which it was impossible to bring the animals, even after being long accustomed to the injections. This is similar to what is observed in typhoid and cholera, but the conditions are much more complicated in tuberculosis. In the former the toxic phenomena can be induced with killed bacteria if large enough doses are given, but this is not the case with tuberculosis. Even the intravenous injection of up to 300 mg. of the killed cultures caused slight reaction in goats. This is the more remarkable, as killed tubercle bacilli have the same power as living cultures to induce local toxic action; that is, the formation of nodules. Another remarkable feature of the toxic action in tuberculosis is the fact that it occurred exclusively in those animals that had previously been treated with tuberculosis cultures. The acute intoxication never developed in animals that had not had the preliminary treatment, even after much larger doses, as much as 100 mg. in goats. On the other hand, a peculiar chronic intoxication developed after very large doses. The acute intoxication proved fatal in less than twenty-four hours, and the findings correspond to those observed in tuberculin intoxication of tuberculous animals. He protests against the assumption from these facts that in both cases the toxin is the same, for otherwise it would have proved possible to protect the animals against the intoxication described by interposing treatment with progressive doses of tuberculin. This, however, was never accomplished, and the hope that tuberculin administered after a large dose of living cultures might avert the impending intoxication was never realized. This acute intoxication occurred approximately the same in asses, goats and cattle and proved an obstacle to the animals becoming accustomed to the injections. Another circumstance which rendered the immunization difficult was observed in the goats alone, namely, the injurious effect of too large or too frequently repeated doses of human tubercle bacilli. When too large doses were injected (30 to 60 mg. in fractional doses) little if any immunity was acquired, while with smaller doses the animals were rapidly rendered immune. The injections were always intravenous and the cultures were two to four weeks old, grown on glycerin bouillon or the Beck-Proskauer culture medium, dried with blotting paper, weighed and ground in a mortar with physiologic salt solution. The fluid was thoroughly shaken up and about 5 to 10 c.c. injected at a time. If the bacilli enter the circulation in lumps they are liable to induce the formation of a cavity in the lungs, even in an immunized animal. When the immunization had resulted positively and sufficient time had elapsed, small, smooth-walled, perfectly healed cavities were found in the lungs, entirely free from tubercle bacilli. If the animal dies or is killed a few weeks after the last immunizing injection, then, as is to be anticipated, more or less numerous indurated grey nodules undergoing retrogression will be found in the lungs. The desiccated bacilli were ground and injected in suspension in saline or centrifugalized or in glycerin after sedimentation. The cultures of *Perlsucht* bacilli were always extremely virulent. Goat No. 26, for example, was injected with .025 gm. ground (killed) tubercle bacilli, with eight days later an injection of .0025 gm. human tubercle bacilli, and eleven days after this an injection of .01 gm. *Perlsucht* bacilli. The animal died with symptoms of acute intoxication immediately after injection of .02 gm. *Perlsucht* bacilli seven weeks later, and in the lungs were found a number of minute, hard and evidently retrogressing nodules. As a typical example of the immunity conferred we quote the record of ass No. 8: April 8, 1902, 1 gm. ground (killed) tubercle bacilli in saline solution; April 26, .02 gm. culture human tubercle bacilli; May 10, .05 gm. ibid; June 18, .01 gm. *Perlsucht* culture, and September 18, .02 gm. ibid. The animal is living and apparently healthy, and has been repeatedly tested with doses of virulent bovine tuberculosis cultures, rapidly fatal for the controls. None of the immunized animals

has shown signs of infection during the year and more that have elapsed since the immunization, and those that have been slaughtered have shown no signs of progressing tuberculosis. In conclusion, Neufeld points out that the results of this research do not conflict with the excellent effects of Koch's method of "immunizing treatment" of tuberculous human beings with preparations of killed, ground tubercle bacilli which are readily assimilated by the organism. In the first place, the immunization of animals is obtained by means of a brief preliminary treatment which enables them to withstand the following doses of otherwise fatal cultures, while in man it is a question of gradually arresting a chronic process by treatment continued through months and years. We know also that the reactions induced in tuberculous subjects by injection of tuberculosis toxins are entirely different from those induced in the healthy.

96. **Traumatic Tardy Apoplexy.**—Kron analyzes the cases that have been published, and remarks that only 4 out of the total 10 are above the suspicion of a predisposition. In expert testimony in damage suits the physician should refer to the uncertainty at present prevailing in regard to the subject. He notes one case in which symptoms occurring not long after a trauma indicated tardy hemorrhage with perforation into the ventricle in a previously robust man. The necropsy revealed, however, a tumor in a parietal lobe.

97. **Migrating Phlebitis.**—Neisser gives a careful study of a case which justifies the descriptive title of syphilitic migrating phlebitis of the superficial veins of the limbs.

98. **Relation of Cyclic Albuminuria to the Circulation.**—Edel presents arguments in favor of the assumption that cyclic albuminuria is due to a certain insufficiency of the circulatory apparatus. He noticed that the increase in the blood pressure which normally occurs after moderate exercise was followed by abnormally low pressure in those subjects inclined to cyclic albuminuria. The subjective sensation of fatigue paralleled the recurring albuminuria. In one of the numerous tests he describes he had 2 of these patients lie down and artificially induce disturbances in the respiration by straining as at stool for ten to fifteen minutes. This was invariably followed by albuminuria, although the urine had been free from albumin before, and nothing of the kind was observed in the normal controls. The conclusions of his research are that cyclic albuminuria should be treated by measures to tone up and strengthen the heart muscle and its nerves—not by rest, as hitherto advocated. He even goes so far as to proclaim that the prospects of treating chronic nephritis in the same way by appropriate "gymnastic therapy" are more and more encouraging. He has been successful in curing many cases of cyclic albuminuria along these lines and has achieved equally good results in chronic nephritis. He emphasizes the point that the albuminuria does not recur during the increased blood pressure and respiration that accompany physical exercise, but only in the phase of depressed pressure which follows. The efficacy of diuretics in such cases is due to the improved circulation through the kidneys which they produce. He cites Schaps to the effect that among 35 patients with cyclic albuminuria observed at Breslau, 20 had more or less pronounced heart affections. He compares the condition in cyclic albuminuria to that of a convalescent from an infectious disease, only that it is permanent. The subject is a chronic convalescent.

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Last indexed XL, page 1332.

101 (XXXVI, No. 7.) A New Nail Parasite. Dreuw (Unna's clinic, Hamburg).—Ein neuer Nagelparasit.
102 *Ueber Gonokokken-Färbung (staining). A. Pappenheim.
103 Treatment of Cutaneous Cancer by the Czerny-Trunecek Method. C. Beck (Budapest).—Zur Behandlung der Hautkrebse nach der Methode von C.-T.
104 (No. 8.) Fall von Neurofibroma cutis multiplex. F. v. Krzysztalowicz (Cracow).
105 Ueber syphilitische Haus-Epidemien. A. Jordan (Moscow).
106 (No. 9.) *Inherited Immunity to Syphilis. M. Tschlenow (Moscow).—Zur vererbten Immunität gegen Syphilis und über das sogen. Gesetz von Profeta.
107 *Zur Behandlung der Psoriasis. Dreuw.
108 (No. 10.) Histologische Untersuchungen über die Wirkung des Chrysarobins bei der Alopecia areata. M. Hodara (Constantinople).
109 *Neue Methode der Abortiv-Behandlung der Gonorrhoe. C. Engelbreth (Copenhagen).
110 (No. 11.) Circumscribed, Hitherto Unknown Degeneration of Skin. Dreuw.—Ueber eine umschriebene, bisher unbekannte Degeneration der Cutis. Zugleich ein Beispiel von Simulation einer Hautkrankheit.
111 Ein neuer Coccus, unter eigenartigen Umständen auf der Haut angetroffen. C. Cronquist (Norrköping).
112 (No. 12.) Granuloma herpetiforme "exoticum." Boselllni (Bologna).
113 Zur Prophylaxe der Enteritis mercurialis. L. Gorl (Nuremberg).
114 (XXXVII, No. 1.) *Technik der Urethral-Injektionen. Capacität der Urethra ant. und Spannungsdruck des Sphinkter, berücksichtigt in der Construction einer neuen Gonorrhoe-Spritze (syringe). C. Engelbreth (Copenhagen).
115 Die hyaline Degeneration im Haut-Carcinom. A. Marullo (Naples).
116 *One Cause of Iodoform Eruption. C. Audry (Toulouse).—Ueber eine Ursache des sogen. Iodoform-Ausschlages.
117 (No. 2.) Improvement of Zinc Glyco-gelatin by Dusting with Powder. C. Cohn.—Zur Verbesserung der Zinkleimdecke durch Bepudern.
118 (No. 3.) Ueber Urticaria pigmentosa perstans. Reiss (Cracow).
119 Zur Kenntnis der Cavernitis gonorrhoica. S. Grosz (Vienna).
120 Behandlung der Trichophytiasis capitis mit Chrysarobin. M. Hodara.
121 (No. 4.) Zur Kenntnis der Parapsoriasis (Brocq). A. Bucek (Essek).
122 Intoxication mit Alpha Eucain. Neuhaus.
123 Ueber Spermatocystitis. Ibid.
124 (No. 5.) *Zur Behandlung des Lupus. Dreuw.
125 Syphilis-Bacillus von Max Joseph. E. Delbanco.

102. **Staining the Gonococcus.**—Pappenheim gives a historical sketch of the various stains proposed for the gonococcus, pointing out their advantages and drawbacks. His own stain is a concentrated 5 per cent. carbolated water solution of 2 parts methyl green and 1 to 3 parts pyronin. The stain is left in contact for three to five minutes. The nuclei are a bluish green to lilac and the cocci dark red. This brings out the gonococci even when they are very scantily present. When more details are desired his universal stain is a combination of this with the Neisser and Steinscheider technics: 1, carbol-gentian; 2, Lugol's solution for three minutes; 3, Nicolle's alcohol plus 1/5 acetone, not less than half a minute and not more than two or three minutes; 4, orange G; 5, blotting paper; 6, the carbol-methyl green and pyronin solution; 7, rinsing; 8, drying and mounting. This shows up the cell nuclei green, the oxyphile plasm of the neutrophile leucocytes yellow as also the eosinophile granulations; the mast-cell granules purple or scarlet; the bodies of the epithelial cells pink and of the lymphocytes purplish red, while the gonococci are red and the iodin-proof bacteria are dark blue.

106. **Inherited Immunity to Syphilis.**—Tschlenow discusses the various contradictory communications that have been published in regard to Profeta's law. He describes 2 cases personally observed in which the children of syphilitic mothers had unquestionably acquired syphilis after birth. In one case the mother was in the tertiary stage, and in the other had had syphilis and been well treated several years before. In the first case the child became infected five years after its birth, and in the latter case between the second and third month. He admits the existence of inherited immunity, but regards it as likely to be transient, and believes that it does not last long after birth, and that such children are as liable then to acquire syphilis as others.

107. **Treatment of Psoriasis.**—Dreuw has derived great benefit from the salve he describes, especially in case of isolated, much indurated foci of psoriasis and in the persisting relics of old psoriasis. He has thus treated a large number of patients at Unna's clinic and also in the latter's private practice. The formula is 10 parts salicylic acid to dissolve the horny substance, 20 parts of chrysarobin and also of Ol. rusci nov., and 25 parts each of green soap and vaselin. This salve is applied with a brush to the foci for three or four days.

109. **Abortive Treatment of Gonorrhea.**—Engelbreth's method is applicable only to purely epithelial gonorrhea. This can be differentiated by the absence of inflammation at the orificium during the first to the third day of the gonorrhea. His method aims to remove the epithelium as in curetting the uterus. He accomplishes this by systematic destruction of the layers of the epithelium by means of strong solutions of silver nitrate (.2 to .3 per cent.), with which he irrigates the anterior portion of the urethra and which cures the gonorrhea in two days

in nine out of every ten cases. In his experience the cases with a longer period of incubation ran a milder course than the others, either from lesser virulence on the part of the germs or greater resisting power of the tissues.

114. Improved Syringe for Treatment of Gonorrhea.—The same writer describes and illustrates a syringe which consists of a rubber bulb, a connecting tube with valve, and the glass syringe proper. He claims that it acts with such delicacy and precision that there is no fear of its getting out of order, but its principal advantage is that the amount injected always corresponds to the varying capacity of the anterior portion without forcing the sphincter. It thus allows thorough and exclusive treatment of the anterior portion. He reviews the history of syringe treatment from the days of ancient Egypt, and enumerates the conditions for success. The capacity of the syringe must be at least 21.5 c.c., as the capacity of the anterior portion ranges from 4 to 21.5 c.c. For injections into the posterior portion the capacity should be 25 c.c. The pressure of the injection should not be above 1/10 of an atmosphere, as the elastic pressure of the sphincter is only 1/9 to 1/7. The injections should be made slowly, bearing in mind this elastic action of the sphincter. They should be brief and often repeated, as the sphincter becomes fatigued easily. Protracted injections for this reason should be made under low pressure, and the urethra only half filled. In injecting the posterior portion the bladder should be emptied and the patient should urinate during the injection, as this reduces the pressure to its lowest point, 1/20 atm.

116. One Cause of Iodoform Eruptions.—Audry states that he has ceased to have any iodoform eruptions in his practice since he has refrained from using iodoform on a patient who is taking mercury in any form. He thinks the eruption is in fact a "hydrargyride" induced by the iodoform.

124. New Method of Treating Lupus.—Dreuw has been applying for four months at Unna's clinic a combined method of treating lupus, which has had unexpectedly fine and rapid results in the 9 cases in which it has been used. Some of the patients had been under treatment for twenty to twenty-two years, and all were delighted at the cosmetic results obtained by the new method. Time alone will reveal whether the cure is permanent, but the prospect is encouraging, as even with the diascope no nodules can be detected. Tuberculous ulcers and granulations healed under this treatment remarkably well and promptly. One of his patients had tuberculous ulcerations on nose, cheeks and at the corners of the mouth. All the lesions have healed over during the five weeks of treatment and the interference with eating vanished after the first sitting. One patient had suffered for twenty years with an exfoliating lupus covering face and lids. The entire surface has healed over with a smooth and shiny surface. He adds that no time nor expense is required for this method of treatment which is within the reach of every practitioner and patient. The procedures are not painful and no symptoms of intoxication have been observed in any instance. The method is a combination of refrigeration with ethyl chlorid and the application of crude hydrochloric acid to the nodules, rubbing it in until it smarts. A region about the size of a dollar is sprayed with the chlorid until covered thick with ice. A cotton-wound stick is then dipped in the acid and it is rubbed into the lupous patch as hard as the patient can bear except in case of exfoliating lupus or tuberculous lesions, in which the pressure need not be so energetic. The acid is rubbed in until the epidermis at the spot forms a grayish soft mass. This is cast off in the course of a few days without leaving any deep lesion. The cauterization is never deep. After this destruction of lupous tissue the epidermis is regenerated from below. In one of his cases a recurring lupous patch on the cheek was cauterized away in a single sitting. Four weeks later the entire granulating surface was covered with apparently healthy epidermis. If the acid becomes diluted with the melting ice it loses its efficacy and a fresh cotton-tipped stick should be taken. The acid is not painful when applied only to the frozen surface, and any tendency to painfulness is combated by renewed application of the ethyl chlorid. It is possible to go over large surfaces in this way at a single sitting. The cauterizing action of the acid does not extend beyond the spot treated. He found it an advantage in some cases, when the nodules had disappeared to the eye, but could still be seen by the diascope, to paint them with ink. This showed through the layer of ice and he could thus apply the acid exactly where needed. Bleeding is soon arrested by the cauterization. He believes it might be advisable in case of very extensive lupus to administer chloroform and go over the entire surface at a single sitting.

Gazzetta degli Ospedali, Milan.

Last indexed page 877.

126 (No. 74.) Cirrosi portale atrofica splenomegalica come malattia prevalentemente congenita. A. Ferrannini.
127 Sulla tubercolosi sperimentale del cane e sulla tossiemia che ne consegue. Casavecchia.
128 Le iniezioni endovenose di sublimato nella cura della sifilide. Gravagna.
129 (No. 77.) Acute Infectious Liver. A. Nizzoli.—Il fegato infettivo acuto in una forma morbosa non ancora cognita.
130 Antitossine ed agglutinine nel sangue di animali immunizzati. F. Figari.
131 Il nucleone nello sperma. E. Cavazzani.
132 Sulla cura delle infezione puerperali. G. Monzardo.
133 La sciatica curata colle iniezioni locali di antipirina. P. Adolfo.
134 Medicatura cacodilica. B. Domenico.
135 (No. 80.) Dell' azione del nucleoproteide di sangue eterogeneo sul numero e la proporzione dei globuli. G. Guerrini.
136 Sputa as Culture Medium. G. Guyot.—Léspettorato come mezzo di coltura pel bacillo della tubercolosi.
137 Study of Portal Circulation. E. Alevoli.—Derivazione chirurgica del sangue dal circolo portale.
138 (No. 83.) Contributo alla patogenesi della bronchopneumonite consecutiva alla operazione del gozzo (on the throat). F. Carini.
139 Incontinenza notturna d'orina e vegetazioni adenoidi. U. Meizi.
140 Tetano ed acido fenico. G. G. Deplano.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

TEXT-BOOK OF HISTOLOGY. Including the Microscopic Technic. By Dr. Philipp Stöhr, Professor of Anatomy at the University of Würzburg. Fifth American from the Tenth German Edition. Translated by Dr. Emma L. Bilstein, Formerly Director of the Laboratories of Histology and Embryology, Woman's Medical College of Pennsylvania. Edited, with Additions, by Dr. Alfred Schaper, Professor of Anatomy, University of Breslau. With 353 Illustrations. Cloth. Pp. 485. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A HANDBOOK OF OBSTETRIC NURSING. For Nurses, Students and Mothers. Comprising the Course of Instruction in Obstetric Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M.D., Formerly Obstetrician, Gynecologist and Surgeon to the Woman's Hospital of Philadelphia. Sixth Revised Edition. Illustrated. Cloth. Pp. 270. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

SCHEME FOR THE DIFFERENTIAL TESTING OF NERVES AND MUSCLES. For Use in Diagnosis. By J. Montgomery Mosher, A.M., M.D., Clinical Professor of Insanity, Neurology and Electro-therapeutics, Albany Medical College. Illustrated. Cloth. Pp. 58. Price, $1.00 net. Albany, N. Y.: Brandow Printing Company. 1903.

YEARBOOK OF THE UNITED STATES DEPARTMENT OF AGRICULTURE. 1902. Cloth. Pp. 912. Washington: Government Printing Office. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Sept. 12, 1903:

Brown, Orville G., first lieut. and asst.-surgeon, will proceed to Washington Barracks and report, not later than September 12, for temporary duty thereat during the absence of Major Henry P. Birmingham, surgeon, and, on the return of Major Birmingham, surgeon, will rejoin his proper station.

Foster, Charles L., first lieut. and asst.-surgeon, will proceed to Fort Washington for temporary duty during the absence of First Lieut. Charles R. Reynolds, asst.-surgeon, and, on the return to duty of the latter officer, will rejoin his proper station.

Geer, Charles C., first lieut. and asst.-surgeon, is granted an extension of leave for one month on account of sickness.

Jones, John F., contract surgeon, is granted an extension of leave for one month.

Koyle, Fred T., contract surgeon, is relieved from further duty in the Division of the Philippines, and will, on the expiration of his present leave, proceed to Fort Clark for duty.

Page, Henry, captain and asst.-surgeon, is relieved from duty at Fort Mason and will report to the commanding general, Department of California, for transportation to the Philippine Islands on the transport to sail from San Francisco on October 1, and will report to the commanding general, Division of the Philippines, for assignment to duty.

Peed, George P., first lieut. and asst.-surgeon, is relieved from further duty at the U. S. General Hospital, Washington Barracks, and will proceed to Fort Bayard for duty.

Reynolds, Frederick P., captain and asst.-surgeon, is granted leave of absence for ten days from about September 10.

Reynolds, Charles R., first lieut. and asst.-surgeon, will, on the arrival of First Lieut. Charles L. Foster, asst.-surgeon, proceed to Washington Barracks and report at the General Hospital for duty with Company of Instruction No. 1, Hospital Corps, during the Army maneuvers to be held at West Point, Ky., and Fort Riley, Kas., and, on the return of the Company of Instruction to Washington Barracks, will rejoin his proper station.

Truby, Albert E., captain and asst.-surgeon, is relieved from further duty at West Point, N. Y., and will proceed to Alcatraz Island, Cal., for duty.

Tetamore, Frank L. R., contract surgeon, having completed the duty for which he was ordered to Fort Grant, will, on the expiration of his present leave, proceed to San Francisco and report for duty with the Seventh Infantry, en route to the Philippine Islands and, on arrival at Manila, will report for assignment to duty.

Williamson, Llewellyn P., first lieut. and asst.-surgeon, is relieved from further duty at the U. S. General Hospital, Presidio, Cal., and will proceed to Jefferson Barracks for duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Sept. 19, 1903:

Asst.-Surgeon J. P. Trainor, from the *Solace* to the Naval Station, Pollock, P. I.

Medical Director Paul Fitzsimmons, from Naval Hospital, Newport, R. I., home, and wait orders.

Medical Inspector H. Wells, from Navy Yard, Boston, to Naval Hospital, Newport, R. I.

Medical Inspector E. Z. Derr, to Navy Yard, Boston.

Medical Inspector D. N. Bertolette, from Naval Medical Examining Board to Naval Dispensary, Washington, D. C.

Surgeon G. T. Smith, to Naval Hospital, Norfolk, Va.

Surgeon M. F. Gates, from the *Atlanta*, two weeks' leave, to Philadelphia Hospital.

Surgeon W. M. Wheeler, from the *Alabama* to Naval Hospital, Newport, R. I.

Asst.-Surgeon J. A. Randall, commissioned June 26.

A. A. Surgeon A. H. Wise, to Naval Hospital, Philadelphia.

Surgeon J. M. Edgar, to the *Rainbow*.

Asst.-Surgeon J. L. Nelson, from the *Iris* to Naval Station, Cavite, P. I.

Asst.-Surgeon A. E. Peck, from Naval Station, Cavite, to the *Iris*.

Surgeon G. A. Lung, to the *Columbia*.

Surgeon C. H. T. Lowndes, to the Naval Hospital, Boston.

A. A. Surgeon P. L. Cocke, resignation accepted, to take effect September 21.

The following assistant surgeons were ordered to report September 30 at the Naval Medical School, Washington, D. C., for special course of instruction: W. S. Hoen, J. P. DeBruler, J. A. Randall, from the Naval Hospital, Norfolk, Va.; A. D. McLain, from the U. S. R. S. *Wabash;* C. C. Grieve, from the Navy Yard, Boston; A. J. Gieger, from Naval Medical Examining Board, Washington, D. C.; R. L. Sutton, from special duty, Baltimore; J. S. Woodward, P. T. Dessez, from Naval Hospital, Washington, D. C.; J. R. Dykes, from the U. S. R. S. *Franklin;* P. S. Rossiter, T. N. Pease, B. H. Dorsey, from Naval Hospital, Newport, R. I.; R. E. Riggs, from Navy Yard, Washington, D. C.; W. B. Smith, from Naval Hospital, Pensacola, Fla.; F. W. S. Dean, C. F. Ely, F. G. Abeken, from New York Hospital; W. W. Verner, H. L. Brown and W. H. Rennie, from Philadelphia Hospital; C. E. Ryder, J. D. Manchester, S. L. Scott, from Naval Hospital, Chelsea, Mass.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Sept. 17, 1903:

Assistant Surgeon-General A. H. Glennan, to proceed to Wilmington, Del., for special temporary duty, on completion of which to rejoin station.

Assistant Surgeon-General G. T. Vaughan, granted leave of absence for fifteen days from Sept. 18, 1903.

Surgeon C. T. Peckham, granted leave of absence for one and one-half months from Sept. 16, 1903.

P. A. Surgeon Joseph B. Greene, granted leave of absence for one day, Sept. 16, 1903.

P. A. Surgeon R. H. von Ezdorf, to proceed to New Orleans, and wire arrival; to proceed to Laredo, Texas, for special duty, September 16.

Asst.-Surgeon T. F. Richardson, relieved from duty at Tampico, Mexico, and directed to rejoin his station at New Orleans, and inspect en route Linares, Monterey and Victoria, Mexico, and Laredo and Eagle Pass, Texas, September 14. Order of September 14 amended so that he will return direct to Laredo, Texas, and inspect service en route to New Orleans.

A. A. Surgeon L. C. Bean, granted leave of absence for four days from September 15.

A. A. Surgeon B. W. Goldsborough, granted three weeks' leave of absence from September 10.

A. A. Surgeon W. H. Marsh, granted leave of absence for three days from Sept. 18, 1903.

A. A. Surgeon F. R. Smyth, granted two weeks' leave of absence from Sept. 10, 1903.

A. A. Surgeon W. S. Walkley, granted leave of absence, September 14 to 18, inclusive.

A. A. Surgeon D. M. Echemendia, granted leave of absence for seven days from Aug. 27, 1903, on account of sickness.

Pharmacist F. S. Goodman, first class, granted leave of absence for five days from Sept. 5, 1903, under provisions of paragraph 210.

Pharmacist S. W. Richardson, first class, relieved from duty at Portland, Me., and directed to report at Bureau for temporary duty.

Pharmacist Charles R. McBride, third class, relieved from duty at Stapleton, N. Y., and directed to proceed to Manila, P. I., and report to P. A. Surgeon V. G. Heiser, chief quarantine officer, for assignment to duty.

Pharmacist C. H. Bierman, third class, directed to report at Bureau for duty.

Pharmacist George I. Van Ness, directed to proceed from McLean, Ill., to Stapleton, N. Y., and report to medical officer in command for duty and assignment to quarters.

BOARDS CONVENED.

Board convened at San Francisco Sept. 25, 1903, for purpose of making physical examination of applicant for position in Revenue Cutter Service. Detail for board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon Carl Bemus, recorder.

Board convened at Boston Sept. 15, 1903, for the physical examination of First Lieut. George M. Daniels, Revenue Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, recorder.

APPOINTMENTS.

Clarence H. Bierman, pharmacist, third class.

George I. Van Ness, Jr., pharmacist, third class.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 19, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Aug. 29-Sept. 5, 3 cases; San Francisco, Aug. 30-Sept. 6, 3 cases.

Illinois: Belleville, Aug. 23-Sept. 12, 13 cases; Chicago, Sept. 5-12, 4 cases.

Indiana: South Bend, Sept. 5-12, 1 case.

Louisiana: New Orleans, Sept. 5-12, 1 case, 5 days in city.

Massachusetts: Fall River, Sept. 5-12, 3 cases.

Michigan: Marquette, Aug. 29-Sept. 5, 1 case; Port Huron, Aug. 31-Sept. 16, 2 cases.

Minnesota: Stearns County, Aug. 31-Sept. 7, 3 cases.

Missouri: St. Louis, Sept. 5-12, 2 cases.

New York: Niagara Falls, Sept. 5-12, 1 case.

Pennsylvania: McKeesport, Aug. 31-Sept. 5, 1 case.

Utah: Ogden, Aug. 1-31, 11 cases; Salt Lake City, Aug. 29-Sept. 5, 2 cases.

SMALLPOX—INSULAR.

Philippines: Manila, July 18-Aug. 1, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, Aug. 22-29, 1 death.

Colombia: Bocas del Toro, Aug. 25-Sept. 1, 2 cases.

France: Paris, Aug. 15-22, 1 death.

Great Britain, Leeds, Aug. 29-Sept. 5, 6 deaths; Liverpool, Aug. 22-29, 7 cases, 1 death; Manchester, Aug. 22-29, 1 case.

India: Calcutta, Aug. 8-15, 6 deaths.

Italy: Rome, May 23-30, 1 death.

Mexico: City of Mexico, Aug. 23-30, 6 cases, 4 deaths; Vera Cruz, Aug. 29-Sept. 5, 2 cases, 1 death.

Russia: Moscow, Aug. 16-22, 1 case; Riga, June 1-30, 13 deaths; St. Petersburg, Aug. 16-29, 18 cases, 1 death; Warsaw, Aug. 8-22, 5 deaths.

Spain: Barcelona, Aug. 1-15, 7 deaths.

Switzerland: Geneva, Aug. 21-28, 1 case.

Turkey: Constantinople, Aug. 23-30, 1 death; Smyrna, Aug. 8-30, 109 deaths.

YELLOW FEVER.

Colombia: Panama, Aug. 31-Sept. 7, 2 cases, 1 death.

Costa Rica: Limon, Aug. 27-Sept. 3, 2 deaths.

Mexico: Monterey, Sept. 13, present; Nuovo Laredo, Sept. 15, 1 death; Tampico, Aug. 22-Sept. 5, 3 deaths; Vera Cruz, Aug. 29-Sept. 5, 50 cases, 19 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Aug. 9-21, 2 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, Sept. 14, 1 death; Honolulu, Sept. 1, 1 death.

Philippines: Manila, July 18-Aug. 1, 6 cases, 6 deaths.

PLAGUE—FOREIGN.

Africa: Cape Colony, July 19-25, 1 case.

China: Hongkong, July 25-Aug. 1, 10 cases, 6 deaths; Inkow, Sept. 7, present.

Egypt: Alexandria, Aug. 8-14, 8 cases, 6 deaths; Damiette, Aug. 8-14, 2 cases, 2 deaths.

France: Marseilles, Sept. 13, present.

Japan: Yokohama, July 25-Aug. 15, 1 death.

Mauritius: June 5-July 2, 5 cases, 5 deaths.

New Caledonia: Aug. 13, 26 cases, 18 deaths.

Straits Settlements: Singapore, July 18-Aug. 1, 3 deaths.

CHOLERA—INSULAR.

Philippines: Manila, July 18-Aug. 1, 15 cases, 14 deaths; Provinces, July 18-Aug. 1, 2,141 cases, 1,488 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Aug. 8-15, 10 deaths; Madras, Aug. 8-14, 2 deaths.

Straits Settlements: Singapore, July 18-25, 39 deaths.

Turkey: Baalbeck, Aug. 22, present; Damascus, Aug. 22, present; Hama, Aug. 22, present; Tripoli, Aug. 22, present.

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Addresses.

THE EVIL OF EPONYMS.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON LARYNGOLOGY AND OTOLOGY, AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS, MAY 5-8, 1903.

GEORGE L. RICHARDS, M.D.

FALL RIVER, MASS.

As Chairman of the Section on Laryngology and Otology of the American Medical Association, I bid you, the members of this Section, a most cordial welcome to the Fifty-fourth Session of this Association and to the Fifteenth Session of this Section. The secretary, Dr. Barnhill, and myself have labored for some months in the preparation of the annual feast, and I am sure that the menu which we have now ready for you will be in no way inferior to the banquets which we are accustomed to enjoy. For many years the papers which have been read before this Section of the American Medical Association have not been surpassed by the papers presented in the meetings of any of the special societies in the United States; while this Section has the great advantage that it has no red tape attached to it, but is open to every earnest worker in the field of laryngology and otology, the only requirement for admission being that of membership in the American Medical Association. Furthermore, each paper read has the advantage of publication through THE JOURNAL of the Association, which is to-day the largest, both in size and circulation, of any medical journal in the country. So, it seems to me, that membership in this Section is to be sought and estimated as a privilege by all workers in laryngology and otology, and especially by those workers in this field who are not at the present time fellows of any of the special societies.

It is customary at this time for the chairman to make a brief report of the general progress in his department for the preceding year. This was most ably done last year by my predecessor, Dr. Makuen, but, unfortunately, events have been such that I am unable to present to you any such review. I accordingly invite your attention for a few moments to a subject which I have not as yet heard discussed to any extent in any Section, yet which seems to me to need ventilating. I refer to the growing tendency with the advance of medicine and surgery to associate methods of treatment, and especially operations, with the names of their real or supposed originators, and to describe them under the heading of this or that person's operation or method of treatment. Laryngology and otology is not so great a sinner in this regard as some of the other specialties, yet we are far from guiltless, and much confusion results from this, the reader or auditor often being in doubt as to exactly what is meant by the particular operation described under someone's name.

It seems to me that a surgical operation should be described in anatomic terms, and a medical procedure or method of treatment in language sufficiently clear so that any physician familiar with the ground principles should know what is meant. The surgeon is expected to know his anatomy, but it is too much to expect him to remember every operation and to have a clear picture of it when it is referred to under the name of its originator. By the time Jones' operation has been two or three times modified by Smith and Brown, and is then inaccurately described by Robinson, who refers to it as Jones' operation, Jones himself would probably deny it as his child. If every operative procedure were described in anatomic terms, no confusion could arise, and the reader of an article would know exactly what was meant by the author. It might take a few more words now and then, but this would be more than compensated for by the clearness of description which would of necessity result. I very much doubt whether the members of the Section now present would care to take an examination on all of the following procedures, and yet these are terms which are used as descriptive of operations and methods in use in our specialty, and all of which I have culled in a cursory examination of some recent laryngologic and otologic literature. Furthermore, I am inclined to think that if we should all give our ideas in regard to them according to the mental picture which we have of the individual operation or procedure there would be much variation in the descriptions:

Schäffer's operation on frontal sinus.
Jansen's operation through the antrum.
Cooper's method of operating on the antrum.
Boenninghaus' operation on the antrum.
Walker Downey plan of closing frontal sinus wound.
Jansen's operation for removal of orbital roof.

Nebinger-Praun operation.	Zaufall's operation.
Mikulicz's operation.	Panse's flap.
Ogston-Luc operation.	Körner's flap.
Luc operation.	Schwabach's test.
Caldwell-Luc operation.	Rinne's test.
Killian's operation.	Weber's test.
Küster's operation.	Bezold's triad test.
Czerny's operation.	Asch operation.
Löffler's operation.	Roe operation.
Betzold's mastoiditis.	Sokolowsky's operation.
Schwartze's operation.	Watson-Gleason operation.
Hessler's operation.	Ingall's operation.
Stacke's operation.	Meyer-Asch flap operation.
Schwartze-Stacke operation.	Watson-Gleason flap operation.
Freudenthal emulsion.	

These examples could be multiplied much farther, but that is hardly necessary. We have all been sinners in this regard, and, to a certain extent, must be, since various procedures, such as Politzerization, Rinne's test and Meniere's disease, have acquired a place in the litera-

ture of medicine which is permanent. Even some of these names are wrongly used. What is described in literature as Meniere's disease does not, as a rule, correspond except very remotely to what was originally described by Meniere as labyrinthine vertigo due to hemorrhage in the labyrinth.

I wish, therefore, to emphasize the plea that in the papers which we write we describe procedures as such. It will make our literature always comprehensible to the next generation as well as to our own and add much to the accuracy of our work.

In conclusion, I welcome you all once more, and hope that in the ensuing discussions the remarks will be confined directly to the topic as treated by the reader rather than wandering off in the discussion of the general subject.

THE FIELD OF THE SECTION ON HYGIENE AND SANITARY SCIENCE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION, AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS, MAY 5-8, 1903.

HENRY M. BRACKEN, M.D.
MINNEAPOLIS.

The question may reasonably be raised as to whether sanitary science should have recognition through a section in the American Medical Association. The answer, I think, must be in the affirmative.

Assuming this to be the fact, the next question is as to the function of the Section, and to this the answer should be: To look after those matters that have a specific bearing on sanitary science and hygiene. This would appear to embrace questions pertaining to vital statistics, water, sewage and other topics of like nature. The fact must not be lost sight of that these topics are fully considered by various sanitary bodies, such as the American Public Health Association, the Conference of State and Provincial Boards of Health of North America, etc. This Section should be working in harmony with these strictly sanitary associations.

I take it that matters pertaining strictly to preventable diseases should be dealt with in the Section on Practice of Medicine, rather than in this Section, otherwise there would be two divisions of medical topics, viz.: preventable and non-preventable diseases. Were this true the Section on Practice of Medicine would truly be in a sad plight, or there would be the lapping over of sectional work. This has been true in the past. Smallpox, during the past few years of this Association's work, has been discussed in the sections on medicine, on sanitary science and on skin diseases. Other diseases, such as tuberculosis, pneumonia, typhoid fever, etc., have been discussed in different sections. While to a certain extent this may be unavoidable, as a general principle it is decidedly faulty. The discussion of any one topic in different sections fails to secure full consideration because those interested in the subject are separated by sections. If a specific time could be set for any given paper in a section and this time be definitely known by all members of the Association, the objection to discussing one topic in various sections would be minimized, for members might go from section to section, following the subjects in which they were interested, but such a plan in this Association is quite impossible.

I take it as a recognized fact that all physicians who are sanitarians should be medical men, or at least interested in general medicine. If this is true every medical man in this Section should register in the Section on Practice of Medicine. If he registers in that Section he should attend it. What is to be gained by a small party of specialized medical men sitting together in this room to discuss a broad subject like that of tuberculosis or typhoid fever while the great body of medical men are discussing the same subject in one of the largest and most important sections of the Association—that on medicine? If we have anything good to say on the subject the general medical man should hear it. The general medical man can not discuss these or other subjects relating to preventable diseases without saying something which every sanitarian should hear.

I would suggest that in the future the work of this Section should be concentrated as much as possible on strictly sanitary or hygienic subjects. This work could be easily covered in two days.

The chairman of this Section should make it a point always to keep in touch with the chairman of the Section on Practice of Medicine. So far as possible, subjects relating to communicable diseases should be so arranged on the program of the Section on Practice of Medicine as not to conflict with sessions of this Section. The program has been so planned this year between Dr. Thayer, chairman of the Section on Practice of Medicine, and myself as to give a day in joint session. The subjects assigned for that day—typhoid fever, plague and yellow fever—are truly of as much interest to the sanitarian as to the medical practitioner. There are other subjects on the program of the medical section which should interest us, such as dysentery.

If we wish to become narrow in our studies as specialists we will organize ourselves into a little mutual admiration section. If, on the other hand, we wish to pursue the course that will be of greatest benefit to the profession, we will seek to be recognized as medical specialists thoroughly in touch with the great body of medical men. I hope all here will agree with me that the latter is the better course for us to follow.

Original Articles.

APPENDICITIS FROM THE STANDPOINT OF THE GYNECOLOGIST.*

HENRY P. NEWMAN, A.M., M.D.
CHICAGO.

In general, the diagnosis of appendicitis is not difficult to-day. Scarcely a decade and a half ago we were either losing the severe cases as acute peritonitis or inflammation of the bowels, or nursing them through the more protracted stages of typhlitis or perityphlitis, while the mild catarrhal cases were regarded as attacks of cholera morbus or congestion of the bowels. To-day the laity are almost as alert as the practitioners to recognize even the premonitory symptoms.

When we meet exceptions to this rule, the case is apt to be one associated with or simulating disease of the pelvic organs in the female. A case in point is one which was brought to my attention recently. A young girl of about sixteen years of age, healthy in appearance, but nervous and slightly anemic, suffered from recurrent attacks of pain and soreness in the lower abdomen.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

These attacks occurred every three or four weeks, and were associated with the menstrual period. The distress would last but a few days, and this, the periodicity and her age, led her father, a physician, to bring her to me for gynecologic treatment. On examination I was unable to locate any disease of the genital organs, but made out, I thought, an offending appendix, and so informed the physician. Being a good all-round diagnostician and something of a surgeon himself, he had made his own conclusions, based on the prominent symptoms, and was not satisfied with the diagnosis. He took his daughter home, but later returned to the city, this time to consult a prominent surgeon. He did not fully verify my diagnosis, giving as his opinion that exploratory work should be done; that while the appendix might be involved, the principal trouble must be in the generative organs. The case went on for some months, but was finally operated on, and the appendix was found elongated, inflamed and attached at its extreme distal end to the right ovary. There was no other pelvic lesion.

The congestion incident to ovulation and the menstrual function was probably the cause of the lighting up of these exacerbations of catarrhal appendicitis, the supposed dysmenorrheal attacks being simply appendiceal colic.

After removal of the appendix, there was prompt and complete relief of symptoms. The case is interesting because of the pronounced symptomatology calling for relief, and because of the unusual attitude of the consultants, each one excluding his own specialty, the gynecologist diagnosing a surgical, and the surgeon a gynecologic disease.

This is only one of many cases in which the diagnosis of pelvic and appendiceal lesions may be obscured. In the opinion of some writers, differential diagnosis before operating in pus cases is not so very important as the indications are the same in either case. This is the view of Rostovzeff[1] of St. Petersburg, who insists on great care in examining the entire pelvic field at the time of operating. In salpingitis look for an inflamed appendix, in appendicitis look for disease of the adnexa. This is wisdom itself, but does not, it seems to me, compensate for the lack of an intelligent, clear diagnosis before operating.

The same author calls attention to the intensity of the infection caused by pus from an abscess in the appendix as compared with that from pyosalpinx. In his experience, general peritonitis due to appendicitis was invariably fatal, whereas a number of cases of general peritonitis originating in the genital organs terminated favorably.

Confusion in diagnosis may arise from the different localities in which the appendix is to be found. Its frequency in the pelvic basin has led to a distinct classification by Poncet and Dormoy of pelvic appendicitis. This nomenclature is not to distinguish it pathologically from appendicitis in any other locality, but to suggest the rational surgical treatment which should be through the vagina or rectum. Delore[2] cites some unusual instances of large collections of pus low in the pelvis, due to a diseased appendix, and evacuating through the rectum or vagina.

Downes[3] reports numerous cases of mistaken diagnosis in cases of appendicitis in the female.

Cumston[4] has had some interesting cases in which concomitant symptoms of appendicitis and tubo-ovarian diseases made diagnosis difficult, and says: "I could quote a number of other instances where lesions of the adnexa were taken for appendicitis." Deaver[5] says that in pyosalpinx due to appendicitis the symptoms are those of appendicitis in the pelvis, with dysmenorrhea and irregular menstruation. There is no history of gonorrheal infection and no indurated feeling of the vagina.

The work which Peterson is doing in this line is careful and accurate, and his further contribution will be received with attention. His first article[6] reports eighty-seven cases of abdominal section in nearly all of which the appendix has been examined as a routine procedure. At first it was examined, reported normal or abnormal, and removed only when diseased. Later it was removed as a routine practice whenever warranted by the condition of the patient. In his last thirty-four consecutive cases, the appendix was thus removed, and in just half this number, seventeen cases, was it found diseased. His collecting and tabulating of cases is specially instructive to the gynecologist, since the work was done with the idea of throwing light on the relation between appendicitis and pelvic disease, and he excluded from the clinic as nearly as possible all those cases where the diagnosis of pelvic disease was not absolutely clear. "Whenever," he says, "it was suspected that the primary focus was situated in the appendix the case was referred to the surgical clinic."

It therefore follows:

1. That the abdomen should be examined in all important pelvic cases and vice versa.

2. Functional disturbance in the pelvis may produce disturbance in the neighboring abdominal viscera.

3. In opening the abdomen for pelvic disease the appendix should always be examined.

4. If catarrhal, adherent or containing concretions, it should be removed.

5. It is not sufficient to break up or separate adhesions of an attached appendix.

6. As the macroscopic examination of the appendix is not always conclusive, its removal or "prophylactic appendectomy," when the abdomen is already open, should be determined by the best judgment of the surgeon and the condition of the patient in each individual case.

7. Any appendiceal or localized peritonitis may be an active factor in the immediate or remote production of intestinal obstruction. Strangulated intra-abdominal hernia has occurred as a result forty years after the primary lesion, and with entire freedom from symptoms during the long interim.

8. In opening the abdomen for intestinal obstruction the appendix and pelvic viscera should be looked to for the cause of trouble.

9. In removal of the appendix the invaginating operation should be done, or such other painstaking work as all intraperitoneal affections demand, to protect the wounded surfaces from subsequent adhesions.

10. The frequency of implication of the appendix by contact with diseased pelvic genital organs (Kelly cites twenty-seven adherent appendices in one hundred hystero-salpingo-oöphorectomies, and the figures of Peterson correspond) renders important not only the early removal of pus tubes, infected cystic tumors and the like, but also after operations where the appendix re-

1. Rousski Vratch, Nos. 20, 21 and 22, 1902. Abst. in THE JOURNAL A. M. A., Sept. 20, p. 732.
2. Bull. Méd., Paris, xv, 769.
3. St. Louis Med. and Surgical Journal, 1902, 82, 28.
4. Amer. Jour. Med. Sciences, Philadelphia, 1902.
5. Amer. Medicine, Dec. 6, 1902. Abst. in THE JOURNAL A. M. A., Dec. 20, p. 1617.
6. Amer. Gyn., August, 1902.

mains, its careful protection from any possible denuded peritoneal surfaces or involved areas.

11. Barring the greater liability of infection from neighboring viscera and the somewhat greater difficulty of differential diagnosis in the female, we have more available means of exploration, a better prognosis and greater facilities for operative and non-operative relief.

100 State Street.

DISCUSSION.

DR. E. REYNOLDS, Boston—We are all familiar with the class of cases in which the symptoms are not in keeping with the results of the physical examination; cases in which neurasthenia, malnutrition and marked digestive troubles are associated with occasional moderate or even severe pain in the right side, and yet we can not feel anything distinctly. Our course of action must be guided by the degree of the symptoms presented. If the patient's health is ruined by her condition, her case justifies an operation. If she is not suffering seriously from the symptoms we are not justified in operating unless we can make a definite diagnosis. I have had a number of cases lately in which the conjunction of symptoms pointed very strongly to appendicitis. I have come to associate the conjunction of even moderate tenderness on the right side, with right-sided pain, intestinal flatus and usually some mucus in the dejections, especially if associated with a history of nausea, vomiting in pregnancy or menstrual sick headache, with appendicitis. The presence of a majority of these symptoms is very strongly suggestive of chronic conditions of the appendix. Beyond question we are all removing the appendix to-day more frequently than we did two years ago. And I am inclined to think that we shall remove it still more frequently in the future. I believe that we should remove every abnormal appendix, but I think we are going too far when we advocate its invariable removal. I think it is worth remembering that we have all been doing many abdominal sections for many years without removing the appendix, and I should be curious to know how many operators there are in this room who have had many cases where they have operated and have not looked at the appendix in which that appendix ever gave trouble afterward. The last case I operated on showed a condition of the appendix that I have seen a number of times. In these cases the ligament which originally forms the mesentery of the appendix, the iliolumbar ligament, which in the primitive state also forms the mesentery of the colon, and the mesoovarium, persisted in its fetal state, and the symptoms were apparently referable to the persistence of this ligament. In the last case it caused a kinking of the appendix and connected it with the right kidney. The more we study the anatomic conditions of these chronic appendiceal cases the more we shall get at the bottom of them, their causes and their treatment.

DR. EDWIN RICKETTS, Cincinnati—To say that we can in all of these cases differentiate, is, I think, putting it rather strong. I agree with the previous speaker that to say that in all instances in which the abdomen is opened the appendix should be removed is a step too far in advance. In many cases in which the right ovary or tube is attached to the appendix we have a train of symptoms that is rather peculiar, but in many of these cases I am certain that we can make a diagnosis. It is an attack of inflammation that is peculiar to the appendix.

DR. WM. W. WATHEN, Louisville, Ky.—We are discussing the relation of appendicitis to disease of the pelvic structures, particularly of the ovaries and tubes. I can not concur in an opinion that connects the occurrence of appendicitis with an ovary and tube where the anatomic and physiologic conditions are normal. Hence when we have appendicitis arising in the pelvis we must have some pathologic condition that causes it, although the pathologic condition may have been so modified that it is observed with difficulty. Recently I removed the appendix in about eight cases of disease of the pelvic structures, and in each the diseased condition was caused by pus in the right side of the pelvis. In none was there any pus in the appendix, only a parenchymatous thickening and adhesions. In every laparotomy I feel that it is the duty of the operator to examine the appendix, and if it is at all diseased it should be removed, especially in pelvic inflammations, because appendices which are diseased as the result of a pelvic inflammation are long appendices that will again fall down, come in contact with the pelvic organs, and possibly become more inflamed. I do not believe, however, that a healthy appendix of usual length should be removed.

DR. PAUL MICHINARD, New Orleans— The question of appendicitis is one that interests me as a gynecologist, not from the operative phase, but from that of diagnosis between salpingitis and appendicitis. Any man with a certain amount of diagnostic skill can diagnose acute salpingitis from acute appendicitis, and any good gynecologist can do an appendectomy as well as a salpingectomy. But the question is, shall we tell the patient that he has a chronic right-sided salpingitis or a recurrent appendicitis? In the former case she is practically in no danger, but in the latter case there may be an acute gangrenous appendicitis that may at any time cause death. In chronic appendicitis the most intense pain is produced by pressure on the abdominal wall; in chronic salpingitis, in the right fornix, pressing with the finger in the vagina. Tumefaction in the first, by pressure on the abdominal wall; in the second, by firm pressure in the right vaginal fornix. We are more interested in the diagnosis than in the operation which we can all perform.

DR. WM. P. MANTON, Detroit, Mich.—I wish to endorse Dr. Newman's paper fully. In many cases it is difficult to make a differential diagnosis. Often where there is no active salpingitis or appendicitis there may be an adherent appendix. You will invariably find a thickening on the right side and without difficulty can trace the adhesions up from the right fossa to the appendix, and also get a certain amount of impaired mobility of the cecum. No man, unless he has had a very large experience in abdominal surgery, is capable of saying from the macroscopic appearance of the appendix whether it is healthy or not. The idea that a normal-looking appendix should be left because attached only by very fine cobweb adhesions to the broad ligament or glued to the intestine, is absurd. For some years I have had nearly all appendices which I have removed examined microscopically, and in the vast majority of cases appendices which from their macroscopic appearance might be said to be normal, were found diseased when sectioned and examined. The mucous coat, and even the muscular coat, may be ulcerated through, and sometimes in imminent danger of rupture, when to naked-eye view the appendix appears perfectly normal. I believe that Dr. Newman is right when he advocates the removal of every appendix that is in any way connected with disease of the right appendages. Microscopic examinations will show that often when the organ appears to be normal it is in reality very much diseased.

DR. CHAS. S. BACON, Chicago—I failed to hear any reference to the relation existing between appendicitis and obstetric complications. I believe that the obstetric side can not be omitted. The most important feature of the paper was the question of diagnosis. In appendicitis the question of the existence of pregnancy in its early stages is extremely important. After the pregnancy is established then the diagnosis between a complication of appendicitis and other forms of peritoneal inflammations is important. Pain is not so good a diagnostic point in the pregnant as in the non-pregnant state.

DR. J. H. CARSTENS, Detroit, Mich.—The whole question seems to be revolving around the diagnosis. If we have an acute case of salpingitis, with uterus fixed and an exudate in the pelvis, there is no question about its being a pelvic cellulitis. We do not have that with appendicitis. When there is pain over the McBurney point in acute inflammation of the appendix then we have a uterus which is freely movable. Dr. Newman's paper referred to chronic cases in which there is no exudate in the pelvis; hence there can be no acute salpingitis. There is a certain amount of pain over the McBurney point, which there never is in salpingitis. When I get cases in which I do not know whether the tube or the appendix or both are diseased, but in which there is pain over the

McBurney point and a sudden squirming of the patient when she is touched, I insist on operating. Ordinarily with young people who go along without any particular trouble, and who suddenly develop a little pain in the right side, recurring every day or week, one can be almost positive that it is a case of appendicitis which requires an operation.

Dr. C. O. Thienhaus, Milwaukee, Wis.—I have pointed out in a published paper that in many cases of chronic catarrhal appendicitis one may find, clinically, dysmenorrhea and not so seldom shortening of the right broad ligament, inflammation of the right tube, with or without hydrosalpinx and inflammation of the ovary. The essential question in such cases is: Was the tube the primary focus of the infection and the appendix involved secondarily, or vice versa? I believe that in many cases in young girls which present the above symptoms and in which gonorrhea can be positively excluded the appendix was the primary seat of the malformation present and the female genital organs involved secondarily. It has been stated in literature that one very often finds paraovarian cysts, pelvic inflammatory cysts and ovarian cysts connected with chronic appendicitis. What is the reason? I believe that in general the appendix is a *locus minoris resistentiæ*, and that in many cases of inflammatory condition of the female genital organs on the right side the appendix becomes involved. I found an ovarian cyst in a woman three months pregnant who was lying in bed for two months with a diagnosis of appendicitis. On examining her I found a tumor in the pouch of Douglas of the size of a man's fist and made the diagnosis of ovarian cyst, explaining the clinical symptoms by twisting of the pedicle. At the operation I found a cyst with a long pedicle, which was not twisted nor showed signs of any previous twisting, but the appendix about 14 cm. long was adherent to the cyst and thrown around it at the point of connection of the cyst with the pedicle. There was prompt recovery after removal of the appendix and cyst and pregnancy was uninterrupted. In cases connected with abscesses in the pouch of Douglas one may encounter the greatest difficulties in regard to diagnosis.

Dr. J. Wesley Bovée, Washington, D. C.—We are getting a little too radical. I am sorry that Dr. Carstens brings in McBurney's point. I have found the cecum low down in the pelvis many times and I can not make the McBurney point chase the cecum all over the peritoneal cavity. Therefore, to rely on pain over the McBurney point as a symptom of appendicitis is an error. Another error is the practice of removing the appendix of every case in which we operate on the adnexa. I have repeatedly operated on cases such as ruptured tubal pregnancy, dermoid cysts, etc., in which I did not look at the appendix as I did not dare to take the time. In other cases I take enough time to look at the appendix, not to remove it. I remove it whenever the condition of the patient will permit, but there are cases in which it can not safely be done.

Dr. G. Betton Massey, Philadelphia—Since no mention is made as to whether the operation could have been avoided by medical treatment, we must conclude that the operation was necessary. I had a case recently that leads me to think that here, too, there is a chance for conservatism in the treatment of conditions where circumscribed colitis may be mistaken for appendicitis or salpingitis. The case was that of a young girl, very much run down in health, and very nervous. No abnormal physical conditions were found. The treatment that seemed to do a great deal of good was betanaphtholate of bismuth, though operation had been advised. I call your attention to the wisdom of treating the colon when you suspect that you have appendicitis, which is often an extension of a colonic trouble. Treat the colon, the original site of true appendicitis. It has been the result of my observation that many people with colonic irritation are passing their lives in ignorance of the fact, and it is probable that appendicitis is frequently a sequel of this condition.

Dr. J. L. McCollum, Chicago—I believe that there are cases in which no one can make a diagnosis. In cases in which we can demonstrate that there is no change in the tube and ovary we can exclude pelvic trouble; and in cases in which there is no decided tenderness over McBurney's point, no rigidity of the recti, we can exclude appendiceal trouble. I saw a young girl in consultation, and did not concur in a diagnosis of appendicitis made by one surgeon. The history apparently excluded any pelvic trouble. We operated and found that the appendix was normal but the tube diseased. We can not make a positive diagnosis in these cases because the findings are so contradictory. I am heartily in accord with the dictum to remove every appendix whenever possible. If I have the patient's consent, and if her condition will permit, I remove the appendix, even when I am doing a herniotomy. I have had no occasion to regret my radical procedures in this field, and the patients have always been satisfied with the result.

Dr. F. F. Lawrence, Columbus, Ohio—We are apt to forget that Nature is sometimes a very good physician. In cases of chronic peritonitis, tubercular or otherwise, in which it is necessary to open the abdomen, the separation of the adhesions is followed not only by relief of the symptoms within the peritoneal cavity, but if for any reason it is necessary to reopen the abdomen after some months, we find no sign of the former disease. That this also holds good in cases where we find peritoneal adhesions without pathologic conditions of the appendix, where we are operating for a right-sided tubal trouble, is undoubtedly true. I do not believe that the author intended to advocate the removal of normal appendices. No abdominal surgeon would presume to know more about what is good for man or woman than the Almighty who made them. We are assuming too much by removing such an organ which is doing no harm. Any diseased condition should be removed; normal structures, whatsoever they may be, should be left alone.

Dr. D. H. Craig, Boston—Four cases that have recently come under my notice are examples of the existence of the fold of the broad ligament constituting the lumbo-ovarian or appendiculo-ovarian ligament of Clado, and in three of the cases the presence of this structure was not suspected but was found during operations for other pelvic lesions. In the last case the operation was done with the distinct understanding that a definite diagnosis had not been made. Previous treatment for both ovarian conditions and appendicitis was of no avail. She was not an invalid, nor was she well. The right broad ligament was found to be divided into three folds: one carried the round ligament, one the tube, and the third the ovary. This latter extended nearly to the tip of the appendix, constituting the mesoappendix. Through this division of the ligament came the ovarian artery from some point high up behind the cecum. I did not feel justified in tracing it any farther. On the left side there was a mere rudimentary broad ligament low down, the round ligament, tube and ovary being entirely absent. The organs present on the right side were entirely normal. The question throughout the case had been one of diagnosis between appendicitis and salpingitis. The appendix and ligament were removed. The ovary was apparently normal and was not removed. The lower segments of the broad ligaments were thus perfectly relaxed and were not disturbed. The patient made a good recovery and is entirely free from pain.

Dr. H. P. Newman—My purpose in introducing this subject was to suggest to both surgeon and gynecologist more alertness in the handling of these cases. Appendicitis should not be regarded as a simple affection that may be neglected with impunity. I have seen fatal complications arise from its presence even forty years after the primary attack. If there is any pathology in the appendix, and if the patient's life would not be endangered by its removal, it should not be left in the abdomen after laparotomy. As I have stated, the pathology is not always discernible by the naked eye, and the macroscopic examination is not always conclusive, so that whenever the abdomen is opened a prophylactic appendectomy should be considered and its performance determined by the best judgment of the surgeon. Some one has asked in regard to the prevalence of appendicitis with infected ovarian cysts and twisted pedicle. I referred to this in my paper. It is not uncommon, and I insisted on the removal of infected cysts as I would the removal of infected tubes or any other infection of the pelvis.

THE DEVELOPMENT OF THE FUSION CENTER IN THE TREATMENT OF STRABISMUS.*

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The etiology of strabismus is a still much-mooted question, and each ophthalmic surgeon follows out a routine of treatment with his cases according to the theory which seems to him most rational. As the title indicates, defective development of the fusion center will be considered the essential etiologic factor in this paper, according to Worth's[1] theory.

De Schweinitz's[2] new book gives the following factors as causative:

1. Disturbance of the relation between accommodation and convergence by errors of refraction.
2. Disparity in the length, thickness and tension of opposing muscles.
3. Inequality in the vision of the two eyes or amblyopia of one eye, which removes the natural stimulus of diplopia to exact convergence.
4. Disturbances of innervation and defective development of the fusion faculty.

Savage[3] says, under the etiology of comitant esotropia: "The conditions causing the error exist from birth, and only one out of several natural causes undergoes any change at any time after birth. . . . That in the greater number of cases . . . over-stimulation of the third conjugate innervation center causes an actual deviation . . . a conversion of esophoria into an esotropia, and throws the immediate blame for crossing of the eyes on the ciliary muscles."

The following etiologic factors are also given in the order of their importance:

1. Esophoria.
2. Hyperopia.
3. Hyperphoria of one eye and cataphoria in the other.
4. A lower state of visual acuity in one eye than the other, either from congenital abnormality in the perceptive, transmitting, or receptive part of the apparatus or some opacity or irregularity of the refractive media, either congenital or the result of disease or anisometropia.
5. "The whole macula in one eye may be connected with one side of the brain, while the whole macula in the other eye may be connected with the other side of the brain."

And though Savage[3] remarks, "there is no test in the investigation of comitant esotropia so important as the fusion test," and lays so much stress on the training of the fusion faculty in its treatment and has determined the nine conjugate innervation centers of the extrinsic eye muscles, he does not come out and avow a fusion center.

"Vision[4] is the mental interpretation of an impulse conducted from the rods and cones of the retina through the optic nerve and tracts to the visual areas of the brain." Man being a binocular animal must, in his normal condition, receive two sets of sensations from any luminous object; these are transmitted to the visual areas of the brain; from there they must, in the normal state, be transmitted to a co-ordinating center, or, as I shall call it, the fusion center, where they are blended; here binocular vision becomes binocular single vision. In order to allow of a blending or a fusing of these two sets of sensations, identically corresponding portions of the retinæ of the two eyes must be influenced by the pencil of light; this requires binocular fixation.

To perform the normal function of seeing, then, we must have:

1. A normal perceptive apparatus, i. e., emmetropic eyes.
2. Perfectly balanced extrinsic muscles.
3. Normal transmitting apparatus.
4. Perfect receptive apparatus, and, finally,
5. A fully developed fusion center.

From this center must emanate all the efferent impulses to the various subsidiary centers for all changes in the accommodation, direction of the visual axes and positions of the head and body that are required to bring corresponding retinal points into focus; hence, when the development of this center, or its function after development, is in any way disturbed or interfered with we have as a result those deviations of the visual axes known as heterophoria and heterotropia, or strabismus; not due to abnormalities in the anatomic relations of the orbit and muscles and paralyses of the same.

Worth[1] has determined that the fusion center is fully developed in the normal individual by the sixth year.

The fusion center may be entirely wanting; it may be in a rudimentary state, due to non-use from various external causes or by being rudely interfered with in its developmental period by fright or some prolonged or severe illness.

Absence of the fusion center is evidenced in those not rare cases of true alternating strabismus, which, even after all methods of treatment have been tried, can never obtain binocular single vision, and some not even binocular vision. Though the visual axes may appear perfectly parallel, the vision in each eye normal or made so with correction, they can never fuse, but rapidly fix, first with one eye then the other.

The following conditions interfere with the development of the fusion center:

1. Refractive errors.
2. Inequality in the sight of the two eyes.
3. Faulty perceptive, transmitting or receptive apparatus.
4. Abnormal relations between orbit and muscles, their over-or-under-development and paralysis of one or more of them.

Refractive errors interfere with the development of the fusion faculty by the unequal relation between accommodation and convergence; the function of each separately has some latitude of movement, but there is a limit beyond which neither can operate alone; "thus a hyperope of 6 D. would require an accommodation of 6 D. to neutralize it, the visual lines being parallel, the point of convergence is then nearer than the point accommodated for."[2] The images carried to the brain from both eyes being blurred, that of one is disregarded by the fusion center as a clearer image is thus obtained, exactly "as[5] we disregard the image formed by its fellow when we use the microscope with both eyes open," and the eye thus left without a point of fixation turns in, that being its direction in attempting to keep up the relationship between accommodation and convergence;

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Worth: The Etiology and Treatment of Convergent Squint, The Lancet, May 11, 1901.
2. De Schweinitz: Diseases of the Eye, fourth edition.
3. Savage: Ophthalmic Myology.
4. Suter, Posey-Wright: Diseases of the Eye, Nose, Throat and Ear.
5. Black, Nelson M.: A Plea for the Early Treatment of Squint, THE JOURNAL A. M. A., May 24, 1902.

this is the beginning esophoria which eventuates into continuous esotropia. In myopia, in contrast to this, when deviation does occur, it is usually divergent strabismus.

Because the sensation sent by the eye to the fusion center can not compete in distinctness with that sent by the fellow eye, in anisometropia (even if slight), congenital amblyopia, opacities of the media or faulty conductive and receptive apparatus of one eye, it is disregarded, the center develops without its influence and the eye, receiving no return impulse, has no point to fix, and, consequently, the visual axes deviate; if, however, the center has been developed before these factors appear, habit usually holds the visual axes straight afterward.

Wood[6] says of amblyopia ex anopsia: "Whatever be the origin of the defect in sight, it is probably the main cause of the heterophoria." In my opinion, amblyopia ex anopsia is not a cause of the non-development of the fusion center, but, on the contrary, a result largely of its non-development. Because of the disregard of the sensation sent by the eye to the fusion center, it does not fix, is not used; and becomes amblyopic, the amblyopia generally does not correspond to any ophthalmoscopic defect, although the visual field is frequently contracted, the error of refraction of the amblyopic eye is often much the same as that of the fixing eye, so that the ametropia can not account for the lowered visual acuity."

Anatomic abnormalities of the orbit and extrinsic muscles or paralysis of one or more of them, of course, prevent the development of the fusion center because of the impossibility of binocular fixation, but nature may try to help out the fusion center in bringing about binocular single vision, even here, by specializing other cells to form a new fovea.

Those cases of strabismus which are due to the fusion center being interfered with during the developmental stage, usually give a history of a deviation following some severe illness, convulsions, or during an attack of whooping cough, or after a severe fright; it is usually periodical at first and finally becomes constant. The eyes are usually found emmetropic or nearly so, the separate muscular movements are perfect, fixation with either eye; but only the lowest grade of binocular vision exists, or perhaps none at all. The illness or fright has interfered with the development of the fusion center for the time being and a deviation, periodic at first, appears and may remain so, not being in evidence unless the child is ill, tired or excited; or it may become constant, each visual area remaining intact and a comitant, alternating strabismus results. These cases usually respond readily to orthoptic treatment.

Development of the fusion center by orthoptic exercise is by no means a new feature in the treatment of strabismus, but many of the various forms of stereoscopes, used for this purpose, have been faulty in that binocular vision could not be obtained. Sufficient time and patience in many cases were lacking; and an amblyopic eye was not considered worth working with when a tenotomy, advancement, or combination of the two, would produce, at least, a cosmetic result at once. Landolt[7] says: "The principle of any stereoscope useful for the treatment of strabismus is that the instrument employed places the eyes in the conditions which are most favorable to the fusion of their retinal images."

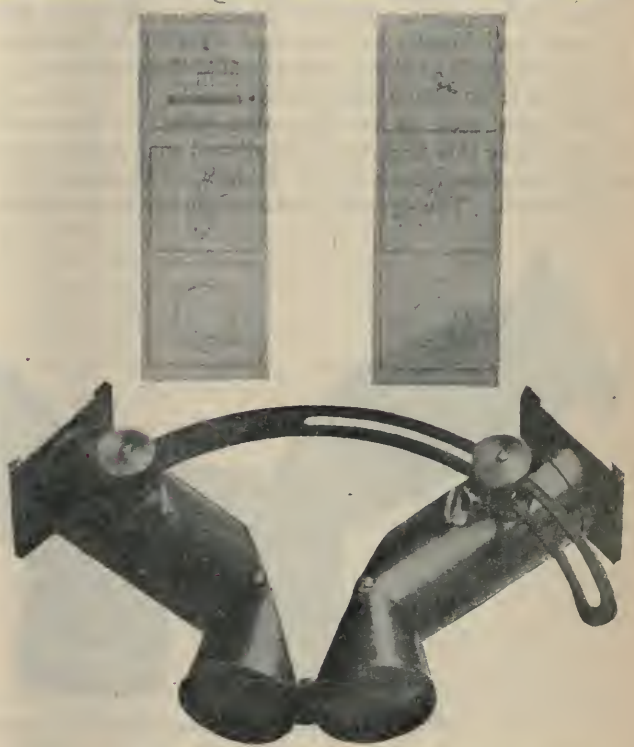
6. Wood, C. A., Posey-Wright: Diseases of the Eye, Nose, Throat and Ear.

7. Landolt: Norris-Oliver Text-Book.

Worth's new stereoscope, or amblyoscope as he calls it, has overcome the first stumbling block.

"This instrument consists of two halves joined by a hinge, each half is made up of a very short tube joined to a longer one at an angle of 120 degrees; a mirror being placed at the cord subtending the arc of this angle; an object glass is placed at the free end of the longer tube, at the free end of the shorter tube is a lens, the focal length of which equals the distance of the reflected image of the object glass at the end of the longer tube. The two halves of the instrument can be brought together to suit a convergence of the visual axes up to 60 degrees, or separated to suit a divergence of as much as 30 degrees."

The writer has added to Worth's model an additional movement in a vertical direction, in order to obtain



Amblyoscope and Series of Slides.—The bird and cage being used to establish binocular vision only. The second set requiring true fusion to complete the picture. The last when fused gives an impression of the perspective.

fusion when the lateral deviation is complicated by a vertical deviation.

With this instrument, the fusion center can be exercised and developed during the existence of the squint. The fact that parents are bringing their children for treatment for strabismus at an earlier age and demanding that something be tried before an operation is resorted to, makes us take more time and use more patience; and, finally, the fact that the vision of a large majority of amblyopic eyes can be improved by proper treatment has replaced immediate and indiscriminate operating and given this department of surgery its proper place, that of producing parallelism of the visual axes after the fusion center has been sufficiently restored, to maintain binocular single vision by the use of the stereoscope and no noticeable diminution in the degree of deviation from a continuance of the treatment.

The existing conditions in a case of strabismus naturally determine the method of procedure in attempting to develop the fusion center. The first thing, however, is to determine the visual acuity of each eye. This may

be accomplished in children under 3 or 4 years of age after Worth's[1] method by means of five marbles or ivory balls, varying in diameter from one-half to one and one-half inches; if at five or six meters' distance the youngster with one eye occluded can go directly to the smallest ball thrown on the floor by the operator, it is safe to say his visual acuity is practically normal; at least, the vision of the two eyes can be compared in this manner and the question of an amblyopic eye determined. The amount of deviation of the strabismus is then determined in order to see as the treatment progresses if there is any diminution in its degree; this is accomplished with the perimeter or some of the various strabometers, or it is quickly demonstrated by the writer's[8] modification of Worth's apparatus, which is an easy and different application of the perimeter method. The ability of the various extrinsic muscles to rotate the eye is tested individually to determine whether the strabismus is the result of their over- or under-development, innervation or anatomic abnormality.

The next step is to determine whether binocular vision exists; this may be accomplished many ways, but with greatest ease, especially in children, by the use of the amblyoscope. The eyes are then subjected to complete cycloplegia; the errors of refraction, if any, determined and correcting glasses ordered.

Worth-Black amblyoscope, having vertical movement.

When an amblyopic eye exists, it is actively brought into use to determine whether its vision can be improved; this is done by instilling a mydriatic into the better member, if that is sufficient to allow the vision of the poorer eye to compete with it; if not, the better eye is occluded by a blinder or a bandage and the amblyopic eye is depended on for vision entirely. That a large majority of so-called amblyopic eyes can be improved in vision by requiring the possessor to depend entirely on them for seeing, is certainly proven by reported cases;[9] [10] in those cases in which no improvement is noted, if a visual field can be obtained, defects not visible with the ophthalmoscope may be determined, which will lead one to classify the eye as congenitally amblyopic; improvement in the vision of such an eye is almost beyond hope, still we should not give up trying until sufficient time has elapsed, with the better eye occluded, as to absolutely prove that there has been no gain in the vision of the amblyopic eye.

The development and exercise of the fusion center with the amblyoscope is commenced immediately; for this purpose three sets of object slides are used; the first are two dissimilar objects, as a bird and a cage, a mouse and a trap, etc.; these require only binocular vision. A set requiring binocular single vision or fusion has part of the subject on each slide, and must be fused to make a complete picture; the third set consists of stereoscopic pictures, which, when combined, give an impression of perspective or depth perception.

The amblyoscope is used in the following manner:

"The child with his correction on is held on the surgeon's knees and the amblyoscope roughly adapted to his degree of deviation; it is then held before the child's eyes and an electric lamp is put in the axis of each tube about four feet away. By a simple mechanical arrangement each lamp is easily brought nearer to, or put farther away from, the tube which it illuminates. A slide showing a cage, for instance, is put in the tube before the child's fixing eye, and a bird in that before the squinting eye, and the child is told what to look for. At first he sees only the cage. The lamp before the fixing eye is then taken farther away and that before the squinting eye is brought nearer until the child sees the bird. By this time he has lost sight of the cage. The intensities of the illuminations are then adjusted until the child sees both the bird and the cage. The child is then allowed to grasp the instrument and, assisted by the hands of the surgeon, is taught to vary the angle of the instrument so as to make the bird go in and out of the cage. Many other similar pairs of slides are shown. The average child of 3½ or 4 years of age takes a very keen interest in the game, which he imagines has been devised merely for his amusement. Slides which require a true blending of the images are then shown. After a time it is often found that the angle of the instrument may be altered to a very considerable extent, either in convergence or divergence, while the eyes follow the objects and maintain fusion of the pictures. One often gets a powerful "desire" for binocular vision in these young subjects with surprising facility. The next step is to equalize the intensities of the lights. This may usually be done at this stage without a return of suppression. In many cases one is able to deviate the two halves of the amblyoscope more and more at each visit until parallelism of the visual axes is obtained."

As the visual axes are brought nearer parallelism, the use of an ordinary stereoscope with the Kroll's charts, Würdemann's modification of these or those recently published by Dr. Hale of Chicago, will serve as the most practical method of exercising the fusion faculty, as they can be used with an inexpensive stereoscope for daily exercise by the patient at home.

Some cases, however, will undoubtedly require operation to bring about complete parallelism of the visual axes; but, if the desire for fusion has been established—and Worth[1] asserts it can only be acquired in early

8. Black, Nelson M.: A Simple and Effective Method of Determining the Degree of Deviation in Squint, Ophthal. Record, November, 1902.

9. Friedenwald: Improvement of Vision in Amblyopia from Non-use, Ophthal. Record, January, 1903.

10. Lewis: The Conservation of Binocular Single Vision, Annals Ophthalmology, January, 1903; Medicine, Nov., 1902.

childhood—it is only necessary to bring the visual axes approximately straight, because a desire for fusion, which has been acquired by the use of the amblyoscope, will then place and hold the eyes in such position that identically corresponding portions of the two retinæ are affected.

Until the etiology of strabismus is settled and universally accepted, the methods of treatment will vary with the etiologic theory accepted by the individual; however, since commencing with the above outlined treatment in February of last year, we have not operated on a case of strabismus in a child under 10 years of age, and there are now 17 cases under treatment, and all making progress, with five cases completely cured and maintaining binocular single vision without any discomfort. The objections to the method are the time required to effect the result and the possibility of having to resort to operative measures in the end; this with

Worth-Black deviometer for determining degree of deviation in squint.

the assurance, however, of binocular single vision being maintained and no relapse of the condition; the trouble of impressing the parents with the importance of coming at the time indicated for consultation and the expense of the treatment, which amounts to as much or more than an operation, and in case of an amblyopic eye, of keeping the better eye occluded for sufficient length of time to obtain a result, are the main obstacles to overcome; these objections, however, I consider of minor importance when compared with the truly remarkable results obtained.

Hydrogen Dioxid in Diagnosis of Ulcer of Stomach.—A Russian confrère is cited by a French exchange as having been able to differentiate ulcer from cancer by the intense pains that followed ingestion of a tablespoonful of a 3 per cent. solution of hydrogen dioxid. This extreme sensitiveness of the gastric mucosa to the effects of a weak solution of hydrogen dioxid seems to be an invariable accompaniment of gastric ulcer, as treatment based on this assumption always resulted in a cure in his experience. He found also that the same solution had a marked beneficial effect in cases of gastritis, arresting vomiting and disinfecting the digestive tract. He thinks it might prove particularly useful in infantile gastro-intestinal affections. The results of treatment by this means of habitual constipation from atony of the intestines have also been very encouraging.

STEREOSCOPIC EXERCISES.

WITH A SERIES OF PICTURES—TO BE USED IN AMBLYOPIA AND SQUINT.*

ALBERT B. HALE, M.D.
CHICAGO.

The stereoscope has had a history not unlike many other instruments of our day. At first developed to illustrate certain scientific phenomena, it rested as an optical apparatus in the physicist's laboratory till the enterprising spirit of commerce combined its principles with the rapidly popularized art of photography and made of the product a scientific toy. Any one of mature years can remember the time when the center ornament of the parlor table was the stereoscope and its pile of pictures—from the Alps to the acrobat—and much instruction, as well as entertainment, was afforded by the fascinating contrivance.

I dare say that many a time some one person would be puzzled to find that the stereoscope gave him no better view of the pictures than did his naked eyes, but the explanation for this—the failure of the apparatus to develop the perception of depth, which is its function—was unknown to him or his friends, nor investigated by the unscientific; it was probably attributed to some idiosyncrasy, and no more thought given to it. Gradually the popularity of the instrument waned, and to-day in many an attic or lumber-room may be found a forgotten stereoscope, with its pictures, of which the modern child knows neither the use nor meaning.

Hitherto the stereoscope had served to illustrate only a phenomenon in physical optics, and the human eye which interprets it, i. e., what we call physiologic optics, was scarcely taken into account. But when ophthalmologists began to study the problems of the human eye (vision, binocular vision, fusion, depth perception) it was not long before there was a demand for some means to test the visual sense of the two eyes working together, so that the perceptive capability of each eye could be estimated both by itself and by association with its fellow. The principle of fusion was then investigated—a cerebral function not an optical condition—and the stereoscope was seized on as the instrument most adapted for the purpose.

Dubois-Raymond, a physiologist, early saw the advantages of the stereoscope, but Javal, and later Landolt, both ophthalmologists, were the first to popularize its scientific and practical application.

I shall not explain the principles of the instrument more than to say that it is necessary to separate—isolate completely—the image of one eye from that of the other, so that it is impossible for the observer to confuse what he sees with one eye with what he sees with the other, or whether he sees with the right or the left eye. By preventing this confusion, we at once notice a distinction that is not enough emphasized by physiologists in teaching the functions of the eye. The distinction is this: One eye may see while the other does not (I do not mean amblyopia, for this is a condition to be considered later and apart), monocular vision. The eyes may each perceive a portion of the outer world and combine these portions into an image, binocular vision. The eyes may each see these portions with a true estimation, not only of their relation to each other, but also of their special relation to the observer, and thereby fuse them into a

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

single image with the perception of depth, binocular single vision.

Now, with a complicated apparatus and with elaborately devised charts and diagrams, it is possible to study retinal and cerebral function with pleasing exactness, and to make records of results, but the therapeutic use of the stereoscope is often hampered by such complications, because it requires the technical hand to manage them and the skilled ophthalmologist to interpret them, and because the patient is apt to become so confused at the details of the test that it is found impossible to make interesting exercises of them or to perform them at home without this skilful guidance. Exercises to be placed before the eyes of a patient arouse his curiosity; they must be such that a child may pursue them of himself and may be easily taught just what he is expected to accomplish.

European practitioners have published series of stereoscopic views which meet the best requirements of science and art, and I do not criticise them when considered as laboratory, or even office, apparatus. The French series of Hegg (Berne), used by Landolt; the German series of Dahlfeld, Kroll (Perlia), with its American reprint by Würdemann, Pflugk, the Spanish series of Presas, are all excellent in their way, but from my own experience I am convinced that they find but

Figures on a sample card of stereoscopic exercises. In use there should be 60 cm. between the centers of the two images.

limited use when given to the patient for exercises at home. Beside this, they are all (with the exception of the American reprint) published in a foreign tongue, and all have pictures strange to the American eye, or so uneasy of interpretation that the patient is often more embarrassed to give a name to what he sees than to tell simply what the picture presents to him.

Such being the case, I felt that I might benefit my own patients by publishing a series of American pictures, simplifying them as much as possible for domestic use, reserving for office tests the more complicated problems in the higher developed series; but I can not be satisfied till I have submitted them to the judgment of my confrères, who, I hope, will aid me with their criticisms to make them a more suitable and usable set for the treatment of some amblyopias and squints. I am not so enthusiastic as to believe that squint can of itself be corrected or in many cases even improved by stereoscopic exercises alone; the classical treatment, by correction of the refractive error, and when deemed necessary by operation, can not be displaced by this means; but, on the other hand, I must express my satisfaction with the results of stereoscopic exercises; and my experience runs counter to that of Gould, who miscredits the efficacy of the stereoscope in amblyopias or squints.

Stereoscopic exercises must illustrate five stages:

1. Simple tests to measure what the one eye or both eyes together can do. This I have embodied in Series A (1, 2, 3, etc.), which can be extended as far as may be desired.

2. Simple tests of the ability of each eye to see its own field and to retain this impression while the other eye also sees. This is Series B, which grows somewhat more difficult from number to number.

3. Tests in which each eye sees what it at first takes to be the same picture, but in which the half for each eye lacks some detail present in the half for the other eye; these halves are probably fused, or the patient thinks they are, but a failure to fuse can be detected by the omission from the patient's description of one or more details. This is Series C.

4. Tests in which not only is there an instinctive stimulus to fusion, but also the added factor of depth, for the figures are so arranged that each eye obtains a picture presented to it at an angle differing from the angle of the other eye, and the completed picture seen with both eyes acting together should be that of a solid body, i. e., there should be a perception of depth in addition to fusion; stereoscopy, the perfected act of binocular single vision. This is Series D.

5. Tests by means of pictures of what we habitually see in the outer world, in which I have introduced two ordinary photographs from life and a simple catch card for reading, in which each eye is deprived of some letters visible to the other eye, so that both eyes must be used together and simultaneously before the story can be fluently read. This is Series E.

These charts may be placed in the hands of any child or adult, to be used at home and frequently, with regular reports to the ophthalmologist of what progress has been made. The pictures are scientific, clear, readily understood, handy and cheap. Any simple stereoscope of the shops may be used. The whole value of stereoscopic exercise depends on repetition, as it is only by this continuously repeated stimulation that the habit of fusion may be formed and perpetuated.

103 State Street.

DISCUSSION

ON PAPERS OF DRS. BLACK AND HALE.

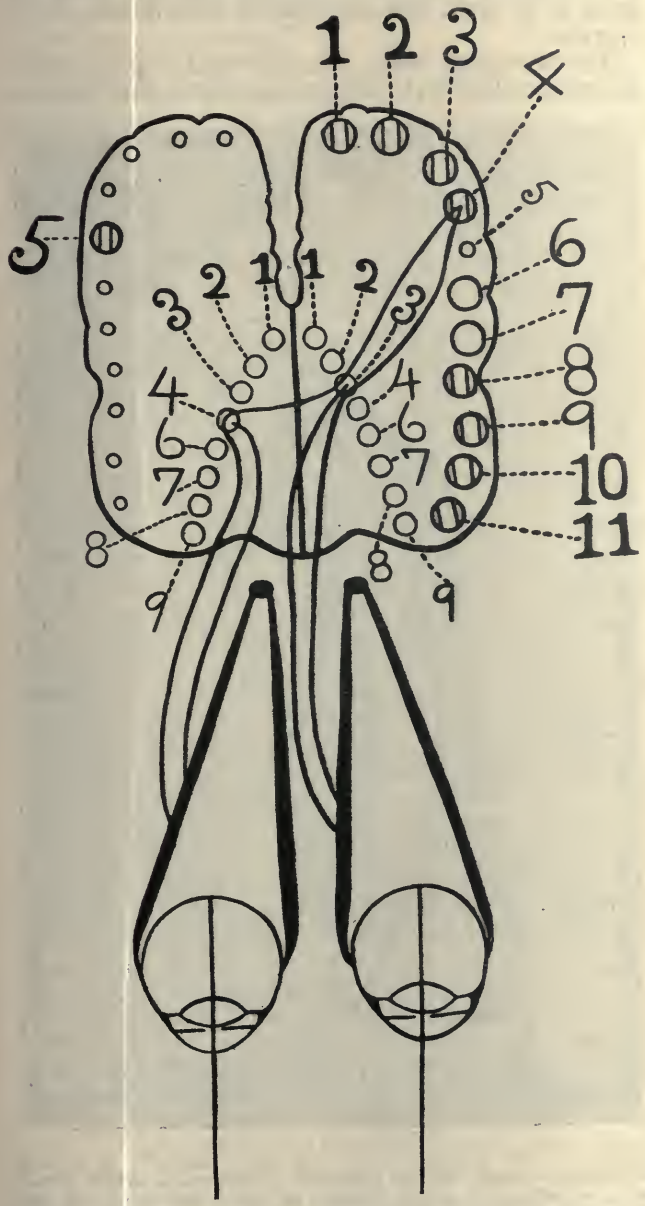
DR. C. C. SAVAGE, Nashville, Tenn.—I would call your attention to this chart, which is one made to illustrate my own paper, but which serves well to discuss this one. Dr. Black quoted me correctly when he said that I did not avow the existence of a fusion center. I deny the existence of a fusion center in the sense in which he uses the term, and I believe Dr. Black will agree with me before I am through.

I have represented here all the centers of the brain that have to do with the movements of the eye. Two faculties preside over these. One of the faculties is volition and the other is the fusion faculty. Nature has two ways of dealing with diplopia: One is the mental fusion of the two images and the other is mental suppression of one image. Both are mental faculties. I want to say that instead of having one fusion center, we have twelve at the base of the brain and two in the cortex.

I have these centers marked off here so as to indicate which are under the control of the fusion and which the volitional faculty. The ones crossed with parallel lines are volitional; the others, not so crossed, are under the control of the fusion faculty. The volitional centers are all in the cortex, while those under the control of the fusion faculty are situated mainly in the base, there being only two of these in the cortex. The basal centers are all fusion centers. Every one of them is presided over by the fusion faculty of the mind. There are just a few of these centers concerned in the condition that Dr. Black has spoken of—esotropia. The third basal center on either side has nothing to do so far as esotropia

is concerned. The fourth center has a good deal to do with the condition before esotropia occurs.

When, in esophoria, the fusion faculty gives up its control over the right and left fourth basal centers, at that moment internal squint occurs, but so long as it has full power over these centers there can be no esotropia. Whenever these centers at the base of the brain have been overworked, then the fusion power of the mind gives way and internal squint occurs. Referring to one of the causative agents mentioned in Dr. Black's paper, as leading up to internal squint, I would say that center 10 in the cortex controls the focusing muscles of the eyes. The convergent center is the one marked 3, and it is connected by means of nerve fibers with both the internal



recti muscles. When it sends out its impulses the resultant action is on the part of the interni only. Cortical center 10, which gives power to the two ciliary muscles, is so related to cortical center 3 that when one is in over-action the other must also be in a state of over-excitation. This explains to my mind why it is that hyperopia is one of the causes of internal squint. In hyperopia the images would be bad if the focusing muscles were not kept in a state of action. But, as sure as center 10 is excited, so is center 3 reflexly excited. Hence it is that when you have hyperopia there is pseudo-esophoria. There is always esophoria whenever there is hyperopia; it may not show itself as esophoria, but it is there. How is it, then, that in correcting the error of hyperopia we can cure squint in young children? Simply this: when the proper lenses have been given, center 10 becomes as quiet as can be so far as distant vision is concerned, and from this time on it has only to do the normal work required of emmetropic eyes. Now, whenever over-action on the part of center 10 is eliminated so is over-excitation of center 3 eliminated, and thus the pseudo-esophoria is cured. But, pseudo-esophoria is not the only cause of squint. The esophoria itself may not have been able to produce squint, but the pseudo-esophoria grafted on it gives the combined power necessary to bring about that condition. If you eliminate the pseudo-esophoria you bring the two externi muscles under control of the right and left fourth basal centers, and esotropia is no more.

I endorse all of the paper, except that wherein the author speaks of a fusion center. I say there is a fusion faculty and that it presides over twelve fusion centers at the base of the brain, and two fusion centers in the cortex.

Dr. Black's improvement of the Worth amblyoscope makes it an ideal instrument.

Dr. Casey A. Wood, Chicago—In my investigations of the subject I agree with Dr. Savage. Apart from the considerations presented by Spencer and others in the study of the psychology of the matter I think binocular single vision is a thing that every child learns for himself. He does not have it when he is born, but acquires it. It is an effort of the intellectual faculties. He has to reason out the matter. In the first months of infantile life he makes efforts of the nature of which he is probably dimly conscious. Use is made of the radiations from the calcarine fissure which extend to the neurons in the upper cerebrum. After awhile he acquires the faculty of fusion and binocular single vision by means of the basal centers is possible.

I think a matter of great importance is the use of the Worth instrument. I think it is by all odds the best instrument we have for the exercise of binocular fixation in children, and I am sure you will agree with me that the instrument devised by Dr. Black furnishes the best means we have for that end. I have used the original Worth instrument since it was first accessible. The thing of principal importance in the Black modification is the vertical displacement of the two tubes to allow of exercise in the presence of hypertropias and cyclotropias, which are not properly provided for in the original instrument.

Speaking of Dr. Hale's paper, I must confess that the great array of cards for the stereoscope demands more patience than I possess. I am reduced to practically three pictures, which the child can not fail to recognize, and these I have so far found sufficient for all the exercise required. He will, for example, always recognize the picture of a bird with one eye and a cage with the other, and this particular card I almost always use. Indeed, I do not believe children are esepcially amused with a great variety of cards; their interest may be sustained with the same old "bird and cage." Let me suggest that an assistant watch the child all the time; few young children can be trusted to use with profit and alone any instrument of this sort. The exercises should be carried out at least three times a week in the office and the improvement noted. At home it is desirable to have a good stereoscope that will enable the child to be exercised three or four times a day under the care of the nurse or mother. In my experience the best stereopticon card is a very simple one. I use two figures made like this (illustrating on board) a square and a sphere.

Finally, as Worth points out, the fusion faculty can not usually be developed in children over 6 years of age. We should, then, begin our lessons as early as possible. In most cases the evolutionary course pursued by the squinting child, as shown by the amblyoscope and stereoscope, is, first, simultaneous (double) vision; second, binocular vision; third, binocular-single, or stereoscopic vision. Even when the eyes appear straight the squinter may never pass the first stage of vision.

Dr. Edward Jackson, Denver—One measure that has not been mentioned is the use of the fusion tubes suggested by Priestley Smith. The tubes have each at the further end, away

from the eye, simply a dot and a line, and these being fused give two dots and one line. It is even possible to work on cyclophoria by simply twisting the tubes. I find that the child will keep this up as long as any exercise that I have ever tried; certainly longer than any of the pictures. The light can be regulated for the better eye by pasting a little piece of paper over the slit in the tube. They give the very best binocular exercise: to recognize something with both eyes at the same time and to get primary fusion.

DR. M. D. STEVENSON, Akron, Ohio—I have been using the Worth amblyoscope for two years, and find it of real service in the treatment of squint when used sufficiently early, properly and persistently. The instrument as modified by Dr. Black, if it can be made sufficiently firm, should be especially serviceable where hypertropia is also present.

I think the term fusion faculty is preferable to that of fusion center, and believe it to be the principal factor in the production of binocular vision, although I also believe it is presided over by another faculty, which I prefer to name the conscious faculty of vision, rather than the volitional center.

Usually the first thing in the treatment of these cases is to establish conscious vision if possible in each eye, that is, we try to teach the child to see with each eye at the same time, or, in other words, try to produce diplopia, e. g., the bird within the cage, and when we have succeeded in doing this we have progressed a long way toward a cure. This may be spoken of as the establishment of conscious vision in each eye—the training of the conscious faculty of vision—and until this can be accomplished in a case there can be no training of a fusion faculty or center, because there would be as yet nothing to fuse, their being but one recognized image. Two images must be seen—the conscious faculty of vision in each eye must be trained—before there can be any fusion. If the vision of one eye is unconscious, that is, if it has not risen into consciousness, there can be no tendency to combine the unconscious vision of that eye with the conscious vision of the other. Before fusion can take place the vision in both eyes must be conscious at the same time. Quite a large number of people do not have conscious vision in both eyes at the same time; in them it takes training to produce either diplopia or double combined (binocular) vision.

DR. NELSON M. BLACK, Milwaukee—A mistake was probably made in attempting to go into the etiology of strabismus in this paper, but it was thought necessary in order to have some reason for carrying out the line of treatment mentioned. However, the name "fusion faculty," given by Dr. Savage, is as acceptable as "fusion center"; whatever it may be called neither adds to nor detracts from the universal good results obtained in treating strabismus by this method. I thank Dr. Savage for the easy manner in which he has let me down.

DR. ALBERT B. HALE, Chicago—I want to call Dr. Savage's attention to the fact that the fusion faculty can often be controlled by the will so that they are not antagonistic or complementary, but one may at times be supportive of the other.

I did not mean these cards to be competitive with the Worth instrument. They are only a set of cards that the patient can take home for daily exercise, and that is what we want. I have had good results from simple stereoscopic pictures.

A DEVIATION FROM THE USUAL METHODS OF CLOSING ABDOMINAL WOUNDS, INCLUDING HERNIA.*

O. O. WITHERBEE, M.D.
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A troublesome experience with buried sutures has defeated the best efforts of many excellent surgeons in their endeavor to separately approximate the different layers in closing abdominal wounds.

* Demonstrated before the Southern California Medical Society, and read before the Los Angeles County Medical Society.

With a desire to overcome this difficulty, and yet to accomplish all that may be done with buried sutures, I began about two years ago the exclusive use of silkworm gut in closing, not alone abdominal wounds, but in suturing all incisions I have had occasion to make in doing a general line of surgery.

In closing an abdominal wound in the medium line it is my habit to first approximate the peritoneum with a silkworm gut introduced in the same manner as a subcuticular suture, and then to bring both ends through the integument near the extremities of the incision. This permits of its ready removal any time from the third to the sixth day, according to the pleasure of the operator.

The abdominal fascia is now brought into apposition by ordinary figure-of-eight sutures, except that the ends

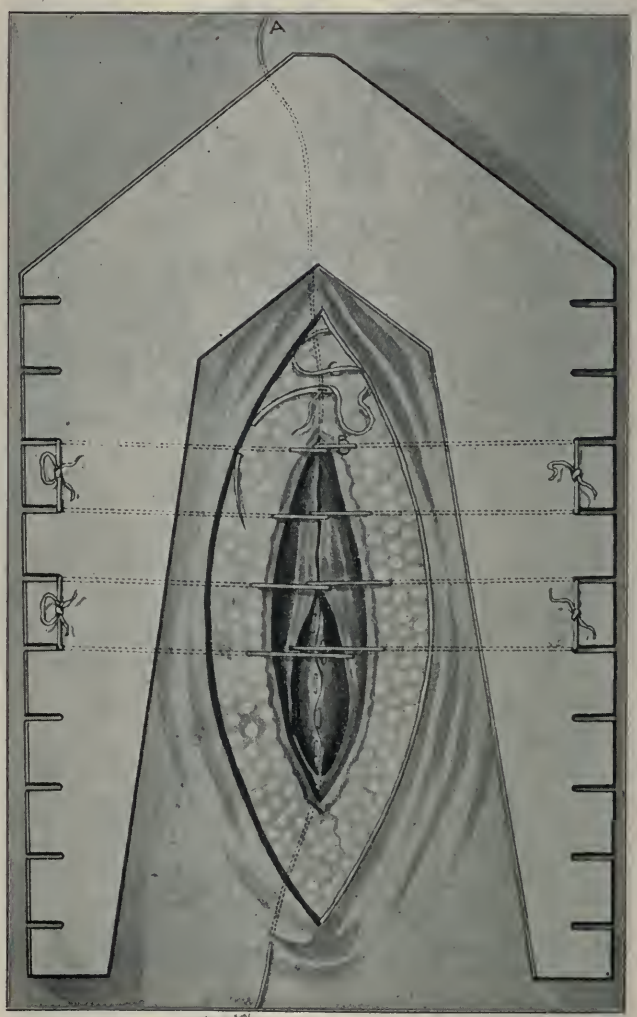

Fig. 1.—The U-shaped aluminum plate employed in closing abdominal wounds. A. The peritoneal suture, which should emerge near extremity of wound instead of above the plate. B. The figure-of-eight suture, which is supported by the plate. C. The subcuticular suture.

instead of being brought out near the margins of the wound, are carried by long curved Hagedorn needles through the adipose tissue to emerge on a line parallel with the abdominal incision and from one and one-half to two inches on either side of it.

These ends are passed through notches in the lateral bars of a U-shaped or rectangular framework, made from aluminum or hard rubber, the outer dimensions of which measure from three to four inches in width, and from four to six inches in length. The sutures are then

tied in pairs on each side respectively, with just sufficient tension to perfectly approximate the fascia. On one side the ends should be tied in a bowknot, that the tension may be altered if necessary.

The skin incision is next closed by a subcuticular suture, and when completed strips of sterile gauze are drawn beneath the plate and a moist bichlorid dressing placed over all. The same tactics are made use of in the treatment of hernia, except that the peritoneal suture is quilted back and forth through the neck of the sack, and its ends carried well above the internal ring, where they are brought through the tissues and secured to the upper part of the framework, said suture to be removed at the end of one week.

In approximating the conjoined tendon with Poupart's ligament, the tension should be exerted on a plane to correspond with the resistance to be overcome.

The above-named structures do not normally lie in apposition, but are often widely separated, hence the difficulty in effecting and maintaining their approximation until union is complete. The ordinary figure-of-eight sutures brought out near the margins of the wound will utterly fail in a large percentage of cases, especially

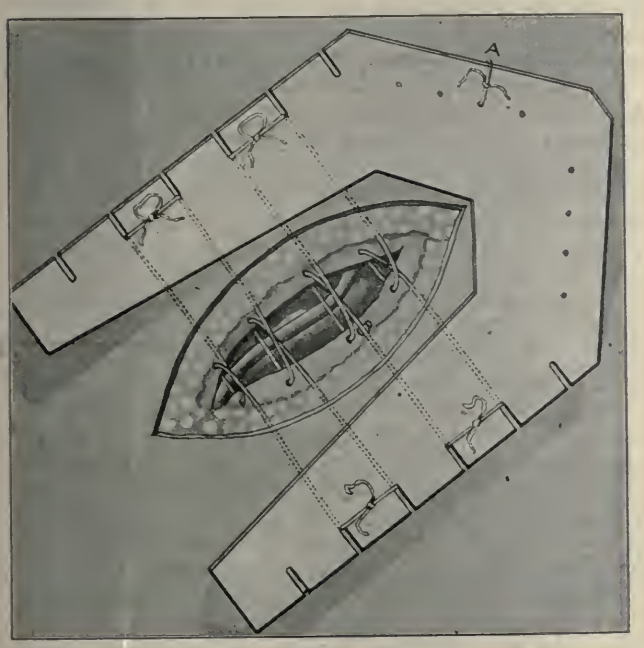

Fig. 2.—Represents the U-shaped aluminum plate employed in approximating the conjoined tendon with Poupart's ligament. A. The peritoneal suture, which fixes neck of sac above internal ring.

if the skin alone is relied on to withstand the resistance.

By bringing the sutures out at a remote distance from the incision and securing them to the framework above the skin, we accomplish all that can be done with a buried suture, while the tissues are subjected to much less abuse than when a knot is employed at point of approximation, thereby creating a fixed, unyielding band, which materially interferes with the circulation, and does certainly lessen the strength of union between those ligaments. Another advantage of this method in the treatment of hernia lies particularly in the fact that the tension of the sutures can be altered at any time the swelling or congestion of the parts may demand it.

In abdominal work the comfort secured to the patient by relieving the skin of that pressure necessary to maintain approximation of the deeper structures is frequently a factor of no small importance. Little does the surgeon think when placing his sutures that their position may have much to do with the welfare, and even the recovery, of the patient. Since endeavoring to eliminate that pressure occasioned by the closing sutures, I have noticed that my patients exhibit less evidence of shock, and that it is not an uncommon thing for one to sleep almost the entire night following an abdominal section.

Most of the creatures subjected to this torment are women, who, it is said, were born to suffer, and therefore uncomplainingly endure for long hours a slow torture which they fancy belongs to the operation, and so must be borne.

It is true they do not speak especially of the stitches, for the reason that they can not differentiate varieties of pain coming from the same region, but appreciate it all as a sum total, and bear it, as there is nothing else to do.

In abdominal cases the sutures may be removed from the eighth to the tenth day, but in hernia cases, to insure

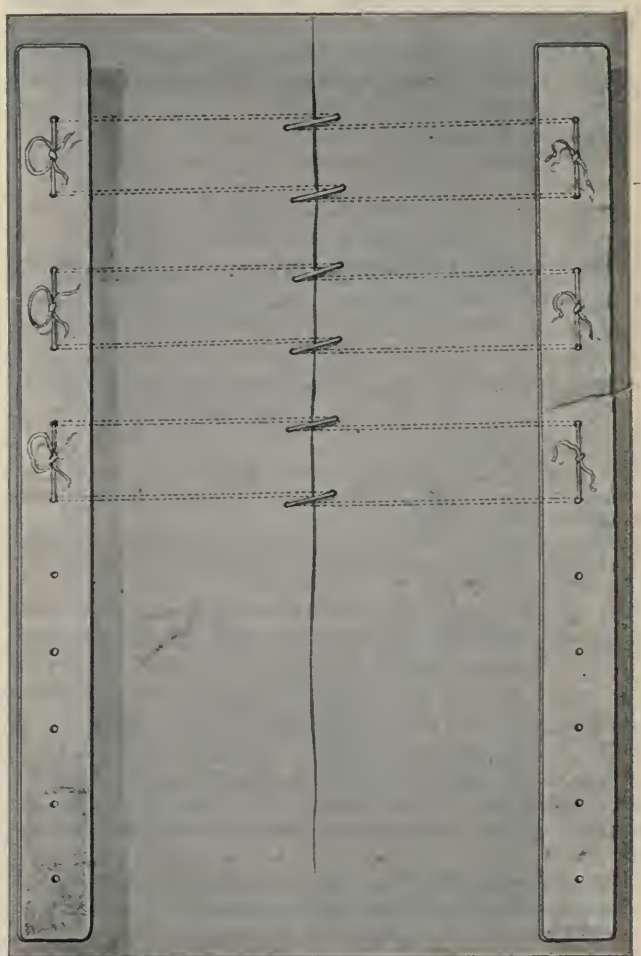

Fig. 3.—Represents the use of separate plates for increasing the pressure area in plastic work.

certainty of union, the sutures should not be removed before the twelfth or fourteenth day.

In plastic work when it becomes necessary to draw the skin over denuded areas of considerable size, the same manner of closing may be employed without fear of sloughing as a result of pressure from the sutures. Here we simply invert the small loop of the figure-eight, in which case it acts as an interrupted coaptation stitch, minus the knot, and may or may not appear above the surface of the skin. In order that it may also serve as a retention suture at point of emergence beneath the plate only lateral perforated bars should in this instance be employed.

Again, when closing short incisions where there is a scant amount of adipose tissue the plates may occupy a position near the margins of the incision, in which case the transverse support may be omitted.

In abdominal work before making the initial incision, the lateral boundaries of the framework should be outlined on the integument by a delicate scratch made with the point of a scalpel.

In closing, the sutures emerge at this line (which has now become visible from congestion) and when tied on both sides produce sufficient fullness of the intervening integument to prevent tension at the line of incision. No adhesive strips are necessary for abdominal support, and the binder may be applied only moderately snug.

The cosmetic effect is all that could be desired, as the cicatrix remaining after removal of the subcuticular suture is seldom more than a delicate white line.

The stitch holes beneath the plates close up and disappear.

The time consumed in adjusting the plates does not prolong the operation, and with a little practice is quite as convenient as the old way.

610 Frost Building.

SCARLET FEVER.*

WILLIAM L. BAUM, M.D.

Professor of Skin and Venereal Diseases, Post-Graduate Medical School of Chicago; Attending Physician on Contagious and Infectious Diseases, Cook County Hospital; Dermatologist, the Chicago and German Hospitals.

CHICAGO.

During the years 1896 to 1903 the following cases of scarlet fever were under my observation at the Cook County Hospital:

Number of cases, 628; males, 307; females, 321; deaths, 44.

Complications.—Suppurative otitis, 11; nephritis, 47; pneumonia, 19; arthritis, 2.

Mixed Infections.—Number of cases, 142; deaths, 17; diphtheria, 96; measles, 29; diphtheria and measles, 1; varicella, 13; parotitis, 3.

It will be seen from the above table that the mortality was a little over 7.07 per cent. of all the cases treated. In the mixed infections the mortality was 11.9 per cent. It will be noted that among the complications, suppurative otitis media occurred eleven times, or in 1.7+ per cent. of all cases. In about 35 per cent. of the cases there was pain in the ear. The mild or catarrhal form of otitis media, according to Bader and Guinon,[1] is very common, occurring in 33 per cent. of the cases.

Holt[2] has found it in 75 per cent. of those cases accompanied with severe throat symptoms.

Nephritis, in which there were present albumin, casts and blood cells, occurred in 47 cases, or in 7.6+ per. cent. of all cases. Albumin was present in over 37 per cent. of the cases during the early stages of the disease.

In three cases there was present at the beginning, or on the second day of the eruption, a severe septic nephritis, with much albumin and many casts. These cases were all fatal.

Acute lobar pneumonia was present in 19 cases, mostly involving the upper lobes. Henoch[3] states: "The mucous membrane of the bronchi and the parenchyma of the lungs are excited by inflammatory influences far more frequently than we usually suppose. Not only catarrh, but more or less extensive bronchopneumonia occurs in the first and second weeks of the disease. These conditions are frequently overlooked, however, because a whole series of synchronous severe typhoidal symptoms disguise them and divert the attention of the physician." We found bronchitis and bronchopneumonia in nearly all severe cases.

Severe arthritis was present in two cases; in one of these cases, a girl 10 years of age, the swelling of both elbow and wrist joints appeared on the tenth day of the disease. It was ushered in by a chill, rise of temperature to 104 degrees and great tenderness in the joints. The symptoms increased in severity up to the twenty-eighth day of the disease; the joints became soft and fluctuating, the aspirated fluid was filled with streptococci and the child finally died of a general sepsis. There was also present nephritis.

In 21 other cases there was slight swelling of the joints, but unaccompanied by any other severe symptoms.

Among the mixed infections, diphtheria was the most common. Cultures are made from the throats of all patients admitted to the contagious and infectious ward of the Cook County Hospital. In the 628 cases of scarlet fever, the Klebs-Löffler bacillus was found 96 times, or in 15.2 per cent. of all cases. It is well, however, to state that in many cases it appeared as a purely secondary infection during the period of early convalescence and after exposure. Jürgensen[4] answers some points in regard to diphtheria complicating scarlet fever as follows: (1) Is any one able, by simply inspecting the genuine diphtheritic membrane, to differentiate it from the membranes that occur in a scarlatina that is not complicated by diphtheria? In many cases, yes. In diphtheria these are firm, compact membranes of a grayish yellow color, that can be separated in their entirety. In scarlatina the membranes are softer, looser, separable only in portions and of a more brownish color. To this I can not agree, for in many of the cases of the latter type the Klebs-Löffler bacillus was found, and not only this, but from these cases others were infected with diphtheria. (2) A deep destruction of the tissues in the vicinity of the parts primarily involved is more rare in diphtheria than in scarlatina. (3) Obstruction of the larynx by a membrane formation is a comparatively rare occurrence in scarlatina, and still more rare is a croupous exudate on the mucous membranes, extending deep down into the air passages. (4) I do not wish to lay too much stress on the fact that in the involvement of the larynx by a diphtheritic inflammation from the pharynx accompanying scarlatina, the clinical symptoms have a characteristic type. (5) The paralysis following genuine diphtheria is absent in the pharyngeal diphtheritis accompanying scarlatina. (6) As to the time required by the course of the disease, Henoch declares, in regard to the condition that he calls the necrotic inflammation typical of scarlatina, that it appears, as a rule, on the third or fourth day after the beginning of the disease; this holds good only for the cases that are moderately severe. In severe cases it may be present even in the course of the first twenty-four hours.

Corlett[5] states that among contagious and eruptive fevers none presents so many varied types as scarlet fever, ranging, as it does, from the mildest form, scar-

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

1. Molzard Traite des mal de l'Enfance, Paris, 1897.
2. Diseases of Infancy and Childhood, New York, 1897.
3. Vorlesungen über Kinderkrankheiten, p. 642, 3rd edition.
4. Nothnagel's Cyclopedia of Practical Medicine, volume on Diphtheria, Scarlet Fever and Measles, p. 505, 1902.
5. A Treatise on the Acute Infectious Exanthemata, 1902.

latina simplex, or benigna, to the most malignant type, scarlatina maligna, called by the French foudroyante. Between these two extremes we find an almost endless variation from the normal, one shading gradually into the other; so that any sharp differentiation into groups is quite impossible. It is this constant variation in type which renders the differential diagnosis of scarlet fever from other disease processes so difficult.

In differential diagnosis, drug eruptions, as caused by belladonna, quinin, copaiba, chloral, opium and the coal-tar derivatives, must be taken into consideration, for not only are the conditions for which they are prescribed accompanied by fever, but the drug eruptions frequently start on the face and locations characteristic also of the scarlet fever eruption. Toxic erythemata occur in the course of septic infections, which are frequently mistaken for scarlet fever eruptions. In both of the above conditions the enlargements of the glands in scarlet fever, as shown by Schamberg, are of diagnostic value. Cases of rubella, or German measles, are frequently mistaken for mild scarlet fever, and it is with great difficulty that the diagnosis is arrived at. In the scarlet fever the rash is made up of minute, brightly injected puncta, slightly elevated and closely studded together, forming a uniform or finely mottled surface, while the rash in rubella is always measly, and never becomes confluent.[5]

Other cases which had been sent into the hospital as scarlet fever proved to be erysipelas, cerebrospinal meningitis, measles, tonsillitis with erythema, influenza and one case of septic typhoid fever.

It is strange that where so many children who had recently undergone surgical operations were exposed to the infection that only in two instances did scarlet fever develop among them. Hoffa[6] believed that scarlatina can originate from wounds, and quotes Von Leube, who infected himself during an autopsy on the cadaver of a case that had died of an unusually severe attack of scarlet fever.

ETIOLOGY.

Since the report of Klein,[7] in which he was convinced that the Marylebone epidemic of scarlet fever in London could be traced to the milk supply, and found the streptococcus taken from the vesicles on the udders of cows, which he believed were suffering from true bovine scarlatina, there have been many others, notably Fiessinger,[8] who believe that they have discovered the true etiologic factor. Class[9] describes a diplococcus. His organism is a non-capsulated diplococcus appearing occasionally, though rarely, in streptococcic form. It is polymorphous in character, attaining not uncommonly, under certain conditions, an unusual size. It is said to be constantly present in the pharynx in the scarlatinal angina. Baginsky and Sommerfeld[10] have described a streptodiplococcus very similar to the one described by Class. We have endeavored to follow out this work, especially on the lines laid down by Class, but have found so many similar organisms in the throats of patients, suffering from the infectious diseases, that the results are inconclusive.

Weaver[11] made many cultures from the throats of scarlet fever patients and reaches the following conclusions:

1. The bacteria obtained in cultures from the skin, epidermic scabs, and the surface of the tonsil, are the same as those found in the same locations in health, and no one of them is constantly present, except the streptococcus in the throat.

2. Because of the numerous cocci which grow in such cultures and which appear in groups of two and four, or bunches of the same, under the microscope, it is impossible to identify them except by a complete study in pure cultures.

3. Cultures made by inexperienced persons, or by those who do not fully appreciate the importance of avoiding the tongue, are especially apt to contain large diplococci or sarcinæ.

4. The streptococcus is present on the tonsil of scarlatinal patients in enormous numbers in almost all patients.

Hektoen,[12] in a series of bacteriologic examinations of the blood, during life, in scarlet fever, with special reference to streptococcemia, comes to the following conclusions:

1. That streptococci may be found in the blood of cases of scarlet fever that run a short, mild and uncomplicated clinical course.

2. That streptococci occur with relatively greater frequency in the more severe and protracted cases of scarlet fever in which there also may develop local complications and clinical signs of general infection, such as joint inflammation, but even in the grave cases of this kind spontaneous recovery may take place, and, finally,

3. That streptococcemia may not be demonstrable in fatal cases of scarlet fever.

The theory that scarlet fever is a streptococcus disease does not seem to receive any direct support from this work.

After a study of the literature bearing on the subject of the bacteriology of scarlet fever and an endeavor to verify the works of the investigators, one is forced to the conclusion that it has not yet been shown that any one of these organisms is the true etiologic factor in scarlet fever.

DISCUSSION.

Dr. Jay F. Schamberg, Philadelphia—I regret that Dr. Baum was not able to read that part of his paper on the clinical description of scarlet fever. The differential diagnoses between scarlatina and certain scarlatiniform erythemata is frequently involved in great difficulty. In some cases it is utterly impossible to be sure whether one is dealing with a scarlatinoid rash or the true eruption of scarlet fever. The exanthem of scarlet fever may be regarded as a toxic erythema or dermatitis; there are other substances besides the scarlatinal poison which are capable of producing a similar eruption. Quinin, belladonna, antipyrin, opium, mercury and other drugs may produce rashes which may closely simulate the scarlet fever exanthem. Erythemata occurring in certain infectious diseases and septic states may be quite indistinguishable from that observed in scarlet fever.

Differentiation would be easy if all cases of scarlatina were frank and well pronounced. It is a facile matter to recognize as scarlet fever an attack characterized by sudden rise of temperature to 104 F., vomiting, inflamed throat, a diffuse punctated rash, strawberry tongue, general glandular enlargement, with the subsequent development of otitis media, nephritis, rheumatism or albuminuria. It is an easy matter to set down on paper a differentiation between typical examples of scarlet fever and scarlatiniform erythema, but such information often fails one at the bedside.

There are mild cases of scarlet fever in which the fever is insignificant, and the throat symptoms no more pronounced.

6. Specille Diagnose der innern Krankheiten, Bd. ii, Leipzig, 1893.
7. Report of Local Government Board of London, 1885.
8. La Semaine Medicale, July, 1893.
9. New York Medical Record, September, 1899, and The Journal A. M. A., vol. xxxiv, No. 34, 1900.
10. Berliner Klin. Woch., No. 22, 1900.
11. Transactions of the Chicago Pathological Society, February, 1903.
12. The Journal A. M. A., March 14, 1903.

Indeed, in atypical cases the disease may exist without fever, without angina, or even without a rash.

The history of the case is often of importance in clearing up the diagnosis. If the attack can be shown to have resulted from an antecedent case, or if it give rise to a subsequent infection, the diagnosis is at once simplified. The appearance of the tongue carries considerable diagnostic weight—not so much the coated tongue with red papillæ peeping through, but the red, papillated tongue which is seen about the third day of the disease—the so-called strawberry tongue. It is uncommon to find such an appearance of the tongue in scarlatiniform erythema.

Too much importance has been attached to the occurrence of desquamation. Scaling after a scarlatinoid rash has been regarded as confirmatory evidence of the scarlatinal nature of the disease. Dermatologists recognize the fact that desquamation will follow any scarlatiniform erythema which has been characterized by sufficient inflammatory change in the skin. Indeed, these erythemata often scale much more profusely than the rash of scarlet fever. More important than the mere existence of scarlatinal scaling is its persistence. It is not rare to see a comparatively mild attack of scarlet fever in which the desquamation may persist for five, six or seven weeks. A point of diagnostic value in the desquamation of scarlet fever is a tendency of the epidermis to split just beneath the free border of the nail (*Subungual cleavage*), the epidermis then peeling off down the finger and exposing the pinkish, tender skin beneath. This usually occurs from about the tenth to the fourteenth day.

Scarlatiniform erythema may usually be distinguished by a lesser grade of constitutional disturbance, the eruption being disproportionately pronounced as compared with the fever and prostration. The throat may be reddened, but the tonsils are not swollen and covered with exudate. The red papillated tongue is usually absent. Enlargement of the maxillary gland is not present. Furthermore, there is often a history of recurrent attacks of these erythemata. Many reported cases of repeated attacks of scarlet fever have doubtless been instances of erythema scarlatiniforme recurrens.

There is no acute infectious disease which is more often attended with diagnostic difficulty than scarlet fever. Poorly-marked cases are frequently overlooked, and other counterfeiting rashes are often diagnosed as scarlet fever.

DR. A. W. BRAYTON, Indianapolis—Did Dr. Baum say anything about the scarlet fever they had along the lake shore 35 or 40 miles north of Chicago during the last winter in Evanston and Lake Forest? I had some patients from Lake Forest who said the place was quarantined. They stated that there were no deaths and that there was a good deal of difference of opinion as to whether it was scarlet fever. The disease in Indianapolis has been of a mild type for the last ten years. Very few deaths have occurred, not more, in proportion, than from measles.

DR. HENRY G. ANTHONY, Chicago—In answer to Dr. Brayton I wish to state that I had an opportunity of seeing some of these cases, and there is no question that they were typical scarlet fever, and they were not all mild.

DR. LUDWIG WEISS, New York—I would ask Dr. Baum whether in those cases which proved to be clinically light there has been noticed a rash in and below the inguinal folds, below Poupart's ligament, and having a burnished aspect. I have seen this symptom several times, and my attention was drawn to it, especially in a case where after an operation for adenoids the child developed a rash which looked like scarlet fever, but where a diagnosis could not be made at once. Of course it might have been caused by traumatism, as eruptions sometimes occur after operations, but it developed later that it was true scarlet fever. If those who see so many cases would notice this symptom, it would help a great deal toward making an early diagnosis.

DR. J. B. KESSLER, Iowa City, Iowa—I am sorry the author did not go into the clinical aspect more particularly, because it is important; at times it is difficult to make a diagnosis of scarlet fever. I know a medical man who graduated and located in Dubuque, Iowa, years ago, who showed an eruption to some of his colleagues. They were in doubt as to the trouble, but agreed among themselves that as he was a young man they would shut him up anyway, so they told him he had scarlet fever. I have been acquainted with him for seven years and have seen him in his operating room with this eruption, which shows a mild grade of erythema scarlatiniform. The throat will be slightly reddened, and there will be slight malaise for three or four days before this comes out and while the eruption remains. This is followed by mild desquamation. This has been repeated for twelve years.

In our city scarlet fever is pretty well "vaccinated" out. I do not remember of a death in the city for twenty years, but strange as it may seem, in the adjoining towns I have seen severe cases. Last summer I attended a severe case of scarlet fever in a little girl where the glands of the neck became involved and suppurated.

In regard to the spreading of scarlet fever, I think that is largely due to neglect in not having the cases properly inspected before quarantine has been removed. I remember some years ago there was a question of diagnosis in a case of scarlet fever. The mother said that her son had had scarlet fever, and our health officer was in doubt about the case. I told him I thought he had scarlet fever, but as the health officer had let him out I would like to have him drop in occasionally so that I could watch the desquamation. I watched the desquamation for thirty days, and at the expiration of that period, to get rid of it, he sandpapered the soles of his feet. This was indicative to me that there is a chance to spread scarlet fever beyond the ordinary quarantine of thirty days.

DR. WILLIAM L. BAUM, Chicago—I regret that it was not possible to present this paper in full, and I thank Dr. Schamberg for calling attention to the clinical side of the case. Experience demonstrates that the diagnosis is often made with considerable difficulty. It has occurred in the hospital that the typical symptoms seemed to be absent, and patients have been transferred on account of the early disappearance of symptoms.

Dr. Brayton's question in regard to the Evanston epidemic was answered by Dr. Anthony. A number of severe cases coming from that district were transferred to our service, but I do not remember that there was a single death. However, I am glad the gentleman called attention to the mortality. It is rather interesting that in these hospital cases, which are largely drawn from the other wards of the hospital, the children's ward and from districts where you would expect illy-nourished children, the mortality is less than 7.7 per cent. Included in these mortality statistics are those brought to the hospital in a moribund condition, and who died within six hours of their admission.

Dr. Weiss calls attention to an eruption in the inguinal folds below Poupart's ligament. This I have not seen. It is a symptom to which I am glad to have my attention called, as I have not found it in any of our cases. We see many cases of scarlatiniform erythemas, and I believe most of the surgical scarlet fever is of this type. It is an interesting fact that in the children's surgical ward during a period of nine years, where at times as many as thirty or forty are exposed, only two cases of scarlet fever have developed.

Regarding the period of isolation, we isolate a patient at least forty days whenever possible and find that that period is sometimes not long enough. I am convinced that the statement made by many clinicians that the incubation period is not infectious is a mistake. We have had a number of cases where the exposure could only have occurred in the pre-eruptive stage.

Under Water Five Minutes.—To settle a dispute, George Kistler, swimming instructor at the University of Pennsylvania, recently remained under water five minutes and five seconds. It is stated that an examination by a physician following the feat showed no departure from the normal except some acceleration of the heart's action.—*Medical News.*

Special Article.

THE PURIFICATION OF WATER SUPPLIES BY SLOW SAND FILTRATION.

(Continued from page 853.)

II.

WATER FILTRATION IN THE UNITED STATES.

The first sand filter constructed in the United States was the one built in 1872 under the direction of Mr. J. P. Kirkwood at Poughkeepsie, N. Y. A similar filter was installed by the same engineer at Hudson, N. Y., in 1874. Both these plants are still in operation. Although a beginning in water purification in this country was made at this early date, a more decisive step was taken by the construction of a sand filter at Lawrence, Mass., in 1893. The establishment of this filter may be said to mark the opening of the modern era in water purification in America. One of the leading American authorities on water supply has said:

> The Lawrence filter was in a large sense the beginning of water purification in America. This is particularly true when the matter is considered from a hygienic standpoint. A few filter plants had been built in America before the Lawrence filter, but these earlier plants had been directed largely or principally toward improving the physical character of the water. At Lawrence, for the first time, a filter was constructed with the deliberate purpose of reducing the death rate. The success that was achieved in accomplishing this result attracted the attention of the whole country and was of the greatest service in directing attention and energy to a most important subject, which up to that time had not received the attention which it deserved.

Another distinguished engineer has said:

> It is difficult to estimate readily how great has been the benefit which this filter has produced outside of the city of Lawrence. It has proved a stimulus and an example for many later developments in this field, and it has served as a basis of reference for engineers and sanitarians, not only in this country, but also in Europe. No matter how many filters may be built in years to come which are larger in capacity or more efficient or more economical in operation, it is very doubtful if any will succeed in displacing the Lawrence filter from the classical position which it now securely holds as marking the beginning of a new epoch, and, in fact, the first epoch of important practical accomplishments in this country in water purification.

A. THE LAWRENCE FILTER.

The city of Lawrence is situated in the northeastern part of the state of Massachusetts, near the New Hampshire boundary line. According to the U. S. census of 1900, its population was 62,559. The city lies on the Merrimac river, a stream which affords water power for various manufacturing interests, and from which since 1876 the public water supply has been derived. The present population on the watershed of the Merrimac above Lawrence is estimated as about 480,000, nearly 318,000 of which is urban population and therefore constitutes an important source of pollution. It was calculated that in 1900 the proportion of sewage flowing in the stream past Lawrence amounted to one gallon in every 200 at periods of average flow, and one gallon in every forty in the driest periods. The most dangerous element of pollution is the crude sewage discharged from the city of Lowell, eight miles above Lawrence. Like Lawrence, the city of Lowell has until recent years obtained its water supply from the Merrimac river and has in consequence suffered severely from typhoid fever, and the fact has been noted on several occasions that an increase of typhoid fever in Lowell has been followed in due course by an increase in the disease at Lawrence. Prior to the introduction of a pure water supply the typhoid fever death rate in both Lowell and Lawrence had for years been excessive, and averaged as high as from three to four times the typhoid fever rate in the state at large. It was primarily to remedy this serious condition that the construction of the Lawrence filter was undertaken in the fall of 1892 at the instigation of Mr. Mills, an eminent engineer and public-spirited citizen of Lawrence, and pushed to completion by September 20 of the following year.

The filter is located a short distance above the city of Lawrence on the north bank of the Merrimac river. Its total available filtering surface is about two and one-third acres. Until recently the filter bed has been maintained as a single unit, and, as will be seen, the lack of subdivision of the filtering area has greatly embarrassed the general operation of the plant.

The quality of the Merrimac river water does not present any special difficulties. The water does not usually contain a large amount of suspended matter, and the silt carried at times of flood is relatively coarse and is of a kind that settles out rapidly. The number of bacteria in the river water is not as high as in many other polluted river waters in the United States, ranging, as a rule, about 5,000 to 10,000.

During the ten years that the Lawrence filter has been in operation, a number of instructive incidents have occurred in connection with it which have emphasized certain of the fundamental tenets of sand filtration and have developed new points for future warning and guidance. At the time the filter was originally built it was intended that it should be operated intermittently, it being at that time supposed by Mr. Mills that purification would be more effective if the air were admitted to the sand at frequent intervals, as in fact is known to be the case in sand filtration of sewage. Certain exigencies of operation, however, due primarily to the amount of water demanded by the city, soon led to the abandonment of the system of intermittent operation and the maintenance of practically continuous filtration. Entirely favorable results have been secured by the continuous method, and the superior yield of water when the filter is operated continuously renders improbable a return to the original method.

Many of the most harassing circumstances in the operation of the Lawrence filter have been due to the lack of a cover. During the winter months the proper scraping of the filter surface has been greatly hampered by the frequently recurring necessity for removing a layer of snow and ice. The diminution in the yield of the filter, the marked interference with the bacterial efficiency and the exorbitant expense of dealing properly with the frozen surface are factors that have seriously impaired the efficiency of operation. The cost of removing the ice has sometimes amounted in a single winter to over $3,000, or more than one-third of the total cost of maintenance. Those in charge of the Lawrence plant have often urged on the city authorities the economy of covering the filter, but for reasons easily understood by those conversant with American municipal conditions, an annual outlay for labor is more attractive to the average city council than an expenditure for interest charges.

The original cost of the Lawrence filter was surprisingly low, amounting to only about $66,000, but the enforced economy practiced in certain directions at the outset has not been justified by several occurrences in the history of the filter. Perhaps the most notable in-

stance of this sort is the trouble that has been occasioned by the lack of a watertight bottom to the filter. The absence of this protection has at times allowed ground water to enter, carrying with it a certain amount of iron in solution. The presence of iron is known to favor the growth of a microscopic fungus, *Crenothrix* by name, an organism which by its accumulation in pipes and underdrains, has given rise to much trouble in the waterworks of Berlin, Rotterdam and other places. At Lawrence the underdrains of the filter became gradually clogged with a heavy filamentous growth of *Crenothrix*, and finally the passage of water was impeded to such an extent that it became necessary to reconstruct the drainage system. The processes of repair inevitably led to considerable disturbance of the filtering surface, and was promptly followed by a decrease in the bacterial efficiency of the filter, and a little later by an increased number of cases of and deaths from typhoid fever. Many other similar experiences in connection with the operation of European filter works have shown that a very slight disturbance in the operation of the filter may affect profoundly the health of the community supplied with the water. The municipal parsimony at Lawrence which failed to provide watertight filter basins must be held directly responsible for the loss of human life.[3]

Mention has already been made of the great difficulty experienced in cleaning the Lawrence filter, due to the construction of the filter plant as a single bed instead of in sections. The latter arrangement would have greatly facilitated operation and lessened the cost of maintenance by making it possible to clean properly one section of the filter while the supply was being kept up by the remainder. A belated subdivision of the filtering area was carried out in 1901, when two transverse division walls were constructed dividing the filter bed into three sections of about equal area.

BACTERIAL EFFICIENCY.

From the outset the effluent of the Lawrence filter has been regularly examined with a view to determining the bacterial efficiency of operation. The following table shows the reduction in the number of bacteria attained by passing the river water through the filter.

TABLE 1.

AVERAGE NUMBER OF BACTERIA PER CUBIC CENTIMETER.

Year.	In Water Applied to Filter.	In Water Drawn at Tap at City Hall.
1894	10,800	110
1895	11,100	80
1896	7,600	85
1897	10,900	84
1898	4,400	66
1899	5,800	42
1900	8,970	49
1901	3,017	26

Examination of the detailed figures[4] brings to light the interesting fact that in the latter part of 1898 and the early part of 1899, when the already mentioned repairs of the underdrains were being undertaken, the number of bacteria in the tap water was from four to five times as great as during the rest of the year. This confirms the opinion already expressed concerning the connection between the disturbance of the filter and the unusual number of cases of typhoid fever that appeared in the city early in 1899.

A very interesting feature in the methods of water examination employed at Lawrence since the latter part of 1898 has been the application of the test for the presence of *B. coli communis*. The presence of organisms of this class, as is well known, is a more delicate and satisfactory indication of the existence of sewage pollution than the ordinary numerical determination of all colonies developing on a gelatin plate, and unquestionably affords a more exact criterion of the quality of the water. The management of the Lawrence filter seems to have been the first to apply this test to filter effluents. The method has been found so illuminating that it is doubtless destined to a wider extension as its value becomes more generally known. The disturbance in the working of the filter in the latter part of 1898 is betrayed in a very striking manner by the increase in number of colon bacilli appearing in the effluent water.

The final and decisive test of the efficacy of any system of filtration must always remain the condition of the typhoid fever death rate of the community supplied with the water. The following table exhibits the application of this test to the Lawrence filter.

TABLE 2.

REPORTED CASES OF TYPHOID FEVER AND THE DEATHS RESULTING THEREFROM IN LAWRENCE BEFORE AND AFTER THE INTRODUCTION OF A FILTERED WATER SUPPLY.

Year.	No. of Cases per 10,000 Pop'n.	No. of Deaths per 10,000 Pop'n.	Typhoid Fever Death Rate for State of Mass.
Six Years Prior to Construction.			
1887	33	11.7	4.5
1888	50	11.6	4.5
1889	51	12.8	4.1
1890	43	13.4	3.7
1891	45	11.9	3.6
1892	36	10.6	3.5
Average	43	12.0	4.0
Eight Years Following Construction.			
1894	18	4.8	3.1
1895	15	3.1	2.7
1896	8	1.9	2.8
1897	13	1.6	2.3
1898	15	1.4	2.5
1899	22	3.3	2.3
1900	21	3.2	2.2
1901	15	1.8	1.9
Average	16	2.6	2.5

Several complicating factors must prevent the drawing of any sweeping conclusions from the figures in this table. One of these is the continued use of canal water for drinking in several of the Lawrence mills, a practice that persists in spite of continued and emphatic warnings. A study of the cases of typhoid fever occurring in the city from year to year has shown that a considerable proportion of cases and deaths have appeared among persons known to have partaken of the polluted canal water. It is said that in 1894 twelve deaths out of the twenty-four recorded for that year were among the drinkers of canal water, and in 1895 nine out of sixteen. Deducting known infections from this source would give a much more favorable aspect to the work of the filter.

On the other hand, as tending to diminish the credit to be assigned to the filter for the lowering of the typhoid death rate, it has been pointed out that since the installation of the filter the city of Lowell, previously the main source of pollution of the Lawrence water supply, has introduced a pure ground water. As a result of this improved supply typhoid fever has diminished very greatly in Lowell. The improvement in the condition at Lowell indicates that, even had a filter not been introduced at Lawrence, a decline in the typhoid fever death rate would have occurred as a result of a decreased prevalence of this disease in Lowell.

For these reasons the benefits accruing from the introduction of the Lawrence filter do not stand forth as clearly as they might have done under some other conditions. In view, however, of the figures in Table 2,

3. See increase in typhoid fever in 1899, Table 2.
4. Thirtieth and Thirty-first Reports of State Board of Health of Massachusetts, 1898 and 1899.

there is no escape from the conclusion that a remarkable decline in the typhoid fever death rate occurred immediately after the construction of the filter and has persisted up to the present time.

Recapitulating some of the lessons gained from the experiences at Lawrence,[5] these are:

1. The importance of proper construction at the outset as obviating the necessity for repairs, and the consequent serious disturbance of the filtering process.
2. The desirability of subdividing the filtering area in a small or moderate-sized filter plant.
3. The necessity for covering the filters in cold climates.
4. The value of the test for the presence of *B. coli communis* in filter effluents.

(To be continued.)

Clinical Report.

A CASE OF CONGENITAL SACRAL TUMOR—SPINA BIFIDA.

E. VIKO, M.D.
SALT LAKE CITY.

Reading the report of a case in THE JOURNAL, July 25, 1903, by Dr. R. Henderson, leads me to relate a unique case in my experience:

July 4, 1898, I attended Mrs. C., aged 25, in her second confinement. Labor progressed rapidly and normally until the head and body down to about the navel protruded from the vulva, when there was a sudden check to the expulsion of the hips and lower extremities. On pulling gently the hips appeared to be firmly held by some obstruction in the uterus. My first thought was that I had possibly to deal with twins. The uterus seemed to be unusually full. As part of the body of the baby was in the vagina and the hips and lower extremities in the uterus, it was difficult to explore the genital canal, but some kind of tumor could be distinctly felt projecting from the sacrum of the infant. On making strong traction the hips and lower extremities were suddenly delivered with a gush of a large amount of liquid. The body, which lived about fifteen minutes, weighed about fourteen pounds.

On examination, it was found that the entire coccyx and sacrum were undeveloped. The skin over the sacral region was elongated in the form of a sac, extending to the knees of the infant. The anal orifice was located about two inches below the perineum in front of the tumor. On the lower part (summit of tumor) coursed large veins, which had weakened the skin at this place, where under the strong traction the skin broke. The baby was otherwise well formed and fat.

Keith Building.

New Instrument.

A NEW SURGICAL MALLET.

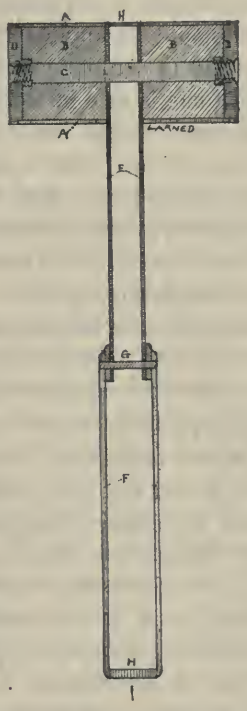
E. R. LARNED, M.D.
CHICAGO.

This instrument is made entirely of metal, presenting on all sides perfectly smooth surfaces, making it as easy to sterilize as any other surgical instrument.

The principal part of the mallet, the head, is made as follows: Two steel faces (D) 1⅜ inches in diameter and 3/16 inch thick, are turned in a lathe, leaving the center 5/16 inch thick and ⅜ inch in diameter, as shown in the sketch, which is full size. The shell of the head (A) is of seamless brass tubing and fits into little recessions in the steel faces. A block of pure aluminum is turned to exactly fit the inside of the shell. This filling (B) has a hole drilled through the center ¼ inch in diameter, through which runs a steel pin (C), the ends of which have right and left threads, the steel faces being screwed on this pin, after which the protruding ends are riveted flush with the steel faces.

The handle is made of seamless brass tubing, soldered and then held together at G with a small steel pin, which is riveted. The portion of the handle marked E is fitted into the hole drilled through the head to exactly admit it, before the steel pin (C) is put into place. In addition, the head (A) and the handle (E) are soldered at their connecting points. Two small plugs (H) close up the openings in the ends of the handle. The total length of the handle is 9 inches. The length of the head 3⅛ inches. The total weight of the mallet is 12 ounces.

The advantage this mallet possesses over others is proper size, being more nearly that of a small wooden carpenter's mallet which some surgeons have used because of its size. It



is balanced properly. It has the right "hang" and "feel." The impact of the mallet on a chisel is not the dull, heavy blow that one gets from the copper mallet or the lead mallet. Then, again, it can be boiled and made perfectly sterile, which is not possible in mallets made of wood or with rawhide faces.

The mallet is efficient, two being in use in large hospitals in this city. One has been used in the largest surgical clinic for the last seven years, during which time it has served its purpose well.

Any instrument maker can manufacture the mallet by following the drawing, which is an exact reproduction of the mid-section of the mallet, changing the dimensions to suit individual ideas.

5751 Prairie Avenue.

5. Much information regarding the Lawrence filter, its construction and operation has been obtained from the annual reports of the Massachusetts State Board of Health for 1893-1901, and also from a valuable paper by Knowles and Hyde (Transactions American Society of Civil Engineers, 46, 1901, No. 906), and the accompanying discussion of this paper by several experts.

The Admission to Membership in County Societies of Those Who Have Been Sectarians.—The *Iowa Medical Journal* says: "There is a whole lot of sentiment being wasted regarding this matter. The object of this reorganization is to broaden the medical profession and encourage those who intentionally or accidentally have cast their lots along sectarian lines, to renounce such selection and join us in making the grand profession of medicine what it should be."

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THE NOMENCLATURE OF TOXINS.

Bacterial and other toxins have proved to be of so complex a nature and subject to such alterations that a group of terms relating to them has developed. These terms are not devoid of confusion, owing to their multiplicity and similarity. The word toxin has come to have a limited and technical application. Ehrlich has concluded that it should be applied to those poisonous products of vegetable or animal metabolism by immunization with which one is able to obtain a specific antitoxin. Diphtheria and tetanus toxin, abrin, ricin, etc., are examples of the former, and snake poison of the latter. Toxins must also have a definite structure, that is to say, a haptophorous group by which they link themselves to cells and substances derived from cells, especially antitoxin, and a toxophorous group. This definition, then, excludes such poisonous substances as the vegetable alkaloids, as strychnin and morphin, and poisonous minerals, for which an antibody apparently can not be produced; these are toxic substances, but not toxins.

The bacterial toxins mentioned occur in solution in the cultures of the bacilli and may often be precipitated in an impure form by certain chemicals. It is to be noted that not all pathogenic bacteria secrete demonstrable poisons in culture media, although such organisms in disease may cause intense intoxication, a condition which we can not attempt to explain by the mere mechanical presence of the bacteria in the tissues. It may be that such organisms (typhoid, cholera) contain toxic substances which remain incorporated in the bacterial cells, and become effective only when the latter die or are dissolved. The term toxin has been applied, perhaps loosely, to cultures of the typhoid or cholera organisms which have been killed by heat. We have previously called attention to work showing that when autolysis of typhoid or dysentery bacilli is allowed to occur, a toxic substance goes into solution. The work, however, has not shown that these substances are toxins according to the conception mentioned above.

When Ehrlich undertook to establish a fixed method for estimating the value of diphtheria antitoxin he obtained confusing results, and was forced to make an analytic study of the toxin to clear up certain unexpected variations. For example, a toxin would gradually lose its virulence for the guinea-pig, but would constantly require the same amount of antitoxin to neutralize it. Naturally, it would be expected that as the toxin lost in virulence less antitoxin would be required to neutralize it. Again, a toxin of low virulence would sometimes require, relatively, more antitoxin for neutralization than one of higher virulence. It appeared that a toxin might lose in virulence but keep its original binding power for antitoxin. This indicated that toxin was far from a simple, uniform substance. Some of the phenomena seemed explainable by the assumption that the toxin molecule consists of two groups, one which has the combining power (haptophore) and another in which the toxic power resides (toxophore). This makes it possible to understand that the toxophore group might disintegrate, leaving the binding group still in condition to unite with antitoxin. This degenerated toxin has received the name toxoid, and is, on the whole, not poisonous, having lost its toxophore complex. But as the binding complex is retained it is still able to unite with antitoxin, and when injected into animals is able to unite with the cells and cause the production of antitoxin. In tetanus it is almost necessary to begin immunization with the toxoid or a weakened toxin. The discovery cleared many difficulties and suggested that careful analytic studies of a toxin should be made with the expectation of bringing to light other complexities. This Ehrlich did with the diphtheria toxin and found that he had to deal with a multiplicity of poisons in the same solution; as the toxin became older various degeneration products formed. He devised a method of expressing graphically the constitution of a toxin in the form of a "toxin spectrum," the evolution of which is very intricate. A grasp of the situation may, however, be obtained in the following statement: Having discovered the existence of toxoids, the degree of their affinity for antitoxin became of importance, in differentiating them from toxins. It was assumed that this affinity might be greater, equal to, or less than that of the toxin. For the determination of this a toxin was used which in a given quantity contained 100 toxin units (or fatal doses for the guinea-pig) and 100 toxoid units. The total binding power of the toxoids was then equal to that of the toxins, making a total of 200 binding units. These were completely neutralized, say, with 1 c.c., i. e., 200/200 c.c., of a standard antitoxin. When less than 200/200 c.c. of antitoxin was added some of the binding units of the toxin solution were unbound. It developed that the groups first set free were not toxic, i. e., they were toxoids, and a variety of toxoids which has a weaker affinity for antitoxin than toxin. If it were otherwise, some of the toxin would have been set free and a guinea-pig injected with the mixture would have died. These are the epitoxoids. As less and less antitoxin was added to the quantity of toxin mentioned nothing but epitoxoids was set free until the amount fell below 150/200 c.c.; then toxin began to be freed, and this continued in all mixtures until the quantity of 50/200 c.c. of antitoxin was reached. By this time all the 100 units of toxin had been freed, and 50 units of

toxoids. Carrying the experiment further showed that the remaining binding groups were also toxoids, but since they were the last to be freed they had a stronger affinity for antitoxin than the toxin had, and hence they were protoxoids. Syntoxoids are toxoids equal to pure toxin in their affinity for antitoxin. The epitoxoids are also known as toxons, and are not without toxicity for the guinea-pig, as they are able to cause the paralysis characteristic of diphtheria without other symptoms.

When Madsen and Dreyer injected their mixtures into rabbits it was found that not only the toxins but also the toxons caused acute death. However, by adding what was an excess of antitoxin for guinea-pigs and injecting the mixture into rabbits paralysis, as the only symptom, could be produced. Ehrlich has called this portion of the toxin solution toxonoid—toxic for rabbits, but not for guinea-pigs. Hence toxin, toxon and toxonoid are three toxic constituents of a filtered culture of the diphtheria bacillus. By further refinements in experimentation it was found also that the toxin could be resolved into prototoxin, deuterotoxin and tritotoxin, the differentiation being based on differences in affinity for antitoxin, and that there were also an alpha and a beta modification of each of these, according to the readiness with which they became changed into toxoids.

The work of Madsen and Dreyer is hardly less important in this connection than that of Ehrlich, since they have so fully corroborated and extended his discoveries, especially in regard to diphtheria and tetanus toxin. It is difficult to appreciate the vast amount of painstaking labor which was required to reach the results so briefly expressed above. They seem highly technical and one may be inclined to think they concern only theorists, but it was the realization of these very technical results that led Ehrlich to formulate the side-chain theory of immunity—a theory which has already yielded practical consequences of enormous value. These considerations are of particular interest now in view of the polemic being waged by Gruber on Ehrlich's conception of the toxin structure and the side-chain theory—in fact, on Ehrlich's theories as a whole—a subject to which we may return later.

PROLONGED FREEZING AND GERM LIFE.

While it has been generally conceded for some years that the mere fact of freezing did not kill bacteria, but only rendered them for the time incapable of multiplication, there has been a very general impression that the keeping of bacteria at a temperature below the freezing point for a long period eventually led to their death. Such intensely low temperatures as may be produced by liquid air fail to destroy at least the more resistant forms of bacteria. On the other hand, Sedgwick, Winslow and Park in the course of their investigation of the ice supply of Boston came to the conclusion that ice, even from contaminated water, became sterile after a month or perhaps even less. In a review of their work in the *Boston Medical and Surgical Journal*[1] it is stated that it may be concluded from these investigations that ice more than three weeks old is sanitarily as safe as a well-filtered water supply. Cases of typhoid fever due to ice might naturally be expected to occur, if at all, at the time immediately following the cutting of infected ice. As this is done usually in January, the ice could hardly be held responsible after March, at the latest, for any trouble, even were it known to be infected. It is almost needless to say that this statement attracted wide attention. There had been more than a suspicion that virulent typhoid bacilli might outlive the winter, even though kept below the freezing point for several months. The epidemic of typhoid fever at Plymouth, Pa., which was traced to the stools of a typhoid patient thrown on the snow at least three months before the outbreak of the epidemic, seemed to show this very clearly.

Unfortunately for the peace of mind of those who have felt that ice could be used with impunity in the summer time because of this declaration of the Boston investigating committee, there is a report[2] of an epidemic of typhoid fever due evidently to impure ice which occurred at least nine months after the infected ice had been cut and stored. This epidemic developed at the St. Lawrence State Hospital, three miles below the city of Ogdensburgh, the first patients coming down with the disease on October 2 of last year.

The tracing of the typhoid fever to the ice as the cause of this epidemic seems to be unquestionable. The ice house from which the suspected material was obtained was first opened for use—none of the ice having been previously withdrawn—about a week before the first cases of typhoid developed. During the months of January and February, 1902, when this ice was forming, there were three or four cases of typhoid fever in Ogdensburgh among users of well water. The drinking water of the institution is above suspicion, from both the laboratory and the practical standpoints, since it is from a public water supply, and no cases of typhoid fever occurred among those using it in Ogdensburgh. An examination of the ice showed definite evidence of organic contamination in the form of the colon bacillus.

As the result of this confirmation of the suspicion that there was sewage material in the ice, further investigations were made in the laboratory of the St. Lawrence State Hospital itself, and five colonies of bacteria were found, presenting characteristics resembling the typhoid bacillus. Of these cultures three proved to be of the colon bacillus, one of a bacillus not identified, while the fifth was a pure culture of the typhoid bacillus, as shown by all the generally accepted bacteriologic tests. Under the microscope this bacillus proved to be actively motile with the morphologic appearances of the *Bacillus typhosus*.

There seems no reason to doubt, then, that the typhoid bacilli may live for many months, perhaps even in-

1. Vol. cxlv, p. 557.
2. Amer. Jour. Med. Sci., October, 1903, p. 680.

definitely, in ice frozen at temperatures very near the zero point and kept under the favorable conditions that must exist for its constant preservation at temperatures well below the freezing point when properly stored as far north as Ogdensburgh.

One fact, however, of the Ogdensburgh epidemic deserves noticing, since it indicates that this specific instance can not be taken as positive evidence of the general retention by ice of bacteriologic impurities. Water frees itself in the process of freezing by throwing down its organic contents and foreign matter, and not by enclosing them and freezing them to death. Occasionally, however, masses of foreign substance are entangled in the process of freezing, and become enclosed in the ice. Such was the case with the ice tested at Ogdensburgh, and from the black masses included in its substance the cultures were made. There was no doubt concentration of infection in these inclusions and the rest of the ice may have been comparatively innocuous, though that can not be proven. There is one fact, however, that stands out prominently, viz., mere cold alone does not destroy the germs; therefore, the peril from ice is not altogether an improbable one, especially when macroscopically visible impurities exist.

THE FALLIBILITY OF SCIENTIFIC DICTA.

If one looks about him in the scientific world for the most striking characteristic of our times, he will find it, perhaps, in the systematic organization of investigative work. There has never before been a time when original research has been so carefully planned or so consciously directed as now. The world is tremendously impressed with the results of science attained during the last two centuries, but it would not be surprising, with the immense system of inquiry now in vogue, if during the twentieth century discoveries were made which would exceed in number and eclipse in grandeur those of all the centuries which have preceded.

In the forward march of science, great theories are originated, have their day and are demolished. But it is surprising how often an old theory, thought to be thoroughly extinct, will be exhumed and resuscitated. Like Colonel Bogy of the golf links, a scientific bogy may be "downed" one day, but it is likely to "down" its antagonists the next. The science of chemistry began with alchemy—the attempt of the ancients to manufacture gold out of the baser metals. Gradually the doctrine of the immutability of the "elements" developed and the efforts of the alchemists were believed to be attempts at the absolutely impossible; one who harbored their hopes was regarded as ridiculous. But the physicists and chemists have been making some startling discoveries in the recent past, as the result of which the elements have been shown to be less "immutable" than was thought. Each of them gives off radiations of minute particles, the so-called "electrons" or "ultimate corpuscles," each of which is at least 1,000 times lighter than the atom of H, and each of which, so far as can be made out, is the same as every other particle of the same magnitude, no matter what its source. It may not be true that the "element" radium decomposes into the "element" helium, as has already been asserted, but certain it is that physicists and chemists feel far less certain to-day of the elementary nature of the so-called elements than they have for a hundred years. Indeed, one of the oldest chemists in America was heard to say within a fortnight that, in his opinion, the principal work of the laboratories of physics and chemistry during the next ten years would be devoted to attempts to analyze and synthesize the elements. It is amusing to think of the excitement there would be among the gold-seeking alchemists of the middle ages—wherever they might be at the time—should some one be fortunate enough, in the not too distant future, to take electrons derived, say, from iron and combine them into the precious metal—gold. That such a thing may be suggested even shows to us clearly the great changes which are going on in chemical thought.

Again, there is the doctrine of "spontaneous generation" kept alive for so long by its supporters and especially by the unfortunate Bastian, until it was thoroughly extinguished by the researches of Tyndall and Pasteur. Would it be surprising if this dead doctrine were revivified? Surely no more so than the resurrection of alchemistic dreams. Those biologists who are busily engaged in the application of physical chemistry to the study of protoplasm are already cherishing again the possibility of sometime making living things from things not alive; some of them even dare to say so, and others would like to say so did they not fear that they would be suspected of carrying "bees in their bonnets." Truly, not all theories sleep that have closed eyes!

THE ALLEGED DANGERS OF STRYCHNIA.

In view of some recent criticisms regarding the use of strychnia as a cardiac tonic, it is well to note the other, and what clinical experience shows to be, the truer, side. Benedict[1] finds that strychnia approaches most nearly a strictly standardized remedy, chemically and physiologically; he says that, in his experience, it is the only drug from which a permanent result may be expected without danger or deleterious influence and which yet may be regarded as an artificial spur. He even suggests that strychnia may represent some chemical product of our organism, as caffein represents the alloxur bodies, more especially the xanthin radicle.

Of course, the beneficial use of strychnia implies reasonable care in its use, and his ideas as to this are specified as follows: "One milligram, t. i. d.: tonic dose for small adult, with no indication for marked effect. Two milligrams, t. i. d.: ordinary dose for gastric atony, secretory or motor, or for chronic cardiac weakness, functional or organic. Two milligrams five or six times

1. Therapeutic Gazette, Sept. 15, 1903.

daily: dose for marked cardiac weakness, either in medical or surgical cases; in the latter to give strength rapidly before operation or to prevent collapse afterward. This dosage should rarely be maintained for more than three or four days. Three to four milligrams: single emergency dosage in acute heart failure." Of course, individual circumstances may modify this dosage, but the above is given as near the average safe quantities in conditions mentioned above. Benedict says he rarely continues the use of strychnia or any other powerful drug for over two weeks, or usually for more than one week without interruption, and finds it more effective in this way. He has never yet seen a case of "snappy heart" from the use of strychnia in cardiac disease, though such a condition might result from overdosage, and he suggests that there is a tendency in reviewing our failures to incriminate ourselves and our drugs, and that strychnia may have unjustly suffered in this way.

Within the above limits of safety the danger from the drug must be very exceptional. No class of physicians employs this agent more freely than the neurologists, and it is not from them that we principally hear the warning of its dangers, notwithstanding the fact that the doses given are sometimes almost excessive. An example is the use of progressively increasing doses of strychnia in certain spinal diseases advocated years ago by Jewell and more recently by Hammond and, apparently, without fear of damaging effects. If the system can adapt itself, as it appears it can, to doses of more than a grain of strychnin daily without acute toxic symptoms it would seem that its poisonous effects were subject to some exceptions. While it is a drug that must not be incautiously used, nevertheless it does not deserve all the condemnation it has received. There is hardly any more reliable and useful agent in the pharmacopeia, and if it is as dangerous as some suggest, it is time for a thorough reinvestigation of the subject.

SOUTH DAKOTA LEGAL TECHNICALITIES.

The experience with the new medical registration law in South Dakota is in many respects similar to that of Illinois with its medical registration law. The act exempted all who were in practice at certain dates from the provisions of the law, hence, notwithstanding a special provision to meet such cases, a recent judicial decision makes it impossible to discipline any one who was in practice before that period. It was not anticipated, of course, that the judges would put such an interpretation on the wording of the act, but from this and the Illinois experience it would appear that still more caution will be required in drawing up medical practice acts than has been sometimes the case. It will not do to generally exempt any class, old or new, but the law should specify just what they are exempted from. As it is, there may have to be new legislation both in Illinois and South Dakota to bring a certain class of disreputable practitioners under any legal control. In South Dakota the matter has not yet, so far as we know, been passed on by the highest court and perhaps can not be regarded as entirely settled.

"THE AGE OF PAP."

In an article published not long since in one of our British contemporaries, Dr. Harry Campbell designated the period in which we live as the "age of pap," referring by this to the growing tendency to the omission from our diet of foods which require mastication. The teeth are becoming—to a certain extent at least—more and more *functus officio* organs. The result is that, as a United States official, Dr. Wiley, is lately reported as saying, the human race is becoming toothless. Wiley also includes hair in the cutaneous outgrowths which we are losing, but we trust that, if only for esthetic reasons, it will be a long time before the result he prophesies will be fully brought about. There is no doubt, however, that degeneration of the jaws and teeth, which has been progressing every since man became an intellectual animal and depended less on them for raptorial purposes, is going about as far as is required with our present idea of convenience and beauty. Let us hope that there will be still some people who will chew their food, not only for health reasons, but also for good looks. An English writer has seen some good in the American habit of chewing gum in the exercise it gives the jaws. We are glad there is some virtue in it.

AMALGAMATION OF MEDICAL SCHOOLS.

Last week the well-known Trinity Medical College of Toronto was united with the Medical School of the University of Toronto.[1] The medical faculty of the provincial university, as thus enlarged, contains the ablest medical scientists and practitioners in Ontario, and one of the strongest teaching faculties on this continent. Toronto, in the fusion of her medical schools, has added her example to that of some cities of the United States—an example which may well be seriously considered in some other places. A waste of money, time and energy involved in the organization and maintenance of two or more large medical schools where one would suffice is appalling. The concentration of effort, the saving of expense, the increase in efficiency and, not least, the increase in harmony in the activities of the profession which would result from the amalgamation of medical schools in many of our cities would be of incalculable value in furthering medical education. For successful "marriages" to take place between medical schools, the contracting parties must be high-minded and unselfish. The members of their faculties must care more for the good of their students, for the future welfare of the school and for the profession as a whole, than for their own personal interests. It must not be forgotten, though, that even after fusion has taken place and where the faculties are large, multiple dangers beset the path. Many adjustments have to be made, and there must be concessions on both sides, but an earnest desire to do the best thing, combined with honest open speech, will often overcome the greatest of difficulties of reorganization, especially where mutual respect, mutual consideration and mutual kindness prevail.

1. See Canada news column, this issue.

Medical News.

ILLINOIS.

To Hidden Shansi.—Dr. W. A. Hemingway, Oak Park, sails with his wife from San Francisco for his new field of labor in Shansi, China, on the *Coptic*, October 31.

Alleged Healers Give Bail.—"Drs." Parker and Hall, the alleged magnetic healers who were arrested in Omaha and brought back to Peoria to answer to the charge of swindling, were released on bail of $900 each.

Early Investigator of Hypnotism Dies.—J. Stanley Grimes, prominent in the early investigations of hypnotism in the middle of the nineteenth century and for a time professor of medical jurisprudence in the Castleton (Vt.) Medical College, died at Evanston, September 28, aged 96.

Sanitary Inspection of Illinois Cities.—During the past week Dr. E. F. Baker, inspector for the State Board of Health, has made an inspecton of Taylorville, Pana, Shelbyville, Carlinville, Carrollton, Petersburg, Havana, and Mattoon. The sanitary condition of all these cities is reported as good. A few cases of scarlet fever were found in and near Taylorville, and two cases of diphtheria at Pana, with one death. Havana is free from smallpox after a year's prevalence.

Examination of National Guard Medical Officers.—On September 26 a board consisting of Surgeon-General N. Senn, Assistant Surgeon-General G. Paull Marquis and Major Charles Adams held the first examination of candidates for commissions in the medical department of the National Guard, under the new military code. The examination was held in the Senn Hall, Rush Medical College, and six candidates appeared, four of whom were physicians, one a veterinary surgeon, and one a dentist. Examinations will be held semi-annually hereafter.

Chicago.

Personal.—Dr. Oel S. Misick has given up practice and will engage in banking business in Missoula, Mont.——Dr. V. Pleth has returned from abroad.

Poor Milk Prosecutions.—For selling milk below grade, nineteen dealers were fined from one to twenty dollars each, on October 1, by Justice Gibbons.

Health Department Changes.—Dr. William K. Jaques, head of the municipal laboratory, has resigned, and Dr. F. Eldridge Wynekoop, assistant superintendent, is temporarily in charge of the laboratory.

Hospital Opened.—The Victoria Memorial Hospital and Training School, which occupies the old home of ex-Mayor Swift, on Loomis street, was opened with an address by Dr. Ezekiel P. Murdock, October 2.

September Suicides.—Of the 54 deaths by suicide in September, 16 were caused by carbolic acid, 9 by gunshot wounds, 7 by gas asphyxiation, 6 by opium, 4 by cutting throat, 3 each by hanging, and undetermined poisons, 2 by paris green, and one each by chloroform, formaldehyd, hydrocyanic acid and burning.

Rush College Commencement.—At the quarterly convocation, held October 5, twenty-two were graduated from Rush Medical College (Medical Department, Chicago University). The address was delivered by Prof. L. Sherrington of Liverpool, England, his subject being "Localization of Cerebral Centers in the Ape." The lecture was illustrated by lantern slides.

Illinois Medical College Commencement.—On September 30 a class of 42 was graduated from the Illinois Medical College. The doctorate address was delivered by Hon. Edmund W. Burke; Dr. William C. Sanford, secretary, read the annual report; the dean, Dr. B. Brindley Eads, made the announcement of the graduating class, and the president, Dr. Heman H. Brown, conferred the degrees.

IOWA.

Personal.—Dr. Alvin B. Poore, Cedar Rapids, has returned from Europe.

Coming Examination.—The next examination of physicians will be held in the Capitol building, Des Moines, October 21 and 22.

Osteopaths Want Office.—A petition with five thousand signatures has been laid before the governor, asking that he appoint an osteopath as a member of the State Board of Health.

Infectious Diseases.—During August outbreaks of diphtheria occurred at Des Moines, of scarlet fever at Des Moines and Lost Nation, and of smallpox at Webster City, Massillon Township, Vandalia, Cascade, Runnells, Des Moines Township and Perry Township.

Medicine Sample Distribution Prohibited.—The City Council of Iowa City has passed a resolution making it a criminal offense punishable by fine to distribute broadcast samples of medicine. This action has been taken because a number of children have been made ill by eating or drinking samples of medicine thrown into dooryards by patent medicine men.

KENTUCKY.

Regret Dr. Lewis' Death.—At the meeting of the Daviess County Medical Society at Owensboro, September 15, resolutions were adopted respecting the death of Dr. Charles C. Lewis, Owensboro.

Louisville's Smallpox Record.—During the fiscal year just closed St. John's Eruptive Hospital, Louisville, admitted 1,105 smallpox patients. Of these 16 died, ten from smallpox, two from nephritis, and the others from gastroenteritis, pneumonia and heart disease.

Regulation of College Fees.—Since the catalogue of the Louisville Medical College was sent out the Kentucky State Board of Health has adopted regulations as to fees, etc., to which all medical schools must conform. In conformity to these regulations the dean, Dr. Clinton W. Kelly, announces that the fees of the college will not be less than $55 to any student for the session of 1903-1904.

To Test Status of a So-Called Charitable Institution.—In the fall of 1902 the John N. Norton Memorial Infirmary was sued for damages by a former charity patient who had undergone an operation and who, while under the influence of the anesthetic, was burned by the contact of a hot water bag. The attorneys for the institution, in answering the plaintiff's petition, pleaded that the Norton Infirmary was a charitable institution, and could not, under the laws, be held liable for damages. The plaintiff's attorneys deny that the infirmary is strictly charitable, and allege that it is conducted, at least indirectly, for compensation. Judge Gordon holds that if it is a charitable institution, it is not liable for damages to the plaintiff. The case will go to trial to decide on the character of the institution. This point has never been settled in Kentucky regarding an institution of that character.

Louisville City Hospital Troubles.—Superintendent Dr. Ellis Duncan and Superintendent of Nurses Miss Alice M. Gaggs have been summarily dismissed by the Board of Public Safety. On the return of Miss Gaggs from her annual vacation she found a scandal developed because of alleged immoral conduct on the part of two nurses and three orderlies at the hospital. After an investigation, in which Miss Gaggs asserts the charges were substantiated, the two nurses were discharged. Her action was sustained by Dr. Duncan. The nurses appealed to the Board of Public Safety and were reinstated, but the orderlies were dismissed. Miss Gaggs requested an investigation, which was refused, and without notice she was removed. Dr. Duncan's removal soon followed. Dr. George Jenkins, former secretary of the hospital, is temporarily in charge, and Miss Ziegler, a graduate of the hospital training school, has been appointed superintendent of nurses. At a conference held October 2 it was practically decided that changes in the management of the hospital will be made within thirty days. The deans of the six medical colleges in the city were present and agreed with the mayor and Board of Public Safety that it would be best to have a business man in charge of the hospital, the medical department being in charge of a house surgeon, who will have nothing to do with the business end. He will probably be chosen from the staff of internes, who will be appointed as at present, from the medical colleges.

MARYLAND.

Baltimore.

Bosley Reappointed.—On September 29 Dr. James Bosley was reappointed health commissioner at a salary of $3,000.

Vital Statistics.—During September there were 707 deaths and 767 births in the city. Of the deaths 28 were from typhoid fever, which, with diphtheria and scarlet fever, constituted the chief infectious diseases.

Personal.—Dr. Eugene F. Cordell fell down a stairway, September 28, and was severely injured.——Dr. Jackson Piper has gone to Atlantic City to spend several weeks.——Dr. T. Casper Gilchrist has returned from Europe.

Tuberculosis Exposition.—In connection with the meeting on tuberculosis to be held here in January next there will be

an exposition of appliances for combating infection and promoting cure and a series of popular lectures will be given.

The Herter Lectures.—The Christian A. Herter lecture, the first of the series established by Dr. and Mrs. Herter of New York City a year ago, was delivered by Dr. Herter at Johns Hopkins Physiological Laboratory, October 6, on "The Work of Pasteur."

The New College Year.—The Woman's Medical College opened October 1 with an address by Rev. Donald Guthrie, D.D. ——At the College of Physicians and Surgeons the address was by Dr. Geo. W. Dobbin on "The History of American Obstetrics."——That at the Maryland Medical College was by Dr. Alexander D. McConachie.——At Baltimore University Dr. A. Miller Reid was the speaker.——There was no formal opening at the University of Maryland.

MASSACHUSETTS.

Lynn Prepared for Emergencies.—The new smallpox hospital located near the contagious disease hospital on the outskirts of Lynn is almost ready to receive patients.

Osteopath Fined.—Everett P. Clisby, an osteopath of New Bedford, was fined $200, September 26, for practicing medicine without a license. He appealed and was held in bonds of $500. His defense was that by the title "doctor" he never meant anything but doctor of osteopathy.

Shot and Sandbagged, But Still Fights.—Dr. Frank Sanft, Roxbury, while returning from a professional call, was attacked by a footpad, sandbagged, and as he still resisted, shot through the foot. Notwithstanding his injuries Dr. Sanft was successful in fighting off his assailant.

Personal.—Dr. T. Adolf Jones, Boston, has been appointed professor of pathology and clinical microscopy at Flint Medical College, New Orleans.——Dr. Charles H. Richardson, Pittsfield, has been made a member of the surgical staff of the House of Mercy in that city.——Dr. Walter S. Carr, North Adams, has been compelled to give up practice on account of ill health, and will move to Colorado.

MICHIGAN.

Physician Fined for Delay.—Dr. William J. Hare, Detroit, was fined $5 by Judge Frazer, September 5, for failing promptly to respond to a subpena.

Crippled, But Continues Practice.—Dr. Isaac L. Polozker, Detroit, county physician, slipped while alighting from a car and fell, fracturing his left arm near the shoulder. After the arm was reset and a dressing applied, Dr. Polozker went pluckily to work.

Colleges Open.—Grand Rapids Medical College opened October 1 in its new buildings. The faculty has been increased as follows: Dr. William De Lano, lecturer on hygiene and sanitary science; Dr. Thomas C. Irwin, physical diagnosis; Dr. Lotan C. Read, dermatology; Miss Clara Nichols, general chemistry, and Dr. Joseph A. Heasley, nose and throat.—Michigan College of Medicine, Detroit, opened for the year, September 29. Addresses were made by Drs. William A. Hackett, Hal C. Wyman, and Dayton Parker, Detroit, and Dr. Alonzo B. Cornell, Kalamazoo.

PENNSYLVANIA.

Philadelphia.

Jewish Hospital Dedication.—On Sunday, October 4, an immense crowd attended the dedication of the three new buildings of the Jewish Hospital.

New Site for College.—Ground for a new building has been secured by the College of Physicians at the corner of Twenty-second and Locust streets.

Toy-Pistol Dealers Indicted.—Indictments against three retail dealers were recently returned by the grand jury on the charge of selling toy pistols to minors. Indictments were also returned against two wholesale dealers charging them with supplying the pistols to retailers. The action was prompted by the many cases of tetanus recently caused by pistol injuries.

The City's Health.—The records show that, for the week ended October 3, only two new cases of smallpox occurred. Typhoid fever still continues to a considerable extent, there being 76 new cases within the week, 5 fewer than for the previous week. Diphtheria and scarlet fever persist, there being for the week 60 new cases of the former and 70 of the latter disease.

Clinical Lecturers Selected.—The following have been selected to give the clinical lectures at the Philadelphia Hospital the coming fall and winter: Medical—Drs. Roland G. Curtin, S. Solis-Cohen, John H. Musser and William E. Hughes; surgical—Drs. W. Joseph Hearn and Dr. Orville Horwitz; neurologic—Dr. Charles K. Mills; laryngologic—Drs. R. B. Gleason and G. Morely Marshall; orthopedic—Dr. H. Augustus Wilson; dermatologic—Dr. Henry W. Stelwagon; pediatric—Drs. W. C. Hollopeter and J. Madison Taylor; Röentgen-ray therapeutics —Dr. M. Kassabian.

Pure Food Crusade.—What may be considered an important move in the crusade against the manufacture and sale of impure foodstuffs was recently marked in a suit begun by a retail dealer against a manufacturer of lard. The plaintiff seeks to recover $5,000 damages for injury to her business reputation. The retailer had previously been arrested on the charge of selling adulterated lard, which had been represented by the wholesale dealer as pure, but which, on analysis, was found to contain cottonseed oil and other adulterants. It is said that a number of brewers, distillers and dealers in spirituous liquors, who are to answer to the charge of manufacturing and selling adulterated wares, are to offer the defense that beer and other beverages are not food, and that, therefore, the law of 1895 does not apply to them. It is believed that such a defense will be unavailing, for, if the act cited should not cover the cases, Dairy and Food Commissioner Warren has recourse to two other earlier statutes specifically applying to the adulteration of malt and spirituous liquors. The penalty for the violation of the last-mentioned acts is specific and heavier than for that of the former.

GENERAL.

Navy Medical School Opens.—On October 1 the second session of the Navy Medical School opened in Washington with a class of 26.

Yellow Fever in Texas.—In Laredo, Texas, 37 cases of yellow fever are reported, and 16 of these had been, up to September 29, declared genuine. The situation in Mexico is not reported as particularly changed.

CANADA.

The Unified Toronto University.—The official opening of the new medical building and laboratories of Toronto University occurred October 1, marking the union of the faculties of Trinity and Toronto, old rivals for many years, but now strongly cemented into one, which henceforth will mark Toronto as a medical center of the first rank. The opening address was delivered by Professor Sherrington of Liverpool, President Loudon of the university presiding. The University of McGill was represented by Prof. T. G. Roddick, M.P., and Professor Adami; Queen's University, Kingston, by the Hon. Dr. Sullivan; Johns Hopkins by Profs. W. H. Welch and William Osler; Yale by Prof. R. H. Chittenden; Jefferson by Prof. W. W. Keen; Chicago by Prof. Lewellys Barker; the University of Buffalo by Roswell Park; the University of Michigan by Professor McMurrich, he and Dr. Barker being graduates of Toronto University; Harvard by Prof. Townsend Porter, and the University of Pennsylvania by Prof. A. C. Abbott. According to Professor Sherrington three kinds of workers must stand side by side in order that society may draw due benefit from wells of natural knowledge. First, there is the investigator, the fountain-head of the knowledge that is for distribution. After the investigator comes the teacher to whom it belongs to diffuse the knowledge; and third, there is the applier of natural knowledge. There is a new era dawning when the local university as an institution will be entitled to support from the public means. Professor Sherrington closed a very able address by saying: "So shall these laboratories prove a cornerstone for the upbuilding of a temple of knowledge, and a touchstone for the best ore of intellect within the bounds of this great land." At the close of the able lecture by Professor Sherrington, Professor Loudon called on each of the representatives from sister institutions, commencing with Professor Welch, who one and all expressed their appreciation of being present on such an auspicious occasion, and wishing the new medical faculty godspeed. In the evening in the gymnasium Professor Osler delivered the annual opening address to the students. Although he did not particularly believe in these opening addresses, he was very pleased to be the recipient of the honor on the present occasion. Like Professor Sherrington, he paid a high tribute to the work of Prof. A. B. McCallum of the department of physiology, whom, he stated, had won for himself a world-wide fame by his intricate studies. It was not too much to hope that London and Queen's would affiliate with the University of Toronto. Dr. Osler is a pronounced enemy of worry and warns against taking any thought of the

morrow. At the close of this lecture short addresses were delivered by the dean, Dr. Reeve, and by Dr. J. A. Temple, formerly dean of Trinity Medical College. Dr. Temple stated that after turning out prominent medical men the world over for twenty-eight years, he, like his confrères, did not like too well the thought of amalgamation, but believing it for the best interest of the profession in Toronto and the province of Ontario, they would do all in their power to uphold and advance that interest. Special convocation was held October 2, at which the following distinguished visitors received the honorary degree of LL.D. from the university: William Williams Keen, Philadelphia; William Henry Welch, Baltimore; William Osler, Baltimore; Russell Henry Chittenden, Yale University; Charles S. Sherrington, University of Liverpool; Henry Pickering Bowditch, Harvard University (*in absentia*). In the evening in the university the faculty of medicine tendered the visiting gentlemen a banquet, one of the principal speeches of the evening being delivered by Mr. Alfred Moseley, C.M.G., chairman of the educational commission which is shortly to visit the United States and Canada. Special addresses were also delivered to the students in the two large lecture rooms by Professors Barker, Abbott and Adami.

FOREIGN.

Anti-Alcohol Circular.—The Prussian government has issued an anti-alcohol circular similar to the one on tuberculosis for widespread, gratuitous circulation.

Plague Continues in China.—Both plague and cholera are said to be more serious than before reported near Tien Tsin, China. Foreign military authorities are coöperating in the quarantine of Peptang, a city on the Gulf of Chili, where bubonic plague is very prevalent.

Insurance of Physicians During Epidemics.—The government of a Caucasian province in which typhoid fever is endemic has insured the lives of all the physicians in the district against the fever. The 14 physicians are insured for more than $5,000 each; 2 students for half this sum, and 21 health officers for about $2,000 each.

Industrial Contagion of Syphilis.—The French courts recently decided a case admitting that an employer is responsible for damages in case of the transmission of syphilis by the intermediation of a professional instrument. In the case before the court, a glassblower claimed that he had been infected by the tube passed from hand to hand, but the evidence was not conclusive, and his claim was not allowed.

Consumptives on Mont Blanc.—Dr. Kuss, superintendent of the great public Angicourt sanatorium near Paris, has accompanied a number of tuberculous patients to the Vallot observatory near the summit of Mont Blanc. They expected to stay a week or two for physiologic tests and to determine whether rarefied air is of benefit to consumptives. Dr. R. Bayeux is there also, continuing Hénocque's studies on hematoscopy.

The Plague Epidemic at Marseilles.—Later reports state that no less than 29 workmen employed in the paper factory at Marseilles presented symptoms suggesting the pulmonary form of plague. They had been handling rags imported from Constantinople and dead rats had been found in the bales. Six deaths have occurred, but the energetic measures at once adopted seem to have arrested the epidemic, and the quarantined employes have been released. The factory was burned and all employed about the place were carried to a quarantine station. Two of the nurses tending the plague patients contracted the disease.

LONDON LETTER.

The Etiology of Sleeping Sickness.

The etiology of sleeping sickness or negro lethargy has of late received much attention. Its peculiar geographical distribution—between the valleys of the Senegal on the north and the Congo on the south—suggests a local cause. It has never been known outside this area. But the disease may develop years after leaving the endemic area. A commission of investigation was sent out to Uganda by the Royal Society in 1902. One of the members, Dr. Castellani, reported that in examining the cerebrospinal fluid obtained by lumbar puncture in a well-marked case he found a living trypanosoma. In further investigations he found the organism in 70 per cent. of the cases. As a working hypothesis he suggested that sleeping sickness is due to the trypanosoma and that in the last stages there is concomitant streptococcus infection. Another commission consisting of Lieut.-Col. Bruce, F.R.S., and Dr. Nabarro was then despatched. They arrived in Uganda on March 16, and have now made a "progress report." They adopted Dr. Castellani's method of examination. Ten c.c. of cerebrospinal fluid removed by lumbar puncture were centrifuged. The sediment was examined under the microscope. The trypanosomes were never very numerous (in some cases only one was found in several slides), but they were found in every one of 40 cases examined and at all stages of the disease. The cerebrospinal fluid of the general population was found not to contain trypanosomes. It was also shown that the parasites were present in the blood of all the patients suffering from the disease. The suggestion has been made that the trypanosomes are conveyed by some biting insect. Experiments show that the Uganda tsetse fly can carry the trypanosoma from animal to animal.

Roman Catholicism and Leprosy; Leprosy in Colombia.

In maintaining the fish hypothesis of leprosy Mr. Jonathan Hutchinson has often adduced facts tending to show that the fast days of the Roman church are in many parts of the world conducive to the spread of the disease. In a recent letter to the *Times* he makes a strong point out of the prevalence of the disease in Colombia. Here the earliest Spanish settlements were made, and, according to tradition, the first cases of leprosy on the American continent occurred. The disease is now frightfully prevalent there, much more prevalent than in India, which has been described as "the land of the leper." In Catholic Colombia where the consumption of fish receives a stimulus from religious ritual there are 70 lepers per 10,000. In India where large sections of the population have a prejudice against fish there are only 6 lepers per 10,000. Mr. Hutchinson asks what explanation those who believe that leprosy spreads by contagion have to offer. The Colombians do not expose themselves to the risk of contagion more than the Hindus, and during the last 30 years more energetic measures of segregation have been enforced in the former country. Further, the great prevalence of the disease in Colombia corresponds to the condition of fish supply. In many inland districts the natural supply of fish is deficient. Here, as in mid-Europe of the middle ages, an artificial demand creates a supply in bad condition. Moreover, fast days occur all through the year, during many months of which fresh fish may be out of season and not obtainable.

The Plague in India: The Rising Epidemic.

During the last week of August the mortality from plague has much increased in the Bombay Presidency, the deaths rising from 2,838 to 5,568. In Central India there has been an increase from 131 to 331 and in Mysore from 331 to 535. In the whole of India the mortality has risen from 3,613 to 6,817.

Correspondence.

Postmortems.

CHICAGO, Sept. 29, 1903.

To the Editor:—Referring to your editorial of September 5, on "Compulsory Postmortems," it seems to me worth while to emphasize the fact that permission for postmortems can frequently, if not usually, be obtained if the friends are duly considered and properly approached. It would certainly be a salutory custom from the layman's point of view if it were traditional to hold postmortems on all the dead, especially if the physicians in charge were expected by custom to write their colleagues to be present. The wholesome effect that this "facing the music" has in hospital life in calling forth every known diagnostic effort, and leading to due appreciation of responsibility because of the fear of criticism at the morgue table by one's colleagues, is well known to all who have been internes. If the layman fully understood the inward significance of the phrase "Dead men tell no tales" autopsies would be much more general than they are, and, incidentally, I see no reason why some lay representative of the family should not be present if it were so desired.

From the general practitioner's point of view there is no need to make postmortems on such as die after a typically defined course of some well-known disease, as such pathology may be seen every day in the larger hospitals, but sometimes the diagnosis remains obscure to the end or ill-defined complications arise that the truly scientific physician would like cleared up if possible. He is often able by the exercise of a judicious finesse to make a fairly complete autopsy through a four or

five inch incision made between the ensiform and the umbilicus. If the physician has the tact and takes the trouble to explain how very small the incision will be, that it will be neatly closed with white silk—untidy work on the dead is a desecration unworthy a physician—that all organs will be replaced if desired, that nothing but the abdominal wall will be cut when this can be promised, that the family will be welcome at the autopsy if this be practicable, as it sometimes will, and that the embalmer may do his work at the same time, then it will be found that many autopsies may be secured that are lost by neglecting to remove the belief that it is necessarily an extensive mutilation, leaving many visible marks. Where the brain is concerned a cleanly worker can promise that the incision will be entirely hidden by the hair and no evidence of the examination be noticeable. JAMES W. WALKER, M.D.

A Universal Practitioner's License.

LOS ANGELES, CAL., Sept. 4, 1903.

To the Editor:—In THE JOURNAL, August 29, p. 568, among the unsuccessful candidates in the Tennessee reports of registration, candidate 54, a graduate of the College of Physicians and Surgeons, Baltimore, class of 1876, failed with a per cent. of 70. This fact substantiates the remarks of Dr. T. A. Borton in his article "The Turning Down of the Old Practitioner" published in THE JOURNAL, August 22, p. 505, with the exception that here the other unsuccessful candidates were nearly all recent graduates. Not knowing the questions asked and judging from the markings alone, I have nothing to say against this particular examining board; but I would like to have the following remarks reach those members of the profession who have more influence and power than has the average general practitioner. Something more is needed than a higher curriculum for the elevation of the profession, something that will make the American public respect the well learned doctor and not the well-to-do "Dock," as Dr. W. E. Quine classified them in one of his eloquent speeches. Any school with the best facilities and longest course in this country or abroad furnishes only the key to knowledge. Many of the best teachers in medicine to-day did not know the difference between an acid and an alkali at the time of their graduation years ago. The majority of successful practitioners, who were good students ten years ago, would not be able to pass a technical examination to-day with a higher per cent. than 60, and I do not think it right to make the old practitioner suffer for the pre-existing laxity of the laws in any shape or manner, and all these different board examinations in the eyes of the public, prove to be a lack of self-confidence somewhere, by not recognizing the credentials of a reputable medical college from one state to another. The more privileges there are granted to improve the condition of the general practitioner, the more encouragement there will be for progressive study and investigation, and the fewer there will be of those who resort to quackery, criminal operations, fraudulent certificates and unethical conduct toward one another for the sake of the dollar. To remedy this, or at least the greater part of it, I beg to suggest the following rough sketch:

The American Medical Association shall elect one member in each state for the term of one year. These gentlemen shall constitute the Medical Council of the United States. Their aim shall be to elevate or to better the educational, moral and material condition of the American practitioner. They shall hold regular conventions at least twice a year. At their first convention they shall at once declare all those colleges which are now members in good standing in the Association of American Medical Colleges entitled to grant an interstate certificate to each of their graduates, after passing a satisfactory examination under the state board of examiners, in which the state member of the council shall act as chairman at the time of the examination, and on the same principles conducted now by the different boards. This interstate certificate shall entitle the holder to practice medicine and surgery all over the Union, or, at least, in those states that will hold membership for reciprocity in the Medical Council at that time. Those states that will join the Medical Council later on will have to open their doors to the same candidates that passed the council's examination before their membership began.

This council shall also issue an interstate certificate to every old practitioner in good standing and holding a state license who is a member of the United States Medical Council, without an examination.

This council shall have judiciary power to decide on questions arising from time to time in the different states and relating to medical colleges, state board examinations, state medical societies and all other interests in the general welfare of the profession at large. The decision of the council in every case shall be final.

Considering the advance in surgery made by American surgeons, I am sure that foreign countries will seek reciprocity with the United States in the near future.

423 California Street. S. B. LYON, M.D.

State Boards of Registration.

American Confederation of Reciprocating, Examining and Licensing Medical Boards.—A meeting of this body is called at the Southern Hotel, St. Louis, for October 27. An invitation is extended to all licensing boards to be represented at the meeting. The secretary of the confederation is Dr. B. H. Harison, Sault Ste. Marie, Mich.

Preliminary Examinations.—A committee of the Michigan State Board of Registration in Medicine met at Detroit to look into the work being done by the different medical colleges of that city. The committee formulated a standard for the admission of students to the medical colleges of the state. The law requires that matriculants must at least be graduates of high schools having a classical course. Those who are not will have to pass an examination.

Marriages.

EMIL C. BECKER, M.D., to Miss Ida Grace Beal, both of Chicago, September 16.

EDWARD HICKS HUME, M.D., to Miss Lotta Carswell, both of Baltimore, September 24.

LOUIS P. HAMBURGER, M.D., to Miss Freda Cohn, both of Baltimore, September 20.

HENRY MAYNADIER FITZHUGH, M.D., to Miss Mary Aldridge, both of Baltimore, September 23.

ADELBERT H. BENSON, M.D., Faxon, Okla., to Miss Ella M. Rahnapop of Chicago, September 23.

J. M. BIEDLER, M.D., Bridgewater, Va., to Miss Ina E. Long, Shenandoah County, Va., September 16.

FREDERICK WILLIAM PARKER, M.D., to Miss Grace Elizabeth Peabody, both of Chicago, September 23.

BENJAMIN R. PARKE, M.D., Wellsville, Ohio, to Miss Roberta Reynolds of Buffalo, N. Y., September 23.

EUGENE GATES, M.D., Two Rivers, Wis., to Miss Gertrude Cordelia Marsh of Chicago, September 17.

HENRY E. HASKINS, M.D., Kingman, Kan., to Miss Bertha B. Knappenberger of Penalosa, Kan., September 20.

DANIEL F. ROYER, M.D., Orange, Cal., to Mrs. Hettie Wilbur of Los Angeles, at Kingman, Ariz., September 16.

ARTHUR N. MCKEEVER, M.D., Romney, W. Va., to Miss Katherine Keller, at Frostburg, Md., September 23.

HARVEY GRANT BECK, M.D., Baltimore, to Miss Katherine Elizabeth Clagett, at Blairsville, Pa., September 23.

SIMON FLEXNER, M.D., New York City, to Miss Helen Whitall Thomas, at Bryn Mawr College, Pa., September 17.

WILLIAM VAN VALZAH HAYES, M.D., New York City, to Miss Mary Coulbourne Conner of Altoona, Pa., September 9.

MERIWEATHER LEWIS ANDERSON, M.D., of Albemarle County, Va., to Miss Annie Tatum, at Richmond, Va., September 23.

Deaths.

Calvin Skinner, M.D. Dartmouth Medical College, Hanover, N. H., 1841, surgeon of the One Hundred and Sixth New York Volunteers in the Civil War, some-time president of the Northern New York Medical Society and the Franklin County, N. Y., Medical Society, died at his home in Malone, N. Y., September 24, aged 85.

John M. Allen, M.D. University of Vermont, Burlington, 1890, a member of the American Medical Association, surgeon to Brightlook and St. Johnsbury hospitals, member of the Vermont State Medical Society, who was injured in an automobile accident, September 17, died at his home in St. Johnsbury, Vt., September 18.

J. B. Winn, M.D., of Macon, Mo., in whose honor the Macon County Medical Association gave a banquet a few years ago, the oldest physician in Northern Missouri, died at the home of his daughter in Kirkwood, Mo., September 23, aged 88.

Daniel B. Howard, M.D. Albany (N. Y.) Medical College, 1865, ex-president of the Warren County Medical Society, died suddenly at his home in Warrensburg, N. Y., September 21, from neuralgia of the heart, aged 62.

George Doughton, M.D. College of Physicians and Surgeons, Baltimore, Md., 1884, of North Wilkesboro, N. C., died at the University Hospital, Baltimore, September 24, after an operation for cancer of the neck, aged 38.

Frederick J. Halton, M.D. Long Island College Hospital, Brooklyn, 1883, after a long invalidism from rheumatism, died at his home in Brooklyn, N. Y., September 24, from valvular heart disease, aged 45.

Stephen Terry Biggers, M.D. Southern Botanico-Medical College, Macon, Ga., 1835, a pioneer of Atlanta, Ga., died at Cornelia, Ga., September 21, from pleurisy, after an illness of twelve days, aged 92.

George W. Crider, M.D. Medical College of Indiana, Indianapolis, 1879, of Buck Creek, Ind., died at the Home Hospital, Lafayette, Ind., September 21, from heart disease, after a long illness, aged 68.

Samuel T. Dodd, M.D. Western Reserve University, Cleveland, Ohio, 1867, died at his home in East Palestine, Ohio, September 22, from heart disease, after a lingering illness, aged 68.

Margaret Eleanor Peery, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1897, of Monticello, Iowa, died at Butte, Montana, from acute pleurisy, September 19, aged 47.

William E. Naughton, M.D. Long Island College Hospital, Brooklyn, 1896, died at his home in Brooklyn, N. Y., September 23, from pneumonia, after an illness of one week, aged 29.

Robert H. Gordon, M.D., quarantine officer of Norfolk, Va., during the yellow fever epidemic of 1855, died suddenly at his home in that city, September 22, from apoplexy, aged 77.

Lincoln A. Stewart, M.D. Boston University School of Medicine, 1895, of Clinton, Mass., was drowned in the Penobscot River, near West Brookville, Me., September 20, aged 55.

Ernest W. Spinney, M.D. Chicago Homeopathic Medical College, 1896, died at his home in Reed City, Mich., September 22, from appendicitis, after a short illness, aged 35.

James A. Johns, M.D. Medical College of the State of South Carolina, Charleston, died suddenly at his home near Westminster, Ga., September 11, from paralysis, aged 71.

Joseph L. Hagerty, M.D. Rush Medical College, Chicago, 1870, died at his home in Topeka, Kan., September 24, after a long illness due to exposure during the recent flood.

George W. Colby, M.D. National Medical College, Washington, D. C., 1869, for more than 35 years a practitioner of Sutton, Vt., died at his home in that place, September 13.

Edward C. Swift, M.D. University of Pennsylvania, Philadelphia, 1868, died at his home in Easton, Pa., September 23, after an invalidism of nine years, aged 60.

William C. Wells, M.D., resident physician at the Reed City (Mich.) Sanitarium, died suddenly at the institution, September 19, from apoplexy, aged 70.

John T. Sankey, M.D. University of Pennsylvania, Philadelphia, 1847, died at his home in Tharin, Ala., September 18, after a protracted illness, aged 77.

E. G. W. Simpson, M.D. McGill University, Montreal, 1901, died at his home in Lennoxville, Que., September 23, from typhoid fever, aged 27.

Henry C. Sheppard, M.D. Hahnemann Medical College, Philadelphia, 1878, died at his home in Germantown, Philadelphia, September 23, aged 63.

Auburn C. Henry, M.D. Memphis Medical College, 1859, died suddenly from heart disease at his home in Woodlawn, Ala., September 24, aged 60.

Orsemas Deremo, M.D., an eclectic physician of Elon, Iowa, died at his home in Center Township, September 20, after a long illness, aged 78.

Mary A. Boyd, M.D. Hahnemann Medical College, Chicago, 1886, died suddenly at her home in Los Angeles, Cal., September 21, aged 62.

John Person, M.D., died at his home in Fremont, N. C., September 18, aged about 75.

Lucius C. Coke, M.D. Medical College of Virginia, Richmond, 1859, died at his home near Palmyra, N. C., September 10, aged about 70.

Jedediah T. French, M.D., 1840, of Knoxville, Iowa, died at the home of his daughter in Hutchinson, Kan., September 23, aged 80.

William P. Rothrock, M.D. Jefferson Medical College, Philadelphia, 1842, died at his home in Floral, Kan., September 13, aged 83.

Miscellany.

The Union of the Profession in New York.—The following correspondence and action make it look very promising for an amalgamation of the two organizations in New York:

SYRACUSE, N. Y., May 28, 1903.

Dr. F. H. Wiggin,
President of the New York State Medical Association.

My Dear Doctor:—At the last meeting of the Medical Society of the State of New York the committee on conference appointed to confer with a similar committee of the New York State Medical Association, after making its report, was continued and instructed to await the action of the American Medical Association at New Orleans before considering further the methods of amalgamating the regular profession of the State of New York.

At a recent meeting of the American Medical Association radical action was taken removing the obstacle which prevented unification. Appreciating the fact that no further barrier stands in the way of unifying the profession of the State of New York into a single state society, the committee representing the Medical Society of the State of New York would respectfully ask the New York State Medical Association that further conference with its representatives be arranged, with the object of speedily settling on a definite plan which shall form the basis for amalgamation of the two existing bodies. In making this request the committee representing the Medical Society of the State of New York assures the association of its earnest desire to increase the influence of the state profession by the action suggested; that it would further state to that body that it is ready to suggest to he Medical Society of the State of New York that it amend its charter to continue, consolidate and amend Chapter 138 of the Laws of 1806, Chapter 94 of the Laws of 1813 and Chapter 452 of the Laws of 1900 for the purpose of cultivating and advancing the science of medicine, the promotion and protection of public health, and the establishment of a death benefit fund for the dependents of the members of the Medical Society of the State of New York. That it feels justified still further in assuring the association that it will recommend to the state society the method of organization founded on the plan suggested by the American Medical Association and considered by the joint conference when in session in April, 1902, and that all other matters of detail which must be considered before final action can be taken by the respective societies must, of necessity, become subjects for conference.

The committee asks for careful deliberation in conference, that both the society and the association may in the near future be able to present completed and satisfactory plans to the state bodies for ratification. Respectfully,

(Signed) Henry L. Elsner, chairman; A. Jacobi, A. Vander Veer, George R. Fowler, committee.

NEW YORK, June 10, 1903.

Dr. Henry L. Elsner,
Chairman Committee on Conference,
Medical Society of the State of New York,
Syracuse, N. Y.

My Dear Doctor:—I have received your communication of the 28th requesting the appointment by our association of a committee to confer with your committee relative to plans for uniting our state bodies, signed by yourself, Drs. A. Jacobi, A. Vander Veer and George R. Fowler, and I shall take pleasure in presenting it to our council at the earliest practicable moment for consideration and such action as they may see fit to take on it, as, under our constitution and by-laws, matters of importance are so referred.

Respectfully yours,
(Signed) Frederick Holme Wiggin, president.

In pursuance to the above a special meeting of the Council and Fellows of the New York State Medical Association was held in the New York Academy of Medicine, at which there were 70 present. After reading the above correspondence the following preamble and resolutions were offered by Dr. Joseph D. Bryant and were unanimously adopted:

WHEREAS, The members of the New York State Medical Association desire a union of the medical profession in the State of New York, and

WHEREAS, It is deemed expedient, for the attainment of this purpose, to make further effort to bring together the New York State Medical Association and the Medical Society of the State of New York under the name of "The Medical Society of the State of New York."

Resolved, That a committee of five be appointed by the chair, and said committee is hereby empowered to do whatever is necessary and expedient to bring about such a union in a just and equitable manner, and

Resolved, That the committee so empowered may confer, cooperate and unite with a committee of the Medical Society of the State of New York for the purpose of forming said union of the two medical organizations, and

Resolved, That a copy of these resolutions be transmitted to the secretary of the Medical Society of the State of New York, with a request that their conference committee be granted similar powers.

The following committee was appointed: Drs. E. Eliot Harris, chairman, Julius C. Bierwirth, Alexander Lambert, Parker Syms, and Wisner R. Townsend.

Bearing on this matter is the action of the committees appointed by the Cortland County Medical Society and Cortland County Medical Association, held September 4, when the following resolution was adopted:

WHEREAS, About 35 or 40 per cent. of the members of the Cortland County Medical Society are members of both the society and association,

Resolved, That we believe that we express the sentiment of nearly all the profession of the county in the desire for the harmonious union of the two medical organizations of the state, since we believe our influence and power in the state in obtaining medical legislation and preventing the enactment of harmful laws, would be greatly enhanced thereby, and we recommend that all proper measures be taken to bring about this end.

The committee for the Cortland County Medical Society consisted of Drs. F. W. Higgins, H. T. Dana and J. W. Whitney.

The committee for the Cortland County Medical Association consisted of Drs. S. J. Sornberger, C. D. Ver Nooy, and F. D. Reese.

Book Notices.

CONSUMPTION A CURABLE AND PREVENTABLE DISEASE. What a Layman Should Know About It. By Lawrence F. Flick, M.D., Founder of the Pennsylvania Society for the Prevention of Tuberculosis. Cloth. Pp. 295. Price, $1.00. Philadelphia: David McKay. 1903.

This little volume is, as its title indicates, an attempt to instruct the laity in regard to this disease of which the public as well as the profession have of late years heard so much. There has been an immense amount of literature and a considerable amount of misconception on the subject. This work is intended to correct the latter and to give a fair and unexaggerated view of the disorder and its prevalence. It is a little difficult to steer clear of the popular and professional tuberculophobia on the one hand and of too great laxity as regards the real peril of the disease on the other. On the whole we think Dr. Flick has taken a judicious middle course. Any one who reads his book through ought to have at its close a fairly well-balanced mind as regards the dangers and the possibilities of tuberculosis. Reading a special chapter alone would not be sufficient. Dr. Flick evidently takes the view that there is a decided difference between bovine and human tuberculosis and that the dangers of ingestion of tubercle bacilli in meat and milk are not by any means as great as held by some authors. We would not say, however, that he encourages an absolute lack of precautions in this respect. The point he makes is that the experiments that have been made have been persistent, animals have been continuously fed on tubercles and every possibility for the contraction of the disease has been employed, whereas in the ordinary use of meat and milk as done by the human species in the ordinary course of life, the conditions are quite different. He says that perhaps the strongest argument that may be advanced against the view that meat and milk are sources of the seed supplied for human tuberculosis is found in clinical experience. No indisputable case in which human tuberculosis has been thus contracted has been put on record. Of course, this is a matter of individual judgment, but we ourselves doubt whether any of the reported cases will stand a searching criticism if other possibilities of infection were thoroughly excluded. The book is very neatly gotten up, nicely printed, of convenient size and should do good.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. With 394 Text Illustrations, Many in Colors, and 7 Full-page Colored Plates. Cloth. Pp. 933. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

This work appeared first in September, 1898. The favor with which it has been received by the profession is well shown by the fact that it has reached its fourth edition in less than five years. In this fourth edition the most important changes and additions to be noted are found in the chapters on the bacterial diseases and immunity and allied processes. The enormous amount of work being done in this line throughout the world is constantly adding to our knowledge and makes frequent revision of text-books necessary. In this volume the above-mentioned subjects have been brought up to date, and the various theories of immunity, especially Ehrlich's side-chain theory, are clearly set forth. Mention is also found of the recent work of Reed and Carroll on yellow fever. Not the least important addition to be noticed is an appendix of about forty pages on pathologic technic. This includes examination of fresh specimens; methods of hardening and staining special tissues; blood stains and bacteriologic examinations. It adds materially to the value of the work as a whole, which is an excellent one and can be recommended.

HIGH-FREQUENCY CURRENTS IN THE TREATMENT OF SOME DISEASES. By Chisholm Williams, F.R.C.S. Edin., M.R.C.S. Eng. Cloth. Pp. 222. Price, $2.75 net. London and New York: Rebman, Ltd. 1903.

This is an English work on electrotherapy. The author started, as he says, with some skepticism as to the value of these currents, but after an extensive trial became convinced of their great usefulness in some cases. The book is largely made up of a description of the apparatus. The diseases in which he has found the treatment beneficial are briefly noticed at the end and include diabetes, gout, chronic rheumatism, obesity, hysteria, anemia, chlorosis, neurasthenia and pulmonary tuberculosis. The latter is treated of at considerable length, and he finds this treatment of marked benefit. He is strongly of the opinion that the application or use of these currents in tuberculosis sanitaria will greatly increase the number of cures. Dyspepsia is also discussed at some length. Among local diseases he mentions lupus, both of the tubercular and erythematous types, eczema, sciatica, headache, etc., and malignant growths.

LESSONS IN DISINFECTION AND STERILIZATION. An Elementary Course of Bacteriology, Together with a Scheme of Practical Experiments Illustrating the Subject-matter. By F. W. Andrewes, M.A., M.D. Oxon., F.R.C.P. Lond., D.P.H. Cantab., Lecturer on Pathology, Pathologist and Sanitary Officer to St. Bartholomew's Hospital, London. Cloth. Pp. 222. Price, $1.05. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

We have experienced considerable satisfaction in the perusal of this little work, which is a remarkably clear and readible statement of the general facts in regard to sterilization and disinfection. As the author says, it will probably be of some service, not only to nurses but also to practitioners who have not had the opportunity for a regular course in bacteriology. While it does not cover the ground as fully and in details as does the work of Rosenau, it is a convenient and concise statement of the general methods of disinfection and also gives some accounts of the bacteria concerned in infection, full enough indeed to meet the ordinary wants of the general practitioner for information on these subjects. The book is one that may be recommended.

PROTOZOA AND DISEASE. By J. Jackson Clarke, M.B. Lond. Cloth. Pp. 177. Price, $2.50 net. New York: Wm. Wood & Co. 1903.

While this book has only recently appeared and is perhaps the best available account of animal disease-producing organisms that we have at the present time, the progress in this line has been so rapid that we find many subjects are omitted. Still, it is an excellent little treatise and can be recommended. The book is well illustrated, well written and will be valuable for ready consultation by pathologic workers and others.

AN ENGLISH HANDBOOK OF THE PARIS MEDICAL SCHOOL. By A. A. Warden, M.D., Visiting Physician to the Hertford British Hospital, Paris. With Prefatory Letters by Lord Lister and Prof. W. W. Keen. Paper. Pp. 72. Price, 2s. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

Physicians proposing to visit Paris to see clinical work will find this little book of considerable value. It gives the location of the various public and private hospitals, and tells how to reach them; gives a list of the attending physicians and surgeons and hours of attendance; also information in regard to the practice of medicine in France, and in regard to other matters of special interest to medical men visiting the French capital.

Association News.

List of new members for the month of September, 1903:

ARIZONA.
Tyroler, Adolph, Williams.

ARKANSAS.
Crutcher, William, Pine Bluff.
Donnell, R. A., Malvern.
Johnson, R. F., DeQueen.
Hayes, Sr., John W., Eureka Springs.
Logan, B. C., Mirrilton.
Rowland, W. T., Arkadelphia.

CALIFORNIA.
Bloch, Herbert I., San Francisco.
Cunnane, W. B., Santa Barbara.
Emerson, Mark L., Oakland.
Macleish, A. L., Los Angeles.

DISTRICT OF COLUMBIA.
Durfee, R. B., Washington.

FLORIDA.
Mixson, J. F., Otter Creek.
McKulstry, J. F., Gainesville.

GEORGIA.
Denson, E. J., Allentown.
Charon, Thomas, Donalsonville.
McLain, C. F., Calhoun.

ILLINOIS.
Hamilton, C. L., Dwight.
McCauley, Lee, Brussels.
Simpson, J. P., Palmer.
Falker, William H., Chicago.
Strawn, Julia C., Chicago.
Purviance, W. E., Chicago.
Wenstrand, E. W., Chicago.

INDIAN TERRITORY.
Watson, Frank L., Alderson.

INDIANA.
Goar, Charles S., Indianapolis.
Green, T. G., Shelbyville.
Pugh, F. H., Williamsport.

IOWA.
Barfoot, A. F., Decorah.
Henderson, Edgar B., Marengo.
McClellan, W. S., Morning Sun.
Pruitt, George A., Blanchard.
Roberts, France C., Ft. Madison.
Savre, L., Osage.
Scanlan, Maurice, DeWitt.
Wescott, L. A., Cherokee.
Wilson, J. Miller, Colfax.

KANSAS.
Weaver, A. J., Concordia.

KENTUCKY.
Cohn, Seldon, Fulton.
Taylor, B. M., Greensburg.
Adams, Jesse J., Munfordville.
Bate, R. A., Louisville.
Buchanan, J. B., Campbellsville.
Bruce, F. Edward, Elkton.
Bryant, Sarah Felt, Hardyville.
McCauley, W. C., Versailles.
Robinson, W. B., Corinth.
Stine, Frederick A., Newport.
Wilson, John E., Falmouth.

LOUISIANA.
Cooper, John H., Welsh.
Hoffpauer, M. L., Crowley.
Marable, Augustus, Vidalia.
McGoldrick, James, Coushatta.
Worley, P. C., Gilliam.

MAINE.
Baker, Clarence A., Portland.
Butler, Harry, Bangor.
Foss, C. W. P., Brunswick.

MASSACHUSETTS.
Holland, H. T., Boston.
Spear, Edmund S., Boston.
Conroy, Peter J., Everett.
Schneider, J. P., Palmer.
Shanahan, T. J., Brookline.

MICHIGAN.
Huizinga, Thomas G., Zeeland.
Wilton, Albert H., Tompkins.
Derck, W. P., Marysville.
Westrate, Paul, Grand Rapids.
Abbott, Arthur W., Ludington.
Attridge, J. A., Detroit.
Berry, H. G., Mount Clemens.
Brady, Emory J., Constantine.
Campbell, E. R., Flint.
Curnalia, C. C., Roscommon.
Drake, W. M., Breckenridge.
Gleason, S. W., Greenville.
Hartley, Sophie M., Ann Arbor.
Larson, C. F., Crystal Falls.
McColl, John A., Grand Rapids.
Macleod, A. G., Calumet.
McLennan, H. E., Bay Mills.
McMeekin, James W., Saginaw.
Main, John T., Jackson.
Moore, J. R., Ironwood.
MacDonald, N. S., Hancock.
Thompson, A. B., Grand Rapids.
Wilbur, E. P., Kalamazoo.

MISSISSIPPI.
Bright, Ira B., Greenwood.
Cooper, B. D., Duncan.
Fahnestock, E. Morris, DeLisle.
Hall, Andrew J., Natchez.
Harrison, L. D., Clarksdale.
Hitt, Joseph P., Clayton.
Jones, T. M., Hernando.
Phillips, George C., Lexington.

MISSOURI.
Bedel, Adelheid C., St. Louis.
Bristol, B. J., St. Louis.
Davis, Wheeler, St. Louis.
Heyer, Charles, St. Louis.
Jordan, A. P., St. Louis.
Nietert, H. L., St. Louis.
Taussig, F. J., St. Louis.
Allen, F. W., Callao.
Bland, Warren H., Vandalia.
Coon, D. W., Trenton.
Farrow, Geo. Wyatt, East Lynne.
Jensen, N. N., Florissant.
Lionberger, J. R., Boonville.
Matthews, F. H., Liberty.
Musson, Edwin H., Rockingham.
Myer, Max W., Columbia.
Parrish, J. C., Vandalia.
Shy, Milton P., Knob Noster.
Smith, Charles W., Keota.
Smith, Ira, Austin.
Winchester, Albert N., Joplin.

NEBRASKA.
Creighton, E. A., Red Cloud.
Curtis, W. L., South Omaha.
Dandy, George B., Omaha.
Dillon, J. H., Auburn.
Faulk, F. W., South Omaha.
Flynn, P. J., O'Neill.
Haslam, George J., Fremont.
Horton, C. J., Grand Island.
Johnson, John F., Fullerton.
Johnson, Frank W., Fullerton.
Judkins, D. M., Fullerton.
Mason, Rufus D., Omaha.
Morsman, C. F., Strong.
Overgaard, Andrew P., Fremont.
Ruge, E. C., Springfield.
Schindel, R. E., South Omaha.
Shaw, L. M., Osceola.

NEW HAMPSHIRE.
Dearborn, S. S., Nashua.
Grafton, F. W., Concord.
Guillet, Noel E., Manchester.
Holtt, George B., Manchester.
Murray, John T., Manchester.
Shea, Augustus W., Nashua.

NEW JERSEY.
Bennett, R. S., Asbury Park.
Franklin, G. H., Hightstown.
Grim, F. S., Baptisttown.
Lewis, Alfred A., Morristown.
Smith, John F., Salem.
Sharp, Ezra B., Camden.
Voelbel, Benjamin H., Vailsburgh.
Warden, Albert H., Weehawken.

NEW MEXICO.
Lane, Samuel M., Silver City.

NEW YORK.
Allen, S. B., New York City.
Leale, Medwin, New York City.
Woodend, Wm. E., New York City.
Baker, Eugene, Ithaca.
Jones, C. S., Buffalo.
Soch, A. F., Fredonia.
Swetland, B. S., Brocton.
Vidal, J. E., Stapleton.

NORTH DAKOTA.
Saylor, H. L., Cogswell.

OHIO.
Cozad, H. I., Akron.
Pitzele, W. A., South Loraln.
Zinninger, G. F., Canton.

OKLAHOMA.
Palmer, T. D., Ingersoll.

PENNSYLVANIA.
Babcock, W. W., Philadelphia.
Davisson, A. H., Philadelphia.
Kremer, Walter H., Philadelphia.
Metheny, D. G., Philadelphia.
Newmayer, S. W., Philadelphia.
Silver, David, Philadelphia.
Wetherill, H. E., Philadelphia.
Bartilson, B. M., Braddock.
Cahall, W. C., Germantown.
Donaldson, L. DeH., Canonsburg.
Gardner, C. B., Johnstown.
Miller, C. L., Lebanon.
Wolfe, Mary M., Norristown.

RHODE ISLAND.
Flanagan, W. F., Providence.
Packard, Mary S., Providence.

SOUTH DAKOTA.
Squire, H. A., Spearfish.

TENNESSEE.
Bennett, B. T., Trenton.
Hall, S. B., Clinton.

TEXAS.
Calhoun, B. F., Beaumont.
Ball, W. P., Cleburne.
Gage, S. C., Ennis.
Lemert, R. H., Brenham.
Moore, H. L., Van Alstyne.
Nicks, J. M., Stone City.

WASHINGTON.
Mead, C. A., Everett.
Neville, E. C., Seattle.

WEST VIRGINIA.
Camden, Rolla, Parkersburg.
Keever, L. F., Parkersburg.
McMillan, Wm. A., Charleston.
Ogden, C. R., Clarksburg.
Wise, S. D. H., Parkersburg.

WISCONSIN.
Meachem, J. G., Racine.
Nelson, S. B., Oshkosh.
Jobse, P. H., Milwaukee.
Akerley, A. W. K., Milwaukee.
Rheingans, G. H., South Germantown.
Lehnkering, C. F., Darlington.

FRANCE.
Spaulding, J. H., Paris.

Societies.

COMING MEETINGS.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Oct. 13-15.

Vermont State Medical Society, Bellows Falls, Oct. 15-16.

New York State Medical Association, New York City, Oct. 19-22.

Congress of State and Provincial Boards of Health of North America, Baltimore, Oct. 23-24.

American Public Health Association, Washington, D. C., Oct. 26-30.

Hawaiian Territorial Medical Society, Honolulu, Nov. 7.

Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

Wayne County (Ind.) Medical Society.—At its regular session in Richmond, September 3, the society adopted a new constitution by an almost unanimous vote.

Vermont State Medical Society.—The nintieth annual meeting will be held at Bellows Falls, October 15 and 16, under the presidency of Dr. Edmund M. Pond, Rutland.

Crawford County (Iowa) Medical Society.—Physicians of Crawford County met at Denison, September 11, and organized a county medical society, with Dr. George S. Waterhouse, Charter Oak, president, and Dr. Andrew Randall, secretary.

Washburn-Sawyer-Burnett County (Wis.) Medical Society.—The first annual meeting was held at Spooner, September 8. Dr. John B. Trowbridge, Hayward, was elected president; Dr. Joseph P. Cox, Spooner, vice-president, and Dr. E. Rudolph Herring, Shell Lake, secretary and treasurer.

Chicago Medical Society (Southern District).—At the annual meeting of this branch of the Chicago Medical Society, September 30, Dr. Edward B. Hutchinson was elected president; Dr. O. Paul Chester, vice-president; Dr. Winfield S. Harpole, secretary, and Dr. Charles P. Pinckard, treasurer.

Northern California and Southern Oregon Medical Association.—Physicians met at Cedarville, Cal., August 28, and organized this association, with the following officers: Dr. Herbert T. Risdon, Alturas, Cal., president; Dr. R. E. Lee Steiner, Lakeview, Ore., vice-president; Dr. Hilderbrand, Cedarville, Cal., secretary, and Dr. Alexander Gibson, Alturas, Cal., treasurer.

Bi-Parish (Natchitoches and Red River, La.) Medical Society.—This society was organized at Coushatta, September 15, and the following officers elected: Dr. Clarence E. Edgerton, Coushatta, president; Drs. Samuel H. Scruggs, Cloutierville, and W. F. Sibley, Robeline, vice-presidents; Dr. Hendricks, East Point, secretary, and Dr. James McGoldrick, Coushatta, treasurer.

Cole County (Mo.) Medical Society.—This society was organized at Jefferson City, September 17, with 17 members, with the following officers: Dr. Robert E. Young, president; Dr. Jefferson L. Thorpe, vice-president; Dr. Gustave Ettmueller, secretary; Dr. William A. Clark, treasurer, and Dr. Charles P. Hough, delegate to the Medical Association of the State of Missouri, all of Jefferson City.

Jasper-Newton County (Texas) Medical Society.—Physicians of Jasper and Newton counties recently organized a medical society with the following officers: Dr. Hardy R. Hancock, Jasper, president; Dr. Jefferson D. Yates, Kirbyville, vice-

president; Dr. Thomas E. Stone, Jasper, secretary and treasurer, and Drs B. F. Yates, Jefferson D. Yates, Jasper, and G. P. Sutton, Burkeville, censors.

Brunswick County (N. C.) Medical Society.—Dr. Frank H. Russell, Wilmington, councilor for the Third District, organized a county medical society at Southport, September 18, on the plan recommended by the American Medical Association. The following officers were elected: President Dr. Erastus G. Goodman; vice-president, Dr. Walter G. Curtis, Southport, and Dr. J. A. Dosher, Southport, secretary and treasurer.

Putnam County (Ohio) Medical Society.—The physicians of the county met recently at Ottawa and organized a county medical society with the following officers: Dr. John C. McClung, Leipsic, president; Dr. C. F. Douglas, Kalida, vice-president; Dr. Wiley D. Hickey, Leipsic, secretary; Dr. Warren F. Reed, Ottawa, treasurer, and Drs. Charles E. Beardsley, Ottawa, Harry A. Lewis, Continental, and Alva L. Paul, Ottawa, censors.

Wright County (Iowa) Medical Society.—Dr. Charles H. Churchill, Fort Dodge, councilor for the Tenth District, met the physicians of the county at Eagle Grove, September 11, and assisted in the organization of a county medical society. Dr. Joseph H. Sams, Marion, was elected president; Dr. James W. Garth, Clarion, vice-president; Dr. E. D. Thompson, Eagle Grove, secretary and treasurer, and Dr. W. C. McGrath, Eagle Grove, censor.

Sioux County (Iowa) Medical Society.—Dr. Edward E. Dorr, Des Moines, councilor for the Seventh District, met fifteen physicians of the county at Alton, September 10, and organized a county medical society on the plan recommended by the American Medical Association. Dr. Albert De Bey, Orange City, was elected president; Dr. Ferdinand J. Smith, Alton, vice-president, and Dr. C. S. McCarty, Hawarden, secretary and treasurer.

Shelby County (Mo.) Medical Society.—Members of the old county society recently reorganized the society and elected the following officers: Dr. William Carson, Shelbyville, president; Dr. J. D. Smith, Shelbina, vice-president; Dr. L. W. Dallas, Hunnewell, secretary and treasurer; Drs. Frank K. Roy, Hagers Grove, Adolphus G. Wood, Lentner, and W. W. Owen, Oakdale, censors, and Dr. William Carson, delegate to the Medical Association of the State of Missouri.

Carroll County (Iowa) Medical Society.—The physicians of the county met with Dr. Charles H. Churchill of Fort Dodge, councilor for the Tenth District, at Carroll, September 15, and organized a county medical society with the following officers: Dr. J. Jordan Deshler, Glidden, president; Dr. Albert S. Gockley, Carroll, vice-president; Dr. Alois Kessler, Carroll, secretary-treasurer, and Drs. Robert R. Williams, Manning, Johan B. H. Feenstra, Arcadia, and Bernard C. Kelley, Carroll, censors.

Juneau County (Wis.) Medical Society.—At a meeting of the physicians of the county held in Elroy, September 10, a medical society was organized with the following officers: Dr. John B. Edwards, Mauston, president; Dr. Robert W. Hoyt, New Lisbon, vice-president; Dr. Arthur T. Gregory, Elroy, secretary and treasurer; Dr. Eugene H. Townsend, New Lisbon, delegate to the Wisconsin State Medical Society, and Drs. Charles S. Smith, Elroy, James E. Smith, Mauston, and Charles H. Golden, Wonewoc, censors.

Tri-Parish (La.) Medical Society (Claiborne, Webster and Bienville).—This society met at Arcadia, September 17. Drs. Francis M. Thornhill, Arcadia, James C. Willis, Homer, and Joseph E. Knighton, Homer, were appointed a committee to revise the constitution and by-laws so as to conform to those of the state society. The report of this committee and the question of applying to the state society for a charter will be discussed at the next regular meeting, which will be held at Homer on the second Thursday in January, 1904.

Jefferson County (Wis.) Medical Society.—About 20 physicians of the county met at Jefferson, September 8, and organized a county medical society, adopting the constitution and by-laws recommended by the American Medical Association. The following temporary officers were elected pending the granting of a charter: Dr. William W. Reed, Jefferson, president; Dr. C. E. Lauder, Johnson Creek, secretary and treasurer, and Drs. Carl R. Feld, Watertown, William A. Engsberg, Lake Mills, and Urban P. Stair, Fort Atkinson, censors.

Organization in Louisiana.—Dr. J. M. Barrier, Delhi, president of the Louisiana State Medical Society, has begun a series of tours through the principal unorganized parishes of the state in the interest of medical organization. The physicians of these parishes are being circularized in advance The first organization meeting of this series was held at Winsboro, Franklin Parish, September 24, when the Franklin Parish Medical Society was organized. There are now about 20 out of a total of 59 parishes, and applications for charters are coming in briskly.

Newaygo County (Mich.) Medical Society.—Dr. Bartlett H. McMullen, Cadillac, councilor for the Ninth District, met the physicians of the county at Newaygo, September 10, and organized a county medical society to be in affiliation with the state and national organizations. The following officers were elected: Dr. Nicholas De Haas, Fremont, president; Dr. William H. Barnum, Fremont, vice-president; Dr. F. Holmes Brown, Newaygo, secretary; Dr. Charles Whitehead, Newaygo, treasurer, and Drs. Fred Yonkers, Woodville, Morey L. Teeple, Grove, and Drummond Grant, censors.

Montgomery County (Texas) Medical Society.—Dr. John T. Moore, Galveston, councilor for the Ninth (South Texas) District, met the physicians of the county at Conroe, September 14, and organized a county medical society on the plan recommended by the American Medical Association, with an initial membership of 12 and the following officers: Dr. William P. Powell, Willis, president; Dr. Henry W. Waters, Montgomery, vice-president; Dr. Juriah F. Collier, Conroe, secretary and treasurer, and Drs. R. Walter Smith, Clinesburg, George W. Stevens, Willis, and William N. Hooper, Conroe, censors.

Dane County (Wis.) Medical Society.—Dane County medical men met in the senate chamber, Madison, September 17, and organized a county medical society with the following officers: President, Dr. Cornelius A. Harper, Madison; vice-president, Dr. William F. Pinkerton, Mazomanie; secretary and treasurer, Dr. Reginald H. Jackson, Madison; censors, Drs. J. C. Cutler, Verona, Charles S. Sheldon, Madison, and Daniel B. Collins, Madison. A committee composed of Drs. Charles S. Sheldon, Theodore W. Evans and Mila B. Sharpe, all of Madison, was appointed to consider the adoption of the constitution and by-laws recommended by the American Medical Association.

South Dakota (Mitchell District) Medical Society.—The physicians of the Mitchell District, comprising Douglas, Hanson, West Hutchinson, West McCook, West Turner, South Sanborn, Jerauld, Buffalo, Aurora, Brule, Lyman and Davison counties, met, September 24, at Mitchell, for the purpose of reorganizing along the lines suggested by the American Medical Association. Sixteen members were present and applications had been received from thirty-seven physicians within the district. Officers were elected as follows: President, Dr. John W. C. White, Plankinton; vice-president, Dr. Bert Menser, Bridgwater; secretary, Dr. E. Frank Reamer, Mitchell; treasurer, Dr. Charles A. Bower, Mitchell, and censors, Drs. George A. Clousen, Bridgewater, Orville D. Pharon, Emery, and Roscoe H. Goodrich, Chamberlain. The next meeting will be held at Chamberlain in December.

Medical and Chirurgical Faculty of Maryland.—At the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland, held at Blue Mountain House, September 24 and 25, the president presented some interesting statistics regarding the public medical libraries of Baltimore. Dr. Charles Wardell Stiles, Boston, read a paper on the dwarf tapeworm, *Hymenolepsis nana*, a new species infecting man, of which about 100 cases have been found in this country. The symptoms are similar to those in the other forms, and the only efficient remedy discovered is the male fern. An eloquent address was made by Dr. J. N. McCormack, Bowling Green, national organizer of the American Medical Association, on the advantages of organization of the profession, and a committee of nine was appointed to report the necessary changes in the constitution. Dr. D. W. Cathell, Baltimore, read a paper in which he praised the wisdom of the change from the code of ethics made at New Orleans, and predicted that the homeopaths would become merged in the regular profession by it, to the great advantage of the latter. Dr. Guy L. Hunner, Baltimore, reported 35 cases of tuberculosis of the urinary system in women, showing, contrary to the usual opinion, that it is more frequent in the upper part of the tract (kidney and ureter) than in the lower (bladder). Diagnosis is often obscure. The results of surgical treatment are very encouraging. Dr. J. McPherson Scott, Hagerstown, read a paper on "Needed Amendments in the Medical Practice Act," and a committee of eleven was appointed to report on the subject at a special meeting to be held at Baltimore, November 15.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixteenth Annual Meeting, held in Chicago, Sept. 22-24, 1903.

(*Continued from page 872.*)

Acute Perforated Gastric Ulcer.

DR. H. HOWITT, Guelph, Ont., presented a paper on this subject. Acute gastric ulcer perforation, as understood by him, refers to those cases in which Nature fails to prevent the escape of gas, liquid or other contents of the stomach by adhesion of the part to adjacent structures. He believes that the diagnosis should be made without difficulty when the perforation occurs in a young, anemic girl, whose previous history indicates the presence of an ulcer. Diagnosis should not be difficult in the majority of the other cases, for there is generally a history of gastric distress after meals, and frequently other symptoms to indicate the trouble. Sudden intense pain in the epigastrium, pronounced shock, rigidity of the abdominal wall and the thoracic character of the respiratory movements aid in arriving at a correct conclusion; and, if in addition to these the initial pain radiates in a certain direction, and the position of greatest suffering changes and gradually takes a downward course in the abdomen, the diagnosis may be made without delay. In the rare instances of rupture of the gall bladder or perforation of the duodenum in which the symptoms closely resemble those of gastric perforation, the indications for prompt surgical treatment are practically the same. In perforation of the anterior wall to the left of the median line, the material, and consequently the pain, follows a course along the inner side of the descending colon. In all other situations they follow along the descending colon toward the pelvis.

Morphia before a diagnosis has been made often prevents timely recognition and prompt action. Until the general practitioner becomes more familiar with the true import of the initial symptoms successful operations will not be common.

Symptoms indicate the position of the ulcer in the stomach definitely enough for all practical requirements. Before perforation takes place, when the ulcer approaches the peritoneal coat, a local sensitive area of peritonitis is produced, and it is very sensitive to pressure or other form of irritation. Hence the posture of the patient is that which avoids pressure and keeps the contents of the stomach away from the ulcer. For instance, when the ulcer is on the anterior wall, the patient is more comfortable when lying on the back, and so on. When it is on the anterior wall, point pressure of a superficial character may, by causing severe pain, indicate the exact position. The pain, when severe, tends to radiate in certain directions, according to the position of the ulcer. If near the pylorus and on the anterior wall, to the right, or to the right and downward. On other parts of the anterior wall, to the left and to the left and upward to shoulder. On posterior wall, to back immediately behind its situation and to right or left, according to whether it is right or left of spinal column, and upward to interscapular space. A large incision, collapse of the distending coils of intestines by temporary enterotomy and evisceration render the work easy and more expeditious, and with less damage to the delicate parts than is possible by any other method. When the perforation is large, drains are used in each flank, and in the pelvis, not through a large incision, but through separate stabs.

Beside a brief synopsis of each of his former operations already reported, the paper contains a report of his fourth case, in which the perforation was on the anterior wall. It was closed with fine silk suture. His method of sight inspection and flushing of all parts of the abdomen and pelvis with a large forcible stream and drainage was carried out. The patient recovered and is well to-day.

DISCUSSION.

DR. C. H. MAYO, Rochester, Minn., said that he and his brother had had several cases of perforating gastric ulcer of the type described. Their experience had been that there was about an even number of perforations in the pyloric region of the stomach; also in the first portion of the duodenum, and that the symptoms and results were about the same in either position. The character of the ulcer was about the same. In the stomach perforations, as a rule, the chronic irritation had been of such a nature that it was almost impossible to close the perforation.

DR. JOHN B. MURPHY said the proper time to operate on perforating gastric ulcer was before the peritoneum had been irreparably injured. This may not be the first day. Many times the stomach is not full when perforation occurs. Furthermore, the stomach contents are less septic and less irritating than those of any other portion of the alimentary canal, therefore the time may be longer in perforating gastric ulcer than in typhoid perforation.

Should the Uterus and Ovaries Be Removed in Operating for Double Pyosalpinx?

DR. C. C. FREDERICK, Buffalo, N. Y., read a paper on this subject. He first briefly reviewed the history of operative procedures. After an experience of about fifteen years with the various surgical procedures gynecologists are in a position to decide accurately the amount of pain, discomfort and illness due to disease of the various anatomic parts of the woman's sexual apparatus. It is not necessary to sacrifice all of these organs when they are not all hopelessly diseased. The duty of the gynecologist is to afford his patient the greatest possible relief from her symptoms with the least mutilation, and the preservation of every organ possible to enhance the most perfect performance of all bodily functions. As much of the healthy ovarian tissue as possible should be left if it be only the eighth part of an ovary. If the condition is known to be tubercular, the uterus should certainly be removed. But even if both tubes and uterus are taken out all the ovarian tissue possible should be saved. The uterus should not be removed if it can be retained.

DISCUSSION.

This paper was discussed by Drs. Robert T. Morris, Rufus B. Hall, Walter B. Dorsett, Miles F. Porter, Byron Robinson, W. D. Haggard, Albert Goldspohn, E. C. Dudley, J. H. Carstens, Frederick Blume, John B. Murphy and Charles L. Bonifield, all of whom favored the conservation of as much ovarian tissue as possible in operating for pyosalpinx.

The Indications and Technic of Vaginal Drainage for Suppuration in the Pelvis.

DR. ALBERT GOLDSPOHN, Chicago, discussed the chief routes by which infection enters the female pelvis and described the type of pathologic changes resulting from each route. While pelvic cellulitis is rare and of little significance in non-puerperal infections, via the tubes, it is the leading or primary anatomic change in puerperal infections, via the lymphatics. When vaginal evacuation of the pus in pelvic suppuration needs to be followed by a more radical secondary operation, in many cases it enables the inflammation in the associated uterus or tubes, or ovaries, to subside during the interval, so that they need not be removed, as would have been deemed necessary if a radical operation had been performed in the first instance or during the acute stage. Vaginal drainage helps to save life in cases that have become too feeble for a radical procedure to be applied at once. Preliminary drainage improves their condition so that they can stand a radical operation later, with no higher rate of mortality than obtains after abdominal section in other cases that are not so reduced. This operation should never be a puncture with a trocar, knife or scissors, but always a transverse incision into the posterior cul-de-sac, preferably with the thermocautery. From this entrance, as a vestibule, laterally located purulent accumulations, if not yet opened, are best attacked by a finger assisted by forceps. Only a small proportion of the cases so treated by him have required another operation, except when the infection was from the vermiform appendix.

DISCUSSION.

DR. EDWARD J. ILL said he began to use vaginal drainage fifteen years ago, and while he was not opposed to this peculiar method, long experience had taught him there were better methods. Cases of cellulitis should be opened from below, if

possible, and the sooner the better. But the drainage of tubal and ovarian abscesses is different and is by no means curative.

Dr. D. Tod Gilliam said that unless cellulitis existed he did not think there was justification for vaginal drainage.

Dr. H. W. Longyear, Detroit, said that to get rid of pus in the cellular tissue there was no question about the propriety of vaginal drainage. Further, if a woman is *in extremis* from long-continued suppuration and prolonged fever, and can not stand a radical operation, the pus should be drained at first through the vagina, but this measure should not take the place of a radical operation later.

Dr. J. Henry Carstens, Detroit, agreed with Dr. Longyear.

(To be continued.)

PENNSYLVANIA STATE MEDICAL SOCIETY.

Fifty-third Annual Meeting, held at York, Sept. 22 to 24, 1903.

The meeting was called to order by the president, Dr. William M. Welch, Philadelphia, and addresses of welcome were delivered by Mayor M. B. Gibson of York and Dr. N. C. Wallace, president of the York County Medical Society.

Professional Ethics.

Dr. J. N. McCormack, Bowling Green, Ky., national organizer of the American Medical Association, delivered an address on this subject, in which he lamented the animus so frequently shown by physicians toward other practitioners. He detailed the plan of organization recommended by the American Medical Association and made a plea for clean physicians, physically, morally and mentally.

Misleading Text-Books.

The committee appointed to examine school text-books on physiology and hygiene reported as follows:

The school text-books on physiology and hygiene contain many errors and much misleading information and very serious omissions. The books, as a whole, can not be recommended, although some few are good. We are sorry to be compelled to say that the books supervised by the Woman's Christian Temperance Union committee are the most reprehensible.

If the object of the woman's committee is the teaching of prohibition, then let them openly and honorably designate their books by truthful titles, and not resort to the contemptible method of using a scientific term to cloak an ethical principle.

It is evident to any fair-minded observer that while a grain of strychnia is a poison, the one-hundredth part thereof is not. It is absurd to teach that cider, beer, wine, etc., in any dose is a poison, whereas, we all know that a tumbler of pure alcohol is. This is but the morbid expression of fanatics, who are guided by zeal rather than by wisdom.

The committee recommends that a committee be appointed to consider the advisability of state supervision of the school text-books pertaining to anatomy, physiology, hygiene and all allied subjects.

The Orations.

The address in surgery was delivered by Dr. William L. Estes, South Bethlehem, who urged the necessity for keen discrimination between operable and inoperable cases.

The address in obstetrics was delivered by Dr. John G. Clark, Philadelphia.

The address in hygiene and state medicine was delivered by Dr. Seneca Egbert, Philadelphia, in which he stated that the population of the districts in the United States in which a system of mortality registration had been organized had increased from 19,659,440 in 1890 to 28,807,269 in 1900, with a decrease in the death rate in the registration areas from 19.6 to 17.8 per 1,000. He forcibly demonstrated the value of improved sanitary regulations, such as purification of the water supply, supervision of milk and food, quarantine regulations, etc., and dwelt at considerable length on the value of preventive measures in contagious and infectious diseases.

The address in neurology was delivered by Dr. Charles B. Mayberry, Retreat, Pa., in which he considered the means of securing better results in the treatment of the insane, which he believed would result from the carrying out of the following suggestions: 1. More extensive instruction in psychiatry, both didactic and clinical. 2. The construction of small psychopathic hospitals for the separate treatment of the acute curable insane. 3. The organization of a system of out-patient departments by which the discharged patients may be kept under observation for one year after leaving the institution. 4. The creation of a central laboratory for the investigation of the pathologic conditions underlying mental disease.

The address in ophthalmology was delivered by Dr. E. B. Heckel, Pittsburg. He said that the drugs which were used twenty-five years ago, e. g., mercury, nitrate of silver and atropin, stand out prominently in optical therapeutics to-day, the advance consisting in the new and improved methods of using them. The treatment of glaucoma, he stated, had made but little progress and iridectomy was still to be preferred to sympathectomy, massage being a valuable adjunct, and cytology, while it has been used but a short time, gives indications of good results in sympathetic ophthalmia.

The address in medicine was delivered by Dr. H. M. Neale, Upper Lehigh, who believes the most important therapeutic factors in the treatment of pulmonary tuberculosis are fresh air, sunlight, rest and cleanliness in conjunction with proper food and careful medical supervision. He believes that cures can be effected as well at home as in the higher altitudes. He describes in detail the method of treatment at the White Haven Sanitarium, one of the important factors being large quantities of milk and eggs. In addition, internal doses of creosote and iodin compounds, and inunctions of olive oil, wintergreen oil and other oils are administered.

Social Features.

At the Tuesday evening session the president's annual address was delivered by Dr. William M. Welch, Philadelphia, after which the society was given a reception at the Country Club by the York County Medical Society.

Wednesday afternoon the society visited the York Water Plant, where an address was delivered by Mr. George W. Fuller, New York, on the subject of "Water Filtration," followed by a reception given by the York Water Company at the Country Club, and in the evening a theater party given by the York County Medical Society.

Thursday evening the members were given an automobile excursion to the Penn Park musical entertainment, and on Friday morning an excursion to the Gettysburg battlefield.

The New Officers.

The following officers were elected: President, Dr. William B. Ulrich, Chester; vice-presidents, Drs. Isaac C. Gable, York; Philip Y. Eisenberg, Norristown; Fred W. Coover, Harrisburg; William A. Marsh, Mt. Pleasant; secretary, Dr. Cyrus Lee Stevens, Athens; assistant secretary, Dr. Theodore B. Appel, Lancaster; treasurer, Dr. George W. Wagoner, Johnstown; board of trustees, term ending 1906, Drs. Richard Armstrong, Lock Haven; Isaac C. Gable, York, and William S. Ross, Altoona; delegates to the American Medical Association, Drs. George W. Guthrie, Wilkesbarre; William S. Foster, Pittsburg; Alex. R. Craig, Columbia; Webster B. Lowman, Johnstown; alternates, Drs. Walter Lathrop, Hazleton; John B. Donaldson, Canonsburg; William M. Guilford, Lebanon; James N. Richards, Fallsington; Samuel Wolfe, Philadelphia; James H. Montgomery, Erie; Erasmus V. Swing, Chester, and William M. Beach, Pittsburg.

The place of the next annual meeting was fixed at Pittsburg, and Dr. W. S. Foster was appointed chairman of the committee on arrangements.

The Importance and Necessity of Industrial Hospitals.

Dr. W. B. Lowman, Johnstown, urged in this paper the importance of the establishment of hospitals in conjunction with all the large industrial institutions, as a humane measure and also as a sound business investment, as employes thus cared for would be less likely to institute legal proceedings for slight injuries and in perhaps hopeless cases.

The Medical Expert Witness.

Dr. G. W. Wagoner, Johnstown, in this paper, argued that experts selected by the court would give better satisfaction than witnesses paid by parties to testify for the benefit of their side of the case.

State Medical Board Examinations.

Dr. A. O. Kelly, Philadelphia, laid especial stress on the importance of the examiner being a practical physician familiar

with the progress of medicine. He believed that the questions should be limited to the practical and applied aspects of the subject, and should not be purely academical. He recognized the value of a general knowledge of the general principles of medicine and in no sense recommended the abolition of didactic lectures. He believed practical tests in addition to the written examinations, or the submission to the student of a number of case histories for study, discussion and suggestion would be a valuable augmentation to the examination. When a candidate is asked to give the treatment for a certain condition, he should be required to set forth his reasons therefor.

(To be continued.)

AMERICAN ACADEMY OF RAILWAY SURGEONS.

Tenth Annual Meeting, held in Chicago, Oct. 1 and 2, 1903.

This organization met under the presidency of Dr. L. Sexton, New Orleans. The academy has about 140 members and is an energetic scientific organization.

Conservatism in the Treatment of Crushing Injuries.

DR. JERE L. CROOK, Jackson, Tenn., reported three cases, showing how aseptic and antiseptic technic have reversed conditions, substituting salvation for sacrifice, and limbs of living flesh and bone for those of wood, cork and leather.

DRS. R. HARVEY REED, EVAN O'NEILL KANE, A. H. BRUMBAUGH, H. M. DEAN, F. A. BUTLER and O. B. QUINN talked along the line of the conservation of limbs and of as much tissue as possible.

Injuries of the Large Joints.

DR. I. V. CROSBY, Stuart, Iowa, reported two cases to emphasize the necessity of carrying out the strictest antiseptic precautions from start to finish. By so doing the function in many severely injured and infected joints can be saved even in the rural districts.

Physical Examination of Railroad Employes.

DR. H. B. JENNINGS, Council Bluffs, Iowa, urged the responsibility of the surgeon making these examinations for the company, and a lengthy discussion was elicited, during which different methods of examining railroad employes were brought out.

The Value of an Injury.

This was the title of the president's address, delivered by Dr. L. Sexton, New Orleans. He cited cases to illustrate verdicts for various elements of injury. The railway surgeon can materially lessen the loss or damage incident to injuries by careful, skilful and painstaking attention to each case.

Ocular and Aural Examination of Railroad Employes.

DR. FRANK ALLPORT, Chicago, submitted a report and the resolutions on this subject recommended by the American Medical Association, which were referred to a committee and, on its favorable report, were subsequently adopted.

Other papers read were as follows: "Rheumatism in Connection with Minor Injuries of the Back," on how to differentiate the conditions, by Dr. A. Wilson, Alva, Okla.; "Traumatic Influence in the Production of Movable Kidney," an exhaustive treatise, by Dr. M. L. Harris, Chicago; "Radical Cure of Hernia," by Dr. E. W. Andrews, Chicago, and "Fracture of the Humerus," by Dr. F. A. Butler, Harvard, Neb. The latter described a recovery brought about by means of massage, electricity and constitutional treatment after one and a half years of post-fractural paralysis.

In a symposium on head injuries, papers were presented by Drs. C. H. Mayo, John E. Owens, Haldor Sneve, J. F. Pritchard, W. U. Cole, A. L. Wright and Ira B. Bartle.

Diet in Its Relation to Surgical Cases.

DR. A. B. BRUMBAUGH, Huntington, Pa., said that a healthful diet in general, to aid and enable men and women to attain to their highest capacity mentally and physically, should be simply nutritious, and consist of such articles as were readily, quickly and perfectly digested. It should be mainly of fruits, vegetables simply cooked and the tallow-bearing meats. All excess and doubtful and harmful articles should be discarded, and the diet in surgical cases should conform strictly to the simple type of healthy living.

The secretary presented a letter from Dr. J. N. McCormack relative to the practicability of the academy becoming affiliated with or a branch of the American Medical Association. The communication was referred to a committee, which subsequently reported that the time was not ripe for the adoption of the plan proposed, and, on motion, the action of the committee was concurred in by the academy.

Officers.

The following were elected officers: President, Dr. Samuel C. Plummer, Chicago; vice-presidents, Drs. A. L. Wright, Carroll, Iowa, and W. U. Cole, Columbus, Ohio; secretary-treasurer, Dr. Thomas B. Lacey, Council Bluffs, Iowa; assistant secretary, Dr. H. B. Jennings, Councils Bluffs, Iowa; editor, Dr. D. S. Fairchild, Des Moines, Iowa. Place of meeting, Chicago; time to be decided by the executive committee.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Leg Ulcers.

The treatment of ulcers of the leg, according to Fischkin in *Med. Standard*, consists, 1, in the removal of conditions which may induce or favor necrosis; 2, the production of conditions which will favor the healing process as much as possible. The general outline of treatment consists, according to the author, in:

1. Aseptic cleansing of the leg.
2. Elevation of the leg and application of bandages to remove the venous stasis.
3. The application of remedial agents to induce healthy granulations.
4. The application of such remedies as will favor normal cornification.
5. The application of such remedies to surrounding tissues with a view to healing associated conditions, such as eczema, which may be caused by venous stasis.

In carrying out the first indication the leg should be bathed with soap and water unless great eczema is present, in which case alcohol dressings may be used, or a boric acid or 5 per cent. liquor alum. acetatis or a solution of hydrogen peroxid may be substituted.

These indolent, anemic ulcers must be stimulated in order to promote the formation of healthy granulations. This may be done by syringing the ulcer with hot water or a 1 to 2,000 potassium permanganate solution. This syringing should be followed by an iodoform dressing or the base of the ulcer painted with pure tincture of iodin or the application of unguentum hydrarg. rubrum, balsam of Peru or other stimulating remedies.

If the granulations project too high, caustics and astringents must be applied, such as argenti nitras, 10 per cent. Gangrenous ulcers are to be first cleansed with a hot potassium permanganate solution, followed by the application of a few drops of the following combination:

℞.	Chloralis hydratis	3iiss 10
	Camphoræ	3iss 6
	Glycerini	℥iss 45

M. Sig.: Apply locally.

An iodoform dressing is then applied.

Epithelization and cornification may be encouraged by carefully dressing the ulcer and producing drainage in order to prevent the accumulation of the secretions; or the base of the ulcer should be painted with a 2 to 4 per cent. solution of silver nitrate followed by bismuth subnitrate dermatol or ichthoform dressing. The ulcer is then covered with a guttapercha dressing to aid drainage and to prevent the adhesions of dressings. The surrounding eczemas must be treated. If

the eruption is vesicular or in the stage of serous discharge pastes must not be employed, but in their stead a dry powder as follows:

℞. Zinci oxidi
Talci venet.
Amyli, āā 3iiss 10
Acidi borici .....gr. xlv 3
M. Sig.: Apply locally.

In the dry form of eczema some tar preparation is better, as follows:

℞. Olei cadini
Olei rusci
Spiritus
Spts. etheris, āā.....3iiss 10
M. Sig.: Apply locally.

The author also recommends Unna's paste prepared as follows:

℞. Zinci oxidi 3x. 40
Gelatin 3v 20
Glycerini .....℥i 30
Aq. destil. .....℥iiss 75
M. Sig.: Apply locally with a soft brush, changing the dressing in 3 to 10 days.

In the ordinary ulcers accompanied by pain the following is recommended as a dressing:

℞. Tinct. benzoini comp. 3iv 15
Balsami peru. 3ii 8
Lanolini 3x 40
Ext. belladonnæ .....gr. xxx 2
M. Ft. unguentum. Sig.: Apply locally.

As a local application in syphilitic ulcer the author recommends the mercurial plaster; or if the ulcer is not clean bathe with a mercurial bath and dust with calomel. Iodids should be given internally.

Some authors recommend the following combination in the treatment of syphilitic ulcers:

℞. Hydrarg. chloridi mitis 3i 4
Ichthoformi 5ss 2
Petrolati 3viss 26
M. Sig.: Apply locally; or:
℞. Iodol .....℥i 30
Sig.: Apply freely to the ulcer.

Dysmenorrhea.

The palliative treatment of dysmenorrhea, according to Bjorkman in *Merck's Archives*, is necessarily entrusted to the general practitioner, consequently the treatment is more or less symptomatic, while the radical treatment leading to its cure lies in the province of the specialist. The first step, according to the author, is to gently promote elimination by proper evacuation of the bowels if there is a tendency to constipation. The use of opium or morphin should never be resorted to. Codein and dionin may be used in their stead. He also condemns the use of alcoholics. In well-nourished women cerium oxalate may be given in six-grain doses (.40)) every hour previous to the beginning of the flow and continued until the pain has ceased. Pulsatilla is also recommended, given in 10-minum (.65) doses of the tincture four times a day. This is said to quickly relieve the spasms due to uterine disorders. The following combination is recommended by the author:

℞. Tinct. pulsatillæ .....℥i 4
Syr. aurantii .....℥i 30
Aq. destil. q. s. ad .....℥iv 120
M. Sig.: One teaspoonful four times a day.

In neurotic individuals a combined treatment of bromids and antipyrin is serviceable or the bromids alone given as follows:

℞. Pot. bromidi 3iiss 10
Sod. bromidi 3iss 6
Ammon. bromidi 3i 4
Syr. aurantii corticis.....℥iiss 75
Tinct. rhei 3iiss 10
Aq. destil. q. s. ad.....℥viii 240
M. Sig.: One tablespoonful before meals in one-half a glass of water.

In dysmenorrhea of anemic or spasmodic nature viburnum is of great benefit.

℞. Ext. viburn, prunifol. flu. .....℥i 30
Sig.: One teaspoonful three times a day; or:
℞. Chloralis hydratis .....gr. lxxv 5
Tinct. belladonnæ .....gtts. xxx 2
Ext. viburn. opul. flu.....℥i 30
Elix. simplicis q. s. ad.....℥iv 120
M. Sig.: One or two teaspoonfuls in sweetened warm water every hour until relieved.

The author also recommends stypticin as curative if given for long periods. He advises it in doses of grain ¾ to 1½ (.05 to .09) four or five times a day. In smaller doses it may be given beginning four or five days before the usual time for menstruation, giving a full dose the day previous to the usual time for the flow.

It may be given combined as follows:

℞. Stypticin .....gr. xx 1|30
Ext. belladonnæ
Ext. hyoscyami, āā.....gr. 3¾ |25
Euquinini .....gr. xl 2|65
M. Ft. pil. No. xx. Sig.: One pill three times a day.

Dionin is recommended administered in the form of a suppository combined as follows:

℞. Dionin .....gr. ss-2/3 |03-.04
Ext. cannabis ind. .....gr. iss |09
Butyr. cacoa q. s.
M. Ft. suppos. No. i. Sig.: One such to be inserted into the rectum two or three times a day. [The dose of cannabis indica is rather large.]

The foregoing suppository is valuable in the treatment of dysmenorrhea of young girls, where local treatment can not be properly carried out. The following may be used per vaginum:

℞. Dionin .....gr. ½ |03
Ichthyol .....gr. iii |20
Butyr. cacoa q. s.
M. Ft. suppos. No. i. Sig.: One such to be inserted into the vagina two or three times a day, if necessary, to relieve the pain. Dionin is also recommended by the mouth as a palliative in dysmenorrhea as follows:

℞. Dionin .....gr. vss |35
Aq. amygdalæ amar. .....3iv 15|
M. Sig.: Fifteen drops two or three times a day; or:
℞. Dionin .....gr. ss |03
Salipyrin .....gr. x |65
Acetanilidi .....gr. ii |12
M. Chartula No. i. Sig.: One such powder three times a day.

[Dionin is ethyl-morphin hydrochlorate. It is a powder, faintly bitter, soluble in about seven parts of water, two parts of alcohol, and twenty parts of syrup. Stypticin is cotarnine hydrochlorate. It is a yellow powder, soluble in water or alcohol. It is recommended as a uterine sedative and as a hemostatic.]

Chronic Pharyngitis.

The following combinations are recommended by *Jour. des Pract.* in the treatment of chronic pharyngitis:

℞. Sodii boratis 3ii 8
Tinct. myrrhæ 3i 4
Infusi cocæ foliæ .....℥viii 240
M Sig.: Use as a gargle every two hours; or:
℞. Potassii chloratis 3iiss 10
Infusi rubi fol. .....℥iv 120
Infusi cochleariæ (couch grass) .....℥ss 15
M. Sig.: To be used as a gargle.

Abortive Treatment of Furuncles.

Reich, in an abstract in *Med. Age*, states that positive results are obtained by the treatment of boils with superheated dry-air. The heat is directly injurious to pathogenic organisms; active hyperemia of the tissues and consequently increased resistance to bacterial invasion is induced. The skin is sterilized and dangers to reinfection rendered less probable. According to the author's statement, in no case where the treat-

ment was begun early did suppuration or tissue necrosis take place. The infiltration of the surrounding tissue disappeared more rapidly than ordinary in abortive cases. Reinfection in the tissue surrounding the boil never occurred. In cases of general infection the tendency to fresh boil formation was greatly diminished. He states that this form of treatment reduces the tension in the infiltrated tissue and relieves the pain as a result.

Medicolegal.

Physician to Determine Necessity for Information.—Section 4659 of the Revised Statutes of Missouri of 1899 provides that a physician or surgeon shall be incompetent to testify concerning any information which he may have acquired from any patient while attending him in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician or do any act for him as a surgeon. The Supreme Court of Missouri, Division No. 2, says, in the case of State vs. Kennedy, that it takes it that the physician or surgeon must, as a general rule, under the statute, determine for himself whether the information acquired by him from his patient is necessary for him to prescribe for such patient, and, in the absence of some showing to the contrary, the presumption must be indulged that the information in question was necessary for that purpose; otherwise, he would not desire it. To rule otherwise would be to usurp the prerogative of a physician learned in his profession, which the court has no inclination or right to do. The court adds that, of course, it does not mean to say that it will not pass on questions which are apparent to the ordinary observer, and to one not learned in the sciences of medicine and surgery, which have nothing whatever to do with the case under consideration, and hold them not privileged.

Representations as to Health and Medical Treatment.—The Supreme Court of Michigan says, in the case of Blumenthal vs. Berkshire Life Insurance Company, that the law is settled that in a representation, contained in an application for insurance, that the assured is in good health, or that he has not been attended by a physician or consulted one professionally, the answer is to be construed as meaning, in the one case, that he has not suffered an illness of a serious nature, tending to undermine the constitution, and that a state of health is freedom from disease or ailment that affects the general soundness or healthiness of the system seriously. And as to representations as to treatment by physicians, the omission to state a treatment by a physician for some temporary indisposition does not avoid the policy. In this case the trial judge charged the jury that it is not the duty of an applicant for insurance to advise the insurance company of every time he consults a physician for some temporary indisposition; but it is his duty to advise them, in answer to that question, every time that he has consulted a physician relative to any serious ailment; and that if they found that the disease with which the insured was suffering when he made his application was such a disease as would affect his general health then it was his duty to have advised the company that he had been attended by a physician. The Supreme Court thinks this was clearly within the rule as above laid down.

Exclusion of Immigrant for Favus of Finger Nails.—The United States Circuit Court for the Southern District of New York says, in re Neuwirth, that on certificate of the proper examining medical officer, the board of special inquiry unanimously voted to exclude the alien immigrant in question in this case as having a loathsome disease, viz., favus of the finger nails. His father presented a sworn petition for a writ of habeas corpus averring that his son was not suffering from a loathsome and dangerous contagious disease, but that his disease was curable and slight, and that he had improved since he arrived, and was almost cured. He also presented the affidavit of a physician to the effect that while the condition of the immigrant's finger nails was not normal, he was doubtful whether he was suffering from favus; that, if he was, a slight operation would work a cure; and that in his opinion favus, in this form, was not a "loathsome" nor a "dangerous contagious" disease. On this record the court thinks that it could hardly be said that it was affirmatively and satisfactorily shown that such person did not belong to one of the excluded classes of immigrants. Moreover, it quotes the provision of Section 10 of the act of Mach 3, 1903, that the decision of the board of special inquiry, based on the certificate of the examining medical officer, shall be final as to the rejection of aliens afflicted with a loathsome or with a dangerous contagious disease, or with any mental or physical disability which would bring such aliens within any of the classes excluded from admission to the United States, etc. It says that under the earlier act it has been repeatedly held that the only jurisdictional fact to be established in these cases was the alienage of the immigrant, and that when that appeared the court would not review the decision of the board. The language of the act of 1903 is somewhat different, but it is not thought that by thus modifying it congress intended to provide that before the decision of the board could be accepted as final it must first be made to appear by independent proof as a jurisdictional fact that the rejected alien was actually afflicted with the specified disease. Such an interpretation would make the tenth section meaningless. Wherefore, the court dismissed the writ of habeas corpus.

Hospital Register Not Admissible in Evidence—Privilege.—The Supreme Court of Minnesota holds, in the case of Price vs. the Standard Life and Accident Insurance Company, that a register of patients, kept at a hospital, naming or pretending to name, the disease with which a patient was said to be suffering, is not admissible in evidence to show and establish the nature of the disease. Here the entries in the register in question were made by the superintendent in charge, who was a female physician, in the usual course of business at the hospital, and showed when the patient entered, when he departed therefrom, and the nature of the disease from which he was said to be suffering. This superintendent produced the register, and testified that the entries concerning the patient were made after the physician in charge had observed the case long enough and knew sufficiently about the patient to state the kind of disease, and were wholly based on information received by her from the doctor. The witness had no personal knowledge of the patient, and had no recollection of the case, apart from the record. Therefore, the court says, the entries amounted to nothing more or less than what the superintendent wrote in the register, what the attending physician told or reported to her concerning the patient's illness. To permit these entries to be introduced in evidence was to disregard in a very noticeable manner the rule forbidding the introduction of hearsay testimony, as well as the spirit of the statute which prohibits the examination of a physician as to certain matters without the consent of his patient. The information communicated by the physician in charge to the superintendent of the hospital was acquired by the former while attending the patient, and was necessary to enable him to prescribe or act for him. The physician would not have been allowed to make any such disclosure, and the statutory restriction on him could not be evaded by introducing in evidence testimony of a third party as to what the doctor said about the case. But the entries did not even rise to the dignity of a repetition of what the doctor said to a third party, for the superintendent remembered nothing, except that she made the entries. This testimony should have been excluded. Again, the court says that, although the statute differs somewhat in the several states, the general proposition is that it seals the lips of the physician, and prevents him from divulging in a court of justice information which he has acquired while in the necessary discharge of his professional duty, but it does not absolutely prohibit the examination of an attending physician as a witness. The well-established rule seems to be that a physician may be called on to testify to the simple fact that he has treated or attended a certain person as his patient, and as to the num-

ber of his visits. This doctrine, looking at the question in a logical way, comes very near trespassing on the statute, but the court finds no cases in opposition, and none was cited by counsel.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

September 26.

1 *Typhoid Fever: An Analysis of 717 Cases. John McCrae.
2 *Spotted Fever (Tick Fever) of the Rocky Mountains: A New Disease. John F. Anderson.
3 *Some Biologic Differences Between the Natural and the Artificial Feeding of Infants. David L. Edsall.
4 *Personal Experiences in Operations on Diabetic Patients. Charles P. Noble.
5 *The Value of Eosinophilia in the Diagnosis of Trichinosis, with Report of a Case. Edwin R. Gould.
6 Inguinal Hernia of an Imperfectly Developed Uterus and Appendages. R. Ferguson.
7 The Surgery of To-day. Alex. Hugh Ferguson.

1. **Typhoid Fever.**—Among the notable points in the analysis of 717 cases observed by McCrae at Montreal were the moderate mortality, 9.2 per cent., the large proportion in which the Widal test was positive, that is, 92.77 per cent., the occurrence of rose spots in 65 per cent. of all cases and the predominance of constipation over diarrhea. The large number of cases of perforation—43, of which 23 were operated on, with 6 recoveries—was also a notable point. The treatment followed was largely that of cold bathing, or cold water, or alcohol spongings. The routine administration of the first bath is, as a rule, at 90 or 85, lowering about 10 degrees the second time and the succeeding baths at 70 or 75. The antipyretic treatment consists of phenacetin, alternating with salol. In most cases a purely liquid diet was given, though semi-solids were allowed in some cases. The author says no rule as to diet will apply to all cases, but that any food that reaches the intestines in any other than a perfectly fluid form is bad.

2. **Spotted Fever (Tick Fever) of the Rocky Mountains.**—Anderson gives his observations on spotted fever of the Rocky mountains. The parasite was discovered by Wilson and Chowning, and their work was described in THE JOURNAL, July 19, 1902, p. 131. Anderson suggests the name tick fever on account of the relation of tick to the disease and the preemption of the term "spotted fever" by other affections. He thinks it resembles typhus fever more than any other disease, and without a blood examination and close bedside observation there might be trouble in the diagnosis in cases of typhus fever occurring in a locality where tick fever prevails. In typhus, however, the long period of incubation, history of cases, the eruption and intensely contagious character and the time of its prevalence, not limited to a short time in the spring, would be important diagnostic points. Until this past season the treatment of tick fever has been purely symptomatic, but since the discovery of the parasite the use of quinin in large doses, preferably hypodermically, has been employed in 5 cases, all of which recovered, while 5 cases that did not have this treatment proved fatal. Anderson hopes that the use of quinin will be followed in future treatment of the disease, and would give it in large doses hypodermically every six hours. He advises its early and continuous use.

3. **Infant Feeding.**—Edsall calls attention to certain biologic peculiarities of milk from different animals and their bearing on the artificial feeding of infants, especially the oxidating ferment in many milks, such as cow's milk, and its absence in human milk, and the diastatic ferment found in human milk and not in cow's milk. He thinks the recent biologic investigations emphasize the dangers of sterilization and indicate that the results of pasteurization are not altogether beneficial since they destroy ferments and, therefore, affect important qualities of milk.

4. **Surgery in Diabetes.**—Noble tabulates 7 cases from his own practice where operations were done in diabetics, with the results. He shows that 6 of them made good recoveries; 1 died in diabetic coma. In the cases that recovered, the general progress was not different from those not the subject of glycosuria. In looking up the literature he is able to add 62 more cases, with 52 recoveries. Seventeen died, 1 of the deaths was from erysipelas, 2 from sepsis, 5 were from causes not stated, and 9 from coma. The chief cause of death after operation in diabetes is from coma. This is the one that it is the least possible to guard against. He advises in all cases preliminary treatment by diet and the administration of codeia and strychnin. He would postpone operation if more than 2 per cent. of sugar was present in a total excretion of three pints per day. After operation, morphin, codeia and strychnia have been prescribed, and salt solution freely administered per rectum and by hypodermoclysis, and the diet strictly regulated. Where the indications for operation were marked he has advised it, at the same time pointing out the risk or the possible occurrence of coma. A review of the literature has not altered his opinion as to the wisdom of this course. When a routine examination of the urine as a preliminary measure to operation is followed, operation on patients suffering from unrecognized diabetes can be avoided. Contraindication to operation is strongest in patients suffering markedly from constitutional symptoms of the disease—poor nutrition, wasting, intense thirst and morbid appetite.

5. **Trichinosis.**—Gould points out the value of blood examination in these diseases and the importance of a large percentage of eosinophiles as a diagnostic point.

New York Medical Journal.

September 26.

8 *The Gastric Contents in Gastroptosis. Thomas R. Brown.
9 *Is Registration and Disinfection a Successful Method of Combatting Pulmonary Consumption? Thomas J. Mays.
10 *The Results of Brain Surgery in Epilepsy and Congenital Mental Defect. William P. Spratling.
11 The Necessity of Special Legislation for the Prevention of the Contamination of Our Water Supply as a Preventive of Typhoid Fever. James Mitchell.
12 *The Treatment of Acute Blennorrhea of Adults. James F. McCaw.
13 *Some Obscure Cases of Eye Strain. F. W. Marlow.

8. **Gastric Contents in Gastroptosis.**—From his analysis of the stomach contents in twenty cases, Brown finds that in simple gastroptosis there is a slight diminution in the amount of free hydrochloric acid in the majority of cases; in cases where the dilatation is slight, the free hydrochloric acid is further reduced, although not markedly so, while in those cases associated with marked dilatation free hydrochloric acid is usually entirely absent. These facts would suggest that gastroptosis *per se* leads to a very slight diminution of free hydrochloric acid, and that it is the subsequent dilatation which so often complicates gastroptosis that leads to marked dilatation, the diminution being apparently more marked the greater the associated dilatation.

9. **Tuberculosis.**—Mays analyzes the death records from pneumonia and tuberculosis in a number of cities and claims to find that the combating of tuberculosis by disinfection, registration, etc., seems to increase the pneumonia mortality, and that in a number of the localities where these are practiced there has been an increase in phthisis during the last five years.

10. **Brain Surgery in Epilepsy and Idiocy.**—Spratling's paper is concluded with an analysis of the results of surgery from the literature and his own observations. He thinks the statistics show that if epilepsy is general and of some years' duration we need not look for a cure, though in selected cases operation may ameliorate the symptoms, but most frequently only temporarily. If the epilepsy is unessential, reflex, rudimentary in type, or of short duration, and the operation removes the cause early enough, we may expect the convulsions to cease in many cases, provided the patient is free from the vices of heredity that are beyond the reach of the surgeon. He does not find a single case of congenital mental defect in which a normal mental status was established through surgical intervention. There are many reports of cases benefited by surgery, the degree not being given, making it diffi-

cult to judge of its value. The fact that operations for this purpose have gone into disuse is the strongest argument against their utility. They may have a limited value, but not what was at one time expected.

12. **Acute Blennorrhea of Adults.**—McCaw advises prophylaxis by extreme avoidance of any possible way of infection and the cautioning of every woman with vaginal discharge and every man with gonorrhea as to the dangers to the eyes from such discharges and the importance of thorough cleanliness. He makes the assertion that cocain should never be used in eye diseases, though a few exceptions are admitted. He would prohibit bandaging and poulticing of the eyes. The first thing indicated is the use of cold compresses, except where the conjunctiva looks harsh and is covered with a tenacious grayish exudate, in which case hot applications are preferable. Cold should be kept up regularly day and night from twenty-four to thirty-six hours. During the second stage, where there is free purulent discharge, the important part of the treatment is frequent and thorough cleansing of the eye. He would use here one-half saturated solution of boric acid for this purpose. As soon as free purulent secretion is established and the conjunctiva is in a succulent condition, it should be brushed twice daily with a 2 per cent. silver nitrate solution as long as the free discharge continues. On the first indication of corneal infiltration or ulceration iced compresses should be discontinued and hot applications substituted. He insists on attention to the general vital condition of the patient.

13. **Eye Strain.**—Three cases are reported by Marlow, the consideration of which, he says, indicates the following points:

The most careful investigation and the apparently accurate correction of all the discoverable errors may completely fail to relieve the symptoms; may, in fact, aggravate them, and yet the symptoms may still be due to eye strain. Indeed, the fact that glasses which are apparently correct aggravate the symptoms is, I believe, in most cases evidence that the latter do arise from eye strain, and that a latent error is present, usually an error in the muscle balance. In all the cases described the possibility of the existence of the kind of error which was finally found to be present was fully appreciated from the first. In the second place, I believe that lapse of time is a very important factor in the elucidation of the true nature of these cases. The action of the accommodation in neutralizing refractive errors is so automatic and persistent that all efforts to annul it sometimes fail to be completely effective, even atropin and other powerful cycloplegics failing to bring about a complete relaxation. The natural relaxation due to advancing years often reveals a hitherto latent error. Similarly the instinctive tendency to see single and not double causes the extrinsic muscles to contract so as to maintain a parallelism of the visual lines. This contraction is so constantly maintained that the muscles get into a condition of tonic spasm which is extremely persistent. Just as we have a spasm of the accommodation in cases of hyperopia and astigmatism in the interest of clear vision, so we have a spasm of the extrinsic muscles in the interest of single vision, and the latter is far more difficult to demonstrate than the former. It is surprising what high degrees of error may remain latent year after year and produce a train of symptoms absolutely intractable to treatment until the manifestation and correction of these errors has occurred. I have seen some cases which have inclined me to think that not only is lapse of time the only thing which will reveal the true nature of the ocular conditions, but that old age itself is reached in some cases before the true condition becomes manifest.

Medical Record, New York.

September 26.

14 *Some Aspects of the Old and the New: A Plea for Conservatism in Medicine and Surgery. Beverley Robinson.
15 *Abnormal Frequency of Urination Treated with Epidural Injections. Ferd. C. Valentine and Terry M. Townsend.
16 *Nitrous Oxid in the Production of Surgical Anesthesia. Irving A. Meeker.
17 *The Treatment of the Pedicle in Ovariotomy and Salpingo-oöphorectomy. L. H. Dunning.
18 Post-graduate Work in Budapest. Willard J. Stone.
19 A Case of Venereal Warts. A. P. Stoner.
20 Circumcision in Infancy. William B. Harlow.

14. **Conservatism in Medicine and Surgery.**—Robinson's article is a plea for greater conservatism in medicine as well as surgery. He notices particularly in reference to the former the change of views regarding the cold bath in hyperthermic conditions, the over-use of arsenic, quinin, morphin, etc., the tendency to employ too many drugs and the need of attention to hygiene as against too indiscriminate drugging.

15. **Epidural Injections for Enuresis.**—Valentine and Townsend give the results of epidural injections according to the Cathelin method by injecting normal salt solution into the lower extremity of the spinal canal at the tip of the sacrum under antiseptic precautions, and describe the technic. The patient is placed on one side or the other and the lower sacral opening is then a little above the line between the nates, as he shows by a figure. When epidural injections are made for disturbance of urination the authors say it is well to place the patient in a sort of Sims position, the knees drawn as tightly as possible towards the chest and the legs flexed. The fingers are passed down over the sacral spinous processes until the last perceptible one is felt under the finger tips of the left index and middle fingers. These are then slightly separated and pushed downward until each of them presses an osseous tubercle. The skin is stretched over these tubercles, and between them is the point of puncture. The needle is held at an angle of about 40 degrees to the sacral curve and thrust through the tensely stretched skin, then depressed about 20 degrees and the middle finger raised from the skin while the index is pressed on the point of puncture to steady the needle and the tissues. In this position the needle is cautiously pushed up into the sacral canal; and if no gross abnormality exists and the method is sedulously followed, the needle can be entirely inserted without touching the periosteum of any part of the sacral canal. (See cuts on page 888 of THE JOURNAL.) An injection is slowly made of about nine-tenths of the contents. The after-treatment is simply wiping dry and covering the site of puncture with a little collodion. The conclusions which seem warranted are given by the authors as follows:

1. Epidural injections with decinormal salt solution offer the most promising results in abnormalities of urination due to faulty vesical innervation.
2. Incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathologic conditions) can at least be ameliorated by epidural injections.
3. Cautiously performed, epidural injections are in no wise dangerous to the patient.
4. Epidural injections are no more painful than any hypodermatic injection with a mild solution.
5. Epidural injections can be performed by anyone who follows the technic outlined and is alert to those anatomic variations which are so frequent in the region.
6. The immediate effects of epidural injections are very rarely even disagreeable.

16. **Nitrous Oxid Anesthesia.**—Meeker advocates the use of nitrous oxid anesthesia as the safest method in minor surgical operations and as a preliminary to ether anesthesia.

17. **The Pedicle in Ovariotomy.**—Dunning reviews the various methods and gives the ordinary methods of treatment of the pedicle. He calls attention particularly to the dangers of intestinal adhesions to the stump in both ovariotomy and salpingo-oöphorectomy. Of a large number of methods brought forward to do away with the stump in the latter operation, none has seemed entirely satisfactory. The method he occasionally employs comes near meeting the requirements, but has an element of danger in inexperienced hands. This consists in boldly cutting across the fallopian tube at the uterine horn, then severing the attachment of the mesosalpinx from the under surface of the fallopian tube, cutting free the ovary from its attachment to the broad ligament and uterus, tying all bleeding vessels, and with a whip-row stitch closing in all raw surfaces. One unfortunate experience with hemorrhage led him to see the danger of such free cutting without more extensive ligation of the blood vessels. In some very vascular patients he has sometimes ligated the ovarian artery near the pelvic wall to avoid this. For several reasons the stump method is the preferable one if a sufficiently long pedicle can be found, but he points out the possible dangers and difficulties in covering the stumps. For many years he has used catgut alone for ligation, and has had no reason to regret the selection of this material. He never leaves the pedicle without having ligated each artery in it.

Medical News, New York.

September 26.

21 *Concerning Some Points in the Treatment of Typhoid Fever. Glentworth R. Butler.
22 *Note on Typhoid Fever and Scarlet Fever, with Special Reference to the Diagnostic Value of Blood Cultures. Ludvig Hektoen.
23 *Typhoid Fever in Infancy and Childhood. J. P. Crozer Griffith.
24 *Nourishment, Medication, Hydrotherapy and General Management of Typhoid Fever Cases. W. T. Baker.
25 *The Etiology and Chemical Pathology of Gallstones. (Continued.) C. A. Herter.
26 *The Pathology and Treatment of Tardy Post-operative Intestinal Obstruction, with a Report of Cases. Ellsworth Eliot, Jr.

21. **Typhoid Fever.**—Butler believes in the milk diet, though varied with buttermilk, koumyss, oyster and clam soup, etc. The stools should be inspected for undigested curds and the milk be either stopped or diluted one-half with water, plain or mineral, or peptonized. If the patient is accustomed to tea or coffee, he would not cut them off entirely, but allow them once daily. In all cases lemonade, orange juice and grape juice are not only allowed, but encouraged, unless there is a troublesome diarrhea. Mutton, beef and chicken broths, bouillon, consommé or other clear soups are given in moderation unless the bowels are moving too freely. He also uses the white of an egg or the whole egg beaten up and employed a little sparingly. Plain ice cream, water ices and jellies are, as a rule, unobjectionable. Lactose is a valuable force producer and may be given in some cases, one, two or more ounces daily, dissolved in milk or water. With the above dietary the variety is usually sufficient, which is a matter of some importance unless the patient is delirious. We often prescribe more food than can be digested, and a persistent feeling of gastric discomfort, nausea, tympanites, etc., should be watched for. Water should be given as regularly as food. He would not take up solid food until three days or more after defervescence, and then use soft food only. He remarks that the cold bath is less used than formerly. Cold is not merely demanded for fever, but also for its stimulating and tonic effects, and he recommends the following methods for the application of cold: First, a cold-mitten rub, repeated at intervals of three to six hours when the fever reaches 102.5, then the towel bath of Baruch, and ice rub, which is still more vigorous in its action and requires some discretion in its use. The cold-mitten rub is usually sufficient for most cases. During the intervals between cold rubbings a wet compress to the abdomen is advised by some authorities, though he has seldom employed it. He advises measures of prophylaxis, such as disinfection of the patient's hands, cleansing of the nails, etc., and as regards medicinal treatment, many cases do best with little or no medication, but he thinks well of intestinal antiseptics and an initial dose of calomel, and remedies for intestinal hemorrhage, such as calcium chlorid and gelatin and powdered suprarenal as an arterial constrictor. A pint or more of a 10 per cent. solution of gelatin may be given in the twenty-four hours; 20 to 30 grains of calcium chlorid every two to four hours, and 5 or more grains of the desiccated suprarenal every four hours up to half a dram in twenty-four hours. He prefers these as a routine measure to the opium, ergot and lead of former treatment. To quiet the restlessness and excitement moderate doses of opium or its alkaloids are advisable in cases of hemorrhage.

22. **Blood Cultures in Typhoid.**—Hektoen reports a case and emphasizes the point that the practically constant presence of typhoid bacilli in the blood in the early stages during the height and at the beginning of relapses of typhoid makes it possible by the use of proper culture methods to settle the diagnosis of typhoid in special cases like those reported. This is also true in cases of paratyphoid fever.

23. **Typhoid Fever in Infancy and Childhood.**—Griffith points out the peculiar characters of typhoid in infancy and its greater frequency than has been generally estimated. The chief characteristics are the less typical onset and the tendency of nervous symptoms to overbalance intestinal ones. The average duration may be stated as from fourteen to twenty-one days, although often a little longer. The diagnosis is difficult and the value of the Widal test is inestimable. He emphasizes the importance of some complications and sequelæ. Relapses seem to be about as frequent as in adults. The prognosis is on the whole good. As for treatment, he does not advise cold baths. His custom is to apply sponging first, and if this is not sufficient a graduated bath of 90 degrees lowered down to 80 F. In many instances he has had good results with the abdominal ice bag. In some cases a warm tub bath of 95 to 100 is productive of good results. Sponging sometimes has a bad effect and it is a very questionable procedure in case the child is crying or struggling. Children develop a high temperature readily and tolerate it well, therefore the temperature can be let alone in many cases.

24. **The Treatment of Typhoid Fever.**—Baker believes in a more liberal diet in typhoid than some authors. He would allow more or less soft foods, but avoid any harsh materials. Mushy masses that do not over-distend the abdomen may do good by wiping off mucus and helping to carry off the discharges. For medication he thinks a cleaning out by the use of calomel useful; when the fever is high phenacetin, codein, salol and quinin in combination, and carbolic acid and tincture of iodin, 1 minim of the former, 2 of the latter in water every four hours in the daytime for its antiseptic effect. In case the carbolic acid is disagreeable any other good antiseptic will probably do. He notes the favorable reports as regards acetozone, but has not yet tried it. Hydrotherapy is used in all the ways he knows of, and he insists on the importance of good nursing. He tabulates 31 cases treated after this plan with good results, which he thinks support his view.

25. **Gallstones.**—Herter discusses the origin of gallstones, the existence of biliary stagnation producing infection and cholecystitis and the mode of action of the bacteria, decomposition of the bile and the influence of biliary reactions, concentration, foreign bodies and the agglutinative action of bacteria. He thinks gallstones may form within a comparatively short time, in three to six months under favorable conditions, and that bacteria may enter the gall bladder from the intestinal canal by the normal routes or from bacterial foci which discharge into the general circulation, and by the passage of bacteria from the intestine to the portal circulation, which he thinks is possible in spite of the negative results of Carmichael. The question whether constitutional influences can produce gallstones is also noted, and the need of future study on this point is mentioned. He reports experiments on the excessive feeding of fat as having a bearing on the production of biliary concretions, but the results are more suggestive than complete. Arteriosclerosis is possibly coincident, but not necessarily a cause. He thinks the future treatment of gallstones will be chiefly in the way of favoring the subsidence of cholecystitis.

26. **Post-Operative Intestinal Obstruction.**—The importance of avoiding adhesions in laparotomy cases liable to produce post-operative obstruction is emphasized by Eliot, who describes the symptoms and points out the dangers of leaving raw surfaces and of drainage. The immediate post-operative treatment for the prophylaxis of these adhesions is the establishing as early as possible of exaggerated peristalsis. During the first twenty-four hours he would use rectal enemata and warm saline solution, with or without turpentine, and in cases of persistent vomiting he would use lavage. As soon as the nausea and vomiting subside, small doses of calomel and salts should be administered and movements favored by high turpentine injections. The formation of adhesions is still further probably decreased by frequent changes in posture and the raising or lowering of the head, the foot or sides of the bed. These are not routine methods in every case, but only when there has been an extensive or infectious peritonitis or after operations involving suture of intestinal loops or operations for the relief of obstruction due to bands. The actual treatment of the obstruction itself does not differ from the treatment of obstruction from any cause. Early laparotomy, the ligation and removal of constricting bands, the disentanglement of adherent intestine, with resection if necessary, the closure of the abdomen with or without drainage and the prevention if possible of subsequent adhesions is the general routine treatment. Several cases are reported in detail.

Boston Medical and Surgical Journal.

September 24.

27 The Ill Health of Francis Parkman. (Continued.) George M. Gould.
28 Three Cases of Tumor of the Cerebellum. John J. Thomas.
29 *Tuberculosis of the Spine. A Statistical Study of the Cases in the Orthopedic Department of the Carney Hospital. Joel E. Goldthwait.
30 *A Note on the Association of a Rise in Systolic Blood Pressure with the Onset of Perforative Peritonitis in Typhoid Fever. John Bradford Briggs.

29. **Tuberculosis of the Spine.**—Goldthwait analyzes 108 cases of Pott's disease in the out-patients of the orthopedic

department of the Carney Hospital prior to 1902. Sixty-two of these reported more or less regularly for treatment; 41 of the latter were under 30 years of age, and in 21 of the cases the disease had existed for from six to twenty years before applying for treatment. In 20 cases there was abscess. Of this number 8 died and 4 are at present in poor condition. In 11 cases there was paraplegia, and of this number 2 died. Of the 62 cases 11 died. In nearly all the cases death was due to local infection or to its extension to some other part of the body, the average time between the onset of the disease and the time of death being four years. He calls attention to the fact that these cases were hospital ones, living under poor hygienic conditions. At the last report 20 patients were entirely free from symptoms, and in 18 others there has been great improvement.

30. **Blood Pressure and Typhoid Perforation.**—For two years Briggs has noticed a sharp rise in the systolic blood pressure, as measured by a modified Riva-Rocci apparatus, occurring in patients undergoing laparotomy and produced by mechanical irritation of the peritoneum. Dr. Harvey Cushing suggested that a similar rise in the blood pressure could possibly be produced by intestinal perforation and might be of value in the early recognition of this accident. From Briggs' own observation and those of Dr. Cook he notices that patients suffering from acute general or rapidly spreading peritonitis, of whatever origin, uniformly showed a state of hypertension of the pulse, and similar observations have been made and reported by Crile. During the past year they kept close watch on the blood pressure in the typhoid patients in Dr. Osler's service in the Johns Hopkins Hospital, and in 2 patients out of a large number abdominal symptoms justifying exploratory laparotomy were observed and the condition of the blood pressure in each was of interest. These 2 cases are briefly reported. In one perforations were found; in the other the symptoms suggested perforation, but there was no rise of blood pressure to speak of, and Briggs considered therefore that no perforation had occurred, but the abdomen was opened and the intestines carefully examined and no perforation found. He thinks it seems certain that patients with a general or rapidly spreading peritonitis have constantly, or at least in early periods, an abnormally high blood pressure. That in perforative peritonitis a sharp rise in blood pressure may precede the onset of other symptoms. That in doubtful cases like his second one, where perforation is suspected, and the general previous blood pressure is known, the course of blood pressure after the onset of grave symptoms should receive consideration in determining the propriety of operation.

Cincinnati Lancet-Clinic.

September 26.

31 The Physician of To-day. George J. Monroe.
32 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

American Journal of Orthopedic Surgery, Boston.

August.

33 The Family Physician, the Specialist and the Patient. Louis A. Welgel.
34 *The Correction of Deformity at the Hip, the Result of Disease. A Study of the Best Methods and Best Positions. Virgil P. Gibney.
35 *Subtrochanteric Osteotomy in Adults, in Adolescents and in Young Children. E. H. Bradford.
36 The Mechanical vs. the Operative Treatment of Rachitic Deformities of the Lower Extremities, Presenting a New Osteoclast. R. Tunstall Taylor.
37 *The Surgical Pathology of Genu Varum and Genu Valgum. Wallace Blanchard.
38 *The Occurrence of Painful Affections of the Feet Among Trained Nurses. Robert W. Lovett.
39 *A Further Consideration of a Modified Form of Osteotomy Combined with Osteoclasis, Osteotomoclasis. W. Barton Hopkins.
40 A Consideration of the "Round Shoulder" or "Stoop Shoulder" Deformity in Childhood, with Especial Reference to the Proper Adjustment of the Clothing in Preventing and Treating Such Conditions. Joel E. Goldthwait.
41 The Abuse of Flat-foot Supports. Wisner R. Townsend.
42 The Importance of Supplementing Tendon Transplantation in the Treatment of Paralytic Talipes by Other Procedures Designed to Assure Stability. Royal Whitman.

34. **Deformity at the Hip.**—Gibney deprecates the use of force in the correction of hip deformities resulting from disease, and rather favors the use of subcutaneous osteotomy in these cases. He holds that the corrected position must be maintained for many months under a closely fitting plaster-of-paris bandage followed by a closely fitting splint for several months more. He would prefer to have the ankylosed limb straight rather than slightly flexed, as there is less danger of developing trouble later with this than with the flexed limb, and walking is less interfered with.

35. **Subtrochanteric Osteotomy.**—Bradford claims that the operation of subtrochanteric osteotomy for the correction of deformity following hip disease can be done in adults without fear of non-union, or even in middle life, and that the danger of relapse is greater when the operation is done in childhood or rapidly growing years. The period of convalescence and disability, however, is comparatively longer when the operation is begun later in life, but he recommends deferring the operation when possible until the period of rapid growth is passed.

37. **Genu Varum and Genu Valgum.**—In these conditions Blanchard believes in correction by osteoclasis or osteotomy and that epiphysiotomy is hardly worthy of consideration. Osteotomy has some slight dangers from which osteoclasis is free, and the long period required for bone union and recovery would condemn it when osteoclasis is available.

38.—This article appeared elsewhere. See THE JOURNAL of July 18, ¶6, p. 204.

39. **Osteotomoclasis.**—This new operation is suggested by Hopkins in cases where simple osteotomy is inappropriate. It consists in a combination of partial osteotomy and osteoclasis. Partial section, he says, seems to be a rational preliminary step to osteoclasis in certain cases. He would use the combined operation in cases suitable for osteotomy, producing the simple instead of compound fracture by the method, osteoclasis being performed after the skin wound has entirely healed.

Annals of Surgery, Philadelphia.

September.

43 *Operative Possibilities in Cases of Advanced Carcinoma of the Breast. Lewis S. Pilcher.
44 *Cystic Degeneration of the Mamma, Showing Transformation Into Scirrhous Carcinoma. Aller G. Ellis.
45 Surgical Treatment of Cholelithiasis. Albert A. Berg.
46 A Prostatic Tractor for Perineal Prostatectomy. G. Frank Lydston.
47 A Case of Ascites Due to Liver Cirrhosis Treated by Operation. Rutherford Morison.
48 Gangrene of Colon and Ileum After Operation for Appendicitis. Nathaniel P. Dandridge.
49 Paraffin Casts of Urethral Calyces, Pelves and Ureters. Byron Robinson.
50 Embolic Gangrene of the Leg as a Sequel of Acute Lobar Pneumonia. Charles L. Gibson.
51 *Fractures of the Vertebræ. John E. Owens.
52 *Dislocation of the Outer End of the Clavicle. John G. Sheldon.
53 *Method of Retaining Ends of Fractured Bones in Apposition During Fixation by Plaster-of-Paris Dressing, etc. Robert W. Johnson.
54 Blood Examinations in Their Relation to Surgical Procedures. L. L. McArthur.
55 On Myositis Ossificans Traumatica. John F. Binnie.
56 Bridge for Treatment of Nasal Fractures and Deformities. W. W. Grant.

43. **Carcinoma of the Breast.**—Pilcher gives the results of 50 cases which have been under his care in the Seney Methodist Hospital from 1888 to 1900. In 7 of them the disease had extended beyond the possibility of entire removal, and in 1 of these, in which a portion of the rib was removed, pneumonia developed which proved fatal in three days. This is the only fatality attributed to operation in the whole series. He classifies his operations according to their extent. In 2 cases ablation was complete to the apex of the axilla, without removal of any pectoral muscle. One of these remained well for six years, when intrathoracic disease developed which proved fatal. The second underwent a second operation eighteen months later, and remained well for five years, when the same disease appeared in the other breast. This second breast was removed, together with the contents of the axilla and the pectoralis major, but cancer of the liver appeared three years later and death occurred ten years after the first operation. In 11 cases ablation was complete to the apex of the axilla with removal of the pectoralis major muscle. Three cases are still well at the end of eight years or more. One died of cerebral apoplexy one year after operation without recurrence of the disease. Another one has remained well for

six years, but has had slowly advancing carcinoma since, and is now, nine years after operation, still living, but in feeble health. Three cases died from recurrence within periods of from a few months to two years. The eighth case was the one already mentioned in the preceding class. One remained well for a year and has since been lost sight of. In the third class, where both pectoralis muscles were removed, 2 are well for three years or more after the operation; one is living five and a half years later, but has a slowly advancing recurrence. Another is still living three years after operation without external recurrence, but with evidence of liver carcinoma; 6 died at periods varying from 12 months to five and a half years after the operation. In 18 cases operation was still more extensive; one or both pectoralis muscles were removed and the glands in the subclavicular region. Only 2 of these patients have remained well at six and four and a half years respectively, though one of them has beginning enlargement which suggests a recurrent disease in the ribs. The others are all dead, mainly from intrathoracic metastases. Pilcher considers that his experience has emphasized the fact that nothing is more illusive than the apparent local extent of carcinoma processes. The size of the local growth is no positive index to the number and distance of outlying deposits. He insists that practically every case of carcinoma of the breast when it has reached that degree of development at which a probable tumor is formed is already in an advanced stage and metastatic processes have, as a rule, already begun to be formed. Nevertheless, experience warrants the statement that surgery can promise a large percentage of absolute cures if employed as soon as the presence of the disease is determined.

44.—This article appeared elsewhere. See THE JOURNAL of September 5, title 91, p. 637.

51. **Fracture of the Vertebrae.**—The following are the conclusion of Owens' paper, which includes a report of cases and a discussion of the localization:

1. Laminectomy is superior to a simple reduction of the deformity, since, in fractures of the arches, reduction has no certain effect on isolated fragments, and reduction alone has hastened death. 2. Reduction may be more rational when effected through the open wound of laminectomy. 3. Simple reduction is useless where there are clots or adhesions sufficient in themselves to account for the spinal disturbance. 4. In cases of cervical luxation without fracture, simple reduction has given good results. 5. It is possible to still further improve the prognosis of reduction in simple cervical luxations by making the reduction with the arches exposed and employing silver wire suture of the processes to prevent relapse. In consideration of the distressing prognosis in lesions of the cervical region, an operation appears strongly indicated. Degeneration is observed wherever the narrowing factor is not removed. The treatment of vertebral fractures without operation offers a chance of success only where there exists little or no disturbance of the spinal cord, such as paralysis of a single group of muscles, one-sided paralysis or partial disturbances of sensibility, etc. In all cases where the usual assemblage of symptoms indicates a severe alteration of the cord, only prompt operations directly afford the best chances of securing improvement or cure.

52. **Dislocation of the Clavicle.**—Sheldon discusses the diagnosis of the condition and the conclusion which he reaches is that operation is advisable in every case where there is complete rupture of the coracoclavicular ligaments. There is only one case reported with symptoms pointing to complete rupture that terminated favorably without operation. The most approved method of procedure is exposure of the joint by incision; drilling the clavicle and acromion; passing and tying two absorbable sutures; approximating ligaments and fascia with fine catgut and suturing the skin wound with silkworm gut. He does not believe in the use of silver wire for suturing the bone, holding that absorbable sutures are better.

53. **Method of Retaining Fractured Ends in Position.**—Johnson suggests the following method as valuable in retaining the ends of fractured bones in position while applying plaster casts. His method is to take two or three strips of bandage, smear them with vaselin and apply one strip around the humerus for example, above the fracture, one just over the seat of fracture and the third on the forearm just below the elbow, these being applied under anesthesia. These strips are given to two assistants, and under the surgeon's direction the upper one may be pulled back, the lower one down, and the middle one tightened to keep the bones from tilting up at that point after they have been approximated. Then he would put on a loose flannel roller from the hand to the axilla, then a sufficiency of raw cotton, and finally plaster rollers, ignoring the traction strips and putting the bandages, cotton, etc., around or over them as if they did not exist, the assistants keeping up their pull in the lines indicated. In five minutes the plaster has hardened and the bones are fixed in the position desired. These tense straps which the assistants have been pulling on might produce strangulation if left, but as they are covered with vaselin by letting go one end there is no difficulty in pulling them out from beneath the plaster, leaving a small hole, which can be easily filled up to make it neat. As soon as they are removed split the plaster down in front and bring it together loosely with the adhesive strips so as to make room for the tension from swelling of the arm. He has repeatedly used this method. He frequently keeps the splints on for the whole treatment with satisfactory results.

Louisville Monthly Journal of Medicine and Surgery.

September.

57 Glaucoma. T. C. Evans.
58 Appendicitis from the Standpoint of the Patient. Samuel G. Dabney.
59 Management of the Third Stage of Labor. Cassius D. Mansfield.
60 The Surgical Treatment of Abdominal Diseases. Louis Frank.
61 Empiricism and Medical Commercialism. D. L. Field.
62 Harshness of the Hairs. A. K. Bond.
63 *Pertussis as an Etiologic Factor in Uterine Displacements. Walter B. Jennings.

63. **Pertussis and Uterine Displacements.**—Jennings considers the anatomy of the uterine supports and the effects of paroxysms of pertussis on the body. He reports a case in a young woman of the athletic type who while perfectly well up to 20 years of age developed a third degree backward displacement of the uterus after an attack of pertussis. So far as it is possible to draw conclusions from the case they should be as follows:

1. Pertussis may be an exciting cause of backward displacement of the uterus. 2. The effect of the paroxysm would be to loosen the uterine ligaments, and muscular contraction of the abdominal muscle, together with a downward pressure of the diaphragm, would tend to force the uterus backward. 3. As a result of venous stasis of all the organs in the body, there would be a tendency to an increase in the weight of the uterus, and this would tend to a backward displacement.

The Post-Graduate, New York.

September.

64 Benign Ulcerations of the Bowels and Anus. Samuel G. Gant.
65 *A Study Concerning the Bacteriology of the Blood in Sepsis and the Value of Bacteriologic Blood Examination in Clinical Diagnosis. Harris A. Houghton.
66 Osseous Cysts. Carl Beck.
67 The Lymphoid Tissue of the Pharynx. Charles Graef.
68 Notes from the Clinics. (Management of Acute Suppuration of the Middle Ear, etc.) Wendell C. Phillips.

65. **Bacteriology of the Blood.**—Houghton reviews the literature and reports experiments and investigations, describing his methods. He concludes that the approximately normal blood contains pyogenic bacteria in a greater or less degree, their manifestation depending on other conditions. Bacteriologic examination of the blood is of little or no value in the diagnosis or prognosis or as indicating treatment. When positive results are obtained there is no assurance that the infective agent found is that which is responsible for the primary infection; or that it is not a cryptogenetic infection; or that a second examination will likewise prove positive; or where only one infective agent is found that this is the only one present; or where two are found that both are concerned in the primary infection. In cases where the results are negative we have no reason to believe that the blood is free from bacteria, or that another examination will likewise prove negative.

Occidental Medical Times, San Francisco.

September.

69 *Annual Report of the San Francisco Board of Health.
70 *The Liver Reflex. Albert Abrams.
71 Case of Poisoning by Carbon Monoxide. Kate P. Van Orden.
72 The Mysteries of Plague, Past and Present. C. N. Ellinwood.

69.—This article was noticed editorially in THE JOURNAL of October 3, p. 856.

70. **The Liver Reflex.**—This is described by Abrams as elicited by irritating the skin contiguous to the lower liver border, either electrically or by a spray of ether, or scratching of the skin by the finger nail or the blunt end of a pencil. The lower liver border can be observed after this maneuver

to recede one-half inch or more, depending on the degree of irritation. The retraction is dependent entirely on the contractility of the organ itself and the muscle fibers in its fibrous coat. The size of the liver can also be influenced by what he has called the cardio-splanchnic phenomenon. He enters at length into the directions for percussion of the liver to elicit this reflex, and the difficulties due to the thinness of the border and the hollow organs bounding it. The patient must be instructed to take no inspiration while the body is inclined backward and light percussion is executed, otherwise there will be a downward respiratory dislocation of the liver. In practicing percussion the finger receiving the percussion blow must be firmly imbedded in the abdominal wall, otherwise it will not be directly transmitted to the liver. He points out that this reflex is more pronounced in cases of active or passive congestion. In case the liver enlargement is due to a connective tissue hyperplasia, it will be absent or only slightly present. The prognosis and treatment may be affected in both ways. The sinusoidal current is really the best irritant for eliciting the reflex.

Medical Herald, St. Joseph, Mo.

September.

73 Utility of Intestinal Antiseptics in Typhoid Fever. N. S. Davis, Jr.
74 Principles in Drainage. C. H. Mayo.
75 *Fowler's Position in Abdominal Surgery. Van Buren Knott
76 Evisceration of Eye with Implantation of Glass Vitreous vs. Enucleation. F. W. Dean.
77 Hemorrhagic Pancreatitis, with Report of a Case. A. M. Pond.
78 Treatment of Gastric Motor Insufficiency. John B. Tyrrell.
79 Traumatic Lesions of the Spine. W. W. Bowen.
80 Tendon Transplantation in the Treatment of Paralytic Deformities. Frank C. Davis.
81 Kaiser Frederick III. and His Physicians. Ralph H. Parker.

75. Fowler's Position.—Knott advocates the use of Fowler's position which, instead of draining the immune portion of the peritoneal cavity on to the upper and sensitive portion, reverses the process, and he wonders that the method was not earlier recommended in cases of septic peritonitis. He reports five cases in which it was successfully used. The theoretic assumption that in debilitated patients the elevated head position might be pernicious is not verified in his cases, as there has been no cardiac embarrassment or other symptoms referable to the position, and patients have declared that they were more comfortable with the head elevated than with it down. He has noticed also that flatus has been passed earlier and more freely and there is no increased tendency to phlebitis. The position is maintained for twenty-four hours unless some special reason for continuing it was present. The head of the bed should be raised from twenty-four to thirty inches from the floor, and an elevation of thirty inches is much better than one of twelve.

American Journal of the Medical Sciences, Philadelphia.

September.

82 *Acute Myelogenic Leukemia. Frank Billings and Joseph A. Capps.
83 Tumor of the Intercarotid Body. A Report of One Case, Together with All Cases in the Literature. Charles L. Scudder.
84 *A Study of the Physical Signs of Lobar Pneumonia. Lewis A. Connor and George E. Dodge.
85 Primary Carcinoma of the Liver. H. Gideon Wells.
86 A Résumé of Some of the Year's Literature on the Liver and Gall Bladder. Herbert S. Carter.
87 *The Relation of Certain Adenocarcinomata to Atrophic Scirrhus of the Breast. J. Clark Stewart.
88 Report of Two Cases of Ulcerative Angina and Stomatitis, Associated with the Fusiform Bacillus and Spirillum of Vincent. Jessie Weston Fisher.
89 *The "Idiopathic" or "Essential" Dropsies of Childhood. Arthur W. Fairbanks.
90 Nephropexy in a Case of Chronic Nephritis. J. Norman Henry.
91 Orthostatic Albuminuria: Report of a Case. Harvey G. Beck.
92 On the Occurrence of Ehrlich's Dimethylamidobenzaldehyde Reaction in the Urine. Charles E. Simon.
93 *Syphilis as a Cause of Chorea. L. Harrison Mettler.
94 A Brief Report of 227 Cases of Paresis. Horace Phillips.
95 *Arguments in Favor of the Existence of a Separate Center for Writing. Hermon C. Gordinier.
96 A Contribution to the Surgery of the Brain, with the Report of Two Cases of Tumors of the Cerebellum Which Were Located and on Which Operations Were Performed. William H. Hudson.

82. Acute Myelogenic Leukemia.—Billings and Capps report a case which they refer to this type and discuss the literature, reviewing eight reported cases which seem to be unmistakable. From these published cases as a basis they sum up the blood picture of acute myelogenic leukemia as follows:

1. Anemia, progressive and severe. 2. A large increase of white blood corpuscles (16,000 to 540,000). 3. A large proportion of the white cells (25 to 96 per cent.) made up of myelocytes, large mononuclear cells of the same size, and faintly granular large mononuclear cells (transitional cells). 4. Eosinophiles, mast cells and nucleated red corpuscles may be absent or present in varying numbers.

84. Pneumonia.—The early symptoms of lobar pneumonia are reviewed by Conner and Dodge from observations of a series of 392 cases. They notice particularly the enfeeblement of respiration among the earliest symptoms, and attribute its cause to the greatly restricted expansion of the enlarged and stiffened part of the lung. The length of time in which the area of feeble breathing was observed before the appearance of bronchial breathing varied from one day or less to five days. Harsh or exaggerated breathing occurred in 8 out of 124 cases of beginning pneumonia, which they take to signify deep-seated involvement of the structure. Râles were heard in 110 cases before the advent of bronchial breathing; about 50 per cent. were described as crepitant, most of the remainder as subcrepitant. Their experience corresponds with that of Skoda, that crepitant râles are by no means always observed. They place the physical signs of beginning pneumonia in the order of relative frequency, as: 1. A circumscribed area of feeble, indistinct breathing as compared with the breathing at the corresponding point on the other side. 2. A circumscribed area of impaired resonance, with or without a tympanic quality, obtained under similar precautions. 3. The crepitant râle. 4. A slight increase in the intensity and clearness of the vocal resonance. Bronchial breathing and bronchophony make their appearance coexistent with and indicative of complete hepatization of a larger or smaller portion of the lung tissue. In almost all the cases observed the bronchial quality first appeared during expiration. In most cases the sounds were faint, soft and of very low pitch, usually existing for about twelve hours, but occasionally for longer periods. Concerning the signs of percussion in the second stage, they find that when the consolidation affects the right lower lobe posteriorly, there is found very commonly over the middle lobe in front a strikingly deep, hyperresonant note of more or less distinctive tympanic value. This is heard in the circumscribed area in the fourth and fifth spaces within the nipple line. It has been frequently possible by it to predict the position of the consolidation before the back had been examined. The bronchial breathing usually appeared from the third to the fifth day, rarely in the first day. In four cases of undoubted pneumonia neither bronchial breathing nor bronchophony could be found at any time. The gradation of change from bronchial to normal vesicular breathing should fall in inverse order to that observed in consolidation. The relation of the disappearance of bronchial breathing to defervescence is mentioned. This occurred at various periods from before defervescence until six or seven days after, or more. They notice here in this respect three distinct groups: 1. Those in which the signs of consolidation appear one, two or three days before the temperature fall. 2. Those cases, by far the most numerous, in which beginning resolution coincided with the fall in temperature or followed it in a day or two, and in which resolution progressed rapidly and was complete within a few days or more. 3. Those cases in which with defervescence signs of complete consolidation persisted for several days or longer before the appearance of beginning resolution. There were 30 in which the signs of consolidation lasted for more than two weeks, and in one where there were no signs of consolidation for sixty days. The question of central pneumonia is discussed. The authors think the practice of applying this term to cases where signs of consolidation are late in appearing is unwarranted, and that this stage of diminished breathing in pneumonia corresponds with incomplete consolidation or engorgement limited to the interior of the lobe. They hold that true cases of central pneumonia are probably much rarer than popularly supposed. They have noticed a progressive rise and fall in the pitch of bronchial breathing and consider it related rather to the degree of consolidation than to the proximity of the consolidation to the surface.

87. **Relations Between Adenocarcinoma and Scirrhus.**—Stewart discusses the question of this relation and reports cases illustrating his views. His summary is as follows:

1. The term atrophic scirrhus is worthy of retention as describing an important clinical entity. 2. It is extremely doubtful whether such cases are benefited by operation. 3. Certain adenocarcinomata of the breast have the clinical history of the atrophic scirrhus. 4. It seems probable that if more of these tumors were studied histologically they might prove to have an adenomatous element to justify their comparative benignancy.

89. **The "Essential" Dropsies of Childhood.**—Fairbanks describes the angioneurotic edemas of childhood, reporting personal observations and reviewing the literature. He adopts the neurotic theory, holding that no one bodily cause can be regarded as essential unless it is exposure to cold. He does not recognize the close relation of the condition to urticaria, holding that the occurrence of the latter is secondary.

93. **Syphilis as a Cause of Chorea.**—Mettler reports cases and discusses syphilis as a cause. He formulates his conclusions thus:

1. Syphilis in rare instances is a cause of chorea, and should always be thought of as a possibility in the examination of every case. 2. Chorea may be the result of acquired or hereditary syphilis. 3. Most of the cases of syphilitic chorea are unilateral; belong to the prehemiplegic or posthemiplegic type of the disease; may or may not be associated with other signs of an irritative lesion; are not infrequently developed in hereditary syphilitics, and are to be attributed probably to a functional disturbance of an irritative sort in the cortical and ganglionic motor cells. 4. The existence and recognition of these two forms of syphilitic chorea—the focal and the generalized—support the inference that all forms of chorea are but the expression of one or more of a multiplicity of possible factors which may disturb the functional activity of the upper motor neurons, these factors being all the way from a gross lesion down to a molecular or chemical change not demonstrable with our present means of investigation. This conclusion leads to the further conclusion that chorea is not a disease, but a mere symptom. 5. Syphilis, when determined as the cause of a case of chorea, should lead to the prompt and thorough treatment of the case as one of syphilis and not chorea.

95. **The Writing Center.**—The existence of a separate center for writing is maintained by Gordinier, who reports a case which seems to prove the existence of a separate and distinct cortical center for writing, having the same relation to writing movements as the motor speech center has to speech movements. This center is located at the base of the second left frontal convolution for the right-handed. Destruction of this center produces pure motor agraphia without aphasia or paralysis of either arm. The case is illustrated, showing the lesion in the place indicated, and seems to be fairly conclusive as far as a single case can be.

Journal of Advanced Therapeutics, New York.

September.

97 The Therapeutics of the Continuous Current. Margaret A. Cleaves.
98 Current Differentiation. A. D. Rockwell.
99 *Rheumatoid Arthritis. Francis B. Bishop.
100 Answers and Objections to Dr. A. A. O'Neill's Paper, "X-Ray Era," on Electrolysis in Urethral Strictures. Robert Newman.
101 The Electrical Treatment of a Case of Fibroid Uterus with Disease of the Right Ovary and Tube; a Symptomatic Cure. Amédée Granger.
102 The Treatment of Chronic Diseases by Physical Therapeutics, Through the Sympathetic Nervous System. Albert C. Geyser.

99. **Rheumatoid Arthritis.**—Bishop holds that this is a disease of the nervous system. The treatment which he would use for the earlier cases is the application of a surging high potential alternating current on each side of the vertebræ for five or six times. After this he treats the liver, kidney region, spleen and lymphatic vessels and glands as well as the joints. This alternating surging current produces an efficient and very deeply penetrating spark, which is practically painless. When treatment has been begun early enough decided improvement has taken place. When it cures it is gradual and progressive, but may require months. He insists on the importance of early diagnosis. Trophic changes are first in the nerve centers, second in the nerves, and lastly in the muscles and joints.

Annals of Gynecology and Pediatry, Boston.

September.

103 Cysts of the Kidney. Augustin H. Goelet.
104 *The Toilet of the Peritoneum in Tuberculous Peritonitis. A. J. Ochsner.
105 The Remote Effects of Latent Gonorrhea in the Female. W. E. Fitch.

104. **Tuberculous Peritonitis.**—Ochsner has tabulated 32 cases of tuberculous peritonitis treated in one hospital, showing the immediate and late results. Since then he has operated on 8 cases, and from all these, though the number is small, he thinks the following conclusions concerning the toilet of the peritoneum in these cases are warranted:

1. In the absence of ascitic fluid in the peritoneal cavity, the diseased tissues may be removed with safety if the section is made entirely in healthy tissue. 2. In the presence of ascitic fluid the latter should be evacuated and the abdominal cavity drained. 3. Great care should be exercised in making the intra-abdominal manipulations and examination not to cause any abrasions. 4. Adhesions should not be disturbed. 5. The less the tissues are manipulated, the better will be the results. 6. Manipulations of the infected pelvic organs—uterus, ovaries, fallopian tubes—is less harmful than manipulations of the infected intestines.

Illinois Medical Journal, Springfield.

September.

106 The General Practitioner and His Relation to Early Surgical Operation. E. B. Montgomery.
107 The Responsibility of the Surgeon. J. E. Coleman.
108 *Tonsillar Hemorrhage. Lawrence R. Ryan.
109 Accidents of the Antrum, with Special Reference to a Peculiar Case. E. V. D. Morris.
110 The Treatment of Eye Injuries. H. Gradle.
111 The Surgical Treatment of Trachoma, with a Report of Cases and Demonstration of Methods. J. Whitefield Smith.
112 *Management of Crossed-eyes in Children. Willis O. Nance.
113 *The Danger That May Lurk in Blind Eyes. Cassius D. Wescott.
114 Gastrostomy by the Franck Method. Joseph B. Bacon.
115 *Vibration Massage in the Treatment of Chronic Prostatitis. Louis E. Schmidt.

108. **Tonsillar Hemorrhage.**—The prevalent opinion that tonsillar hemorrhage is seldom dangerous is refuted by Ryan, who reports cases where very serious trouble and danger followed operation. He reviews the statements of others and shows that it is clear that alarming cases do sometimes occur, though as yet no fatal cases have been recorded. The dense fibrous tonsil of the young adult seems to produce the most dangerous symptoms. He would put the various methods in the following order in the order of their danger: 1. Removal by bistoury, an almost obsolete method. 2. Removal by the tonsillotome, which elevates the tonsil. 3. Removal by the flat tonsillotome as done by McKenzie. 4. Removal by the galvanocautery snare. 5. Removal by the cold snare. 6. Dissection or tonsillectomy by the galvanocautery knife, requiring several sittings. He would hesitate now about removing by amputation the fibrous tonsil of people over 25 years of age, and especially if it is densely fibrous.

112.—This article has appeared elsewhere. See THE JOURNAL, August 1, ¶39, p. 337.

113.—Ibid., September 12, ¶16, p. 684.

115.—Ibid., ¶65, p. 687.

Northwestern Lancet, Minneapolis.

September 1.

116 Eye Strain from the Viewpoint of the General Practitioner. Edward B. Taylor.
117 The Sequels of Appendicitis. James E. Moore.
118 Report of a Case of Perforative Typhoid Ulcer; Diffuse Suppurative Peritonitis; with Operation and Recovery. H. B. Sweetser.
119 The Common Mind; Has It an Existence, and to What Extent Can It Be Depended on in the Discussion of Public Questions? Edward J. Brown.

Albany Medical Annals.

September.

120 Hygiene in the Prevention and Cure of Disease. George Haner.
121 Prevention of Smallpox. F. C. Curtis.
122 Some Sequelæ of Smallpox. Joseph D. Craig.

Canada Lancet, Toronto.

September.

123 Address, Canadian Medical Association, London. W. H. Moorehouse.
124 The Cardiac Aspect of Arteriosclerosis. T. W. G. McKay.
125 The Renal Aspect of Arteriosclerosis. John Caven.
126 Cerebral Aspect of Arteriosclerosis. H. A. McCallum.
127 Eye Symptoms in Arteriosclerosis. J. C. Connell.
128 The Therapeutics of Arteriosclerosis. John L. Davison.
129 Some Business Aspects of Medical Practice. N. A. Powell.
130 Intoxication in Appendicitis. Edward Hornibrook.

Iowa Medical Journal, Des Moines.

September 15.

131 Diagnosis and Treatment of Typhoid Fever. L. W. Littig.
132 Pathology and Bacteriology of Typhoid Fever. Charles H. Hoffman.
133 Observations and Impressions of Medicine and Medical Men Abroad. G. E. Crawford.

Toledo Medical and Surgical Reporter.

September.

134 Antistreptococcic Serum in Puerperal Septicemia. Claren S. Miller.

135 The Care of Inebriates. E. H. Rorick.
136 Injuries to the Nose and Immediate Treatment. George W. Spohn.
137 Scientific Work in Ohio's State Medical Institutions. A. P. Ohlmacher.

New Orleans Medical and Surgical Journal.
September.

138 History of Maritime Quarantine in Louisiana Against Yellow Fever. Quitman Kohnke.
139 Boon and Bane. William L. Rabe.
140 Pneumogastric Sedatives. William F. Waugh.

New Yorker medicinische Monatschrift.
August.

141 Zur Behandlung einiger chronischer Gelenkleiden (Treatment of Certain Chronic Joint Diseases). Max Schüller.

Medical Bulletin, Philadelphia.
September.

142 Vesicular Emphysema; Valvular Disease of the Heart. J. V. Shoemaker.
143 Carbuncle. William L. Rodman.
144 The Treatment of Asthma. George W. Pfromm.
145 Herpes Zoster of the Neck, with Temporary Glycosuria Consecutive to Angina. M. E. Rouyer.

Interstate Medical Journal, St. Louis.
September.

146 Additional Cases in Which the Author's Silver Filigree Was Used for the Radical Cure of Abdominal Hernia. William Bartlett.
147 Diagnosis of Syphilis of the Eye. Joseph W. Sherer.
148 Ileo-colitis. L. L. Meanes.
149 A Case of Sodium Chlorid Poisoning in a Child. John Zahorsky.
150 Case of Multiple Neuritis Following Mumps. John Zahorsky.
151 Influenza Otitis. Algernon S. Barnes, Jr.

Washington Medical Annals.
September.

152 Rheumatoid Arthritis. Francis B. Bishop.
153 Case of Enucleation of Eyeball Which Had Been Injured by a Piece of Steel Penetrating the Eye and Causing Sympathetic Irritation; Implantation of Gold Ball in Tenon's Capsule. E. Oliver Belt.
154 Case of Renal Calculus. A. A. Snyder.
155 Two Cases of Fracture of Skull by Baseball Bats. A. A. Snyder.
156 Case of Myxedema in a Child Three Years Old. G. N. Acker.
157 Cases of Early Carcinomata and Fibromata of the Uterus, Ovarian Fibroids and Umbilical Hernia. J. Wesley Bovée.
158 Clinical Notes of Three Cases of Cesarean Section and Two of Basiotripsy. Henry D. Fry.
159 Case of Fibroid Tumor of Left Broad Ligament. Duff G. Lewis.
160 Case of Cholelithiasis. A. A. Snyder.

Providence Medical Journal.
September.

161 The Community and Tuberculosis. Jay Perkins.
162 Catheterization of the Ureters. John W. Keefe.
163 A Case of Submucous Fibroid, Complicating Labor and the Puerperium, with Retained Placenta. A Case of Rupture of the Uterus. H. G. Partridge.

Woman's Medical Journal, Toledo.
August.

164 The Prevention of Insanity. Lena A. Beach.
165 Discussion of Prevention of Insanity. Anne Burnett.
166 Physical Culture and Manual Training in Our Schools. Edith Gould Fosnes.
167 Ileo-colitis. Lena L. Meanes.
168 Children and Their Teeth. Alice M. Steeves.
169 Atropin in Cholera Infantum. William F. Waugh.

Bulletin of the Kentucky State Medical Association, Louisville.
July.

170 Some Things the Obstetrician May Do to Assist the Lying-in Woman, and Some Things that He Had Better Not Do. T. J. Shoemaker.
171 Mechanical Device for Protecting the Perineum. E. J. Brown.
172 The Mechanism of Occipito-Posterior Positions. Walker B. Gossett.
173 Anesthetics. C. H. Todd.

Medical Examiner and Practitioner, New York.
August.

174 Studies in Centenarianism. John Marshall French.
175 The Medical and Social Aspects of Child Labor. Frederick L. Hoffman.
176 A Study on Light. J. Mount Bleyer.

New England Medical Monthly, Danbury, Conn.
September.

177 Intravenous Collargolum Injections in Septic Affections. Hermann Schmidt.

Alabama Medical Journal, Birmingham.
September.

178 Summer Diarrhea in Children. J. Ross Snyder.
179 Address, Medical Association of the State of Alabama. Lewis C. Morria.
180 The Treatment of Fracture-Dislocations of the Spine, with Injury to the Spinal Cord. W. W. Richardson.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.
September 19.

1 *A Discussion on Disposal of Excreta in the Tropics. W. J. Simpson and others.
2 *Sprue: Primary and Secondary. P. W. Bassett-Smith.
3 Malaria: The Mode of Entry of the Spore Into the Red Corpuscle. Cuthbert Christy.
4 *Discussion on Trypanosomiasis. Patrick Manson and others.
5 Five Cases of Abscess of the Liver. P. W. Bassett-Smith.
6 Liver Abscess, with Ten Cases. James Cantlie.
7 *The Pathology of Acute Rheumatism and Allied Conditions. E. W. A. Walker and J. Henry Ryffel.

1. **Disposal of Excreta in the Tropics.**—Simpson advocates the use of water-tight and isolated cesspools where surface contamination is impossible and subsequently, after fermentation, the employment of the excreta for fertilization and gives his reasons. In the early stages the excreta are protected from flies, and in the feces of vegetable eaters is a large amount of undigested vegetable matter and cellulose which are more thoroughly broken up by anaërobic than by aërobic organisms.

In the subsequent discussion Rogers gives the results of experiments as to the effect of the septic tank on the life of various pathogenic organisms and, as far as his results go, they show that the septic tank process is inimical to most of the pathogenic organisms, including the cholera bacillus, staphylococcus, streptococcus, typhoid bacillus, Malta fever germ, and excepting only the anthrax bacillus. On the other hand even small quantities of effluent from the tanks showed both the *Bacillus enteritidis sporogenes* and streptococci, and its subsequent discharge through filters and then over a small piece of land with subsoil drainage failed to free it from these organisms and from a large number of colon bacilli. It would not be safe, therefore, to allow the water to contaminate water used for drinking.

2. **Sprue.**—Bassett-Smith disagrees with the American surgeons in not considering sprue a sequel of dysentery in all cases. He reports cases with blood findings and notices particularly the characteristic anemia which is close to that of pernicious anemia except that the hemoglobin value of the cells is also reduced and megaloblasts are not present. The cardinal points in coming to a diagnosis are irregular and chronic diarrhea with dyspepsia causing flatulent distension of the abdomen, the occurrence of fermenting offensive stools which in chronic cases become pasty, clay-colored and very abundant, progressive emaciation, extreme secondary anemia, and changes in the buccal mucous membrane with or without the production of an aphthous condition.

4. **Trypanosomiasis and Sleeping Sickness.**—The discussion on trypanosomiasis was opened by Patrick Manson, who notes that the disease is milder in the native than in the European. In the latter there is irregular undulant fever, peculiar circinate erythema and such eye symptoms as choroiditis and iritis. Manson objects to the trypanosoma being considered the germ of sleeping sickness.

Christy describes the distribution of sleeping sickness along the Northern and Western portion of the Victoria Nyanza Lake showing that it is rapidly advancing, though its infecting area seems to be confined to within ten miles of the lake shore and corresponds rather with the tsetse fly distribution.

Dutton and Todd find that the disease extends well up the Gambia River. It seems to be mild in the natives. Its diagnosis is clinically impossible. Experimental inoculations of animals show the horse parasite to be more pathogenic than the human variety.

7. **Rheumatism.**—Walker and Ryffel refer to an earlier communication by Walker and Beaton in which they reported the discovery of a micro-organism associated with acute rheumatism to which they venture to give the distinctive term *Micrococcus rheumaticus*, differing in many respects from other streptococci. Attention is here called to the production of formic acid by this micrococcus and the following provisional statements are made:

1. The *Micrococcus rheumaticus* produces formic acid in very considerable quantity, and also at least one other acid of the fatty

acid series. 2. The acid (formic) is present not only in the filtered cultures of the organism, but it can also be extracted from the bodies of the micro-organisms themselves. The washed micrococci contain, in addition to formic acid, at least one of the higher fatty acids. 3. Ordinary streptococci, such as a streptococcus isolated from a case of erysipelas, only give rise to a small quantity of formic acid, so far as our experiments at present go. This observation may constitute a means of differentiation between the rheumatic micro-organism and other members of the streptococcus group. 4. Formic acid and probably another fatty acid are present in the urine during the course of acute rheumatism in appreciable amounts. From normal urine formic acid is either altogether absent or occurs in traces only. 5. Under the salicylic acid treatment of rheumatic fever formic acid is, so far as we have been able to investigate, reduced in quantity in the urine of the patient. 6. Formic acid is obtainable from the tissues of an animal (rabbit) suffering from acute arthritis due to the inoculation of the micro-organism.

They think formic acid is formed by the micro-organism, by oxidation of sacrolactic acid into formic and acetic acids. They remark that the connection of formic acid with the activity of the rheumatic micrococcus is of considerable interest in relation to the notion prevalent in county districts that bee-keepers are free from rheumatism. These individuals must necessarily be frequently subjected to the action of formic acid.

The Lancet, London.

September 19.

8 *The Artificial Feeding of Infants. Robert Hutchison.
9 A Case of Abscess of the Temporo-sphenoidal Lobe Presenting Symptoms of "Amnesic Aphasia"; Operation; Recovery. R. Lawford Knaggs.
10 Case of Aneurism of the Abdominal Aorta Treated by the Introduction of Silver Wire, with a Description of Instruments Invented and Constructed by Mr. G. H. Colt to Facilitate the Introduction of Wire in Aneurisms. D'Arcy Power and G. H. Colt.
11 A Case of Malignant Disease Following Splenic Anemia. C. H. Sedgwick.
12 A Case of Subacute Indurative Pneumonia. O. K. Williamson and J. G. Emanuel.
13 *On the Occurrence and Significance of Cutaneous Hyperalgesia in Appendicitis. James Sherren.
14 Defects in the Auricular Septum. Frank E. Tylecote.
15 *Tuberculosis and Cancer in New Zealand. W. J. Barclay.

8. **Infant Feeding.**—Hutchison summarizes as follows:

1. The first essential . . . is a definite plan on which to go and to avoid haphazard procedures. 2. Diluted cow's milk, condensed milk and peptonized milk may be regarded as the positive, comparative and superlative of digestibility respectively, and should be tried in that order until the digestive power of the child is suited. . . . 3. Periodic weighing of the child is the only test of the success or failure of the food selected. 4. In cases in which even peptonized milk fails to give good results great benefit often follows the administration of grey powder, even in cases in which there is no reason to suspect a syphilitic taint. 5. In spite of all care in the use of the above methods there remains a residuum of cases in which progressive wasting persists. Many of these seem to be babies who are unable to digest the casein of cow's milk in any form. 6. In such a case one should try to procure a wet nurse for the child, and, failing that, one must eliminate casein from the diet by making whey the basis of the feeding mixture. 7. The use of a patent food as the sole article of diet for a baby is rarely if ever necessary so long as cow's milk can be obtained, either fresh or condensed. 8. If a child is unable to digest much cow's milk it is often worth while to try the effect of adding a little starchy food to the diet even at an early age, for inability to digest milk appears to be sometimes accompanied by an unusual capacity for the conversion of starch.

13. **Appendicitis.**—Sherren notes the significance of cutaneous hyperalgesia in appendicitis and illustrates it by schematic diagrams and cases. He concludes:

1. Cutaneous hyperalgesia is probably present at some time during all first attacks of appendicitis, except, perhaps, in the fulminating type, and depends on tension within the appendix. 2. It may be absent in attacks after the first, if the first attack was of sufficient severity to destroy nerve tissue in the wall of the appendix. 3. When present in attacks subsequent to the first it often persists long after all other signs of the disease have gone, owing to the tension within the appendix being kept up by the presence of a stricture. 4. It gradually disappears during convalescence as the other signs of the disease clear up. 5. Disappearance of cutaneous hyperalgesia without improvement in the general condition of the patient is a sign of perforation or gangrene of the appendix, and should be a signal for immediate operation. 6. The presence of cutaneous hyperalgesia is no contraindication to operation. Abscesses may form and general peritonitis may develop while it is present. 7. Its absence, on the other hand, is of great importance. Absence of cutaneous hyperalgesia, the patient coming under observation early in the first attack of appendicitis, is a sign of gangrene of the appendix unless the case is obviously a mild one and the patient is rapidly getting well. 8. Cutaneous hyperalgesia is, as a rule, absent in cases of abscess of the appendix. 9. The age of the patient and the position of the appendix have no influence on the cutaneous hyperalgesia. 10. It is occasionally of use as an aid to the diagnosis of appendicitis.

15. **Tuberculosis and Cancer in New Zealand.**—Barclay gives a statistical study determining certain facts: 1. The death rate from tuberculosis is exceedingly low in New Zealand—only about one-half the English rate. 2. Cancer prevalence, on the other hand, seems to be practically equal to that in England. He concludes that the conditions favoring cancer are present to an equal extent in both countries.

Indian Medical Gazette, Calcutta.

September.

16 *Extraction of Cataract in the Government Ophthalmic Hospital, Madras. T. H. Pope.
17 Some Cases of Labor in Heart Disease. Clayton Lane.
18 An Account of a Race of Idiots Found in the Punjab, Commonly Known as "Shah Daula's Mice." G. F. W. Ewens.
19 *Further Notes on Experiments on the Pathology and Treatment of Malignant Diaease. E. R. Rost.

16. **Cataract.**—Pope has experimented with avoiding bandaging of the eye after operations, simply protecting it by a double eye-shade tied firmly around the head. By raising the head the patient is able to see. From his experience with wounds of the cornea, he thinks it a necessity to avoid bandaging in all cases of uncomplicated inflammation and injuries of the cornea and conjunctiva and to treat them simply by thorough cleansing with antiseptic washes followed by the application of an effective shade. The procedure has shown itself to be comparatively free from objections in hospital practice and he gives a history of the first twelve cases. The operation he employs for cataract is what is called the Drake-Brockman method. Instead of rupturing the capsule by a cystotome, Drake-Brockman used a Bowman's stop-needle and began by tearing the capsule of the lens. A full account was given in the *Indian Medical Gazette*, June, 1901.

19. **Cancer.**—Rost has seen benefit from the following treatment: A strict diabetic diet, two ounces of salt daily, rubbing salt ointment into the body and the local application of dilute hydrochloric acid, 2 per cent. In several cases there was a daily rise of temperature which gradually subsided as the treatment progressed. In some cases edema occurred around the growth, but this also subsided as the treatment was continued.

Presse Medicale, Paris.

20 (No. 71.) Les albuminuries curables. Albuminuries fonctionelles. G. Lyon.
21 La formation de la lymphe. M. Loeper.
22 L'alcool dans l'alimentation. E. Poher.
23 (No. 72.) Le traitement électrique de la constipation habituelle et de la colite muco-membraneuse. L. Delherm.
24 Grippe et paludisme à Madagascar. Fontoynont.
25 Les indications op. dans le traitement de l'appendicite. M. Gaudin.
26 *La céliotomie abdominale sub-médiane. L. Longuet.
27 (No. 73.) Les délirants des hôpitaux. E. Régis.
28 (No. 74.) Glossite et stomatite à streptocoques observées à Madagascar. Fontoynont.
29 Actinomycose. L. Dor.
30 Panaris actinomycosique. L. Thévenot.

26. **Submedian Laparotomy.**—Longuet advocates what he calls submedian abdominal celiotomy, claiming that it is the shortest route, the line of the incision is always straight and rectilinear and is in accordance with the surgical principle to utilize a muscle as a support. Biologically it offers a greater vitality on the part of the lips of the wound than any other incision; the entire muscular functions of one side of the abdominal wall are left intact; the preservation of the linea alba confers greater solidity, and the interposition between the tiers of the suture of a sound, vigorous and intact muscle guarantees against post-operative hernia. In case of emergency operations in which haste is imperative the ordinary incision may be preferable, but for gynecologic operations in general he regards the submedian as a great improvement over the median laparotomy. His incision is about 12 cm. long, on a radius from the top of the symphysis, close to the median line at the base and diverging from it to about 3 cm. as the umbilicus is approached. The rectus has a tendency to retract to one side and is drawn further out of the way.

Revue de Chirurgie, Paris.

Last indexed page 639.

31 (XXIII, No. 8.) *De quelques complications de l'anus contre nature et de leur traitement. H. Géraud.
32 *De la dilatation ampullaire des veines. P. Guibal. (Commenced in No. 6.)
33 (No. 9.) Abcès tuberculeux intrahépatique et périhépatite tuberculeuse. M. Auvray.
34 Note sur un cas de rétraction de l'aponévrose palmaire consécutive à une fracture de l'avant-bras. C. Féré and R. Demanche.
35 *Contribution à l'étude du rheumatisme tuberculeux dans les cas de lupus wilanique ou de tuberculides. Bouveyron.
36 *Les tumeurs du corpuscle rétro-carotidien. P. Reclus and M. Chevassu. (Commenced in No. 8.)

31. **Complications of Artificial Anus.**—Géraud observes that if prolapse of the mucosa through an artificial anus becomes annoying, the protruding mucosa should be excised. He has found 25 cases on record in which there was prolapse of the intestine through the anus, and describes 2 rather remarkable unpublished cases. He cautions that treatment should be prophylactic. The patient should be told to defecate reclining and without effort on the part of the abdominal muscles. Violent efforts, fatigue and dietary indiscretions should also be avoided. He regards the Saxtorph appliance as best adapted to allow passage of gases while preventing prolapse. In one of his personal cases there was eversion or evagination of the cecum, ileo-cecal valve and the orifice of the appendix. The protruding mass was fully 15 cm. long and every twenty-five to thirty minutes the ileo-cecal valve dilated and allowed the passage of some soft matters, similar to what is observed in the ureters emptying into the bladder. The mere fact of drinking a glass of milk at any time during the day caused evacuation of matters. Peas and beans emerged the day after they were eaten, apparently unmodified. In his second case there was double prolapse of the sigmoid flexure with a strangulated hernia of the small intestine into the prolapsed intestinal mass, thus forming an enormous T protruding from the artificial anus with a loop of small intestine incarcerated in the stem. Treatment consisted in removal of the loops of both intestines and the square of abdominal wall containing the anus. The specimen thus obtained is now in Terrier's museum. The protruding portion of the large intestine measures 20 cm. in length by 5 in diameter, and on the inner side four stumps of intestine project from the anus.

32. **Dilatation of Veins.**—Guibal does not believe in abstention from treatment in case of ampullary dilatation of the veins, as there is always danger of infection and coagulation of the contents. The possibility of fatal embolism has been proven by several instances on record, as also of hemorrhage and suppuration. Elastic stockings are useful for elderly persons or those with sedentary habits or who refuse operative treatment. Under other conditions, especially when the cystic dilatation is increasing or is causing serious trouble or is complicated with phlebitis, the tumor and adjacent veins should be excised between ligatures far into normal tissue. This puts an end to the tumor and benefits or cures the superficial varices by suppressing the reflux of blood. He reviews a material of 52 cases collected in the literature or personally observed, giving the particulars of each case.

35. **Tuberculous Rheumatism.**—Bouveyron studies the subject of the rheumatism complicating cutaneous tuberculous lesions to which attention has not previously been directed. He has observed 14 cases of rheumatism in persons affected with lupus with or without accompanying pulmonary tuberculosis. They were noted among 49 cases of lupus in his service during the last six months. There were no evidences of rheumatism among the 14 cases of lupus in children, but it was pronounced in 5 of the 12 men with severe lupus and in 7 of the 18 women. Rheumatism was thus manifest in 12 out of 30 cases of rebellious and mutilating lupus in adults, but was rare in adults with mild forms of lupus. The arthralgic form, with or without effusion or tumefaction of the joint, was most frequent, occurring in 8 out of the 12. These arthralgias are usually moderately painful, torpid, tenacious and rebellious to all the classic methods of treatment. They sometimes disappear for a time and then recur in the same or another joint. They may improve without apparent cause or under the influence of a febrile affection. The condition of the accompanying lupus does not seem to affect them nor the general health of the individual in question. The ostealgic or hyperostosic form was encountered only in women, and in 4 out of the 7 cases in this class. Two other women with tuberculides also exhibited painful hyperostosis, which raises the proportion to 6 out of 9. In one case of ostealgia of the two femurs there did not seem to be hyperostosis. In 3 out of 12 cases the rheumatism assumed the form of hydrarthrosis. In one of his 2 cases of tuberculides the rheumatism assumed the form of multiple painful hyperostosis, and in the other of hyperostosis, spina ventosa and polyarthritis so acute and painful that it simulated true rheumatism. The general condition of both these patients was very poor. Bouveyron adds that the limitation, recurrences and fixity of the rheumatismal manifestations suggest some local germination and reviviscence rather than general toxic action from a distance. Poncet, who first described the rheumatism of tuberculosis, used to say that there is nothing to prove that the action of the tubercle bacillus is restricted to the formation of granulations, tubercles and fungous growths. This seems to be accepted as an article of faith, but no one to date has demonstrated that this anatomo-pathologic signature is absolutely necessary, and that Koch's bacillus may not determine an ordinary inflammatory process when ensconced in the bone or synovial membranes.

36. **Tumors of the Intercarotid Body.**—Reclus and Chevassu describe a case of a tumor which shelled out from the bifurcation of the common carotid without difficulty, and state that it is the eleventh on record. They remark that the possibility of a tumor in this intercarotid body should be borne in mind when a single tumor is observed in the carotid region, rather soft, pulsating without expansion, and developing very slowly, near and above the thyroid gland. Such tumors are always solid and perivascular. In 4 of the published cases the tumor was differentiated before operation. The only other neogrowths which could be confounded with it are an aberrant thyroid tumor and a mixed branchioma. The former has never been discovered at the carotid bifurcation and the latter is always more superficial and harder. In only 2 of the cases on record was it possible to dissect out the tumor without injury to the vessels. In the 8 others the entire fork of the carotid was resected and 2 of the patients succumbed, one from hemorrhage and the other from broncho-pneumonia ascribed to section of the vagus. The 6 patients who recovered all presented disturbances of various kinds. One of Maydl's patients had hemiplegia the fifth day with aphasia, the latter not entirely vanishing after four years. His second patient complained of a constant oppression in the back of the throat, and in his third patient the voice has been hoarse and nasal, with inability to swallow solid food readily, and a tickling in the throat which induces constant coughing. The pneumogastric and sympathetic had both been severed in this case. The patient has also occasional vertigo, with deviation of the tongue and contraction of the pupil. Gersuny's patient has still a slight paresis of the left vocal cord. In one of the 2 cases reported from Russia the pneumogastric had been divided, but further details are not given, and in the other there was deviation of the tongue and one corner of the mouth. These after-disturbances condemn extensive resection of the nerves and vessels on account of a tumor in the carotid gland. These growths are probably not malignant; they may exist for a long time, possibly indefinitely, without inducing serious symptoms or even discomfort, and resection of the nerves and vessels is a remedy worse than the original evil. Resection may be found necessary to conclude the operation, and hence the writers do not advocate operating unless the surgeon's hand is forced by severe functional disturbances. They give the particulars of the series mentioned, with cuts of some of the cases. They show that some of the smaller tumors were more intimately adherent to the vessels than the larger ones. (Scudder also reports and illustrates a case in the current number of the *Am. Journal of the Medical Sciences.* He removed the adherent vessels with the tumor.)

Semaine Medicale, Paris.

37 (No. 36.) Ictères bénins post-opératoires. R. de Bovis.
38 Letter from America: La prostatectomie aux Etats-Unis. F. Munch.
39 What Do We Understand by "Banti's Disease"? L. Cheinisse. —Que faut-il entendre sous la dénomination de "maladie de Banti"?

Archiv f. path. Anat., Etc. (Virchow's), Berlin.

Last indexed page 470.

40 (CLXXIII, No. 2.) *Disturbances in Development of Kidney. E. Meyer.—Ueber Entwicklungsstörungen der Niere.
41 *The Fetal Giant Kidney and Its Relation to the History of the Development of the Kidney. G. Schenkl.—Die fötale Riesenniere, etc.
42 *Arrested Development of Kidney. K. Beck.—Ueber Befunde an Nieren mit gehemmter Entwicklung.
43 *Accessory Pancreas. C. Thorel.—Histologisches über Nebenpankreas.

44 *Malakoplakia of the Bladder. v. Hansemann.—Ueber Malakoplakie der Harnblase.
45 Fall von akuter Leukämie. A. Januszkiewicz (Kiev).
46 Fall von multiplem Myelom mit diffuser Verbreitung im Knochenmark. A. J. Abrikosoff (Moscow).
47 Ueber die Histogenese des Netzhaut-Gliums (of glioma of retina). V. Scaffidi.
48 Fall von Sarkom der Dura Mater und über dessen Beziehungen zu einem vorangegangenen Trauma. L. Lichtwitz (Breslau).
49 Fall von congenitaler Missbildung des Herzens. E. Schreiber.
50 Congenitale (?) epitheliale Fistel des Scrotum. W. Pinkus.

40 to 42. Disturbances in Development of Kidney.—Meyer discovered a peculiar irregular appearance in the kidneys of a female infant nine weeks old, who presented other deformities. Parts of the kidneys seemed to be normal, while in other parts there were no convoluted tubules to be found, although the Malpighi corpuscles and the straight tubules were normal. He also examined pathologic kidneys of calves and kidney cysts in children and adults. The findings in all corroborate the assumption that the canal system of the kidney develops from two separate foundations or *Anlagen*. The researches of Schenkl and Beck at the veterinary pathologic institute at Berne also confirm this view.

43. Accessory Pancreas.—Thorel found the accessory pancreas in the stomach or intestine in 3 cases; in one it was double, and one pancreas was in the jejunum and the other in its mesentery. He has encountered 7 cases of accessory pancreas in all, and in each one, with the exception of the last mentioned, the organ had an opening into the intestine. Langerhans' islands were absent in nearly every one. He ascribes the origin of these accessory organs to displacement of germinal tissue.

44. Malakoplakia of the Bladder.—Hansemann found a number of peculiar, yellowish, flattish fungus-like growths in the mucosa of the bladder and of the dilated ureters in the 2 cases described. They had not caused any clinical symptoms, although some were ulcerated and confluent. He does not know how to classify the affection and proposes the descriptive term of malakoplakia vesicæ, from the Greek word malako, soft, and plakia, patch.

Centralblatt f. Gynaekologie, Leipsic.

Last indexed page 642.

51 (XXVII, No. 30.) *Fall von gleichzeitige extra-uterine und intra-uterine Gravidität. Geyl (Ginneken).
52 (No. 31.) Zur normalen Struktur des Syncytiums. O. O. Fellner (Schauta's clinic, Vienna).
53 *Large-sized Funnel Pessaries Against Genital Prolapse. Schatz (Rostock).—Trichter-Pessarien, etc.
54 *Is Injury of the Round Ligament in Herniotomies Followed by Retrodeviation of Uterus? S. Goldner.—Hat die Verletzung des Lig. rotund. bei Herniotomien Retrodeviationen des Uterus zur Folge?
55 (No. 32.) *Drawbacks of Raising the Pelvis. K. Franz (Halle).—Nachtheile der Beckenhochlagerung.
56 *Zur Kenntnis der Tuben-Gravidität. E. G. Orthmann.
57 *Apparatus for Supply of Sterile Water at All Times. N. S. Ivanoff (Moscow).—Apparat zur Gewinnung und Ausnutzung sterilen Wassers.
58 (No. 33.) *Detachment of Vagina and Muscular Floor of Pelvis as Cause of Prolapse. Schatz (Rostock).—Ueber die Abreissungen der Scheide und des musk. Beckenbodens als Ursachen von Genitalprolaps.
59 Two High Forceps Applications. T. v. Wenczel (Budapest).—Zwei hohe Zangen-Operationen.
60 Beitrag zur Behandlung des Ileus mit subkutanen Strychnin-Injektionen. K. Jaffé (Hamburg).
61 (No. 34.) Changes in the Ovaries Accompanying Vesicular Mole. L. Pick.—Zur Frage der Eierstocksveränderungen bei Blasenmole.
62 Hysterotomia vaginalis anterior infolge hochgradiger Rigidität der Cervix, compliziert mit einem Riss durch unteres Uterin-Segment und Parametrium. W. Ruhl.
63 (No. 35.) Zur Technik vaginaler Operations-Methoden. F. Mainzer.
64 Two Cases of Rupture of Uterus. E. Puppel.—Zur Lehre von den penetrierenden Zerreissungen der weichen Geburtswege intra partum.

51. Twin Pregnancy Intra- and Extra-Uterine.—Geyl remarks that not a single case similar to the one he describes was found by G. Zinke in his compilation of 88 cases of simultaneous intra- and extra-uterine pregnancies during the last two centuries. The case is distinguished by the fact that the fetus in the uterus died about the third week of its development while the extra-uterine fetus, with placenta attached to the floor of the pelvis, continued to develop normally until about the fourth month. The patient succumbed to hemorrhage.

53. Funnel Pessary.—Schatz proclaims that his funnel pessaries have rendered excellent service in more than 300 cases, and possess several advantages over all others in use. They are shaped like a funnel with all the edges well rounded, but are not hollow, having merely a small passage through the center to allow escape of secretions. They separate vertically into halves and each half is inserted separately. The halves fit together spontaneously and support the parts in genital prolapse and in cases of urinary incontinence. The patients soon learn to insert and remove the pessary themselves, as he insists on its being removed every night, the vagina cleansed, the pessary sterilized and replaced next morning. He has the pessaries made in ten sizes to fit all conditions, the stem the same length in all.

54. Is Injury of Round Ligament in Herniotomies Followed by Retrodeviation?—Gold answers this question in the negative.

55. Drawbacks of Raising the Pelvis.—Kraske has stated that the Trendelenburg position caused a tendency to paralysis of the anterior tibialis, and to emphysema of abdominal walls, both of which can be easily avoided. He further asserted that he had witnessed severe disturbances in circulation in 2 corpulent subjects who had exhibited symptoms of myocarditis previous to the operation. In a few other exceptional cases he has observed intestinal occlusion, aspiration of stomach contents and apoplexy, all of which he attributed to the raising of the pelvis. Franz reports that none of these mishaps have been noted at the Halle clinic in the course of 745 laparotomies, but he calls attention to a disadvantage of the position hitherto unappreciated. This is the diminished abdominal respiration during the time that the pelvis is raised. The respiration in the lungs does not compensate for it, as he shows by respiration curves, and consequently the patient suffers from abnormally deficient respiration. He further announces that he has found that bronchitis was four times more frequent after an ether nacrosis when the operation had been performed with the pelvis raised than when the patient had been simply reclining. The cases of bronchitis after chloroform narcosis were likewise more numerous, but not to the same extent as with ether. The subject does not get his normal supply of oxygen while in the Trendelenburg position, and this must aid in depressing the general condition. This fact may even explain why patients bear a vaginal operation so much better than a laparotomy.

56. Tubal Pregnancy.—Orthmann reviews his experience with 45 cases, and relates the particulars of 8 particularly interesting ones. Four of the total number died. In 2 the tubal pregnancy occurred more than once.

57. Apparatus for Sterile Water Supply.—The apparatus consists of a double cylinder somewhat on the principle of a Russian samovar or tea urn. It is made for convenient handling with a capacity of about a quart and a half, but can be as large as required. The spout is long and turns up and over so that the nose of the spout fits into the apparatus near the top and is sterilized with the water. When ready to use the spout is pulled down and can be adjusted at any angle by a thumb screw. The water is heated with live coals like a samovar or by standing the apparatus on the stove.

58. Lacerations of Vagina and of Muscular Floor of Pelvis as Cause of Prolapse of Uterus.—Schatz proclaimed as long ago as 1883 that lacerations of the muscular floor of the pelvis during childbirth were a frequent cause of prolapse later. He states that no one paid any attention to his remarks on the subject except in North America. In the meantime he has collected further data and now announces that his assertions were not sweeping enough, and that detachment of the vagina is a certain and frequent source of prolapse. He describes the anatomic conditions in detail, showing that the true conditions do not seem to be appreciated in the text-books. During childbirth the vagina is liable to become detached either by the bearing down of the woman or by the direct action of the emerging fetus. The anterior wall of the vagina usually escapes, but the posterior wall is liable to become detached, and even to be slit in one or more places, and the muscular attachments are wrenched out, thus depriving the vagina of its power of transverse elastic contraction.

Deutsche med. Wochenschrift, Berlin and Leipsic.

65 (XXIX, No. 38.) *Zur Physiologie und Pharmako-Dynamik der Kieselsaure (silicic acid). H. Schulz.
66 Mode of Dissemination of Diphtheria. K. E. Büsing.—Zur Verbreitungsweise der Diphtherie.
67 Roller Forceps in Treatment of Trachoma. J. Hoppe (Cologne).—Die Trachom-Behandlung mittelst der Knapp'schen Rollzange.
68 Ueber ammoniakalische Reaktion des Harns bei Phosphaturie, sowie über Phosphaturie und Ammoniurie als objektive Symptome der Neurasthenie. A. Freudenberg.
69 Conclusion of Report on Foot-and-Mouth Disease. Loeffler.

65. Physiologic and Pharmacologic Action of Silicic Acid.—Schulz protests against the general assumption that silicic acid is a comparatively insignificant substance from the standpoints of physiology and pharmacology. The respiration and vascular system did not seem to be affected, but ingestion of small amounts of silicic acid caused marked derangement of the nervous system. Headache occurred, general or local, sometimes accompanied by vertigo. The eyes burned and smarted. In some of the tests the subjects complained of somnolence with inability to concentrate their attention; others became nervous and irritable; the gait was uncertain and the hands trembled. A cutaneous reaction resembling acne pustules or a papulous exanthem was also noted, and hyperidrosis with acid sweat and desquamation. The hair and beard displayed a tendency to drop out, and the nails seemed to grow faster. The digestive tract reacted to the acid with flatulence and colic, rumblings and increased desires for stool. Constipation alternated with diarrhea, and the stools were remarkably yellow, both in man and animals. There was no diuresis except when the acid had been taken for a long time. Polyuria developed with smarting during urination in some of the subjects, while in others there was retention, the urine concentrated and reddish until diuresis became established. In all the tests the legs felt as if weighted with lead and were easily fatigued. Dull pains were also noted in the tibiæ, increasing during rest and subsiding after exercising. The joints also ached and were stiff, suggesting the symptoms of lead-poisoning, etc.

Muenchener med. Wochenschrift, Munich.

70 (L, No. 35.) *Beiträge zur Leukocyten-Frage. E. Meyer.
71 Zur Diagnose chronisch nephritischer Prozesse. Schwarzkopf.
72 *Absence of Tube-Casts in Urine of Nephritics. A. Treutlein.—Ueber das Fehlen von Zylindern im Urin von Nephritikern.
73 *Death of Newly-born from Forensic Standpoint. M. Hofmeier.—Ueber Todesursachen bei Neugeborenen während und gleich nach der Geburt mit Rücksicht auf ihre forensische Bedeutung.
74 Care of the Prematurely Born. O. Pilano (Würzburg).—Ueber die Pflege und Ernährung frühgeborener und schwächlicher Säuglinge in den ersten Lebenstagen.
75 *Zur Therapie der Placenta previa. Hammer (Würzburg).
76 *Determination of Outlines of Heart on Left Side. H. Engel (Nauheim).—Ueber die Bestimmung der linken Herzgrenze.
77 *Intravesical Segregation of Urine. Keydel.—Die intravesikale Trennung des Urins beider Nieren.
78 Simple Walking Apparatus. H. Lossen (Darmstadt).—Ein einfacher Gehstützapparat.
79 *Study of Specific Gravity of Living Human Being. F. Jamin and E. Müller.—Ueber das spec. Gewicht des lebenden Menschen, mit bes. Berücksichtigung eines für klinische Zwecke brauchbaren "specifische Equivalent-Gewichts." (Concluded from No. 34.)

70. Chemical Properties of Leucocytes.—Meyer gives the details of several cases of acute and chronic leukemia, and then relates the results of chemical tests of the blood from these patients. Fresh, centrifugalized blood did not respond to the guaiacum test at all, but if distilled water was added to the blood before the tincture of guaiacum, the fluid turned blue at once. Not a trace of the guaiacum reaction could be obtained with the blood of the patient with acute lymphatic leukemia nor with extracts of human and animal thymus and lymph glands. Pus did not give the reaction until it had stood for some time or had been diluted with water. For these and other reasons which he mentions he asserts that there can be no doubt that the polynuclear and probably also the mononuclear neutrophile cells of the blood contain a substance which can be dissolved out by water, and which turns the guaiacum tincture blue in the absence of peroxids. The substance in question is entirely lacking in the lymphatic apparatus. He accepts it as an intracellular oxidating ferment. It does not give the reaction after boiling, but the response is positive again if hydrogen dioxid is added to the boiled fluid. It has also the property of oxidizing phenolphthalin in alkaline solution into phenolphthalein. Phenolphthalin is the product of the reduction of the latter, and is a colorless, soluble powder. If an aqueous solution is added to the solution of the above ferment or to the diluted blood of a myelogenic leukemic patient, the fluid turns a permanent purple. This reaction parallels the findings of the guaiacum test. Both of these tests may be positive with blood in high neutrophile leucocytosis. In several cases of pneumonia with 19,000 leucocytes, both of these reactions were positive, the phenolphthalin reaction most pronounced. But with diminishing numbers of leucocytes they subsided and were no longer to be distinguished when there were only 15,000 to 16,000. It is thus established that entirely normal neutrophile leucocytes contain the oxidating ferment, and it is thus not the prerogative of pus cells and of the cells in myelogenic leukemia alone. He adds that the simple phenolphthalin test not only gives an approximate estimate of an existing hyperleucocytosis, but it indicates besides the kind of leukemia present. He is now studying to determine whether it may not serve for quantitative determination of the leucocytes. The results of this research on the chemical properties of the leucocytes indicate that the terms acute lymphatic leukemia or lymphocytemia are correct. He describes in conclusion studies of the response to neutral red, and although they were meager, yet they suggest that it may be possible to detect in the blood the destruction of leucocytes evidenced by excessive elimination of urea in the urine.

72. Absence of Tube Casts in Nephritis.—Treutlein announces on the basis of a case observed and considerable experimental research, that the colon bacillus has the property of inducing destruction of the tube casts. Consequently, severe nephritis may occur without any casts being found in the urine. The colon bacillus may induce this "cylindrolysis" by its presence in the bladder or in the kidney itself. The ferments of the bacillus are unable alone to accomplish it.

73. Sudden Death in the Newly-Born.—Hofmeister describes 3 cases to show the liability to error in these cases. The births occurred under his eyes and only the most careful examination disclosed even a possible cause for the death of the child just before or after delivery. In one the microscope showed minute changes in heart and lungs, possibly rendering them unable to adapt themselves to extra-uterine life; in another some of the blood vessels in the placenta were obliterated; in the third, meconium was found in bronchi and lungs and yet the child was stillborn. The deaths might easily have been unjustly ascribed to the mothers under other circumstances.

75. Treatment of Placenta Previa.—Hammer reviews the experience of the Würzburg clinic with placenta previa, 107 cases in all. In 19, the records mention placenta centralis; in 70, previa lateralis, and in 18, low placenta previa. The mortality was 7.47 per cent. of the mothers and 54.2 per cent. of the children, but the maternal deaths were due to eclampsia, sepsis, lysol poisoning or air embolism in 4 cases and 3 succumbed to hemorrhage from atony of the uterus post-partum. The experience with the metreurynter introduced inside the fetal membranes has been very favorable.

76. Outlining Left Heart.—Engel recommends the use of a hard rubber plessimeter for percussion. He starts from a mark on the upper part of the heart outline, which can be easily determined by percussion to the left of the manubrium sterni. He then places the plessimeter rod on the mark with half its diameter projecting and by percussion determines the proper location of the rod which is likewise marked. By proceeding slowly in this way, advancing only half the width of the diameter of the rod at a time, it is possible to outline the heart with great accuracy. A stick of sealing wax will answer for the rod if necessary. His findings on more than 100 subjects were always confirmed by other tests and anatomic examination.

77. Intravesical Segregation of Urine.—Keydel reviews the various instances of application of the Luys or Cathelin intravesical urine separators as published by various other writers, and adds 4 from his own experience. He has collected 25 published since the authors' communications, and in

by far the largest majority the results were eminently satisfactory, while in the hands of the authors the results have always been brilliant and their list now numbers hundreds. Their success is probably due to their careful discrimination of the subjects, "asking the permission of the bladder," and remembering that the organ is not so sensitive to contact as to distention.

79. **The Specific Gravity of the Living Human Being.**—Jamin and Müller have been conducting laborious researches at Erlangen to determine the exact specific gravity of different individuals, the quotient of weight and volume. They constructed for the purpose a tall tub, a cylinder nearly full of water and containing a convenient seat. The subject, entirely naked, steps from a platform into the cylinder and seats himself. Then at a given moment he slips down into the water until it covers him entirely and the displacement of the water is registered outside. In order to make the procedure less annoying they finally modified it by having the seated subject merely lean back or forward until the head was submerged to a line from the chin to the roots of the hair. This was accepted as the approximate figure and used for calculations. As it does not pretend to be as exact as complete submersion they call it the "specific gravity equivalent," and have found it as useful for purposes of comparison as the correct figure would be. They have determined this equivalent for 118 persons. It is highest in youth and gradually declines from 1130 at 8 years to 1061 between 50 and 90 in male subjects, and from 1106 between 10 and 15 to 1065 between 50 and 90 in female subjects. The average for all ages and both sexes is 1088 in health, and 1074 in pathologic conditions. The equivalent in obesity was only 1049, 1037 and 1004 in 3 obese men; the normal equivalents for their age would have been 1061, 1066 and 1066. The value of the method lies in the information that it imparts in regard to the composition of the body, which has hitherto escaped our methods of weighing, etc., and will prove particularly valuable in case of obesity and dropsy. The investigations were repeated a number of times on the same subject in many instances, and the variations in the findings were found to be almost imperceptible for the same individual under similar conditions.

Therapie der Gegenwart, Berlin.

Last indexed page 140.

80 (XLIV, No. 6.) *Roentgen-Verfahren und interne Therapie. de la Camp.
81 *Hemorrhage from and Pain in Kidney. W. Klink.—Nierenblutung und Nierenschmerz.
82 *Hot-Air Treatment of Biliary and Renal Lithiasis. R. Sachs (Carlsbad).—Zur Behandlung von Gallen- und Nierenstein.
83 *Internal Affections and Sudden Death After Healing of Infantile Eczema. M. Cohn.—Zur Frage der inneren Erkrankungen und plötzlichen Todesfälle im Anschluss an die Heilung eines Säuglingsekzems.
84 *Verwendung des Scopolamin bei Magenleiden (in gastric affections). M. Pickardt.
85 Great Value of Kussmaul's Method of Checking Excessive Menstrual Hemorrhage. G. Klemperer. — Kussmaul's Methode zur Stillung übergrosser menst. Blutungen.

80. **Aid of Roentgen Rays in Internal Medicine.**—De la Camp remarks that internal medicine has not profited very materially by the Roentgen rays to date except in clinical diagnosis in combination with other methods of investigation.

81. **Hemorrhage and Pains in the Kidneys.**—Klink has found 18 operations on record undertaken on account of renal hemorrhage on a nervous basis. In 14 other cases the operation was merely on account of pains in the kidney, and in 23 for both hemorrhage and pain. The results have been that 69 per cent. were cured, 5 improved and in only 5 per cent. did the operation fail to relieve. Nine, or 16 per cent., have died. As a contribution to the subject of neuropathic renal hemorrhage he describes the unpublished case of a man of 25, previously healthy, who noticed blood in the urine for four weeks after a violent attack of pain in the left kidney, removing to the right kidney the next day, and recurring occasionally since then. When the bladder was opened by a high incision blood was seen to drip from one ureter. No further intervention was attempted and the symptoms all vanished. The chloroform narcosis may have been a factor in the cure, or it may have been due to suggestion or to reflex action on the kidney.

82. **Hot-Air Treatment of Biliary and Renal Lithiasis.**—Sachs illustrates an apparatus which he has devised for the application of a stream of superheated air to the kidney or liver region. The air is focused on the spot by a funnel arrangement. The results obtained have surpassed his most sanguine expectations.

83. **Internal Affections and Sudden Death After Healing of Infantile Eczema.**—Cohn discusses the subject and relates that a child of fifteen months exhibited signs of mild nephritis three days after the institution of treatment of chronic eczema of the scalp. Application of zinc oxid and oil, equal parts of each, cured the eczema, but was followed by symptoms of nephritis, edema of hands and feet, with albumin and casts in the urine.

84. **Scopolamin in Gastric Affections.**—Pickardt found that in 3 cases of excessive secretion of gastric juice, conditions were restored to normal by administration of .3 mgm. scopolamin bromid in water twice a day for four weeks. No by-effects were observed. The remedy proved especially beneficial in a case complicated by exophthalmic goiter.

Zeitschrift f. Krebsforschung, Jena.

86 (Vol. I, No. 1.) *Urogenital Cancer in Its Relation to the Cancer Problem. C. Posner.—Der Urogenitalkrebs und seine Bedeutung für das Krebsproblem.
87 *Ueber den Nachweis des Urobilins und seine Ausscheidung bei Carcinom. A. Braunstein.
88 *The Collective Cancer Inquiry in Spain. H. Leyden.

86. **Journal for Cancer Research.**—This periodical is published by the German committee for cancer research whose work has been frequently referred to in these columns. The name "cancer," *Krebs*, is deliberately chosen to express every kind of malignant tumor not connected with an infectious disease, thus excluding syphilids and actinomycotic tumors and the tumors of leukemia and pseudo-leukemia. The publication announces its scope as chiefly the clinical side of the cancer problem, with prophylaxis, treatment and casuistics, reviewing international literature, with abstracts, bibliographies and transactions of similar organizations elsewhere.

86. **Urogenital Cancer.**—Posner does not attempt to formulate any conclusions but merely reviews various aspects of the subject. He mentions that only 30 cases of supposed conjugal cancer, located on the genitalia, are on record, and these are not all above criticism. Contact infection and operative implantation are much more frequent. The theory of the origin of cancer from aberrant cells of germinal tissue is sustained by the frequency of cancer of the kidney in childhood. Rohrer found that in 37 out of 96 cases the patients were under 10 years of age. He emphasizes the fact, however, that scarcely any of them were carcinomata. The connection between metaplasia and carcinoma is becoming more probable. Halle, for instance, has noted preceding gonorrheal strictures in 12 out of 20 cases of carcinoma of the urethra, and others have reported cases of hard cancer developing on a basis of leucoplasia in the bladder. Still more evident is the connection between cancer and fistula of the urethra, tar, paraffin and chimney sweeping. Baum has demonstrated that chimney-sweeper's cancer was unknown in Hanover until wood was supplanted by coal for fuel. Posner knows of an unpublished case in which a worker in tar developed a typical cancer of the scrotum accompanied by one in the bladder. Since Rehn first called attention to the bladder tumors of men employed in anilin works, other cases have been reported until at present there are 6 authentic ones on record, 4 of carcinoma and 2 of sarcoma. Posner has seen a cancer in the bladder in a man employed in naphthol whose brother working beside him had stones in the bladder. Attempts to reproduce tumors of this kind in animals have always proved negative to date, and the spectrum did not reveal any changes in the blood. The animals died after inhaling the anilin, toluidin or nitrobenzol with symptoms of anemia and general prostration, in coma or in convulsions. Direct trauma seems to participate, if at all, in the etiology of carcinoma of the penis alone. Some authorities are inclined to regard injuries during birth as a factor in internal cancer. Posner is dubious in regard to the transformation of a benign into a malignant neoplasm, believing that the tumor was prob-

ably malignant from the start. Albarran found evidences of unmistakable cancer in 68 out of 88 cases assumed to be in this category. This applies also, Posner believes, to malignant recurrences after extirpation of a supposed benign growth, and also to growths in the vicinity of a cancer, and to the senile hypertrophy of the prostate, and to gynecologic affections. In conclusion, he refers to the fact that cancer of the bladder displays very little tendency to metastasis. Many cases run their entire course without a trace of enlargement of the glands or metastases.

87. **Urobilin with Carcinoma.**—Braunstein analyzes his findings in 22 cases of carcinoma. He found that it develops without essential urobilinuria if the neogrowth is not located in the liver and in the absence of fever or other complications. Urobilinuria appears when the liver is invaded by metastasis, when the carcinoma ulcerates and when a pneumonia or suppurative bronchitis develops secondarily. If the carcinoma is located in the liver there is pronounced urobilinuria and frequently bilirubinuria as long as the biliary passages are not compressed and the bile finds ready outlet. As soon as one of the biliary passages becomes obstructed the urobilin disappears completely from the urine, but the bilirubinuria persists.

88. **Cancer Inquiry in Spain.**—Leyden was physician to the German legation at Madrid at the time this collective inquiry was made, September 1, 1902. He states that the circulars were returned blank by 294 physicians, while 298 reported cancer patients. Of these, 116 were men and 182 women. Certain towns seemed to be entirely exempt from cancer. Not a single case was known to the eight physicians on the Canary islands, nor to the ten physicians in the Ceuta district in Africa.

Riforma Medica, Palermo.

89 (XIX, No. 28.) *Laringectomia totale per tumore maligno. A. de Cortes.
90 Sul significato clinico dell'eliminazione del acido glicosurico per le urine. R. Reale.
91 *Sulla funzione difensiva del grande epiploon. R. Pirone.
92 *Experimental Research on Organ Treatment. G. Ghedini.—Ricerche intorna ad alcuni estratti organici.
93 (No. 29.) *Caso di tubercolosi con leucemia. T. Prodi.
94 Sui nervi della glandola lacrimale. S. P. Allegra.
95 (Nos. 30 and 31.) *Sulla patogenesi delle ematemesi post-operatorie. C. Tonarekli. (Commenced in No. 29.)
96 *Ten Years of Abdominal Surgery by Prof. I. Tansini. G. Palleroni.—Contributo di chirurgia addominale praticata dal Prof. I. Tansini. (Commenced in No. 29.)
97 *Chemistry of Stomach. D. Pirrone.—L'acido cloridrico libero, la pepsina, il caglio nelle malattie dello stomaco e dopo la somministrazione di alcuni farmaci.
98 *Histologic Alterations Induced by Organ Juices and Cytotoxic Serums. C. Cafieri.—Sulle histolog. alterazione, etc.
99 *Studii sull vaccino. O. Casagrandi.
100 *Contributo sperimentale alla chirurgia della cistifellea (of gall bladder). L. Baldassari and A. Gardini.
101 (No. 32.) Contributo allo studio della fisiologia del rene (of the kidney). A. Ferrata.
102 (No. 33.) La radioscopia del fascio cardio-vasculare. G. Arcarisi (Palermo).
103 Serums Specifically Toxic for the Suprarenal Capsule. M. L. Della Vida.—Sieri tossici specifici per le calsule surrenali.
104 Sulla tubercolosi primitiva della mamella. R. Caminiti. (Commenced in No. 32.)
105 Contributo alla chirurgia delle vie biliari. G. Mariotti. (Commenced in No. 32.)
106 (No. 34.) *Sull' epididimite tubercolare primaria. M. Delli Santi.
107 Sul valore diagnostico della tubercolina. E. Malfatti.
108 A proposito del neurococco di Bra nel sangue degli epilettici. V. Tirelli.
109 Guarigione di un caso di meningite tubercolare (recovery). G. Avanzino.
110 (No. 35.) Del souffle cardio-pulmonare diastolico. M. DeVivo.

89. **Laryngectomy.**—Cortes removed the larynx in a man of 67 on account of a carcinoma on one vocal cord without glandular involvement, and reports that when seen nearly three years later the man was in perfect health. He was able to make himself understood by those around him by speaking in what Cortes calls the "aphonic pseudo-voice" frequently observed after this operation.

91. **Defensive Action of Omentum.**—Pirrone has been studying further the defensive action of the omentum which De Renzi and Boeri have recently proclaimed as quoted on page 887. He examined the omentum after it had encapsulated the spleen, to determine if the process was similar to that of ordinary encapsulation or whether the omentum undergoes special histologic changes. He experimented on rabbits and cats and found that in fact the spleen, after necrosis from ligature of its vessels, soon became enveloped by the great omentum. The inflammatory process in the membrane entails a rapid formation of connective tissue which not only forms a capsule around the spleen but the cells have a phagocytic action, devouring the detritus of the spleen. By means of this dual action, plastic and phagocytic, the great omentum finally ends by destroying the spleen, behaving toward it like the endothelium of the vessels in respect to a thrombus. After extirpation of the spleen there is nothing to indicate that the great omentum undergoes lymphoid transformation to compensate the missing organ. The phenomena observed establish that the great omentum has a decided protecting action in the peritoneum, and under certain circumstances plays an important part in the defense of the abdominal cavity and hence of the entire body.

92. **Studies of Action of Organ Extracts.**—Ghedini injected dogs and lambs subcutaneously with extracts of various organs, continuing the treatment for one to several months. He then found evidences of inflammation of a degenerative and infiltrative type in the superficial lymphatics, especially those in the axilla and inguinal regions, and in the liver, kidneys, and spleen, while the thyroid gland was in a condition of hyperfunction. No other reaction could be discovered. These results were constant in his 14 animals, and he assumes that the organ extracts acted like toxins in the circulation without any specific affinity for the corresponding organs. He is now engaged on a second series of animals; the results to date apparently confirm those reported.

93. **Tuberculosis and Leukemia.**—Prodi reports a case of the coincidence of these affections and assumes a causal connection between them. He also refers to the mildness of the tuberculosis when associated with leukemia or pseudoleukemia. The tuberculous lesions are generally discovered only at the autopsy.

95. **Pathogenesis of Post-Operative Hematemesis.**—Tonarelli describes 2 cases of fatal hematemesis occurring one and five days after operations on account of biliary lithiasis in the first and a hydatid cyst in the liver in the other case. In both there had been retention of bile, and he thinks it possible that this may have been a factor in the production of the hemorrhagic tendency. The hemorrhage was parenchymatous, involving the entire capillary system of the stomach in the case that came to the dissecting table, and the symptoms had been identical in the other. Hayem reported a case in which absorption of bile from the peritoneum had induced a hemorrhagic diathesis. The chloroform may also have aided in disturbing the balance of the already unstable conditions in the circulatory system. The trauma of the operation with its manipulation of the nerves in the peritoneum and omentum may likewise entail a kind of shock to the vasomotor nerves, and hence induce transient disturbances in the circulation through the viscera, sufficiently intense while they last to explain the phenomena observed.

96. **Tansini's Technic and Results in Abdominal Surgery.**—Palleroni reviews his notes taken during ten years' work as assistant to Tansini. He mentions that the majority of the 131 laparotomies were undertaken on account of tumors. The mortality was 9 per cent. and 119 patients were restored to health. The fatalities were almost exclusively among patients with myomata. In the other groups the mortality was null, or not over 1 per cent. One of the ovarian cysts removed weighed 40 kilograms (88 pounds). The patient was in a very serious condition, but is now in good health. Two days before the operation the patients are prepared by an oil or saline purge, and after the mechanical cleansing of the entire abdomen, shaving and applying turpentine and sulphuric ether, it is washed with 1 per 1,000 sublimate and a cloth wet with the same is applied for half an hour to cover the entire abdomen. Fifteen minutes before the chloroform, 1 cgm. of morphin hydrochlorate is injected. The entire body is warmly covered except for the field of operation, and the temperature of the room is 77 F. The nostrils are kept closed during the chloroform administration to avoid reflex action during the first stage of the narcosis, using a special nose clamp devised by

Tansini. After the abdominal walls are incised the deep is followed by superficial anesthesia, just keeping the patient slightly drowsy. Tansini makes constant use of the galvanocautery knife, believing that it answers several purposes at once. He prefers a narrow opening into the abdomen, and operates as far as possible extraperitoneally. He never uses an antiseptic in the toilette of the abdomen, fearing that it might irritate, and wipes it dry with gauze sponges wrung out of tepid sterile water. He very rarely drains. The particulars of the various groups and most interesting cases are added.

97. **Chemistry of Stomach Under Certain Drugs.**—Pirrone's experience has been that in gastric affections the behavior of the hydrochloric acid and of the ferments is not identical; only the pepsin and the rennet behave alike. In Reichmann's disease, along with the increase of acid the ferments will be found much increased, but when the amount of acid diminishes under the influence of atropin, the quantity of the ferments is not modified. The ferments may occur in normal proportions in chronic gastritis with disappearance of the free acid, and also in hypochlorhydria of nervous origin. In cases of carcinoma, the acid secretion is impaired before that of the ferments, which may persist in normal amounts for a long time. Strychnin stimulates the secretion of the acid in chronic gastritis, with not very advanced lesions, and in hypochlorhydria of nervous origin, but it does not affect the ferments. The action of both atropin and strychnin is almost null when administered other than by the mouth, but that of pilocarpin is almost equal by the subcutaneous route. The latter increases the secretion of acid but does not affect that of the ferments. Bitter tinctures, alkalines and alcohol in small doses do not exert any influence on the chemistry of the stomach. Daily lavage of the stomach does not affect the secretion of hydrochloric acid, pepsin or rennet, but reduces the percentage of total acidity in the stomach content.

98. **Cytotoxic Serums.**—Cafieri's results were practically the same as those obtained by Ghedini mentioned above.

99. **Studies of Vaccine.**—Casagrandi announces that sterile, filtered vaccine, which was unable to cause the formation of a pustule when inoculated in the skin of dogs or to induce any reaction on the cornea of rabbits, yet conferred immunity on them, so that subsequent injection of active virus did not cause infection as in the controls. Similar tests on man resulted differently. The filtrates and dilutions which confer immunity on the dog do not render human subjects immune. On the other hand, he found that if the dogs were inoculated with the active virus before the cutaneous lesion from the first vaccination had entirely healed, infection resulted, as also when the dogs were inoculated simultaneously with the vaccine and a staphylococcus derived from vaccine pustules on other dogs. He thinks that these facts indicate the participation in the vaccine pustule of some pyogenic germ which finds in it special conditions for its development.

100. **Plastic Operation on Gall Bladder.**—Baldassari was so successful in his tests of resection and subsequent plastic operations on the gall bladder of dogs that he thinks the method is also applicable to man. He used a flap for the purpose cut from the peritoneum and re-enforced by a thin layer of muscle from the vicinity. The muscular side is turned inward and the flap is sutured so that it extends for several millimeters beyond the defect on all sides. The peritoneal outer side of the flap was sutured with fine silk to the gall bladder. The results were perfect, but he found that the flap served only the purpose of a temporary stop-gap, under which the gall-bladder regeneration proceeded undisturbed until the integrity of the organ was restored. He describes his negative experiences with other kinds of flaps. He cuts the muscle flap along the edge of the abdominal incision and keeps it wrapped in gauze wet with saline solution while the gall bladder is being resected. In some experiments he removed nearly all the wall of the gall bladder on one side, the subsequent plastic operation being as successful as with smaller resections.

106. **Experimental Tuberculosis of the Epididymis.**—Delli Santi was able to induce tuberculous epididymitis in dogs by introducing tubercle bacilli into the urethra. The bacilli found their way into the epididymis and testicles but caused no harm (during the forty-five days' limit of the tests), unless special conditions were produced which favored their proliferation. One of these conditions was venous stasis, passive congestion from ligature of the vessels in the spermatic cord. Under these circumstances a tubercular lesion soon developed and the infection spread to the entire organ. This research establishes the possibility of contagion from tuberculous lesions in the female genitalia, and explains the fact that the left testicle is most frequently affected, as the anatomic conditions favor the predisposing conditions of defective circulation such as were produced artificially in the experiments.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Dictionary of Medical Science. Containing a Full Explanation of the Various Subjects and Terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Pathology, Bacteriology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc. By Robley Dunglison, M.D., LL.D., Late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. Twenty-third Edition. Thoroughly Revised, with the Pronunciation, Accentuation and Derivation of the Terms. By Thomas L. Stedman, A.M., M.D., Fellow of the New York Academy of Medicine. Cloth. Pp. 1212. Price, $8.00. Philadelphia and New York: Lea Brothers & Co. 1903.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume IX. Physiology, Pathology, Bacteriology, Anatomy, Dictionary. Edited by W. A. Evans, M.S., M.D.; Adolph Gehrmann, M.D., and William Healy, A.B., M.D. August, 1903. Cloth. Pp. 233. Price, $1.25. Chicago: The Year Book Publishers.

A Surgical Handbook. For the Use of Students, Practitioners, House Surgeons and Dressers. By Francis M. Caird, M.B., F.R.C.S. Edin., Assistant Surgeon, Royal Infirmary, Edinburgh, and Charles W. Cathcart, M.B., F.R.C.S. Eng. and Edin., Surgeon, Royal Infirmary, Edinburgh. With Very Numerous Illustrations. Twelfth Edition. Morocco. Pp. 323. Price, $2.75. London: Charles Griffin & Co., Ltd. Chicago: W. T. Keener & Co. 1903.

Modern Microscopy. A Handbook for Beginners and Students. Combining: 1. The Microscope and Instructions for Its Use, by M. I. Cross. 2. Microscopic Objects, How Prepared and Mounted, by Martin J. Cole, Lecturer in Histology at Cooke's School of Anatomy. Third Edition. Entirely Revised and Enlarged, to which is Added 111 Microtomes, Their Choice and Use. Cloth. Pp. 292. Price, $1.50. Chicago: W. T. Keener & Co. 1903.

The Principles and Practice of Hydrotherapy. A Guide to the Application of Water in Disease. For Students and Practitioners of Medicine. By Simon Baruch, M.D., Professor of Hydrotherapeutics in the New York Post-Graduate Medical School and Hospital. Second Edition, Revised and Enlarged. With Numerous Illustrations. Cloth. Pp. 496. Price, $4.00 net. New York: Wm. Wood & Co. 1903.

Takosis, A Contagious Disease of Goats. A Preliminary Report on Its Nature, Cause and Prevention. U. S. Department of Agriculture. By John R. Mohler, V.M.D., A.M., Chief of Pathological Division, Bureau of Animal Industry, and Henry J. Washburn, D.V.S., Acting Assistant Chief of Pathological Division, Bureau of Animal Industry. Paper. Pp. 44. Washington: Government Printing Office. 1903.

A Manual of Operative Surgery. By Sir Frederick Treves, Bart., K.C.V.O., C.B., LL.D., F.R.C.S., Sergeant Surgeon-in-Ordinary to His Majesty, the King. New Edition. Revised by the Author and Jonathan Hutchinson, Jr., F.R.C.S., Surgeon to the London Hospital. With About 450 Illustrations. In Two Volumes. Volume I. Half Morocco. Pp. 750. Philadelphia and New York: Lea Brothers & Co.

A Text-Book of Clinical Anatomy. For Students and Practitioners. By Daniel N. Eisendrath, A.B., M.D., Clinical Professor of Anatomy in the Medical Department of the University of Illinois (College of Physicians and Surgeons). Beautifully Illustrated with 153 Illustrations, a Number in Colors. Cloth. Pp. 515. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

Intracranial Tumors Among the Insane. A Study of 29 Intracranial Tumors Found in 1,642 Autopsies in Cases of Mental Disease. By I. W. Blackburn, M.D., Pathologist to the Government Hospital for the Insane, Washington, D. C. Illustrated by 30 Plates and 65 Microscopical Drawings. Cloth. Pp. 95. Washington: Government Printing Office. 1903.

Diseases of the Skin. An Outline of the Principles and Practice of Dermatology. By Malcolm Morris, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London. With 2 Colored Plates and 58 Plain Figures. New Edition. Flexible Cloth. Pp. 642. Price, $2.50. Chicago: W. T. Keener & Co. 1903.

A Text-Book of Diseases of Women. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania.

Sumptuously Illustrated with Some 650 Mostly Original Illustrations, Many in Colors. Cloth. Pp. 675. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

THE PRINCIPLES AND PRACTICE OF SURGERY. Designed for Students and Practitioners. By George Tully Vaughan, M.D. (Univ. of Va.), Assistant Surgeon-General U. S. Public Health and Marine-Hospital Service. Cloth. Pp. 568. Price, $3.50. Philadelphia and London: J. B. Lippincott Company. 1903.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Fourteenth Session, Held at Boston, May 26, 27 and 28, 1902. With Addenda from the Thirteenth Session and an Index. Vols. I.-XIV., Inclusive. Edited by Walter Lester Carr, M.D. Cloth. Pp. 310. Reprinted from the Archives of Pediatrics. 1902.

ELEMENTARY BACTERIOLOGY. By M. L. Dhingra, M.D., C.M. Edin., Diplomate in State Medicine, University of Cambridge. With Colored Frontispiece and Illustrations in the Text. Cloth. Pp. 145. Price, $1.12 net. London, New York and Bombay: Longmans, Green & Co. 1903.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By Richard C. Cabot, M.D., Physican to the Out-patients, Massachusetts General Hospital. Second Revised Edition. With 147 Illustrations. Cloth. Pp. 319. Price, $2.50 net. New York: Wm. Wood & Co. 1903.

A LABORATORY GUIDE IN URINALYSIS AND TOXICOLOGY. By R. A. Witthaus, A.M., M.D., Professor Chemistry, Physics and Toxicology in the Medical Department, Cornell University. Fifth Edition. Cloth. Pp. 115. Price, $1.00 net. New York: Wm. Wood & Co. 1903.

DISEASES OF THE NOSE AND THROAT. By Charles Huntoon Knight, A.M., M.D., Professor of Laryngology, Cornell University Medical College. 147 Illustrations. Cloth. Pp. 423. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A NARRATIVE OF MEDICINE IN AMERICA. By James Gregory Mumford, M.D., Assistant Visiting Surgeon to the Massachusetts General Hospital. Cloth. Pp. 508. Price, $3.00. Philadelphia and London: J. B. Lippincott Co. 1903.

TRANSACTIONS OF THE TWENTY-FIFTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. Held at Washington, D. C., May 12, 13 and 14, 1903. Cloth. Pp. 292. New York: Published by the Association. 1903.

NURSES' GUIDE TO SURGICAL BANDAGING AND DRESSINGS. By William Johnson Smith, F.R.C.S., Principal Medical Officer, Seamen's Hospital, Greenwich. Cloth. Pp. 167. Price, $0.75. Philadelphia: J. B. Lippincott Co.

HYPNOTISM. Its History, Practice and Theory. By J. Milne Bramwell, M.B., C.M. Cloth. Pp. 477. Price, $4.50 net. Philadelphia: J. B. Lippincott Co. 1903.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK for the Year 1903. Cloth. Pp. 514. Published by the Society. 1903.

New Patents.

Patents of interest to physicians, September 1 and 8:

737591. Sanitary face shield. Ellen Dempsey, Albany, N. Y.
738009. Medicine applicator. Julius N. Dews, Portsmouth, Va.
738104. Device for lifting sick people in beds and removing them from same. August Gaiser, Oberndorf, Germany.
737625, 737626. Making sulphuric acid and apparatus for manufacturing sulphuric acid. John B. F. Herreshoff, New York.
737838. Shielded clinical thermometer and making same. Solomon C. Hirschberg, New York.
737656. Vaccine and preparing same. La Fayette R. Parsons, Detroit.
737959. Ankle-supporting shoe. Abraham Posner, New York.
738078. Electric belt for medicinal purposes. Ebenezer Smellie, Glasgow, Scotland.
737795. Syringe pipe. Victor C. Van't Woud, New York.
738593. Auriphone. Lewis M. Atkinson, Rockport, Ind.
738274. Making perfumes and disinfectants. Jean Bardin, Brussels, Belgium.
738283. Spine-stretching device. Carl G. P. Blomqvist, Omaha.
738403. Electrovibratory apparatus for therapeutic purposes. Fred H. Brown, Los Angeles.
738603. Syringe nozzle. Haydn Brown, London, England.
738529. Body brace. William B. Dewees, Salina, Kas.
738680. Sanitary cuspidor. Michael E. Headland, Butler, Pa.
738544. Hot water bottle. Frederick H. Jones, Wakefield, Mass.
738461. Preparing oils for medicinal use. Philipp Lewy, Charlottenburg, Germany.
738339. Bust developer. Sidney P. Madeira and J. J. Purcell, Pueblo, Colo.
738352. Binaural stethoscope. William J. Penfold, Newcastle-on-Tyne, England.
738357. Massage apparatus. John A. Reade, Jr., and C. F. Birtman, Chicago.
738583. Pneumatic massage apparatus. Robert Watson, Scranton, Pa.
738508. Irrigating device. Cora I. Wilson, Philadelphia.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Sept. 19, 1903:

Ames, Roger Post, contract surgeon, is granted two months' leave of absence.

Geer, C. C., first lieut. and asst.-surgeon, is granted leave of absence for one month, to take effect on the expiration of his present sick leave.

Noble, Robert E., first lieut. and asst.-surgeon, having reported his arrival at New York City, is relieved from further duty in the Division of the Philippines, and will proceed to Fort Sheridan for duty.

Straub, Paul F., captain and asst.-surgeon, will proceed, at the proper time, to West Point, Ky., and report, not later than September 25, to Major-General J. C. Bates for temporary duty during the Army maneuvers to be held at that place, and, on the completion thereof, will return to his proper station.

Wales, Philip G., major and surgeon, is granted an extension of one month's sick leave on surgeon's certificate.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Sept. 26, 1903:

P. A. Surgeon H. C. Curl, detached from the *New York* and ordered to the *Boston*.

P. A. Surgeon J. S. Taylor, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the Naval Hospital, New York City.

Surgeon E. R. Stitt, detached from duty as a member and recorder of the naval and medical examining boards, Washington, D. C., and ordered to resume usual duties.

Surgeon C. F. Stokes, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon A. Stuart, ordered to the Naval Hospital, Naval Home, Philadelphia.

A. A. Surgeon J. L. Taylor, appointed acting assistant surgeon from Sept. 16, 1903.

A. A. Surgeon F. W. Tyree, detached from the Naval Hospital, Port Royal, S. C., and ordered home to wait orders.

Surgeon J. M. Steele, ordered to the Naval Hospital, Port Royal, S. C.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 25, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Sept. 12-19, 2 cases.
California: Los Angeles, Sept. 5-12, 6 cases; San Francisco, Sept. 6-13, 2 cases.
Colorado: Denver, Aug. 22-29, 1 case.
Illinois: Belleville, Sept. 12-19, 3 cases; Chicago, Sept. 12-19, 7 cases.
Maine: Brewer, Sept. 17, present.
Massachusetts: Fall River, Sept. 12-19, 3 cases.
Michigan: Port Huron, Sept. 12-19, 2 cases.
Mississippi: Natchez, Sept. 5-12, 2 cases.
Missouri: St. Louis, Sept. 12-19, 1 case.
New York: New York City, Sept. 12-19, 1 case.
Ohio: Lorain, Sept. 12-19, 1 case.
Pennsylvania: Carbondale, Sept. 14-21, 1 case.
South Carolina: Charleston, Sept. 12-19, 1 case.
Washington: twenty counties, Aug. 1-31, 34 cases, 2 deaths.
Wisconsin: Milwaukee, Sept. 12-19, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Liege, Aug. 29-Sept. 5, 1 case, 1 death.
Brazil: Pernambuco, July 17-31, 5 deaths; Rio de Janeiro, Aug. 8-23, 128 cases, 62 deaths.
China: Shanghai, Aug. 1-8, 2 deaths.
France: Marseilles, Aug. 1-31, 11 deaths; Paris, Aug. 22-29, 2 deaths.
Great Britain: Birmingham, Aug. 29-Sept. 12, 5 cases; Dublin, Aug. 29-Sept. 12, 1 case; Leeds, Sept. 5-12, 11 cases; Liverpool, Aug. 29-Sept. 12, 10 cases, 3 deaths; Manchester, Aug. 29-Sept. 5, 2 cases; Newcastle-on-Tyne, Aug. 22-Sept. 5, 12 cases, 1 death; South Shields, Aug. 2-Sept. 5, 5 cases, 1 death.
India: Bombay, Aug. 11-25, 7 deaths.
Mexico: City of Mexico, Aug. 30-Sept. 13, 5 cases, 5 deaths.
Netherlands: Amsterdam, Aug. 29-Sept. 12, 4 cases.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Sept. 24-25, 2 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Aug. 8-23, 8 cases, 1 death.
Colombia: Panama, Sept. 7-14, 4 cases, 1 death.
Mexico: Citas, Aug. 30-Sept. 5, 24 cases, 3 deaths; Merida, Aug. 30-Sept. 5, 11 cases; Motul, Aug. 30-Sept. 5, 1 case; Monterey, Sept. 23, present; Nuevo Laredo, Sept. 17, 1 case; Progreso, Aug. 30-Sept. 5, 1 case, 1 death; Tampico, Aug. 30-Sept. 5, 7 cases, 3 deaths; Tehuantepec, Aug. 30-Sept. 5, 2 deaths; Salina Cruz, Aug. 30-Sept. 5, 4 cases, 2 deaths; Vera Cruz, Sept. 5-12, 44 cases, 14 deaths.

CHOLERA—FOREIGN.

China: Amoy, July 15, present; Shanghai, Aug. 1-8, 1 death.
Straits Settlements: Singapore, July 25-Aug. 1, 5 deaths.
Turkey: Syria, Aug. 17, 472 cases, 428 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, Sept. 15, 1 death; Honolulu, Sept. 11-12, 2 cases.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Aug. 8-23, 31 cases, 22 deaths.
Chile: Conception, July 11, present; Iquique, July 14-Aug. 8, 53 cases, 34 deaths; Pisaqua, July 11, present; Valparaiso, July 11, present.
China: Fuchau, Aug. 12, present; Hongkong, Aug. 1-22, 13 cases, 12 deaths.
Egypt: Alexandria, Aug. 15-21, 8 cases, 4 deaths; Damiette, Aug. 15-21, 3 cases, 1 death.
India: Bombay, Aug. 11-25, 165 deaths.

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Original Articles.

GASTRIC ULCER;

CLINICAL, PATHOLOGICAL AND SURGICAL PHASES.*

A. H. CORDIER, M.D.

KANSAS CITY, MO.

The invasion of the domain of internal medicine by the modern surgeon has been one meeting no little opposition, as the battle of words in medical societies and articles in journals will attest, yet this onward march of the application of proper surgical principles continues. With true surgical principles applied to internal organs, with actual demonstrations of the results claimed by such procedures by the surgeon, the practitioner is willing to accept these procedures and to recommend them. Only a few years ago pelvic hematocele found a place in every text-book and was treated from a medical standpoint, some cases recovering, but many dying; to-day ectopic gestation with ruptured tube has replaced the hematocele pathology, and proper surgery saves the majority of these cases. Postmortems on cases dead from internal bleeding from ruptured tubes, and surgical operations on the living revealed the true pathology in these cases. The proper management of these cases is understood by every physician and surgeon of to-day.

Nature is a great healer when the conditions are favorable for repair. The whole secret of Nature's reparation of tissues destroyed or injured is embodied in one of nutrition, both bodily and locally, and a physiologic rest of the diseased part. Unfortunately for Nature, there are some parts of the body in which these desired ends can not, in a great measure, be attained. While the stomach is not necessary to life, the being is much better off with than without it. Absolute physiologic rest of this organ is almost if not impossible; thus both the strongholds of persistent pathology are well guarded by impaired bodily nutrition and physiologic activity of the crippled stomach. If an eye is inflamed it is put to rest in a darkened room; if a synovitis exist the joint is immobilized; if there exist an ulcer on the lower extremity, the leg is bandaged and elevated when necessary to give support (physiologic rest) to the crippled returning blood current. If a similar process exist in an internal organ why not apply the same surgical principles for its relief?

Since Billroth's successful pylorectomy in 1881, stomach surgery has advanced rapidly both in perfecting the technic and scope of application. The operations for removal of malignant growths have not been attended by a permanency in their curative results that lends much encouragement, yet the temporary relief obtained has justified this effort at palliation of symptoms and prolongation of life.

In 1881 Wolfler performed the first gastroenterostomy. This operation was devised to relieve cases of malignant and non-malignant stenosis of the pylorus with stomach dilatation, and the results have been all that could be desired in the relief of disagreeable symptoms even where a cure was not possible. The application of this operation to the cure of uncured medicinally-treated cases of gastric ulcer, has more recently been introduced with results that are most satisfactory.

The term ulcer of stomach as applied to this article does not include malignant neoplasms, or the multiple follicular ulceration in tuberculosis of the stomach. The term ulcer does not necessarily imply that there is but one ulcerated spot, as there may be many and yet come within the scope of this article. Of 867 cases reported by one author there were more than one ulcer in 175 of the cases. The acute cases are more likely to be multiple, but of this variety surgery is needed less, save for hemorrhage.

A chronic ulcer of the stomach may be very large or may remain for years a small round ulcer the size of a quarter. The investigations that have been made to determine the location of these ulcers have been so imperfect and haphazard that they are almost valueless. Yet a number of carefully recorded postmortems have shown that certain parts of the stomach are more liable to this disease. On the posterior wall of the lesser curvature near the pylorus is a favorite site for the development of an ulcer. The usual shape of these ulcers is round or oval, yet the large ulcers may assume almost any shape or several may be joined together by an isthmus of healthy mucous membrane. The healing of an annular ulcer may by the cicatrix produce sacculation of the stomach into two or more divisions. Hemorrhage as a symptom is quite prominent at some stages of an ulcer's progress, yet it may be so trivial as not to be of much consequence or value as a diagnostic or operative indicator. On the other hand, hemorrhage from a gastric ulcer is a frequent cause of death. In a large series of fatal cases the postmortems revealed 20 per cent. of death from hemorrhage. This table was based on deaths from chronic cases, as the death rate from hemorrhage in acute cases is very much lower, 5 per cent.

In cirrhosis of the liver ulcers are of rather frequent occurrence, and are prone to bleed, owing to the impeded circulation through the liver. I remember seeing such a case a few years ago. The hemorrhage in this case was terrific. The patient made a recovery and is well to-day, as far as his gastric ulcer is concerned.

* Read at the Fifty fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

As an ulcer (chronic) approaches the peritoneum it forms adhesions to surrounding organs. The pancreas is most frequently involved owing to the ulcer being on the posterior wall. This mass of adhesions at the time of operation is liable to lead the surgeon into an error in diagnosing the condition as cancer, especially when the omentum is involved. Such was my experience in one case. This effort on the part of Nature to prevent first, perforations into the general peritoneal cavity, and second, to limit local suppuration in case such takes place. The conservative efforts of Nature are often detrimental by obstructive symptoms, and may prevent ulcers healing. The efforts on the part of Nature to limit the pathology occasionally result in a fatal hemorrhage from adjacent vascular organs. Peritonitis may extend over a large area of stomach without perforation, thus limiting movements of the organ and causing contraction of its walls. Delays permit large ulcers to form. Large cicatrices interfere with the functions of the organ, are prone to break down into ulcers again, or to become malignant. A portion of a stomach becoming fixed by adhesions to the liver limits the peristaltic movement and permits the food to remain in the lower segment of the organ; fermentation results, and dilation is inevitable. It is not necessary that the pylorus be constricted in every case of gastrectasis. All are agreed as to the management of these cases.

On first thought one would naturally think that nearly all those cases of extensive chronic ulcers would in their progress divide vessels that would quickly bleed the patient to death, but when we recall the inflammatory changes that have taken place in the surrounding structures and the power of the muscular contractions on the vessels when this change is not complete, it is then easily understood how Nature so frequently checks the bleeding in this locality. There is no way of telling in advance as to how well Nature has fortified against such an attack. The deeper the ulcer the larger the blood vessel injured and the more profuse the bleeding, as a rule. Nature anticipates the dangers of a threatened perforation in many cases by agglutinating some structure or organ to the visceral peritoneum overlying the seat of threatened invasion. If this effort is not successful the contents of the stomach are spilled into the general peritoneal cavity, resulting in death quickly. If success attends this effort a localized abscess may result, or fatal hemorrhage may be induced at time of perforation; especially is this true if the pancreas, liver or spleen should be the organ adhered. The most frequent site of the perforation has been variously located by different observers, the consensus of opinion placing the majority of perforations in the anterior wall of the stomach, which is contrary to the location of the majority of ulcers. When we recall that many cases may perforate in the posterior wall and not be diagnosed owing to the frequency of the limiting inflammatory process protecting the general peritoneum, we can then see how uncertain this theory is. The anterior perforations are the fatal ones, hence postmortem verifications are more frequent. This disease is four or five times as prevalent in women as in men, but the mortality of the latter is much greater than the former. While the general belief has been that this is a disease especially liable to attack young girls, the statistics of some authors rather disprove this theory, showing gastric ulcer occurring most frequently at the age of twenty-five. Simple ulcer is rare before puberty.

As a rule, the ingestion of food produces pain in the cases where there is a freedom from suffering when the stomach is empty, and in those cases where there is persistent discomfort the pain is increased by taking food into the organ. Solid or coarse food is more liable to produce pain. Milk and all mucilaginous drinks, as a rule, rather relieve the pain, in this respect differing from the usual effects of milk in the non-organic conditions. A patient may complain of a pain in the epigastrium over a large area, yet the tenderness may be confined to a small spot.

During menstruation, when the abdominal organs are physiologically congested, the pain in gastric ulcer is increased, and the tenderness is more marked. It has been noticed that the vomiting of blood is most likely to take place and to be more profuse at this period. Vomiting as a symptom is not of as frequent occurrence as is generally supposed, yet in many cases it is the one symptom above all others to be met by treatment. A feature to be remembered about the vomiting is that it is not usually accompanied by nausea, and the vomiting does not require much effort. This vomiting usually takes place in about fifteen minutes to two hours after taking food. The vomitus usually contains an excess of hydrochloric acid. Where there are adhesions to surrounding organs in the region of the pylorus, vomiting may occur at any time of the day or night, regardless of the ingestion of food.

Where there is a catarrhal condition of the whole mucous membrane in these cases the vomiting is more persistent, comes on earlier and is accompanied by more nausea. While the vomiting is Nature's remedy to rid the stomach of the pain-producing foreign substances it at the same time is a dangerous complication, leading to starvation, hemorrhage and rupture of the ulcer. The bleeding in these cases varies from a few undetected drops to a fatal ending. Hematemesis occurs in probably 75 per cent. of all cases, yet an ulcer may be slowly forming for years without giving rise to a perceptible hemorrhage. A hearty meal, a meal of solid food or a gaseous distention may be the exciting cause of an alarming hemorrhage.

In the long-standing cases of pyloric ulcer the vomiting and pain are more persistent, and usually last until a fatal termination is reached. When the ulcer or cicatrix is near the pylorus, the stomach is more liable to be dilated, and parts of its contents remain to become decomposed into a sour, stinking, poisonous fluid. The repeated hemorrhages leave the sufferer with impaired digestion, less recuperative powers, and profoundly anemic—all complications against a successful recovery of the patient.

The dignity of a gastric ulcer is much depreciated by thinking or speaking of it as an abrasion of the mucous membrane of the stomach giving rise to a small painful spot felt in front and behind, with occasional vomiting of blood, these trivials to be relieved by subnitrate of bismuth, nitrate of silver, etc. About 10 per cent. of all gastric cancers have their origin in a benign ulcer (Lebert). If we accept this statement as true we then have a strong argument in favor of resorting to any procedure for the early cure of all benign ulcers of the stomach. Prophylaxis is the keynote of the successful treatment of this incurable disease, when once inaugurated.

CASE 1.—Mrs. P., age 43. Mother of three children. Housewife. American. Three years ago this woman began having dyspeptic symptoms and especially pain after eating. A year afterward she began vomiting soon after meals, from the fact that vomiting gave temporary relief from the pain. The pain usually began a half hour after eating and would last for

three or four hours, or until the stomach was emptied by free emesis. The vomiting at first was only after eating, but within a few months it would come on at any time, and usually nothing but a quantity of ropy mucus was thrown up. She would vomit as many as a dozen times a day. Her nourishment the first six months was good. For the whole time of her illness she had a pain in the epigastrium, the area of same being half the size of the hand, and exactly in the center of the body. This pain has been transmitted posteriorly. Tenderness on pressure has been a marked symptom from the beginning of her illness. For the last six months she has been vomiting considerable blood each day, and recently has had some severe hemorrhages; a quart at one time being the most. At the time I saw her she was vomiting repeatedly during the day and night, and an abundance of blood was present each day. She was much emaciated, and her facial expression was one of pain and "tired-of-life" character. She had a scaphoid abdomen, with hard abdominal muscles. Tenderness on pressure in the hypogastrium was well marked. The stomach was not dilated, in fact, appeared contracted, as the stomach resonance was diminished on percussion.

A diagnosis of malignant ulcer of the pyloric end of the stomach was made and an operation advised for its relief: the procedure advised being a gastrojejunostomy. This operation was performed, using a large-sized Murphy button. The lowest portion of the anterior wall of the stomach was selected as the site for the anastomosis to a coil of jejunum fifteen inches below the pylorus. At the time of the operation an ulcer two or more inches in diameter could be made out in the posterior and upper border of the stomach near the pylorus. Some adhesions to the under surface of the liver could be defined. Her recovery from the immediate effect of the operation was rapid. She did not vomit for two or three days, when she had two slight vomiting spells. At the end of the third day she was taking liquid nourishment, relishing the same and retaining it. In a few more days she was taking solid food, in the way of steak, eggs, etc. During her three weeks' stay in the hospital she did not vomit a dozen times, while before her operation she vomited a dozen or more times daily. Her bowels became regular, her facial expression was completely changed, and her bodily nourishment was materially improved in that time. She passed the button six weeks after the operation. It is now ten weeks since the operation and the physician, Dr. Huffman of Columbus, Kans., writes me: "She is doing well; is able to walk to town, a distance of three-quarters of a mile. She complains of a slight nausea at times, but it is growing less. I think you have had an excellent result and she is well pleased."

Case 2.—Mr. C., age 38, eighteen years ago began having digestive trouble. It was noticed at that time that solid particles of food in the stomach gave rise to more or less pain. A year or so later vomiting began as a symptom. This vomiting was usually produced by the presence of food in the stomach. After the stomach was emptied the pain would cease, and the patient would be fairly comfortable until after another meal. On one or two occasions he had quite a perceptible show of fresh blood in the vomited material. This painful condition continued up to the time of my first examination. In addition to the above history I learned from the patient that large quantities of material would be thrown up that had been retained in the stomach for two or three days. As much as twelve or fourteen pounds of strongly acid, offensive material would be thrown up from the stomach at one time. This usually brought some relief, but even when the stomach was emptied of its solid contents gaseous distention would go on, producing great distress from the pressure of the enormously dilated stomach. Cardiac and pulmonary dyspnea was a very prominent symptom as a result of this pressure against the diaphragm.

He had lost very much in weight at the time I saw him, and weighed only 115 pounds, was taking 20 grains of morphin a day and was in a desperate condition in every sense of the word. My examination revealed an enormously dilated stomach and a very much emaciated patient. There was no tenderness on pressure at any spot over the abdomen; no enlargement or induration could be detected through the thinned abdominal walls. A diagnosis of pyloric obstruction resulting from the healing of a non-malignant ulcer was made. An operation having in view the establishing of a free communication between the stomach and the lower alimentary tract was advised and accepted. It was noticed in the examination that the pylorus was very low and unusually far to the right of the median line. For this reason, at the time of the operation, the incision was made in the right semilunaris, believing that it would give the nearest approach to the most dependent portion of the dilated organ. The correctness of this decision was verified at the operation. I found on opening the abdomen the stomach very much dilated, but in position, as before described. Believing, as I do, that all of these operations should be primarily drainage procedures, the anastomosis was made nearer the pyloric end of the stomach than that usually advised or found necessary. The incision in the stomach was made in its anterior wall, about four inches from the pylorus. A coil of the jejunum 15 or 18 inches below the pylorus was selected as the suitable site for the incision in this portion of the canal. The usual precautions were used in the application of the sutures in the use of the Murphy button.

Fig. 1.—Gastrojejunostomy. Pyloric stricture (S) from healed gastric ulcer. Pyloric end of stomach displaced downward, hence the location of anastomosis (A).

The operation was quickly performed and the patient returned to bed in good condition. Following the operation there was no unpleasant symptom. In a few days he was able to take the necessary nourishment without any inconvenience or pain following its ingestion. The morphin was withdrawn from him, and at the end of three weeks he was not only broken of his morphin habit, but was able to return to his home, taking both liquid and solid nourishment with perfect comfort. He continued to improve until his former good health and weight were regained. He increased in weight until he weighed 180 pounds and was strong and able to do any work that was necessary for him to do. His digestion was perfect and free from pain; the gaseous distention disappeared and the stomach seemingly regained its natural size and tonicity. He continued in this state of health for six and one-half years. He was then taken with acute pneumonia, and within two weeks died as a result of this attack.

I was fortunate in being able to make a postmortem in this case. On examining the stomach I found that there was a complete obstruction of the pylorus (Fig. 1): that the stomach had regained its former size; that its muscles were well developed and in a healthy condition; that the portion of the duodenum and jejunum above the point of anastomosis, while in a healthy condition, showed well-marked evidence of atrophy from disuse. At the site of the anastomosis there was absolutely no omental or other adhesions except those made by the union of the bowel to the stomach. The opening from the stomach into the lower segment of the bowel was as large, seemingly, as at the time of the operation. There appeared to be a species of valvular action that prevented the contents of the stomach from going into the upper coil of the bowel. A similar arrangement seemed to exist preventing the bile from going into the stomach. On filling the stomach with air or water not one drop or bubble could be forced through the pylorus. The water would enter the lower segment of the bowel with perfect ease, but none at all would go into the upper segment until after the stomach and lower segment of the bowel were thoroughly distended.

As remarkable as it might seem, the Murphy button, instead of passing into the intestine and finding its way out into the external world, as is usual, had dropped into the stomach and remained there for nearly seven years, or until the time of his death. Its presence in the stomach had never given rise to a single symptom. One end of the button was very much destroyed, presumably by the secretions of the stomach.

The accompanying illustrations show very distinctly the strictured condition of the pylorus, also the perfect anastomosis between the bowel and the stomach. It also shows the distended condition of the stomach and the lower segment of the bowel with very little distention of that portion of the intestine above the site of the anastomosis.

While the dropping back of the button into the stomach might be used by some as an argument against its use, this objection would certainly lose its force from the fact that not a symptom was produced by its presence, and also from the fact that the time of performing the operation is very much shortened, a no small item in many of these cases. The greatest of all in favor of the button is the fact that nearly every one of these cases recover from the operation if the work is properly done.

This case illustrates a condition following the healing of a gastric ulcer, the scar causing pyloric stricture.

CASE 3.—Mr. S., age 48. Twenty-five years ago this man had quite a severe hematemesis. This was followed by a long period of gastric pain and uneasiness after eating, with occasional vomiting spells. These symptoms troubled him for a number of years, then for several years he was comparatively healthy. About two years ago he began having a burning in his stomach after eating, with an occasional eructation of a sour, foul-smelling liquid. He was troubled from gaseous distention of the stomach and bowels. Constipation was a marked feature. Soon occasional vomiting attacks were noticed and he began losing flesh. He became very much emaciated and cachectic in appearance. He had a long course in gastric lavage and dieting, with no improvement in his general condition. One year ago he left his business (wholesale merchant) and spent several months in the south. During his stay there he gained in flesh, and on his return resumed his former business; but he was soon compelled to stop on account of his old symptoms, returning. He lost thirty-six pounds in five months.

I find on examining him that he is very anemic and much emaciated, with a look of care and uneasiness depicted on his face. I find the tongue coated brown and the breath very offensive. (This has been a feature of his case for several months.) The lower portion of the abdomen is flat and the muscles tense and dry. No gases in the intestines. Stomach distended with gas two inches below the umbilicus. Sense of resistance and pain on pressure in the region of the pylorus. No tumor discernible; vomiting several times each day. No solid food tolerated by the stomach, and practically all liquids rejected after remaining in the stomach for a few hours. Coffee-grounds-looking material is vomited often. A test meal showed: Total acidity, 20; reaction faintly acid; free acid, 0; HCl, 0; lactic acid, small amount. The examination by Dr. Wolf four weeks after operation showed: Total acidity, 75; reaction strongly acid; free acid, 0; HCl, 0.

A diagnosis of probable non-malignant partial stenosis of pylorus was made, resulting in dilatation of the stomach.

The early history of this case was one of gastric ulceration, later a healing of the ulcer, then a reformation of a benign or malignant ulcer at the site of the old scar, with a pyloric stenosis and gastrectasis. Operation was performed on the anterior wall of the stomach at the most dependent point.

Eight years ago I laid stress on the importance of making the opening in the stomach in a position that would act as a drainage opening (Figs. 2 and 3). This case since the operation has been one of continued comfort and improvement. He is taking an abundance of food, and is gaining strength and weight. He has not vomited a single time since the operation; neither has it been necessary to wash the stomach, this being required twice a day before the operation.

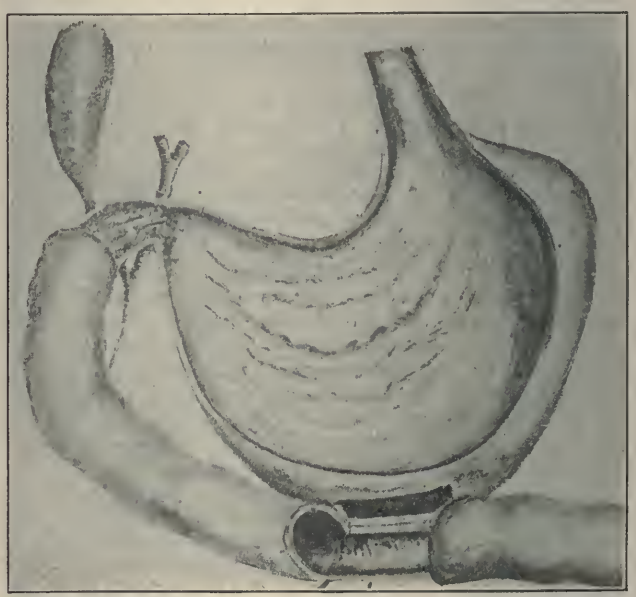

Fig. 2.—Showing that opening should be made in bottom of stomach.

The medical management of 50 per cent. of these cases is quite satisfactory, but I know of no class of cases requiring more patience on the part of the physician, and more faithfulness on the part of the patient in carrying out the instructions.

There is a class of cases where either from want of favorable surroundings or for want of persistent assistance from the patient the medical management of these cases is a total failure. There is yet another class of cases in which, regardless of all faithfully tried remedies, the disease goes on year in and year out, with no indications of a permanent recovery; while there are a class that from the dangerous symptoms induced require some line of management more certain and rapid than the slow expectant treatment usually carried out. For instance: Starvation, severe pain, persistent vomiting and alarming recurring hemorrhages. Of the medical management I will have very little to say in this article, but confine my remarks to the management of this class

where a fair trial of that line of management has been given and failed.

The excision of a gastric ulcer, would, on first thought, appeal to one as the ideal method of dealing with such cases, but when we take into consideration the difficulty of defining the limit of the ulcer, the lowered vitality of scar tissue in its efforts to unite, the extensive adhesions of the bottom of the ulcer to surrounding viscera, and the dangers of hemorrhage and injury to other organs in separating these adhesions, we then can understand why the mortality is so very high in excision of a gastric ulcer. The prime object to be sought in the healing of a gastric ulcer is to maintain the health standard by proper nutrition, removing all sources of irritation possible, giving the parts rest. How are these ends best obtained? In the rebellious cases where the uncertain nutrient enemas can not be carried on for the proper time, and where the liquid diet will not be adhered to, where there is persistent pain, alarming hemorrhages,

Fig. 3.—It is not necessary to do multiple operations.

or where the patient is so situated that he or she can not afford to wait on the slow, uncertain, hard to carry out, and expensive medicinal method, there the case becomes a strictly surgical one. A gastroenterostomy fulfills or meets most of the indications in such cases. By selecting a site for the anastomosis in the most dependent portion of the stomach, the organ will empty itself by gravity as soon as any food enters it; thus getting rid of this source of mechanical irritation. At the same time the strongly acid secretions of the stomach are drained into the intestines and away from the ulcer. If efforts at vomiting should occur the stomach empties itself into the bowel through the non-valvular opening, and thus the nourishment of the body is maintained and the proper healing augmented by an increase of the reconstructive systemic powers. The motility of the diseased organ is best limited by this procedure and the ulcer permitted to have rest, so necessary in the healing of an ulcer, regardless of its location. The putrefaction of the retained food in the cases with a gastrectasis is prevented and the distention of the organ from the gases averted, thus permitting a contraction of the edge of the ulcer, and preventing the tension of the same that may lead to increased pain or a hemorrhage.

The mortality in a gastroenterostomy is very low in skilled hands, and the relief of symptoms and cure of the ulcer is to be expected in the great majority of cases.

DISCUSSION.

Dr. J. H. Carstens, Detroit—I endorse what the essayist says and to add that in these cases of pyloric obstruction from other cause, where there seems to be a simple contraction, operative correction is simple, but I do not believe that I would put in a Murphy button and leave it there for six years. I use the McGraw ligature, which is simple and can be inserted quickly, and there need be no fear of brass poisoning.

Dr. John G. Clark, Philadelphia—Two points occur to me: 1. How long shall these cases remain under medical care before being subjected to surgical interference? 2. How shall one best and most quickly locate the ulcer? Because a considerable proportion of cases of gastric ulcer will heal spontaneously under careful medical treatment, precipitate operation is unwise. Only after the case has been carefully treated for a sufficient time to determine its chronicity, or when urgent symptoms, such as peritonitis or excessive hemorrhage, occur is it wise to operate. In several instances I have advised a waiting policy, even when the symptoms were rather exaggerated, and thus far I have had no occasion to regret this course. When, however, through its chronicity, or, as said above, through threatening symptoms, the patient's life is seriously jeopardized, an operation should be performed. The second question then comes up for consideration, how best to find the ulcer? Unless the pathologic process is chronic, associated with induration and superficial evidences of inflammation, it may be difficult or impossible to locate by palpation the exact site of the ulcer. Again, if the ulcer is situated on the posterior aspect of the stomach, adhesions may have taken place, making it difficult or impossible without great danger of dislocating the stomach, to bring it into the field of operation. It is, therefore, wise in these cases not to lose time in searching in this more or less haphazard and superficial way, but to make an immediate exploratory gastrotomy. The less vascularized portion in the anterior wall of the stomach, situated between the lesser and greater curvature, should be selected as the site for this exploratory incision. When the incision is made it need not necessarily be a large one. Not only may the stomach be efficiently palpated, but actually inspected. A small speculum or tractor may be inserted into the incision, and in one instance I was able to locate the ulcer with a small electric light. When the ulcer is located in the posterior wall and is bound down by adhesions, it is not wise to break up these adhesions, for the edges of the ulcer may be sufficiently pared and sutured directly through the incision. This is by all means the safest method, and is in direct accord with the method of suturing described by Connell.

Dr. C. O. Thienhaus, Milwaukee, Wis.—When one of the larger arteries of the stomach is eroded by the ulcer, the hemorrhage is usually so severe that the patient succumbs before there is a chance for operation. In regard to other cases of acute hemorrhage I would warn against immediate operation. One may observe patients with severe hemorrhage and anemic to such a degree that one believes nothing but surgical interference can save his life, but usually the patient recovers by proper internal treatment, while operation is extremely dangerous and the mortality, as statistics show, enormously high. For this class of cases, as well as for hemorrhage from typhoid ulcer, I highly recommend gelatin, either by mouth or rectum. I would not like to go on record as claiming gelatin to be a panacea for internal hemorrhages; but, as above cited, it is of great value and ought to be given a trial before taking the responsibility of operating in the acute stage of hemorrhage. I would like to ask Dr. Cordier whether, when he uses the Murphy button, he makes use of the generally employed purse-string suture, or does he, after having made the smallest incision possible and having inserted the button,

use only one suture in each corner of the transverse incision, a method which has been highly recommended lately. In regard to pylorectomy versus gastroenterostomy in cases of ulcer of the pylorus, when the patient is over 40 and has been suffering for a long time from a chronic ulcer in this region, I always prefer if possible pylorectomy because many of these chronic ulcers about this age show a tendency toward malignancy and the differential diagnosis is sometimes extremely difficult even during operation, whether the ulcer is still benign or malignant.

DR. F. F. LAWRENCE, Columbus, Ohio—Too little attention has been paid to the point that there is a stage of acute danger in gastric ulcer—the danger of perforation. If there be one condition more than another in which abdominal surgeons should urge the abandonment of medical treatment and the institution of more radical measures, the closing up of the lacerated surface, it is that of gastric ulcer.

DR. CORDIER—I would not advise, in the majority of instances, to operate during the hemorrhage. In fact, you rarely see one of these cases during an alarming hemorrhage. It is remarkable how cases seemingly nearly bleed to death and then recover. These cases are desperate and the thing to do is to operate and to operate quickly. An operation extending over thirty or forty minutes will prove fatal in the majority of cases. My preference is the Murphy button; the establishment of an anastomosis and doing it quickly, using a purse-string suture, completing the operation in fifteen minutes. I use the button in the anterior wall. Many have recommended opening into the posterior wall, but this is not necessary. It makes the work look bulky and as if done by a tyro. The main thing is to make these operations drainage operations; make the opening in the bottom of the stomach, or otherwise you will have the accumulation and decomposition of food and a renewal of the old symptoms. If you make the opening in the bottom of the stomach the food passes right through. The patients can not vomit, and if they do the vomit goes through the intestine and not up through the esophagus.

HYGIENE OF YOUNG GIRLS.*

J. H. CARSTENS, M.D.
DETROIT.

The hygiene of young girls has been discussed and written about so much that it is utterly impossible for me to say anything new or even to present the subject at a little different angle than you have looked at it before.

When I speak of young girls I naturally mean during the age of puberty. We can divide the subject into mental and physical. The hygiene of the body is comparatively easy if the young girls are raised in a primitive state of civilization. Still, again, here there is a great difference. In some of the primitive races, as with certain tribes of Indians, girls have to do hard work, and do not grow up unrestrained as they do among some other primitive people. In the South Pacific islands, for instance, where they grow up without care and restraint, romping, playing, swimming, there they develop even muscular figures and healthy bodies.

This we can not do in civilized communities. As they grow up, some of the children in Europe, for instance, are obliged to carry heavy burdens and do hard work with poor food. They may be muscular, strong and have large bones, but they do not have handsome and graceful figures nor the intellectual training which we desire.

You take, however, our own so-called better class, who have chances for physical development. In New England, where everything is esthetic and where the mental training is beyond the brain capacity, we find just as lamentable a state of affairs in another direction, yes, even worse than we do with the overworked peasantry of Europe.

What modern civilization desires is an even development of the body and mind. This is a very difficult problem, as we have to contend with a long train of ancestors and their hereditary defects in one direction or another. It is not necessary for me to go into the old question of heredity in its relation to rheumatism, gout, tumors, tuberculosis, and so on. I want especially to dwell on the hereditary predisposition of the nervous system. Insanity, alcoholism, epilepsy, and the like, I need hardly dwell on them, as they are so well known. When, however, we have to deal with that condition we call neurasthenia and hysteria, it is very difficult. Naturally, as a rule, it is the mother who transmits this, and by her lack of mental balance strengthens and intensifies this condition in her daughter, and if the father is also weak and soft, and permits and encourages this state of affairs, it is a very difficult thing indeed for us to manage such cases.

The constant suggestion of the mother has its effect on the daughter, and she is finally imbued with the thought that she is nervous and can not help it. All our efforts to improve the condition are negatived by the mother with the statement, "Oh, she can not do that, I never could either when I was her age. She is too weak, my nerves were too weak also," and so on. We might just as well give up unless we can get the young girl away from home and put her under different surroundings. She must be entirely taken away from the influence of the mother and have the care of a trained nurse, who will teach her and who, by constant suggestions in another direction, can show that she is not nervous, not so weak and delicate as her mother thinks. And in the course of a few years a wonderful change can take place. Again, there is the mother who constantly suggests, month after month, that there must be something the matter with her daughter, with her menstrual function, until it is impressed on the young girl's mind that there really is some trouble, and she will always think in the future that her pelvic organs are weak. So I could go on with numerous other points.

If we now turn and go to the opposite extreme, among the poor and poverty-stricken, we find that children are made to work very hard, to carry burdens, to lift their little brothers and sisters, perhaps have improper food, and thus often produce injuries of all kinds, rupture, curvatures, chlorosis, etc.

Ignorance on the part of the mother is very frequently the trouble. In all these cases it is the mother that must be treated. We must get her to understand that we must reform her, and show her how to properly treat, manage and train the daughter so she will grow up strong and healthy. And in nearly all cases with the right kind of argument and teaching we can get the mother's mind so stirred up that we will have comparatively little trouble in managing these cases properly.

This class of young girls must often work at quite an early age, and we should regulate the kind of work that each one is capable of doing. Fortunately a great deal is being done by the state in the enactment of laws regulating the lines of work. These kind of laws should be encouraged, as they tend to improve the health of the young girls. First, in regulating the hours of labor. Secondly, proper ventilation. Thirdly, in proper toilet facilities. Fourth, in the opportunity of getting food at proper intervals.

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This brings us to the question of physiology. In all these cases, rich or poor, we must regulate diet above all other things. Medication also sometimes will be required, but comparatively little. The various gymnastic sports should be encouraged, but regulated by the physician. This is the only way we are able to reach some people and make them take the necessary exercises. The one trouble with most of these are that they are lopsided, will develop only certain parts of certain muscles and parts of the body, while it is so essential to have a systematic and symmetrical development of the body. We are not always able to reach our ideals with stubborn and selfish patients, but we must do the best we can and always strive for it.

Trying, therefore, to guide the young girl to strong and vigorous motherhood, it is not necessary to pay any attention to the menstrual function. That will come without trouble unless there are organic defects and changes which will have to be looked after and remedied, but that does not concern us here.

If we now consider the mental development we have the greatest difficulty. If their physical weaknesses are marked, the mental training should cease or be checked. In this we will have comparatively little trouble. The rich will be willing to do so because they seem nearly always anxious to stop their studies or postpone them on the slightest provocation. This holds good especially with the so-called shoddy. With the poor and the middle classes we shall have out greatest trouble. If the young girl has been animated by ambition to be something in the future, to be able to support herself, and perhaps often to assist her parents and younger brothers or sisters, we will have a very difficult task if such a person is physically weak. If we allow her to go on with her mental work her physical condition will probably become still worse. She is liable to have an undeveloped uterus and conditions of the system produced by it; poorly developed lungs, weak heart and arteries, flabby muscles, feeble digestion, malnutrition of the nervous system and final collapse. The latter sometimes they will become when the goal is reached for which they struggle: the diploma, the teacher's certificate or whatever it may be. She has a mind educated for requirements of that position, and a body feeble and weak, and if she marries she will be a burden to the poor husband, in fact ultimately will probably be divorced or a subject to a series of operations, which will be done to remedy her defects.

One of the greatest difficulties is that these people learn with difficulty. They have not the right kind of brains; they have to study hard until late at night to get their lessons. This intensifies and hastens the physical downfall. Such persons should stop mental work for a year or two and do some other kind of work. When the body is more developed they can resume their mental efforts. They often object to this, but we can manage them all right if we insist on it. People with the right kind of brains and quick perception can continue studies and with a proper amount of physical training they will get along all right.

The question of age in all these cases cuts no figure in my opinion. Either mentally or physically some girls are further advanced at 12 than others at 18.

In conclusion, let me say that hygiene of young girls is one of the most difficult problems for the gynecologist to solve. There are no mathematical problems, no rule that is even elastic within a certain limit, but every case almost is absolutely distinct and requires to be studied by itself. The hereditary predisposition, the surroundings, the future course, the position in life, the means at their disposition, the development of the different parts of the body, or the lack of development of certain parts, the assimilation and elimination of the various organs, the brain and the kind of brain, how it should be developed in one direction or another, and a thousand and one things must be considered in each individual case. Added to this there must be that fine tact and that absolute control over individuals, so that we can not only manage the young patient, but also those around her, be it the mother, father, sister, cousin or aunt. We must get them all under our control ere we can expect to accomplish anything.

We are able to teach the students but very little. We can give them a few hints, but the cases are so diverse and complicated that every medical man must work out each case for himself.

PELVIC DISEASES IN YOUNG GIRLS.*

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The popular prejudice against examination of the genital and pelvic structures in young girls is not confined to the laity, but, unfortunately, exists in the minds of many of the medical profession. There can be no question that on this altar of prejudice many otherwise useful lives have been sacrificed. The voice of this Section raised in protest will bring fruitage in healthier women, happier wives and more devoted mothers.

First.—The young have, with those older, an equal right to relief from suffering and an equal right to protection from diseases which destroy their usefulness and may endanger life.

Second.—Many, if not all, diseases of the pelvic structures are, in their incipiency, curable without recourse to operations which sacrifice important organs or parts.

Third.—Delay in recognition of, or correction of even the simpler conditions, such as displacement of the uterus or ovaries, may, and too often does, result in such organic change as permanently to destroy all function and render the patient an invalid, forever sterile.

Fourth.—The symptoms, pelvic pain, menstrual pain, menstrual irregularity, neurotic explosions, digestive disturbances, etc., occurring preceding, during or following the menstrual effort are only warnings and strong hints for us to seek the cause.

Fifth.—That the pelvic conditions of the young girl can be discovered by feeling the pulse, examining the tongue, and looking wise is no more true than it is in older persons.

Sixth.—A certain amount of modesty and respect for traditional sentiment is probably a protection to the sacredness of woman's chastity, but a chaste life is no way incompatible with an honest purpose in dealing with diseased conditions, and no man will, by an honest, clean, manly effort to discover the cause of suffering, excite impure or degrading thoughts.

Seventh.—We must remember that not only the physical, but the social, the domestic, and even the moral, life of the patient is involved in this question. She may, because of our neglect to ascertain the condition,

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be rendered hopelessly sterile, and, consequently, that unhappiest of human beings, a childless wife.

Eighth.—Our first duty, then, should be the protection of the physical temple of those entrusted to our care. A sound physical organism is, I take it, the surest protection against moral degradation.

Symptomatology is sometimes very misleading, inasmuch as the entire history and symptom-complex, as gathered from patient or her mother, direct attention entirely to the nervous system, circulatory system, or digestive tract with the single exception that the disturbances develop at or about the time of puberty.

The most common and probably the most important of the symptoms presented, when rightly interpreted, is menstrual pain. Menstrual pain is not a disease, and should never be so considered. It is but a symptom. It probably is never a condition which has not a definite pathologic cause. These causes may be:

- Pelvic
  - 1. Uterine
    - a, Displacements.
    - b, Infantile uterus.
    - c, Metritis.
    - d, Uterine fibroids.
  - 2. Intrauterine
    - a, Endometritis.
    - b, Uterine polypus.
    - c, Submucous fibroid.
  - 3. Ovarian
    - a, Chronic ovaritis.
    - b, Prolapse of ovary.
  - 4. Tubal
    - a, Septic salpingitis.
    - b, Catarrhal salpingitis.
- Extrapelvic
  - Neurasthenia.
  - Anemia.
  - Chlorosis.

I have offered this arrangement of the causes of menstrual pain because I believe the older classification of obstructive, neuralgic, ovarian, tubal and membranous dysmenorrhea has too much tendency to mark this symptom as an entity and thus prevent the proper study of its cause. Many cases in which the pain is agonizing present absolutely normal pelves. These are the cases in which everything depends on care and patience, and they are of such import as to merit consideration apart from those which have a pelvic cause.

Of the pelvic causes, first, displacement, *per se,* is of the least import. A displacement of the uterus does not in itself give rise to menstrual pain, the old theory of obstruction being untenable.

The pain in these cases is due to the resulting inflammation of the uterus, tubes or ovaries; or if it be an old displacement we may have adhesions. The cure of these depends, of course, on the correction or removal of the pathologic lesion causing it, as, in fact, it will in all cases; but I would emphasize that the displacement, while a primary, is the smallest factor in the case.

In the infantile uterus the entire effort at preparation of the mucosa for fecundation and menstruation is abortive. In many cases menstruation never occurs, or, when it does occur, it is not a free or natural effort. It is an attempt on the part of Nature to prepare an organ for a function to the fulfillment of which it is totally inadequate. First, the mucosa is only partially developed; second, the stroma of the deeper layer of the mucosa and that of the superficial layer are one, and in almost embryonic condition. The only cure is to be found in such measures as will develop the uterus (an almost hopeless undertaking except the girl marry and become pregnant) or in the removal of the tubes and ovaries.

In metritis we have a prolific cause. The explanation is, first, irritation of uterine ganglia causing expulsive contractions; second, pressure on pelvic vessels in the deeper portion of the mucosa, which prevents leucocytes reaching the superficial portion, retards the amyloid degeneration in superficial mucosa, and results in more or less destruction of mucosa. This I believe to be the true cause of that distressing condition known as membranous dysmenorrhea, only in these cases the results are all extreme. In endometritis we have predominating a glandular inflammation; the glands enlarge, crowd each other, press the superficial layer into a smaller space, obstruct the superficial capillaries and retard amyloid or hyaline degeneration; the capillaries in the stroma become congested, rupture, pour out their blood, form lacunæ, and literally tear the epithelium from its moorings. This is probably the condition in which the older writers thought there was some obstruction in the cervix, and because dilatation brought relief, gave it the name of "obstructive dysmenorrhea." In these cases due to metritis or endometritis, no permanent benefit can be expected from any method of constitutional treatment. The local condition must be relieved by curettement, or in some cases by judicious local treatment, and here let me emphasize that we should impress on the minds of the profession that curettement is by no means a minor operation, considered from a standpoint of safety. The hand that wields a curette should be capable of any operation which demands skill, guided by that judgment which can and will recognize the existence of pus in the tubes or other intrapelvic structures, for the reason that curetting in cases complicated by pus tubes is a most hazardous operation. The general condition demands most careful attention. More harm is done these women by tinkering, or inefficient local treatment, than by letting them alone. In the majority of cases the curette, rest for two weeks in bed, general tonics and the correction of constipation will accomplish a cure when local applications may, and often do, result in placing the case beyond hope of relief by simple measure.

Uterine fibroids and uterine polypi cause menstrual pain by mechanical obstruction of the pelvic vessels and compression of the pelvic nerves. The cure lies in their removal, or the artificial menopause by the removal of the tubes and ovaries.

Fibroma can not be considered common in young girls, but that a fibroid may be the cause of very serious trouble is shown by the following case:

Miss J. F. E., aged 15½ years. First seen Jan. 14, 1902. Menstruated first at 12, very profuse and lasting six days, accompanied by severe menstrual pain throughout. Has menstruated every three weeks since until past four months, during which she has menstruated every two weeks. Suffering has lately become intolerable. Two years ago noticed a hard, non-sensitive lump to left of median line, low down. This has grown slowly. About three months ago noticed a dull aching in left loin, and a few weeks later a sensitive lump just below left ribs. Examination revealed what was apparently a myoma developing to the left side of the uterus between folds of broad ligament; another mass, which was indistinctly fluctuating in region of left kidney. Operation disclosed a fibromyoma pressing on and occluding the left ureter, with a resulting hydronephrosis and hydroureter. A myomectomy resulted in complete relief of all symptoms.

Salpingitis is a fruitful source of menstrual pain. In the majority of these cases we have simply the result of a neglected endometritis, i e., the inflammation has extended from the uterus to the tubes. It is suppurative or non-suppurative. The suppurative, although the more dangerous to life, does not give rise to severe menstrual pain until adhesions have formed as a result of peritonitis. That form which is an extension of a catarrhal endometritis results in early occlusion of the tubes, hyperplasia of both the tubal mucosa and mus-

cular wall of the tube, venous engorgement of the tubes and ovaries, and a varicose condition of the ovarian veins. It is in this condition we find the most pronounced premenstrual pain, which is relieved in a few hours after the flow is established. Here the preceding and accompanying endometritis is an important factor. The timely use of the curette will prove our best aid. Let me here urge the necessity of determining the absence of pus tubes before resorting to the curette; for the operation of curetting, when pus tubes exist, is fraught with greater danger than is the removal of the tubes. There is a form of inflammation of the fallopian tubes which occurs as a sequel to the exanthematous diseases. It is usually bilateral, and is nearly always complicated by peritonitic adhesions. The pain is severe at menstrual epochs and resists all forms of local or general treatment.

The consideration of those cases which have an ovarian cause will involve the relation between ovulation and menstruation; a subject too great to be discussed in a short paper. For our purpose it is enough to remember that each month the uterine mucosa develops preparatory to the reception of a fructified ovum, and when that ovum is not impregnated degeneration with rupture of superficial vessels and denudation results in menstruation. Intermenstrual and premenstrual pain can always be attributed to the tubes or ovaries. When to the ovaries we must determine whether it be hyperemia or ovaritis.

Ovarian hyperemia is a common cause of menstrual pain in young girls. Its cause being excitement and ungratified sexual desire, it is apparent that treatment should be such as to direct the patient's thoughts from the genital organs. A change in the social and domestic habits is of prime import. The importance of relief is emphasized by the fact that if unrelieved this condition soon results in chronic ovaritis, hyperplasia, increase of fibrous tissue and complete destruction of the ovary. In the latter condition the pain becomes more severe, more prolonged, and its cure involves the removal of the organ. It matters very little whether the form be cystic, interstitial or hyperplastic, except that the pain in interstitial ovaritis is most severe, while in the cystic we are most likely to find prolonged or profuse flowing, and in many cases intermenstrual hemorrhage. The treatment of any form of chronic ovaritis is too often disappointing and requires for permanent cure the extirpation of the diseased ovaries.

In all these cases the temptation to give opium is great and should be religiously resisted; for so sure as we give it we will make an opium habitué of our patient. In prolapse of the ovary the pain is due to the resulting inflammation of the tubes and ovaries, with the consequent congestion of the entire pelvic contents. There is no method of mechanical treatment which will correct the displacement. Two operative procedures are available: First, if the ovary be not too much affected we can lift it up and secure it by shortening the utero-ovarian ligament, or stitch it to the broad ligament. Second, if the ovaries are diseased beyond repair we can remove them. The power of repair is so great that I am inclined to think we can save a very large percentage.

There is a class of cases in which no disease of the pelvic organs can be detected, and yet the suffering is as severe as in those in which inflammatory trouble exists. These comprise neurasthenics, in whom there seems to be a constant tendency to explosions of all sorts; patients who are anemic or chlorotic. The occurrence of menstrual pain in those subjects is readily appreciated if we keep in mind the utero-ovarian nerve supply and the physiology of the sympathetic. The nerve supply of the uterus, fallopian tubes and ovaries is largely from the sympathetic, with a few fibers from the second, third and fourth sacral. The sympathetic fibers are from the inferior hypogastric and the spermatic plexuses. The hypogastric is a branch of the aortic plexus, which is derived from the semilunar ganglion and renal plexus on each side. If we remember that these sympathetic centers supply branches to all the abdominal viscera, and then keep in mind the fact that irritation or stimulation of a sympathetic nerve causes contraction of vessels, lower temperature, diminished nutrition and increased tissue waste in the parts supplied by it, the increased tissue waste causing increase of carbonic acid gas in the blood, which adds to the irritation, it is not hard to understand how a neurosis may have, as one of its symptoms, painful menstruation. Particularly is this true if we keep before us the facts of the normal menstrual process, viz., that there is, first, an increase of cell growth; second, multiplication of the stroma nuclei and hyperplasia of the superficial mucosa; third, widening of interglandular and intervascular spaces from hyperplasia; fourth, occlusion of capillaries, degeneration and rupture of smaller vessels, and finally, complete denudation of the uterine mucosa. Neither is it hard to understand how these physiologic processes may become abortive as a result of malnutrition in anemia and chlorosis. Great care is necessary in these cases that we exclude local organic disease, for, if there be an endometritis or other evident local inflammation occurring in these neurotic and anemic cases, I do not believe we ever accomplish any good by constitutional treatment alone, and they are certainly not to be operated on. That there are cases of nervous disease dependent on pelvic trouble we all know. The failure to discriminate between those in which the pelvic disease is the cause of the nervous symptoms, and those in which the neurosis is the primary affection has done much to retard the acceptance of operative assistance, by alienists. I would emphasize the statement that operative measures can not be expected to relieve nervous symptoms except when adopted for the removal of distinctly diseased organs, to the condition of which the nervous symptoms may justly be ascribed. On the other hand, I have seen some marked neurotic conditions relieved without further treatment by the removal of diseased ovaries and tubes, or the plastic repair of an enlarged and indurated cervix.

That a leucorrhea always is a symptom of disease of either external or internal genitalia should be kept in mind. That the cause of leucorrhea may be any one of several serious conditions should demand thorough investigation in every case, whether young or old. Tuberculosis of the genital organs is by no means so rare as has formerly been taught and may be the cause of leucorrhea in very young girls. Gonorrhea, with all its frightful sequelæ, I have seen in a number under the age of 15 years, and in two cases under 8 years. Herpes genitalis may occur at any age and gives rise to profuse discharge. Traumatism may be a factor of leucorrhea in some cases. The fact is no patient who has leucorrheal discharge should be treated in any manner whatever until the cause has been determined with reasonable certainty. Profuse and irregular menstruation may be symptoms of such grave import that it would seem scarcely necessary to insist on these cases being thoroughly examined were it not for the fact that we are continually confronted by the statement, made appar-

ently in good faith by active physicians, "that uterine hemorrhage in young girls only needs iron and bitter tonics to cure it." We can not determine whether the cause be metritis, endometritis, polypus, fibroids, cystic ovaries or sarcomata, except by a painstaking examination, and as any one of these may be the cause it is our plain duty to determine which it is. It is equally our duty as gynecologists and as teachers to impress on the minds of our students and the profession, that it is more important to learn how to thoroughly investigate and diagnosticate these cases than to see us operate, or to listen to a description of technic.

SUMMARY.

1. All cases, whether in young girls or in older women, in which menstrual pain, intermenstrual or premenstrual pain is a prominent symptom should be subjected to careful and thorough examination to determine its cause.

2. No leucorrhea should be permitted to pass unnoticed or treated by such "slipshod" methods as ordering a douche, giving medicine, etc., without first ascertaining its cause. In all cases where discharge is purulent a microscopic examination should be made to determine presence or absence of gonococci, tubercle bacilli or other important septic organisms.

3. All cases of excessive flowing, intermenstrual hemorrhage or prolonged menstruation should be thoroughly examined.

4. In all cases where amenorrhea exists every effort should be made to find the cause.

5. In young girls subjects of neurotic symptoms which develop at puberty or occur with each menstrual epoch, a careful and thorough examination of the pelvis will often reveal the cause.

6. If menstrual pain, irregularity, leucorrhea and neurotic disturbances follow the exanthemata, a pelvic examination is imperatively demanded.

7. In all virgins the rectobimanual examination should be used—the vaginal touch only being used when absolutely necessary.

DISCUSSION

ON PAPERS OF DRS. CARSTENS AND LAWRENCE.

DR. L. S. MCMURTRY, Louisville, Ky.—This subject has been greatly neglected by the Section, but has been discussed at length in the special societies. It is a common occurrence for the gynecologist to see young girls whose health has been wrecked by that complex condition known as neurasthenia, when all of the trouble could have been avoided. These young girls pass from one practitioner to another without getting any relief; from the general practitioner to the oculist, and then to the gynecologist, and many finally go to the neurologist. These cases should receive proper attention from the gynecologist, and there is as much to be done by withholding local treatment in many instances as in giving special treatment in other cases. There seems to be a prevailing idea that any young woman who has a disturbance of nutrition with anemia, associated with nervous symptoms, must at once be regarded as possessing no other organ but the uterus, and the treatment instituted in the majority of cases is local rather than systemic. If we could institute some system, and I take it that that is Dr. Carsten's idea, that will be applied by the family practitioner and also by those engaged in special lines of practice, that will early arrest this condition which we call neurasthenia, which will alter the mode of life, environment and education, it would be one of the greatest advances made in any branch of therapeutics. There should be that co-operation between the family physician and the gynecologist that will ensure a sufficiently accurate selection of cases that require local treatment. But the patient should be protected from unnecessary operations and local treatments. Every one engaged in gynecologic work has a large number of these cases come to him, and up to the present time they are certainly among the opprobia of our art. They are usually referred in some other direction and do not receive that accurate therapeutic attention they deserve.

DR. HANNAH M. GRAHAM, Indianapolis—The general practitioner frequently is too careless in making a diagnosis. For instance, I treated for gonorrhea a girl of 14, a child of one of the best families in the state, who had been under the care of a general practitioner for six weeks when her mother brought her to me saying that she had profuse leucorrhea. The physician's treatment consisted of a tablet every three hours, which gave no relief. The mother objected to an examination of the child, but I finally convinced her that it was absolutely necessary. I found that she had gonorrhea, probably contracted from the maid who took care of the children. It is better to examine one hundred girls who have not gonorrhea than to overlook one that has. We find many girls of 14 suffering from dysmenorrhea due to a retroversion or retroflexion, which can be corrected with a three months' tampon treatment. Why let it go on until it requires suspension or an Alexander operation just because she had not reached the right age? Whenever you find disease you have reached the age to treat it.

DR. G. BETTON MASSEY, Philadelphia—I think it is proper for this section to dwell on such matters. We should endeavor to work out plans for the practical application of the hygienic measures suggested. The fault in the imperfect development of many young girls lies in the mothers, in their housing, in over-clothing, and in their becoming over-finicky. It is hardly appropriate here, but in every section of the Association we ought to condemn the wearing of wool underclothing. In my opinion this is one of the most detrimental things that human beings do; the possibility of catching cold when the girl arrives at puberty is greatly aggravated by abolishing skin action by covering the body with an external skin of non-absorbent woolen material. Girls who spend all their time in the open air lightly clothed and taking plenty of exercise will not go to the gynecologist or neurologist. In the suburbs of Philadelphia the number of healthy girls is very great because an athletic life is fashionable. We can accomplish reform only with assistance of Dame Fashion herself. I agree that examinations are necessary when conditions do not yield to treatment, but I do think that many unjustifiable examinations are made in the clinics. Many young girls are examined when their bowels alone are abnormal; examinations are needed only in the case of girls who are suffering from septic conditions, such as a purulent leucorrhea, or from the manifest presence of a neoplasm.

DR. C. L. BONIFIELD, Cincinnati—I heartily agree with everything Dr. Carstens said, and many things that Dr. Lawrence said, but with the side of the subject that seems to be very popular I am not in accord. I have seen cases that would have been much better for an examination, but these are the exceptions. I believe that there are hundreds of girls going to the office of the gynecologist who have no right to be there. They should be treated by the family physician. The symptoms that are referred to the pelvis are of constitutional origin; and if these girls are treated in the proper way, as Dr. Carstens suggested, if their general health is improved and the development of the uterus is encouraged by forcing nutrition, these symptoms will disappear without any local treatment whatever. Of course, there are cases that require an examination. These are the cases where the symptoms are unusually severe; cases that do not yield to the treatment I have mentioned, but I believe that they are greatly in the minority. When such a case comes to us for examination shall we proceed in the way Dr. Lawrence suggested, make a recto-abdominal examination, which is always more or less unsatisfactory; or give the patient an anesthetic and examine carefully so as to arrive at a correct diagnosis? I take it that the objection to examining young girls is not the destruction of the hymen, but it is the shock to the modesty of the young girl. She is subjected to a treatment of which she really should know nothing. Her attention is called to organs of which she should not think at all.

In the majorty of cases if they need an examination they also need operative treatment, and while they are under the anesthetic the little operation, which is usually a curettage, can be done. The objection to local treatment is overcome; our diagnosis is accurate, and we have done the very best we can do for our patient. I believe that if an examination is necessary at all in a young girl it should be done under an anesthetic.

Dr. J. H. Carstens, Detroit—Dr. Bonifield has said all I want to say. If the young girls are let alone and live a natural life, they will not require the gynecologic finger nor much medicine. What they need is physiology. They should get their eliminative organs into good condition so that they do not absorb excrementitious matter. Get the stomach into good condition, make good blood, and, if they have a little leucorrheal discharge, that will take care of itself. If they are a little nervous they will get over it. This gynecologic tinkering and the giving of all kinds of medicines without any indication for it is going too far. When they have well-marked symptoms of dysmenorrhea and a purulent vaginal discharge, then they should be examined and it should be done under an anesthetic. What I plead for is more simplicity, more physiology, and less medicine and fewer specula.

Dr. F. F. Lawrence, Columbus, Ohio—Dr. Bonifield's statement as to cases going to the gynecologist's office that do not belong there is true in many cases; but I would ask the members of this section whether it be proper or improper to have a thoroughly competent oculist examine a patient whose vision is failing as a result of chronic Bright's disease, to determine whether or not there is albuminuric retinitis. So far as the treatment of the case is concerned, it belongs to the general practitioner, but how many of us gynecologists, surgeons or general practitioners are competent to make a diagnosis of albuminuric retinitis? This is equally true in gynecologic work. Those men who have had the experience and the training are the men to make these examinations. The treatment of the patient can be carried out by the general practitioner, but if there is need for any operative work the gynecologist, the man who is skilled, should do it. Many cases suffer severely from irritable bladder, although I have found that this symptom exists only in patients having a lithemic or uric acid diathesis, and is rarely found in young girls, except in conjunction with pelvic disease. In from 75 to 80 per cent. of the cases in which this symptom exists it will disappear if you will correct the pelvic trouble and let the bladder alone. It is a constant symptom in every case of pus tubes and in cases of many other pelvic diseases. One of the most suspicious things a woman will tell you is: "Doctor, I have a great deal of trouble with my bladder." Find the cause of the trouble and remedy it; do it honestly, earnestly, manfully and fearlessly.

SKIN GRAFTING FOR THE RESTORATION OF THE EYELIDS.

REPORT OF CASES.*

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CHICAGO.

Skin grafting for the restoration of the eyelids differs quite materially from that in other parts of the body. The prime objects in operating are cosmetic and restoration of function. To attain these the part must be freely movable and not differ in color and appearance markedly from the normal lid. We have also a field for operation which is movable and uneven, making the results more difficult to obtain. It is for these reasons that I think a discussion of the principles involved should be of benefit.

The statements I shall make and conclusions I have reached are from my personal experience with these cases. Along with the successes I shall give an account of my failures, for I think I have learned more from these than from the cases where the results were satisfactory. I have used most of the forms of grafts described, the sliding graft, the pedicle graft and transplantation of skin from another portion, either full thickness (the Wolfe graft) or the shaving graft (the Thiersch graft). The choice of which one to use must be determined by the individual case.

The primary causes for operating are usually cicatricial ectropion produced by burns, wounds or destructive skin lesions, as blastomycosis and lupus, or to fill in the defect after removal of tumors of the lid. Fortunately since the use of the *x*-ray the latter cases requiring operation are not so frequently encountered.

In the cicatricial cases we usually have the skin destroyed for a large area, and frequently so deep that the field for placing the graft is devoid of the normal blood vessels, and nutrition is a problem to consider. The condition is very different when the cicatrix is fairly superficial and can be entirely cut through when forming a floor for the graft.

In operating on the upper lid we have conditions very different from those found when operating on the lower. The graft on the upper lid must be as light as possible so as not to interfere with movement or press heavily on the eyeball. On the lower lid we have a tendency to draw away from the eye and we must have support for the lid margin.

I shall not consider the many methods of filling in small defects from the adjacent tissue when there is healthy skin near enough to make it possible. A great many methods may be used, varying with each particular case.

PEDICLE GRAFTS.

The pedicle graft has, in a measure, fallen into disfavor. That it has a place and one which can not be filled by either the Wolfe or the Thiersch grafts I am sure. The advantages of the pedicle graft are that when placed in a region devoid of the normal blood vessels it still has a source of nourishment. It also has the firmness and substance which is very necessary on the lower lids when the muscular tissue is atrophied, and especially when it is necessary to remove the whole thickness of the lid with a tumor. Shrinkage is at a minimum and should not be more than ¼ to 1/3 of the original size. It has also the advantage of being nearly like the skin it should replace and would only be conspicuous against the cicatricial tissue frequently surrounding it. Care, however, must be taken in men not to bring the hairy portion of the cheek around so as to transplant the whiskers on to the eyelids.

As to its disadvantages, the objection to the deformity which its removal may produce is of little importance, for the defect can be easily filled in by Thiersch grafts so that it is difficult to tell where it came from. The most serious difficulty I found was that they were too heavy for the upper lid, where I never attempt to use them now. In one of the first cases on which I operated a large pedicle graft was taken from the temple to form an upper lid, the greater part of which had to be removed with a tumor. It was so thick and rigid that the pressure produced corneal ulceration greatly complicating the condition.

WOLFE GRAFTS.

A great deal has been written both in praise and condemnation of the Wolfe graft. Before the shaving graft

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*Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

came into use it was practically the only means of filling in a defect where the pedicle graft could not be used. Considering the experience of myself and others whose work I have had the opportunity to observe, I think the greatest fault is its uncertainty. I have obtained good results at the time, only to see them completely disappear a few weeks or months later, and that even when the conditions seemed most propitious for a permanent result. In the best results I have obtained the graft did not retain more than half the size soon after the operation. This does not refer to the size of the graft before cutting, which should be four or five times the size needed. Shrinkage has varied in my experience from this amount to practically complete disappearance in a few months. If we will consider the changes which occur in a graft we may understand the reason for this. The original vessels of the skin undergo hyaline degeneration and new capillaries spring from the neighboring parts. The superficial epithelium is cast off and the dermic layer is absorbed and replaced by new connective tissue, leaving the deep layers of the epidermis as the only part of the graft remaining.

In order to avoid shrinkage I have made my grafts as thin as possible and I find my results correspondingly improved. A very helpful suggestion was made to me by Dr. Arthur Prince, to stretch the graft and pin it inside out on a piece of sterilized board, and then with scissors and pincette remove all the tissue possible. Grafts treated in this way have little left but the epidermis, and their shrinkage is comparatively small.

Among the disadvantages in their use for cosmetic purposes is the difference in color and the growth of hairs. The color remains whiter than the surrounding skin in some cases for years, if not always. If a graft is taken from a hairy part of the body, as the arm or leg, there is apt to be a growth of hair that is very annoying. In their use on the lower eyelid they give support to quite an extent, and for that reason are to be preferred to the Thiersch graft in some cases. On the upper eyelid they are too heavy and should not be used except under special conditions.

THIERSCH GRAFTS.

The shaving or Thiersch graft which has most recently come into use is probably the easiest to handle. It seems to grow everywhere if a raw surface is prepared for its reception. While some would use it to the exclusion of all other forms of grafts, I think there are certain limitations which have to be taken into account.

In the preparation of the shaving graft I have found that the best plan was to have the skin perfectly dry, and with a dry razor remove the shaving, which should be placed on the surface previously prepared. Much better grafts can be cut in this way than when the salt solution is used, and very much less trouble is experienced in getting them into place. I have never had any trouble in making them grow if the surface was protected from the secretions of the eye, and could be kept quiet until adhesion took place.

As to shrinkage, we are told that none occurs after the graft has once healed. This depends entirely on the surface on which it is placed. When placed on a smooth surface which will not permanently contract, such as the fascia of a muscle, it will remain intact, as there is nothing in the graft itself to cause shrinkage. When placed on a surface in which there is some contractive tissue, as the lower eyelid after the removal of the outer muscles, the graft is very likely to entirely disappear. If placed on a granulating surface it will undergo the shrinkage of the underlying tissue. In several instances I used it to cover over a defect produced by destruction of part of a pedicle graft. The grafts would grow promptly, but later had completely disappeared from shrinkage of the underlying tissues.

On the upper lid they always served the purpose well. By cutting through the cicatricial tissue a smooth surface was obtained and the light graft was no obstacle to perfect movement. It is this which gives them preference over all other forms of grafts for the upper lids.

It has been demonstrated that the quicker the circulation of the graft is established after being put in position the less the subsequent shrinkage. For this reason the field on which the graft is placed should be smooth as possible and kept quiet so that no wrinkling will occur. To accomplish this I stitch the lids together when operating on the lower lid. I find the better plan to keep the upper lid in proper position is to put sutures through the edge of it and fasten to the cheek below with adhesive strips. This stretches the lid better, and gauze can be put along the edge to take up the secretion, which is frequently very profuse and troublesome, due to the previous exposure of the conjunctiva.

Fig. 1.—Case 1. Before any operation was performed.

I have not mentioned the operation where the conjunctiva is also destroyed, as occurs with some tumors. My results have not been satisfactory, and I should prepare a lining to the graft before swinging into place, as recommended by Everbusch. The skin should be dissected up some days before the operation and the under side covered with a Thiersch graft. As soon as it is well healed the flap may be swung into place and we have a covered surface to bring against the eyeball. In one of the cases which I shall report I used Thiersch grafts to cover the inner side of the lower lid made by a large pedicle graft. They healed in place well, but as the patient did not return for the final operation it was not a complete success.

I have said nothing as to the manner of placing or anchoring the grafts. Dr. Hotz has devised a method of anchoring in which the grafts are divided so as to fasten the edge of the one on the eyelid along the border of the cartilage on the upper lid and to the periosteum of the orbital margin for the lower lid. The remainder of the defect may be filled in by Thiersch grafts with

no fear of retraction, he says. My experience with this method is limited to one case, but the principle is a good one and I hope it will obviate some of the difficulties I have experienced.

REPORT OF CASES.

In order to illustrate better my conclusions I will report a few cases.

CASE 1.—This is of the severe type of cicatricial ectropion of both upper and lower lids. A man, aged 25 years, came under my care in the fall of 1900. He was injured in an explosion six years before, being thrown face down into a coke fire, where he lay for some time until rescued. His face was severely burned, especially over the nose and eyelids, and some distance on to the scalp. He had received no treatment except that immediately after the injury.

There was complete ectropion of both lower lids, and the skin was tightly adherent over the nose, the left side of which

Fig. 2.—Case 1. Immediately following the operations.

was partly destroyed and the left side of the mouth was drawn up by the cicatrix. The forehead was deeply cicatrized and the upper lids turned out at their edge, being completely everted when he tried to close the eyes. The eyeballs were fortunately normal in spite of the exposure, as the corneæ were only protected when the eyes turned up. The cheeks were not so deeply cicatrized, but enough to prevent any growth of the whiskers. In December, 1900, I operated to restore the right lower lid, taking a large skin flap from the cheek with a pedicle placed high enough so the contraction would not pull the lid down. This was sewed in place after dissecting up what remained of the lower lid and stitching to the upper. The field for placing the graft at the nasal side was entirely cicatricial tissue devoid of blood vessels except a few large ones, the oozing from which it was almost impossible to control. The graft was about 4 inches long and 2 inches at the widest point. It all healed well except a small piece at the tip where a hemorrhage had taken place underneath it. The defect in the cheek was closed up by loosening the skin and drawing together.

In January, 1901, I operated on the left lower lid in the same manner, but the tip and part of the lower border necrosed. Three weeks later I filled in the defects where the graft had necrosed, and also on the cheek with Thiersch grafts. These grew in place, but those on the eyelid completely disappeared later. One month later I operated on the upper eyelids, filling in the defects with Thiersch grafts. The secretion from the conjunctiva was so profuse that I could not keep the wounds free from infection and part of the grafts would not grow. I tried Thiersch grafts again and a pedicle graft on the left, but they all necrosed. I dressed the wound with oxychlorin for some time and then applied some Thiersch grafts, which healed in place. In March the patient had to go home, although there was some parts not healed. I have not seen him since, but he writes me that he has continued in good condition, and recently sent me the last pictures, taken two years after his discharge. The grafts seem to have remained in about the condition they were when he left.

CASE 2.—A man, aged 37 years, a carpenter by trade, entered the hospital in December, 1899, giving a history of having his face cut by a barber in June, 1895. It became inflamed and the wound discharged for six months. The redness and swelling gradually spread over the entire left side of the face and it was studded with clusters of pustules. He had been treated for years for lupus without result. Hearing that he had consulted Drs. Hyde and Montgomery, I took him to

Fig. 3.—Case 1. Two years after the preceding picture.

them for diagnosis. They pronounced it blastomycetic dermatitis, and under their direction he was entirely cured by the use of iodids in large doses and hot bichlorid of mercury lotion.

He entered the hospital again in December, 1900, with the disease cured, but with a dense smooth cicatrix extending from below the left jaw up to the nose and including the left temple and upper eyelid. The outer canthus was pulled out greatly and the lower lid drawn down and out and much stretched. As there was no tissue to make a graft on the face, I took a pedicle graft from the temple where the cicatrix was not very deep and swung it around to form the lower eyelid. As the scar tissue on the face was very deep it was difficult to stop the hemorrhage and the tip of the graft was forced out by the hemorrhage and necrosed. A few days later I covered the place on the temple where the graft was removed and the bare places on the lid with Thiersch grafts. In January, 1901, I operated on the upper lid and covered it with Thiersch grafts. The lower lid still having a tendency to ectropion, I made an incision near its border and filled in with Thiersch grafts. I closed up the outer part of the canthus by means of a Fuchs tarsorrhaphy.

In spite of perfect healing the Thiersch grafts entirely disappeared on the lower lid. On the upper lid, where I was able to get a smooth surface, they gave a perfect result as well as on the temporal wound, where it is difficult to tell their location.

Fig. 4.—Case 2. Showing the dense scar and ectropion of the eyelids of the left eye.

In January, 1902, he returned with epiphora and partial ectropion of the lower lid, and I made an incision along its border and filled the cavity with a Wolfe graft prepared very thin. This has kept the lid in very good shape and the graft

Fig. 5.—Case 2. About two years after the operations.

is about half the size it was when first placed a year ago. That it is impossible to tell the ultimate outcome in these cases is well shown by the fact that the contraction has apparently forced the large pedicle graft out toward the temple. This has allowed the lid to draw down some, but not enough, so I have thought best to operate again. The tension of the scar on the eyelids at the temporal end holding the outer

Fig. 6.—Case 3. Epithelioma of the lower lid.

canthus away from the eye is very troublesome, but I have not been able to devise any means to correct it.

CASE 3.—Man, aged 65 years, well nourished, came under my care in October, 1901, at the Eye and Ear Infirmary. About one year previous he had noticed a wart-like growth on

Fig. 7.—Case 3. About eighteen months after removal of tumor.

the left lower lid. This grew until at the time of entrance it involved the whole lower lid and extended a little beyond both outer and inner canthi. It was an epithelioma involving the whole thickness of the lid. I removed the growth and

formed a lid by a large pedicle graft from below on the cheek. I covered the inner surface with Thiersch grafts, as well as the defect on the cheek. It all healed in place well, but at the nasal end the scar at the line of union contracted so there is a defect. I wished to operate again, but he is so well satisfied with the present condition he will not consent.

Case 4.—Mr. T. had an epithelioma of the right lower lid involving the lid margin for about the outer half and extending well over toward the nose. In October, 1900, I removed the growth, leaving a large defect, which I was persuaded to fill in with a Wolfe graft from the arm. The graft was about 2x3 inches before dissecting up. It fitted in place well and the immediate result was good, but by January, 1901, it had shrunken to about one-half inch long and one-eighth inch wide, and ectropion had taken place. I then dissected it out thoroughly and covered the surface with Thiersch grafts. The results were perfect at the time, but later the contraction had caused a marked ectropion. In December, 1901, I filled in the defect by a sliding graft from below, but it was not sufficient to support it well and the edge of the lid turned out. In June, 1902, I put in a Wolfe graft prepared very thin, and that has given sufficient support, so the eye is well protected. The reason for failure in the first place was probably that the graft was too thick, leaving too much tissue to shrink. The last graft was prepared as thin as possible.

SUMMARY.

In conclusion I will summarize my results as follows:

For the upper lid Thiersch grafts should always be used, unless the whole thickness of the lid is destroyed.

In forming the lower lid, if there is adjacent skin available it should be used to form the lid and the resulting defect filled in with Thiersch grafts. When there is dense cicatricial tissue for the floor of the graft a pedicle graft is the only one which I have found satisfactory.

Should pedicle grafts not be available and the underlying tissue have proper vascularity, then either Wolfe or Thiersch grafts may be used, and my results have been best with a Wolfe graft prepared very thin.

DISCUSSION.

Dr. A. B. Hale, Chicago—In a severe burn from a gasoline explosion I followed the classical operation and made a flap; I want to warn against that method as a faulty operation. I did a Thiersch after that with a successful result. The vitality is too much impaired for a flap operation in these cases. A Thiersch gives better results.

Dr. Wm. H. Wilder, Chicago—As to the question whether we will employ a pedicle, or a Wolfe, or a Thiersch graft, I agree with Dr. Dodd in his conclusions. Where it is possible to get a pedicle graft from the forehead, or cheek, it should be used, for there is more assurance of its vitality being preserved than when the graft is taken from some more or less distant portion of the body. It is useless, of course, as Dr. Hale has said, to use a graft the vitality of which has been impaired or destroyed. The method used by Dr. Dodd of removing as much as possible of the fat from the subcutaneous tissue is a very good one. In my experience the Thiersch graft, where there is a contracting scar, will shrink. There is no one operation that will meet all cases of entropion. In some cases removal of a good part of the tarsus is a good procedure. One important step in the Hotz operation is the removal of the little bundle of muscle fibers just beneath the skin of the lower flap. This allows the lower flap to grow firmly to the anterior surface of the tarsus. Some operators prefer mucous membrane for marginal graft; I prefer something that will hold the lips of the wound apart, and accordingly use a skin graft taken from behind the ear.

Dr. C. W. Hawley, Chicago—The man who is in practice without a large clinic has few of these cases to operate on, so that my experience in skin grafting is limited. I had one case of a large fibrous tumor that occupied the region over the inner canthus. I employed a pedicle graft and the result was very good indeed. I have had more experience with operations on the eyeball with the Thiersch graft in relation to pterygia. I have tried both methods and, like Dr. Hale, want to say never use a mucous graft if it is possible to use a Thiersch. Your first operation may be a failure if you do not follow the advice given by Dr. Dodd, to cut them very thin. Within the last few months I saw an operation which was a failure simply for that reason; the graft was made very thick. At a second operation I suggested its being cut thin, and it was a success.

Dr. F. C. Todd, Minneapolis—Removal of the muscular tissue from under the skin as well as from the upper surface of the tarsal cartilage is essential toward securing firm union of the skin to its anchor, the cartilage, and is a feature of the operation on which Dr. Hotz lays great stress. Another point in securing a graft, which I learned from Dr. Wilder, is that of using an instrument he devised for grooving the cartilage, and which he showed several years ago at a meeting of this Section. He uses this instrument also for getting a graft from behind the ear or from the palm of the hand. There are two small blades that come together like a V and pick up a very neat graft, the width and length being governed by the pressure exerted in using the instrument. It is important to stop the hemorrhage with hot applications, for if we do not succeed in securing complete hemostasis the graft will not take, the blood preventing union. I now use in these cases adrenalin with excellent results. Of course, it is necessary that it should be aseptic. I do not think the use of adrenalin prevents uniting of the cut surfaces excepting when sepsis is introduced.

Dr. R. W. Miller, Los Angeles, Cal.—Controlling the hemorrhage is a very important point, and I have frequently used adrenalin; but it must be borne in mind that if it be freely used, unless a very firm after-dressing is applied, there is likely to occur secondary hemorrhage. Another good method of controlling the hemorrhage is to have an assistant compress the temperal artery.

Dr. Dodd—In regard to the point of Dr. Hale, my cases of Thiersch graft on the lower lid have been absolute failures. Dr. Hotz advocates the Thiersch graft as the only thing to use, and he says the reason I have failed with it is that I have not anchored my grafts properly to prevent contraction. I have only used his method in one case, and until I have had further experience it is impossible for me to judge of that point. I have never had any trouble with the Thiersch graft on the upper lid.

TRAUMATIC LESIONS OF THE OCULAR ADNEXA;

WITH REPORT OF A CASE OF CONTUSED WOUND OF THE EYEBROW, RESULTING IN COMPLETE MONOCULAR BLINDNESS UNACCOMPANIED BY OPHTHALMOSCOPIC CHANGES.*

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Traumatic lesions of the ocular adnexa would include injuries of the eyebrow, eyelids, conjunctiva, orbital walls and soft parts of the orbit. This paper will deal more particularly with injuries of the eyebrows, orbital walls and soft parts of the orbit, as illustrated by the cases reported.

Wounds of the superciliary region are of frequent occurrence, and when superficial and limited to the soft parts, are not usually serious, but they may be followed by disastrous consequences, and even by fatal results should they affect or extend to the underlying bones.

If bone tissue is involved, osteitis, necrosis and fistulas may result. Suppuration of the orbital connective tissue is in all cases a serious complication of contusion of the superciliary region. Injury of the supraorbital

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nerve may produce craniofacial neuralgia, muscular twitchings in the facial region, trophic changes in the eye, and finally give rise to visual disturbances that are characterized particularly by photophobia and accommodative asthenopia. This is particularly the case if the nerve or any of its branches is imprisoned in an adherent cicatrix.

As a rule, one or more of the walls of the orbit are involved in an injury to the orbital edge, but that the violence of the traumatism is undoubtedly neutralized, in part, by the prominence and the resistance of the edge of the cavity, is shown by Berlin's statistics, in which, out of 19 cases of simultaneous fractures of the edge of the orbit and of the vault, there were 16 recoveries, while 52 cases of fracture limited to the superior wall were followed by 41 deaths.

Again, direct fracture of the superior wall of the orbit is more liable to involve the optic canal. The optic nerve and its sheath are often violently torn and compressed, resulting in a retrobulbar neuritis with loss of vision, or a secondary form of compression from callosities or periostitis may take place followed by the same results.

Callan has recently reported nine cases of injury to the orbital walls, resulting in immediate unilateral blindness, in which it was believed that the line of fracture ran through the optic foramen.

Von Hölder has published the results of his examination of the bones in 124 cases of fracture of the skull. Among these there were 86 of fractures of the bone, and in 79 of these the fracture involved the roof of the orbit. In 63 cases there was a fissure or fracture running through the optic foramen, always through its upper wall, sometimes also through the inner wall. In 42 cases there was hemorrhage into the sheath of the nerve, and he never found blood in the optic sheath unless the bony canal was fractured. The hemorrhage was sometimes found in both optic sheaths.

As regards injuries to the soft parts of the orbit, it is a well-known fact that as a result of the shape and the free mobility of the eyeball, a wounding object may pass around its fibrous sheath and produce an injury of the surrounding soft parts of the orbit only. The importance of such a form of traumatism depends above all on the cleanliness of the penetrating body. If the offending instrument or foreign body has not been freed from septic material while passing through the skin, the conjunctiva, and the orbital septum, it may act as the cause of a cellulitis, endangering not only the vision, but also the life of the patient. Section of the ophthalmic vessels, rupture of the ocular muscles, injuries to the sensory and the motor nerves, and the presence of foreign bodies are among the most interesting lesions of those parts.

The ocular muscles are sometimes injured without any accompanying luxation of the eyeball; but these accidents are rather rare, not more than twelve or fifteen having been reported. The internal rectus is the one most frequently injured.

In these cases the loss of continuity of the muscular fibers has been both partial and complete. The prognosis, so far as the muscle is concerned, is generally favorable, for if a functional loss of power result it may be restored by operative interference.

Actual division of the motor nerves is rare. Berlin could find none such reported in literature. He himself reports two cases, which can not be explained in any other way than by division of the nerve fibers supplying the muscles.

In reporting the following case of a contused wound of the eyebrow, resulting in complete monocular blindness without ophthalmic changes, I do not report it as a rare injury, but because it serves to give a clinical picture of some of the main points in this paper.

CASE 1.—Mr. F. Van A., age 34, was caught by a belt of a rock crusher. His head was badly bruised and he sustained a severe cut over the right eyebrow in a transverse direction from the internal angular process of the frontal bone to the external angular process, and extending to the bone; injuring the periosteum at one point and passing directly across the point of exit of the supraorbital nerve.

The frontal sinus was not involved. The injury was followed by total loss of vision in the right eye. No ophthalmoscopic changes at this time. After the wound healed the patient suffered from craniofacial neuralgia as the result of the supraorbital nerve being imprisoned in the adherent cicatrix. Within a month's time the vision returned until the patient could see large objects about the room, but there was no further improvement. No ophthalmoscopic changes. In this case there doubtless was an indirect fracture of the optic canal, resulting in an injury of the optic nerve, which was followed by a retrobulbar neuritis.

The second case illustrates the result of an injury to the soft parts, and is rare, in that there was either rupture of an ocular muscle, detachment of its tendon from its insertion into the sclera, or an injury to a motor nerve, complicated with an injury to the terminal branches of the superior maxillary nerve with loss of sensation of the parts supplied by them.

CASE 2.—J. A. S. presented himself Jan. 19, 1901, at my office for examination, giving the following history: Dec. 31, 1900, he was struck in the right eye with the handle of a closed pocket knife held in the fist, the knife striking the lower margin of the orbit and the globe of the eye at its outer and lower quadrant. Swelling followed, and patient suffered considerable pain. There was loss of sensation over the region of the face supplied by the terminal branches of the inferior maxillary nerve; there was also loss of sensation in the gums of the upper jaw of the same side.

Patient placed himself under the care of a general practitioner, who gave him a simple eye wash. An examination of the eye revealed considerable lachrymation and photophobia, and some congestion of the eyeball at the point of injury.

It appeared as if the conjunctiva and Tenon's capsule had been torn by the blow. There was diplopia and the eye refused to turn out, indicating that there had either been an injury of the muscular tissue of the inferior oblique and external rectus, or a complete traumatic paralysis. There was also marked ptosis. V.=20/30. Fundus normal. At this time sensation had returned to the gums of the upper jaw, but there was still complete anesthesia of that region of the face supplied by the terminal branches of the inferior maxillary nerve. Unfortunately the case passed from observation and the permanent nature of the injuries was never ascertained.

The third and last case that I desire to report is a type of the more serious wounds that may occur in this region, and is interesting because of the extent of the injury, the complications, and the fact that there was no serious brain involvement.

CASE 3.—P. J., male, aged about 25 years, was shot in the head. Bullet entered ala of the nose on the right side, coursing upward and to the right, fracturing the right nasal bone. It then passed through the posterior half of the eyeball and lodged in the deep tissues of the orbit. There was great swelling and ecchymosis. An enucleation was made and the bullet extracted. Patient was in a semi-comatose condition at the time of the operation and remained so for twenty-four hours following. An interesting feature of this case was that it was complicated by infection. An abscess formed, the pus burrowing through the upper lid, leaving a good-

sized fistula. Healing took place soon after the formation of this opening, and the patient made a good recovery.

The main conclusions to be reached in a study of traumatic injuries of the ocular adnexa are: first, the necessity for a guarded prognosis in all cases and secondly, the value of asepsis and antisepsis in the treatment of all wounds located in this region.

DISCUSSION.

Dr. Casey A. Wood, Chicago—I have had a number of cases of incised wounds of the lids, involving their margins. We have an incised, or more frequently an incised and lacerated wound of the lids, penetrating the whole thickness of the lid, and generally we do not see these cases for some days or weeks after the injury. Some one has, perhaps, done his best to bring the wound margins together, and generally not very successfully, partly because of the irregularity of the edges and partly because of the sloughing due to infection or to the original injury. These have always been to me cases of great interest. After trimming the edges of the wound I have been in the habit of passing "anchor" sutures involving all the tissues of the lid, to keep the wound edges in close apposition (illustrating on board) on everting the lid. Then the conjunctiva down to the lid margin is sutured with a continuous thread, a separate suture being carried over the intramarginal space to bring the lid edge tissues close together. The skin is treated in like manner, after which I remove the deep sutures which only served a temporary purpose. This is the only way in which I have been able to accomplish the results we desire in these injuries, that appear so simple and yet require, if we desire good cosmetic results, rather careful treatment. As to gunshot wounds of the orbit, I have had two cases where the optic nerve was not injured, and yet optic atrophy was the result. Notwithstanding the "vibration" theory of some observers, I have not been able to satisfy myself as to the cause of this untoward result. Another matter worth considering is the "concussion" cataract that may follow almost any injury to the orbit, or to the head in the region of the eye. The old idea was that the concussion of the fibers of the lens brought about these secondary changes. I am inclined to think that it is really the profound though transient interference with ciliary circulation that brings about these cases of concussion cataract. Some years ago I published a number of these cases and have had several since. I am curious to know what the members of this Section think about the etiology.

Dr. Wm. C. Posey, Philadelphia—Three cases in which there was complete monocular blindness following an injury to the head, but in which vision was after a time fully restored, were reported by Nettleship and one by myself, before the College of Physicians of Philadelphia in 1899. In these cases the blindness is not immediate, but comes on some hours afterward. The ophthalmoscope shows evidence of compression of the fibers of the optic nerve, and from the deep-seated pain on motion of the eyeball, and a throbbing sensation which is occasioned by blowing the nose, involvement of the sphenoidal cells is indicated. These cases are of interest from a prognostic standpoint, for they show us that when blindness is not immediate after a head injury, vision may be regained, and every therapeutic effort should be made, therefore, to accomplish this result.

Dr. Harold Gifford, Omaha—Prior to this case of Dr. Posey's I was prepared to give my patients with blindness after a trauma of the orbital wall an unfavorable prognosis. I had never seen any of them recover, and had never seen the history of any recovery. Dr. Posey's case seemed to confirm so strongly the words of Panas: "The words 'never' and 'always' have no place in medicine." As to Dr. Wood's method, I have been afraid to leave knots on the under surface of the lid. In Königsberg, where similar operations are very common, the reports speak of inspecting the cornea from time to time "to see if the knots are causing ulceration of the cornea." In doing this kind of an operation I have been impressed with the importance of bringing the conjunctival edges into close apposition, and have passed the needle through the lid from its outer surface, then after completing a continuous suture of the conjunctiva have passed the needle clear through the lid again so as to leave both knots on the outer surface of the lid. The tension sutures which Dr. Wood says he takes out before bandaging the eye, I leave in. They are important in relieving the strain of the orbicularis on the other sutures.

Dr. John O. McReynolds, Dallas, Texas—My experience has been that in paralyses produced by injury to the nerves that supply the muscles of the eye the normal function of the muscles has returned. Further, if the blindness has been caused by hemorrhage, when that is absorbed the vision returns; but if there is fracture of the foramen with rupture of the nerve, rapid, white atrophy ensues with no return of vision.

Dr. Oscar Dodd, Chicago—I remember well two gunshot wounds of the orbit. The son of a physician had a small shot pass through the upper lid and produce complete blindness, probably by striking the optic nerve. There was no change in the nerve, however, when I examined him two weeks after the injury. The other case had a bullet from a revolver held against the temple pass through the orbit, injuring the optic nerve. In this case there was atrophy of the nerve. As to those wounds of the upper lid, mentioned by Dr. Wood, I have often found the retraction very difficult to prevent. In some cases it produces considerable deformity. I always sew the conjunctiva and skin separate, and, when possible, I trim the edges so they will overlap and the lines of union will not be opposite each other. This helps to prevent the retraction.

Dr. Allen Greenwood, Boston—Dr. McReynold's statement is the common experience, I think, as the optic nerve passes through so small a foramen that any fracture there will crush it. In the other nerves the injury is not from crushing, but rather from pressure of exudates and hemorrhages. I had a case recently of such an injury, where a small boy received a blow on the infraorbital ridge with apparently no injury to the brain. In a week, when the bandage was removed from the eye there was blindness with complete paralysis of the external rectus, probably due to fracture near the base. The paralysis of the external rectus disappeared in a week's time, while the injury to the optic nerve resulted in complete atrophy. The optic nerve was distinctly atrophic a week after the injury.

Dr. Edw. Jackson, Denver—I think probably the important point in reference to the prognosis in these injuries involving blindness is the time in which the blindness supervenes. If it is a direct injury to the nerve the blindness will be immediate, and there will probably be no recovery whatever. But in a large number of them the blindness is not immediately discovered; the patient is stunned; or in other cases there is a good deal of effusion and the eyelids are closed for some days. In a case where there was a clear history of seeing at all, certain light perception, after the injury, I think the prognosis would be at least a chance of some recovery of sight. But if there has been no vision in the eye after such injury, the probabilities would be strongly against any recovery of sight. All cases of direct injury to the optic nerve that caused serious impairment of vision that I have known of have shown no evidences of sight after the injury at all. I recall one case of gunshot injury where the patient was not much shocked and the first thing he noticed was that the eye was blind. The optic nerve had been cut by the shot. I think the point to determine the prognosis would be whether or not the blindness was immediate.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.—We should not lose sight of the fact that many of these cases are caused by hemorrhage or effusion, and in such cases the prognosis is more favorable. If we put our patients at absolute rest and begin eliminative treatment we will sometimes secure results that at first may seem impossible. I had one such experience in a case where there resulted absorption of the effusion around the optic nerve which had produced total blindness. The patient secured 20/50 vision following treatment of a condition that seemed to offer little hope of favorable results. Our prognosis should be guarded.

DR. LEARTUS CONNOR, Detroit—It strikes me that about this topic there are as many sides as to a sphere. I recall two cases of gunshot wound of the orbit that were never followed by any ill result. I recall a recent case of a woman in middle life, who, when a child of 6, fell against a door and hit her left eye at the outer brow. There was no scar to indicate the lesion, but from that time the eye turned outward and she had double and imperfect vision. When I saw her she had a choroidal atrophy with some optic atrophy. I presume at that time there was probably hemorrhage in the fundus of the eye. I never feel able to say at the time of injury just what result may be expected.

DR. WILLIAM ZENTMAYER, Philadelphia—I wish to call attention to the frequency with which we find central choroiditis, or perhaps in some cases holes at the macula, in these cases. In some instances it may be the primary trouble and the optic change is secondary.

DR. SAMUEL L. LEDBETTER, Birmingham, Ala.—About two years ago I had a patient who had been struck in the eye by the breech pin of a gun and the ball destroyed. It gave no trouble other than the loss of sight. The patient came to me saying that lately he found there was something in the outer angle of the eye that gave him trouble. I found a piece of a glass bottle ⅝ of an inch across, and supposed I had gotten that which caused all the trouble. He said that about three months before he had thrown at a dog and struck a bottle and that a fragment flew back and struck him in the eye. Ten days later he came back with a suppurating sinus. I cut down into the tissues and found a metallic substance below the surface, which was removed with difficulty. It was the breech pin of the gun, measuring 1½ inches in length and ⅞ inch in diameter and weighed 1½ ounces. It had been there three years.

DR. JOHN E. WEEKS, New York—I would like to mention a few cases that show the extensive injury to the orbit that can be sustained without affecting the eyeball. The first patient attempted to commit suicide, shooting himself in the temple. The ball passed through both orbits without in any way interfering with vision. Another case somewhat remarkable was that of a young man who was fencing. The point of the foil struck him just below the margin of the lid, in the left eye; the only wound was a tearing of the skin, which was raised for perhaps the distance of 1 cm. Very shortly after this occurred there was paralysis of the external rectus. This lasted for six weeks, disappearing gradually. Another case was one in which a young man in falling caught on a meat hook which entered the orbit, caught up the internal rectus and tore it across without injuring the eyeball, but lacerating the lid somewhat. There was, of course, a marked divergence, but by catching up the tissue of Tenon's capsule together with the torn muscle and suturing it to the eyeball the diplopia was corrected.

THE PRODUCTION AND NATURE OF STREPTOCOLYSIN.*

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In 1897 Bordet[1] drew attention to the fact that there generally is more or less hemolysis in the blood of a rabbit which has died of streptococcus infection. This hemolysis is not constantly observed, but was present, for instance, in 37 of 40 rabbits dying of streptococcus infection, in which it was looked for in this laboratory during the last eight months. This phenomenon seems to be unique in the field of bacteriology, although there are several other organisms, such as the *B. tetanus*,[2] *B. pyocyaneus*,[3] *Staphylococcus pyogenes*,[4] *B. typhosus*,[5] *M. tetragonus*,[6] *B. megatherium*,[7] and others,[8] the filtered cultures of which are capable of hemolysing red corpuscles of various animals. These organisms, however, do not produce hemolysis in the body of an animal which has been injected with the young cultures, as is the case with the streptococcus. Todd[7] has found, however, that filtrates from an old culture of *B. megatherium* produce hemoglobinuria in a guinea-pig, when injected subcutaneously. If larger quantities are injected hemoglobinuria, hematuria and finally death of the animal are produced. Kraus and Ludwig[9] found marked anemia in rabbits after the subcutaneous injection of old cultures of *Staphylococcus pyogenes aureus*, or their filtrates.

Bordet's observation soon led to the attempt to produce this hemolysin in a test tube, but the earlier experiments were uniformly unsuccessful. It was found that filtered cultures, in all ordinary media, possessed no hemolytic properties, regardless of how strongly that same streptococcus produced hemolysis when injected into a rabbit. Recently, however, Besredka[10] succeeded in getting filtrates that hemolysed not only rabbit corpuscles, but also those of many other animals, by growing a virulent streptococcus in heated rabbit serum and passing through a Chamberland filter. Besredka made a close study of this streptocolysin, but none of his experiments throw much light on the nature of this substance. In consideration of this fact it was suggested to me by Professor Hektoen to repeat the experiments, with the view of verifying Besredka's findings, and to carry the work further in an attempt to throw some light on the nature of streptocolysin.

The streptococcus used in these experiments was obtained from a retroperitoneal abscess in a guinea-pig, which had been injected intraperitoneally with a fungus. It forms rather short chains, renders ascites-bouillon uniformly turbid and acidifies milk in 24 hours, but does not coagulate it. When it was isolated 5 c.c. of a 48-hour culture killed a full-grown rabbit in 4 days. The virulence was increased, by passage through 30 rabbits, until 0.0003 c.c. of a 24-hour culture in ascites-bouillon kills a rabbit in less than 20 hours.

Streptocolysin was prepared in practically the same manner as described by Besredka. The best results were obtained with filtrates prepared as follows: Mix 1 part of human serum with 2 parts of rabbit serum, heat the mixture to 56 C. for 30 minutes, inoculate this with a young virulent culture of streptococci, incubate for 20 to 22 hours, dilute with an equal volume of physiologic salt solution,[11] and pass through a porcelain filter.

Besredka recommends that the inoculation be made directly from the heart's blood of a rabbit which has just died of streptococcus infection and in which hemolysis has taken place. This was not found necessary. The dilution with salt solution is recommended to facilitate filtration of the serum. Great care must be observed in the selection of a filter. While the serum must pass through perfectly clear and free from streptococci, too fine a filter must not be used, as it removes from the

* This work was carried out under a grant from the American Medical Association.

1. Annales de l'Institut Pasteur, 1897, xl, 177.
2. Ehrlich: Berlin. klin. Wochenschr., 1898, xxxv, 273; Madsen, Zeitschr. f. Hyg. u. Infect., 1899, xxxii, 214.
3. Bulloch and Hunter: Centralbl. f. Bakt., 1900, xxviii, 865; Weingeroff, Ibid., 1901, xxix, 777.
4. Neisser and Wechsberg: Zeitschr. f. Hyg. u. Infect., 1901, xxxvi, 299.
5. Levy u. Prosper Levy: Centralbl. f. Bakt., 1901, xxx, 405.
6. Lubenau: Ibid., 1901, xxx, 356.
7. Todd: Lancet, 1901, vol. ii, 1663.
8. Kraus u. Clairmont: Wien. klin. Wochenschr., 1900, xiii, 49.
9. Wien. klin. Wochenschr., 1902, xv, 382.
10. Annales de l'Institut Pasteur, 1901, xv, 880.
11. 0.75 per cent. salt solution was used in these experiments.

serum its hemolytic property. If the serum loses most of its color while passing through the filter it is likely to be worthless.

Filtrates obtained in this manner were proven to be sterile by inoculating a tube of ascites-bouillon with 1 c.c. of filtrate and incubating for 48 hours. No growths were obtained. They hemolyse both washed and unwashed corpuscles of man, rabbit, dog, goat, sheep, beef, hog, guinea-pig, chicken and horse—in fact, all that have been tried. The corpuscles of man and rabbit are least resistant. One drop of a thick suspension of these corpuscles, washed, is completely hemolysed by 1 c.c. of streptocolysin in 1½ hours, if kept in the incubator. Those of chicken, beef and horse are somewhat more resistant than the others, but their dissolution is considerably hastened by washing them five times in physiologic salt solution before they are subjected to the influence of streptocolysin.

The fact that these corpuscles are hemolysed more rapidly after being washed at once gave rise to the suspicion that there is something in the sera of these animals—antihemolysin—which protects the corpuscles against streptocolysin. That this supposition is correct is proven by the following experiment: Take four small test-tubes, (a), (b), (c) and (d), and introduce 1 c.c. of streptocolysin into each. To (a) add 1 c.c. of normal chicken serum and in one-half hour add one drop of normal chicken blood. To (b) add 1 c.c. of physiologic salt solution and one drop of a suspension of washed chicken corpuscles, in physiologic salt solution. To (c) add 1 c.c. of chicken serum which has been heated to 55 C. for one-half hour, and in one-half hour add 1 drop of a suspension of washed rabbit corpuscles. To (d) add 1 c.c. of salt solution and 1 drop of a suspension of washed rabbit corpuscles. Transfer all tubes to the incubator and examine in five hours. There is complete hemolysis in (d) and (b), but no hemolysis in (a) and (c). No hemolysis is observed in (a) and (c) in eight hours, but there sometimes is a trace in 24 hours. The sera of beef and horse also protect the corpuscles against streptocolysin, but not so completely as does chicken serum.

Many other substances, as solutions of various salts and colloidal solutions of gold and platinum, were tested for antihemolytic properties, but with very little success. A 1 per cent. solution of formaldehyd in physiologic salt solution retards hemolysis for 5 to 6 hours if it is mixed with streptocolysin in equal proportions before the corpuscles are added. Treating the corpuscles with such a solution for 1 hour, washing and then adding them to a tube of streptocolysin does not interfere with their hemolysis.

The filtered cultures in heated rabbit serum of two non-virulent streptococci were tested for hemolytic properties, but these filtrates produced only a trace of hemolysis in 24 hours.

Other sera than rabbit serum may be used as culture media in the preparation of streptocolysin, but the substances produced in these sera are not so active as those produced in rabbit serum. In studying the streptocolysins produced in different sera Besredka came to the conclusion that they are not alike. He found, for instance, that streptocolysin produced in human serum hemolyses corpuscles of man, rabbit, guinea-pig, goat and sheep, but not those of chicken and goose. That produced in goat serum hemolyses corpuscles of man, rabbit and guinea-pig, but not those of goat, sheep, chicken and goose. He concluded from these findings that streptocolysin, and hence also the products of other bacteria, may be different if produced in different media.

These experiments were carefully repeated, but Besredka's findings could not be verified. It was found that streptocolysin produced in goat serum hemolyses corpuscles of goat, sheep and chicken just as does that produced in human serum or in rabbit serum. The latter, however, hemolyses in a much shorter time than do either of the other two.

Many bacterial toxins are destroyed by heating to 56 C. for one-half hour, but that is not the case with streptocolysin. It may be heated to 60 C. for one-half hour without being inactivated. If heated to 65 C. for one-half hour its value is greatly impaired, but it is completely inactivated only by heating to 70 C. for 2 hours. If once inactivated, it can not be reactivated by the addition of complement. It is inactivated by leaving in the incubator at 37 C. for 5 days. If kept at room temperature it is still hemolytic at the end of two weeks, and if preserved in an ice-chest it remains active for more than a month. Freezing for a short time does not destroy it.

It is non-dialysable. Five c.c. of the filtrate were kept in a dialyser for three days, but when taken out it hemolysed as rapidly as it did before. Digestion with pepsin for 14 hours at 39 C. destroys it.

Turning to the consideration of the nature of streptocolysin, we may compare its behavior with that of other hemolysins, the nature of which has already been determined. Is it an alkali, which was recently shown by Jordan[12] to be the nature of pyocyanolysin? This question is answered readily in the negative because streptocolysin is faintly acid to phenolphthalein (0.3 per cent.), and it is destroyed by heating to 70 C. for two hours.

Is it one of those complex substances depending on the combined action of an intermediary body and complement, which was shown[13] to be the constitution of many natural hemolysins as well as of those found in the sera of animals which have been repeatedly injected with the red cells of an animal of a different species? This question also may be answered in the negative from the following considerations:

(a) Complement, as it is ordinarily known, is destroyed by a temperature of 56 C. in one-half hour. Streptocolysin may be heated to 65 C. for one-half hour without being destroyed, and when it is inactivated by a still higher temperature it can not be reactivated by the addition of complement. Hence we may conclude that we are not dealing here with complement as it is ordinarily found.

(b) In the case of natural hemolysins and those produced by immunization, the intermediary body alone may be bound to the corpuscles and thus removed from the serum. This is done by keeping a mixture of corpuscles and serum at a temperature near 0 C. for 30 minutes or more, and then centrifugalizing and drawing off the clear serum. If now the corpuscles are washed in a cold salt solution and incubated no hemolysis takes place. The addition of complement to these corpuscles brings about hemolysis. If, on the other hand, fresh corpuscles are added to immune serum which has been treated in the cold with an excess of corpuscles no hemolysis is observed.

The behavior of streptocolysin is quite different from this, as is shown by the following experiments:

12. Trans. Chicago Path. Society, 1902, v, 175.

13. Ehrlich and Morgenroth: Berlin. klin. Wochenschr., 1899, xxxvi, 6.

1. Mix one-half c.c. of a thick suspension of washed rabbit corpuscles with 2 c.c. of streptocolysin and keep the mixture below 3 C. for 5 hours. No hemolysis is observed. Centrifugalize in a cold place, draw off the clear serum and wash the corpuscles five times in salt solution. Now suspend them in 2 c.c. of salt solution and incubate. No hemolysis takes place, even after the addition of complement. Add fresh corpuscles to streptocolysin which has been treated in the cold with an excess of corpuscles, and hemolysis is produced by incubating for 2 hours.

2. Make a similar mixture of streptocolysin and corpuscles as was used in experiment 1 and keep it at a temperature of 6 C. for 3 hours. No hemolysis is observed. Centrifugalize in a cold place, draw off the clear serum and wash the corpuscles five times in cold salt solution. No hemolysis takes place during the washing if the temperature is kept below 6 C. Suspend the corpuscles in salt solution and incubate for 2 hours. Marked hemolysis will now be observed.

Streptocolysin, therefore, is not similar to the immune hemolysins; it is not a substance depending on the combined action of an intermediary body and complement.

I have carried the study farther in order to determine whether or not streptocolysin is similar to diphtheria toxin, tetanolysin and staphylolysin. These substances, as was shown by Ehrlich,[14] Madsen,[15] and Neisser and Wechsberg,[16] respectively, are composed of a complex molecule in which are linked together a haptophore and a toxophore group. By means of the haptophore group, which may be active at a low temperature, the toxin attaches itself to the cell, and not till then can the toxophore group exert its destructive effect over the cell, and then only at a temperature approaching that of body heat.

This, as we have just seen, is precisely the behavior of streptocolysin. At a temperature of 6 C. it may be bound to the red corpuscles so firmly that it can not be removed from them by repeated washings, but hemolysis takes place only after the temperature is raised considerably above this point—best at 37 C.

The existence of a haptophore and a toxophore group is still more strongly indicated by the following experiment: Take 2 c.c. of streptocolysin, add one-half c.c. of a thick suspension of washed rabbit corpuscles and keep the mixture at the temperature of 6 C. for 3 hours. No hemolysis takes place. Centrifugalize in a cold place, draw off the clear fluid and wash the corpuscles five times in cold physiologic salt solution. Now divide them into 3 equal portions, (a), (b) and (c). To (a) add 2c.c. of salt solution; to (b) add 1 c.c. of heated chicken serum and 1 c.c. of salt solution and to (c) add 2 c.c. of salt solution to which has been added 1 drop of a 5 per cent. solution of zinc chlorid. Incubate the tubes and observe in 5 to 6 hours. There is marked hemolysis in (a) and (b), but no trace of hemolysis in (c).

We have already seen that heated chicken serum is antihemolytic, if it is added to an equal volume of streptocolysin, and corpuscles added later. But this serum is no longer capable of preventing hemolysis if added to corpuscles which have been treated with streptocolysin at 6 C. for 3 hours and then thoroughly washed, although hemolysis may still be prevented at this stage by the addition of a trace of zinc chlorid or zinc sulphate. It seems now that this peculiar behavior of streptocolysin is best explained by the assumption that we are dealing here with a haptophore and a toxophore group which are linked together in one molecule. The chicken serum, therefore, either destroys the haptophore group, or something in it combines with this group and saturates it, so that the streptocolysin can not become bound to the corpuscles. The toxophore group remains unaffected. According to the theory, this should prevent hemolysis, and the experiments have shown this to be the case. Zinc chlorid, on the other hand, is capable of arresting hemolysis after the streptocolysin has been bound to the corpuscles, and this effect seems to be due to its action on the toxophore group. It must be added that corpuscles which have been treated for 1 hour with a weak solution of zinc chlorid and subsequently washed, are readily hemolysed if mixed with streptocolysin and incubated.

Several attempts have been made to immunize rabbits against streptocolysin, in the hope of producing antistreptocolysin in their sera, but, so far, these experiments have been unsuccessful. All of the rabbits died after receiving from 2 to 5 injections of 0.5 c.c. each. This work is being continued, and will be reported more fully at a later date.

The toxicity of these filtrates was further determined by injecting seven rabbits with varying quantities. Six of these died, while one receiving 2 c.c. intravenously is alive four weeks after the injection. Cultures made from the heart blood, liver and spleen of these animals were sterile. This work also is being continued, and will be reported in a subsequent paper.

CONCLUSIONS.

Virulent streptococci, when grown in heated rabbit serum (and other sera), produce a hemolysin which destroys the red corpuscles of many animals.

This hemolysin is an organic substance which is destroyed by heating to 70 C. for 2 hours.

It gradually deteriorates if kept at room temperature, but may be preserved in the ice chest for a much longer time.

In the incubator it deteriorates very rapidly.

It is destroyed by peptic digestion.

It is non-dialysable.

It is composed of a haptophore and a toxophore group, which are firmly bound together. The haptophore group may be neutralized with chicken serum and the toxophore group is destroyed by zinc chlorid.

The sera of some animals contain antistreptocolysin.

A weak solution of formaldehyd has antihemolytic properties.

The filtered cultures of a virulent streptococcus, in heated serum, are toxic for rabbits.

I desire to take this opportunity to thank Professor Hektoen for suggestions and encouragement.

14. Ehrlich: Deut. Med. Wochenschr., 1898, xxiv, 597.
15. Zeitschr. f. Hyg. u. Infektionskr., 1899, xxxii, 214.
16. Ibid., 1901, xxxvi, 299.

In the Medical Society.—These rivalries, dissensions, jealousies and controversies can be softened, and professional friendships be formed and cemented; there you can find opportunities for pleasant, social intercourse with worthy men. There you can also silently measure the height and depth of your medical contemporaries, and see the difference between the serious and the superficial thinker, the convincing and the faulty logician, the judicious and the injudicious, the alert and the stupid, intellectual giants and mental dwarfs; there you can also estimate the influence of pleasing actions and deportment, and the intellectual and moral worth of those who command respect, and discover and learn to avoid the glaring imperfections of others who do not—and in many other respects learn effectually to separate the chaff from the wheat. —*"The Physician Himself,"* by Dr. D. W. Cathell.

Special Article.

THE PURIFICATION OF WATER SUPPLIES BY SLOW SAND FILTRATION.

(*Continued from page 911.*)

III.

WATER FILTRATION IN THE UNITED STATES (CONTINUED).

B. THE ALBANY FILTRATION PLANT.

The Albany plant is the largest of its kind now in operation in this country and also deserves consideration from the fact that the best and most modern experience

Fig. 3.—General view of Hudson River, pumping station and sedimentation basin, Albany water works.

was utilized in its construction. The sanitary results flowing from the operation of this filter are especially noteworthy since before filtration the water had proved highly injurious to the public health.

Fig. 4.—Construction of filter basin. Laying water-tight bottom.

The city of Albany, N. Y., with a population of about 100,000, is situated on the Hudson river about eight miles below the mouth of the Mohawk. The total urban population in 1900 on the watershed above Albany was about 376,000 and, including the rural population, amounted to 80 per square mile, or somewhat less than the number on the Merrimac watershed above Lawrence (104). Before the establishment of the filtration plant the raw water of the Hudson river constituted the main supply of the city. The opportunities for pollution at Albany were even more grossly conspicuous than at Lawrence. Only four miles above the water intake, the city of Troy, with a population of 60,651, poured its untreated sewage directly into the Hudson river and, in addition to this source of flagrant contamination, the city of Albany was guilty of the monstrous sanitary blunder of fouling its own nest. Although the majority of the Albany sewers entered the river below the intake, the tidal currents, which at low water make themselves felt as far up the river as Albany, would at times sweep the city's own sewage up stream and into the water intake. The freshness of the sewage, both

Fig. 5.—Interior of filter bed, showing roof, underdrain and layer of sand and gravel.

from the Albany sewers and from the close-lying city of Troy, rendered the pollution at Albany much more dangerous than was indicated by the simple proportion of "organic matter" in the river water. In view of these

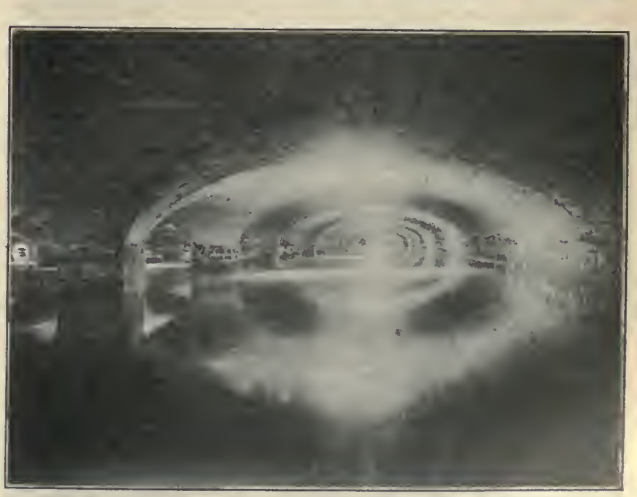

Fig. 6.—Interior of filter basin during operation.

circumstances it can not excite amazement that typhoid fever prevailed at Albany to an alarming extent, and that the city enjoyed the distinction of maintaining one of the highest death rates from typhoid fever in the United States.

The Albany filter was built in 1898-9 and was completed Sept. 6, 1899. A portion of the city supply—about two-sevenths—is still derived by gravity from small lakes and reservoirs, so that it is impossible to draw entirely precise conclusions in regard to the rela-

tive effect of filtered and unfiltered water. The apparent influence of the filter in reducing typhoid fever in Albany will be considered presently.

The Albany filter was constructed in an economical and highly efficient fashion. The plant consists of a pumping station, where the water is pumped from the "back channel" of the Hudson river into a sedimentation basin with a capacity of about 14,000,000 gallons. From the sedimentation basin the water passes to the filter beds, eight in number and provided with covers of

Fig. 7.—General view of completed sedimentation basin, central comb covered filter (with ventilators showing) and laboratory.

vaulted masonry. The cost of the covers formed as much as 30 per cent. of the total cost of the filter, but the unfortunate experience of Lawrence, which we have already recounted, and of other places have supplied abundant evidence that in a cold climate the expenditure for covers is warranted by all considerations of economic and efficient management. It may be said in passing that the total cost of the Albany filters was much less

Fig. 8.—Central comb and gate-house, sand washing in the foreground.

—$45,600 per acre, including covers—than the average figures derived from various European construction accounts. It must be admitted, however, that at Albany the site and other conditions were especially favorable and that at the time when the filter was built the market for the materials of construction was at a much lower level than at present.

One particular in which the Albany plant departs advantageously from the older European type of filter is in the specially careful arrangement of the layers of gravel on which the sand rests. The whole gravel layer is considerably thinner than in the older works and is composed of three strata of graded sizes. The use of gravel of different sizes prevents the upper layers from being washed into the lower ones, and is regarded as being a highly commendable feature of the Albany plant. The pure water reservoir, which is rather unusually small, and the ingenious and novel method of controlling the rate of filtration involve other features of engineering interest which need not be here considered.[6]

The Hudson river water, as regards turbidity, occupies a position midway between the very clear waters of New England and the muddy waters of the Middle West. When high turbidity appears in the water it persists longer than in the Merrimac river. In respect to pollution, the quality of the Hudson river at Albany is far below the average of surface waters that are safe for drinking in a raw state. The bacterial content is high (Table 3), and the unmistakable indications afforded by the typhoid fever death rate show that much of the organic matter in the water is sewage of recent origin.

The amount of water filtered between scrapings, which affords some clew to the nature of the water filtered,

Fig. 9.—Sand washing.

averaged in 1901 about 68,000,000 gallons per acre, or about 47,000,000 per individual filter bed. The average number of days between scrapings was about 25. The bacterial efficiency of the plant is shown in the following table:

TABLE 3.

Year.	Bacterial Count—Average per cc. In Raw Water.	In Filtered Water.
1900	33,600	265
1901	47,800	470
1902 (nine months)	25,500	134

Attention may be called to the large number of bacteria in the raw water of the Hudson at Albany as compared with the Merrimac water. The percentage removal appears from the averages to be about the same as at Lawrence, although the actual number of colonies appearing in the effluent are somewhat greater at Albany. Averages, however, are notably misleading, as shown by the following table giving the results for a single year:

6. We are indebted to Mr. Allen Hazen, the designer of the Albany filter, for his courtesy in allowing us to reproduce some photographic views of the Albany filter in various stages of construction and completion. Certain of the general features of interest common to all modern filters are shown in these photographs, as well as the special features of the Albany plant.

TABLE 4.

1901.	Raw Water. Average.	Pure Water. Average.
January	71,400	300
February	105,100	2,117
March	123,700	1,601
April	107,600	276
May	26,500	92
June	15,800	106
July	7,700	39
August	8,300	42
September	7,600	46
October	4,350	49
November	21,635	290
December	74,100	680

It will be observed that during the greater part of the year the number of bacteria in the effluent is very much below the average for the whole year. The high numbers recorded during the winter months appear to be due to the fact that the filter is forced beyond its legitimate capacity to meet the excessive consumption or waste of water in cold weather. The operation of the filter beds in winter at a rate far above their normal capacity causes a falling off in the bacterial efficiency.

The effect of the operation of the filter on the death record in Albany has been marked. The following table shows the average number of deaths from typhoid fever during the ten years preceding the opening of the filter, and the corresponding number of deaths since the filter was put in operation:

TABLE 5.

DEATHS FROM TYPHOID FEVER IN ALBANY BEFORE AND AFTER THE OPENING OF THE FILTER.

Months.	Average No. of Deaths for 10 Years Prior to Opening Filter.	1900.	1901.	1902.
January	11	3	2	2
February	11	1	3	3
March	12	3	1	2
April	9	5	1	1
May	4	4	1	2
June	4	1	3	1
July	4	3	0	1
August	7	6	3	4
September	6	4	4	2
October	4	5	0	0
November	5	4	0	0
December	7	0	1	0
Total	84	39	19	18

A comparison of the cost of operation of the Albany and Lawrence plants, together with that of two smaller sand filters, is given in the following table:

TABLE 6.

COMPARISON OF COST PER MILLION GALLONS OF OPERATION OF FILTERS AT LAWRENCE, ALBANY, POUGHKEEPSIE AND MT. VERNON.

	Lawrence. 1895-1900	Albany. 1899-1900	Poughkeepsie. 1877-1900	Poughkeepsie. 1898-1900	Mt. Vernon. 1895-1900	Mt. Vernon. 1896-1900
Based on period of...	6 years.	501 days.	24 years.	3 years.	6 years.	5 years.
Average total cost...	$3.05	$1.66	$3.27	$2.42	$3.16	$3.33
Average cost of removing ice and snow	2.27	.....	.....	0.47	.....	0.35
Average cost, minus snow and ice...	5.78	.....	.....	1.95	.....	2.98

(To be continued.)

Clinical Report.

A CASE OF ACCIDENTAL ELECTROCUTION

FROM ORDINARY ONE HUNDRED VOLT ALTERNATING LIGHTING CURRENT.

C. VAN ZWALUWENBURG, M.D.

RIVERSIDE, CAL.

To those who study the effects on the system of electric currents the following record of death from an alternating lighting current of only 100 volts may be of interest:

S., a carpenter, well built, stocky, about 5 feet 9 inches, weighing about 165 pounds, was at work repairing a building in Riverside, Cal., about 2 o'clock p. m., Aug. 11, 1903. The building, a two-story block with flat tin roof, had been scorched by fire April 22, 1903. S., with two companions, was making repairs in the attic immediately under the roof in a space only about 4 feet high, between ceiling and roof joist. He was perspiring very freely—the temperature there must have been about 100 F., with no air stirring. As he crouched on his knees and reached over to drive a nail into a studding he threw his head back just enough to bring the occiput in contact with a wire running to a drop light in the ceiling. The insulation had been burned away and in his condition of extreme perspiration, his clothing soaked, all the conditions for transmission of current were at their best. He was probably on a gas pipe, which made an excellent contact for grounding the current. At the instant of contact he made an outcry as though he had received some slight injury, then straightened backward in a general convulsive movement until his body lay in extreme opisthotonos, having carried the wire down from its fastenings, but continuing the contact at the same point.

The companion nearest him rushed to his assistance, received a considerable shock from handling the wire, but succeeded in removing the victim from contact in from 15 to 30 seconds. It was between 5 and 10 minutes before he could be brought down a ladder to the floor, during which time he was said by his companions to gasp several times. By this time Dr. Parker had arrived and at once began artificial respiration, which was continued systematically with tugging on the tongue for one hour, but no further signs of life were elicited at any time. I arrived about 15 minutes after the accident occurred. Rubbing and applications of hot and cold water and hypodermics of strychnin, digitalin and nitroglycerin were also used.

The only evidence of injury was a slight burn about 3/16 of an inch wide and about 2½ inches long, beginning at a point about 1 inch back of the tip of left mastoid and extending backward and upward into the hairy scalp to a point about midway between the posterior inferior angle of the left parietal bone and the median line of the occiput. The burn was very superficial, scarcely through the cuticle.

Our city electrician was promptly on hand and made a careful search for cross wires which might have carried in a heavier current, but none could be found, and he declared after testing the current that the only charge Mr. S. received was the ordinary lighting current as distributed to individual or chandelier lights. This current is the ordinary lighting current, 100 volts, varying slightly and occasionally perhaps reaching 110, run from a 50 cycle 6,000 alternation system.

The explanation of the fatal effect of so light a current must be:

1. The point of contact at the base of the brain.
2. The probable grounding through the gas pipe.
3. The absence of resistance in the skin on account of its thorough saturation with saline water from extreme perspiration.
4. The length of time contact continued on account of the body falling on the wire.

I find very little literature on this subject of the strength of current necessary to cause death, and that is my reason for reporting this case.

This report has been submitted to Dr. A. S. Parker, Dr. C. S. Dickson, the coroner who took the testimony in the case, and Mr. F. A. Worthley, our city electrician in charge of the lighting plant.

Needs Investigation.—The *Alienist and Neurologist*, calling attention to the king snake, whose assault no other snake can withstand and which is immune to the poison of the cobra and of the rattlesnake, asks: "Is the blood of the king snake antidotal to other snake poison? Here is a suggestion for the laboratory of experimental toxicology. Toxicological therapeutists may find in the serum of the king snake an antidote for the sting of the cobra, and the rattler and other venomous reptiles."

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SATURDAY, OCTOBER 17, 1903.

A UNITED PROFESSION IN NEW YORK STATE.

The grounds for discord that have so long existed between the members of the profession of New York state have been removed, and there is no longer any reason whatever why there should be two opposing organizations, each having the same objects. That this fact is realized is shown by the recent action—as reported in our last week's issue—of the New York State Medical Association, and harmony in the near future seems to be well assured.

The action of the council and fellows of the New York State Medical Association in appointing a committee with full powers to meet with a similarly qualified body from the Medical Society of the State of New York has been met by the latter body, and consequently we may hope for immediate measures to consummate the union of the two organizations. There may be some difficulties, or rather minor details, for adjudication by the committees, questions of what should be of comparatively slight importance, but nothing that ought to in any way prevent or seriously delay union. The time has now arrived for individuals to lay aside personal feelings, jealousies and selfishness, if anything of the kind still remains, for the sake of the good of all. There is now no real grievance; no principle whatever involved, and we are sure that no one desires schism for schism's sake alone.

Whatever there may have been in the past to excite bad feeling should be ignored; a disunited medical profession is an evil that all should strive to overcome. We have no expectation, however, that there will be even a minimal percentage of members of either of the state bodies that will take any exception to the proposed reunion. We have full faith in the members of the committees on both sides, as broad-minded men having the best interests of the medical profession at heart, and believe that they will let nothing stand in their way in bringing about the desired result.

With a united profession acting as a unit in the state the possibilities for advancing medical interest and forwarding the necessary measures, legislative and otherwise, for the protection of the public, as well as for the welfare of our profession, will be doubled. We know from the activity of the bodies separately what they can do when united. It is union, not competition—with its accompanying bad feeling and jealousies that have existed in the past—that is desired. We sincerely hope that there will be no serious difficulty or delay in bringing about that harmony in the Empire state which has for years been so anxiously hoped and watched for by the profession of the whole country, and the lack of which has been a misfortune to all concerned. Union must come; to delay it is worse than folly.

DRUG HABITS.

In the October number of the *Journal of Pharmacy* is an interesting article by Messrs. Eberle and Gordon of the committee appointed by the American Pharmaceutical Association to report on the acquirement of drug habits. They give the results of a statistical inquiry which has been instituted, but which is necessarily somewhat incomplete. There is more of interest in their general remarks on the subject, since they are based largely on personal knowledge.

The report shows that the opium habit is markedly increasing; the majority of the class known as habitual criminals are opium habitués. The reporters state that the drug habit has alarmingly increased in the Army and Navy and that opium smoking has been acquired by some of our soldiers in the East. In the Navy this method of taking the drug is less common, but the habit of opium eating has been acquired to some extent in the intercourse with natives of foreign countries. It is encouraging to note that not a single case of the drug habit coming from the prescribing of opium by medical officers could be recalled; opium and the allied drugs are very guardedly and carefully used by the Army and Navy medical officers. An unfortunate percentage of the members of the hospital corps have drifted into the habit from the constant opportunity in handling the drug.

That part of the report which refers to the use of cocain and the cocain habit shows a worse state of affairs. The drug is sold undisguisedly in many drug stores and the druggist buys it in 100-ounce lots, sometimes as often as once a month. One drug store in Philadelphia which does little prescription and no hospital business, is particularly mentioned, though not by name, and is referred to as only one instance out of many.

The effects of the cocain habit are not so generally known as are those of morphin, but there is nothing yet discovered that has such a baneful effect on the user. One of the reporters says that he has seen the drug literally "turn a bright high-principled man into a sneak thief and liar absolutely without regard for morality or principle. One redeeming feature is that the habitual use of cocain seems to lessen sexual ability and desire, so there is less danger of its transmission by heredity." Nine-tenths of the cocain habitués seem to have acquired the habit by the use of patent medicines or prescriptions, and it is rapidly supplanting the use of morphin among men and women of the "under world." The importation

of the cocain salts has increased from $176,948 worth in 1901 to $254,704 in 1902 and $199,826 for the first nine months of 1903. Averaging $3 per ounce as the value of cocain, this gives us an increased importation of 25,000 ounces in 1902 and over 22,000 ounces for the nine months of 1903, a fact which speaks volumes in itself. The use of smoking opium is also increased in a similar manner, but the same was not so true of the morphin salt in 1902, but it has greatly increased in importation in the present year.

The need of legislation in regard to this matter should be emphasized. Something must be done; we have cocain laws in a few states and city ordinances in certain localities, but thus far practically little has been done to stop the baneful habits in this way. The amount of cocain, for example, that can be legitimately used for medicinal purposes certainly bears very little proportion to the total imported amount now used, and an increase such as is represented above is a very bad omen for the future of our population. National legislation is certainly required; the United States government permits the importation of smoking opium for no better reason than the vender has for selling it, and it is a national disgrace that such is the case. Over 100,000 pounds of opium for smoking purposes were imported last year, and the importation is increasing each year. If matters go on as at present the time will come when there will be as important a business interest at work in the matter of drug selling and encouraging the habits as already exists in the case of alcohol.

Any new drug which can affect the nervous system seems to obtain its habitués. The heroin habit has made its appearance, headache remedy habits are reported, diarrhea remedies are reported habitually used by a large number who sooner or later become morphin or laudanum users. Unfortunately, a large number of cases are reported as directly due to careless prescribing by physicians. Physicians must be guarded and careful in the use of such remedies and must discourage in every possible way the use of proprietary remedies containing them; we must work with all our might for national and local legislation restricting the use of the habit-producing drugs and for the suppression of drug habits.

STOKES-ADAMS DISEASE.

In spite of the fact that this remarkable clinical condition was described by Adams in the Dublin Hospital Reports as early as 1827 and much more fully by Stokes in his article entitled, "Observations on Some Cases of Permanently Slow Pulse," in the *Dublin Quarterly Journal of Medical Science* in 1846, too little attention has been paid to it by the profession at large—so little noticed, indeed, that many good practitioners of to-day scarcely know what is meant by the term.

The disease, or rather symptom complex—for the anatomic lesions are not constant nor the etiology uniform—is, however, by no means an infrequent one, and it is characterized by a group of symptoms which permit it to be easily recognized. The patient suffers from attacks of syncope, often described as "apoplectic attacks," associated with a very slow pulse rate—28 or 30 beats to the minute. The slow pulse may be due either to true or false bradycardia; occasionally there may be complete cardiac arrest for as long as half a minute, after which the heart again begins to beat. Accompanying the more severe attacks there is usually marked involvement of the vasomotor system, revealed by pallor, vomiting and sweating, and sometimes by numbness and tingling—symptoms resembling closely those which occur in angina pectoris.

The nervous features of the disease are those which are most troublesome to the patient, and concerning which he consults a physician. Complaint is made of attacks of dizziness and staggering without known cause, or there may be sudden "fainting spells" with complete loss of consciousness. In some instances the symptoms resemble closely an attack of apoplexy; there is deep coma with loud, stertorous breathing and facial congestion, but the pseudo-apoplectic nature of the attack is shown by the absence of consecutive paralysis. Occasionally actual epileptiform seizures occur.

Three groups of cases are distinguished: 1, A postfebrile group; 2, a neurotic group, and 3, an arteriosclerotic group. By far the majority of the cases met with belong to this third group. The pathology of the affection is as yet quite unknown. The cases are largely confined to the period of advanced life, though occasionally a young individual is attacked. The prospect of recovery, once the severer nervous symptoms have appeared, is unfavorable. The attacks may go on occurring, however, for years. Death is, as a rule, sudden in one of the seizures. The most that can be done in the way of treatment is to attempt to prevent the progress of an underlying arteriosclerosis, when that exists. In the syncopal attacks nitrite of amyl may be used.

Stokes-Adams disease has in recent years begun to attract the attention of a number of the ablest clinicians in this country and abroad, and it is to be hoped that we shall ere long have new light thrown on its etiology and pathogenesis. Among the more valuable articles dealing with the subject are those by Huchard[1] in France, Hoffmann in Germany and Osler[2] and Edes[3] in this country.

GRANTS FOR SCIENTIFIC WORK.

One of the first results of the small grants given by the American Medical Association to promote scientific research is embodied in the article by Gustav F. Ruediger in the present issue of THE JOURNAL. It appears that pathogenic streptococci have the power, under certain conditions, of producing a substance that causes laking and destruction of red corpuscles (hemo-

1. In his "Traité des maladies du coeur."
2. Lancet, Lond., Aug. 22, 1903.
3. Phil. Med. Jour., 1901.

lysis). In the case of rabbits, this laking occurs during life in the course of streptococcus infections. In view of the frequency and of the gravity of streptococcus infections in man, this being probably our most frequent secondary infection and certainly the principal element of danger to life in the course of smallpox and scarlet fever, any definite advance in our knowledge of the pathogenic action of streptococci is most desirable. Now the production by streptococci of a definite poison to red corpuscles explains very satisfactorily the grave anemia that commonly develops in streptococcus infections. Ruediger shows that streptocolysin is a single substance, thus differing from the majority of hemolysins which depend for their action on the combination of two different elements, the intermediary body and the complement. Streptocolysin is in nature like the diphtheria toxin and tetanus toxin.

This fact having been established, further work may develop other similarities between these bacterial toxins, e. g., the property to cause the development of specific antitoxins. Streptococcus infections have proven to be a serious stumbling block in the way of successful treatment by antiserums. Success perhaps awaits more exact knowledge of the modes in which streptococci cause their pathogenic effects. At present the exact mechanisms of streptococcus infections are not clearly understood, and on this account they invite to continued, persistent, detailed investigation, and it is to be hoped that work of this kind may be stimulated by the Association grants.

Grants for research are probably the most fruitful method of investment for the surplus funds of the Association. The returns will consist, first, in the immediate results of the particular investigations made possible by the grants and, secondly, in the encouragement thus given to the development of investigators. "It is in the multitude of scientific workers that there is hope. The man of genius is a rare bird, and we must have a numerous class from which to produce him." Perchance the grants given by the Association may prove, sooner or later, the welcome means of discovering some man of genius and starting him on a career of epoch-making investigation. This phase of the setting aside of funds for research should be kept prominently in view by the committee having the matter in charge. When a grantee demonstrates his ability to produce definite results from actual, original investigation, let him receive all possible encouragement, to the end that he may be able continuously and persistently to push his work forward.

THE EVOLUTION OF THE COLOR SENSE.

A number of years ago Gladstone theorized—from the poverty of words indicating color in ancient Greek literature—that the color sense, as we now possess it, is a comparatively late acquisition. His view was strongly combated at the time and has not since received any general acceptance. It is, of course, impossible to say just what color vision the Homeric Greeks possessed, and we have perhaps no modern races exactly corresponding to them in social and intellectual development.

We have, however, some facts that may be considered as favoring Gladstone's theory; we know, for example, that certain refinements of sensation are cultivatable, and there is some testimony that in some of the lower races the special sensibility in one way or another is not exactly the same as with the more civilized races. Accurate psychometric studies of savages have hitherto been largely lacking, but attention has been directed to the need, and we may obtain data that will decidedly modify the prevalent views on the subject. An indication that such may be the case is apparently afforded by the recently published psychometric studies of the natives of Murray Island, in Torres Straits, by Dr. W. H. R. Rivers, noticed in *Nature,* September 3. His observations are especially significant, for he found the color sense decidedly deficient in these savages, and the objection that only the descriptive terms were wanting was not found valid—sensation was most defective just where the nomenclature was most lacking. The natives generally recognized red and yellow, and green for special reasons, and had names for these colors, but their ideas of blue were very indefinite, and it was confused with blue green or dirty brown. Only the most decided blue tint seemed to make an impression. A curious fact noticed was the complete absence of red-green blindness, and another was the fact that the peripheral retinal perception of blue was most complete, and its visual field the most extensive, which is contrary to the rule. Other senses tested by Dr. River's colleagues showed aberrations which were decided, though perhaps less striking than those for color. Acuteness of hearing was lower than in the white, as were also the pain and weight senses. Tactile sense was more acute, and the visual reaction time slower, while the auditory reaction time was the same as in the European. There was no name for bitter, but the sensation evidently existed.

The savage races of the earth are disappearing rapidly, and the scientific value of such investigations on their psychometric aberrations can not well be over-estimated. It is only by such research that we can even approximately settle such questions as that raised by Gladstone, and the bearings of these points on the early history of our race can readily be appreciated. If followed up and associated with equally thorough anthropometric studies, brain measurements, etc., they may throw light on many questions of development and physiology. They should be more generally made, and should be correlated with every phase and grade of social development from the lowest savages up to the highest uncivilized races, and it may be that practical as well as scientifically valuable results will be obtained. The better knowledge of the evolution of the color sense may lead to methods of its education and betterment and the prophylaxis of color-blindness.

SYPHILIS IN ANTHROPOIDS.

Medical men everywhere will watch with interest the progress of the experiments now being conducted by Metchnikoff at the Pasteur Institute in Paris on the susceptibility of the anthropoid apes to syphilis.[1] It is stated that thus far the French scientist has succeeded in producing a typical initial lesion of syphilis in one animal shipped to him from Liverpool by inoculating it with virus from a secondary syphilitic lesion in man. The celebrated syphilographer, Fournier, has examined the animal carefully and gives it as his opinion that the lesion produced is undoubtedly specific. If these statements are verified, it must be granted that a most important step forward has been made in our knowledge of this most ancient and prevalent disease; for the experience of the last few years has taught us that one of the first *desiderata* for the successful study of an infectious disease is to be able to reproduce it in animals, so that it can be subjected to experimental study and the conditions of experimentation be controlled at will. Hitherto syphilis has been unknown in animals other than man. Attempts have been made repeatedly to transmit the disease to lower animals, but without success. If any animal is susceptible, it is most likely to be found among those highest vertebrates which are so fearfully human in form and whose tissues are presumably chemically most similar to the tissues of man. The French savant has proceeded on this theory and apparently his efforts have been crowned with success. The cost of experimentation on gorillas and allied forms will, of course, be enormous; a single animal sold to the Physiologic Laboratory at Liverpool not long ago brought no less than $1,800 in cash to the importer. But in the investigation of a disease like syphilis, the money should be easily forthcoming as soon as those who have it to give can be assured that its expenditure offers a fair hope that something greater than anything we know yet may be done in preventing the spread, or in promoting the cure, of this frightful disease.

Medical News.

ILLINOIS.

Smallpox at Westfield.—It is reported that smallpox is prevalent in Westfield to such an extent that the public schools have been closed.

Must Report Births.—Section 2 of the new law provides that "every physician, midwife, parent, or householder shall be paid for each report of birth made in the manner directed by the State Board of Health the sum of 25 cents." The law is mandatory and for its violation a penalty of a fine varying from $10 to $100 is provided.

Illinois Mortality for July.—During July, 1903, 4,903 deaths occurred in the State of Illinois, according to the mortality report for that month just published by the State Board of Health. This report is based on the certificates of deaths received in the office of the board from physicians outside of the larger cities of the state in which burial permits are required, from the registration officials of these cities, and from the coroners of the several counties. These certificates were forwarded to the State Board of Health under the provisions of the birth and death law of 1903 which repealed the Act of 1901 requiring a burial permit. The report has been delayed by the failure of several county clerks to furnish physicians and coroners with blank forms for reports of deaths. A few weeks ago the State Board of Health had printed and distributed among the physicans of the state over six thousand books of blank forms, and as a result several hundred belated reports have been received by the board during the past week. The published death-rate is slightly less than that of July, 1902, when 5,107 deaths were reported to the county clerks, but it is the opinion of the State Board of Health that many additional reports for July will be received during the present month. The reports for July, 1902, should be absolutely correct, as it was then obligatory on physicians to furnish a certificate of death before the burial of the body. The ten principal causes of death and the number due to each are given as follows: Gastro-enteritis in infants, 673; tuberculosis, 537 (tuberculosis of the lungs, 447; other forms, 90); accidents, 483; pneumonia, 218; typhoid fever, 88; suicide, 70; diphtheria, 57; whooping cough, 50; measles, 39, and scarlet fever, 32. The reports for July, 1902, showed 681 deaths from gastro-enteritis in infants and 542 deaths from all forms of tuberculosis.

1. The Journal A. M. A., October 3, page 861 and previously.

Chicago.

Sherrington Banqueted.—Prof. L. Sherrington, Liverpool, was the guest of honor at a banquet given by the faculty of Rush Medical College, October 5. President Harper introduced Professor Sherrington to the faculty and delivered the address of welcome.

Dispensary for Maternity.—Contracts have been let for a dispensary to be built at the southwest corner of Maxwell Street and Newberry Avenue in connection with the Chicago Lying-in Hospital. It will be three stories high, 25 by 60 feet, and will cost $15,000.

Mortality.—For the week ended October 3, the total deaths were 467, an annual death-rate of 13.26 per 1,000, consumption leading with 55 and acute intestinal diseases coming next with 51. For the week ended October 10 the deaths were 427, an annual death-rate of 11.81 per 1,000, consumption again leading with 49, and being followed by acute intestinal diseases with 46.

Books Stolen from Marine Hospital.—A considerable number of valuable medical books, including Deaver's Surgical Anatomy in 3 volumes and Dennis' Surgery in 4 volumes, have been stolen from the library of the U. S. Marine-Hospital. Each volume has the government stamp on the title page. Should any of these books be offered for sale the surgeon-in-charge, Dr. Charles E. Banks, desires to be informed, that he may recover the books and prosecute the thief.

MARYLAND.

Frederick County Medical Society.—This society has purchased a three-story house in Frederick and will convert it into a hospital and training school for nurses. The board of directors has elected the following officers: President, Dr. William H. Wagner, Woodsboro; vice-president, Dr. D. Edwin Stone, Sr., Mt. Pleasant; secretary, Dr. Henry P. Fahrney, Frederick, and treasurer, Dr. William C. Johnson, Frederick.

Baltimore.

Deaths and Births.—The deaths for the week ended October 10 were 183, which is an annual rate of 16.88 per 1,000. There were 206 births, and 5 deaths from typhoid fever.

Personal.—Dr. Henry Barton Jacobs has returned from Europe.——Dr. Glanville Y. Rusk has been appointed to a position in the New York Pathologic Institute.——Dr. Norman McLeod Harris of the Johns Hopkins Hospital has received an appointment in the bacteriologic department of the University of Chicago.——Dr. E. H. Hume has gone to England.——Dr. Harry O. Wilmot of the City Hospital left, October 10, for Folsom, W. Va., where he will practice.——Dr. Mary N. Browne has been appointed demonstrator of obstetrics in the Woman's Medical College.——Dr. N. G. Keirle, Jr., is pursuing study in a special line of surgery at St. Mark's Hospital, London.——Dr. Albert Shelley has returned from England.

MASSACHUSETTS.

Thousands for Hospitals.—The hospital of the city of Melrose will receive $1,000 from the estate of the late Royal F. Barry. ——The Clinton Hospital Association receives $10,000 by the will of Richard W. Foster.

Smallpox Stamped Out.—Smallpox may be regarded as stamped out of Massachusetts. Very few cases exist within the borders of the state, these few are nearly all imported and no new cases at all are reported for the week ended October 10.

Associated Boards of Health.—The quarterly meeting of the Massachusetts Association of Boards of Health will be held in Clinton October 22. A paper by Dr. Robert W. Hastings, resident physician of the Boston Floating Hospital, on

"Etiology and Treatment of Summer Diarrheas of Infants," will be followed by a description of the great waterworks of the metropolitan water supply. The dam and reservoir, which are located at Clinton, will then be inspected by the association.

Deaths and Diseases.—During the five weeks ended October 10 there were reported 970 deaths in Boston, a decrease from last year of 40 and an average annual death rate of 16.76 per 1,000. Among the prominent causes of death were: Pneumonia, 61; whooping cough, 4; heart disease, 80; bronchitis, 16; and marasmus, 31. One hundred and seventy-four cases of diphtheria, with 19 deaths, were reported; 92 of scarlet fever, with 1 death; 137 of typhoid fever, with 20 deaths; 75 of measles, and 184 of tuberculosis, with 115 deaths.

MISSOURI.

Personal.—Dr. Edward J. Davis, St. Louis, superintendent of Provident Hospital, has been appointed resident physician of the Indian school at Zuni, N. M.

Sanitarium Burned.—At a fire, October 1, which destroyed the private sanitarium of Dr. Benjamin B. Ralph, Kansas City, one patient was killed and five were badly injured. The loss was $4,000.

Pleaded Guilty.—Dr. Walter McKinley, Grant City, charged with having violated the postal laws by sending forbidden matter through the mails, pleaded guilty, concluding "that it was wiser to plead guilty and pay a fine than to go to the trouble and expense of fighting the case."

Forgiven This Time.—Nolle prosequies were entered in the cases of four physicians charged, October 1, with not having registered at the St. Louis health department. This action was taken at the request of the board of health. The physicians were Drs. Oscar P. Hedger, 2628 Osage Street; Harmon Mehrs, 3300 Commonwealth Avenue; Charles McGinnis, 3204 South Jefferson Avenue, and Harry Upshaw, 3762 Morgan Ford Road.

Crusade Against Quacks.—A warrant has been issued against Charles De Meyer, 919 Olive Street, St. Louis, for practicing medicine without a certificate from the State Board of Health. This is the first state case made by the health department of St. Louis in its efforts to purge the city of irresponsible and irregular practitioners.——Mrs. Sylvia Pfeiffer, St. Louis, was fined $25 and costs for failing to register with the board of health, as required by law.

University Year Opens.—The Marion-Sims-Beaumont College of Medicine, the medical department of the St. Louis University, opened for the year, October 1, with an increase in the number of students. Among the additions to the faculty are the following: Dr. B. Meade Bolton, professor of pathology and bacteriology; Dr. Albert C. Eycleshymer, director of the department of anatomy, histology and embryology; Dr. Augustus V. L. Brokaw, professor of operative and clinical surgery; Gustavus D. Hinrichs, professor of chemistry and director of chemical laboratories; Peter Potter, associate professor of anatomy; Herbert P. Johnson, associate professor of bacteriology; James M. Wilson, instructor in embryology and comparative anatomy, and S. Walter Ransom, instructor in research work.

NEBRASKA.

Hospital Closes.—The board of directors of the Fremont hospital decided that the institution could not be made to pay, and it was closed permanently September 30.

Going to the Philippines.—Drs. C. L. and Leta M. Pickett, Tecumseh, sailed for Manila, September 19. They are to be stationed as medical missionaries at Laoag, Luzon, 250 miles north of Manila.

Colleges Open.—The year's work of the Omaha Medical College, the medical department of the University of Nebraska, was inaugurated September 22 at a meeting at which the principal address was delivered by Dr. Henry B. Ward, dean. ——The fall term of Creighton Medical College, Omaha, opened September 22.

Hold Charges in Abeyance.—The State Board of Health, in the case of Dr. Charles W. Downs of Omaha, charged with distributing pamphlets tending to corrupt public morals, has decided to hold the charges in abeyance, on the plea of the accused that he was ignorant of the law, and on his promise not again to offend.

Irregular Fined and Banished.—Salomon T. Metty, who has claimed to be able to cure all diseases, but had not obtained a license to practice from the state medical board, was fined $100 and costs, $26.50, at Nebraska City, September 30. His friends paid the fine, and he was released on agreeing to leave that section of country. At the trial it was brought out that the defendant was a horse-trainer by profession.

NEW YORK.

Sexagenarian Takes Examination.—Among the candidates who appeared at Syracuse, September 18, was a graduate of Denver University, 64 years of age.

College Opening.—The seventy-third session of Albany Medical College was commenced, September 22, with addresses by Dr. Willis G. Macdonald and President Andrew V. V. Raymond of Union University. A portrait of Dr. James H. Armsby, for many years professor of anatomy and surgery, was unveiled. ——The medical department of the University of Buffalo was formally opened, September 28, with an address by Dr. Carlton C. Frederick.

Personal.—Dr. George Blumer, Albany, has resigned as adjunct professor of pathology and bacteriology and has been succeeded by Dr. Richard M. Pearce of Philadelphia, who will have as his assistants Drs. E. M. Stanton, New York, and Charles K. Winne, Mount Wilson, Md.——Dr. Montgomery A. Crockett of Buffalo has returned from a three months' visit to Germany and Switzerland.——Dr. Charlotte B. MacArthur, Rochester, has been appointed assistant physician of the Willard State Hospital, vice Dr. Ernestine J. Hills, deceased.

New York City.

Physician Shot.—Dr. Rodney C. Combes, Corona, Borough of Queens, was shot, October 7, in the right leg by the husband of a patient who recently escaped from his sanitarium.

Cornerstone Laid.—The new building for St. Mary's Hospital, Jamaica, is under construction. The cornerstone was laid September 20; the hospital is to accommodate about 300 patients.

Hundreds Barred.—As a result of medical inspectors' reports the board of health has excluded from the schools 175 children suffering from trachoma, 139 from conjunctivitis, 59 from parasitic diseases, and 3 from skin diseases and one from tonsillitis.

Memorial Hospital Sold.—The Memorial Hospital for Women and Children, Brooklyn, was sold at auction under foreclosure proceedings, September 22, for $96,500. It is understood that the purchase was made on behalf of the Jewish Hospital Society.

Jury Disagreed.—In the suit for malpractice brought by an alcoholic patient against Drs. G. Lenox Curtis and John H. Storer, in which he alleged that he had been seriously injured while undergoing electric-light treatment and had been damaged to the extent of $10,000, the jury disagreed.

Deplore Robert Newman's Death.—At a special meeting of the faculty of the New York School of Physical Therapeutics, September 14, resolutions were adopted bearing testimony to the honesty, courage, and kindliness of the late Dr. Robert Newman, and extending its sympathies to the bereaved family.

Cornell Begins.—On September 30 the work of Cornell University Medical College began for the year with an increased enrolment in the junior and senior years, but with no increase in freshmen, due probably to the higher entrance requirements, which are practically the same as those for admission to the academic department of the university.

Columbia Medical School Opens.—The opening exercises of the College of Physicians and Surgeons were held September 24. Dr. Nicholas Murray Butler, president of Columbia University, presided, and in a brief address of welcome announced the foundation of a special medical library for the medical college. Dr. Walter B. James also spoke on "The Old and the New Medicine."

Official Changes.—Dr. Edward T. T. Marsh has been appointed president of the Board of Police Surgeons, vice Dr. Stephen G. Cook, removed. Dr. Henry P. DeForest has been appointed secretary of the board.——Dr. Frederick A. Jewett, chief of the bureau of contagious diseases, Brooklyn, has been made diagnostician to the department. His successor is Dr. Benedict of Manhattan.

New Contagious Disease Hospitals.—The health department has prepared plans for the building of a hospital to cost $75,000 in the Borough of Queens to accommodate 20 patients; a new pavilion with a capacity of about 200, near the Kingston Avenue Hospital; a scarlet fever building to accommodate 200 patients at the foot of East Sixteenth Street, and a small reception hospital at Richmond.

OHIO.

Fined For Assault.—Dr. Ralph E. Brake, Findley, was fined $150 and $28 costs, September 21, for assaulting Walter Herrick.

Western Reserve Opens.—The medical department of Western Reserve University, Cleveland, opened October 2 without formal ceremony.

License Revoked.—On account of habitual drunkenness, the State Board of Medical Registration and Examination, on October 6, revoked the license of a practitioner.

Hanna Endows Chair.—The medical department of Western Reserve University, Cleveland, has received $100,000 from H. Melville Hanna, to endow a chair of research in anatomy.

Rheumatism Specialist Fined.—"Dr." D. J. Zilkon, Cleveland, a so-called specialist on rheumatic diseases, pleaded guilty to practicing without a license and was fined $25 and costs, at Lorain, September 25.

Municipal Sanatorium Opened.—The new tuberculosis sanatorium at Cleveland was opened October 4, and 32 patients were transferred to it from the City Hospital. There is room for about 60 more patients. The fresh air and diet treatment will be carried on at the institution.

Personal.—Dr. Robert C. Heflebower, Cincinnati, has returned after a visit of five months to Denmark.——Drs. Arthur G. Helmick and William H. Pritchard, Columbus, have been appointed assistant physicians at the Ohio Hospital for Epileptics, Gallipolis.——Dr. William J. Wall, Jr., Cleveland, jail physician, has been deposed.——Dr. William L. Buechner, who has been a member of the Youngstown Board of Health for thirty-three years, has resigned.——Dr. John E. Stemler, Cincinnati, has been appointed receiving physician of the City Hospital, vice Dr. Oliver P. Coe, resigned.——Dr. Ira B. Hunter, Sandusky, assistant surgeon at the Ohio Soldiers' and Sailors' Home, has resigned.——Dr. Madison E. Baldwin, Arcadia, has returned from Europe and has opened an office in Toledo.——Dr. William V. Anderson, Toledo, has been appointed workhouse physician, vice Dr. William S. Walker, resigned.

TENNESSEE.

Personal.—Dr. James M. King, Nashville, has been appointed a member of the board of education.——Dr. C. T. Love, McLemoresville, was thrown from his horse, September 21, and received severe internal injuries. He is now reported to be improving.

Open for Year's Work.—The medical departments of Vanderbilt University, the University of Tennessee and the University of Nashville, opened for the season on October 1.——Tennessee Medical College, Knoxville, will open November 2, a month later than usual, and will close June 1.

Faculty Changes.—At the University of Tennessee, Nashville, Drs. Robert Caldwell and W. Herman Myers were appointed demonstrators of anatomy, Hon. Nathan Cohn, professor of medical jurisprudence, and Dr. William E. Hibbett, professor of diseases of children. At Tennessee Medical College, Knoxville, Dr. Samuel M. Miller, professor of obstetrics and gynecology, has resigned, and has been succeeded by Dr. A. G. Kyle.

Rogers Lectureship at Memphis.—The directors of the Memphis Hospital Medical College have established a lectureship in memory of the late William E. Rogers, M.D., founder of that institution. Once during each session a lecture will be given by a specialist in some branch of medical science. The first lecture will be given about the middle of November by Dr. Charles H. Hughes, St. Louis.

TEXAS.

Yellow Fever.—Up to October 10, 172 cases of yellow fever had been reported at Laredo, with 7 deaths.

Epileptic Colony Open.—The State Epileptic Asylum at Abilene was ready to receive patients October 1. The building will accommodate about 200.

Personal.—Drs. Thomas B. Bass, Terrell, and J. H. Eastern, Waco, have been elected assistant physicians at the State Epileptic Colony, Abilene.——Drs. George H. Moody, San Antonio, and Frank R. Ross, Austin, have returned after a five-months' stay in Vienna.

College Openings.—The thirteenth annual session of the medical department of the University of Texas, Galveston, began October 1. The opening address was given by Dr. James E. Thompson, professor of surgery.——The medical department of Fort Worth University opened October 1.——Dallas Medical College opened for the year on September 28.

Faculty Changes.—The Board of Regents of the University of Texas, Galveston, have elected Dr. Alfred E. Thayer professor of pathology to succeed Dr. Allen J. Smith, who resigned to accept the chair of pathology in the University of Pennsylvania. Dr. Thayer was formerly instructor in pathology and bacteriology in the Cornell Medical School, New York, and has held the fellowship in pathology in Johns Hopkins University. ——Dr. William S. Carter, professor of physiology, succeeds Dr. Smith as dean of the medical faculty.——At Fort Worth University, Dr. Robert B. Grammar has been made instructor on diseases of children; Dr. M. E. Gilmore, assistant in surgery and demonstrator of anatomy; Dr. William Rounds, assistant in pathology, and Dr. Charles P. Brewer, lecturer on materia medica and pharmacy.

GENERAL.

Boards of Health to Confer.—The eighteenth annual meeting of the Conference of State and Provincial Boards of Health of North America is to occur in Baltimore October 23 and 24. The program includes the subjects of yellow fever, venereal disease, infantile diarrhea, transportation of the dead, vital statistics, reform in county health officials' methods of work, and tuberculosis.

The Union of the Profession in New York.—A special meeting of the Medical Society of the State of New York was held Tuesday evening, October 13, in the Academy of Medicine, to consider the proposition for the union of two organizations, made by the New York State Medical Association.[1] The large hall was well filled, and amid enthusiastic applause and congratulations the society unanimously adopted the following resolution, which was introduced by Dr. B. St. John Roosa:

WHEREAS, The New York State Medical Association, at a special meeting duly assembled, has, by unanimous vote, appointed a committee with full power to meet a similar committee of the Medical Society of the State of New York to arrange for the unification of the two organizations under the corporate name of the Medical Society of the State of New York, therefore, be it

Resolved, That the committee of conference of the Medical Society of the State of New York, already appointed, be given power to vote, and other powers commensurate with, those recently granted the committee created by the New York State Medical Association for the purpose of unifying the two state medical bodies.

Rates to American Public Health Association.—Supplemental to the information in THE JOURNAL, Oct. 3, 1903, page 871, Dr. H. L. E. Johnson, chairman of the subcommittee of this association on railroad rates, states that one and one-third fare to Washington and return for the meeting, October 26 to 30, has been granted by the Canadian, New England, Trunk Line, Central, Southeastern, Western and Southwestern Passenger associations. The Western Passenger Association has granted this rate on the condition that 100 passengers from their territory attend the meeting, therefore the committee advises that if there is doubt that 100 will attend from the western territory, delegates should purchase tickets locally in this territory to some eastern gateway, viz.: Chicago, Peoria or St. Louis, and there purchase one-way tickets with certificates to Washington, D. C. The Transcontinental Passenger Association will sell nine-month return tickets at two cents per mile from Pacific and intermediate points to eastern gateways, viz.: Missouri River points, Chicago, St. Louis, etc., where delegates can purchase direct to Washington, D. C., on the certificate plan. Local ticket agents will explain and advise how to purchase most advantageously and arrangements should be made with them for through tickets and certificates several days before starting.

Army Death Rate Larger.—The mortality from cholera in the Army caused a slight increase in the total death rate during the fiscal year ended June 30, 1903. The Filipinos and Malays in the Army had a higher death rate, but a very low percentage of alcoholism. Venereal disease increased considerably and the loss of the canteen is blamed for this in part. The annual report of Surgeon-General Robert M. O'Reilly says in part, speaking of the above topics:

THE RACIAL ELEMENT.

The enrollment of about 5,000 native Filipino scouts having added a new racial element to the army, it becomes a matter of much interest to study the comparative effects of disease on them and on our white and colored troops. For the whole army, at home and abroad, during the year 1902, the white troops showed an admission rate of 1,706.33 per 1,000 and a death rate of 14.40. The negro troops had 1,897.74 admissions and 24.11 deaths per 1,000, and the Malay scouts 1,707.21 admissions per 1,000 and 24.04 deaths. The white race, therefore, gave the lowest figures in sickness and much the lowest mortality. The black race led in both, although the Malay closely approached it in death rate.

1. THE JOURNAL A. M. A., October 10, p. 920.

LITTLE DRUNKENNESS AMONG NATIVES.

The freedom of the Filipino from the vice of drunkenness is strikingly shown when we find that out of 5,000 men only three individuals were treated for alcoholism in one year, and that while white soldiers were admitted to sick report on account of their own misconduct in the use of alcohol at the rate of 24.78 per 1,000, and colored troops at the rate of 11.70, the Malay scouts showed the extremely small admission rate of 0.62 per 1,000.

MORE VENEREAL DISEASE.

The steadily increasing prevalence of venereal disease is the most discouraging feature in the sick report of the army. During 1902 13,000 admissions were from this cause alone, equivalent to a rate of 160.94 per 1,000. Admissions to sick report from alcoholism in 1902 were slightly in excess of the number (including volunteers) for 1901. A total number of 1,830 cases, equivalent to 22.65 per 1,000 of strength, occurred.

INCREASE DUE TO LOSS OF CANTEEN.

It is impossible not to attribute a large part of the steadily increasing venereal disease of the army to the loss of the canteen, where the soldier, if he so desired, could get his beer throughout the month, but was not subjected to the temptations to intemperance and vice now attendant on the expenditure of a full month's pay at the low resorts infesting the outskirts of our military reservations.

LESS INSANITY.

A slight diminution of insanity occurred in the army during 1902. There were 138 new cases, equivalent to the admission rate of 1.71 per 1,000, which is almost identical with the rate for the decade 1891 to 1900.

CANADA.

A new marine hospital is to be built at Louisberg, N. S., where it is needed because of the increase of shipping.

A New Hospital for Epileptics.—Work has begun on the new hospital for epileptics at Woodstock, Ont. It is expected that the buildings will be ready for occupation Aug. 1, 1904.

An epidemic of smallpox has broken out at Big Pond, a country settlement near Sydney, Nova Scotia. Eleven cases are so far reported, but the disease is said to be of a very virulent type.

Brandon General Hospital.—The new hospital at Brandon, Man., is being erected 36 by 89 feet, of stone and brick, with two stories and a basement. It will contain thirty-two beds and will cost about $25,000.

Progress Toward the Alexandra Hospital, Montreal.—Ground has been purchased and architects have been requested to submit plans for the erection of a complete infectious hospital of four pavilions to accommodate 100 patients.

Personal.—Dr. J. N. Waters, London, Ont., is to take up the work among the farming boys of Central India, succeeding the late Dr. Menzies, who died at Mhow recently, a victim of the plague. Dr. Waters attended Toronto University and graduated from Trinity Medical College.——Dr. Macdougall King, Toronto, has been appointed instructor of physiology in the medical department of the University of Denver.

Hotel Dieu Hospital, Montreal, Report.—There were treated in this hospital during the month of August 603 in-patients and 2,117 out-patients. Of the latter 1,117 were treated in the eye, ear, nose and throat departments. The following is the newly-appointed house staff of the Hotel Dieu: Senior house surgeon, Dr. Bourgeois, and Drs. Ludovic Verner, J. R. Hamelin, G. E. Bedard, Henri Prevost and Eugene Latreille.

FOREIGN.

Italian Congress of Internal Medicine.—The thirteenth Italian congress of internal medicine will meet at Padua, October 29. The questions announced for discussion are "Individuality in Pathogenesis and Etiology of Disease," "Immunity in Acute Infectious Diseases," and "Interruption of Pregnancy in Internal Diseases."

The Approaching International Congress of Gynecology.—It is announced from St. Petersburg that the date of this congress has been definitely set for September, 1905. The czar has taken the congress under his special charge and elaborate preparations will be made to render the fifth international congress a memorable one.

Another Monument to Charcot.—A handsome portrait bust and bas-reliefs have been erected at the French watering-place of Lamalou-les-Bains to the memory of Charcot. The bronze bust is the work of Madame Charcot. The memorial was dedicated with great ceremony on the occasion of the visit of the party of 120 physicians on the "Medical Study Trip" of 1903. The biographic and historic addresses are given in full in the *Progrès Médical*, September 26.

Prophylaxis of Venereal Disease Among Students.—The Prussian minister of public instruction has notified the faculties of the universities that steps must be taken to warn the students against the dangers of venereal disease to health and morals. He suggests as the most appropriate means short public lectures for the students in all departments of the universities, the lecturers to be from the faculties of medicine, philosophy and theology. These faculties are bidden to organize such courses at their earliest convenience. Our medical exchanges remark that the co-operation of the theologians might be dispensed with as the students know well enough the ethical side of the matter but choose to disregard it. The extent of the peril to health, however, is not known to most of them, and in this they need enlightenment.

France Enforces Destruction of Rats on Vessels from Infected Ports.—The French authorities have been aroused by the outbreak of plague at Marseilles to issue more stringent regulations. The alleged disinfection of the bales of rags from Constantinople having proved inadequate to prevent infection of the workmen handling them, the minister of the interior has decreed compulsory destruction of the rats on ships from infected ports. The measures against the rats can be undertaken during the voyage or after arrival before unloading. They must be by means of apparatus whose efficiency has been established by the national health department, and which are to be placed at the disposal of the officers of the ships on arriving, under the surveillance of the local boards of health. A certificate will be issued by the latter when the regulation has been complied with, and the ship may then proceed to unload. Lortet and Teissier have been writing to the Paris lay press urging the uselessness of quarantines as at present conducted if the rats are left unmolested. The generation of carbon dioxid has proved insufficient, as although it kills the rats it leaves the plague bacilli unharmed. They recommend the Clayton apparatus as the best adapted for the purpose. It generates gases fatal to animal life while not injuring nor fading goods. Marseilles is now declared free from the plague.

Benefits from Organization of the Profession at Munich.—The solid, united front presented by the members of the profession at Munich to the sick benefit societies, has resulted in a signal victory. Every society has agreed to their terms and demands. This includes the adoption of the American plan of free choice of a medical attendant, annual remuneration of 4 marks per capita and 12 marks per family ($1 and $3), and the organization of an "arbitration board" for each society, consisting of 2 physicians, 2 non-medical officers of the society and a lawyer not connected with the society. Extra demands on the physicians are to receive extra remuneration. The medical press is congratulating the Munich physicians for this remarkable victory, beyond their most sanguine anticipations. They urge united organization elsewhere as bound in time to produce equally favorable results. An entire column in the *Münch. Med. Wochft.* and almost two in the *Deutsche Med. Wochft.* are now devoted to warning ads cautioning outside physicians not to go to certain towns "without consulting the undersigned." The latter journal has nine such ads, all subsigned by one of the officers of the *Leipziger Verband.* The importance of the question in Germany may be estimated from the fact that 18 per cent. of the total population of the German Empire are compelled to belong to these sick-benefit societies, nearly ten millions in 1900. This is an average of 347.8 members to one medical attendant, and including the rest of the family, 695.6 individuals to each sick-benefit society physician.

Correspondence.

The Nickname "Allopath."

BALTIMORE, Oct. 5, 1903.

To the Editor:—Your editorial, with quotation from the *Boston Medical and Surgical Journal*, which shows that among "4,188 persons employed in the profession of medicine" in Massachusetts, "the number of physicians who are willing to answer to the nickname of allopath was 1,432," is startling, even though qualified by the suggestion that in some cases "an ignorant census-taker" may have been responsible for a wrongful classification. This narrow and restrictive misnomer, introduced in contemptuous terms by Hahnemann in his "Organon" in 1810, however repugnant to physicians in good and regular standing, we may charitably assume was not used in an offensive sense by the census-taker of the State Bureau of Labor Statistics. Not only to the illiterate, but, to a large extent, to the educated classes, the word conveys no significance

except in the negative way of contradistinction from homeopathy. But inconsiderate assent to such misleading characterization of rational medicine by "physicians who are not sectarians" is altogether another matter. Twenty-two years ago, in an essay on "The Prevalent Misuse of the Term Allopathy," read before the American Academy of Medicine, the writer took occasion to say:

> Well-educated and well-bred people, whom we can not charge with intentional discourtesy, whom we can not suspect of any disposition to wound our sensibility, so habitually use the word in common conversation that there is no hope of escape from the infliction except by revolutionary procedure. But this revolution must begin at home. We must aim the first blow of resistance at the foes of our own household. What only stirs our impatience with the unprofessional offender should provoke active resentment against the sinner in our own ranks. There are too many in the household of faith in the attitude of indolent acquiescence in the misuse of the word in question, and even of tacit acceptance of its implied reproach and its transparent falsity.

Similarly inappropriate and inconsistent in this age of unparalleled activity, progress and achievement, is the term "Old School" physician, which is still encountered in some parts of the country in the profession as well as out of it. What have we to do with the old except so far as it concerns the new? The leaders of thought and action are in the forefront of investigation, and the rank and file are imbued with the spirit of advancement. To apply such epithets as "allopath" and "old school" to the faithful workers who are patiently solving the intricate problems before us, who are emancipating medicine, the science and the art, from the mists and shadows, and widening it into the infinite capabilities of new life and larger liberty, is a form of perversity which is exasperating to say the least. And if, as appears from your significant quotation, there are those among us who do not properly resent the obnoxious "pathy" when applied to the comprehensive range and character of our professional objects and labors, and in whose ears such sophistical terms leave no jarring dissonance, there is evidently room for missionary work within our own ranks. So long as the profession itself submits to or winks at such misrepresentation there can be no terms of compromise, no middle ground of tolerance; all that is left is demand for unconditional surrender.

CHARLES C. BOMBAUGH, M.D.

Virginia Medical Society Proceedings.

ROANOKE, VA., Oct. 24, 1903.

To the Editor:—I observe in THE JOURNAL, October 3, that your reporter of the proceedings of the recent meeting of the State Medical Society of Virginia has got things a little mixed, and I hasten to make the correction: There were charges of various kinds preferred against "seven" of the Roanoke doctors, but it appears that not one of these charges was clearly sustained before the judiciary committee, and I can not understand why your reporter singled out my name and omitted the others. While it is true that when I located in this city three years ago I made a few professional announcements through a newspaper of my establishing a private sanitarium here, giving its location and objects, I fail to see wherein I violated in the least degree the true spirit of the Principles of Ethics, more especially since the Virginia State Medical Society permits business cards and professional announcements of private hospitals to appear in the newspaper.

BITTLE C. KEISTER, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

METHODS OF ITINERANT PRACTITIONERS.

OREGON, Sept. 30, 1903.

To the Editor:—Is it not in bad taste, if not a violation of the spirit of the Principles of Medical Ethics, for members of a state medical society to travel over the country, like traveling quacks, staying one day in a place every month, after giving notice through the local newspapers of the time of their coming? J. O.

STATES AND TERRITORIES RECOGNIZING DIPLOMAS.

NEW YORK CITY, Oct. 10, 1903.

To the Editor:—Please give a list of states and territories having no state board for examination of candidates wishing to practice medicine. Can you furnish it or inform me where to apply? S. G. J.

ANSWER.—The following states and territories recognize diplomas without requiring examination: Colorado, Kentucky, New Mexico, Nevada and Wyoming (also in one tribal division of Indian Territory). In New Mexico scrutiny of the diploma is very strict and only diplomas of a few of the leading institutions are accepted. In other states, as in Colorado, an examination is required if the diploma is not satisfactory, but the lines are not so closely drawn. We annually publish a little book entitled "Laws Regulating the Practice of Medicine in the Various States and Territories." The last edition is revised to July 1, 1903, and may be had for 30 cents.

PHYSICIAN'S WIFE CHARGED FOR LODGE EXAMINATION.

WISCONSIN, Oct. 9, 1903.

To the Editor:—Dr. A and Dr. B have always been on friendly terms. Dr. A is examining physician for an insurance and fraternal order that Dr. B and his wife wish to join. They go to Dr. A for examination, who does not charge Dr. B for his examination, but does charge Mrs. B. Is this in accordance with the Principles of Ethics? X.

ANSWER.—Sec. 2, Art. II of Chap. II of the Principles of Ethics says: "All practicing physicians and their immediate family dependents are entitled to the gratuitous services of any one or more of the physicians residing near them." This, however, refers to the services of one physician to another or to another's family in case of sickness; the case in point is more of a business transaction, and we see nothing unethical in Dr. A's charging for his services, if he so desires. Few physicians, however, would charge for the services mentioned.

Marriages.

OMAR BARTON PANCOAST, M.D., to Miss Joe Anna Ross, at Baltimore, October 1.

ROBERT SHERMAN KIRK, M.D., to Miss Alma Louise Seldler, both of Baltimore, October 1.

JOHN L. KIRKPATRICK, M.D., to Miss Maude Smith, both of Los Angeles, Cal., September 30.

HARRY ANDREWS COTTON, M.D., Boston, to Miss Alice Della Keys, at Baltimore, September 27.

FRED C. BLACKWELDER, M.D., Roswell, N. M., to Miss Mary Tutweiler of Indianapolis, October 7.

WINFIELD B. MARTIN, M.D., Freeport, Ill., to Miss Iona MacDonald of Chicago, September 30.

EDWARD J. FLEETWOOD, M.D., Wakefield, Neb., to Miss Inez E. Hultquist, at Osceola, Neb., September 16.

THOMAS B. CURRAN, M.D., Tacoma, Wash., to Miss Elizabeth Griggs Butler of Detroit, Mich., September 24.

JAMES LAWTON HIERS, M.D., Savannah, Ga., to Miss Elizabeth Meredith Maxwell of Omaha, Neb., October 7.

J. HAMILTON CHARTERS, M.D., Gaylord, Mich., to Miss Ethel Louise Chisholm of West Bay City, Mich., September 22.

H. HAYWARD STREET, M.D., Baltimore, to Miss Olivia S. Baldwin of Long Green Valley, Baltimore County, Md., October 1.

W. A. HEMINGWAY, M.D., a medical missionary of Shansi, China, formerly of Oak Park, Ill., to Miss Mary Williams, at Oxford, Ohio, October 1.

Deaths.

Joshua G. Allen, M.D. University of Pennsylvania, Philadelphia, 1856, died at his home in Philadelphia, September 26, from heart disease, aged 73. In 1863 he became visiting physician to the Philadelphia Lying-in Charity and Nurses' Home, which position he filled for thirty years. He was a member of the Philadelphia County Medical Society, Medical Society of the State of Pennsylvania, and the Philadelphia Obstetrical Society.

John H. B. Amick, M.D. University of Pennsylvania, 1876, a member of the Philadelphia Common Council for five years; inspector of drugs in the custom house during Harrison's administration, and during the Spanish-American War major-surgeon of the Nineteenth Pennsylvania Infantry, U. S. V.,

died at the German Hospital, Philadelphia, September 26, after an illness of ten weeks, aged 52.

Philo D. Patterson, M.D. University of Michigan, Ann Arbor, 1869, some-time president of the Michigan State Medical Society; a member of the American Medical Association, and the oldest practitioner in Eaton County, Mich., died at his home in Charlotte, September 27, from cancer of the throat, after an illness of several months, aged 60.

William H. Thomas, M.D. Medical College of Indiana, Indianapolis, 1876, a member of the faculty of his alma mater for two years, and later one of the founders of and a professor in the Central College of Physicians and Surgeons, died at his home in Indianapolis, September 30, from congestion of the brain, aged 70.

John Green, M.D. Charity Hospital Medical College, Cleveland, Ohio, 1867, a pioneer physician of Council Bluffs, Iowa, died at his home in that place from prostatic disease after an illness of more than a year, September 25, aged 71. He was a member of the Council Bluffs Medical Society.

Basil B. Brashear, M.D. Cleveland Medical College, died from ptomain poisoning at Upper Marlboro, Prince George County, Md., October 2, aged 81. He was a member of the faculty of Cleveland Medical College and chief surgeon of the Thirteenth Army Corps during the Civil War.

George Haven, M.D. Harvard University Medical School, Boston, 1883, instructor in gynecology in that institution; member of the Massachusetts Medical Society, died at his home in Boston, September 27, after a short illness.

Leven Cottingham, M.D. University of Louisville, Kentucky, 1882, member of the Henderson County (Ky.) Board of Health, died at his home in Robards, Ky., September 30, from dysentery, after an illness of ten days, aged 56.

Thomas P. Shepherd, M.D. Cleveland Homeopathic Medical College, 1899, of Cleveland, died at the Huron Street Hospital in that city, September 28, from toxemia following typhoid fever, aged 29.

Benjamin H. Milliken, M.D. New York University, 1863, died at his home in Bowling Green, Ky., after an illness of several weeks.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Medical Examiners of New Jersey, Trenton, Oct. 20-21.

Illinois State Board of Health, Great Northern Hotel, Chicago, Oct. 21.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Oct. 21-22.

Louisiana State Board of Medical Examiners, Tulane Medical College Bldg., New Orleans, Oct. 26-27.

Oklahoma Medical Examining Board, Enid, Nov. 10.

Committee of the Connecticut Medical Society, City Hall, New Haven, Nov. 10.

Board of Registration in Medicine of Massachusetts, State House, Boston, Nov. 10-11.

State Board of Health of West Virginia, Point Pleasant, Nov. 10, 11, 12.

Nebraska State Board of Health, Lincoln, Nov. 11.

Medical Organization.

Indiana.

ELKHART COUNTY MEDICAL SOCIETY.—At the first fall meeting held in Elkhart, September 24, this society adopted the constitution and by-laws which had been so revised as to accord with those of the state and national organizations.

Iowa.

WOODBURY COUNTY MEDICAL SOCIETY.—This was organized, September 25, supplanting the smaller Sioux City Medical Society. There are forty physicians in Sioux City and twenty in the county outside of Sioux City and it is hoped to bring all these into the new society. The constitution and by-laws prepared by the American Medical Association were adopted, and the following officers elected, who will hold office until the regular election at the annual meeting on January 1.: Dr. Guy C. Rich, Sioux City, president; Dr. Charles Rice, Smithland, vice-president; Dr. Francis J. Murphy, Sioux City, secretary; Dr. Frederick A. Powell, Sioux City, treasurer, and Drs. Van Buren Knott, Milton Daily and John R. Savage, all of Sioux City, censors.

Kansas.

KANSAS STATE MEDICAL SOCIETY, SECOND DISTRICT BRANCH.—The Southeast Kansas Medical Society, at a meeting in Parsons, formally disbanded, and its members then organized as the Second District Branch of the Kansas Medical Society, which embraces Lyon, Coffey, Anderson, Linn, Greenwood, Woodson Allen, Bourbon, Elk, Wilson, Neosho, Crawford, Chautauqua, Montgomery. Labette, Franklin and Miami counties. The first meeting of the new society will be held in Fort Scott, December 1. By this change the members of the society are made members of the Kansas State Medical Society, which is auxiliary to the American Medical Association. The officers of the new society are: President, Dr. Millard F. Jarrett, Fort Scott; vice-president, Dr. John B. Anderson, Chetopa, and secretary, Dr. George S. Liggett, Oswego.

Louisiana.

FRANKLIN PARISH MEDICAL ASSOCIATION.—Franklin Parish physicians met at Winnsboro, September 24, and organized, with Dr. W. W. Lee, president; Dr. Lewis M. Griffin, Wisner, vice-president, and Dr. Charles L. Ramage, Winnsboro, secretary and treasurer.

Minnesota.

SIBLEY COUNTY MEDICAL SOCIETY.—This was organized at Arlington, August 25, with the following officers: Dr. David N. Jones, Gaylord, president; Dr. Milo E. Bushey, Arlington, vice-president; Dr. Robert R. Stoner, Winthrop, secretary; Dr. Ward Z. Flower, Gibbon, treasurer, and Drs. W. H. Lord, Henderson, Christ W. Kanee, Arlington, and John J. Langford, Green Isle, censors.

North Carolina.

RUTHERFORD COUNTY MEDICAL SOCIETY.—Dr. E. C. Register, Charlotte, N. C., met the physicians of Rutherford County at Rutherfordton and organized a county medical society with the following officers: Dr. Theodore B. Twitty, Rutherfordton, president; Dr. Romeo Hicks, Henrietta, vice-president; Dr. Edgar B. Harris, Rutherfordton, secretary and treasurer, and Drs. J. B. Thompson, Cliffdale, T. G. Hamrick, Caroleen, and Charles B. Wiseman, Henrietta, censors.

Texas.

TAYLOR COUNTY MEDICAL SOCIETY.—Physicians of the county met at Abilene recently and organized a county medical society with Dr. Bass of the State Epileptic Colony, president; Dr. Luther A. Grizzard, Abilene, vice-president, and Dr. J. B. Thomas, secretary.

BASTROP COUNTY MEDICAL SOCIETY.—This society was organized at Bastrop, September 24. The following officers were elected: Dr. H. Powell, Luckett, Bastrop, president; Dr. John H. E. Powell, Smithville, vice-president; Dr. Henry B. Combs, Bastrop, secretary and treasurer, and Drs. John H. E. Powell, Smithville, Nosco B. Harris, Redrock, and W. R. P. Thompson, Smithville, censors.

TYLER COUNTY MEDICAL ASSOCIATION.—Dr B. F. Calhoun, Beaumont, councilor for the Tenth (southeast) District, met with the physicians of the county at Woodville, and organized a county medical society with initial membership of twelve. Dr. William V. Stewart, Colmesneil, was elected president; Dr. John B. Roberts, Woodville, vice-president; Dr. Dru McMicken, Woodville, secretary and treasurer, and Dr. William P. Chapman, delegate to the state association.

Wisconsin.

SAUK COUNTY MEDICAL SOCIETY.—The physicians of the county met at Baraboo, September 24, and organized. The following officers were elected: Dr. Charles Gorst, Baraboo, president; Dr. James D. Trumbauer, Loganville, vice-president; Dr. George L. G. Cramer, Baraboo, secretary and treasurer, and Drs. Marshall T. Martin, Merrimack, Frank D. Hulbert, Reedsburg, and John Buehler, Prairie du Sac, censors.

IOWA COUNTY MEDICAL ASSOCIATION.—This society was organized at Mineral Point, September 23, with the following officers: Dr. William J. Pearce, Dodgeville, president; Dr. F. M. Bailey, Mineral Point, vice-president; Dr. Simon P. Deahofe, Mineral Point, secretary and treasurer; Dr. Thomas S. Lawler, Cobb, delegate to the state society, and Drs. William J. Pearce, Dodgeville, F. M. Bailey, Mineral Point, and Hugh F. McDonald, Hollandale, censors.

CHIPPEWA COUNTY MEDICAL SOCIETY.—Dr. E. L. Boothby, Hammond, councilor for the Eleventh District, met the physicians of the county at Chippewa Falls, September 29, and or-

ganized a county medical society, with an initial membership of 14. The following officers were elected: Dr. Charles A. Hayes, Chippewa Falls, president; Dr. Robert Cottington, Bloomer, vice-president; Dr. Robert B. Cunningham, Cadott, secretary and treasurer, and Drs. Hugh McCormick, Auburn, Herbert H. Hurd, Chippewa Falls, and Eugene P. Ellenson, Chippewa Falls, censors.

Society Proceedings.

COMING MEETINGS.

New York State Medical Association, New York City, Oct. 19-22.
Congress of State and Provincial Boards of Health of North America, Baltimore, Oct. 23-24.
American Public Health Association, Washington, D. C., Oct. 26-30.
Hawaiian Territorial Medical Society, Honolulu, Nov. 7.
Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

AMERICAN ELECTROTHERAPEUTIC ASSOCIATION.

Thirteenth Annual Meeting, held in Atlantic City, N. J., Sept. 22 to 24, 1903.

Under the presidency of Daniel R. Brower, M.D., Chicago, this association met in the Hotel Windsor, Atlantic City, its sessions being unusually well attended.

President's Address.

Dr. Brower, in his address, referred feelingly to the death of Dr. Robert Newman, a very prominent member and an officer, and the association passed resolutions testifying to the esteem in which he was held and the loss sustained in his death. Dr. Brower congratulated the association on the active interest being taken in electrotherapy, but he called attention to the ignorance of many practitioners concerning this agency, and urged that, in view of the wide use which it will soon receive, knowledge of the principles of the methods should be widely disseminated. Fundamental facts that have been established by expert experimentation should be known to all to prevent errors and useless research. Dr. Brower suggested that the terms "faradism," "galvanism" and "franklinism" should give way to scientific nomenclature.

Election of Officers.

The following officers were elected: President, Dr. A. D. Rockwell, New York; vice-presidents, Drs. Willis P. Spring, Minneapolis, and W. W. Eaton, Danvers, Mass.; treasurer, Dr. Richard J. Nunn, Savannah, Ga.; secretary, Dr. Clarence E. Skinner, New Haven, Conn. The next meeting will be held in St. Louis, Sept 13 to 16, 1904.

Dr. Francis B. Bishop said that he thought he had proved that the high frequency current could be made to penetrate glass and transmit metallic and liquid substances. He described his experiments and in the discussion the reliability of his deductions was questioned by several.

Dr. William J. Herdman, Ann Arbor, Mich., made a report for the committee on constant current generators and controllers.

Dr. Alfred W. Baylis, Buffalo, spoke of the need for special preparation for electrotherapy as a field of work, and compared the work done here and in the hospitals abroad.

The Effects of the Secondary Static Currents in Removing Albumin and Casts from the Urine.

Dr. Boardman-Reed, Philadelphia, read this paper, stating that it was common to find hyaline casts and albumin in the urine of patients who had been ill for some time with gastro-intestinal disorders, yet this form of renal affection was so amenable to treatment that he looked on it as an autotoxic nephritis dependent on indigestion. Following the lead of Dr. A. D. Rockwell he had subjected 18 such cases during the past year to electrical treatment, for the most part with the static wave current. Urinary analyses made before and after treatment demonstrated that such treatment exerted a distinct physical influence. Of the four cases reported in the paper, the albuminuria had been successfully controlled by static electricity.

DISCUSSION.

Dr. A. D. Rockwell cautioned against too much optimism with regard to this mode of treatment, stating that it was only occasionally that one met the mild forms that were suitable for such treatment. He believed that electricity acted beneficially by reducing congestion and increasing the blood pressure in the glomeruli.

Dr. William Benham Snow remarked that the wave current would act just as beneficially in these cases as the static induced if one took the precaution to use a sufficiently great spark gap, say four to six inches.

Dr. G. Betton Massey detailed an interesting case of glycosuria which he had controlled, so far as the glycosuria was concerned, by the use of static electricity.

Dr. A. D. Rockwell, New York, gave a paper presenting some theories concerning the action of electricity on the neurons.

X-Ray and Light in the Treatment of Tuberculosis.

Dr. Russell Herbert Boggs, Pittsburg, in this paper was of the opinion that these therapeutic methods were entitled to first place as adjuvants in the treatment of tuberculosis wherever located. He preferred to use a medium low tube with a coil, giving exposures of ten minutes on alternate days. With the static machine the treatment was more difficult and the dosage more uncertain. The tubes showed great individual variations, but the fluoroscope seemed to him to be the best test of the quality of tubes.

DISCUSSION.

Dr. Charles R. Dickson, Toronto, thought he had obtained fairly good results with the static machine.

Dr. William B. Snow said that if the static machine were operated so as to secure a sufficient volume of x-rays the results would be just as good as with the coil. He had proved the utter fallaciousness of the fluoroscopic test, and was, therefore, surprised to hear the author state that this was a better index of the quality of an x-ray tube than the spark gap.

Dr. Robert Reyburn, Washington, D. C., advanced the theory that the beneficial action of the x-ray in tuberculosis and cancer was due to the formation of an inflammatory product around the morbid cells, thus preventing further infection.

Dr. T. A. Pease reported a case in which he had successfully treated tuberculous glands of the neck by means of static electricity.

Dr. Francis B. Bishop agreed with the reader of the paper that, as a rule, better results were obtained with the coil, for, in order to secure good results with the static machine it must be run at very high speed in connection with a high vacuum tube. One could not get the same volume of current through the tubes with the static machine as with the coil. The speaker then reported three cases of tuberculosis which had apparently been cured by means of a convective discharge from "a cage" directed on the shoulders and chest. He could not accept Dr. Reyburn's theory, because it was known that if too long exposures were made at first there was great danger of causing general infection.

Dr. George Z. Goodell, Salem, Mass., said that after three months' treatment of a case of tuberculous adenitis of the neck with a current from the Kinraide coil and a spark gap of three inches, he was unable to observe any improvement.

Electricity in the Treatment of Chronic Deafness.

Dr. George Z. Goodell, Salem, Mass., presented his experience and those of others who had replied to his circular letter. Several had reported that a mild interrupted current relieved the tinnitus, but better results seemed to be obtained by the use of the continuous current with the positive pole to the ear. The exact value of electrolysis of the eustachian tube was not yet determined.

Employment of Static Electricity in the Treatment of Nervous Diseases.

Dr. William Benham Snow, New York, said that there were few nervous diseases that were not associated with inflammatory processes and failure of nutrition. Such conditions

were best met, in his opinion, by the use of the wave current. In acute neuritis he employed as long sparks as possible along the affected nerve, and in chronic neuritis the sparks were applied over the area in which they caused the most pain. Excellent results could be obtained in the very early stages of anterior poliomyelitis from electrical treatment.

DISCUSSION.

DR. R. J. NUNN, Savannah, Ga., spoke of the therapeutic possibilities of radium, and expressed the belief that all electrical currents presented vibrations, and that the lower vibrations simply served as diluents of the higher ones.

DR. CHARLES O. FILES, Portland, Me., was of the opinion that the curative action of electricity was dependent on its ability to relieve all forms of congestion.

A Year's Work in Electrotherapy.

DR. LAURA V. GUSTIN-MACKIE, Attleboro, Mass., read this paper, which embodied a clinical experience of 125 cases. She spoke of the great relief that she had observed from the use of electricity in anemic women suffering from ovarian pain and various pelvic disturbances.

Electrical Treatment of Trachoma and Corneal Opacity.

DR. MARGARET A. CLEAVES, New York, presented in this paper the history of a severe and neglected case of trachoma that she had successfully treated by zinc electrolysis. During a period of 3½ months she gave 37 electrical applications, using a current of 2½ milliamperes for two minutes at each sitting, and an indifferent of 11 square inches at the nape of the neck. Improvement was noted within ten days. The boy had been discharged cured in June, 1896, and in October of the same year treatment of the corneal opacity was begun, using cathodal electrolysis and one milliampere of current for from one to three minutes three times a week. The boy now has a good position in the business world, whereas but for the treatment he would have become a public charge.

The Successful Treatment of Eighteen Cases of Granular Lids by the X-Ray and High Frequency Vacuum Electrodes.

DR. ALBERT C. GEYSER, New York, had made exposures of four or five minutes every other day for two or three weeks, and had then used the high frequency current to improve nutrition.

Exophthalmic Goiter and Its Rational Treatment.

DR. FRANCIS B. BISHOP, Washington, D. C., presented this paper on Wednesday morning. He believed that the early and continued use of the corset was a prominent factor in the etiology of this disease, and that, as a part of the treatment, it was highly important to remove all pressure from the abdomen and secure deep breathing. It was also essential that these persons should have an abundance of rest and of nitrogenous food. Medication had proved a delusion and a snare, but much benefit resulted from electrical treatment. He made use of the continuous current, gradually increased up to the point of toleration, and regulated in accordance with its effect on the pulse. A large sponge electrode should be connected with the positive pole and placed high up on the neck, and two sponge electrodes, connected with the negative pole, should be placed on either side of the neck over the pneumogastric nerves and the thyroid. After such an application for ten or fifteen minutes the patient would be quieted, and the current should then be applied directly to the gland for the same length of time, the sittings being on alternate days.

DR. T. A. PEASE, Norwood, N. Y., claimed much for his method, which consisted in blanching the skin by the cataphoric use of a 4 per cent. solution of adrenalin, and then applying the high frequency current with a wooden electrode.

DR. A. D. ROCKWELL, speaking from a long and large experience with this affection, advised the use of the galvanic current in considerable strength, applying it by means of large clay electrodes over the ciliospinal center and the solar plexus.

DR. WILLIAM W. EATON, Danvers, Mass., had had a favorable experience by practically the same method as outlined by Dr. Rockwell.

DR. WILLIS P. SPRING, Minneapolis, asked for experience as to the effect of using the fluoroscope on the operator's eyesight.

DRS. W. J. HERDMAN and C. R. DICKSON said that it caused marked deterioration of the vision.

DR. LORING, Boston, said that a simple and efficient means of protecting the eyes was by attaching a thick piece of glass behind the fluoroscopic screen.

DR. R. J. NUNN suggested that this glass shield should be selected only after testing its opacity to the *x*-ray.

Zinc-Mercuric Cataphoresis of Tuberculous Glands.

DR. G. BETTON MASSEY, Philadelphia, described his method, and exhibited two patients that had been so treated. He employs for the active electrode a sharpened sliver of amalgamated zinc, which, except for the first treatment, is insulated nearly to the tip. The first puncture is made with a Hagedorn needle. A current of one to three milliamperes is allowed to flow for half an hour, and the treatment is repeated three times a week. It was worthy of note that not only is the local process cured but the patient's general condition is decidedly improved.

A Plea for Electrotherapeutics Proper.

DR. WILLIAM J. HERDMAN, Ann Arbor, Mich., urged the association to resist the temptation to run after fads and indulge in borderline studies. He rehearsed the manifold therapeutic properties of the various currents.

Radiant Light Baths in the Treatment of Neuroses.

DR. THOMAS D. CROTHERS, Hartford, in this paper, was even more enthusiastic than in his paper of one year ago. Increasing experience showed that not only was the radiant light bath more acceptable to the patient, but observations on the pulse, temperature and influence on the secretions proved the superiority of the light bath.

DR. CHARLES H. SHEPARD, Brooklyn, advocated the use of electricity in conjunction with the hot-air bath.

DR. W. J. HERDMAN warmly seconded this suggestion, arguing that the stimulant effect of the induced current was an admirable corrective of the debility necessarily produced by the hot-air bath.

Radium, with a Preliminary Note as to Its Therapeutic Uses in Cancer.

DR. MARGARET A. CLEAVES, New York, said that there were three distinct types of rays emanating from radium, viz.: the *a*-rays, representing the major portion, and presenting some of the characteristics of the *x*-ray; the *b*-rays, which are much longer and correspond to the cathode rays, and the *r*-rays, which have a still higher rate of vibration. As one of the pioneers in the therapeutic use of radium, Dr. Cleaves reported two cases that she had treated with the aid of one gram of radium of 7,000 radioactivity, i. e., having 7,000 times the radioactivity of uranium.

The Present Status of X-Ray Therapy in the Management of Cancer.

DR. CLARENCE E. SKINNER, New Haven, Conn., read this paper, saying that the *x*-ray was one of the best means for the treatment of malignant disease, because as large a proportion of cures and as small a proportion of recurrences during a given period had been obtained with it as with any other means. It was now generally believed that in the early stages malignant disease should be removed by the knife, and that this should be followed by a thorough course of *x*-ray treatment. Whether or not, as some seem to think, the *x*-ray actually hastened metastasis could not be stated positively, but the evidence seemed to be against such a view.

Report of Committee on Current Classification and Nomenclature.

MR. WILLIAM J. JENKS, E.E., presented this report on Thursday, urging the substitution, so far as possible, of the terms "constant current" for "galvanic current," and "induced" or "magnetic induced current" for "faradic current."

Perineuritis.

DR. A. W. BAER, Chicago, pointed out the fact that an electrical application constituted a good means of differentiating

between facial neuralgia and suppuration at the root of a tooth.

Other papers read were: "Clinical Report on the Use of the X-Ray in Lesions of the Spinal Cord," by Dr. C. W. Daniels, Savannah, Ga.; "Currents of High Frequency, Apparatus and Therapeutic Uses," by Dr. F. G. DuBose, Selma, Ala.; "The Roentgen Ray as an Aid in Diagnosis," by Dr. Herman Grad, New York; "A Plea for an Accurate and Scientific Method of Roentgen Ray Treatment," by Dr. M. K. Kassabian, Philadelphia.

Cases were also reported: Eight of advanced cancer, by Dr. W. W. Eaton, Danvers, Mass.; one of asthma with fibroids and pelvic adhesions, by Dr. C. A. Covell, Syracuse; several of malignant growths, by Dr. M. M. Johnson, Hartford, Conn.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixteenth Annual Meeting, held in Chicago, Sept. 22-24, 1903.

(*Concluded from page 925.*)

Shortening of the Round Ligaments by the Blunt Hook Method.

Dr. H. W. Longyear, Detroit, described this method as follows: "The location of the internal ring is determined by finding the point of crossing of Poupart's ligament and femoral artery, as the ring is situated immediately back and above it. Beginning half an inch inside this point and cutting toward the pubic end parallel to Poupart's ligament, a one-inch incision is made through skin, fat and superficial fascia. Eye retractors and blunt hooks are then used, the tissues separated down to the aponeurosis of the external oblique, which is thus laid bare to the eye, to the extent of about one square inch. A puncture is now made through this aponeurosis one-quarter of an inch long, situated just above Poupart's ligament and to the back of the square inch of cleared aponeurosis, and through this the blunt hook is inserted and the ligament drawn out, usually with more or less of the fat of the canal along with it. The ligament is isolated and its fibrous attachments stripped back toward the internal ring with blunt-pointed dressing forceps, the ligament drawn out to the necessary length, an aneurism needle passed through the aponeurosis and the loop of ligament drawn through this, folded back on itself, and, with one stitch of kangaroo tendon, made fast, the suture embracing in its grasp the edges of the aponeurosis where the ligament first passes through it, half of the ligament at the same point and half on each side of the loop that is folded back on it. The skin is then closed by a running catgut suture, and dressings applied. The operation is applicable only to cases of mobile uteri without diseased appendages, in which cases it is an ideal procedure, or to cases in which adhesions may have been previously broken up by abdominal section."

Of 58 cases operated on by this method, late examination has shown the uterus to be in normal position in 48; 6 other cases were normal two to five months after operation, and were then lost sight of; there was 1 partial failure and 2 complete failures.

DISCUSSION.

Dr. Edward J. Ill had done this operation twelve times and, while the uteri remained in place, the painful scars made trouble.

Dr. Albert Goldspohn, Chicago, said the objections to the simple Alexander operation were that it was not thorough and it did not fulfill all the indications. He then mentioned his own method.

The Need for Study of the Symptoms of Perforation in Typhoid Fever, and the Life-Saving Possibilities of Early Operation.

Dr. W. D. Haggard, Nashville, Tenn., stated that only about three hundred cases of operation for intestinal perforation in typhoid fever had been reported since the first case in 1884. Granting that this represented only one-half or one-fourth, the number is pitifully meager when it is computed that twenty-five thousand persons die yearly in the United States from perforation and peritonitis in typhoid fever.

He made a plea for an early diagnosis and an attempt to save a part of this appalling number. On a basis of a possible 30 per cent. recovery, which was shown to have been attained in the reported cases, 7,500 lives might be preserved yearly by prompt operation. The difficulty lies in making an early diagnosis. The abdomens of typhoid cases should be exposed and carefully examined daily. No abdominal symptom or sign should be considered trivial. Pain was usually the first note of alarm—sudden, severe, colicky and persistent. Exploratory laparotomy, under cocain if necessary, was earnestly urged as a diagnostic measure in suspicious but doubtful cases. A plea was made for recognition and interference with the early and mild symptoms. The surgeon should stand in close relationship with the physician in all typhoid cases, as is done in appendicitis.

Dr. Haggard reported three successful operations and described the technic.

DISCUSSION.

Dr. John B. Murphy had operated on two cases of peritonitis with typhoid fever without perforation. Both recovered.

Dr. Robert T. Morris said the general practitioner must feel impelled to call a surgeon to his aid in almost any case of typhoid, not necessarily for operation, but for consultation. In a case of simple peritonitis from extension of the infection, the patient should be relieved by opening the abdomen and draining. Hemorrhage in typhoid fever cases is dangerous and has not received the attention it deserves. He predicted that in the next decade hemorrhage in typhoid cases would be treated surgically.

Dr. Willis G. McDonald said that the classical description presented in text-books of intestinal perforation in typhoid fever was misleading. It was rather a fine description of impending death.

Dr. Lewis S. McMurtry, Louisville, Ky., delivered the "Memorial Address on Dr. William E. B. Davis of Birmingham, Ala.," paying a high tribute to an earnest, honest, able and intense man, who, dying before the age of forty years, had done the work usually encompassed in a good long life.

Some of the Sources of the Disappointments of the Surgeon.

This was the title of the president's address, delivered by Dr. L. H. Dunning, Indianapolis. He urged the importance of not making an unwarrantedly favorable prognosis. New methods need the test of time ere there is too much dependence placed on them. The most nearly perfect surgeon is one who orders his life with the utmost care, but disappointments in greater or less degree will come to all surgeons, be they ever so successful, for it seems to be the natural order of things that contrasting or antagonistic elements shall exist side by side. The man who becomes despondent and inactive because of this is the weak man. The strong man will endeavor to magnify the good and crush out the evil. The surgeon's hope should be to eliminate every preventable source of failure and, when failures do come, to make of them task masters compelling the way to better things.

The Rational Treatment of Postpartum Infections of the Uterus.

Dr. D. Tod Gilliam, Columbus, Ohio, after discussing the bacteria concerned, called attention to the fact that a recently delivered uterus is an excellent culture ground for infection, being filled with the juices of disintegration and spilled blood. The mortality would be appalling were it not for the safeguards. These are: 1. Autosterilization of the genital tract. 2. The protective epithelium. 3. The protective leucocytes under the epithelium. The germ of Döderlein is the principal agent in sterilizing the genital tract; hence irrigation before or after labor is harmful, because it washes this germ away and does not entirely rid the tract of pathogenic germs. The normal death rate of puerperal infection is about 1 per cent., but after curettage it amounts to 20 per cent. The sharp curette is especially dangerous, as it not only fails to remove the germs, but destroys the protective barriers. As it is impossible to say that streptococcus infection is not present in any case, the only safe way is to eschew the sharp curette entirely in puerperal infection. Curettage is only permissible where there is known to be

fetal debris in the uterine cavity, and where there is reason to believe no streptococci are present. For this the finger or dull curette with stiff handle should be used. Flushing, if done at all, should be done with every precaution against infection. The patient should be on a table, under a good light, the vulva and vagina cleansed, the latter with 5 per cent. creolin in liquid green soap, mopped, dried and retractor introduced; the cervix grasped, drawn down and steadied with forceps; the cervical canal wiped out with gauze and bits of membrane picked off with forceps. Gently introduce irrigator and flush. If pulse and temperature drop, repeat daily or oftener, otherwise discontinue.

"Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen" was the title of a paper by Dr. John Young Brown, St. Louis, which went fully into the literature and reported cases.

The Use of the Stem Pessary for Infantile Uteri, Scanty Menstruation, Amenorrhea and Dysmenorrhea.

DR. J. HENRY CARSTENS, Detroit, explained the theory that since weak or poorly developed muscles can only be strengthened by constant exercise, the only way to exercise the uterine muscles is to introduce something into the uterus, and the constant tendency to expel the contents will enlarge the muscles and develop the uterus. It is absolutely essential that no pelvic trouble, either chronic or latent, exists and the diagnosis must be perfect. He uses the Chapman hard rubber pessary and leaves it in from six months to two years. He cited cases showing relief secured by this method.

"Tuberculosis of the Female Genitalia and Peritoneum" was the title of a paper by Dr. John B. Murphy, Chicago, which considered in detail all the varieties.

Movable Kidney with Secondary Cyst Formation, Resembling Ovarian Cyst.

DR. RUFUS B. HALL, Cincinnati, argued against the almost universal practice not to interfere until compelled to do so. He contends that if the cases of movable kidney are operated on early for fixation of that organ, it will save structural changes and give great relief from invalidism. Movable kidneys, if neglected, may undergo cyst formation or develop hydronephrosis or pyonephrosis, as in the cases reported.

DR. N. STONE SCOTT, Cleveland, Ohio, read a paper on "Surgery of the Ileocecal Valve for Malignant Disease," and reported cases.

The Choice of Methods for Closing the Parietal Abdominal Incision.

DR. EDWIN RICKETTS, Cincinnati, thought that the through-and-through sutures of silkworm gut with the midway closure of the peritoneum with interrupted sutures of fine silk is nearer to the ideal method than any other. Silkworm gut is actually impervious to any attacks of infection.

Supravaginal Amputation for Fibroid Tumors.

DR. HERMAN E. HAYD, Buffalo, N. Y., wished to place himself on record as believing that the supravaginal amputation for necessarily operable fibroids meets nearly every indication and has been applied to every conceivable kind of tumor, with short or long pedicle, tumors growing deep into the pelvis or out into the broad ligaments, and with results which make it a clean and ideal piece of surgery. It is the operation of choice, excepting in those cases where drainage must be provided for or where the cervix, for various other reasons, should be removed.

The Pelvic Musculature in Disease.

DR. HUGO O. PANTZER, Indianapolis, read this paper, narrating two extreme cases in detail. In one, during a subperitoneal hemorrhage involving both broad ligaments, the muscles of the pelvic floor were in spastic, painful contraction. This symptom has been found available in differential diagnosis between pelvic hematoma and hematocele. In the second case similar contraction was observed in a case of gangrenous appendicitis.

Veratrum Viride in Surgical and Obstetrical Practice.

DR. CHARLES L. BONIFIELD, Cincinnati, in this paper said that veratrum stimulates the liver, kidneys, skin and salivary glands, lowers temperature and relieves inflammatory pain by its effect on the circulation. These properties make it valuable in localized peritonitis and in salpingitis. In appendicitis the appendix should, if possible, be removed during the first twenty-four hours. When this can not be done the Ochsner treatment should be given, supplemented by the hypodermic administration of veratrum. In the treatment of postoperative peritonitis, after the very important free purgation has been secured, the heart, by its exceedingly rapid action, may exhaust itself before convalescence can be established. In this condition there is no drug equal to veratrum. It is superior to strychnin or digitalis because, while they may stimulate the heart to act for a time with renewed vigor, veratrum makes the work of the heart easier and gives it a chance to rest between beats.

Veratrum has been used for thirty years in the treatment of eclampsia by a considerable number of practitioners without a fatality, and every one who has given it a thorough trial acknowledges it to be superior to chloroform, morphin or any other drug in general use.

Ovarian Grafting.

DR. ROBERT T. MORRIS, New York, detailed some progress in experimental work and then took up the use of the procedure in human subjects. At the present time he had reached this point: (1) If the ovaries and oviducts have to be removed *en masse*, the patient will suffer from a precipitate menopause if she is left without an ovary. If a piece of ovary be taken from this patient or from another operated on at the same time, put in a salt solution at a temperature of 100 F., and then grafted in the broad ligament, that patient will continue to menstruate and to have the comfort that goes with the possession of an ovary. But if an ovary be grafted from another patient, at the end of a year perhaps the grafted ovary will have practically disappeared and her menopause begin. If a woman be grafted with a piece of her own ovary, the menopause may not begin for some years afterward, or until the normal time for it. This is a practical point, he said, which surgeons can apply in their everyday work. (2) A patient grafted with a piece of her own ovary may become pregnant if a tube and oviduct on one side be left, or part of it on one side. A patient grafted with a piece of an ovary from another patient may become pregnant, if pregnancy occurs quickly. (This has occurred twice with rabbits during his experimentation.) But pregnancy must occur before degeneration has gone to such a point that the ova are not well formed. He expected to obtain further good results.

DISCUSSION.

DR. D. T. GILLIAM, Columbus, Ohio, inquired what kind of suture was used.

DR. MORRIS replied that he uses the very smallest No. 1 catgut.

DR. JOHN B. MURPHY asked how Dr. Morris places the ovary in the abdomen. He said he had removed one ovary in connection with a fibroid tumor and transplanted it into a monkey. He split the ovary, transplanted half of it subperitoneally and the remaining half intraperitoneally. He removed it thirty-two days afterward, and sent it to the pathologist, without any statement as to what was done, and asked for an opinion as to the condition of the ovary. The pathologist reported that the ovary was absolutely normal in every respect.

DR. HERMAN E. HAYD said that if the processes of ovulation and menstruation will go on whether an ovary be transplanted intraperitoneally or extraperitoneally, there will be infinitely less danger if the piece of ovary was transplanted into the abdominal wall. In other words, one need not worry about his technic if menstruation will go on just the same.

DR. MURPHY said the transplantation of an ovary intraperitoneally is fatal. The peritoneum will eat rapidly everything brought in contact with it.

DR. ALBERT GOLDSPOHN said that he had not utilized ovarian tissue that had been completely severed from its original connection, fearing that it might seriously interfere with function.

In one case he used only a slight vestige of an ovary. It looked like a mass of denuded raw connective tissue, although there was ovarian tissue in it. The remnants were poorly connected with a little bit of connective tissue. In another instance there was more connective tissue. He swung the fragment around to the nearest accessible healthy peritoneal surface and stitched it with fine catgut. Both women menstruated; one for two months and the other regularly ever since. The latter is enjoying very good health. There seems to have been no difference caused in the sexual appetite.

Dr. James F. Baldwin asked if the ovarian transplantation is to prevent the menopause, and not with the idea of future pregnancy, this being of minor importance, why may we not, in a patient who has been operated on several months before, make an incision down to the peritoneum, make the little pocket and drop in the healthy ovary from patient No. 2, and close the incision? Frequently an ovary may be embedded in the densest adhesions in the pelvis, the woman has gone on menstruating, but has not conceived. It seemed to him that an ovary is in the peritoneal cavity only for pregnancy.

Dr. Morris said that the corpus luteum controls menstruation. So long as a corpus luteum is formed in a grafted ovary the patient will menstruate. When a corpus luteum is not developed then the patient ceases to menstruate. This explains why menstruation is more temporary when an ovary is transplanted from another person; it degenerates after a time, being foreign to the organism into which it is transferred. Dr. Morris said it was necessary to get a lymph circulation in order to keep the ovary alive. Were it not for this lymph circulation the ovary would become absorbed, because the peritoneum will digest beefsteak. In a few days a complete ovarian circulation is established. He has seen pretty good sized arteries surrounding a grafted ovary, but not actually in it. A nurse who had had her ovaries removed two years previously, and who had ceased menstruating, menstruated regularly for several months after an ovarian grafting. A young woman with an infantile uterus, after receiving an ovarian graft, menstruated for a year. The graft then became absorbed and menstruation ceased. This is a new line of work, and while there may be some disappointments, practical points are being brought out that are going to be of great value.

Dr. F. F. Simpson, Pittsburg, Pa., read a paper entitled "A Consideration of Combined Ectopic and Intrauterine Pregnancy, with Report of a Case." He analyzed the case and said that the common errors in diagnosis have been (a) the recognition of the uterine pregnancy and mistaking the ectopic for an inflammatory condition or neoplasm; (b) the recognition of ectopic and overlooking the uterine pregnancy. Accompanying the paper is a table of 118 cases from literature.

Emergency Abdominal Surgery at the Patient's Home—A Demonstration.

Dr. Willis G. MacDonald, Albany, said that operation in the patient's home becomes a necessity in many conditions—as in intestinal perforation—and the surgeon must be prepared to treat such emergencies without delay and yet under aseptic conditions. He discussed the various details.

Ectopic Pregnancy.

Dr. Henry D. Ingraham, Buffalo, reported twelve cases operated on. After careful serial microscopic examination he was inclined to think that previous inflammation of the tube had but little to do in causing ectopic pregnancy. The only condition discovered that could be the cause was the case of constriction of the tube, the cause of which at present was unknown.

PENNSYLVANIA STATE MEDICAL SOCIETY.

Fifty-third Annual Meeting, held at York, Sept. 22 to 24, 1903.

(*Continued from page 926.*)

Streptococci and Antistreptococcus Sera.

Dr. D. H. Bergey, Philadelphia, read a paper in Section A on September 24, in which he stated that the recent studies with the antistreptococcus sera appear to demonstrate that such streptococci can not be regarded as the etiologic factors of such diseases as acute articular rheumatism, scarlet fever and smallpox, as had been claimed by different investigators.

Some Points on Appliances for Bacteriologic Work by Busy Country Doctors.

Dr. A. C. Wentz, Hanover, spoke extemporaneously, addressing some very valuable remarks to the country practitioner. He exhibited a number of valuable devices for the office which is not provided with a laboratory.

The Necessity for the More Careful Instruction of Medical Students in the Diagnosis of Preventable Diseases.

Dr. Benjamin Lee, Philadelphia, felt that the tendency with both student and instructor was to devote too much attention to therapeusis and not enough to diagnosis. The large increase in diphtheria he believed largely due to the failure of physicians to differentiate between this condition and follicular sore throat or tonsillitis. The same was remarked of scarlet fever. In smallpox lies the greatest importance of early diagnosis. Students should be compelled to study all these diseases.

DISCUSSION.

Dr. J. M. Anders agreed with the above statements and cited the fact that in Philadelphia, through the courtesy of Dr. Welch and of the Board of Health of Philadelphia, the students of the various medical colleges have abundant opportunity to observe this class of diseases in the Municipal Hospital.

Dr. Seneca Egbert emphasized the value of personal observation of these diseases. He stated that the Philadelphia students are required to release the city and the board of health from liability in case of infection, and are required to disinfect their persons before leaving the wards.

The Effect of an Improved Municipal Water Supply on the Prevalence of Enteric Diseases.

Dr. J. Frank Small, York, gave statistics and urged that efficient filtration of a municipal water supply has a decided effect in lessening the prevalence of enteric disease.

DISCUSSION.

Dr. Seneca Egbert believed that the demonstration given by Dr. Small should be repeated in every city in the state. He felt that the people do not appreciate the need of pure water.

Dr. D. H. Bergey felt that if the trouble were taken to make a detailed investigation, other sources of infection would be found in every case of typhoid fever, e. g., milk, etc.

Dr. J. V. Kelly, said that in 52 cases in the Twenty-first Ward, 27 were traced to one milkman.

A Contribution to the Clinical Study of Cerebrospinal Meningitis.

Drs. Thomas C. Ely and J. J. Snyder, Philadelphia, reported a series of 23 cases, sailors from the U. S. Training Ship *Minneapolis*. A notable feature was the vagueness of symptoms in some instances. Only in epidemics, they stated, would these cases have been classified, and the fact leads to the query whether sporadic cases are not often overlooked, just as doubtless cerebral pneumonias and cerebral typhoids are improperly classified as sporadic cases of cerebrospinal meningitis.

DISCUSSION.

Dr. A. O. J. Kelly, Philadelphia, called particular attention to the toxic nature of some of the symptoms. He hoped that in the future it would be possible to separate similar pathologic lesions of diverse etiology.

A case of "Aneurism of the Left Subclavian Artery Treated by Wiring and Electrolysis" was reported by Dr. Judson Daland, Philadelphia. Death occurred in 20 days. Dr. Daland believes that this operation is worthy of trial when medical treatment fails, and that the percentage of success will be greatly increased if the operation be not performed as a dernier resort.

Typhoid Fever.

Dr. L. B. Kline, Catawissa, called attention to the increasing ravages of typhoid fever. Comparison with other acute and infectious diseases shows a higher number of cases and a larger death rate for typhoid fever. He approves of the main-

tenance of the intestinal tract in an aseptic condition. Coal-tar products should be interdicted.

DISCUSSION.

DR. A. O. J. KELLY stated that when there were severe toxic effects with great exhaustion, diminution in the urine, etc., the greatest benefit was to be derived from hypodermoclysis. Those cases not so profoundly toxic are given the greatest benefit by enteroclysis. He emphasized the great value in toxic conditions of normal salt solution.

The Need of a Ward in the General Hospitals for the Treatment of the Mildly and Curably Insane.

DR. H. W. RHEIN, Philadelphia, in this paper said that many cases of mild and incipient insanity which can not be treated at home should, instead of having to go to an insane asylum, be treated in a special ward in the general hospital, under the care of an alienist, who should be a member of the staff of the hospital.

The Dietetic Treatment of Chronic Nephritis.

DR. J. M. ANDERS read this paper, stating that a dietary is inadequate if it fails to meet the requirements of nutrition plus the loss of albumin. Proper diet is vital. To lessen albuminuria at the expense of the quality of the blood and general nutrition is very unwise. He allows red meats and fats and butter (except in obesity). Whole milk should be a considerable portion of the diet. Meats should be somewhat restricted, while fruits and green vegetables and rice may be given rather freely. He emphasized the fact that the normal daily physiologic quantity of food is required, which is practically 110 to 130 grams of albumin, 350 to 400 grams carbohydrates, 75 to 110 grams of fat, 2,500 to 3,000 grams of water, and 18 to 30 grams of inorganic salts. The importance of carefully recording the bodily weight of the patient is also emphasized, and systematic blood examinations are urged.

DISCUSSION.

DR. THOMAS D. DAVIS, Pittsburg, said he had been successful in giving milk in a cup instead of a tumbler to patients, who feel that they can not take milk, and the addition of some vanilla and a bit of ice rendered the milk more agreeable.

DR. JOHN H. MUSSER reported a case of typhoid fever seen in relapse, not operated on because of the condition of the patient, who afterward recovered. This was discussed by Drs. W. J. Middleton, F. V. Swing and R. H. Gibbons.

Symposium on X-Ray Therapy.

At the Wednesday morning session of Section B Dr. George W. McNeil, third vice-president, presiding, a paper on "*X*-Ray, Light and High Frequency Electricity" was read by Dr. Russell H. Boggs, Pittsburg, in which he gave a detailed consideration of the whole subject.

"Utility of the *X*-Ray for the Treatment of Chronic and Malignant Diseases of the Skin and Superficial Tissues" was read by Dr. Samuel H. Heller, Lancaster, who believed that deleterious results are due to improper technic and detailed some of his own cases.

"Roentgen Rays as a Palliative in the Treatment of Cancer" was the title of a paper by Dr. C. L. Leonard, Philadelphia. He advocated this method postoperatively and in inoperable cases. He emphasized the value of perfect technic and credited many of the failures to improper application.

DR. MIHRAN K. KASSABIAN, Philadelphia, read "Roentgen Rays in Therapeutics," a thorough presentation of the subject. He recommended the preservation of careful statistics of all cases treated.

DISCUSSION.

These papers were discussed by Dr. Taylor, Philadelphia, who reported a case, and by Dr. Lewis H. Taylor, Wilkesbarre. Dr. Leonard said he had secured excellent results in the treatment of neuralgia and neuralgic headaches.

"Some Problems in Surgery" was read by Dr. George D. Nutt, Williamsport.

DR. WILLIAM H. BEACH, Pittsburg, read a paper on "Proctocolitis, with Special Reference to Treatment." He gave in detail the diet and medication advised, and felt that surgical relief should be resorted to only in extreme cases. In the discussion, Dr. John G. Clark, Philadelphia, recommended the method of Weir of draining the colon through the appendix.

(To be continued.)

COLORADO STATE MEDICAL SOCIETY.

Twenty-third Annual Session, held in Denver, Oct. 6 to 8, 1903.

The beneficial effect of the recent reorganization made itself manifest by a large attendance of members, both from the city of Denver and from the counties all over the state. From the point of numbers and enthusiasm it was the most successful meeting ever held in the state. The constitution was so amended that only members of county societies may hereafter become members of the state society. The section referring to membership of graduates from sectarian colleges was amended by inserting the following proviso: "and who is not affiliated with a sectarian college or society." Resolutions were passed to request President Roosevelt to appoint a physician on the Panama or Nicaraguan Canal Commission.

The most far-reaching action taken by the society was the resolution to establish a state medical journal. The editor was elected, Dr. Edward Jackson, who was at one time the editor of the *Pennsylvania State Medical Journal.*

The election of officers resulted as follows: President, Dr. Thomas H. Hawkins, Denver; vice-presidents, Drs. J. Tracy Melvin, Sagauche, A. C. Friedman, Colorado Springs, and R. F. Graham, Greeley; delegates, Drs. Sol. G. Kahn and W. A. Jayne; councilors, Drs. C. F. Gardiner, Colorado Springs, and S. D. Hopkins, Denver; secretary, Dr. J. M. Blaine, and treasurer, Dr. W. E. Rothwell; publishing committee, Drs. Edward Jackson, Robert Levy and S. E. Solly.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, held at Memphis, Oct. 7 to 9, 1903.

The following officers were elected for the ensuing year: President, Dr. Hugh T. Patrick, Chicago; vice-presidents, Drs. Bransford Lewis, St. Louis, and George W. Cale, Springfield, Mo.; treasurer, Dr. Thomas Hunt Stucky, Louisville, Ky., re-elected: secretary, Dr. Henry E. Tuley, Louisville, Ky., re-elected. The time and place of meeting were left to the president, secretary and treasurer to decide. A report of the other proceedings will be given next week.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Bromipin by the Bowel.

Rahn, in *Ther. d. Gegenwort,* recommends the use of bromipin, administered per rectum, to infants. He advises it in doses of one grain to an infant one month old, doubling the dose with each month so that a child six months old should receive one and a half drams (6.00) of the preparation. He administers it mixed with one or two ounces of flaxseed tea. He states, in the treatment of infantile convulsions, that positive results are obtained within a few minutes.

In pertussis he obtained good results by administering it night and morning, diminishing the frequency and severity of the attacks. Also convulsions due to tuberculous meningitis were controlled by this preparation given three or four times in the twenty-four hours. Good results have been obtained from the use of this preparation in rachitis and epilepsy.

Hönigschmied, in *Pediatrics,* recommends bromipin in all affections where bromin preparations are indicated. He uses it in the treatment of vertigo, cerebrospinal meningitis, nervous insomnia, recent cases of chorea, in nightmare, melancholia and neuralgia. In cerebrospinal meningitis, he empties the bowel

and gives an enema of 1 to 4 drams (4.-15), according to the age. The bromipin is given alone slightly warmed. He cites several cases where bromipin was used successfully.

Laryngeal Tuberculosis.

Castex, in *Amer. Med.*, recommends in the treatment of laryngeal tuberculosis that hot flannel binders be applied to the neck and renewed frequently during the first stage of the disease. The laryngeal mucous membrane may be sprayed with one of the following solutions:

℞.	Sodii benzoatis	gr. xlv	3
	Aquæ destil.	ʒiii	90
M.	Sig.: As a spray; or:		
℞.	Acidi carbol.	gr. xv	1
	Glycerini		
	Aq. destil., āā	ʒii	60
M.	Sig.: As a spray; or:		
℞.	Menthol	gr. xv	1
	Gomenol	3iiss	10
	Alcoholis	ʒii	60
	Aq. destil.	ʒv	150
M.	Sig.: Apply locally as a spray.		

[Gomenol is a terpinol preparation.]

He recommends that the treatment of the larynx be repeated two or three times a day. In the third stage the following is recommended:

℞.	Cocainæ hydrochlor.	gr. xxx	2
	Morphinæ hydrochlor.	gr. xv	1
	Antipyrini	3iiss	10
	Glycerini (neutral)	ʒii	60
M.	Sig.: One teaspoonful added to half a glass of distilled water and used as a gargle.		

Solis-Cohen recommends the following combination:

℞.	Orthoform		
	Anesthesin, āā	3i	4
	Ext. suprenalis		
	Iodoformi, āā	3ii	8
M.	To be insufflated into the larynx, especially when painful ulcerations are present.		

And topically he advises the following:

℞.	Guaiacol	3iiss	10
	Menthol	3i	4
	Olei olivæ	3vi	25
M.	Sig.: Apply locally after an application of cocain.		

Vomiting in Tuberculosis.

Pegurier of Nice, in *Bul. gen. de Ther.*, states, in the treatment of vomiting of phthisis, that the excitability of the gastric mucosa must be calmed. Small pieces of ice after meals are of benefit, together with the administration of anesthetic substances such as aqua chloroformi, menthol, hydrogen peroxid, and iced champagne. The following may be given:

℞.	Aq. chloroformi		
	Syr. aurantii flores., āā	ʒii	60
M.	Sig.: One tablespoonful after each meal.		

The irritation causing the gastric irritability, such as tuberculosis of the pharynx, larynx or epiglottis, must be properly treated. As palliative measures the following combinations are recommended:

℞.	Pot. bromidi	3i	4
	Glycerini	ʒi	30
M.	Sig.: Paint the pharynx before each meal; or:		
℞.	Cocainæ hydrochlor	gr. xxiv	1|65
	Aquæ	ʒiii	90
M.	Sig.: Paint the pharynx when nausea appears; or:		
℞.	Diiodoformi	3ii	8
	Cocainæ hydrochlor.	gr. i	|06
	Morph. hydrochlor.	gr. 3/4	|05
M.	Sig.: To be used as an insufflation when the larynx is involved.		

Administration of Gelatin.

According to Racchi in the *Practitioner*, gelatin when administered in a normal serum solution is absorbed more rapidly when given in the form of an enema than by the hypodermic method. It is absorbed and shows its beneficial effect within five or ten minutes and continues for five or six hours.

Sodium Chlorid in Scrofula.

Liegois, according to an abstract in the *Monthly Cyc. of Pract. Med.*, states, in those conditions recognized under the term scrofula, that the chlorid of sodium enhances the appetite and increases the flow of salivary, gastric, biliary and pancreatic secretions and aids assimilation. The combustion of albuminoids is especially increased. This salt opposes the loss of phosphates and influences and assists endosmosis and exosmosis. There is marked effect on the blood also. The erythrocytes are increased and the hemoglobin percentage is higher. The following combination is recommended:

℞.	Sodii chloridi	gr. iss	|09
	Calcii phosphatis	gr. iii	|20
	Calcii carb.	gr. 1/6	|01
M.	Ft. chart. No. i. Sig.: One such powder four times a day after meals.		

The Use of Alkalies for Relieving Pain.

According to an abstract in the Pract. Med. Series of Year Books, Sir Lauder Brunton calls attention to the use of alkalies in relieving pain, especially that caused by toothache. The presence of acid in the carious tooth is the cause of the pain, and it has been demonstrated how the pain disappeared by the application of sodium bicarbonate. It is also of value in general aching of the teeth due to retracted gums. Alkalies relieve the sharp stinging pain accompanying furuncles, the pain in such cases being due to diminished alkalinity of the blood of the system in general as well as locally. Consequently he advocates alkalies both internally and locally in some cases of neuralgic and painful affections.

Pruritus.

Brocq, in *N. Y. and Phil. Med. Jour.*, gives the following combinations as of value in the treatment of pruritus:

℞.	Resorcin	gr. iv	|25
	Hydrarg. chloridi mitis	gr. xii	|75
	Zinci oxidi	gr. xxx	2
	Petrolati	3v	20
M.	Ft. unguentum. Sig.: Apply locally; or:		
℞.	Menthol	gr. iii	|20
	Acidi carbol.	gr. iv	|25
	Acidi salicylici	3ss	2
	Zinci oxidi	3iss	6
	Liq. petrolati	ʒi	30
M.	Ft. unguentum. Sig.: Apply locally to the affected parts.		

In pruritus of the vulva, Verchére, in the same periodical, recommends the following:

℞.	Hydrarg. bichloridi	gr. xv	1
	Alcoholis	3i	4
	Aq. rosæ	3v	20
	Aq. destil.	ʒvii	210
M.	Ft. lotio. Sig.: Apply locally twice a day.		

A. Robin advises the following to relieve the foregoing condition:

℞.	Spts. chloroformi	3ii	8
	Olei amygdalæ dulcis	ʒii	60
M.	Sig.: Apply locally; or:		
℞.	Hydrarg. bichloridi		
	Ammon. chloridi, āā	gr. ii	|12
	Emuls. amygdalæ	ʒvi	180
M.	Sig.: As a local application; or:		
℞.	Orthoformi		
	Diiodoformi		
	Talci, āā	3ii	8
M.	Ft. pulvis. Sig.: Apply locally; or:		
℞.	Menthol	gr. ¾	|05
	Guaiacol	gr. viiss	|50
	Zinci oxidi	3iiss	10
	Liq. petrolati	ʒi	30
M.	Ft. unguentum. Sig.: Apply locally.		

To relieve the pruritus arising from eczema of the ear, Lichtenstein recommends ointments in preference to lotions.

He employs, in addition to Lassar's paste, the following combinations:

℞. Olei cadini 3ss 2
Liq. petrolati 3v 20
M. Ft. unguentum. Sig.: Apply locally; or:

℞. Hydrarg. oxidi flavi .....gr. xv 1
Liq. petrolati 3iv 15
M. Ft. unguentum. Sig.: Apply locally.

According to Hyde, carbolic acid ranks first as an antipruritic, used in strength of 1 to 5 per cent. It may be combined as follows, according to Bronson, who uses it in a strong solution:

℞. Acidi carbol. 3i-ii 4.-8
Liq. potas. 3i 4
Olei lini .....℥i 30
M. Sig.: Apply locally only over small areas.

Hyde recommends the following as a valuable lotion to relieve the pruritus of eczema:

℞. Acidi carbol. .....gr. xl 2
Zinci oxidi 3i 4
Glycerini 3ii 8
Aq. calcis q. s. ad.....℥viii 240 65
M. Sig.: Apply locally.

Or one of the following combinations:

℞. Acidi hydrocyanici dil. 3ss-ii 2.-8
Zinci oxidi
Calamini, āā 3i 4
Aq. calcis
Aq. sambuci, āā .....℥iv 120
M. Sig.: Apply locally; or:

℞. Acidi carbol. 3ss-3ii 2.-8
Bismuthi subnit. 3i 4
Pulv. tragacanth. .....gr. xl 2
Aq. calcis .....℥viii 240 65
M. Sig.: To be applied locally; or:

℞. Acidi carbol. .....3iss-℥ss 6.-15
Glycerini 3ii 8
Menthol .....3i-℥ss 4.-15
Spts. vini rect. q. s.
Aq. destil. q. s. ad .....℥viii 240
M. Ft. lotio. Sig.: Apply locally.

Trigeminal Neuralgia.

Graham Brown, according to the *Courier of Med.*, recommends quinin in the treatment of neuralgia of the fifth nerve, given in two or three doses of ten grains each. Sodium salicylate may be given, but it is not so active as quinin. The following combination is also recommended as even more serviceable:

℞. Quininæ sulph.
Sodii salicylatis
Antipyrini, āā .....gr. v 30
M. Ft. chart. No. i. Sig.: One such powder every three or four hours.

He also advises aspirin in doses of grains 5 to 15 (.30-1.00). Butylchloral hydrate is very useful in such conditions combined with glycerin. Morphin should be resorted to only after all other remedies have failed.

Medicolegal.

Duty of Carrier When Passenger Becomes Sick.—The Supreme Court of Kansas holds, in Atchison, Topeka & Santa Fe Railway Company vs. Parry, that it is the duty of a carrier of passengers to exercise reasonable and ordinary care in looking after and protecting one who becomes sick or unconscious while a passenger. Whether such care has been exercised is ordinarily a question of fact for the jury.

No Action Maintainable by Posthumous Child.—The Supreme Court of California holds, in the case of Daubert vs. Western Meat Company, an action brought to recover damages for a man's death, that, where a child is unborn and its existence unknown to the party sued in such a case at the time a judgment in favor of the widow or other heirs is given, an action can not be maintained by the child after its birth, notwithstanding the provisions of section 29 of the Civil Code, to the effect that an unborn child is deemed to be in existence so far as necessary for its interests in the event of its subsequent birth. Whether the same rule would apply in a case where the existence of an unborn child was known to the party sued, at the time of the previous action and trial, the court says it was not intended to be here decided.

Communication to Undischarged Superseded Physician.—The Supreme Court of Kansas says, in the case of E. Patterson & Son vs. Cole, that a physician was employed to attend a patient who had suffered a personal injury. Afterwards the family physician came, and practically took charge of the case. Later, and within a few hours, the physician first called and again visited the patient, to inquire as to his condition, but administered no treatment. On this visit a statement was made to him by the patient as to the cause of the injury. The physician stated that he did not then regard himself as an attending physician, but admitted that there had been no discharge. The patient, on the other hand, stated that he regarded the doctor as his physician when the statement was said to have been made. The Supreme Court holds that, that being true, the relation of confidence existed, and the statement was rightly excluded on the ground that it was privileged.

Death from Medicine Taken to Allay Pain.—In the case before the Supreme Court of Missouri of Dezell vs. Fidelity and Casualty Company there was involved a policy of accident insurance which insured "against bodily injuries sustained through external, violent and accidental means," and which provided that "this insurance does not cover . . . injuries, fatal or otherwise, resulting from poison or anything accidentally or otherwise taken, administered, absorbed or inhaled." The court holds that the better reason supports the rule that such exceptions in such policies do not cover medicine (even though it contain poison) or anything taken or administered in good faith to alleviate physical pain, even though it results in unexpected and unintentional death. In this case, the death of the insured was caused by the effects of morphin contained in a prescription for neuralgia given him by his physician which he had had refilled, and the court holds that, so far as the provisions of the policy quoted were concerned, the beneficiary who brought this action was entitled to a verdict as a matter of law.

Skill Required of Surgeon—Not Insurer of Patients.—In the malpractice case of English vs. Free, according to the statement of the Supreme Court of Pennsylvania, the party suing had a car body fall on him, crushing him to the ground and seriously if not permanently injuring the hip joint. He was taken to the office of the party sued, a practicing surgeon, who examined the injury, gave morphia and had him sent to his home. The surgeon continued to treat the case for about four months. Two other surgeons during that time were also called in to see the patient. At the end of that time the surgeon sued told the patient he could do nothing more for him and ceased his attentions. As his hip was not well, and the leg shorter than the other, the man went to Pittsburg and entered a hospital, where the injury was diagnosed as a dislocation of the hip joint, and treated as such, the patient in about two weeks recovering and returning to his home. He claimed, however, and offered evidence tending to show, that there had not been a complete restoration of the limb to its normal condition, and that this result was owing to an incorrect diagnosis of his injury by the surgeon sued, and who, as he alleged, did not treat it as a dislocation, which it subsequently proved to be. The Supreme Court holds that a nonsuit was rightly entered. It says that it is settled law in this class of cases that "a surgeon undertakes to possess, and in the treatment of a case to employ, such reasonable skill and diligence as is ordinarily exercised in his profession; and in judging of the degree of skill, regard is to be had to the advanced state of the profession at the time." Taking this to be the law, the burden was on the party suing to prove, at least by the weight of the evidence, that the surgeon sued failed to treat him with reason-

able professional skill. The court thinks that he failed in this proof. It says that the surgeon beyond question was a skilled one, in good repute; he gave attention to the case; he called in to aid him two competent surgeons. It might be that he was mistaken in his diagnosis. The undisputed testimony of quite a number of surgeons, called as witnesses, was that this injury was such that it was very difficult to detect its exact character. The hospital surgeon, who, after putting the patient under the influence of an anesthetic, correctly diagnosed the injury as a dislocation, then reduced it, then by careful treatment practically cured him, testified that in the early stages of the injury it was sometimes exceedingly difficult, and almost impossible, to detect the exact character of the injury; that he had known such injuries to be only correctly diagnosed by the use of *x*-rays. And such was substantially the testimony of all the reputable surgeons called on either side. Taking the testimony of the party suing in its most favorable aspect, it only showed, not that the surgeon did not bring to the treatment of the case reasonable skill and diligence, but that he might have been mistaken in not finding out its exact nature. To hold him answerable for not exercising more than ordinary professional skill would be imposing on him a burden heavier than the law has yet put on the professional man's shoulders. A surgeon is not an insurer of his patients.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

October 3.

1 *The Use of the X-Rays in the Treatment of Diseases of the Skin, Certain Forms of Cancer, of the Glandular System and of Other Diseases, and as a Means of Relieving Pain. Francis H. Williams.
2 *Treatment of Migraine. B. K. Rachford.
3 *Paroxysmal Hematuria (Hemoglobinurie à Frigore). W. Gilman Thompson.
4 Removal of a Heavy Silk Ligature from Around the Right Pneumogastric Nerve; Clinical Symptoms Before and After Removal. Charles A. Powers.
5 A Review of Some Recent Investigations Relating to the Pancreas. T. Stuart Hart.
6 *The Obstetric Significance of Retrodisplacements of the Uterus. Samuel M. Brickner.

1. **The X-Rays.**—Williams finds the *x*-ray the very best method of treatment of numerous skin disorders, such as eczema, psoriasis, acne, sycosis, lupus, etc. In Hodgkin's disease, which has heretofore been hopeless as regards treatment, it seems to promise good results. Tuberculosis of the lung is still in the experimental stage, but good results have been reported and also in chronic tuberculous peritonitis. He also mentions conjunctivitis of long standing as yielding to these rays, and he remarks on their analgesic and tonic effects. As regards tumors, he thinks the rays promise the best modification of treatment for superficial new growths. As regards the deeper ones, great care must be taken in the selection of cases to avoid injuries and obtain good results. The dangers of *x*-ray injuries are mentioned, and he notes as a remarkable property of the rays their power of passing through healthy tissue without damaging it to bring about healing in unsound tissue beyond. The paper is illustrated with cases showing good results.

2. **Migraine.**—Rachford's theory of migraine is that it is an auto-intoxication, a constitutional trouble principally due to hepatic insufficiency causing a non-destruction of toxins which would otherwise be destroyed by the liver. He gives formulas for treatment. The following is the one which is principally recommended:

℞.	Sodii sulphatis (dry) .....gr. xxx	2	
	Sodii salicylatis (from wintergreen). gr. x		65
	Magnesi sulphatis .....gr. l	3	25
	Lithii benzoatis .....gr. v		33
	Tinct. nucis vomicæ .....gtt. iii		2
	Aquæ destil. to make .....℥iv	120	

M.

Modifications of this are also given. The formulas are analyzed. Magnesium sulphate is necessary to overcome the constipation and unload the portal circulation. Sodium sulphate acts much the same way. Nux vomica is largely to overcome the soapy taste, but sodium salicylate is the remedy *par excellence*, acting not only as an intestinal antiseptic, but as a stimulus to the function of the liver. This formula is made up in large quantities and put up in siphons charged with carbonic acid and sold on prescription at 50 or 60 cents. The adult patient is directed to take from one-fourth to one-half glass of this mixture each morning half an hour before breakfast, the only dose during the day. Other remedies mentioned are sodium benzoate in 20-gr. doses after lunch and dinner; sodium salicylate, salol or cannabis indica in ¼-gr. doses two or three times a day for the paroxysms. Another drug which has had a deservedly good reputation is mercury, and he has used it to great advantage in the form of gray powder in the treatment of migrainous conditions in children. For the attack itself he advises rest in bed in a dark room without food. If the attacks are very severe, citrate of caffein, 2 gr., and antipyrin, 10 gr., with 30 gr. of bromid of potassium in half a glass of water, sometimes substituting sodium salicylate for the antipyrin, and proper dieting. Hygienic treatment is essential. The patient should not be allowed to eat too much. Coffee, alcohol, sweets and red meats should be limited or eliminated from the diet. Exercise in the open air, etc., and general massage are advised.

3. **Paroxysmal Hematuria.**—This disorder is defined by Thompson as a profound neurosis, chiefly affecting the vasomotor system and called into activity by exposure to moderate degrees of cold, by muscular fatigue or mental emotion. He reports cases and discusses the theories of the disorder. The treatment is mainly satisfactory in the syphilitic forms, but patients who have to expose themselves to cold may do well to avoid mental and bodily fatigue and be warmly clad. Stimulants should be prohibited. Medicines, as a rule, are not of much value. The attacks may be aborted by hot baths or putting to bed with hot-water bottles or blankets, by taking simple hot draughts or hot milk. Diffusible stimulants are useful.

6.—See abstract in THE JOURNAL of July 4, p. 52.

American Medicine, Philadelphia.

October 3.

7 *Practical Consideration on Intestinal Anastomosis. Theo. A. McGraw.
8 *The Lymph Circulation in Modern Medicine. Hugh A. McCallum.
9 The Causation and Treatment of Postnasal Discharge. Perry G. Goldsmith.
10 *The Complications of Hypertrophy of the Pharyngeal Tonsil. George B. Wood.
11 *Surgery of the Upper Right Quadrant of the Belly. J. F. Binnie.
12 Chronic Lead Poisoning. John J. Gilbride.
13 Holiday Repair vs. Climacteric Decay. John Knott.

7. **Intestinal Anastomosis.**—McGraw reviews the conditions that call for operation in the intestine or at the pylorus and notices certain peculiarities. He points out the symptoms which characterize pyloric obstruction or obstruction in the upper portion of the duodenum, mainly indigestion, eructation, distended and prolapsed stomach, increase of pain, vomiting consisting of mucus and blood as well as ingesta, absence of bile and swelling at the left of the median line as a rule. These may be simulated by the nausea of pregnancy or nervous nausea, but never by chronic dyspepsia. There should be no indecision when this train of symptoms appears, but surgery should be called in. He thinks that operation will usually be successful in pyloric obstruction so long as the ejecta consist solely of fluid and colorless mucus, but when the vomiting becomes green, or especially black, he refuses to operate. The question of the method is discussed. He points out the advantages which he claims for his elastic ligature. Its application is very simple. The two viscera are brought together and the surgeon connects them with a single line of Lembert sutures, a little longer than the desired opening. The rubber cord is then, by means of a large needle, passed through the walls of first one and then of the other bowel and tied firmly in a single knot. Before tying it, however, a silk thread is laid under the knot, and after the knot has been firmly tied with the rubber stretched to its utmost, the silk thread is

made to fasten it in place. Both threads are then cut short and the Lembert suture is now completed so as to form a ring enclosing the rubber. In passing the rubber through the gut it should be stretched in order to lessen the size and drawn slowly and carefully through in order not to tear the gut. Of course, the rubber must be fresh and first-class, as old rubber may break. The advantages of the procedure are its simplicity and rapidity, its aseptic quality, for the rubber fills the openings through which its passes, preventing extravasation; delay in opening the passage until the intestines have become well glued together, and the ability to make with it a communication of any desired length. If we compare it with the incision and suture it is much more easily and quickly performed, much more aseptic; it causes less hemorrhage and is less liable to dangerous complications from faulty technic than the Murphy button. The disadvantages which have prevented its more general use are the fact that the surgeon can not see the opening that he makes. He closes the abdomen on still intact intestines and is obliged to put his trust in the slow, unseen action of a constantly contracting rubber cord, but it is only after repeated trials of its efficiency that he learns to have confidence in the procedure.

8.—See abstract in THE JOURNAL of September 5, p. 626.

10. **Hypertrophy of the Pharyngeal Tonsil.**—The conditions accompanying overgrowth of the pharyngeal tonsil, which Wood declares is a distinct organ, are described in detail by him. He says the tonsils are of no more importance than the ordinary lymph gland, and their removal, therefore, offers no objection. He divides the complications of hypertrophy of the pharyngeal tonsil into two groups: mechanical and infectious. Mouth breathing is almost purely a mechanical complication, but may produce conditions favoring infection. He thinks that many children who appear backward at school are so because of aprosexia, as it has been called, or failure of attention connected with this condition of adenoids. Skeletal deformities, such as chicken breast, narrowing of the alveolar arch of the upper jaw, etc., are frequently due to mouth breathing, though the latter is due more to poor nourishment than to any mechanical influences. The most serious complications due to hypertrophy of the pharyngeal tonsil are otitic disturbances. While involution of the tonsil usually takes place between the ages of 10 and 20, he has seen the pharyngeal tonsil well developed in persons of 40. He closes with the statistics of the dispensary records of the Children's Hospital with a total of 361 patients with nose and throat trouble. Of these 149 were hypertrophy or adenoid growths; 87 of these being boys and 62 girls. Nasal discharge or recurrent attacks of coryza were present in 78 cases; some form of ear trouble was present in 63, or 42 per cent. Symptoms of nasal obstruction were present in 117, or 78 per cent. Headache was present in 28 cases, 19 per cent.; cough in 45 cases, or 30 per cent. All these symptoms depend on the adenoid hypertrophy and disappear after removal of the growth. When a number of such symptoms are present he believes a tentative diagnosis can be made in the majority of cases.

11. **Surgery of the Upper Right Quadrant of the Abdomen.**—Binnie draws attention to the easily neglected fact that biliary lithiasis and empyema of the gall bladder are not the only affections of the right upper quadrant of the abdomen which are open to surgical relief.

Medical Record, New York.

October 3.

14 *A Case of Diffuse Gonococcus Infection of the Entire Upper Extremity, with Notes on the Occurrence and Course of Gonorrheal Septicemia. Charles A. Powers.
15 *The Manic Depressive Psychosis and Some of Its Etiologic and Pathologic Phases. Walter D. Berry.
16 Causes, Consequences and Care of the Injuries to the Parturient Canal. Benson M. Feldman.
17 *The Selection of the Anesthetic in Children. S. J. Kopetzky.
18 *An Operation for Removing the Tonsils. William H. Steers.

14.—See abstract in THE JOURNAL, xl, p. 1670.

15. **Manic Depressive Psychoses.**—Berry describes this condition as understood by alienists and reports a case. He calls attention to the danger of consanguineous marriages and of heredity in these cases.

17. **Anesthetics in Children.**—Kopetzky says that the claim that the use of chloroform is safer than the employment of ether with children is not borne out by close observation. This is especially true in robust and healthy children. It is dangerous because an overdose may be easily given. Cardiac failure may set in at the beginning of the administration because of the violent and dangerous struggles which take place, and the tendency to push the anesthetic is too tempting. Cardiac syncope following vomiting may occur at any time during the administration of chloroform, or after, and result fatally. On the other hand, nitrous oxid is quick in action, without dangerous symptoms, and when followed by ether from a closed inhaler, rapid evaporation from the lung is avoided and ether pneumonia does not occur. In conclusion he warns against the practice of commencing short operations on the nose and throat and eye before complete anesthesia has been induced; also the practice of using chloroform in the upright position.

18. **Tonsillotomy.**—Steers recommends the use of a hook-like knife modeled from a strabismus hook, with a longer and stouter handle and with a knife edge on the concavity and the end of the hook. The finger of the operator is passed over and around the tonsils to detect any pulsating vessels and the lower tonsil is seized with a volsellum and drawn toward the opposite side. The described hook-knife is then passed between the tonsil and the anterior pillar of the fauces, just beneath what he terms the basement membrane of the tonsil, care being taken that it is not passed into the tonsil mass, but beneath its basement membrane. The finger of the operator is then introduced into the wound, and making sure that pulsating vessels can not be felt, and using the finger as a blunt dissector, the mass is turned out, thus leaving it attached only to the posterior pillar and by mucous membrane only, which is divided by an ordinary blunt-pointed tonsil bistoury. Hemorrhage is free at first, but ceases promptly. If any bleeding vessels are present they are seized with forceps and treated as in any other situation. When removed it will be found that the base of the tonsil is covered by a thin membrane and that the dissection has been carried on entirely outside the tonsil. Without turning the patient the other tonsil is then removed in the same way. After the wounds have healed it will be found that the pillars of the fauces stand out in their proper position and their muscles act freely. There will be no return of the tumor. He thinks we may guard against most hemorrhages by careful palpation and dissection outside the tonsillar tissues and by completely removing the growth.

New York Medical Journal.

October 3.

19 *Modern Treatment of Fractures, with Special Reference to Lower End of Humerus and Bones of the Leg. H. S. McConnell.
20 *The Sources and Methods of Infection in Pulmonary Tuberculosis. J. O. Cobb.
21 Essential or Idiopathic Spasm. William C. Fiske.
22 *A Form of Rational Treatment for Corneal Ulcers. William L. Phillips.
23 Growths of the Male Urethra, with Report of Three Cases. Joseph E. Morrow.

19. **Fractures.**—McConnell condemns the ready-made splint and pleads for immobilization of fractures, the use of absorbent cotton and the making and adjusting of plaster-of-paris strips. Ordinary plaster-of-paris bandages he considers a relic of barbarism. In retaining fractures in children, especially of the lower end of the humerus involving the joint and of all fractures or displacements above or below the joint, he uses absorbent cotton. He cuts out absorbent cotton strips, folding them over to get the desired length and thickness, and with two bands of this kind puts the limb in the desired position and adapts them as he would ordinary splints. He first employed this method by accident, but has since used it in fifteen cases altogether, greatly to his satisfaction. In putting up fractures of the lower end of the humerus he objects to the method of flexion and thinks extension is much better, as it has the advantage of enabling one to examine the dressings with a minimum of distress to the patient. In the treatment of fractures of the leg he uses for a permanent dressing splints

of cotton flannel, the lateral ones overlapping the more posterior one, and also the foot, holding it at right angle to the limb, covered and stiffened with plaster of paris, to be applied after temporary dressing with the long wood splints, the posterior one being retained with the permanent dressing. The advantages of these overlapping splints made in this way with the spine of the tibia exposed is that it makes a light, firm, close-fitting dressing; the absence of cotton wadding permits the splint to mold itself, and the use of one layer of wide gauze bandage makes it impossible to constrict the member; the spine of the tibia being exposed any deviation in alignment is readily detected. Lateral inspection is facilitated by cutting the bandage between the side splints, lowering one or both, and again tightening them with straps. At any time, grasping the two side splints between the two hands any looseness will be discovered. This form of dressing immobilizes the knee, ankle joint and fractured bones and maintains the foot at a right angle. If proper care and skill have been used in the application, it will be unnecessary to remove the posterior splint until union has occurred, and last, but not least, the patient can lie on his side, sit up, or place the limb in any position he desires. McConnell criticises the use of passive motion in fractures in or near the joint at any time until after the fourth week. In conclusion he says our objects in the treatment of fracture should be: 1. Restoration of function. 2. Maintenance of the symmetry of the member. These should be accomplished by procedures that are as comfortable to the patient and as little annoying to the surgeon as is consistent with the object desired.

20. **Tuberculosis.**—Cobb reviews the various theories of infection in tuberculosis, showing that foreign matter can be inhaled directly into the lungs and that it may also reach the lungs through the intestinal tract. In cattle he holds infection is caused by ingestion of infected sputum in the case of the cow, of tuberculous milk and offal in swine, and in birds and fowls by picking in their own infected dejecta. In man, while he admits the inhalation possibilities, he thinks the principal avenue of infection is through the ingesta. Milk he does not consider an important factor, basing his opinion largely on the great frequency of tuberculosis among the Chinese and other people that do not use milk to any extent. His personal opinion is that tuberculosis can be conveyed both by inhalation and ingestion, but largely, if not principally, by infected food, the common house fly being the medium of conveyance from the ejected sputum to the food on which it alights.

22. **Corneal Ulcer.**—The rational treatment here described by Phillips consists in the use of adrenalin to contract the arteries, mild antiseptics, like boric acid, to antisepticize the conjunctival sac, nuclein solution, 5 per cent. (the hypodermic solution being less irritating), to build up the lymph corpuscles to a healthy condition; lastly, he would treat the conditions that have a bearing on the disease. In many cases the ulcer originates from other diseased parts, such as caries, adenoids, hypertrophies of the turbinates, etc. He would drop the suprarenal extract into the eye three times a day, and if the severity of the disease increases, the medicine must be instilled oftener, depending on the absorption of the drug and its action on the heart. The eye should be kept clean with warm boric acid solution, the nuclein solution being combined with and given in the same way as the suprarenal. Adrenalin chlorid 1-1000 does not seem to produce the same effect as does the suprarenal and chloretone when combined with the nuclein solution.

Boston Medical and Surgical Journal.

October 1.

24 *Urethral Tuberculosis, with Report of a Case. Arthur L. Chute.
25 *A Note on the Transmission of Whooping Cough by Indirect Contagion. John Lovett Morse.
26 The Ill Health of Francis Parkman. (Concluded.) George M. Gould.

24. **Urethral Tuberculosis.**—After detailing a case Chute discusses the literature and the characteristics of the disorder. In the cases which have come to autopsy he finds there have been almost invariably other lesions of the genito-urinary tract, and tuberculosis of the urethra may have been secondary to them. Lesions of the prostate, epididymis and vesicles are almost always associated with infection by extension. The question whether urethral tuberculosis may be primary is still an open one, but in most cases it is unquestionably secondary. The symptoms, aside from hematuria, are gleety discharge, pain on urination, nodular conditions and obstruction. The painful erections from which his patient suffered seem to have been unusual. Tubercle bacilli in the discharge is indisputable proof. Granulations or multiple ulcers of the urethra are almost pathognomonic. A urethral discharge with no history of exposure to venereal infection is suggestive, especially if no gonococci can be found. The prognosis depends largely on the primary disease. Most of the reported cases have been fatal and recovery will necessarily be tedious. The treatment will depend on the primary disorder. Hygienic measures usually hold a most important place. Chute is doubtful as to the local treatment. Where a stricture or infiltration offers an obstruction, of course surgical measures are required, and also where there is spongiosum involvement with cavities the tuberculous cavities should be laid open, or where the urethra is greatly ulcerated, perineal urethrostomy may give relief and may bring about recovery. In some very advanced cases amputation is the best procedure.

25. **Whooping Cough.**—Morse has been repeatedly asked whether whooping cough could be carried by a third party, and he wrote a circular letter to the members of the American Pediatric Association and received replies from forty. Three of them reported 5 cases, one of which seemed rather doubtful. Opinions vary as to its possibility. He thinks it hardly possible to draw positive conclusions. The cases which were given seemed to justify the assumption that whooping cough can be carried by a third person, but the fact that forty members of so wide experience see so few cases proves that it must be very rare.

St. Louis Medical Review.

September 26.

27 Report of a Case of Myasthenia Gravis. Francis Reder.

October 3.

28 A Successful Case of Cholecystenterostomy with the Murphy Button. H. C. Dalton.

Cincinnati Lancet-Clinic.

October 3.

29 Myelold Leukemia; Report of a Case, with a Brief Résumé. H. G. Marxmiller.
30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

Medical Fortnightly, St. Louis.

September 25.

31 Sleep. William F. Barclay.
32 A Contribution to the Study of the Etiology and Pathology of Renal Disease. Henry Jacobson.
33 *The So-called Granular Degeneration of the Red Blood Corpuscles. C. Fisch.
34 Exophthalmic Goiter; Report of a Case. M. A. Bliss.

33. **Granular Degeneration of the Red Corpuscles.**—This phenomenon, which has been attributed to degenerative processes, is held by Fisch to be rather a regenerative one. It is normal in the fetus and also in certain animals. It disappears in anemic cases before death; if it were retrogressive he could not explain why it should be limited before death. He cites other reasons which confirm his opinion as to its non-degenerative character. He thinks the granulations have a nuclear origin.

Pennsylvania Medical Journal, Pittsburg.

September.

35 *The Value of the Peristaltic Movements of the Intestines as Elicited by Auscultation in the Diagnosis of Non-penetrating Wounds of the Abdomen, with Remarks on the Diagnosis in General. O. C. Gaub.
36 Flat-foot. James W. MacFarlane.
37 *The Choice of a General Anesthetic in Ophthalmology. Edward Jackson.
38 Eye Strain and Functional Disorders. Charles A. Wishart.
39 Ear Diseases in General Practice. I. P. Klingensmith.

35. **Intestinal Peristalsis in Diagnosis.**—Gaub has studied experimentally and otherwise the diagnostic value of intestinal peristalsis as a sign of intestinal injury in cases of non-penetrating abdominal injuries. He operated on dogs and concludes that if any lesion of the gastro-intestinal tract occurs the peristalsis usually returns with general subsidence of the

symptoms of shock. Often the absence of peristaltic movement, he concludes, is not of sufficient value to determine the celiotomy, and the increase of the pulse rate, 120 or over, if peristalsis is present, does not justify opening the abdomen. If an accumulating exudate is found by palpation and percussion, operation is necessary. If all means to prevent shock have been exhausted and the pulse rate is small and rapid and peristaltic movement absent at the end of four hours, exploratory operation is justifiable. The facial expression and the presence of rigidity and tenderness may often be sufficient to induce operation at a still earlier date.

37. **The Anesthetic in Eye Operations.**—Jackson finds that nitrous oxid anesthesia is too brief for some cases and not entirely without danger, but the principal objection to it is the intense venous congestion it causes. While ether is unquestionably less dangerous than chloroform, its irritating qualities are to some extent against it. Chloroform is objectionable on account of the danger of cardiac inhibition, and if operations about the face are specially prone to cause such accidents, those about the orbit can be no exception. He speaks favorably of ethyl bromid, but it must be used with all the precautions observed in the administration of chloroform. Rapidity of recovery may be a drawback if the administration is not closely watched. It certainly is unsuited for use in cases of prolonged operation. General anesthesia may be required if the eye is severely inflamed. Nitrous oxid and bromid of ethyl are hardly to be considered in these cases. For enucleation of the eyeball, or the extirpation of tumors within the orbit, the greater safety of ether will generally decide in its favor, but venous congestion is against it in the difficult dissections deep in the orbit. Where the actual cautery is required ether is contraindicated on account of its inflammability. Ethyl bromid is not satisfactory for the destruction of embedded powder grains, because the anesthesia is liable to be incomplete, but it is especially appropriate for strabismus operations in young children. He would not allow it to be employed except when administered by an experienced person drop by drop, as in the case of chloroform.

Therapeutic Gazette, Detroit.

September 15.

40 A Treatment of Osteitis Deformans and Osteoarthritis. Frank E. Peckham.
41 *Clay Paste. J. Frank Wallis.
42 Adenoids as a Cause of Enlarged Tonsils and Other Pathologic Conditions. W. G. B. Harland.
43 A Rational, Rapid and Efficient Remedy for Gonorrhea. W. H. Whitehead.
44 Some Facts in Regard to the Use of Strychnin. A. L. Benedict.

41. **Clay Paste.**—Wallis finds a mixture of wet sterilized clay for application in skin diseases has decided advantages. It has, beside its property of holding water and thus assisting osmosis, some therapeutic virtues depending on the mineral salts present, not overlooking the antiseptic, alterative, astringent and sedative properties peculiar to certain of the absorbent earths. Clays containing a large percentage of kaolin are preferred, and the dressing kept constantly moist by the application of a wet towel several times a day. To further prevent its becoming dry, he modifies his preparation by adding vaselin or lard, incorporating the fat with the paste by the aid of an emulsifying agent, the best of which is ichthyol. His standard paste contains 50 parts of kaolin and 25 each of water and petrolatum, with 4 per cent. ichthyol. Of course, the formula can be modified. In eczema rubrum of the leg, this formula may require a larger amount of kaolin and a diminished amount of vaselin. He thinks care should be taken to avoid an excess of ichthyol, which is irritating in certain forms of eczema. Glycerin should be used in this combination with caution, as it may cause discomfort and increased inflammation.

St. Paul Medical Journal.

September.

45 *The Diagnosis of Incipient Pulmonary Tuberculosis. Christian Johnston.
46 Acute Osteomyelitis. H. E. Frost.
47 The Medical and Surgical Treatment of Suppurative Affections of the Middle Ear. Cornelius Williams.
48 Pericarditis in Children. Walter R. Ramsey.
49 *The Boundary Line Between Chronic Alcoholism and Alcoholic Insanity. Arthur W. Dunning.
50 Two Cases of Tetanus Which Recovered. J. C. Boehm.
51 Immobilization of the Lower Jaw. John T. Rogers.

45. **Tuberculosis.**—Johnston points out that the so-called incipient and curable cases of tuberculosis are, for the most part at least, those of the so-called pretubercular condition, and that when the disease is fairly advanced in the great majority of cases there is little hope of its cure. There are certain cases where signs of tuberculosis exist, and yet the disease is absent, such as those with bronchiectasis, the result of a former bronchitis, and exceptionally in case of consolidated lung tissue after pneumonia. Old cicatricial tubercular lesions are present, he thinks, in quite a percentage of people after 30 years of age. When these patients are run down they usually cough a great deal and present symptoms of tuberculosis without actually having the disease. He thinks such cases swell the list of cures of consumption. In another class of cases the disease may be quite curable where the tendency to fibrosis is so strong that the infective process is kept within bounds. The main trouble, however, in the diagnosis of early consumption is the late recourse to treatment of the patients themselves. The diagnosis of pulmonary tuberculosis in its early stage, whether characterized by general weakness, loss of weight, chronic dyspepsia, etc., is a matter of weeks, and sometimes of months.

49. **Chronic Alcoholic Insanity.**—Dunning thinks the importance of recognition of alcoholic insanity is very great, but is often exceedingly difficult. The profession, therefore, should make a more careful study of the chronic alcoholic and be able to distinguish between the sane and insane alcoholic cases. The state should also be induced to provide for prolonged restraint and control of that class of periodic insanity known as dipsomania as well as other types of alcoholic insanity. When we are satisfied that a man is insane, he thinks, we should stand by our conviction regardless of lawyers or the popular notion that common drunkenness accounts for the erratic behavior.

Maryland Medical Journal, Baltimore.

September.

52 A Case of Purpura Hemorrhagica, with Hemorrhage Into Brain, and Death. Arthur Wegefarth.
53 *How Should a Modern City Protect Its Water Supply? Charles O'Donovan.
54 Suggestions Concerning the Prevention of Serious Complications in Ear Diseases. Hiram Woods.

53. **Protection of the Water Supply.**—O'Donovan recommends that cities should buy up large tracts of territory, including the water sheds from which their water supply is derived, and forest it, making it a sort of public park, a part of which might be used as a pasture, but cultivation should be excluded, and any land which is liable to produce silting into the streams from which the water is derived should be acquired and devoted to forests or pasture. In this way a double purpose will be served, a revenue would be at the same time acquired, the city would have a public park and the water supply would be purified.

International Medical Magazine, New York.

September.

55 Certain Abnormalities of the Umbilical Cord Giving Rise to Dystocia. William R. Nicholson.
56 Paresis of the Confusional-Type. William Pickett.
57 *Some Suggestions in the Management of Children Predisposed to Phthisis. Albert McConaghy.
58 Heart Cases in Summer. William F. Waugh.
59 Two Interesting Deformities Occurring in Children, One Congenital, the Other Acquired. I. Valentine Levi.
60 A Case of Carditis. L. H. Bernd.
61 Methods of Treatment in Gastro-Intestinal Diseases; Removal of Cause of Chief Importance. Boardman Reed.

57. **Tuberculous Disposed Children.**—McConaghy recommends the use of moderately cold baths by rubbing, the avoidance of muffles, stocks and furs, and the taking of a glass of hot or cold water on rising, the use of breathing exercises in a well-aired room, regular habits of defecation after this exercise, playing in the sun at least an hour every day, the encouragement of proper carriage of the body with chest upward and forward, nose breathing and deep breathing, sleeping on a bed without a pillow and the limitation of studies.

American Practitioner and News, Louisville, Ky.

August 1.

62 Relation of Academic to Medical Education; the Typical Physician. William H. Wathen.
63 Exostosis of Orbit, with Report of a Case. D. C. Bowen.

64 Laceration of the Bowel, without External Evidence of Injury; Report of a Case, with Remarks on Diagnosis. E. B. Claybrook.
65 Some Observations on a Crusade Made Against the Mosquito in Talladega During Summer of 1902. B. B. Sims.
66 Pulmonary Anesthesia. W. A. Bryan.

Ophthalmic Record, Chicago.

October.

67 Tuberculosis of the Conjunctiva. Edward Jackson.
68 The Systematic Use of Cylinders in Making the Shadow Test. Alexander Duane.
69 *An Uncomplicated Fourth-Nerve Paralysis of Traumatic Origin. James W. Dunn.
70 *Will Certain Occupations in Time Affect the Cylindrical Curvature of the Eyeball? Paul Guilford.

69. **Uncomplicated Fourth Nerve Paralysis.**—In the case reported by Dunn the man fell, striking the back of his head. He soon apparently recovered, but the next morning diplopia was present in the lower field. The only other symptom was the contusion on the back of the head. The treatment given was iodid of potash and mercury internally and galvanism, soon changed to iodid alone and local applications of faradism. Improvement began in four weeks and remained stationary for about a month, when the double vision suddenly disappeared. Dunn thinks this precludes any possibility of fracture of the base of the skull, and that, as in the cases reported by Leber, the lesion was rupture of the trunk of the fourth nerve by concussion.

70. **Curvature of the Eyeball.**—Guilford finds that railroad engineers show very markedly greater flattening of the eyeball than do other persons of the same age, and attributes it to pressure of the wind. The engineer sits in his cab with head out, usually looking directly forward, and presses his eyelids close against the ball to protect the eyes from dust, etc., which tends to flatten the cornea. He says if this is true with locomotive engineers might it not be true perhaps to a lesser extent in others engaged in outdoor occupations exposed to the wind.

Southern California Practitioner, Los Angeles.

September.

71 *The Roll of the "Ball-valve" in the Etiology of Appendicitis. C. Van Zwalenburg.
72 *Pernicious Anemia. E. L. Leonard.
73 The Recent Epidemic Among the Whittier School Boys Apparently Caused by Ptomaine Poisoning. W. V. Coffin.
74 The Differential Diagnosis of Conjunctivitis and Iritis. George J. Lund.
75 Excision of the Tongue for Cancer. Walter Whitehead.

71. **The "Ball-Valve" in Appendicitis.**—Van Zwalenburg describes the different anomalies in appendicitis and explains his theory as to the action of the loose bodies and the ball-valve in producing symptoms. He concludes as follows:

To sum up, my argument is: 1. That the ball-valve is an important factor in many cases of appendicitis, I am inclined to say the majority. 2. That in some cases, at least, the ball-valve is the principal factor and directly responsible for the acute attack. 3. That the pressure on the blood vessels of the mucosa and submucosa is the cause of the infection, and of the necrotic changes. 4. That a number of the symptoms of appendicitis are evidence of obstruction or strangulation. 5. That the first condition, being purely a mechanical one, practically a strangulation, the importance of immediate operation follows as a corollary. In conclusion, may I suggest that you distend a few appendices as I have indicated, and note the pressure effects, instead of splitting them all open immediately to see the concretion.

72.—This article has appeared elsewhere. See THE JOURNAL, xl, ¶18, p. 1541.

Wisconsin Medical Journal, Milwaukee.

September.

76 *A Note on the Relation of Neuralgia to Altitude, with Report of Two Cases. F. Savary Pearce.
77 *Hemorrhage Into the Cranial Cavity Following Injury to the Skull. Charles H. Lemon.
78 Report of a Case of Tuberculosis of the Adrenals, with Pathologic Specimens. Julius Noer.

76. **Altitude in Neuralgia.**—Pearce reports two cases of facial neuralgia, one of which was badly affected by residence at a height of 2,500 feet above the sea level, the other by residence in Denver at an altitude of one mile above the sea level. Residence in a lower altitude decidedly benefited the condition. He suggests that there is quite a field for study as to the effect of climate and altitude on disease.

77. **Brain Hemorrhage.**—Lemon holds that all cases of brain congestion and laceration should be operated on, but as many cases give symptoms out of proportion to the actual injury, instead of waiting for classical symptoms to show themselves when signs of cerebral compression are present and the life of the patient is imperiled, the physician should select some plan for relieving the undue tension. The reasons for making a window in one of the long bones within the first forty-eight hours for osteomyelitis are no greater than those for making one in the skull for the same purpose of relieving tension. He thinks we should in future be more on the lookout for signs of compression and use the trephine and chisel more promptly to allow the products of inflammation to escape. Three cases illustrating his ideas are reported.

Brooklyn Medical Journal.

September.

79 *The Lateral and Retro-positions of the Immobile Uterus; Their Clinical Significance and Treatment. Edward J. Ill.
80 A Case of Fracture of the Skull, with a Very Prompt Epileptic Sequence. Calvin F. Barber.
81 *Some Observations on the Treatment of Neurasthenia at the Dispensary Clinic. Cecil MacCoy.
82 Does Lodge Doctoring Pay? Robert E. Coughlin.
83 Surgical Treatment of Congenital Clefts of the Palate in Infants. Truman W. Brophy.

79. **Lateral and Retropositions of the Uterus.**—The special subject of Ill's article is displacement and fixation caused by the short sacral and short broad ligaments, and not due to inflammation or adhesions, scars or tumors. The first writer who mentioned lateral displacement as producing symptoms was Schultz of Vienna, but since then Burrage of Boston has noticed the subject. Lateral displacements seem to be acquired during childhood or possibly are congenital. If the former is the case, the symptoms begin with the onset of menstrual life. The symptomatology is not very varied. There is usually pain in one or the other iliac region, most commonly on the side of the longer ligament, sometimes severe enough to prevent exercise, and it even has caused the recommendation of removal of the ovary. The pain increases at the menstrual epoch, and it usually takes the patient several days to recover. A sensitive spine or painful coccyx are occasionally observed, and these are commonly the most hopeless cases. In the case of short, sensitive uterosacral ligaments there is constant backache, located at the sacrum or lower lumbar region. In many of these cases occipital or vertex headache or both are present. With one uterosacral ligament short and sensitive, the pain is commonly referred to the sacroiliac synchondrosis of the short side. Most patients become more or less neurasthenic. The prognosis is bad if the case is of long duration. In the severer cases he has suggested thorough stretching of the short uterosacral or broad ligament under complete anesthesia. After stretching the ligaments until the uterus is freely movable he concludes by curetting and packing. The result is usually good. In one or two cases extirpation of the uterus has been suggested as a last resort for the relief of complete invalidism and the results have been good. Pregnancy may relieve the condition to some extent. It is most common in the unmarried and sterile married.

81. **Neurasthenia.**—MacCoy gives an account of the dispensary treatment of neurasthenia. He remarks that acquired neurasthenia seldom develops much before 25 years of age, and frequently not until long after that period. The neurotic instability of the hereditary is one of the most important factors. The physician must remember that there is a weakness of all the functions, mental, physical and moral, but there is always something to work on. Many cases improve greatly under simple medication and change in the habits of life. He remarks on the importance of a cheerful manner toward these patients and of psychic treatment generally. The treatment is quite as much psychic as pathologic, and he ascribes importance to positive assurances as to recovery and the insistence on certain directions. On the second visit the patients almost invariably report an improvement. Simple sedatives have done much for their sleep, the intestinal canal has been cleaned out and a regularity of life has become more or less established. The reason for their improvement is explained to them. When you have gained their confidence you can begin to make more complete the educational manage-

ment which has been begun so well. Sponge baths at bedtime of tepid water are valuable, as is also electricity, though it is not the important agent that the electric enthusiast would urge. He would forbid tea, coffee and alcohol as a rule, and substitute hot water, cocoa and milk. The patients should take only such food as agrees with them. Neurasthenic patients are very amenable to suggestion and the physician who fails to avail himself of this loses a large part of his medical armamentarium.

Western Medical Review, Lincoln, Neb.

September 15.

84 The Treatment of Nevi. John Prentiss Lord.
85 Some Interesting Operative Cases: Suppurating Fibroid of the Uterus; Prolapsus of the Uterus and Bladder; Goiter; Gunshot Wound of the Stomach. J. W. Bullard.
86 *Surgery of the Biliary Passages. Byron B. Davis.
87 *The Advantages of the Davison Ligature to Modern Surgery. A. G. Hamilton.
88 Thrombosis of Arteries Following Secondary Shock; Report of a Case. J. E. Summers, Jr.
89 *A Simple Method of Internal Anastomosis. H. M. Hepperlen.
90 Omental Anastomosis or Operations for Establishing a Collateral Circulation of the Portal Blood; a Successful Schlassi Operation. J. P. Lord.
91 Thrombosis of the Lateral Sinus and Jugular Vein; Abscess of the Lung; Recovery. H. Gifford.

86. **Surgery of the Biliary Passages.**—The following points are emphasized by Davis:

1. A symptom-producing gall bladder so seldom ceases to give trouble without surgical treatment that an early operation before permanent crippling has been done is the safest. 2. In simple, uncomplicated cases of cholelithiasis or catarrhal cholecystitis, with practically a normal gall bladder, cholecystotomy with drainage until infection has disappeared is usually safe and most convenient. 3. Atrophied gall bladders with thick, friable and inelastic walls, those with destruction of more or less of the mucous membrane, and especially those where the cystic ducts are not free, should be removed, as this offers the best chance for complete cure. 4. Stone in the common duct should be removed by incision without suture of the duct. 5. In cases of temporary obstruction of the common duct, cholecystotomy is the safest method of relief until the obstruction disappears. 6. In permanent occlusion of the common duct the best results are obtained by anastomosing the gall bladder with the bowel. 7. The same line of treatment is applicable in all cases of cholecystitis and cholangeitis, whether or not complicated by gallstones.

87. **The Davison Ligature.**—The principal feature of this ligature is described as a simple reverse bowknot tied at each end of the wound, four or five inches from the end of the strand, allowing the ends of the strand to protrude from the angle of the wound, so that it can be untied and pulled out. It is recommended by Hamilton as a convenient and easily removable buried suture. Coarse silkworm gut is the material used, and the ligature offers good chances for certain sterility, accurate layer approximation of the tissue and the removal of buried sutures when healing is completed, capillary drainage from each layer, rapidity of the application, slight scarring of the skin, and all the advantages of permanent buried suture without the danger of further irritation and extrusion of the knot. It has also the advantages of an unabsorbable suture without the danger of sepsis, and without producing a nidus for septic germs from the blood current during absorption.

89. **Intestinal Anastomosis.**—Hepperlen uses a gelatin cylinder over which he sews the gut, inserting a few interrupted sutures through all the coats of the bowel to hold the parts, then using a suture of his own. He uses a fine intestinal silk twenty-four inches long, doubled, with a needle on each end, having the knot where the ends of the silk are tied in the center. He starts the first suture under the mesentery attachment, inserting a needle with each hand at the same time through the two outside coats of the bowel, an eighth of an inch from the cut margins, picking up a loop about one-twelfth of an inch in length, according to the method of Lambord, drawing the parts together and tying them at every stitch, continuing until he has completely encircled the bowel, closing the mesentery opening with the same suture, being careful to pass the needles under the small vessels in the peritoneal coat, so as not to unduly constrict the blood supply. He claims the advantages of simplicity, rapidity of work without handling the parts, firmness of union of the bowel ends. With the aid of the capsule and the suture recommended above, the end-to-end anastomosis may be performed in five to ten minutes.

Medical Examiner and Practitioner, New York.

September.

92 Longevity a Question of Adrenal Sufficiency. J. Leffingwell Hatch.
93 The Clinical Significance of Arteriosclerosis. Reginald H. Fitz.
94 A Study on Light. J. Mount Bleyer.
95 Some Practical Points in Urinalysis. H. Lapere Sayler.

Atlanta Journal Record of Medicine.

September.

96 Some Social Factors That Tend to the Degeneration of the Race and Alcoholism. R. R. Kime.
97 Address, American Laryngological, Rhinological and Otological Society. Dunbar Roy.
98 The Status of the Drug Business in Atlanta. Samuel A. Visanska.
99 The International Quarantine Bureau. J. M. Lindsley.

Journal of Nervous and Mental Diseases, New York.

September.

100 Gigantism and Leontiasis Ossea, with Report of the Case of the Giant Wilkins. (To be continued.) Peter Bassoe.
101 Studies on the Cerebral Cortex in the Normal Human Brain and in Dementia Paralytica. (To be continued.) G. Alfred Lawrence.
102 Cases of Combined Morphin and Atropin Poisoning. Philip Zenner.
103 A Note on Periodic Insanities, with Report of Three Cases of Intermittent Melancholia. Alfred Gordon.

Cleveland Medical Journal.

September.

104 The Ill Health of the Poet Whittier. George M. Gould.
105 The Object to Be Attained by an Organization of Assistant Physicians. A. P. Ohlmacher.
106 The Antitubercular Dispensary. John H. Lowman.

Detroit Medical Journal.

September.

107 Why We Should Not Wait for Group Symptoms Before Undertaking a Paracentesis or a Mastoid Operation, with Demonstration of Specimens. Emil Amberg.
108 The Principles of Medical Ethics. Frank B. Tibbals.
109 A Case of Retained Catheter. L. W. Howk.
110 Septic Mastoiditis without Perforation of the Membrana Tympani. Don M. Campbell.
111 Neurasthenia. A. W. Ives.

Mississippi Medical Record, Vicksburg.

October.

112 Importance of Uncinariasis to the Southern Practitioner. Isaac Ivan Lemann.
113 Two Cases of Typhoid Fever. S. Myers.
114 Report of Foreign Bodies in the Ear and Throat. M. H. Bell.

Virginia Medical Semi-Monthly, Richmond.

September 25.

115 The Serum Precipitation Test for the Identification of Blood Stains. J. W. Mallet.
116 Address of President Before the Medical Society of Virginia. J. N. Upshur.
117 Treatment of Rheumatism. A. A. Nefe.
118 Methods to Hasten Epidermization, with Special Reference to Skin Grafting. Stuart McGuire.
119 Chyluria. M. D. Hoge, Jr.
120 Present Status of Serum and Organotherapy. J. McKee Sites.
121 Gunshot Wound of Bowels; Seven Perforations; Laparotomy; Recovery. Lewis Holladay.

Carolina Medical Journal, Charlotte, N. C.

September.

122 A Study of Salpingitis. H. A. Royster.
123 Diet in Nephritis from the Chemical Standpoint. H. W. Richardson.

Dominion Medical Monthly, Toronto.

September.

124 *Address, Canadian Medical Association. W. H. Moorehouse.
125 The Early Days of Ovariotomy. Matthew D. Mann.
126 *Some Business Aspects of Medical Practice. N. A. Powell.
127 The Country Doctor. J. S. Sprague.
128 *The Renal Aspect of Arteriosclerosis. John Caven.

124.—This article appeared elsewhere. See THE JOURNAL of October 10, ¶123, p. 935. See abstract in THE JOURNAL, September 12, p. 680.

126.—Ibid., ¶129, p. 935.

128.—Ibid., ¶125, p. 935.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

September 26.

1 *Discussion on Leprosy: Its Etiology, Histology and Treatment. Jonathan Hutchinson and others.

2 Biliary Abscesses of the Liver, with Operation. Leonard Rogers.
3 *Lathyrism. A. G. Hendley.
4 *A Plea for the Proper Medical Supervision of "Refreshments" Purveyed on Railways in the Tropics, with Special Reference to India, and for Better Latrine and Lavatory Accommodation for the Traveling Indian Public. H. D. McCulloch.
5 Varioloid Varicella in Trinidad: Observations on Its Nature, Origin and Mode of Spread Based on the Observation of 4,029 Cases. J. R. Dickson and C. F. Lassalle.
6 *Tropical Malaria and Its Prophylaxis. H. Marcus Fernando.
7 *Plague in Domestic Animals. James Cantlie.
8 Notes on Operations for Conical Cornea. A. Stanford Morton.
9 Extraction of Cataract in the Capsule. Henry Smith.
10 Subconjunctival Injections of Tuberculin T. R. in the Treatment of Interstitial Keratitis. A. Darier.
11 On the Treatment of the More Serious Syphilitic Diseases of the Eye. A. Darier.
12 A Discussion on Eye Changes in Relation to Renal Disease. Edward Nettleship and others.
13 The Corneal Lesions of Acquired Syphilis. Sydney Stephenson.
14 The Use of Retinal Extract in Atrophic Retinæ. Robert W. Doyne.
15 Epithelial Plaques of the Conjunctiva. W. T. Lister and W. I. Hancock.
16 The Mechanism of Accommodation in Man. Karl Grossmann.
17 The Treatment of Concomitant Convergent Strabismus. Gustavus Hartridge.
18 Convergent Squint: Methods of Preserving or Restoring the Sight of the Deviating Eye and of Establishing Binocular Vision. Claud Worth.
19 Fixation of the Eye During Operation. J. Tatham Thompson.
20 An Operation for Ptosis. H. Collen Ensor.
21 Preliminary Note on the Pathology and Diagnosis of Spring Catarrh. H. Herbert.
22 Further Note on the Superficial Punctate Keratitis of Bombay. Major H. Herbert.
23 Modified Mules' Glass Ball for Use After Removal of the Eye. Adolph Bronner.
24 Knee-jerk Phenomenon in Interstitial Keratitis. N. Bishop Harman.
25 An Improved Operation for the Relief of Ptosis. N. Bishop Harman.

1. **Leprosy.**—Hutchinson discredits the contagion of leprosy, claiming that experimental inoculation with one very dubious exception has always failed. It is infrequently transmitted from the husband to the wife. It is of widespread prevalence where it occurs, but nowhere common, and nothing like epidemic prevalence is ever observed and large sections of the population are almost wholly exempt. Attendants in leper hospitals never contract the disease. Lepers residing in England, France and America at the present day never become foci from which the disease spreads. When leprous communities are removed to a distance the disease dies out and when the social conditions are changed the same is true. He points out the arguments in favor of his fish theory, admitting that it is not the quantity but the quality that is responsible. He lays it to decayed or badly cured fish instead to the fish *per se*. Among the arguments he offers are that the fish hypothesis explains its antiquity, its widespread prevalence in local districts, and its excessive incidence in connection with the Roman Catholic religion; explains the dying out of the disease in connection with the advance of civilization and its persistence in certain localities where a large consumption of poorly cured fish exists, as also its great prevalence in the middle ages and its absence from mid-Russia. It also accounts for *de novo* and sporadic cases.

In the discussion which followed by Drs. Manson, Sambon, Cantlie, Hillis and others, the fish hypothesis was not generally favored.

3. **Lathyrism.**—This disorder, which is characterized by a paralysis of the lower limbs, with spasm of the thigh adductors and exaggeration of the reflexes without disturbance of sensation, bladder or rectum involvement or participation of the upper limbs of the trunk, is discussed by Hendley, especially as relating to its etiology. He comes to the conclusion that it is a form of intoxication not exclusively due to the diet of lathyrus, which only produces a predisposition to it. Its immediate exciting cause is exposure to cold, rain and damp weather. This explains the immense predominance of males affected with the disease and its occurrence in the rainy season when they are out and exposed in their work. It does not seem to be dangerous to life, but the paralysis is not curable. The spinal cord does not seem to be involved as a rule, though a softening above the lumbar enlargement has been found in one case by Scheube.

4. **Railroad Refreshments in the Tropics.**—The danger of taking meals at railroad stations, etc., the need of better latrine and lavatory service, especially in India, are emphasized by McCulloch, who gives instances of the evils which he says exist. Even the drinking water and every kind of refreshment is likely to be infected.

6. **Tropical Malaria.**—The methods of meeting tropical malaria, which is usually of the severe type, are discussed by Fernando, who finds that destroying the mosquito larvæ over sparsely populated districts is impracticable, and mosquito-proof houses on a large scale are also impossible for the natives, whose simple mud houses generally cost them practically nothing, and they can afford no better. He thinks in dealing with malaria in a district the following points should be insisted on:

1. A prompt search for cases of fever as fast as they occur with efficient treatment. If necessary, or otherwise practicable, malaria should be included in the list of infectious diseases whose notification to the local sanitary authority is compulsory. 2. The continued treatment of fever cases after the attack is over to prevent relapses. 3. The systematic treatment, especially during the non-fever season, of the cases of anemia and other forms of debility induced by chronic malarial poisoning. The above measures represent the least that can be expected from a sanitary authority in the treatment of malaria in an infected district, and it is gratifying to observe that when such measures are effectively carried out a great deal will have been done to exterminate the disease. The surest prophylaxis consists in efficient treatment.

7. **Plague in Domestic Animals.**—Cantlie points out the dangers of plague in the lower animals, which render the question of its prophylaxis a much broader one than has been heretofore considered. Not merely domestic animals may be infected, but marmots, bats, pigeons and probably many others are likewise susceptible.

The Lancet, London.

September 26.

26 *Perforation in Typhoid Fever, with an Account of Two Cases of Recovery After Surgical Treatment. Hector W. G. Mackenzie.
27 Some Problems Arising from the Variations in the Development of the Skull and the Brain. Johnson Symington.
28 A Case Presenting Signs of Pulmonary Stenosis During Life, Unexplained by the Necropsy, with Some Remarks on Diagnosis. W. L. Ascherson.
29 A Note on Tonsillar Enlargements and Their Treatment. Lawrie H. McGavin.
30 *On Some Uncommon Forms of Neuritis of the Upper Limb, with an Unusual Etiology. W. B. Warrington.
31 Remarks on Three Cases of Acute Intestinal Obstruction. T. Crisp English.
32 A Note on a Case of Puerperal Septicemia Treated by Antistreptococcic Serum. John M. Mackenzie and W. B. Blandy.
33 *A Clinical Comparison of the Maternal Pelvis and of the Fetus in Europeans, Eurasians and Bengalis, and the Enunciation of a New Law, in Accordance with Which the Size of the Child at Birth Is Determined. Clayton Arbuthnot Lane.

26. **Typhoid Perforation.**—This condition, as here pointed out by Mackenzie, is much more frequent than is sometimes thought to be the case, occurring as it does in 3 or 4 per cent. of all cases and causing at least 25 per cent. of deaths. Mackenzie shows that it may occur even in the mildest cases, most frequently, however, in males, and that it is apparently most frequent about the third or between the second and fourth weeks. Its site is usually in the last twelve inches of the ileum, in which the ulceration is most severe. The symptoms are more or less characteristic. He discusses them at some length and concludes that every case of typhoid fever should be looked on as one of possible perforation for which the medical man should be prepared. He recommends a careful study of the schedule of instructions drawn up by Osler as to the duty of the nurse in watching the pulse, condition as to pain, condition of the abdomen, whether distended, flat or contracted, the presence or absence of respiratory movement, tenderness, rigidity of muscles, spasm, temperature, respiration, its frequency and character. If the physician suspects perforation he would do well to at once summon a surgeon, the one he has selected as operator, and to see that provision is made against shock, with sufficient hot water bottles, blankets, stimulants, etc., with suitable table and good light for operating and other means, especially in private houses. A number of cases are reported. The prognosis is certainly better than it used to be looked on, as large a proportion as one-third having been recorded as recovered in some statistics.

30. **Neuritis of the Arm.**—The cases reported by Warrington illustrate Erb and Duchenne's palsy of the upper part of the brachial plexus and Klumpke's palsy of the lower part, the uniradicular paralysis described by Buzzard where the lesion is limited to one of the nerves forming the brachial plexus; a case of monoplegia and one of localized multiple neuritis, a paralysis of the fifth peripheral nerve and a professional or occupation paralysis, which in some cases is due to actual neuritis, and others apparently the result of pressure or overuse.

33. **The Maternal Pelvis.**—Lane has studied the proportions of the maternal pelvis in the European, Eurasian and Bengalis, and formulates from the results of his studies the following law: "The child grows *in utero* in such a manner and at such a rate that at full term his size is proportional to that of the mother's pelvis through which he has to pass in order to be born." The weight of the child and its size at birth has a distinct relation to the pelvis, and the biparietal diameter of the child increases correspondingly with the conjugate diameter of the pelvis through which it will ordinarily pass at birth. The mechanism by which this law is maintained is, he thinks, that of ordinary natural selection.

Journal of Tropical Medicine, London.

September 15.

34 An Account of Anti-malarial Work Carried Out with Success in Selangor, One of the Federated States of the Malay Peninsula. (To be continued.) E. A. O. Travers.
35 Municipal Sewerage. Major F. Smith.
36 A Breeding Place of Certain Forest Mosquitoes in Malaya. G. F. Leicester.

Annales de Dermatologie et de Syphiligraphie, Paris.

Last indexed page 341.

37 (IV, No. 7.) *Le liquide céphalo-rachidien des syphilitiques en période secondaire. P. Ravaut.
38 *Le liquide céphalo-rachidien des tabétiques. G. Milian.
39 De l'adénome sébacé circonscrit. C. Audry.
40 Les recherches récentes sur le sang dans la syphilis. P. Pagniez.

37. **Cerebrospinal Fluid in Secondary Stage of Syphilis.**—Ravaut gives the particulars of 84 cases of secondary syphilis in which the cerebrospinal fluid was examined. They indicate that every intense and persisting cutaneous manifestation in syphilis generally coincides with a reaction on the part of the nervous system. In most of the patients there were no symptoms, except the findings in this fluid, to suggest the parallel involvement of the nervous system. In 34 cases with slight and transient cutaneous manifestations the cerebrospinal fluid was normal in all but 3, while in 36 with pigmented or papulous syphilides the fluid showed an evident reaction. Possibly a second examination might have shown that these exceptions, too, conformed to the rule. The findings in the cerebrospinal fluid paralleled the course of the cutaneous affection, but did not seem to bear any relation to the frequency or intensity of the headaches observed in some cases. He classes the findings as follows: marked reaction, with 20 to 150 leucocytes in the field; moderate, with 7 to 20; slight, with 4 to 6 leucocytes, and negative, with none, or at most 2 or 3 leucocytes to the field. They were exclusively lymphocytes. In 3 cases a few polynuclear cells could also be discovered and occasionally a few large mononuclears were found among the lymphocytes, but took the stain poorly. No red corpuscles were ever found. It is impossible to draw conclusions from the facts cited, but they demonstrate how promptly and how insidiously the nervous system is affected by the syphilitic virus. They also apparently confirm Brissaud's theory that the virus has a special affinity for the ectoderm, and suggest the necessity for energetic specific treatment, admitting that these reactions are a new symptom of syphilis in full activity, demanding immediate treatment.

38. **Cerebrospinal Fluid in Tabes.**—Milian has been studying the behavior of this fluid in tabes, and his findings in 20 cases show that stationary tabes with a tendency to latency has a normal cerebrospinal fluid, while there is slight lymphocytosis in those cases of tabes of slow progress, the syphilitic infection of remote date. Pronounced tabes with ataxia is accompanied by decided lymphocytosis, and likewise incipient tabes consecutive to recent infection. The lymphocytosis in tabes does not seem to be modified by mercurial treatment, contrary to what is observed in the lymphocytosis of hemiplegia from arteritis, which rapidly improves under treatment. This fact seems to support Fournier's assertions in regard to the parasyphilitic nature of tabes.

Presse Medicale, Paris.

41 (No. 75.) De l'hérédité mitrale. E. Hirtz.
42 La dysenterie. Maladie septicémique. M. Guibaud.
43 Relations Between Diabetes and Acromegaly and Exophthalmic Goiter. A. Lorand (Carlsbad).—Sur les rapports du diabète avec l'acromégale et la maladie de Basedow.
44 *Detection of Koch Bacilli in Pathologic Products. E. J. Masselin.—Recherche des bac. de Koch dans les produits path.

44. **Detection of Tubercle Bacilli by Inoscopy.**—Masselin corroborates Jousset's assertion that his inoscopy allows the detection of tubercle bacilli even very scantily present in the organic fluids. He reviews his extensive experience with it, and adds that if the results are negative he never dismisses the case as positively non-tuberculous until inoculation of guinea-pigs has also resulted negatively. In Behring's address below, inoscopy is also referred to as a notable progress. [The technic was given in The Journal, page 546, paragraph 46, of the last volume. It reveals the bacilli in organic fluids in which they have hitherto escaped detection. It is based on the fact that bacteria become entangled in the fibrin of organic fluids. By dissolving out the fibrin with a pepsin digesting mixture the bacilli are set free and can be obtained by centrifuging for examination under the microscope.—Ed.]

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 641.

45 (XXX, No. 30.). Incision for Appendicectomy *à froid*. E. Beer (New York).—Ueber eine Schnittführung für Resektion der Appendix im anfallsfreien Stadium.
46 (No. 31.) *Ueber die Operation der puerperalen Mastitis. E. Hopmann.
47 (No. 32.) *Zur Radikal-Operation nach Lotheissen des Schenkelbruches (of femoral hernia). J. Gilli (Graz).
48 (No. 33.) *Eine neue Operations-Methode des Caput obstipum. L. Wullstein (Halle).
49 Modification of Maydl's Operation for Exstrophy of Bladder. P. A. Müller (Dresden).—Abänderung der Borelius'schen Modifikation der Maydl'schen Operationsmethode bei kong. Blasenektopie. (See also No. 37.)
50 (No. 34.) *New Method of Reducing Posterior Dislocation of Hip Joint. J. Elgart (Brunn).—Neue Repositionsmethode für hintere Hüftgelenkverrenkungen.
51 (No. 35.) *Turning Back a Costal Arch Flap. G. Marwedel (Aachen).—Die Aufklappung des Rippenbogens zur Erleichterung operativer Eingriffe im Hypochondrium und im Zwerchfellkuppelraum.
52 Cholecystenterostomie verbunden mit Enteroanastomose. D. Maragliano.
53 (No. 36.) *Zur operativen Herzmassage (massage of heart). P. Sick (Kiel).
54 *Transactions of Thirty-second German Congress of Surgery.
55 (No. 37.) *Technik der Radikal-Operation des Schenkelbruches (of femoral hernia). P. Herzen (Moscow).
56 (No. 38.) *Zur Anwendung des Adrenalins bei anesthesierenden Gewebs-Injektionen. H. Braun (Leipsic).

46. **Operation for Puerperal Mastitis.**—Hopmann describes the method of operative treatment of puerperal mastitis followed by Bardenheuer of Cologne. It avoids any disfigurement; leaves the milk glands nearly intact, especially those in the anterior portion of the breast, while the abscesses can be thoroughly evacuated and drained. A semi-circular incision is made around the lower half of the base of the breast, which is detached with the fingers from the fascia of the pectoralis major and turned back like a large flap. This allows ample access to the abscesses, which are opened by radial incisions and evacuated. A wide drain tube is left in each pocket and the breast is replaced. As the drains project in the most favorable manner for drainage at the lowest points, the abscesses heal rapidly. The only trace of the intervention is usually hidden by the overhanging breast. He has recently operated by the same technic in two cases of bursitis prepatellaris, making the incision below the knee, turning back the semicircular flap of soft parts and extirpating the bursa from below.

47. **Radical Operation of Femoral Hernia.**—Gilli mentions that he has discovered that operation is remarkably facilitated by cutting across Poupart's ligament and the falciform process (superior cornu). This not only favors operative intervention, but materially shortens the time required.

48. **Operation of Caput Obstipum.**—Wullstein not only relieves the caput obstipum by severing or partially removing the contracted muscle, but does not regard the operation as completed until he has shortened the unduly long, stretched part of the muscle, thus obviating the necessity for tedious after-treatment to accomplish this. He shows in a cut how easily the muscle can be shortened by taking up a loop in it, suturing the loop flap by sutures along the edges and occasional ones in the center of the flat expanse.

50. **Reduction of Dislocation of Hip Joint.**—Elgart has the patient recline on the floor and places the dislocated limb over his own knee as he kneels beside him on one knee at a right angle to the patient's body. By the leverage thus obtained reduction according to Kocher is rendered much simpler and easier.

51. **Costal Arch Flap for Operations on Hypochondrium.**—Marwedel makes a curved incision parallel to and a short distance from the costal arch, extending it from the ensiform process to below the tenth rib. The three ribs above are then divided at their cartilaginous union after pushing the muscles out of the way. It is then easy to turn back the soft parts and the ribs, leaving a broad opening into the cavity below, exposing the liver or the upper part of the stomach including the cardia and the subdiaphragmatic space. In two clinical cases in which this plan was followed the flap was cut and raised in a few minutes. The single abdominal wound healed by primary intention and seven weeks after the intervention the ribs were as solid as before.

53. **Resuscitation by Massage of Heart an Hour After Death.**—Sick reports that a lad of 15 was being operated on Dec. 13, 1902, at the Kiel clinic, on account of tuberculous peritonitis, when heart action and respiration ceased. Artificial respiration and König-Maas massage of the heart restored the respiration for a single minute or two, but it then subsided again, and after thirty minutes the youth was still cyanosed, pulseless, no respiration, the entire body growing colder and colder. The heart was then exposed by a Rotter incision and, forty-five minutes after the first signs of disturbance, massage was applied directly to the heart, supplemented by warm compresses. After fifteen minutes the heart gave signs of life, and in fifteen more minutes was beating regularly. Respiration was resumed, the pupils contracted to normal, the color returned and the pulse became good, although rather frequent. The pericardium was then sutured and the thorax flap replaced and sutured over the tampon. Two hours later the youth had regained consciousness and complained of thirst and dyspnea; respiration 60, pulse 144. Under camphor and saline infusion the condition remained about the same for twenty-four hours. The speech was indistinct, hurried but intelligible. Then symptoms of collapse were observed, the dyspnea increased and death ensued after three hours of coma. Signs of slight fibrinous pericarditis were found at the autopsy, and of old pleuritis, fresh recent tumefaction of spleen and liver, with tuberculosis of peritoneum and mesentery in an advanced stage. Sick remarks that the resuscitation might have been permanent in a subject less severely undermined. The action of the chloroform on the heart had evidently been magnified by the shock and the altered conditions in the circulation entailed by the laparotomy and evacuation of the ascites.

54a. **Action of Local Stimulation.**—Wessely describes experimental research on the eyes of rabbits which show that the application of warm compresses or local irritation induces a hyperemia accompanied by the rallying to the spot of the defensive antibodies in the serum. The proportion of albumin in the aqueous humor rose constantly from 1/40 per cent. to 1 and 2 per cent., and the agglutinating power increased ten to twenty fold. The same results were observed in the conjunctiva, which proved a particularly favorable field for these investigations. He notes that the proportion of albumin, etc., did not rise when the parts had been previously treated with adrenalin, thus confirming the fact that the phenomenon is connected with the hyperemia. It is evidently the secret of the benefits from hyperemia in inflammatory conditions.

54b. **Artificial Substitution of Blood.**—Küttner is convinced by the results of the researches of Locke and Kuliabko that a fluid, to be an efficient substitute for the blood, must contain oxygen. Experiments on animals showed that much more than the ordinarily fatal loss of blood was well tolerated by rabbits if the substituted solution was impregnated with oxygen. He illustrates a mechanism for the agitation of salt solution with oxygen to effect this impregnation.

54c. **Improved Anesthesia of Nerve Trunks.**—Braun's announcement in regard to the manner in which the action of cocain is magnified by the addition of adrenalin has already been mentioned in these columns. He asserts that five drops of the 1 per 1,000 solution of adrenalin is ample to add to a .5 per cent. solution of cocain to ensure perfect anesthesia of the superficial nerve trunks. For the large subfascial nerve trunks a 1 per cent. solution of cocain may be necessary. Sometimes thirty minutes may elapse before the nerve conductibility is entirely suspended, but in the knee or elbow the endoneural injection is followed at once by anesthesia. He advises to apply the constricting band—if one is required—only just before commencing the operation. The anesthesia obtained by this combination of adrenalin with cocain or eucain lasts from two to five hours.

55. **Radical Operation for Femoral Hernia.**—Herzen describes the technic with which he has been very successful. After the hernial sac has been tied and removed and the stump reduced, he detaches the femoral vein and draws it to one side and Poupart's ligament upwards. He then dissects a flap of periosteum from the upper aspect of the pubis about the width of the femoral canal and about 1 to 1.5 cm. long, its base on the pectineus. This flap is then detached from the bone and turned back downward. Two to four small holes are then drilled through the pubis in such a way that the drill emerges always in the part exposed by the raising of the flap. The two ends of a bronze-aluminum wire are then passed from behind forward through Poupart's ligament and through two of these holes. By pulling on the wire the ligament is brought into intimate contact with the exposed part of the pubis. The flap of periosteum is then replaced and fastened with a couple of stitches. By this means the femoral ring is entirely closed while the ligament has taken its place, reinforced by the periosteum flap. He has thus treated a consumptive patient, and in spite of his violent coughing, the results of the operation have been perfect, healing rapidly with absolute freedom from any tendency to recurrence of the hernia.

56. **Application of Adrenalin in Anesthetizing the Tissues.**—Braun proclaims that experience with several hundred patients has confirmed his previous assertions in regard to the great value of combining adrenalin with cocain. He warns now in regard to the dosage, as too large doses induce such pronounced anemia that it is impossible to ligate the vessels, and when the anemia gradually passes away after-hemorrhage is possible and liable. This after-hemorrhage is not due to the adrenalin, but to the fact that during the anemia there can be no question of arresting any hemorrhage. Consequently it is imperative to use only the amount of adrenalin necessary to enhance the anesthetic action of the cocain or eucain, and not to suppress all hemorrhage from even the larger arteries, causing them to contract to such extent as to close their lumen. A good combination is two to five drops of the 1 per 1000 adrenalin solution to 100 c.c. of a 1 per cent. solution of cocain or beta eucain. The proportion is then .00007 to .00017 per cent. of the adrenalin. Application of this mixture blanches the parts, but the larger arteries still bleed and can be ligated. The influence on the anesthesia is equally pronounced with these small as with large amounts. In extracting teeth or for endoneural injection two drops of the adrenalin solution are ample to each c.c. of the cocain or eucain solution. He has never used more than five drops, equivalent to about 1/6 mg. of adrenalin, in any instance.

Centralblatt f. Gynaekologie, Leipsic.

Last indexed page 959.

57 (No. 36.) Simulated Extra-uterine Pregnancy. C. Schambacher.—Zur Frage der vorgetäuschten Extrauterin-Gravidität.

58 Rumpf's Operating Table. M. Wegscheider.—Der Operationstisch nach Dr. R.
59 (No. 37.) Modified Axial Traction Forceps. R. Freund.—Eine modifizierte Tarnier'sche Achsenzugzange.
60 Der sogenannte weisse Infarkt der Placenta. G. Schickele.
61 Zur Histogenese des Chorio-Epithelioms. L. Pick.
62 (No. 38.) Shall We Feel at Once Whether the Cord is Around the Neck After Head Is Born? B. S. Schultze (Jena).—Soll man gleich nach geborenem Kopfe danach tasten ob die Nabelschnur umschlungen ist?
63 Chloroform-Tod oder akute Urämie? F. Hammer.
64 Artificial Feeding of Infants. W. Zangemeister (Leipsic).—Ueber die künstliche Ernährung von Säuglingen.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

65 (XXIX, No. 39.) *Origin of Pulmonary Tuberculosis and the Combating of Tuberculosis. E. von Behring.—Ueber Lungenschwindsuchtentstehung und Tuberkulosebekämpfung.
66 Ueber das Verhalten der Typhus-Bacillen in der Milch und deren Produkten. R. Bassenge (Institute for Infectious Diseases, Berlin).
67 Der Negri'sche Erreger der Tollwuth (hydrophobia germ). Schüder.
68 Ueber die therapeutische Anwendung des Chlor-Baryums. v. Tabora.
69 Curability of Atrophy of Bone. E. Rose.—Die Heilbarkeit der progressiven totalen Knochen-Atrophie.
70 Critical Study of Sex-Determination Theories. C. Benda.—Das Problem der geschlechtsbestimmenden Ursachen.
71 Zur Hygiene des evangelischen Abendmahls (ritual communion). Focke.

65. **Origin of Pulmonary Tuberculosis and Means of Combating It.**—THE JOURNAL summarized on pages 1178 and 1266 of the last volume von Behring's important announcements in regard to the immunization of cattle based on the fact that the epithelial lining of the alimentary canal is not completely developed during early infancy, the gaps allowing the passage of albumin and bacteria like any very porous filter. The present article was an address at the Naturforscher Congress, in which he proclaims that time and experience have more than confirmed his previous statements. He reviews the brilliant results of the practical application of his method of immunizing cattle as carried out by stock raisers and dairy men, both in Germany and elsewhere, and states that the Prussian government is now considering the propriety of assuming the task of immunization of cattle by this method as an official department. Until recently Behring has carried it on from his private means. He maintains the identity of human and bovine tubercle bacilli, and preaches that the main source of phthisis occurring at any time during life is from infection through the milk taken during infancy, whether the tubercle bacilli in the milk are of human or bovine origin. The presence of a coughing consumptive in a family almost inevitably results in the infection of the infants by inhaling the germs or by their getting into the milk or on the vessels used. This is the secret of the so-called heredity and predisposition to tuberculosis in the members of a family. The infection is post-genital, not inherited. It may remain latent for years or for life, but under predisposing conditions it may develop into pulmonary tuberculosis, which is thus traced to infection in infancy. And it is to this age that we must apply not only prophylactic but immunization measures such as he has so successfully practiced in cattle. Immunity can be conferred by isopathic immunization or by antitoxin treatment. The former is the method followed with cattle, but is not feasible for children on account of its dangers at present. These will be obviated, however, if it proves possible to confer immunity by ingestion of the bacilli *per os* instead of the more dangerous intravenous route now in use. The prospects are more encouraging for immunization of infants by the antitoxin method. His hopes are becoming stronger and stronger, he says, that it will prove possible to confer immunity on infants by giving them the milk of highly immunized cows. The immunity thus obtained is not very lasting, but it may be supplemented by immunizing procedures with the living virus, such as have proved effectual in the prophylaxis of other diseases. One of the problems he is at present studying is to devise a means to preserve the antitoxin in the milk of the immunized cows so that it will keep and bear transportation. He speaks with commendation of Jousset's method of inoscopy as an invaluable means of detecting tubercle bacilli in the organic fluids. (See paragraph 44 above.) In regard to the tuberculin test, he mentions casually that Koch has reacted positively to the test, and that he himself ten years ago after a dose of 4 mgm. reacted with fever and was confined to bed for several days, thus convincing him of the tuberculous infection of his own body. He explains the reaction to tuberculin as the result of phenomena of coagulation and agglutination induced by the contact of this preparation of tubercle bacilli with the otherwise soluble antibody produced in the body by the action of the tuberculous lesion. He is inclined to believe that the smaller arteries in the vicinity of the infectious focus are the seat of the elaboration of this antibody. He reaffirms with emphasis that tuberculous infection is far from meaning inevitable phthisis. A combination of several factors is necessary for this result. He cites as an example the experience of Dr. M. Schmidt of Frankfurt, who, in his forty years of practice, has examined untold numbers of cases of tuberculosis of the larynx, and neither he nor any of his assistants have shown evidences of infection. Behring is hopeful of the day when immunization of man and cattle against tuberculosis will banish the sanatoria, etc., from the land as Jenner's vaccination has swept away the old-time smallpox hospitals in every town, but explicitly states that he has nothing definite yet to propose as far as man is concerned.

Muenchener medicinische Wochenschrift, Munich.

72 (L, No. 36.) *Does the Combustion of Sugar Entirely Cease After Removal of Pancreas? H. Lüthje.—Ist die Zerstörung des Zuckers nach Pankreas-Exstirpation vollständig aufgehoben?
73 *Influence of Concentration of Urine on Absence of Albumin Reaction. B. Hallauer.—Ueber den Einfluss der Konzentration des Harns auf den Ausfall der Eiweissreaktion.
74 *Zur Kenntniss des Gas-Gangrän. Dansauer.
75 2 Fälle chronischer zonen-förmiger Hauterkrankungen (cutaneous affections). F. Lommel.
76 *2 Fälle von Pons-Erkrankung. H. Steinert.
77 *Zur Diagnose und Therapie der Diphtherie. Curtius.
78 Acetozone Poisoning After Application of a Celluloid Cast. Cossmann.—Azetonvergiftung, etc.
79 *Tuberculosis Infection by Way of Intestines. L. Sorger.—Zur Entstehung der Tuberkulose vom Darm aus.
80 Infant Mortality from Social-Hygienic Standpoint. Ascher.—Zur Bekämpfung der Säuglingssterblichkeit vom sozial-hyg. Standpunkte.
81 (No. 37.) *Absorption of Lime in Relation to Rachitis. M. Pfaundler.—Ueber die Kalkadsorptionterlscher Gewebe und über die Grundlagen einer modernen Rhachitis theorie.
82 Zur Klinik des Adams-Stokes'schen Symptomenkomplexes. du Mesnil de Rochemont.
83 Perityphlitis und Leukocytose. R. Gerngross.
84 *Cerebral Bladder Disturbances. M. Friedmann.—Zur Kenntnis der cerebralen Blasenstörungen und namentlich des Rindenzentrums für die Innervation der Harnblase.
85 Function of Bladder and Rectum. E. Hirt.—Zur Lehre von der Funktion der Blase und des Mastdarmes.
86 *Improved Aspirating Pipette. E. Ebstein.—Ueber eine Verbesserung an kalibrierten Saugkapillären.
87 Improved Technic of Intubation. A. Rahn.—Ueber meinen Tubus und über das Herstellungsverfahren der Tuben überhaupt.

72. **Elimination of Sugar After Extirpation of Pancreas.**—Lüthje mentions in the first place that he was much surprised to find traces of the pancreas still left after what he supposed was absolutely complete extirpation. The microscope revealed particles of pancreas tissue *in situ*, which suggests that the contradictory results obtained in previous research may have been due to retention of more or less numerous scraps of the parenchyma. His experiments were all made on dogs, and even after complete removal of the pancreas the sugar did not disappear entirely from the urine until the animals had been kept for a time on a starvation nitrogen diet. The slightest addition of albumin to the diet—after the animals had been freed from sugar by being kept on the starvation diet—was immediately followed by the reappearance of sugar in the urine.

73. **Tests for Albumin in Concentrated Urine.**—Hallauer points out that the reaction to the albumin tests varies with the concentration of the urine, and consequently the latter should be diluted in case of a negative result to the test before accepting it as positively negative. After reduction of the urine to half its volume the most sensitive tests ceased to give the reaction previously obtained.

74. **Gas Gangrene.**—Dansauer reports a case and reviews the publications of others on the subject, and also the results of personal experimental research, concluding that the common colon bacillus is capable of inducing gas gangrene in the non-

diabetic living organism. It is not able to do this alone; its action is saprophytic and dependent on a primary local or general injury of the tissues from some nutritional disturbance either from trauma or deranged metabolism.

76. Focal Affection in the Pons.—In Steinert's 2 cases the presumptive diagnosis of a focal affection in the pons was based on a series of symptoms which he describes at length. The patients are still living and the diagnosis has not been anatomically confirmed. In the first case the paralysis of all the branches of the facialis was accompanied by hemiparesis, the Babinsky sign, hemianesthesia and violent hemihyperidrosis, but the pathognomonic symptom was the paralysis of certain ocular muscles for certain conjugated movements, normal for the rest. There was also transient paralysis of the palate on one side and absence of lachrymal secretion. Some of these symptoms subsided after a time and confirmed the assumption of an acute encephalitis pontis which had healed, leaving a defect. The inflammation was consecutive to a suppurative dental periostitis. Damianos has recently called attention to the possibility of a suppurative thrombophlebitis of the sinus cavernosus as a sequel to periostitis in the jaw. Among the symptoms presented by the second patient were complete lax hemiplegia, the Achilles jerk absent on the right side, the abdominal reflexes absent on both sides and the Babinsky sign present. After a time the Strümpell sign became evident on both sides. The gait was never that of a hemiplegic, but suggested that of ataxia. The patient was also annoyed by a sensation of heaviness in the entire right side, especially in that side of the head, and the atrophy of the muscles was more pronounced than usually observed in hemiplegia. The ocular disturbances were the same as in the first case, and vision was not impaired in either. [E. Schwarz of Riga reviews the differential diagnosis of pons affections in the *St. Petersburg Med. Woch.*, No. 35, and proclaims that absence of the pupil reflex on one side in the early stages testifies in favor of an intrapontine lesion, when noted in a syndrome suggesting involvement of the base of the brain. He describes 2 cases in detail with postmortem findings in one. The ocular symptoms are noted in the Oct. *Ophth. Record.*—Ed.]

77. Thirteen Years' Experience with Diphtheria.—Curtius is an ardent advocate of preventive serum treatment, and mentions among other points the comparatively slight disturbance of the general health at first in comparison with that observed in tonsillitis. He also refers to the confluent character of the exudation, which very seldom occurs in dots, but usually in masses. He orders the children to spit into a dish of water and in this way has often detected scraps of false membrane as the first sign of diphtheria. His experience has confirmed the great value of local applications of Löffler's solution applied on cotton and pressed into the spot after removal of the membrane, holding it in contact for ten seconds. The formula is menthol 2.5 gm.; dissolve in toluol 9 gm., alcohol 15 gm. and liq. ferri sesquichlor. 1 gm. He has found this very effectual even when serum treatment was impossible for any reason, but insists on the importance of removing the membrane before applying it. If the child will not open its mouth he pushes the lower lip over the lower teeth to keep the mouth open. He regards gargles as useful merely for the mechanical removing of bacteria and remarks that clear water is as good for this purpose as an antiseptic. He urges an abundance of nourishing food and strict cleanliness, as repetition of the infection is not impossible. As a homely measure to supply steam when the child is breathing with difficulty he throws a sheet over the bed, held up by barrel hoops or something of the kind, and generates steam by pouring water over a hot brick. This moist heat softens the rigid infiltrated tissues in the throat and stimulates the circulation in the parts, possibly also loosening the membranes.

79. Tuberculosis Infection By Way of Intestines.—Sorger states that he has fed dogs for months with tuberculous sputa mixed with their food, but always with negative results.

81. Absorption of Lime by the Tissues in Rachitis.—Pfaundler argues to prove that newly formed osteoid tissue does not possess any special affinity for the anorganic constituents of the true bone formed later. This affinity develops in the later course of the transformation of the osteoid tissue. A certain form of heteroplasia of the osteoid tissue is thus necessary for calcification, and it is further possible that under the influence of hydrolytic processes the elements of the osteoid tissue become able to take up lime. In calcification, acid radicals, and especially phosphoric acid, are found as well as lime. If these premises are correct the essence of rachitis may prove to be a defective transformation of the elements of the osteoid tissue into lime catchers, an inhibition of the normal biochemical tissue transformations, possibly in the line of autolytic processes. The unmistakable benefit derived from phosphorus in rachitis may be due to its favoring the hydrolytic splitting of the nitrogenous tissue-forming elements.

84. Cerebral Bladder Disturbances.—Friedmann had occasion to observe a boy of 9 who was affected with an almost isolated disturbance in the innervation of the bladder in consequence of a brick falling from a height on his head. The disturbances continued a long time, but finally subsided. From study of the case he assumes that the brick must have injured a point in the brain which serves as a center for the innervation of the bladder. The spot was close to the edge of the posterior central convolution, directly adjacent to the upper parietal lobule. The fact that the hand and arm were not affected to any extent shows that the center in question must be small and circumscribed, as the centers for the hand and arm are in close proximity to the point of the injury.

86. Aspirating Pipette.—In drawing blood for examination Ebstein uses a Pravaz syringe instead of a rubber bulb to aspirate the blood, applying the syringe to the end of a short, stiff rubber tube attached to the pipette. He remarks that we do not realize the inconveniences of the present methods of aspirating with a bulb until they are abolished by use of the syringe.

Therapie der Gegenwart, Berlin.

Last indexed page 941.

88 (No. 7.) *Fluids in Diet of Heart Disease. F. Kraus.—Ueber die dietetische Behandlung des Wasserhaushaltes bei der Behandlung Herzkranker.
89 *Buttermilk in Infant Feeding. E. Kobrab.—Buttermilch als Säuglingsnährung in der poliklinische Praxis.
90 (No. 8.) *Ueber die specifische Behandlung des Morbus Basedowii. Burghart and Blumenthal.
91 Review of Modern Methods of Outlining the Heart. de la Camp.—Zur Kritik der sogen. modernen Methoden der Herzgrössenbestimmung.
92 *Ueber Akromegalie. L. Huismanns.
93 *Casuistische Beitrag zur Eisenlichtbehandlung (Treatment with Iron Light). E. Clasen (Hamburg).

88. Fluids in Diet in Heart Disease.—Kraus makes a practice of occasionally restricting the intake of fluids at periodical intervals. If the subject is accustomed to take about 1500 c.c. he limits him to 1200, or even 1000 c.c., returning then to 1500 c.c. Many persons adapt themselves without trouble to as little as 1000 c.c. Valvular defects are not benefited to such an extent by this dietetic restriction of the fluids as cases of chronic insufficiency of the heart, especially those in which the compensation is just beginning to be inadequate.

89. Buttermilk in Infant Feeding.—Kobrak's experience with 66 cases at Neumann's clinic at Berlin impels him to recommend buttermilk as a valuable aid for the feeding of infants of the class that apply to the dispensary. It is especially indicated for weakly infants, the prematurely born and those with chronic atrophy and in moderate or mild cases of intestinal catarrh. Also when there is much vomiting.

90. Specific Treatment of Exophthalmic Goiter.—Burghart describes a preparation of condensed milk from thyroidectomized goats. It is a sweetish powder and is sold under the name of "rodagen." He has found it very beneficial in the treatment of exophthalmic goiter, either by the mouth or by subcutaneous injection. In 2 of the 10 cases he reports the eyes receded until the patients now consider themselves cured. He mentions that the goats lost their intelligent expression and became clumsy; their hair fell out and grew in again rougher than before. The secretion of milk gradually ceased, and the general appearance of the animals after the removal of the thyroid unmistakably suggested that of myxedema in man. One goat succumbed to the progress of the symptoms in-

duced by the thyroidectomy. The therapeutic use of the milk from these animals has an undoubted effect in neutralizing the toxin elaborated by the thyroid gland in abnormal conditions, but, of course, it can not influence already established anatomic changes. The serum and milk from the thyroidectomized animals have an unmistakable influence on the heart action and must be used with caution on this account, especially when the heart is already impaired. In all other respects the serum and rodagen proved harmless, even as much as 50 gm. a day, with no other effects than the more or less rapid retrogression of the subjective and objective symptoms. Some of his patients took 5 gm. a day; others up to 30 gm. In conclusion he announces as an established fact that treatment with the milk or serum of thyroidectomized animals has a favorable influence in a large proportion of cases of exophthalmic goiter.

92. **Acromegaly.**—Huismann ascribes this affection to a lack of hypophysis functioning, the result of a primary or secondary lesion in the hypophysis. It may be due to malignant disease or hypoplasia or hyperplasia, or may result from a primary chronic affection of the blood impairing the organ secondarily. Organ treatment will certainly benefit unless irreparable changes have already been established.

93. **The "Iron Light" in Radiotherapy.**—Clasen has been favorably impressed with the action of the iron lamp, especially in acne and sycosis. Its effects are more superficial than those realized with the Finsen light, but his experience with 17 patients has shown that the new lamp, being within the reach of every practitioner, can not fail to realize great progress in the treatment of cutaneous affections. For acne in particular it is the most convenient and agreeable method of treatment yet devised. In many cases in which the acne had persisted for years the skin healed over smooth after a few applications. He had only a single failure in his 14 cases, and this one patient did not complete the course recommended. There are no subjective sensations from the application of the iron light. (It has been described in these columns, xl, page 1112, paragraph 53.)

Gazzetta degli Ospedali, Milan.

Last indexed page 891.

94 (XXIV, 86.) Contributo clinico alla chirurgia della laringe e della trachea. T. Scarrone.
95 *Cura degli angiomi senza operazione. A. Frattini.
96 (No. 89.) Contributo alla tabe spasmodica famigliare. A. Perugia.
97 *Liberation of Iodin in Contact with Animal Tissues. O. Spadoni.—Sulla liberazione dell' iodio a contatto dei tessuti animali.
98 *La digitale ad alta dose nella cura della pneumonite lobare. G. Bragagnolo.
99 (No. 92.) *Chylous and Chyliform Effusions. A. Cipollina.—Versamenti chilosi e chiliformi.
100 Sulla enteroanastomosi. A. Santucci.
101 *La cura chirurgica della nevralgia del trigemino. G. Baroni.
102 *Sull' uso di una antitossina per via gastrica. F. Figari.
103 (No. 95.) *Leucocitosi consecutiva ad iniezioni endovenose di sublimato. G. Memmi.
104 I problemi dell' innesto (of transplantation of living tissues). M. Segale.
105 Industrial Insurance and Tuberculous Hip Disease. E. Curto.—Infortunio sul lavoro e coxite tub.
106 Di una nuova siringa a doppia corrente. G. Baroni (Lucignano).
107 (No. 98.) La sutura ossea della frattura della rotula. T. Scarrone.
108 Unusual Manifestations of Syphilis. Secchi.—Casi non comuni di clinica sifilopatica. (Commenced in No. 89.)
109 *L' opo-teraple soprarenale nel trattamento dell' atonia vescicale. G. Moresco.

95. **Non-Operative Treatment of Angiomata.**—Frattini has invariably been able to cure cutaneous angiomata by painting them with a 6 per cent. solution of sublimate in collodion. He applies a second coat at once as soon as the first is dry, and repeats the procedure every third day. After the second or third repetition the angioma is cast off with the collodion, and nothing is left but a smooth surface, the color of the surrounding skin. In one case the angioma projected 3 cm. and was 4 cm. in diameter, but the cure was as prompt and perfect as in the other cases. No pains nor inconveniences were noted in any instance and the cures have been permanent with most satisfactory cosmetic results.

97. **Liberation of Iodin in Contact with Animal Tissues.**—Spadoni shows that iodin is liberated on contact with the tissues, but is taken up by them and is not eliminated at once. The lack of elimination must not be construed as evidence that the iodin has not been liberated.

98. **Digitalis as Specific for Pneumonia.**—Bragagnolo regards digitalis in large doses as an absolute specific for lobar pneumonia. Only 4 patients died in 54 treated in this way, and the deaths in these cases could be ascribed to other lesions. It reduces the temperature, slows the pulse and, if given early enough, will abort the disease. He follows Maragliano's technic, giving an infusion of 4 gm. of digitalis leaves by percolation with 200 gm. water, adding 100 gm. of licorice water and 2 gm. of anisated water of ammonia, the whole amount to be taken in the twenty-four hours. The benefit is apparent after four to six doses, and his experience has confirmed that of Maragliano, who says that if the pulse is not slowed in forty-eight hours by this medication the patient is doomed. The crisis occurred at the fourth day in 2; fifth day in 36; sixth day in 5; seventh day in 5; and the eighth day in 2. He resorted to venesection in a few cases toward the close of the disease, considering it of no use in the early stages.

99. **Chylous and Chyliform Effusions.**—Cipollina has always found that patients with chylous ascites did not long survive, but died in progressive cachexia. The effusion is profuse and may be accompanied by fever and signs of inflammation of the peritoneum. He describes a case of a chyliform effusion found in the pleura on the side which had been the seat of severe pleurisy thirty years before. He assumes that the effusion had remained encapsulated during this long period with granulo-fatty degeneration.

101. **Trigeminal Neuralgia.**—Baroni describes 2 cases of intractable trigeminal neuralgia cured to date by stretching the nerve at the periphery, breaking it off as high up as possible. One of his patients had had syphilis, malaria and trauma affecting the region. He believes that the percentage of cures after a simple peripheral operation of this kind is higher than that from the more serious interventions on the ganglia.

102. **Antitoxin Treatment by the Mouth.**—Figari reports extensive experiments with rabbits, dogs and asses treated with Maragliano's tuberculosis antitoxin by the mouth. In all the animals marked antitoxic, agglutinating and resisting powers were conferred on the animals by this means. The results suggest that the production of specific defensive substances is not the property of any given species, but is the expression of the general reaction of the animal organism. Persons and animals taking antitoxin by the mouth can not be regarded as immunized, but they are evidently exceptionally well guarded against tuberculosis infection by an unusual supply of Nature's protective substances.

103. **Leucocytosis Consecutive to Intravenous Sublimate Injections.**—Memmi reports a number of experiences from Patella's clinic at Siena, showing that intravenous injection of 2 to 4 mgm. of sublimate induced a moderate hyperleucocytosis, thus proving a valuable aid to the natural defenses. He has examined several patients a year after the injections and was never able to detect any disturbances nor induration of the vein. The maximum of the leucocyte reaction was obtained four to six hours after the injection; by the eighteenth to the twenty-fourth hour the leucocytes had returned to the original number.

109. **Suprarenal Treatment of Atony of the Bladder.**—Moresco was inspired by Vassale's success in the treatment of atony of the stomach with suprarenal extract, to apply it also in paralytic conditions of the bladder. He has found it equally effective in this condition, and reports that 2 patients were thus completely relieved and cured of retention from paralysis of the detrusor urinæ. He used ordinary adrenalin, which he states is much less powerful than Vassale's paraganglin, but he was unable to procure the latter at the time. He injected 150 c.c. every morning of a 1 per 50,000 adrenalin solution, leaving it in the bladder for an hour or more. After determining the tolerance of the bladder for this solution he increased the strength to 1 per 25,000. After four and six injections there were indications of spontaneous micturition,

and by the end of the second week the bladder could be spontaneously almost completely emptied, which had been impossible for a long time.

Riforma Medica, Palermo.

110 (XIX, No. 36.) *L' analgesia cocaino-adrenalinica in chirurgia generale. F. Gangitano.
111 Sopra 3 operazione per cancro dell' utero, dello stomaco e dei rene. C. Caliari.
112 (No. 37.) *La fisostigmina nella terapia dell' atonia intestinale. G. Curlo.
113 The Pancreas in Ordinary Cirrhosis of the Liver. L. D'Amato (Cardarelli's clinic, Naples).—Il pancreas nella cirrosi volgare del fegato.
114 *Sulla cura della eresipela facciale. F. Sarcinelli.

110. **Cocain-Adrenalin Analgesia.**—Gangitano reports from Bologna that he has used the combination of cocain and adrenalin in more than 100 operations and has never had postoperative hemorrhage nor noted any inconveniences. Among the operations were one for resection of the upper jaw; ablation of a large goiter; a Roux gastroenterostomy and a total laryngectomy. He mentions the salient points in each case, calling special attention to the advantages of the method in 2 cases of bilateral Bassini in a subject with grave heart disease, and a total hysterectomy in an obese woman with an uncompensated cardiac defect. He found that it was possible to dilate strictures of the urethra, previously impermeable, after the cocain-adrenalin application, rendering the projected operation unnecessary. He agrees with King that postoperative hemorrhage is prevented by the formation of a clot during the period of vasoconstriction. He used a mixture of 9 c.c. of a .5 per cent. solution of cocain with 1 c.c. of a 1 per 1000 solution of adrenalin hydrochlorate.

112. **Physostigmin in Intestinal Atony.**—Curlo's communication issues from Maragliano's clinic at Genoa and is based on both experimental research and 18 clinical cases. He groups the latter according to the negative or positive results obtained and thus demonstrates that the drug finds its indications in coprostasis from intestinal atony. It stimulates and induces spasmodic action and increases peristalsis. It is therefore contraindicated in spastic conditions, in intestinal catarrh and in mucomembranous enterocolitis. As it increases the tonicity of the intestinal wall it proves a valuable aid in combating meteorism. The maximal daily dose, free from symptoms of intoxication, is 4 to 6 milligrams. The standard dose is 2 or 3 milligrams. The signs of intolerance are myosis of the pupils and sialorrhea. His experience seems to show that the best mode of administration is the salicylate of physostigmin in pills.

114. **Treatment of Erysipelas.**—Sarcinelli has found that erysipelas of the face healed rapidly under application of a thin cotton face mask impregnated with .25 to .5 per 1000 solution of sublimate, substituted every two hours by another similar mask impregnated with a 3 per 1000 salicylic solution. This alternation of the masks kept the surface moist, while a too energetic action on the part of the sublimate was guarded against. If blisters formed he applied topically to them either vaselin or an ichthyol salve, before putting on the mask. This method of treatment not only benefited the local lesions but reduced the general infection, the fever rapidly subsiding, and no further medication being needed except possibly some heart tonic.

Medizinskoe Obozryenie, Moscow.

Last indexed page 818.

115 (LIX, No. 4.) *3 slutchaya bronchialnoi asthmy u dyetei (in children). E. Y. Stolkind.
116 Linear Cutaneous Affections. M. A. Tchlenoff.—K kazuistikye systematizirovannykh rodimykh pyaten, etc.
117 (No. 5.) *Syphilis and Renal Surgery. M. Margulies.—Syphilis i potchetchnaya chirurgiya.
118 House Epidemics of Syphilis. P. Jordan.—O domovykh epidemiakh syphilsa.
119 K voprosu o selesenotchnoi anemii (anemia splenica). S. M. Tzipkin.
120 *Treatment of Erysipelas with Potassium Permanganate. E. I. Martzinovski. — O lyetchenii rozhe margantzovokislym kaliem.

115. **Bronchial Asthma in Children.**—Stolkind has had occasion to observe 3 cases of typical bronchial asthma in children. In one instance it developed consecutive to a severe attack of la grippe. Eosinophile cells, Curschmann spirilla and crystals were found in the sputa. The patient was a boy of 8. The attacks occurred mostly at night and lasted for an hour and more. In the second case the asthma vanished after adenoid vegetations were removed. The third patient was a boy of 14, who had suffered from the asthma for four years. Tuberculosis was noted in other members of the family. The asthma was evidently of reflex origin in all of the cases.

117. **Syphilis and Surgery of Kidneys.**—Margulies describes a case of inflammation in and around the left kidney which was opened up on account of the severe chills and fever. The syphilitic nature of the trouble was seen at once and all symptoms vanished under specific treatment. The patient was a woman of 26.

120. **Treatment of Erysipelas with Potassium Permanganate.**—A compress moistened with a 1 per 1000 solution is applied to the erysipelatous patches. The results have been very favorable in Martzinovski's experience in 7 cases thus treated.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE NEUROLOGICAL PRACTICE OF MEDICINE. A Cursory Course of Selected Lectures in Neurology, Neuriatry, Psychology and Psychiatry. Applicable to General and Special Practice. With 177 Illustrations. After the Author's Class-Room Methods as a Teacher of Students. Designed for Students and General Practitioners of Medicine and Surgery. By Charles H. Hughes, M.D., President of the Faculty and Professor of Neurology, Psychiatry and Electrotherapy, Barnes Medical College. Cloth. Pp. 417. Price, $3.00. St. Louis: Hughes & Co.

FUNCTIONAL DIAGNOSIS OF KIDNEY DISEASE. With Especial Reference to Renal Surgery. Clinical Experimental Investigations. By Dr. Leopold Casper (Privatdocent an der Universität) and Dr. Paul Friederich Richter (Assistant der III Med. Klinik in Berlin). Translated by Dr. Robert C. Bryan, Adjunct Professor Genito-Urinary Diseases, University Medical College, Richmond, Va., and Dr. Henry L. Sanford, Resident Surgeon Lakeside Hospital, Cleveland. Cloth. Pp. 233. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

ELECTRO-STATIC MODES OF APPLICATION, THERAPEUTICS AND THE USES OF THE ROENTGEN RAY. By William Benham Snow, M.D., Professor of Electro-Therapeutics and Radiotherapy in the New York School of Physical Therapeutics. Second Edition, Revised and Enlarged. Contains More Than 100 Illustrations, Including Ten Full-page Half-tones, Showing the Various Methods of Posturing and Treating Conditions. Cloth. Pp. 302. Price, $3.00. New York: A. L. Chatterton & Co.

SURGERY, ITS THEORY AND PRACTICE. By William Johnson Walsham, F.R.C.S. Eng., M.B. and C.M. Aberd., Surgeon, Formerly Lecturer on Surgery and on Anatomy, St. Bartholomew's Hospital. Eighth Edition. With 622 Illustrations, Including 20 Sklagram Plates. By Walter George Spencer, M.S., M.B. Lond., F.R.C.S. Eng., Surgeon to the Westminster Hospital. Cloth. Pp. 1,227. Price, $4.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY, 1903. One Hundred and Eleventh Annual Convention, Held at Hartford, May 27 and 28. Cloth. Pp. 465. Publication Committee: Gould A. Shelton, M.D.; Samuel B. St. John, M.D., and N. E. Wordin, M.D. Published by the Society. 1903.

ADENO-MYOME DES UTERUS. Von Thomas S. Cullen, Hülfsprofessor der Gynäkologie an der Johns Hopkins-Universität. Mit 45 Abbildungen im Text. Half Cloth. Pp. 91. Berlin: Verlag von August Hirschwald. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Sept. 26, 1903:

Amador, R. A., contract surgeon, will proceed, on the expiration of the leave granted him, to his home, New York City, for annulment of contract.

Darnall, Carl R., captain and asst.-surgeon, is relieved from duty in the office of the Surgeon-General of the Army, and will assume charge of the field medical supply depot in Washington, D. C., in addition to his duties in connection with the Army Medical School and as recorder of the Army medical examining board.

Fuller, Leigh A., captain and asst.-surgeon, is granted leave for fourteen days, on the expiration of which he will proceed to Fort Bayard and report at the U. S. General Hospital for duty.

Gorgas, William C., colonel and assistant surgeon-general, now on temporary duty as chief surgeon, Department of the East, will report for permanent duty as chief surgeon.

Gray, William W., major-surgeon, is detailed to represent the Medical Department of the Army at the annual meeting of the Tri-State Medical Society of Alabama, Georgia and Tennessee, to be held at Atlanta, Ga., Oct. 13 to 15, 1903.

Kulp, John S., captain and asst.-surgeon, is granted leave of absence for four months from about October 15.

Lippincott, Henry, colonel and assistant surgeon-general, by operation of law, under the provisions of the act of Congress approved June 30, 1882, is retired from active service. Colonel Lippincott will proceed to his home.

Perley, Harry O., major-surgeon, on the expiration of his present leave of absence, is directed to proceed to Fort Logan for duty.

Rich, Edwin W., first lieut. and asst.-surgeon, on his relief from duty at Honolulu, H. T., will proceed to Manila, P. I.

Torney, George H., lieutenant-colonel and deputy surgeon-general, now on sick leave at San Francisco, is relieved from further duty in the Division of the Philippines, and will assume charge of the medical supply depot at San Francisco, relieving Lieut.-Colonel Louis M. Maus, deputy surgeon-general. Lieut.-Colonel Maus will proceed to Fort Riley for duty.

Wells, George M., major-surgeon, is relieved from duty at Fort Bayard, to take effect on the arrival at that place of Captain Leigh A. Fuller, asst.-surgeon, and will then proceed to San Francisco and report for transportation to the Philippine Islands.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Oct. 3, 1903:

Pharmacist S. W. Douglas, detached from Naval Proving Ground, Indian Head, Md., and ordered to the Navy Yard, Portsmouth, N. H.

Asst.-Surgeon W. S. Pugh, Jr., appointed an assistant surgeon, with the rank of lieutenant, junior grade, from Sept. 23, 1903.

Asst.-Surgeon M. V. Stone, when discharged from treatment at the Naval Hospital, New York, ordered home and granted sick leave until December 31.

Surgeon S. H. Griffith, detached from the Marine Barracks, Washington, D. C., and ordered to the *Minneapolis* and to duty as fleet surgeon of the Atlantic Training Squadron.

Asst.-Surgeon R. B. Williams, detached from the First Torpedo Flotilla and ordered to the Naval Hospital, Norfolk, Va.

Asst.-Surgeon F. M. Bogan, detached from Navy Yard, Washington, D. C., and ordered to the *Chauncey* for duty with the First Torpedo Flotilla.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospial Service for the fourteen days ended Oct. 1, 1903:

Assistant Surgeon-General George Purviance, granted leave of absence for ten days from September 21.

Assistant Surgeon-General H. D. Geddings, to proceed to Paris, France, to represent the United States at an International Sanitary Conference October 10, and, on its adjournment, to proceed to Berlin and Frankfort, Germany, and London, England, for special temporary duty.

Surgeon R. D. Murray, to proceed to New Orleans, and thence to Laredo, Texas, for special temporary duty. Reassigned to duty at Key West, Fla., effective May 15.

Surgeon Preston H. Bailhache, granted five days' leave of absence from Sept. 5, 1903, under paragraph 189 of the Regulations. To proceed to Trenton and Perth Amboy, N. J., for special temporary duty.

Surgeon D. A. Carmichael, relieved from temporary duty in the Hygienic Laboratory, and directed to rejoin his station at Vineyard Haven, Mass.

Surgeon C. T. Peckham, to proceed to Boston for special temporary duty. Bureau order of Sept. 28, 1903, directing him to proceed to Boston for special temporary duty, revoked.

Surgeon S. D. Brooks, to proceed to Savannah quarantine as inspector.

Surgeon J. H. White, granted extension of leave of absence for ten days.

Surgeon G. M. Guiteras, to proceed to Laredo, Texas, for special temporary duty.

P. A. Surgeon M. J. Rosenau, reassigned as director of the Hygienic Laboratory, effective April 27.

P. A. Surgeon C. H. Gardner, to proceed to Boston for special temporary duty.

P. A. Surgeon H. S. Cumming, to proceed to San Francisco for special temporary duty.

P. A. Surgeon H. S. Mathewson, granted leave of absence for forty-five days from September 22.

P. A. Surgeon R. H. von Ezdorf, to proceed to Laredo, Texas, and report to Surgeon G. M. Guiteras for special temporary duty.

P. A. Surgeon L. L. Lumsden, relieved from duty at Vineyard Haven, Mass.; directed to proceed to New Orleans and report to medical officer in command for duty and assignment to quarters.

P. A. Surgeon M. J. White, three days' leave of absence, granted by Bureau telegram of August 23, revoked.

Asst.-Surgeon W. C. Hobdy, granted leave of absence for seven days from Aug. 22, 1903, under paragraph 191 of the Regulations.

Asst.-Surgeon C. W. Vogel, granted leave of absence for two days from Sept. 17, 1903, under paragraph 191 of the Regulations.

Asst.-Surgeon R. E. Ebersole, to proceed to New Orleans and report to medical officer in command. To proceed to Houston, Texas, for special temporary duty.

Asst.-Surgeon E. M. Steger, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for duty.

A. A. Surgeon G. H. Altree, granted leave of absence for eighteen days on account of sickness.

A. A. Surgeon Hugh Burford, granted leave of absence for thirty days from September 20.

A. A. Surgeon D. M. Echemendia, granted extension of leave of absence, on account of sickness, for seven days from September 3.

A. A. Surgeon E. E. Hallett, granted leave of absence for three days from September 26.

A. A. Surgeon W. A. Weldon, granted leave of absence for seven days from Aug. 31, 1903, under paragraph 191 of the Regulations.

Pharmacist J. Achenbach, granted seven days' leave of absence from September 9, 1903, under paragraph 210 of the Regulations.

Pharmacist F. S. Goodman, granted twenty-three days' leave of absence from September 10. To proceed to Washington, D. C., for special temporary duty.

Pharmacist F. R. Hanrath, granted leave of absence for twenty-one days from September 7.

Pharmacist S. W. Richardson, granted ten days' leave of absence from September 20.

Pharmacist C. H. Woods, to proceed to St. Louis, and report to medical officer in command for temporary duty.

Pharmacist M. Walerius, to proceed to Laredo, Texas, and report to Surgeon G. M. Guiteras for special temporary duty.

Pharmacist E. B. Scott, granted leave of absence for thirty days from September 5.

Pharmacist J. E. Beck, granted leave of absence for thirty days from September 14.

Pharmacist F. A. Southard, granted leave of absence for three days from Sept. 28, 1903, under paragraph 210 of the Regulations.

Pharmacist G. A. Morris, granted leave of absence for twenty days from September 14.

Pharmacist C. Stier, to proceed to Key West, Fla., and report to acting assistant surgeon in temporary charge for duty.

APPOINTMENT.

Edward M. Steger, of Texas, commissioned as assistant surgeon (recess) in the Public Health and Marine-Hospital Service, Sept. 4, 1903.

BOARDS CONVENED.

Board convened at Washington, D. C., Sept. 25, 1903, for the purpose of making physical examinations of candidates for appointment in the Revenue-Cutter Service. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Board convened at the Purveying Depot, New York, Oct. 5, 1903, for the physical examination of officers of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Sawtelle, chairman; P. A. Surgeon A. C. Smith, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 3, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Sept. 19-26, 4 cases.
California: Los Angeles, Sept. 12-19, 2 cases.
Illinois: Belleville, Sept. 19-26, 3 cases; Chicago, Sept. 19-26, 2 cases; Danville, Sept. 19-26, 1 case.
Maine: Oldtown, Sept. 19-26, 8 cases.
Maryland: Baltimore, Sept. 19-26, 1 case.
Massachusetts: Fall River, Sept. 19-26, 2 cases.
Michigan: Detroit, Sept. 19-26, 1 case; Port Huron, Sept. 19-26, 3 cases.
Minnesota: Crow Wing county, Sept. 14-21, 23 cases; Stearns county, Sept. 14-21, 3 cases; Stevens county, Sept. 14-21, 1 case.
Mississippi: Natchez, Sept. 13-20, 1 case.
New York: Niagara Falls, Sept. 19-26, 2 cases.
Ohio: Cincinnati, Sept. 18-25, 1 case; Cleveland, Sept. 19-26, 1 case.
Pennsylvania: Altoona, Sept. 19-26, 1 case; Butler, Sept. 12-19, 1 case.
South Carolina: Charleston, Sept. 19-26, 2 cases.
Tennessee: Memphis, Sept. 19-26, 3 cases.
Wisconsin: Milwaukee, Sept. 19-26, 2 cases.

SMALLPOX—INSULAR.

Philippines: Manila, Aug. 1-15, 1 case, 1 death.

SMALLPOX—FOREIGN.

Austria: Prague, Sept. 5-12, 1 case.
Belgium: Brussels, Sept. 5-12, 1 death.
Brazil: Pernambuco, Aug. 1-15, 9 deaths; Rio de Janeiro, Aug. 23-30, 46 cases, 20 deaths.
China: Shanghai, Aug. 8-15, 2 deaths.
Colombia: Barranquilla, Sept. 6-13, 1 death.
Great Britain: Bradford, May 30-Sept. 12, 155 cases, 9 deaths; Dundee, Sept. 5-12, 3 cases; London, Sept. 5-12, 9 cases; Newcastle-on-Tyne, Sept. 5-12, 5 cases; South Shields, Sept. 5-12, 1 case.
India: Bombay, Aug. 24-Sept. 1, 3 deaths.
Netherlands: Amsterdam, Sept. 12-19, 5 cases.
Russia: Moscow, Aug. 29-Sept. 5, 1 case, 1 death; Odessa, Aug. 29-Sept. 5, 5 cases; Warsaw, Aug. 22-29, 1 death.
Turkey: Smyrna, Aug. 31-Sept. 6, 40 deaths.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Sept. 24-28, 13 cases, 3 deaths.

YELLOW FEVER—FOREIGN.

Colombia: Panama, Sept. 14-21, 2 cases, 1 death.
Mexico: Vera Cruz, Sept. 12-19, 35 cases, 10 deaths.
Venezuela: Cagua, Sept. 19, epidemic; San Felipe, Sept. 19, epidemic.

CHOLERA—INSULAR.

Philippines: Manila, Aug. 1-15, 32 cases, 24 deaths; provinces, Aug. 1-15, 1,991 cases, 1,492 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Aug. 8-15, 2 deaths.
India: Calcutta, Aug. 15-29, 18 deaths; Madras, Aug. 15-22, 1 death.

PLAGUE—FOREIGN.

Africa: Cape Colony, July 26-Aug. 8, 1 case.
Brazil: Rio de Janeiro, Aug. 23-30, 19 cases, 10 deaths.
China: Hongkong, Aug. 8-15, 13 cases, 11 deaths.
Egypt: Alexandria, Aug. 22-28, 7 cases, 6 deaths; Damiette, Aug. 22-28, 7 cases, 5 deaths.
India: Bombay, Aug. 24-Sept. 1, 79 deaths; Calcutta, Aug. 21, 29 deaths.
New Caledonia: Aug. 29, 23 cases, 17 deaths.

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Original Articles.

CONSERVATIVE PERINEAL PROSTATECTOMY.

A PRESENTATION OF NEW INSTRUMENTS AND TECHNIC.*

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BALTIMORE.

The literature of the prostate and its operative treatment has become so vast that I will not attempt to discuss the many valuable articles which bear on this subject, but will simply present a résumé of my own work and the problems which have presented themselves.

My first prostatectomy[1] was in 1898, a patient on whom a suprapubic opening had been made for drainage. At this operation a tremendous intravesical outgrowth of the middle lobe was found, and as there was very little enlargement of the lateral lobes, I enucleated the mass through the suprapubic wound, with the assistance of a finger in the rectum (Fig. 1), a method which has also been employed by Guiteras, and described[2] by him in 1900.

The next three cases presented no median enlargements, the hypertrophy being confined to the lateral lobes. Following the advice of Alexander, I used the combined method, removing the lobes through the perineal wound with the assistance of a suprapubic incision. Although the operation was tedious and extensive, these patients did well, and in a paper on the subject I said that Alexander's was the operation of choice, except for middle lobe cases.

My next four cases were characterized by considerable middle lobe enlargements, and I therefore used the suprapubic route, and was surprised to find that with the assistance of the finger in the rectum I could easily enucleate very large lateral lobes in one piece with the median without destroying the urethra. The operation was also very much quicker—it frequently being possible to complete the enucleation in 5 to 6 minutes, whereas the combined operation would frequently take nearly an hour.

The principal objection to the perineal route was the necessity of the suprapubic incision to push the prostate down into the perineum where it could be enucleated, and I then thought of having an instrument made with two blades, which could be inserted closed through a perineal urethrotomy, separated when in the bladder, and then used as a tractor to drag the prostate toward the perineum. This was in 1899, but I never had the instrument constructed, but continued to do all prostatectomies suprapubically. The results obtained were excellent, the greatest objection being the considerable hemorrhage following the operation, the great duration of the convalescence, and the occasional development of suprapubic hernia afterward.

In 1899 several patients came to me who were so old and so weak that I was afraid to even administer a general anesthetic, much less to do so severe an operation as a suprapubic prostatectomy. One patient, being unable to use a catheter, caused me to purchase a Bottini incisor, and the results which I obtained on extremely old and feeble men, under local cocain anesthesia, were indeed so marvelous that I adopted the Bottini operation as the method of choice in cases past 65 years of age, who were not in a prime surgical condition.[3] Using my instrument with interchangeable blades of different size[4] I was able to operate safely and radically on prostates of any size. I found it possible also to successfully attack large middle lobes by making an oblique incision with the cautery blade on each side of the pedicle, thus dropping it back out of the way,[5] where it would afterward atrophy. In two years I operated thus on 40 cases, with two deaths, only one of which was due to the operation. Of these 15 were over 70 and three over 80, with no deaths, and with cures in all these cases but one.

I feel sure that many of these patients would have succumbed had a suprapubic or a combined prostatectomy under general anesthesia been done with the subsequent prolonged recumbent posture. The use of cocain, the little shock and hemorrhage produced by the Bottini, and the rapidity of the convalescence—out of bed on the second or third day—were the factors which contributed to save them. Since then I have used the cautery incisions on many more cases, some just as old and as desperate as those described above, with similar gratifying results. But while I have demonstrated to my own satisfaction that the Bottini operation is the only safe and justifiable radical procedure in very feeble subjects, I have never ceased to make use of prostatectomy when fit subjects presented themselves.

The publications of Syms, Murphy, Ferguson, Bryson and others within the past two years caused me to turn my attention again to the perineal route. In studying the methods that have been proposed, the intravesical balloon, which Syms used to draw the prostate into the perineal wound, seemed to me to be much better suited to overcome the great objection to perineal prostatectomy, the depth of the wound with the consequent difficulty of reaching the lobes to enucleate them, than Murphy's hooks, Ferguson's capsular retractors or Bryson's suprapubic prevesical incision.

* Read before the American Association of Genito-urinary Surgeons, Washington, D. C., June 12, 1903.

1. Report in a paper before the Medical and Chirurgical Faculty of Maryland, September, 1898.
2. Guiteras: New York Medical Journal, Dec. 8, 1900.
3. Young: Trans. Southern Surg. and Gynecol. Assn., 1901.
4. THE JOURNAL A. M. A., Jan. 11, 1902.
5. Monatsberichte für Urologie, January, 1901.

The rubber balloon did not, however, appear to me to be quite perfect in that it did not seem to furnish sufficient strength for the great traction which is necessary, and the fact that Syms[6] had acknowledged that he found a metal instrument devised by Gouley, which was passed like a sound into the bladder, of great assistance in pushing down the prostate, confirmed me in my opinion that while the idea of making traction by means of an instrument which could be introduced into the bladder through a perineal urethrotomy wound was correct, the method adopted by Syms—the rubber balloon and tube—could be improved on.

I therefore set to work to construct an instrument of metal for this purpose. After several months of experiment, during which I endeavored to discover and correct the faults of each model by operative use, the instrument was completed, as shown in Illustrations 2, 3 and 4. It consists of two fenestrated blades attached to shafts, one of which revolves around the other. When the two handles near the outer end which regulate the rotation are brought together the blades are approximated and in position for insertion into the bladder through the opening in the membranous urethra (Fig. 2). Once introduced above the intravesical limits of the prostatic lobes the blades may be separated by rotating blades away from each other (Fig. 3), when it is ready for whatever traction on its shaft may be necessary to draw the prostate well into the perineal wound. Before discussing the use of this instrument, however, I wish to discuss some problems of technic and conservatism which have been met.

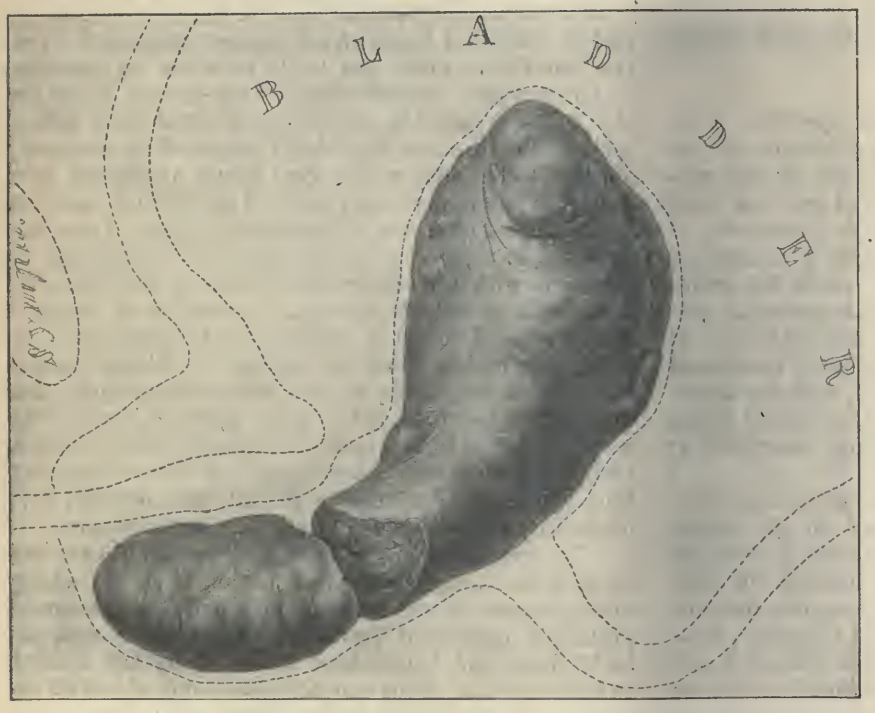

Fig. 1.—A large intravesical median lobe removed by suprapubic route. Actual size.

The Ejaculatory Ducts.—The fact that many of the cases requiring prostatectomy are vigorous men in the fifties, with sexual powers well preserved, renders it important to do nothing to injure their manly vigor.

In a recent report, Petit[7] furnishes the results of a careful study of Albarran's cases of perineal prostatectomy. He was able to follow 6 cases who had had normal sexual powers before the operation. Of these 2, both under 60 years of age, have never been able to have erections since the operation. In 2 cases the erections are much enfeebled; 2 cases are as strong sexually as before operation.

The operation is performed by Albarran without respect to the ejaculatory ducts, the prostatic urethra being opened wide in the median line, and the lobes enucleated through this incision. It would seem that the ejaculatory ducts are almost certain to be injured or removed in this procedure.

Petit mentions the work of other operators and concludes: "It seems to be shown that perineal prostatectomy diminishes if it does not suppress erections in some cases. But it is a curious fact that some cases operated on can still ejaculate." Another evidence of injury done to the ejaculatory ducts is that Petit reports that 12 cases in 30 suffered with epididymitis after the operation.

I know of no other statistics on these points. The three cases on whom I performed perineal prostatectomy by Alexander's method five years ago I have been unable to follow, and the twelve perineal prostatectomies which I have done in the past five months are too recent to draw final deductions from. Although the question needs further study, it is nevertheless evident that due attention should be paid, in performing the operation, to the importance of the prostate as a sexual organ.

In order to determine the relation of the ejaculatory ducts to the urethra and the prostatic lobes, I have made transverse and longitudinal sections in the specimens both of normal and of hypertrophied prostate.

The accompanying illustrations show very graphically the course of the ejaculatory ducts in the normal state (Figs. 5 and 6). As seen here, if we trace them backward from their urethral orifices we find that they rapidly approach the posterior capsule of the prostate; that the tissue separating them from the urethra gradually increases, and that the point of junction of the seminal vesicle and vas is reached considerably in front of the junction of the prostate with the bladder. Stained sections of the posterior portion show a considerable agglomeration of the glandular tissue surrounded by encircling muscular and connective tissue fibers which separate it more or less markedly from the glandular tissue of the adjoining lateral lobes. This mass of glands has been called by Albarran[8] the prespermatic group, and this it is which is most concerned in the production of median lobe enlargements. If this mass of glands (Fig. 5, A) is only slightly hypertrophied a median bar may be produced, which may be continuous with the lateral enlargements on each side, the whole forming a collar around the prostatic orifice. If, however, this group takes on considerable hypertrophy a sessile or

6. Syms: Annals of Surg., April, 1902.
7. Petit: De la Prostatectomie Perineal, Paris, 1902.
8. Albarran and Motz: Annales d. Mal. d. Organes Genito-Ur., July, 1902.

pedunculated intravesical median lobe, sometimes of huge dimensions, results. In these latter varieties another group of glands which lie just beneath the mucosa where the trigone joins the urethra, and which Albarran has called the subcervical group, may take part in the hypertrophy. All these median enlargements grow upward, away from the ejaculatory ducts, from which they are separated by considerable tissue, including their encapsulating fibers.

In the hypertrophied prostate the position of the ejaculatory ducts and vesicles depends considerably on the character, size and disposition of the enlargements. If the hypertrophy is great, and especially if a considerable median lobe is present, the vesical neck is generally found elevated far above the level of the ducts and vesicles, as shown in Figure 7, which is a longitudinal section of a prostate in which the lateral and median lobes are all three greatly hypertrophied. The ducts enter so low down on the posterior surface of the prostate that the median lobe is not in relation to them at all, and is separated from the vesicles by the prostatic capsule. It would, therefore, be easy to enucleate this lobe without injuring the ducts at all if properly done. Note here also the great width of the urethra, the proximity of its floor and the sharp bend which it makes in front of the middle lobe. Cross section A (Fig. 8) is taken where the utricle and one duct enter the urethra; B is taken a little farther back and shows the ducts midway between the posterior capsule and the urethra. Note the inverted Y urethra produced by the verumontanum below and the pressure of the lateral lobes against each other in front, and the slit-like character of the urethra. In C the ducts lie very close to the capsule.

Section D, which has been taken through about the middle of the prostatic mass, shows the junction of the vesicle and vas just outside the prostatic capsule. Note the greater distance of the urethral floor from the capsule. This is shown in still greater amount in C, and the vesicles and ampullæ are here seen to be separated from the median mass by the prostatic capsule. In F, which is taken about 5 mm. in front of the vesical orifice of the prostate, the further elevation of the median lobe is shown. The full extent of the median lobe is shown in the median section (Fig. 7).

Figure 9 is a side view of another specimen in which the vesicles and vasa join the prostate low down on the posterior surface.

In cases of little or no median lobe enlargement the hypertrophied lateral lobes seem also to carry the vesical neck upward and leave the vesicles and vasa behind, so that they are often found entering the capsule well down on its posterior surface, as depicted in Figure 9, the side view of a specimen of considerable hypertrophy of the right lateral lobe. The aponeurosis of Denonvilliers, which is firmly attached to the posterior surface of the seminal vesicles and of the prostate below their entrance, and which binds the two together closely, may be responsible for the upward growth of the hypertrophied prostate and the resultant low insertion of the ducts into the posterior surface.

The results of this study of the course of the ejaculatory ducts may be thus summarized:

In the normal prostate the ejaculatory ducts lie for the most part just beneath the posterior capsule, considerably below the level of the vesical neck, and are separated from it by the prespermatic group of glands.

In the hypertrophied prostate the same statements are true, the only difference being that the ducts enter relatively lower down, and the vesical neck is separated from them by much more tissue, especially if the prespermatic group of glands have taken on growth with the resulting median lobe enlargement, when the vesical orifice is lifted high up above the level of the ducts. The prostatic tissue immediately adjacent to the ducts is beneath the urethra and plays no part in the obstruction, which is caused entirely by the lateral and median enlargements, both of which are well above the ejaculatory ducts.

The measures which I have adopted to preserve the integrity of the ejaculatory ducts and sexual puissance of the patient I will take up a little later.

Fig. 2.—Prostatic tractor closed and ready for introduction.

Fig. 3.—Prostatic tractor opened out as after introduction into bladder.

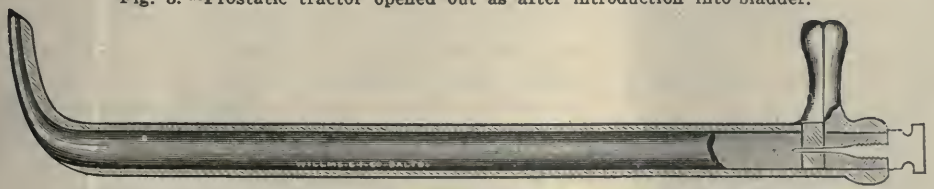

Fig. 4.—Sectional view, showing mechanism by which instrument can be taken apart.

TECHNIC OF THE OPERATION.

Position of the Patient.—The exaggerated dorsal lithotomy position is the most satisfactory. The perineal board of the Halsted table is admirably suited for this purpose. The perineum should be so elevated that it is almost parallel with the floor. Before placing the patient on the table a grooved sound, to be used as a guide for subsequent urethrotomy, should be placed in the urethra, as it is difficult to introduce it after the thighs have been flexed.

Cutaneous Incision.—If the patient is thin, and the prostate apparently close to the perineum, I use a

median perineal incision. This need not be more than 6 cm. long, the posterior limit being near the anus. The dissection is carried through the fat and superficial fascia when the wound is enlarged by lateral traction and the central tendon of the perineum, connecting with the bulb in front and the levator ani muscles behind, exposed. If the patient is a large man with thick perineal muscles, and the prostate is found, on

Fig. 5.—Longitudinal section of normal prostate. A, Prespermatic group of glands.

rectal examination, to be situated deep, or the perirectal fat is abundant, I generally use an inverted V-shaped incision, as shown in Figure 10. The apex of this incision is taken just over the posterior part of the bulb, and the two branches are each 5 cm. long, the posterior limits being about midway between the anus and ischial tuberosities.

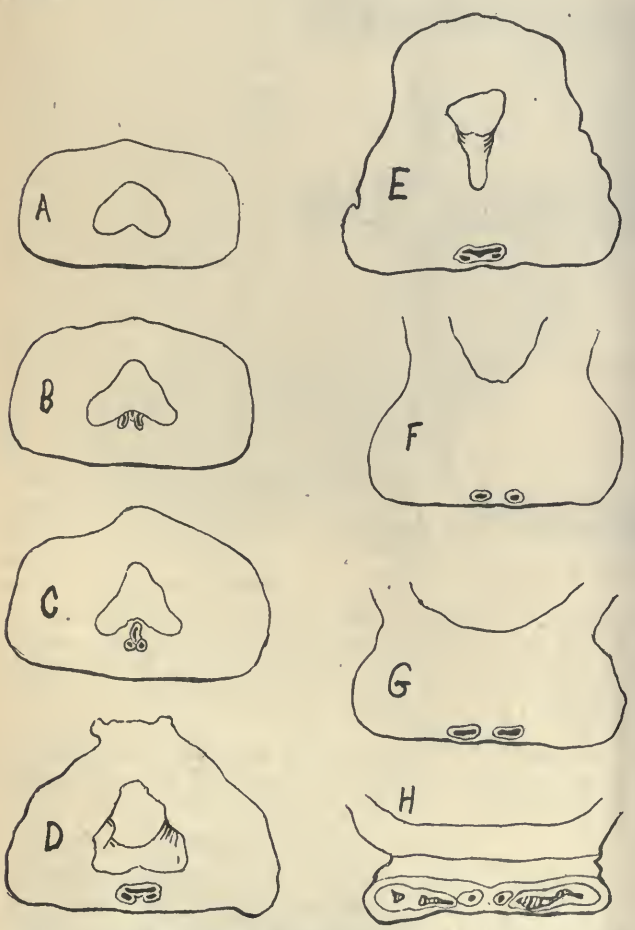

Fig. 6.—Cross section of normal prostate. A, At a point just in front of opening of ducts and utricle; B, at opening of utricle and ducts; C and D, 5-10 mm. back; E, at entrance into bladder; G, at the junction of seminal vesicles and ampullæ; H, the seminal vesicles and ampullæ separated.

I used to employ the inverted Y-shaped incision, but I have found the median portion along the bulbous urethra entirely unnecessary, as the field of operation is far behind that region. Zuckerkandl's crescentic incision gives, I think, an unnecessarily large wound.

The strenuous objections which have been urged by some to any other than a median incision, I think only apply when the lateral incisions are carried through the muscle. This I never do, and the inverted V incision gives me much more room, and allows the rectum to be retracted backward so much better that I think it is often preferable to a median perineal incision.

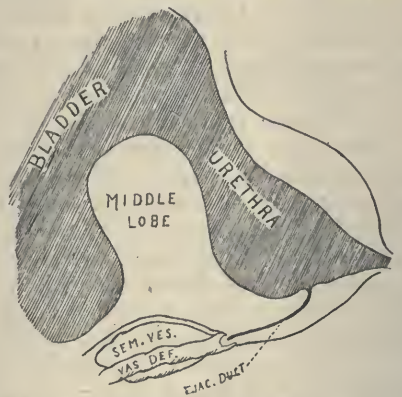

Fig. 7.—Longitudinal section of a prostate, with great hypertrophy of the median and lateral lobes. Urethra very wide and thin. Note low insection of ducts.

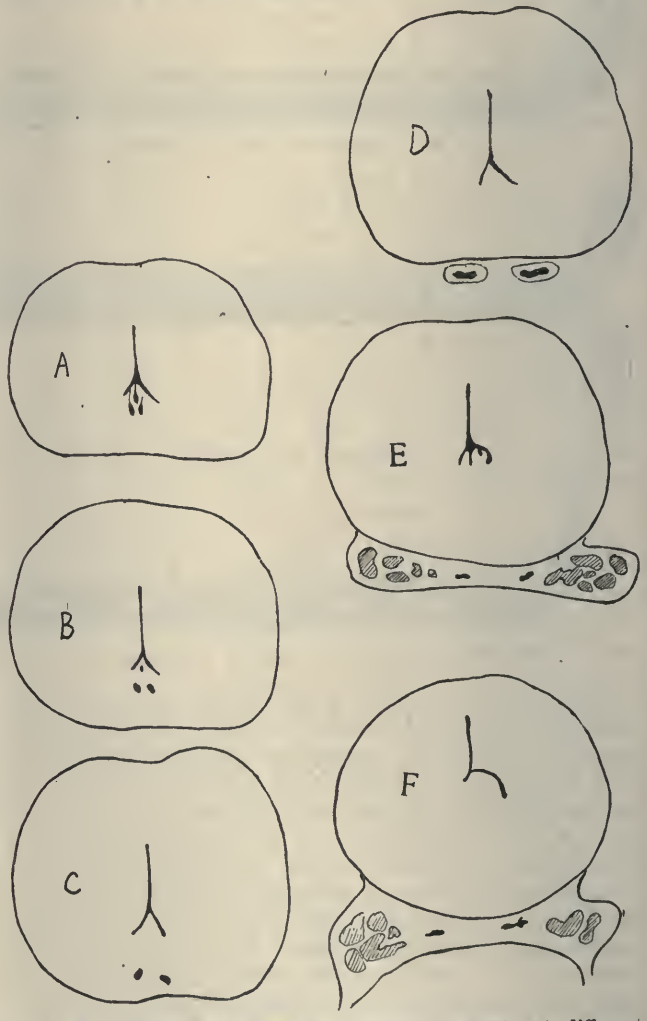

Fig. 8.—Six cross sections of the same prostate at different levels, as in Figure 6. The ducts rapidly approach the posterior capsule and in D are already outside of it. A shows the beginning of the median lobe, and F just before the entrance of the urethra into the bladder.

Exposure of the Membranous Urethra.—After the superficial muscles have been exposed by blunt dissec-

tion, as shown in Figure 11, the central tendon is caught by a clamp near the bulb and divided. This at once frees the sphincter and the levator ani from their anterior attachment, and exposes the rectum drawn forward by the recto-urethralis muscle, as seen in Figure 12. The recto-urethralis is a short muscle with rather indefi-

Figure 9.

Figure 10.

Fig. 9.—Side view of hypertrophied prostate, showing low entrance of ducts on posterior surface.
Fig. 10.—The inverted V cutaneous incision.

nite margins, which, as its name indicates, joins the rectum with the urethra. It is apparently responsible for the acute anterior flexure of the rectum which lies so close to the apex of the prostate and membranous urethra and which one finds in rectal examinations. In

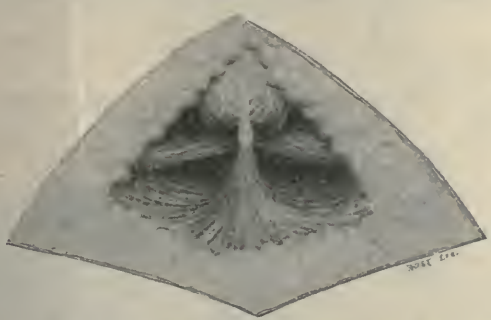

Fig. 11.—Exposure of bulb, central tendon and levatores ani.

order to reach the membranous urethra and the apex of the prostate, it is necessary to divide this muscle, as shown in Figure 13. This at once exposes the *"espace decollable retroprostatique"* which has been so well de-

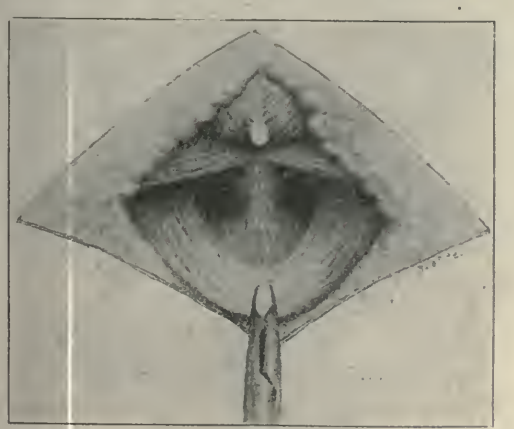

Fig. 12.—After division of central tendon. Exposure of recto-urethralis muscle.

scribed by Proust,[9] who has shown that unless this muscle is divided the operator is apt to tear into the rectum, which is drawn forward by it. Division of this muscle allows the rectum to drop back, and leads at once into the space surrounding the posterior surface of the prostate.

Urethrotomy and Insertion of Tractor.—After the membranous urethra has been exposed by division of the recto-urethralis muscle a retractor is inserted and the apex of the prostate brought into view, as shown in

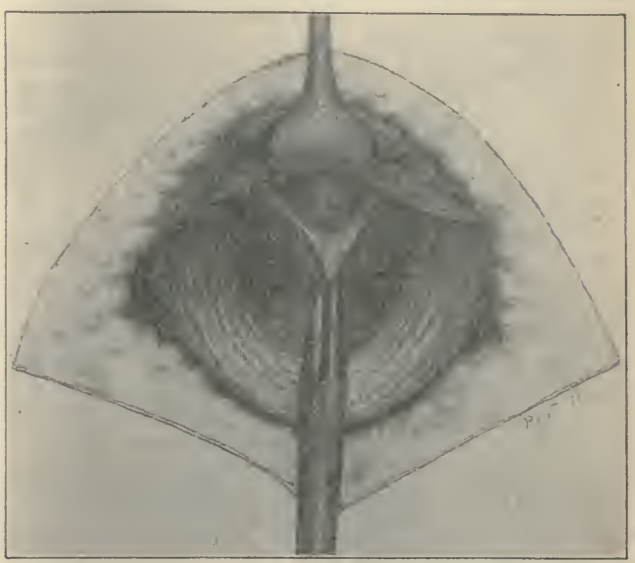

Fig. 13.—After division of recto-urethralis, exposure of membranous urethra.

Figure 14. The membranous urethra is then opened on the sound, which was inserted in the urethra before the patient was put in the lithotomy position, and the edges of the urethral wound caught up by silk sutures or by Kocher clamps. A sound of moderate size is then

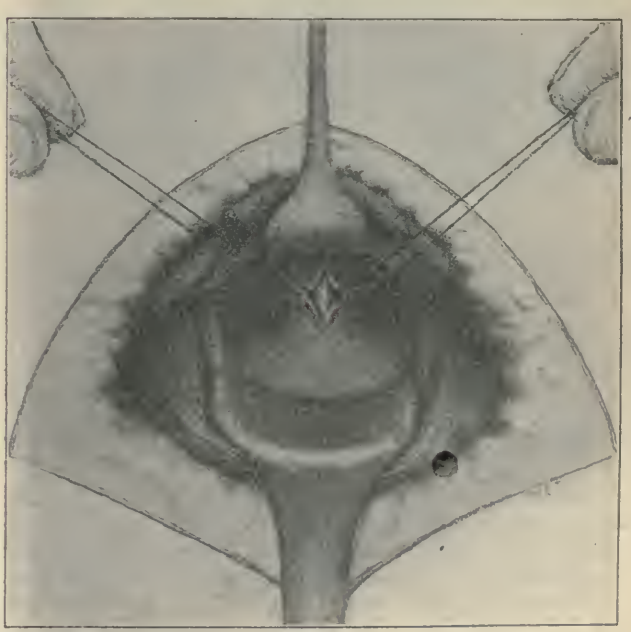

Fig. 14.—Opening of urethra on sound, preparatory to introduction of tractor.

passed through the incision into the prostatic urethra and bladder, and the sphincters dilated by a to-and-fro motion of this instrument.

The prostatic tractor, closed (Fig. 2), is then passed into the bladder, the edges of the urethral wound being held open by the silk sutures to facilitate its introduc-

9. Proust: Technique de l'incision prerectale, appliquée a la Chirurgie genitale chez l'homme, Paris. Thesis, 1902. Centralbl. Harn. u. Sex. Org., 1903.

tion. As a matter of fact, I have never experienced any difficulty in introducing the instrument, the caliber of which is only about No. 30 F.

As soon as the beak is free in the vesical cavity the thumb screw which fixes the blades in position is loosened, the blades rotated 180 degrees by means of the external blades, and then fixed by tightening the thumb screw.

The instrument is now ready for whatever traction may be necessary to draw the prostate well down into the perineal wound, as shown in Figure 15. Figure 16 shows the position of the blades in the interior of the bladder, each blade projecting laterally so as to engage the intravesical surface of the lateral lobe.

Exposure of Prostate and Incision of Capsule.—Lateral retractors are so placed that with the posterior

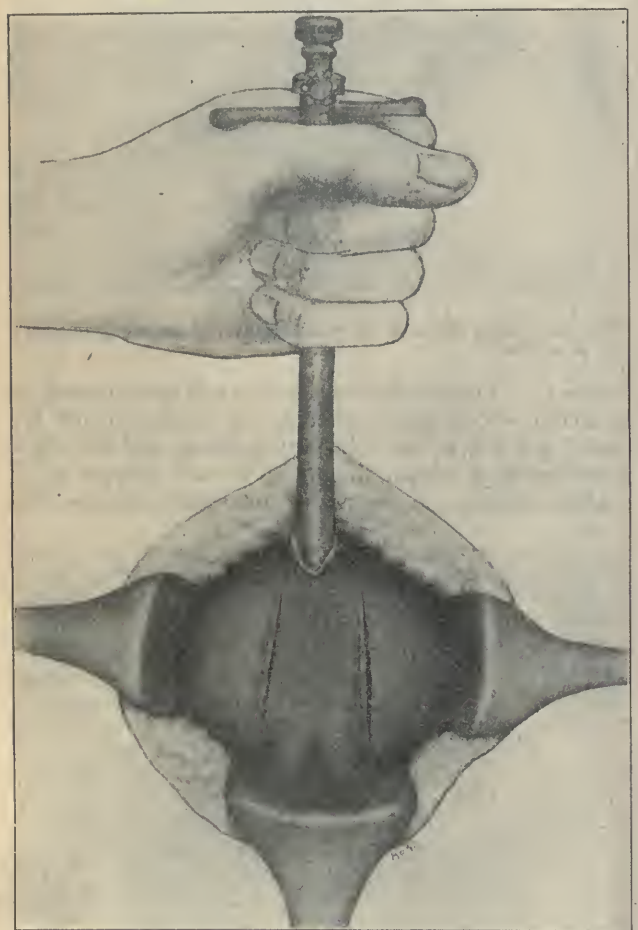

Fig. 15.—Tractor introduced; blades separated; traction made, exposing posterior surface of prostate. Incisions in capsule on each side of ejaculatory ducts.

retractor drawing the rectum backward, and the prostatic tractor drawing the gland outward, a splendid exposure of the entire posterior surface of the prostate is obtained. These retractors should not be too deep. An incision is then made on each side of the median line for almost the entire length of the posterior surface of the prostate and about 1 cm. deep. The two lines are convergent, as shown in Figure 15, being about 1.8 cm. behind and 1.5 cm. apart in front. The bridge of tissue which lies between them contains the ejaculatory ducts, and its preservation is of utmost importance, if the integrity of these structures is to be left uninjured. It is for this purpose that I make the initial capsular incision 1 cm. deep on each side, as these define at once, and correctly, the width of the "ejaculatory bridge," and prevent its being torn, as might happen if we depend on blunt dissection. Another advantage is that these incisions bring us at once to the side of the urethra where the internal enucleation (urethra from inner surface of lobe) can be easily accomplished later on.[10]

Enucleation of Lateral Lobes.—We are now ready to begin the external enucleation, the separation of the capsule from the lateral lobes, which is best done with the blunt dissector, as shown in Figure 17. Capsules are of varying thickness, and contain several layers of

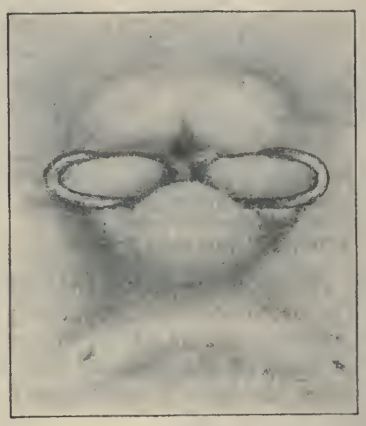

Fig. 16.—Showing position of blades in interior of bladder in case of median and bilateral hypertrophy.

cleavage. It is important to start the separation in the right layer, not too deep as you may be led into the substance of the lobe, and not so superficially as to be out-

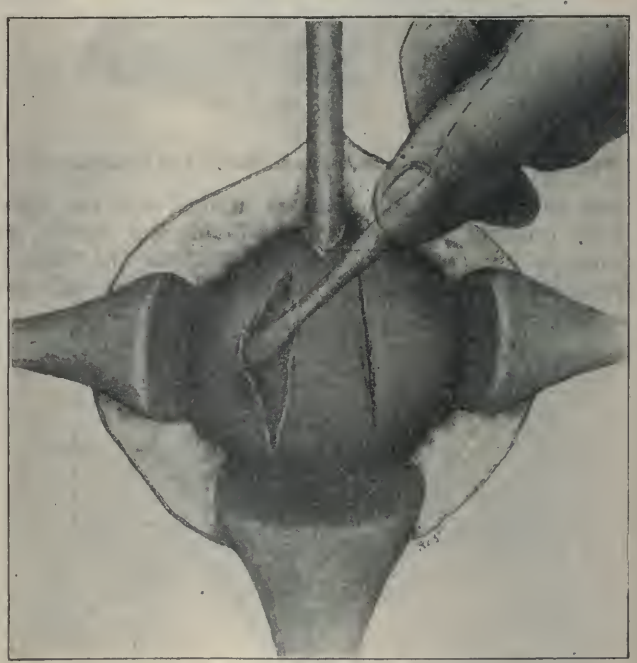

Fig. 17.—External enucleation begun.

side of most of the capsule. After the stripping up process has been started correctly it is easily continued by blunt dissectors until first the lateral and then the

10. Various capsular incisions have been proposed, e. g., Alexander used a transverse incision, Ferguson an elliptical, Albarran, Bryson and others a median, etc. Murphy advised parallel longitudinal incisions similar to those I use, but with the idea of avoiding the vessels in the median line and not, I believe, from any desire to save the ejaculatory ducts, for he afterward deliberately cut away the bridge which contains them, with the idea of preventing muco-cutaneous fistulæ: Discussion on prostatectomy, American Medical Association, Saratoga, 1902, THE JOURNAL A. M. A., Oct. 25, 1902.

anterior surface of the lateral lobes have been freed from the capsule. When the deeper portion is reached I use a special long curved blunt dissector.

The internal enucleation should be taken up after the external, as it is a much more delicate procedure and often requires considerable care to prevent tearing into the urethra. As remarked above, the primary incision is made with the scalpel until the level of the urethra is reached, after which the blunt dissector is used. During this procedure the shaft of the prostatic tractor is grasped firmly in the operator's left hand (Figs 15, 17 *et seq.*) and serves not only to draw the prostate so well down into the skin wound that every procedure is done in plain view, but to steady the prostate and mark out the course of the urethra so that it can be avoided.

Fig. 19.—Sectional view of blades.

When the enucleation of a lateral lobe has progressed fairly well on each side, it is advantageous to have traction made on the lobe itself in order to facilitate the separation of the deeper portion. I tried various instruments—vulsellum forceps, pedicle forceps and hook retractors—for this purpose, but I found that all toothed instruments quickly tore through the friable tissue whenever traction sufficient to be of any assistance in drawing out the lobe was used. It, therefore, seemed advisable to have fenestrated forceps which could grasp the entire lobe, and present such broad surfaces to it that no cutting or tearing of the capsule would be done. I accordingly designed the instrument shown in Figure 18. As seen in Figure 20, the two blades grasped the prostate with broad surfaces, so shaped as to hold, but not to cut, the lobe when the pressure is applied (Fig. 19). These forceps I have now used in four cases, and have found them of great assistance.* The lobes have come out in one piece, and I have been able to apply very great traction without tearing them, thus greatly facilitating the deeper enucleation (see Fig. 20). Nearly all of the enucleation is done with the blunt dissector, but when the intravesical portion of the lateral lobe is reached I generally use the finger so as to avoid tearing through the thin mucous membrane covering it. The intravesical blade of the prostatic tractor, which can be distinctly palpated through the mucous membrane by the enucleating finger, serves to direct the separation of the deeper portion, and warns against tearing into the bladder. It also shows when some of the lobe has been left behind. The conditions present after the enucleating of the two lateral lobes, as described above, are shown in Figure 21. As shown in this schematic cross section, the urethra, which contains the tractor, is left intact. Beneath is the bridge of tissue surrounding the ejaculatory ducts. The empty capsule is shown on each side.

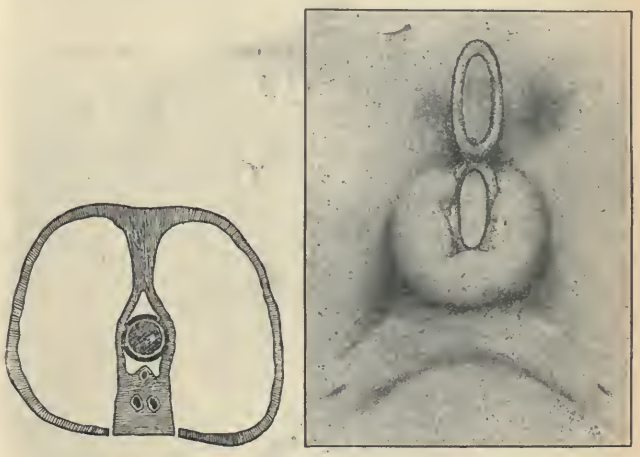

Figure 21. Figure 22.

Fig. 21.—Schematic cross section after enucleation of lateral lobes, showing ducts and median bridge of tissue. Instrument in urethra.

Fig. 22.—The blade rotated so as to engage middle lobe.

Enucleation of the Middle Lobe.—After the lateral lobes have been shelled out, attention should be directed to the median portion of the prostate. If the previous cystoscopic examination has demonstrated a thin transverse bar, it would often be found that removal of the lateral lobes has allowed it to collapse, showing that it was really an artefact, a fold of mucous membrane

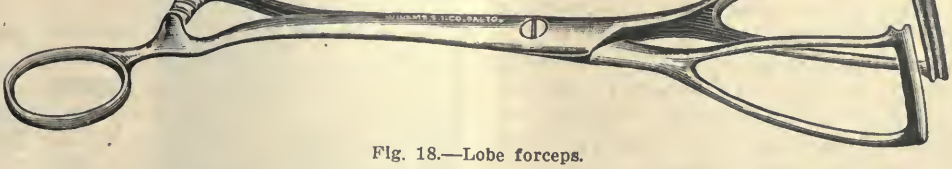

Fig. 18.—Lobe forceps.

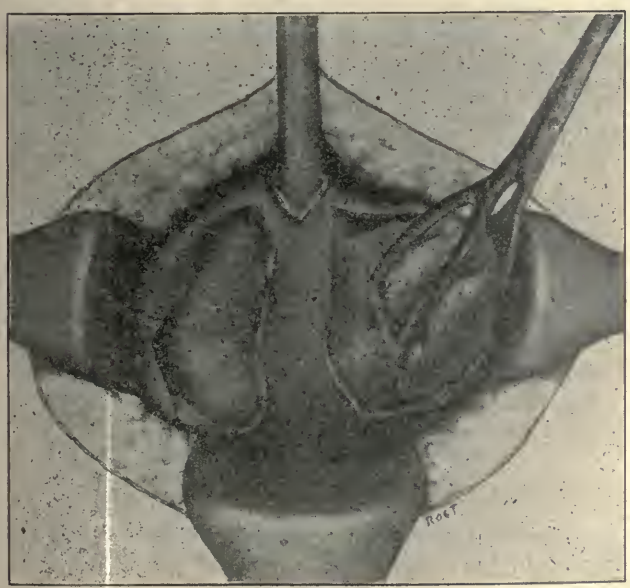

Fig. 20.—Enucleation of lobes. Forceps in position.

* I have since used them in many more cases, and found it desirable to have a smaller size made for small lobes.

hooked up by the lateral outgrowths, and not containing any hypertrophied tissue.

On the other hand, there is most often a more or less extensive hypertrophy of the prespermatic group of glands, and the mass can be easily seen, or felt by the finger in one of the intracapsular cavities (Fig. 23). Further examination will generally reveal a fair amount of tissue between the median lobe and the region of the ejaculatory ducts, which, as I have previously pointed out, lie well forward on the posterior surface, and close to the capsule. The median enlargement is generally more or less definitely attached to one or both of the lateral lobes and is oftentimes already so loosened from its encapsulations that there is no difficulty in shelling it out through one of the lateral cavities—without disturbing the integrity of the ejaculatory ducts and prostatic tissue immediately surrounding them.

The prostatic tractor may be used with great advantage in removing a median lobe, and the technic which I generally employ to draw it down into one of the lateral cavities where it can be enucleated, is as follows:

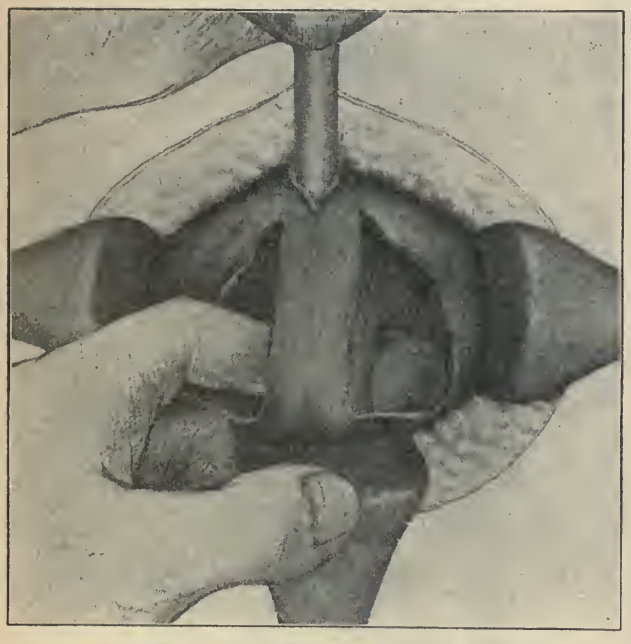

Fig. 23.—Showing technic of delivery of middle lobe into cavity of left lateral lobe.

Push the tractor backward until free in the bladder cavity, depress the handle of the instrument so that the shaft can lie on the top of the middle lobe, and then rotate the instrument 90 degrees, so that one of the blades projects downward behind it. Outward traction should then engage the lobe, as shown in Figure 22, and draw it down where it can be seen by the operator. To get it into one lateral intracapsular cavity (say the left) two maneuvers are of help: Pushing against it with the index finger of the left hand, which has been inserted in the right intracapsular cavity, as seen in Figure 23, and rotation of the blade engaging the middle lobe in the same direction, making traction on it all the while.

After the median lobe has presented in the left intracapsular cavity, the operator turns the tractor over to an assistant who continues the traction, while he grasps the lobe with the forceps described above and then rapidly enucleates it.

The above technic, which I am afraid I have described at too great length, has enabled me to enucleate several median hypertrophies without tearing the mucous membrane covering them.

In two instances I have found the median mass to be directly continuous with the left lateral lobe, and when the deeper portion of that lobe was being freed, that the median lobe was disposed to come with it. I have then rotated my tractor so as to engage the median,

Figure 24.

Figure 25.

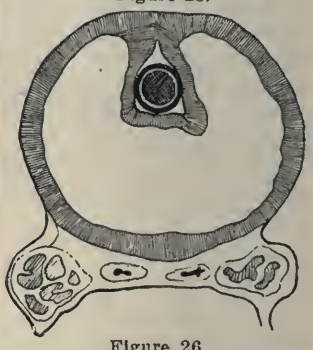

Figure 26.

Fig. 24.—Photograph of prostate in which the left and median lobes were enucleated in one piece. Exact size.

Fig. 25.—Longitudinal section after enucleation of median lobe through a lateral cavity.

Fig. 26.—Cross section at level of cavity left by median lobe.

and have readily drawn it down and enucleated the two in one piece, as shown in Figure 24. In another case a collar-like growth, consisting of a median bar and two lateral masses, was easily enucleated in entirety through the left intracapsular cavity without tearing the ducts

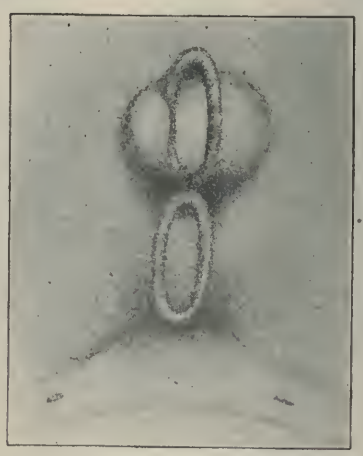

Fig. 27.—Blade engaging anterior lobe.

beneath or the mucous membrane of the urethra or bladder.

I have not as yet had a case with a very large median lobe. In such a case there might be difficulty in getting a blade of the tractor to engage and hold on the summit of the lobe while great traction was made on it.[11] Enormous median lobes, as depicted in Figure 1,

11. Since writing this I have removed a pedunculated median lobe through the left lateral cavity, by the maneuvers described above.

had best be removed suprapubically, as was done in that case; but I believe that it will be possible to remove median lobes of considerable size perineally, and that without destroying the ejaculatory ducts, as outlined above. (I believe now—June 1—that even great intravesical hypertrophies can be removed through the perineum, as in a recent case of mine.) The conditions present after the enucleation of a median lobe as described above is shown in the schematic Figures 25 and 26. Figure 25 is a longitudinal section showing the cavity left by removal of this lobe, the ejaculatory ducts being below and in front, at quite a distance from it. In Figure 26 the median cavity is seen to communicate with the two lateral in each side, beneath the intact urethra. The seminal ducts are separated from the capsule by the posterior capsule.

The Removal of an Anterior Lobe.—The presence of a definite isolated anterior lobe is such a rare occurrence that it hardly need be considered. We occasionally see with the cystoscope small anterior outgrowths, but they are generally continuous with a lateral lobe.

One of my cases was of this character, and, although it looked through the cystoscope like a large rounded mass, I found that it came away easily with the left lateral lobe. I employed a procedure the reverse of that which I have just described for posterior middle lobes, the anterior lobe being engaged by a blade which was directed upward, as shown in Figure 27. The entire mass (left lateral and anterior lobe) was very large, measuring 7x6x5 cm.

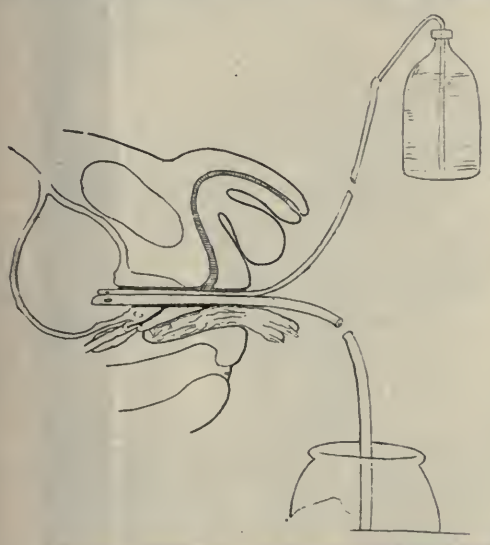

Fig. 28.—Scheme of continuous irrigation apparatus.

Fig. 29.—Two lobes removed by perineal prostatectomy. Actual size.

The ability to make traction on any desired portion of the prostate is of the very greatest value and assistance, especially in enucleating these unusual outgrowths of the hypertrophied gland.[12]

Drainage.—Before withdrawing the tractor, a careful examination should be made by inserting the finger into both of the lateral cavities and palpating the blades through the vesical mucosa, in order to determine that no important glandular mass has been left behind. The tractor is then removed by first rotating the blades until they come together and then withdrawing the instrument. Abundant vesical drainage should be provided, as a small tube may easily become plugged by blood clots and give great annoyance afterward.

I now use the two tubes, one a small catheter and the other an ordinary tube about 1 cm. in diameter. These are fastened together by ligatures at four places, about one inch apart and are prepared before the operation, so that as soon as the tractor is withdrawn they can be inserted through the perineal wound into the urethra and bladder. The catheter is immediately connected with a tank of normal salt solution, and the bladder thoroughly washed clean of blood. It is often advisable to keep the continuous irrigation going while the patient is being returned to his room so as to prevent clogging of the drainage tube with blood clots during transit.

After the tubes have been properly adjusted, they are tied by a heavy silk suture to the skin at the upper angle of the wound. The lateral prostatic cavities are then firmly packed with gauze and additional packing is placed in the retroprostatic space. The tube and gauze drainage as thus provided is shown in Figure 28.

Partial Closure of Wound.—If the median perineal incision has been used, the posterior portion is closed by buried catgut for the muscle, and silk or catgut interrupted for the skin. While no important muscles have been divided (only the central tendon and the recto-urethralis muscle), it is nevertheless advisable to draw together the structures which have been so widely separated by retraction.

If the inverted V incision has been employed, I sew up the muscle and skin completely on one side. The object of this is to restore the perineum to as nearly normal a condition as possible. The other limit of the

12. During the preparation of this paper I find a reference by Petit to an instrument designed by Albarran to depress the prostate. No illustrations are given but, from his brief description, the idea seems to be similar to mine. The fact that it did not prove successful would seem to indicate that there were marked differences in the construction. The instrument which he called a "désenclaveur," is described as follows:

"La désenclaveur est un désenclaveur à deux branches; chaque branche, aplatie, siège à l'extrémitie de deux tubes emboîtés l'un dans l'autre. L'instrument est introduit fermé dans la vessie par la boutonnière uréthral comme le serait un cathéter coudé, c'est-à-dire avec ses deux branches superposées. Une fois dans la vessie, les deux branches sont écartées à l'aide d'un levier externe construit sur le principe de celui d'un lithotriteur. Un index indique la direction donnée aux branches, et l'on cherche ainsi à abaisser le col vésical dans la but de désenclaver la prostate. Ce désenclaveur a été utilisé dans un certain nombre des cas, mais il nous a toujours donné des résultats insuffisants."

[PARIS, Aug. 1, 1903.—Since my arrival here I have found in the shops two other "désenclaveurs," one by de Pezzn and one by Legueu. The former is similar in some respects to my tractor, but it is very much smaller, and is only used to depress the prostate while the prostatic urethra is incised. It is then removed, not being used to assist in the enucleation of the lobes—for which it is manifestly too small to be of any service. Neither author has published a description of his instrument, so far as I know. H. H. Y.]

inverted V and the stretched muscles beneath are partially closed posteriorly, leaving a small opening for the rubber gauze drainage in front.

Using this method of closure there is no more distortion of the perineum after this incision than after the median. And there should not be, as there is no more destruction of muscular continuity in one than in the other; in fact, they only differ in the cutaneous incision.

After-Treatment.—The patient is generally returned to his room accompanied by an assistant who sees that

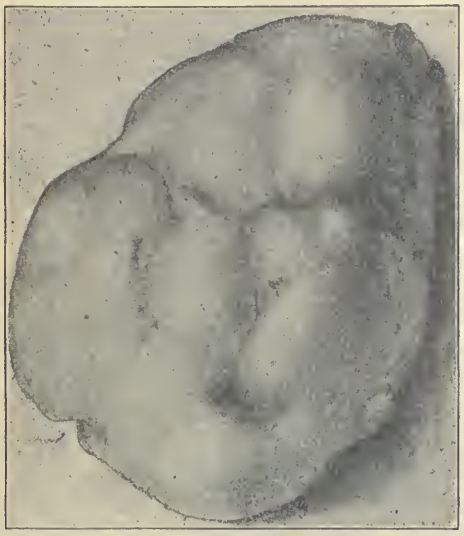

Fig. 30.—Coalescent lateral and anterior lobes removed in one piece. Actual size.

the irrigation is going well, and arranges to have it continued after he has been placed in bed. The apparatus used is indicated in the drawing. The flow is regulated by a screw clamp in the inlet tube. The outlet tube drains into a jar by the side of the bed. If the end is kept immersed in water, air can not get up the tube, and siphonage is obtained, thus keeping the bladder

Fig. 31.—Photograph of a pedunculated median lobe which was removed through the cavity left by left lateral lobe without tearing urethral or vesical mucosa. The three lobes are shown in exact size.

empty and preventing leakage around the perineal tubes. This siphonage is particularly important in suprapubic cases where the drainage is uphill. If the patient has a cystitis (and most have) a continuous irrigation of the bladder with salt solution is kept up often for a week, and, I have found, with great benefit to the vesical inflammation. The task of keeping the reservoir supplied with salt solution is not a difficult one, the nurse having to add a quart about every half hour. It is not necessary to maintain an even temperature—110 to 120 F. in the tank is about right—and the temperature is maintained between these fairly well by the half hourly addition of the hot salt solution. We have also a more elaborate apparatus with the Bunsen burner beneath, but find the simpler method sufficient.

A submammary infusion of 1,000 c.c. salt solution is given either on the operating table or after the return to bed. This is considered so valuable, both as a preventive to shock and anuria, and as a cure for postoperative thirst, that it is never omitted.

The patient is generally kept in bed a week, when the drainage tubes are withdrawn. The gauze drains are loosened on the second day and gradually withdrawn, all of the original being out by the sixth day. The superficial portion of the wound is afterward kept open by a small pack, so as to induce healing from the bottom. On the ninth day, after passing a sound, a small catheter is inserted through the meatus into the bladder,

Fig. 32.—Photograph of large intravesical hypertrophy of median and lateral lobes removed through the lateral cavities without tearing the urethra.

and held in place by straps. Permanent drainage is thus maintained for five days, the bladder being irrigated twice daily with boric solution. When the catheter is withdrawn a good portion of the urine will be found to come through the perineum, but in a short time almost all will come through the meatus, though it is sometimes five or six weeks before the minute perineal fistula closes. I generally use sounds to see that the patency of the urethra is all right, but do not find that it is necessary to pass them regularly and for a protracted period after the operation. I have never seen a stricture following the operation.

RESULTS.

I have now operated on 15 cases with the prostatic tractor, and generally by the technic described above. All of these cases are living and well. All can empty their bladders completely and none use the catheter. Incontinence of urine has never been more than a temporary affair, and the perineal fistula has closed in all, except the recent cases. One case, 69 years of age, with

a tremendous prostate, who had led a catheter life for 10 years, is now, 7 weeks after the operation, voiding urine at intervals of 3 hours. Most of my cases being of such recent date, I shall not lengthen this paper by going into details, especially since it is too early to speak of permanent results.

As to the important question of sexual powers, I have determined that the power of erection is already present in some; that ejaculation is apparently normal, and that the semen obtained by ejaculation contains numerous actively motile spermatozoa and the lecithin bodies which are found in normal prostatic secretion. Their presence show that the bridge of prostatic tissue surrounding the ejaculatory ducts, which I have been careful to leave intact, is furnishing a part of the fluid ejaculated. This is possibly of great importance since it has been shown by Fürbringer that, without the mixture of prostatic secretion, the spermatozoa are nonmotile and apparently lifeless. It is possible that only a small amount of prostatic secretion is necessary to vivify the spermatozoa, and that enough is furnished by the tissue which I have left. On the other hand, it may be that the remaining glands have increased in number after the removal of the lateral compression. Although a longer period of time must elapse before the effects of the operation can be thoroughly realized, I feel convinced, from the cases which I have already studied, early though they are, that the sexual powers will be perfectly preserved, and that their ability to procreate will remain unchanged.

I may also add that the instrument which I have called my "prostatic tractor" has transformed, for me, the operation of prostatectomy. Where before it was (with me—perhaps not with others) an operation done somewhat haphazard, depending largely on the sense of touch, and in the dark; now the entire operation is performed in a shallow wound, accurately under visual control, proper regard being paid to the urethra and to the ejaculatory ducts, so that they are preserved to continue their pleasant duties.

A CASE OF AEROGENES CAPSULATUS INFECTION OF THE NECK.*

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NASHVILLE, TENN.

The case which I have to report is one of some interest from the rather infrequent occurrence and from the fact that the *Bacillus aerogenes capsulatus* was obtained from the wound six days before death.

W. F.—Age 23, black, male, single, laborer, muscular and vigorous; family history negative. Entered hospital January 27, died Feb. 4, 1903.

Gave history of having had a "sore throat," with considerable swelling of left side of the neck in the region of the tonsil. The symptoms referable to the throat lessened, but the external conditions became worse, developing considerable swelling and pain.

His physician, seeing him for the first time at night, made the diagnosis of erysipelas. Later the diagnosis at the hospital was made of suppurative cellulitis of face and neck. At this time his pulse was 128, respiration 30, temperature 102.

An incision was made, from which a small amount of dark fluid exuded, but no pus. Thorough irrigation every four hours with bichlorid of mercury was instituted without visible result. The inflammatory reaction around the wound was not at all severe, and after the second day the skin below the incision slowly separated from the subcutaneous tissue, until at the fourth day a gangrenous area was present reaching from the ear to the clavicle, and discharging a light sanguineous fluid from an opening at the lower edge. About the fifth day the skin was entirely separated, leaving the muscles beneath clearly exposed. The fibrous tissue rapidly became destroyed, leaving the underlying muscles, vesicles and nerves clearly exposed to view as in the most careful dissection.

The swelling was not extreme, and until the last day no emphysema or crepitation was present, and then only in small amount.

The temperature ranged from 102 to 105, being with difficulty kept below 104 by ice caps and baths.

The pulse varied from 128 on admission to 140 at the time of death. Until within a few hours of his death it was full and strong, despite its rapidity.

The respirations were rapid, varying from 28 to 34 most of the time, although there were times when it dropped as low as 20 to the minute.

The urine showed a progressive diminution in quantity, specific gravity, total solids, percentage and total elimination of urea, chlorid, phosphates and sulphates.

The reaction was acid throughout. Traces of albumin and bile were present for the first two days, but did not appear again.

The microscopic examination was negative in all the daily examinations.

The blood examinations were of some interest, showing a progressive decrease in the number of erythrocytes, percentage of hemoglobin, specific gravity and hemoglobin index.

The leucocytes showed a progressively increasing infectious leucocytosis until twelve hours before death, when an enormous drop in their number apparently heralded the end of the patient's ability to react. Up to this time he had been cheerful, declaring that he would be entirely well in a few days.

The decrease in leucocytes was mostly due to a great diminution in the number of neutrophiles, which fell from 86 per cent. to 40 per cent.—almost even with the small lymphocytes, which in turn showed a reciprocal increase.

The full results of the blood examinations may be seen at a glance from the accompanying table.

No bacilli were observed in smears of the blood during these examinations. The last day, about 12 hours before death, some irregularity in the red cells appeared, a number of poikilocytes and microcytes being observed, but at no time were any nucleated red cells noted.

An examination of the pus was made six days before death. In smears a large number of bacteria were observed, but streptococci seemed to be absent. Other cocci staining by Gram's method were present, and a few large bacilli, which in all probability were *Bacillus aerogenes capsulatus,* but on which I was unable to demonstrate any capsule, either in ordinarily prepared specimens or by the special methods of capsule demonstration. Some of the pus was collected in sterile capillary tubes, and from these aërobic and anaërobic cultures were made within 15 minutes of its collection. The aërobic cultures were made in ordinary agar in Petri dishes in the incubator. The anaërobic cultures were made by the method of Veillon. In this method a number (15 to 20) of large test tubes of glucose agar are melted by immersion in boiling water for an hour in order to expel all the air. They are then allowed to cool to within a degree or two of the point of solidification, when one of the infected capillary tubes is plunged to the bottom of the agar and its contents expelled by blowing. As soon as the agar is inoculated it is solidified at once by plunging it into ice water. The capillary tube is then immersed into each of the series of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

agar tubes blowing gently into it and agitating it at the same time. In this way a number of the tubes will be inoculated, the number of colonies varying from one or two in each tube to a number too great to count. All the tubes are now placed in the incubator until the colonies develop sufficiently to be studied. Cultures obtained in this way developed a large number of colonies in the deeper layers of the tubes, which were subsequently separated into a strict anaërobe and four aërobic organisms. The strict anaërobe was determined to be the *Bacillus aerogenes capsulatus* of Welch, although in the beginning some uncertainty arose from the absence of a capsule and lack of gas generation in the wound. Both of these characteristics were, however, observed in subsequent inoculation experiments. The following biologic characteristics were determined and verified in the work of investigation.

The organism is a strict anaërobe, but will grow in deep layers of glucose agar in Veillon's method. I was

RECORD OF BLOOD EXAMINATIONS.

Date, 1903.	Jan. 28.	Feb. 1.	Feb. 2.	Feb. 4.
Red blood cells	4,802,000	4,265,000	3,840,000	3,121,000
Leucocytes	19,524	36,742	72,800	11,121
Specific gravity	1052.5	1046	1037	1030
	Per cent.	Per cent.	Per cent.	Per cent.
Hemoglobin, specific gravity	72	52	33	20
Hemoglobin (Gowers')	70	49	38	28
Hemoglobin index	74	57	49	32
Small lymphocytes	6.2	7.6	.....	37.3
Large lymphocytes	3.8	5.1	.....	22.2
Neutrophiles	89.7	86.3	.....	40.1
Eosinophiles	0.3	1	.....	1.4
Poikilocytes	.....	.....	.....	few
Microcytes	.....	.....	.....	few

* Twelve hours before death.

RECORD OF URINARY EXAMINATIONS.

Date,1903	Jan. 28.	Jan. 9.	Jan. 30.	Jan. 31.	Feb.	Feb. 2.	Feb. 3.	Feb. 4.
Transparency	Hazy	Hazy	Hazy	Hazy	Hazy	Hazy	Hazy	Hazy
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Ye low	Yellow
Specific gravity	1018	1018	1018	1016	1014	1010	1010	1008
React'on	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid
Quantity (24 hr.)	1350		*		*	1299	*	1200
Total s lids.	56.61	*	*	*	*	30.29		23.32
Ur a	1 952	1.9	1.8	1.75	1.6	1.2	1 4	1.2
Total urea (24 hr.)	26.32	*	*			15.48	*	12.0
Chlo ids	6%	*	*				*	3%
Phosphates	1%	.8%	.6%	.5%	.4%	0.5%	.3%	0.25
Sulphates	2%	*	*	*	*	0 75	*	0.5
Sugar	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Mucin	Abund.	Abund.	Abund.	Abund.	Abun	Abund.	Ab nd.	Abund.
Albumin	Trace.	Trace.	Absent	Absent	Absent	Absent	Absent	Absent
Bile	"	"	"	"	"	"	"	"
Microscopic.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.

* Not recorded.

unable to obtain more than a trace of growth by deep stick culture.

In hydrogen, illuminating gas, carbon dioxid and by the pyrogallic acid method growth will result, but best in an atmosphere of hydrogen. Good growths were also obtained under a layer of *Bacillus subtilis*.

The bacillus grows slowly at the room temperature on all media if the oxygen conditions are favorable. They resisted a temperature between 5 and 0 C. for twenty-four hours. The thermal death point was not determined.

When developed in plate cultures in an atmosphere of hydrogen the colonies may reach a size of 1 mm. in diameter in forty-eight hours in the incubator. These colonies are round, convex and smooth. They refract the light strongly and are finely granular when examined under a low magnification. The edges of the colonies are entire. By reflected light the colonies are whitish opalescent. By transmitted light they are a smoky brown. The bacilli are about the size of anthrax, but the ends are usually rounded. They are frequently found singly, usually in pairs or threes, and once a chain of twenty elements was found. In bouillon cultures they appeared to be somewhat shorter than on solid media. They stain easily, but irregularly, by all the common dyes and also by Gram's method. Old colonies show many individuals who do not take Gram's stain, and chains were observed in which alternate cells only remained stained by Gram's method, the intermediate ones being decolorized. The water of condensation, or rather the small amount of water squeezed out of the agar on cooling, contained the most luxuriant growth, despite the fact that it was exposed to the air. This is accounted for, as pointed out by Novy in the case of *Bacillus oedematis maligni II*, by the fact that the oxygen in the water has been displaced by other gases produced by the bacilli deeper in the tube. It might also be noticed that much of the air was previously expelled from this water during the melting of the agar and that the conditions are not favorable for absorption of much oxygen. In all sugar-containing media large amounts of gas were generated, the bubbles beginning to show in six hours, and in twenty-four hours in most cases the agar would be broken in several places and pushed up against the cotton plug. Some gas was produced in media containing no sugar, but in small amount. Gelatin was very slowly liquefied. One series of tubes kept in the incubator in hydrogen for three weeks refused to solidify on being again cooled, while the controls solidified readily.

The organism appeared to be non-motile, and no flagellæ or giant whips were found.

Spores were found once on an old Loeffler's blood serum culture which had been in the incubator in a Novy jar of hydrogen for seven days, and again on a plain agar reimplantation from the blood serum tube. The spores were central and did not cause any increase in the transverse diameter of the cell. All culture media became intensely acid within twelve hours of growth. This was also the case with the tissues of animals which died from inoculation, and in one test made from the secretion from the lesion of the patient. In this case the secretion had collected to the amount of about 1 c.c. in a necrotic pocket between the skin and underlying tissue. This was so intensely acid that I call attention to it as of possible subsequent value as an early diagnostic point. Litmus milk was precipitated and decolorized without being rendered, and a clear fluid left above the coagulum.

In pure culture in intravenous injection about half of the rabbits inoculated died and the bacillus was recovered from the heart's blood and tissues. Dogs were more refractory. When mixed cultures of *Staphylococcus aureus* and *Bacillus aerogenes capsulatus* were given subcutaneously large sloughing areas of necrosis followed in four out of five cases. The last case formed an abscess cavity which discharged pus containing both bacteria through a small fistulous opening, and finally healed completely.

In another series of inoculations in dogs, through cleansing of the necrotic area with hydrogen peroxid, it resulted in recovery.

A rabbit in which 1 c.c. of a bouillon culture had been injected in the ear was killed, as suggested by Welch of

Baltimore, and in twenty-four hours the characteristic swelling occurred. This was allowed to progress at the room temperature for four days, when the distension was enormious. The gas was then collected over water through a canula and found to contain CO_2 hydrogen and a trace of H_2S.

It burned with a very white, bright flame, resembling, although not so intense, the flame of acetylene gas.

I believe that this is the first case reported in which the infection in all probability entered the tissue through the throat and without history of an abrasion or lesion of the epithelium.

DISCUSSION.

Dr. L. Hektoen, Chicago—In connection with this interesting case I would refer to one in which the infection took place through a transfusion puncture of the skin in the submammary region. Spreading emphysema appeared and after death a general infection of the *Bacillus aerogenes capsulatus* was demonstrated.

Dr. Louis Leroy, Nashville, Tenn.—The bichlorid treatment was carried on in this case for a number of days without effect. In the experiments with animals peroxid of hydrogen seemed to stop the process almost within a day. I believe that further observations on the reaction of the pus in such infections will prove of value.

INFECTION OF THE GALL BLADDER AND BILIARY DUCT CONTENTS.*

EDWIN RICKETTS, M.D.
CINCINNATI.

A little more than a decade ago, if a surgeon opened an abdomen for suspected gallstones and did not find them he was most fortunate if the medical finger of derision for diagnostic failure was not pointed at him—gallstones were considered a disease *per se*.

The nomenclature of gallstones, as it has been and is used, is incorrect. It is not important that we should give the anatomy in detail of the liver, and especially of its system of biliary plumbing. A healthy gall bladder should have tonicity and when well filled it should touch the abdominal peritoneum in front, that portion of the liver posteriorly, the duodenum colon, the stomach and pylorus—all of which are in close proximity.

In the healthy subject, the gall bladder can be artificially anastomosed to the stomach, colon and duodenum. Such has been accomplished in neglected cases by no other effort than that of Nature. As the results of infection, we can justly consider such as serious complications, rather than successes. It is important that the family physician appreciates this, along with knowing that the surgeon is competent to do better work, and for this have better results, if he is consulted as to when is the best time for operating.

The simplest procedure of the list suggested for the relief of the infection under consideration, in more than the majority of cases, is cholecystostomy, which consists in opening the abdomen directly over the gall bladder, incising the bladder, cleaning it out and stitching the edges into the small abdominal incision, leaving a temporary sinus for the escape of the secretions of the liver, until it appears certain that that organ has resumed its normal function and has free drainage through the common duct. If a secondary operation is demanded, one can readily and easily reopen the gall bladder that had been purposely attached into the abdominal incision.

In those cases in which the gall bladder has been distended from empyema, it is gratifying to know how they will contract after they have once been drained. Postmortems show clearly the relationship of those organs adhered in closest proximity to the gall bladder and its ducts—for the bile stain present comes from exosmosis. It is claimed that three-fourths of the cases in which gallstones result occur in women. The work of the surgeons does not find that these cases are more frequently found among those of the higher walks of life following sedentary habits. Precipitation, or the result of bile infection, can give a solitary calculus or hundreds of calculi; numbers do not add to the gravity of any case. The germ theory has been well established. The typhoid and colon bacillus are recognized as the greater microbic elements to be dreaded; more especially the colon bacillus.

Experiment has demonstrated that aseptic foreign bodies within the gall bladder, floating in healthy bile, are not exciters of inflammation. It has been further demonstrated that the gall bladder and its contents can be infected by the typhoid and colon bacillus, necessitating a cholecystotomy, and the cystic duct remain free from infection and still perform its function.

It is in this class of cases that rupture of the gall bladder occurs. With the inflammation extending to the cystic and common duct, we can have the biliary colic attacks that so often have been credited to the passage of calculi through the common duct. We have an illustration in the attacks of appendicular colic in which there is no foreign body present. In those distended gall bladders that come from such a redundancy of tissue, there is residual bile, which of its weight causes flexion of the gall bladder at the cystic end.

The cystic and common duct may be healthy and yet fail to carry off these gall-bladder contents. This stagnant bile can easily become infected by the microbes passing through the walls of the colon, duodenum and portal vein through the gall-bladder walls, attacking the bile. This explains how a serious gall-bladder infection can be present while the cystic and common ducts remain patent, or partially so. The patient may succumb to septicemia before Nature can effect an anastomosis of the gall bladder to the duodenum or colon. The adhesions to the proximal tissues are numerous and make formidable the doing of any subsequent operation on the gall bladder or its ducts, as in trying to relieve the distressing symptoms that so often arise. The residual bile results from the redundant tissue of the anteflexed gall bladder, which is lacking in contractile power. The contents are especially liable to infection.

We find many contracted and flexed gall bladders held firm in a bed of adhesions, causing pain and discomfort to the patient. Freeing these adhesions and correcting the flexion often effects a cure. The precipitation of the salts of infected bile can be found in the biliary ducts and in the hepatic cells.

It is not the over-extended gall bladder, and the one which may be readily felt through the thin abdominal wall, that is so badly in need of the prompter surgical intervention, as much as it is the infected and tense gall bladder with localized pain with loss of strength, a low grade of fever, accelerated pulse, and with more or less sallowness of the skin. The localized tenderness is brought out by a deep, firm pressure over the gall bladder by one of the middle fingers, causing a sickening pain. We have pinhole ruptures occurring in the gall

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bladder, cystic and common duct, with the possibility of hepatic and perihepatic abscesses to follow.

Jaundice is a serious complication in those cases that are to undergo a surgical operation. Bile reabsorbed is a formidable poison, acting, as it does on the heart and kidneys. It is much more poisonous than urine. Fatal secondary hemorrhage in cholemic subjects has resulted fatally following a simple abdominal section. In these cases midoperative hemorrhages are not always readily controlled. Rupture of the gall bladder has followed an attack of vomiting. Roth, Schroeder and Schloth made 10,866 necropsies, finding biliary fistulæ forty-three times. Courvoisier reports 539 fistulas; 184 between the bile ducts and the abdominal wall, 108 between bile ducts and duodenum, ninety-three between the gall bladder and the duodenum, twelve between the gall bladder and the stomach, fifty between the bile ducts and the colon, and forty between the gall bladder and the colon. These reports lead us to think that biliary fistulas are not so common as the profession in general have been led to suppose.

The sudden escape of a portion of the contents of an empyemic gall bladder means rapid infection of the peritoneum.

Dr. Barker, Bellvue, Ky., tells of a case in which the tip of the gall bladder was shot away from a healthy subject. Bile poured out freely through the abdominal wound, and with it soon came one large gallstone. The wound was packed and kept clean, and the patient recovered.

In infected gall bladders it is well to make the incision directly over the gall bladder, and after failing to dislodge the stone downward and into the duodenum by the probe, or upward and into the gall bladder by upward pressure of the finger, it is better to incise the duodenum, exposing the common duct opening into the same and, after careful dilating, pass a probe into and through the common duct; pushing, if possible, the calculi up into the cystic duct, or, better, into the gall bladder for extraction from above through the incision by means of the alligator forceps. Any calculi located in the cystic or common duct acting as a ball valve, so graphically described by the late Christian Fenger, can be drawn out through the incised gall bladder by means of the forceps.

With early diagnosis of infection of the contents of the gall bladder—in which the tenderness over the same does not disappear along with the fever, accelerated pulse, lethargy, loss of flesh and strength—a cholecystostomy will relieve these patients better and more satisfactorily than efforts at medication can possibly do.

The early diagnosis of biliary infection is not difficult. With a careful consideration of the principles laid down it is as easy as that of appendicitis. With an early diagnosis these cholecystostomies may be successfully performed under local anesthesia. If difficult complications should arise, general anesthesia may be resorted to in order to complete the operation.

The laity must understand, through the family physician, that it is not a harmless disease, and that this optimistic view that is held is most dangerous to many valuable lives. Those cases that are said to recover from medication are so rare, comparatively, as to be unfortunate for those cases that come after. The liver is the largest secreting organ within the body; its secretions are the most abused in health, the most neglected in disease.

DISCUSSION.

Dr. L. H. Dunning, Indianapolis—I think we all agree that empyema of the gall bladder frequently results in speedy death if drainage is not obtained. But it is a question how far the operation should be carried and how much should be done in severe cases associated with stone in the common duct. These patients are poor subjects for surgical work, and in the majority of instances, if there is an impacted stone in the common duct, or dilated portion of the duct, there is intermittent jaundice; so that we have added to the dangers of shock those of septicemia and secondary hemorrhage. These dangers must be taken into account in every gall-bladder operation. From the picture the essayist has drawn I would advocate in all instances the attempt to remove the stone from the common duct. But if we have a patient greatly exhausted from septicemia and very much jaundiced, either intermittent or permanent, with a stone in the common duct, we will do well in many instances if we content ourselves by draining the gall bladder, because 75 to 80 per cent. of our patients will die if we go beyond that simple procedure. As to cases in which we feel justified in doing something, where there is a stone in the common duct, I would not like to accept in an unqualified manner the technic given by the essayist. I would hesitate to add to the danger of exhaustion the danger of opening the duodenum. I do not believe that we will often find this necessary. If we can not move the stone upward or downward by manipulation it will, in the majority of instances, be better to open the common duct. If the stone is in the middle of the duct or near the duodenum we will have better results if we incise the common duct and remove the stone, which can be done very quickly, and then resort to the method of Kerr—drainage of the hepatic duct by insertion of a tube. These cases have a mortality somewhere between 75 and 85 per cent. even in the hands of such masters as Kerr and Robson. I have found that by simply draining the gall bladder the signs of septicemia pass away, the patient partially regains his health, and the mortality is then only about 10 per cent. Therefore, in these severe cases I advocate two operations: 1. Opening and draining the gall bladder. 2. After the patient has regained health reopening the abdomen and removing the stone from the common duct.

Dr. C. V. Thienhaus, Milwaukee, Wis.—I would like to defend the duodenal route in impaction of gallstones in the common duct. The transduodenal route does not come into question when the stone lies in the upper or in the middle portion of this duct, but it does when the stone is impacted near the papilla or in the so-called retroduodenal portion of the common duct. I do not see any reason, as I have pointed out,[1] why, when a stone protrudes at the papilla and is almost in the duodenum, or when it lies impacted in the retroduodenal portion of the common duct, where it is very difficult to reach from the middle portion, we should not for these cases use the natural and more easily to be performed transduodenal route. I operated on one case in this manner in which a stone was so firmly impacted in the retroduodenal portion that even after opening the duodenum and making a large incision into its posterior wall, it was difficult to dig it out of its diverticulum. After removing the impacted stone three other stones lying higher up in the common duct could easily be stripped down into the duodenum and removed. The woman is perfectly well now and gained 67 pounds since the operation, which was performed 15 months ago. For this class of cases I can heartily recommend McBurney's transduodenal route.

Dr. S. S. Halderman, Portsmouth, Ohio—In the early history it is not always possible to make a diagnosis. The pain is not pathognomonic. I have been very much in doubt at times, owing to the age of the patient, whether there was a malignant trouble or a benign disease of the gall bladder. In cases of contracted gall bladder in which there are but one or two stones, and in which there has been more or less irritation going on for some time without severe attacks of such hepatic colic as accompanies the passage of smaller stones through the duct, I have come to the conclusion that an ex-

1. "The Transduodenal Route, etc.," Annals of Surgery, December, 1902.

ploratory incision is demanded for the safety of the patient. When there is a distended gall bladder in cancer of the pylorus pressing on the gall ducts and obstructing that organ, by draining the gall bladder one can make a patient very comfortable, and, in fact, prolong his life. In a recent case I made an incision and found malignant disease. I drained the gall bladder and the patient lived three or four months with comfort. She had been taking very large doses of opium for the terrible pain, but after the operation she abandoned it.

Dr. H. O. Marcy, Boston—The question of vital importance is how and when to make the diagnosis, rather than the question of operative details. The most lamentable feature of the whole matter is the failure of the general practitioner to recognize these conditions early and bring them to operative procedure early. If we could make an emphasis in this direction we would do a much greater service to the public than by confining ourselves to the technic of the operation. It is true that we ourselves were blunderers. I was the first to remove stone from the common duct, and yet that was almost an accidental condition. But the unfortunate thing was that the patient had been allowed to go on to the risk of life before operation. Let the general practitioner study his cases of obscure gall-bladder disease and not think that when he has biliary obstruction and an extreme case of jaundice that that is the time to consult.

Dr. A. Palmer Dudley, New York—In cases of empyema of the gall bladder, or of systemic infection, I aspirate the gall bladder, having first grasped it with two pairs of fine forceps so that it can not collapse and get beyond my reach. After aspirating the gall bladder, before opening it, we are able to make a more perfect diagnosis of the condition existing in the bladder. Then I refill that gall bladder with a 1-500 formalin solution. I have been using formalin in infection for a long time, and have found it to be a thorough germicide. One can wash out the bladder and aspirate as many times as one pleases until one has a thoroughly aseptic bladder before one opens it to remove the stones. In cases such as Dr. Ricketts described I agree with him. I believe it safer to fasten that bladder up and drain it than to do a radical operation. In many cases a radical operation may seem better for the patient, but with the patient thoroughly saturated with bile, the vessels engorged with bile, there is no contractile power in them. There is no power to form a good plug in such a vessel and the danger of hemorrhage is great.

Dr. Edwin Ricketts—The emergencies bother us more than anything else in operating. It has been well said that the essential treatment of cases in which the stone is in the common duct is along the line of prophylaxis, a procedure which I advocate, for then we will not have the stone in the common duct. One point I want to impress is that there is never a stone in the common duct, but that there have been symptoms long before that that the family physician should recognize and treat by prophylaxis. That prophylaxis is draining of the gall bladder. Washing out the gall bladder with formalin is a good suggestion. The greater number of cases of malignancy occur after the age of 50, but there are quite a few cases of infected gall bladders at 30 and some before 20, and wherever you find an infection I do not see why the general rule of surgery should be reversed and that is, turn out the infection. And yet the gall bladder is the last organ from which the suggestion for drainage should come. Dr. Goelet knows of the pressure on the kidney by a damming back of the urine, causing a hydronephrosis. Is there a surgeon who would hesitate to remove a stone in the urinary bladder, no matter how small? We are beginning to better understand the importance of infection. Delay under these circumstances has caused more deaths than all the surgical experimentation on the bile ducts. Infection of the gall bladder is a bad thing. These are unpromising cases; bad cases to work on. It is far better to handle these cases in the line of prevention than to operate when the gall bladder is full of pus. The importance of not delaying has been demonstrated time and again, and it has been so impressed on me that I now do this work as I outlined it in my paper, and I fear no criticism.

SARCOMATOUS TRANSFORMATION OF MYOMATA.*

THOMAS S. CULLEN, M.D.
BALTIMORE.

This report includes several cases of myomata where sarcomatous changes have occurred. From the num-

Fig. 1.—Probable sarcomatous transformation of a myoma, also discrete myomatous or sarcomatous nodules in the same uterus. At g is a typical submucous myoma. At c one of the sarcomatous nodules, while at d is a transition from the myomatous muscle into sarcoma. Fig. 2 is from the same case.

Fig. 2.—Association of myoma and sarcoma in the same uterus. The myomatous nodules are very easily differentiated from the homogeneous sarcomatous ones.

ber of cases recorded it is evident that the disease is more frequent than heretofore suspected. The sarcoma usually develops in one of several myomata and may

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be situated in a subperitoneal interstitial or submucous nodule. Until recently it was supposed to be confined chiefly to submucous myomata.

Fig. 3.—Sarcoma of the anterior uterine wall. The pale framework c seems to be myomatous in character.

Fig. 4.—Sarcomatous transformation of bundles of myomatous tissue.

The gross changes are characteristic, the firm cross-grained myomatous tissue being replaced by a homogeneous yellowish white growth devoid of a fibrous arrangement and closely resembling raw pork. Degenerations in the sarcomatous tissue are frequent.

Histologically these growths are found to develop from two sources:

1. The connective tissue.
2. The uterine muscle.

Those of connective tissue origin may consist:

(*a*) Of spindle-shaped cells.

(*b*) Of round cells.

In those derived from the muscle a direct transition from the muscle fibers into the sarcomatous ones can be followed. Several such cases have been noted at the Johns Hopkins Hospital.

The clinical history is rather significant: A myomatous uterus has lain comparatively dormant for several years and the patient comes with a history of rapid uterine enlargement during the last few months. If the myoma has been submucous portions have from time to time been expelled "recurrent fibroid," and there is a free offensive discharge. The patient soon becomes cachectic.

The operative significance of recent laboratory investigation may be thus summarized:

1. Whenever sarcoma or carcinoma may coexist with myoma panhysterectomy is imperative—not amputation through the cervix.

2. Bisection of the uterus is contraindicated where there is a possibility of a malignant growth developing in or associated with the myomatous uterus.

3. In every case of hysteromyomectomy it will be advisable to have an assistant open the uterus immediately on its removal to determine if carcinoma of the body exists and to find out whether the myoma has become sarcomatous. If malignancy is detected the cervix can thus be removed without delay.

DISCUSSION.

DR. JOHN G. CLARK, Philadelphia—All scientific research should in some way lead to improvement in the practical treatment of patients, for our vocation as physicians and surgeons is to practice the healing art. From a purely clinical standpoint the work which has been presented by Dr. Cullen may appear to be clearly of scientific and not of practical interest, and yet, if his observations are applied to the clinical care of cases of fibromyomata of the uterus, it at once has a very important bearing. Noble concludes, that while fibroid tumors are benign, nevertheless the ultimate results and complications arising from them are such that it is seldom, if ever, justifiable to withhold operative interference. Practically applied, it seems to me that Dr. Cullen's work is an argument for Dr. Noble's questionable position, for he has shown that fibroid tumors which hitherto we should have taken as simple benign growths may actually already have undergone sarcomatous transformation. About 2 per cent. of all fibroid tumors are associated sooner or later with a malignant process, e. g., in some instances, cancer of the endometrium. This I have recently encountered in my clinic at the University Hospital in two cases, in which no suspicion of malignancy had been entertained. Williams, Pick and Cullen have shown that the muscle or fibrous tissue cells may actually be transformed directly from a benign to a malignant process. In contradistinction to this, cancer may be looked on as simply an engrafted process, which invades and destroys, but is never a pathologic transformation of a connective tissue to an epithelial cell. In hysterectomy for fibromyomatous tumors, my rule is invariably to leave the ovaries, if possible, and a portion of the uterus with its endometrium, in order to perpetuate the menstrual function to its natural cessation. The retention of only one-third of the original volume of the uterus will maintain menstruation. If this transformation observed by Dr. Cullen occurs with any

great frequency the latter policy may be questioned, for we may be leaving behind a portion of a malignant growth. I judge, however, from his paper that this transformation is not frequent, and therefore, especially in young women, the fear of its recurrence should not materially influence us in discarding the conservative policy. While some distinguished surgeons are inclined to deny the possibility of auto-implantation, I am convinced that it is possible to carry cancer cells from the field of operation into healthy tissue where cancer will recur. I wish to ask Dr. Cullen how often these malignant transformations of fibroids occur and how far his observations justify the physician in favoring the early removal of these clinically benign tumors with a view to preventing the complication.

Dr. L. H. Dunning, Indianapolis—I would like to have Dr. Cullen consider the influence of these findings on our technic in myomectomy. I also wish to ask whether or not he has collected statistics on the recurrence of these growths after complete and after partial removal of the uterus.

Dr. C. O. Thienhaus, Milwaukee—Does Dr. Cullen conconsider the presence of giant cells and myoclasts in fibroids a sufficient proof of malignancy? Saenger stated that all fibroids containing giant cells and myoclasts had to be classified as showing sarcomatous degeneration. Concerning Dr. Dunning's question, Martin found sarcomatous degeneration 6 times in 205 cases of fibroids, but this percentage is an exception and extremely high, in my opinion. Landau collected from the literature 10 cases in which following retroperitoneal hysteromyomectomy later on a malignant growth developed in the cervix.

Dr. C. L. Bonifield, Cincinnati—About eighteen months ago a patient came under my care who had had an ectopic gestation that went to full term and who had had a missed labor fourteen years before I saw her. She developed an immense fibroid, larger than my head, which was undergoing sarcomatous degeneration at the time of the operation. I removed the uterus and the tumor and the ectopic gestation, but unfortunately she died a few weeks afterward from a recurrence of the sarcoma.

Dr. T. S. Cullen—It is impossible for me at this moment to tell the exact percentage of myoma cases in which sarcomatous degeneration takes place, but from 1.5 to 2 per cent. show changes definitely sarcomatous in character or strongly suggestive of it. Carcinoma of the body of the uterus is relatively common where uterine myomata exist. Taking all myoma cases we have at least 2 per cent. in which a malignant growth of some character is present. In hysteromyomectomy in favorable cases where there are not many adhesions the mortality will not be higher than this. I fully agree with those who advocate early operation in nearly all cases. Operate before adhesions have formed. I do not wish to deprecate bisection of the uterus. It is a most admirable operation where the uterus is wedged in the pelvis, thus preventing us from reaching the uterine vessels. If we bisect the organ the myoma can be rolled out, more space is thus obtained and the vessels are more easily controlled. But in these cases we must remember the possibility of sarcomatous degeneration of the myoma. We must, however, run the risk of cutting into the sarcomatous myoma as in some of the cases the myoma is so wedged in the pelvis that its removal would be impossible by any other procedure. Recurrences in cases where sarcomatous degeneration has taken place are certainly appalling. In some of the cases where bisection of the uterus was done the patients died of infection in a few days. I have a record of one case where within six weeks after hysterectomy the pelvis was filled with a sarcomatous growth. In one of our cases where temporary recovery took place Dr. Osler saw her six months afterward and there were metastases in one lung and in the mediastinal glands. She soon died. From the histologic standpoint it is most interesting to follow the sarcomatous changes in myomata, but we sometimes have specimens where it is impossible to say absolutely whether a given area is really sarcomatous or merely a suspicious but benign growth. One can not interpret the changes in the muscle cells with the same degree of precision as is possible when considering cell changes in the endometrium. From a systematic examination of the uterine mucosa we have found in nearly all cases where the tubes and ovaries are normal that it is unaltered. The changes that do occur in the endometrium are dependent almost entirely on the situation of the growth. If it be partially submucous the mucous membrane over its most prominent part will be thinned out more and more until eventually it is represented by nothing but a layer of epithelium. This, after a time, is flattened and disappears. In the depressions between the myomata there is often slight gland hypertrophy or polypi develop. Knowing that the endometrial changes are almost entirely mechanical in nature where normal tubes and ovaries exist, we can open up the uterine cavity in myomectomy cases when necessary, there being little danger of infection. On the other hand, it is rarely, if ever, advisable to do a myomectomy where the appendages are adherent. Several years ago I operated on a patient suffering from adherent tubes and a myoma in the posterior uterine wall. There was no evidence whatever of any recent infection. I made artificial extremities for both tubes and then did a myomectomy. Shortly afterward the patient's temperature rose and she developed definite signs of sepsis. Although we reopened the abdomen and drained thoroughly she died of sepsis a month afterward. In this case some old infection evidently lurked in the tubes and readily extended to the uterine walls at the site of the myoma enucleation. I would strongly advise against myomectomy in any case where the appendages are adherent.

A CASE OF ACUTE DISSEMINATED ENCEPHALOMYELITIS,

PRESENTING THE CLINICAL PICTURE OF MULTIPLE SCLEROSIS.

JOSEPH L. MILLER, M.D.
CHICAGO.

Acute disseminated encephalomyelitis manifests itself in one of two clinical types, viz.: As an acute ataxia or acute paraplegia. The ataxia type is often described as acute ataxia, or better, acute central ataxia, the latter term serving to differentiate it from the ataxia resulting from peripheral nerve changes.

Eisenman in 1863 described a case of post-typhoid ataxia as a result of myelitis. Leyden in 1868 reported a case following trauma. Westphal in 1872 reported several cases following variola and typhoid, and was the first to verify his diagnosis by autopsy. Ebstein at the same time reported a case of speech and co-ordination disturbance following typhoid, and eight years later reported the autopsy findings on the same case. Pollard in 1872, under the title, "Case of Locomotor Ataxia, Beginning Suddenly and Disappearing Under Treatment," described what was probably a case of myelitis. During the past thirty years numerous cases have been reported which, with the pathologic investigation, have verified the findings of the earlier writers.

NARRATION OF CASE.

This patient entered Cook County Hospital in July, 1902, in the service of Dr. Dolamore, through whose courtesy I am permitted to report the case.

History.—Patient was 47 years old, laborer. Family history was negative. He had been a moderate drinker during the past ten years; previous to that he drank excessively; he chews and smokes tobacco. He had syphilis twenty years ago and was treated at irregular intervals for several years. Six years ago, as the result of a trauma, he sustained a fracture of the right femur. Three years ago the patient was in Cook County Hospital with croupous pneumonia; during the course of the disease he suddenly developed an aphasia, which was only complete for a few days, rapidly improving. Whether there was an involvement of the legs at the same time the pa-

tient does not know and no record of it was made at the time. A few days later the patient made his first attempt to walk, and found that he staggered like a drunken man. Slight disturbance of speech has persisted since, particularly manifested in a slowness and monotone with inability to make himself understood when excited. The difficulty in walking varies with periods of marked improvement followed by relapses. There has never been any bladder or rectal symptoms. Sexual power is lessened, but eyesight is unimpaired. There is no gastric disturbance. His memory is good. He is more emotional during the past three years.

Examination.—The patient is well nourished and his color is good. The feet are widely separated in walking; toes abducted, heels striking the floor first. Muscular strength in all groups of muscles of both upper and lower extremities is good. There is no marked atrophy. Touch, pain and temperature sense are normal. There is marked swaying when the patient stands with his feet together, which is increased by his closing his eyes. There is no ataxia of the legs when lying down and very slight inco-ordination of the arms. There is slight tremor of the hands when at rest, increased by intended movement; very marked intention tremor in legs; none of head. The pupils are equal, reacting to light and accommodation, with marked horizontal nystagmus, no optic atrophy. Skin reflexes are present; knee jerk is slightly under normal. The patient speaks slowly and in a monotone, no distinct scanning. The hearing in the left ear is slightly impaired.

ETIOLOGY.

The vast majority of the cases of disseminated myelitis develop during or following the acute infectious diseases, especially variola and typhoid, less frequently whooping cough, erysipelas, dysentery, measles, influenza, malaria, tuberculosis and gonorrhea. Several cases are reported following exposure to wet, cold or severe fatigue. Leyden reports a case two weeks after fracture of the arm, Taylor after injury received in alighting from a train. A definite etiologic factor was not apparent in many cases.

Experimentally, Babinski has produced both transverse and disseminated myelitis by injection of *Bacillus pyocyaneus,* Roux and Yersin with *B. diphtheriæ,* Rogers with streptococcus. Eisenlohr found staphylococci in the cord in a case following typhoid. Banir found staphylococci following gonorrhea.

PATHOLOGY.

Westphal examined two cases of the paraplegic type, and found multiple areas of necrosis in the cord. Ebstein's case showed gray foci in the cord and medulla. Examinations of recent cases show perivascular inflammation in the cord, medulla, pons and cerebrum—in the latter in both gray and white matter. The nerve fibers are destroyed, the neuroglia increased.

SYMPTOMOLOGY.

Clinically, the disease manifests itself as an acute ataxia or paraplegia. The characteristic symptoms of the ataxia form given by Westphal were: 1, Slow or scanning speech; 2, ataxia with normal or slightly lessened muscular strength; 3, no sensory disturbances; 4, often psychic disturbances.

The ataxia is often more marked in the upper extremities, or it may be present in the form of a hemi-ataxia. Ebstein's patient could move his legs in bed without difficulty, but was unable to walk. Unconsciousness may mark the onset, the ataxia only appearing later as in Lenhartz's case; anesthesia and sphincter paralysis marked the onset, the ataxia appearing two weeks later. Intention tremor of the head and extremities is usually present. Nystagmus is an infrequent symptom. Speech disturbances are almost always present, varying from complete aphasia to slight slowing or monotone. Slight if any superficial or deep sensory disturbances are present. In Lenhartz's case the anesthesia present at the onset disappeared in two weeks. Sphincters were, as a rule, intact. Ptosis was present in Pollard's case. Optic neuritis has been occasionally noted. Skin reflexes usually unchanged. Tendon reflexes often exaggerated.

The paraplegic type is characterized by a flaccid paralysis, with loss of knee jerk, sphincter involvement and often sensory and trophic disturbances.

The course is: 1, Early complete recovery; 2, partial recovery, with perhaps only one symptom remaining, as the speech disturbance; 3, periods of improvement with relapses, the condition being progressive. Ebstein's case showed slight improvement in the beginning, followed by gradual progression, the ataxia reaching such a grade that the patient was confined to his bed during the last two years. Westphal believed that many cases reported as recovered would later relapse. Early fatal termination is unusual.

RELATION TO MULTIPLE SCLEROSIS.

The clinical picture in many of these cases, including the writer's, is one of multiple sclerosis. Leyden formerly maintained that the absence of progression differentiated it from this condition; this has not, however been supported by clinical facts, as in Ebstein's case quoted above. Instead of an acute process with healing and permanent defects, the acute onset would appear to mark the beginning of a chronic process, which may become latent, but more frequently tends to advance. Pathologists are agreed that the anatomic findings may be identical with those of multiple sclerosis. The clinical symptoms complete the picture, and it would be preferable, as is insisted on by many writers, to consider these cases of multiple sclerosis with acute onset.

TREATMENT.

In the early stages, rest in bed, with special attention to the skin to prevent bed sores, is essential. Cold may be applied along the spine, without, however, much hope of benefit. Later, the use of massage and electricity is of value. The systematic exercises employed in tabes are of value in lessening the ataxia. Freedom from exposure to cold and over-fatigue may prevent acute exacerbation. The long list of drugs which are reported as curative is evidence that spontaneous recovery, or at least improvement, is not unusual.

100 State Street.

DRAINAGE, SEWERAGE AND WATER SUPPLY OF NEW ORLEANS.*

GEORGE G. EARL.

General Superintendent of the Sewage and Water Board.

NEW ORLEANS.

In undertaking to give you a brief account of what has been done, or is contemplated, in the direction of the draining and sewering of New Orleans, as well as in the matter of a water supply for her 300,000 thirsty citizens, I understand that I am undertaking a task which will require a most direct method of treatment, to be kept within bounds as to time, and will, therefore, without circumlocution or delay plunge at once into my subject.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

A map of southern Louisiana will show that New Orleans was begotten, geologically, geographically and commercially by the Mississippi river, which, beside being the Father of Waters, and of New Orleans, is the father as well of a very large area of assorted swamps and fertile alluvial lands known as the Mississippi delta.

Just to the north of New Orleans lies Lake Pontchartrain, which is twenty-five miles wide and forty miles long. North of Lake Pontchartrain are nearly level plains covered by pine forests which rise very gradually as one leaves the lake shore. These are not of any recent alluvial formation, and several of the small rivers draining this area command the only local water sheds which New Orleans could consider as possible sources for a water supply which would yield a soft water, free from the great amount of silt which the Mississippi river always carries. I will have occasion later to speak a little more fully in regard to them.

All the land remaining in southeast Louisiana, east, south and for eighty miles west from New Orleans, is the creation of the Mississippi river. A hundred miles of original gulf front has been advanced eighty miles into the gulf by its deposits. For centuries the river has been scouring half of the continent for material to this end, and no year has passed that it did not, in annual overflows, contribute vast accumulations of silt. Through many outlets, all with shifting channels, it poured its muddy waters, cutting here and building there, according to its whim, but building always until every outlet was in truth a river on a hill. No natural drainage anywhere in the area finds its way into the Mississippi river, but rather seeks the gulf through the swamps behind, the surface of the river, even at low water, being about level with the low lands lying but a short distance from its banks, and at high water so far above even the natural banks which its waters have built, that in order to inhabit and cultivate their fertile fields and protect them from further overflow, artificial embankments, or levees, ranging from a few feet high at the lower end of the river to as much as twenty-five feet in places higher up, have had to be constructed. The lands thus reclaimed are immensely productive and repay many times the cost of their reclamation, and even compensate, in the long run, for the occasional disasters which follow broken levees and the inundation of large areas with the consequent loss of crops and great damage to existing improvements.

These lands, for an indefinite depth, are river silt; a stone even as large as a pea could not be found in a whole parish. They vary from a heavy, sticky, plastic clay to sand of various grades, the clay predominating; while at gulf level the lands have often been covered by vast cypress forests, many of which still remain, while others have vanished and been covered by silt from subsequent overflows, resulting in strata of stumps (some of which excavations reveal in a distressingly good state of preservation) and in other strata of rootlets and vegetable fiber very nearly resembling peat, but often mixed with clay. All of this soil is saturated, though so close grained as to part with its water most slowly and reluctantly. At New Orleans a hole, say four feet in diameter and two or three feet deep, will usually show water at its bottom, but on sinking the hole deeper the water will be taken out with the excavation and without pumping, and it will require often several days before enough water will seep into the hole to fill it to the level at which water originally stood.

In making excavations no picking to loosen the earth is required; a shovel enters easily, but in the predominating clay it takes a strong man to raise a shovelful, and to cast the dirt from the shovel is usually impossible as it sticks with remarkable tenacity.

Such a saturated, plastic soil as just described has only a very limited bearing power; overload it and down goes your structure. It partakes, in a limited sense, of the nature of a thick fluid, transmitting pressures and vibrations somewhat as a fluid transmits them, and making foundations for heavy structures as well as excavations of great depth both difficult and expensive.

Your attention is now invited to a map (No. 1) of New Orleans (the city limits really cover considerably more territory than is shown, but the remainder need not be considered).

Within the area shown by this map there are some 900 miles of streets. Over 600 miles of these are really open, and about 400 miles are in the well-built or rapidly-building area. The total area covered by the map and within the city limits is about 20,000 acres, or thirty-one square miles, sufficient easily to accommodate 1,200,000 people. The top of the map is north. Near the bottom of the map is the Mississippi river, which nearly boxes the compass in passing New Orleans, running in every direction save west, and rendering the question of "where is north" hopeless to strangers and difficult to the dwellers on its banks. At low stages of its waters the river surface rises and falls with the irregular gulf tides, and despite the fact that its minimum discharge is seldom less than 200,000 cubic feet per second, and its distance to the gulf about 100 miles, we often find its surface at New Orleans practically at gulf level.

At extreme high water the minimum discharge is multiplied by ten, the velocity is enormous, and the surface of the seething yellow waters stands twenty feet above gulf level, and as much above over half of the area shown on this map.

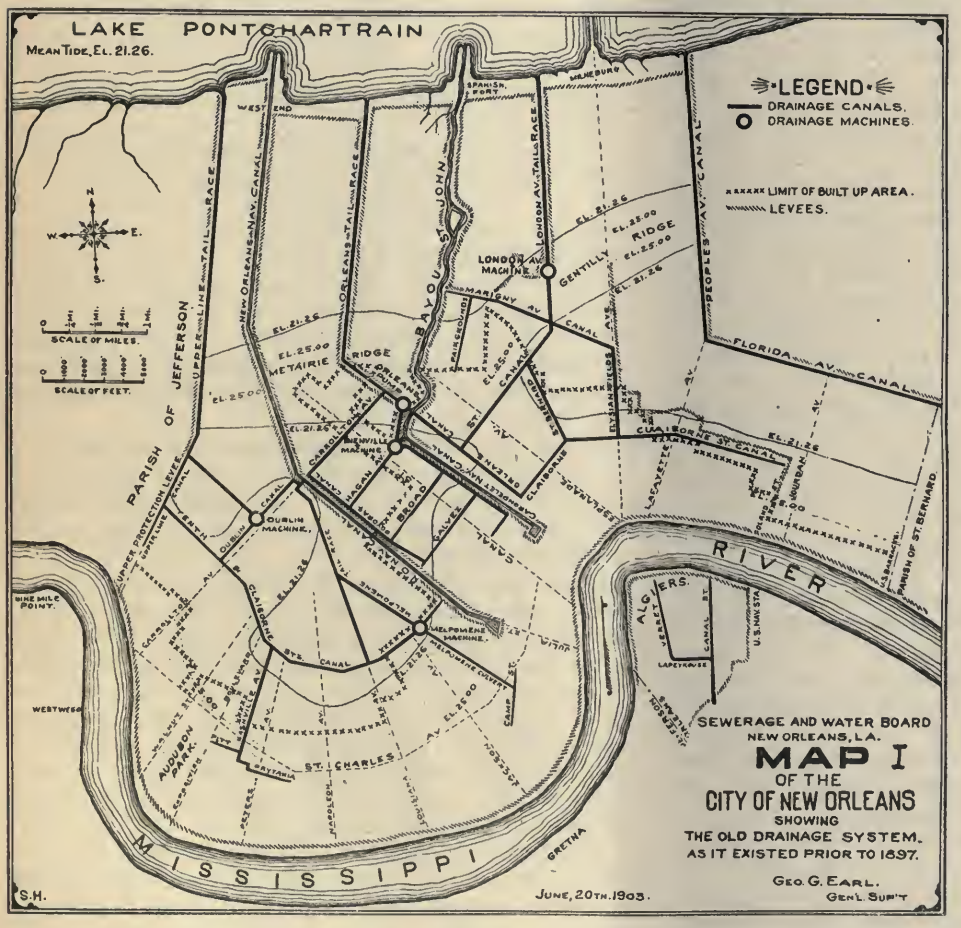
The northern boundary of the city is Lake Pontchartrain, which is really a shallow arm of the Gulf of Mexico, slightly brackish and affected by gulf tides which have a fluctuation of only a few inches daily, but under the influence of the winds have an extreme range of nearly six feet, from two feet below to four feet above mean gulf level. Lake Pontchartrain is a beautiful sheet of water. Several pleasure resorts lie on its shore within the city limits, and the navigation of its waters for both business and pleasure forms an important part of the life of New Orleans. Leading from the lake into the city are two navigation canals in which, also, the water stands at gulf level; at high lake tides their water surface is as much as five feet above portions of the city through which they pass, levees only preventing overflow.

Between the river and the lake, and about two miles back from the lake shore, is a narrow area, one-fourth of a mile wide, crossing the city, marked Metairie ridge and Gentilly ridge. This ridge is the handiwork of an old bayou which at one time traversed it, and which, by the overflow of, and deposit from, its silt-laden waters, erected this barrier, just high enough to prevent high lake tides from flooding the area to the south of it.

This ridge and a strip averaging about a mile in width on the immediate bank of the river, make up the only area which really has a natural drainage. It covers 5,000 acres, or about eight square miles. Even this area averages only about nine feet below mean gulf level and ten feet below the high-water mark of the river. On either side of Metairie ridge, sloping away for

a short distance, the land is between mean and high gulf level (as far as the fine black lines on the map marked "elevation, 21.26"). To the north of this the land lies at or below mean gulf level, and is mostly unreclaimed swamp, as marked on Map IV. This area is about 5,000 acres, and for the present, in sewerage and water calculations, it can be ignored.

South of Metairie ridge we have nearly 15,000 acres, or twenty-three square miles of area; of this, 6,000 acres, or about nine square miles, lie at or slightly below mean gulf level. Under natural conditions, this would be always flooded. Four thousand acres, or about six square miles, lie above mean lake level but below the high-water mark in the lake, and this would also, under natural conditions, be flooded whenever an extremely high-water occurred in the lake.



A line of crosses defines the rear boundary of what may be called the present built-up area of the city. Between this line of crosses and the Mississippi river practically the whole present population of the city have their habitations. The area of this populated territory is nearly thirteen square miles; it has 400 miles of streets and a population of over 300,000 people.

Considering the conditions as just outlined you will not be surprised to note that the high zone nearest to the river bank is that which has attracted nearly all of the population, and that the remainder is either on the intermediate, or else concentrated within lower areas in which artificial drainage has been most effective. The heavy black lines on this map show the only main drainage arteries which existed prior to 1892, and the black circles the pumping stations which had to lift all of the drainage which came to them from their river, or low side, into leveed outfall canals, sufficiently above lake level, on their lake side, to cause a discharge into the lake. These pumping stations were nothing more nor less than great undershot water wheels which were worked backward by steam engines, and paddled the water which came to them forward and upward.

The canals from which and into which these wheels pumped were practically level, shallow earth canals, and the vertical distance through which the wheels could lift was very small. The capacity of the wheels was insignificant in proportion to the vast amount of drainage which they had to handle, and the canal system, as you will notice, was confined to the low areas, the natural slope of the ground from the river to these low areas being depended on to deliver storm water to the canals through open gutters on every street leading from the river directly back to them.

So far as the populated area of the city was concerned, this system of storm water drainage was purely a surface system with open gutters, broad, flat and deep, on every street perpendicular to the river and crossing every intersecting street by surface culverts. Into these gutters liquid household wastes had to be discharged, and in dry weather such wastes were insufficient to cause a current, so that what was practically sewage (since it contained every element of sewage save water closet discharge) lined every street in stagnant pools. With great rainfalls, which are frequent in New Orleans, the waters from the upper end of each street, moving down from the steeper grades along the river front, soon overtook that which was collected where the slope begins to flatten out and the accumulated flow would speedily fill each street from curb to curb, and often from property line to property line; or even worse, being checked at each intersecting street by the necessity for passing through culverts with greatly restricted areas. It would often require several hours for even that portion of the city which really has sufficient elevation for natural drainage to be freed from overflow, while the low areas, as indicated by the vertical lines on the map, being altogether dependent on the pumping stations, would have to wait as many days before the drainage wheels could reduce the general water level to a point that would expose their natural surface and bring the water within the banks of the canals, as shown on the map.

It might be of interest to note that on the day when the people of New Orleans had to vote on the question of a bond issue for sewerage, water and drainage construction, Jupiter Pluvius, who appears here to be chronically unpropitiated, arranged matters so that

rafts, boats, hipboots and hacks were the order of the day. The vicious temper of the potentate above named toward New Orleans has been continually exhibited in acts both of commission and omission. The city gets at his hands an average of sixty inches of rainfall per annum; more than any other large city in the United States, and a great proportion of this unusual total rainfall he crowds into special seasons, days and hours with unprecedented rates; like a half-inch in three minutes, or one inch in ten minutes, or three inches in an hour, or eight inches in six hours; while at other seasons for weeks and even months he permits the dust to blow in our faces and accumulate on our roofs, and allows 60,000 elevated tanks of cypress wood (cisterns collecting roof water) on which the city depends almost exclusively for her water supply, to go dry and shrink until their open cracks show daylight through and through.

The partial construction of the drainage system which will be outlined to you with the next map (II) has greatly relieved the situation as to surface drainage, but with regard to sewerage and water supply New Orleans is as she has been for many years. As to sewerage, there is as yet no sewerage system. Fecal matter is deposited in shallow open pits with porous bottoms. Some of these are partially emptied occasionally by sanitary excavating companies who transport their contents in barrels to a point below the city limits and dump it into the river. Immediately after cleaning, these vaults are particularly offensive. In ordinary operation they appear to resemble the modern septic tank, and so long as they do not receive the greatly diluted flow which water closets yield they are not really bad and very rarely overflow. When, however, water closets are connected either to these vaults or to cesspools sunk deeper into an already saturated soil, then trouble begins and constant emptying at considerable cost discourages the owner, who finally constructs shallow drains near the surface, into the surrounding soil, or in a more direct, though unlawful, way allows overflow into an open gutter.

All kitchen, laundry, bath and other liquid household wastes go direct to surface gutters through flat and shallow alley gutters or pipe lines, and are what render the New Orleans gutter the reproach which it is, and which only a sewerage system can relieve.

In the matter of a water supply, the only other system than cisterns now serving in that capacity was constructed in 1836 and has been from time to time extended until it now covers some 125 miles of streets. The supply is taken from the Mississippi river, and without any purification whatever is delivered directly to the consumer. On an average the Mississippi river contains over two and one-half tons of mud for every million gallons of water. Unpurified, it is unfit for almost any use except lawn sprinkling, and between its comparative uselessness and its rather excessive cost it has gained but small patronage, having only about 5,000 premises connected with it. To be fair to the waterworks company, however, it should be said that the small number of consumers, and the large waste, by the city especially, has compelled the high rates, while the problem of an economical purification of a water of this character is one which has not been at all certain of solution until within a very few years past. The waterworks company made an effort at filtration in 1892 which proved an expensive failure, and thereafter (possibly quite naturally) claimed that the burden of proof as to an economical and successful method remained with those who still urged such purification on them.

In 1892 a franchise was granted to a private company for the construction and operation of a sewerage system, and a year of two afterward arrangements looking toward the drawing of plans and raising of money for drainage construction were inaugurated by the city. Mr. L. W. Brown was then city engineer, and was largely instrumental in getting work on drainage plans started. A strong advisory board of engineers was appointed, consisting of Mr. Rudolph Hering of New York and Messrs. B. M. Harrod and H. B. Richardson of New Orleans. Along lines suggested by this advisory board, and under Mr. Brown's supervision, surveys and investigations were made and eventually a general plan for drainage was recommended and adopted. Map II shows this drainage plan. Its construction has been about half completed at a cost of about $4,500,000.

The central power station is shown by a black hollow rectangle on the map. It contains eleven boilers and seven engines and each engine is connected with an electric generator. The combined capacity of these generators is 5,700 horsepower at the central station switch board, where the electric current destined for the operation of the several pumping stations is controlled.

From this switch board at the central power station lines carry wires to six different pumping stations called respectively No. 1, No. 2, No. 5, No. 6 and No. 7, shown on map by hollow black circles with designating number enclosed. At each of these pumping stations large motors are directly connected with immense centrifugal or screw pumps (depending on the lift required) and are operated as occasion requires by the electricity generated at the central power station.

As now operated, except for the common source of power, there are four separate and distinct drainage systems serving as many districts of the city and finding outlets at points marked on map respectively A, B, C and D, the first three outlets being into Lake Pontchartrain and the last into Bayou Bienvenue, which leads to Lake Borgne, some ten miles east of New Orleans.

The general scheme of operation is the same in each

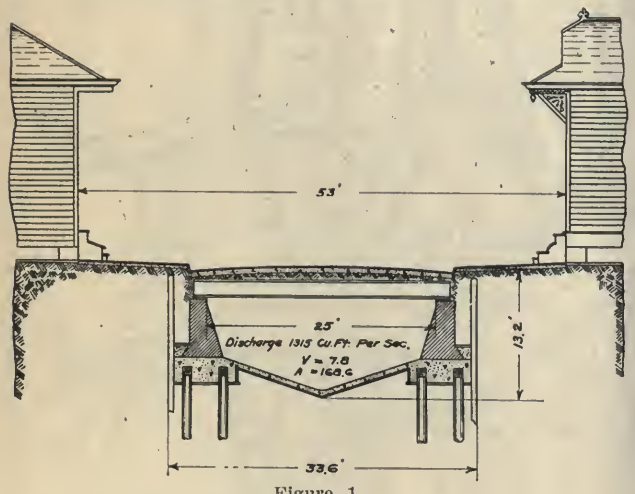


Figure 1.

of these systems, and a brief description of the system having its outlet at "B" will give the method of operation of the other systems as well.

Starting from the higher area along the river front, storm water flows down the gutters or drains of each street until it reaches the first line of collecting canals which run at right angles to and across the lines of natural drainage and intercept all of the flow which comes to them; further along similar intercepting canals collect the drainage from other areas. These intercepting canals are very shallow and small at their beginnings, but increase in size as their length increases; the necessity for slope to produce flow requires them to increase in depth also, since, in the direction in which they run, the ground is level; being short, however, they are not usually more than about ten feet deep at their junction with the main canals, which latter canals, due to the flow thus accumulated, can carry much larger quantities of water in proportion to their area and at lower rates of fall.

The result of this is that where a great many small gutters running directly to an intercepting canal a mile back from the river front would be overcharged and flood all of the streets through which they passed, the single large channel, properly lined and having the same slope, though far less area of cross section than the combined gutter areas, easily delivers the flow which reaches it to a pumping station much farther back from the river bank.

The St. Louis street covered and lined canal, which terminates at pumping station No. 2 and serves an area of about 1,200 acres, has a capacity to deliver to that pumping station 1,200 cubic feet of water per second. It has a flat top, is twenty-five feet wide, six feet high at side and eight feet at center, with "V"-shaped bottom.

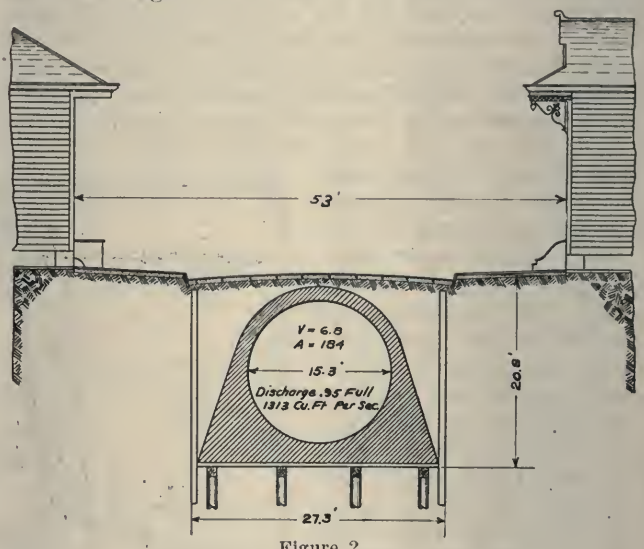


Figure 2.

A cross section herewith presented (Fig. 1) shows the construction of this particular canal, and alongside of it a circular sewer fifteen and three-tenths feet in diameter of equal discharging capacity (Fig. 2). You will notice that the canal section as adopted for New Orleans does not require nearly so deep an excavation as the circular section, depth being an important element, both of first cost and cost of operation where deep trenching

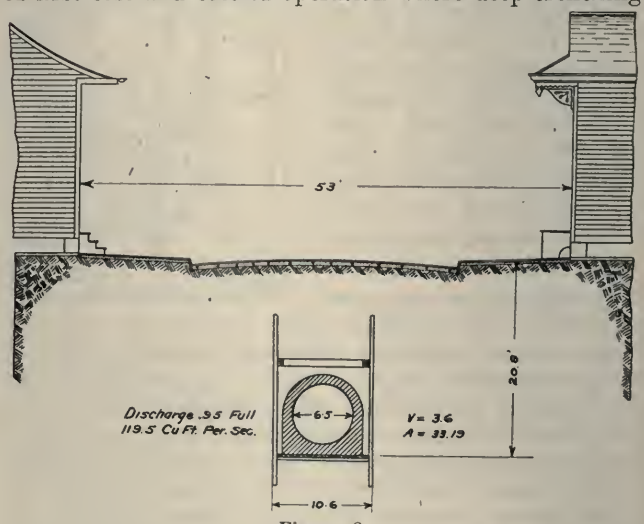


Figure 3.

is expensive and every foot of fall gained by such depth adds a foot of lift later to be made by pumping.

A third, much smaller circular section (Fig. 3) represents a circular sewer, six and one-half feet in diameter, whose carrying capacity, with the same slope, is found adequate to serve the needs of an area of similar size, density of population and surface conditions, in Chicago, as that served by the St. Louis street canal in New Orleans.

The great difference in size, and very much greater difference in carrying capacity in the St. Louis street canal, 10 to 1 as compared with the smaller circular section, represents an immense difference in cost, and is necessitated by the vastly greater rate of rainfall to which New Orleans is subject.

At station No. 2 an artificial outlet for the St. Louis street canal is created by pumping the water which it delivers to that station into the canal on the lake side of it. For the present, two screw pumps having a capacity to lift 250 cubic feet of water per second through a vertical distance of five feet are installed at this station. Future installations, according to the original plan, will raise the pumping capacity to serve this area to over 1,200 cubic feet per second, the 500 cubic feet capacity now existing has already been overcharged, though only part of the area is as yet paved, with a great percentage of impervious surface and adequately served with such local drains as must ultimately exist in order to give prompt and satisfactory delivery of the surface waters from each separate locality into the drainage canals. Improvement in these conditions can only come slowly with the development of the city, with perfected street pavement, etc., all of which tend to bring larger maximum rates of flow into the various parts of the main drainage system.

Having been lifted five feet at station No. 2, the water is carried by an open and unlined canal through a sparsely built area to station No. 7. In order to carry the required quantity of water and still maintain the surface of water in this open canal at a level that will admit of the inflow of the drainage from the area through which the canal passes, pumps at station No. 7 must remove the water which comes to them as fast as it comes and discharge it into the outfall canal on the lake side of the said station; beyond this point no further aid from pumping is available, and the pumps at station No. 7 must be able to completely empty the canals which drain to them into the lake level outfall canal which leads from them, i. e., to make a lift at times of as much as sixteen feet, although the greater part of the volume of water which they raise is not lifted nearly so far.

The present discharge of all storm water into Lake Pontchartrain is a temporary measure; the final plan of drainage, when completed, will divert all of the constant flow, and flow from even moderate storms, into Bayou Bienvenue and thence to Lake Borgne, ten miles east of New Orleans, where the deposit of street washings carried by the drainage system can do no harm.

This very desirable result will be accomplished by a series of canals joining pumping stations 1, 2, 3 and 5; said stations then, under ordinary conditions, will operate as follows:

All waters reaching station No. 1 will be raised into a canal leading to No. 2; all waters reaching No. 2 will be raised again into a canal leading to No. 3, etc., until station No. 5 is reached, when a much higher lift will be made into a level outfall canal, at gulf level, leading to Lake Borgne via Bayou Bienvenue.

Such a series of canals and pumping stations, in order to dispose of the future maximum run off from occasional excessive storms, would have to be of large proportions, and a careful study of the situation finally resulted in a recommendation that provision for about three-eighths of the maximum future run off be made toward Lake Borgne while the remaining five-eighths would be sent through relief canals into Lake Pontchartrain. Only two or three storms a year, possibly, would then find a partial outlet into Lake Pontchartrain, and the relative total amount of water and street washing so discharged would be of no practical effect, while the saving in cost both of construction and operation by such a disposal of occasional surplus waters was a very large amount. For the present the city is unable to undertake the Lake Borgne outlet, and all drainage is through the relief canals into Lake Pontchartrain, as above outlined.

The drainage pumps may be divided into two classes: Those which pump into outfall canals, thus making final disposal of the water which they pump, and those which make intermediate lifts delivering their discharge toward the final disposal stations.

The adopted plan of drainage, as outlined in the 1895 report, calls for an ultimate equipment of final disposal pumps that will have a discharging capacity of over 8,000 cubic feet per second; the present installation of pumps of this class amounts to 2,600 cubic feet per second, nominal capacity (the actual capacity is somewhat greater because the pumps are not called on to throw their maximum capacity and make their maximum lift at the same time, and can throw somewhat more than their rated capacity when working under lower heads).

In the matter of intermediate lift pumps, about 10,000 cubic feet per second capacity is the maximum ultimate requirement, and the present installation has only a capacity of about 1,100 cubic feet.

An adequate idea of present and future total pumping capacity as above outlined may be obtained if you will conceive that the water from all the pumps is frozen in the form of one continuous prism ten feet square as it leaves them; the present discharge would give you nearly half a mile of such prism every minute, while the ultimate rate of discharge would construct your prism at a rate of over two miles per minute.

The proposed drainage system will have about sixty miles of canals. Into these canals storm water from about 700 miles of streets south of Metairie ridge must be delivered. Proper readjustments of gutter grades and laying of subdrain pipe and street paving will eventually perfect this essential feature of improvement, but this development will be tedious and expensive, and can not cover fully every inhabited portion of the city for years to come; even if it could the drainage system of New Orleans could not properly receive the dry weather flow of house sewage for the following reasons:

First, the subdrainage arteries would be too shallow to afford a proper fall for house connections to enter them, and must themselves be so large and flat that the small stream of fouled liquid wastes could not be successfully carried in them, but would form deposits and putrefy.

Second, the outfall canals of the drainage system would, in dry weather, be converted into elongated open cesspools of the most objectionable type.

For these reasons the sewerage of New Orleans is a separate problem and because it must deal with the fouled water originating from the water supply, and passing away as domestic wastes the two problems have certain vital points in common. There is no possible source available for a gravity water supply, and no possible point for a natural gravity sewage outlet; therefore, pumping must be resorted to for each, and all costs, both of construction and operation, hinge on the question of "how much water per capita shall be assumed in designing the systems."

The average water consumption has been assumed at 100 gallons per capita per day, and the water distribu-

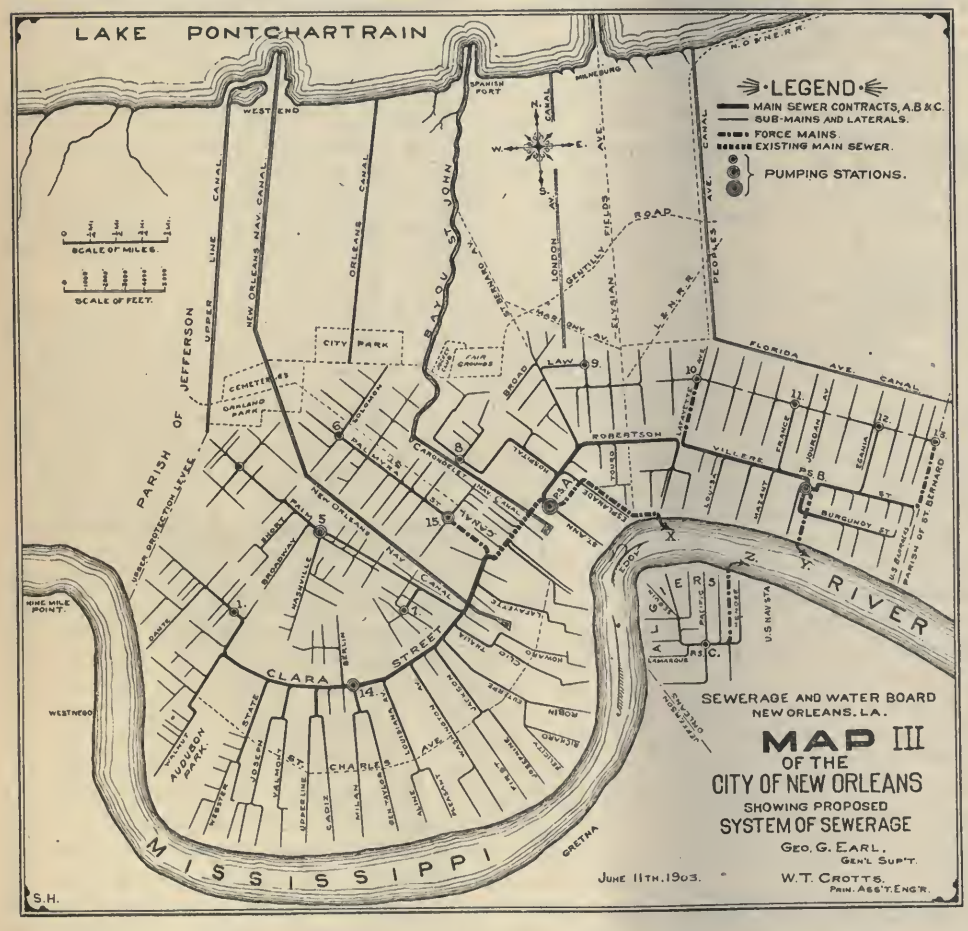
tion system has been designed on this basis, making due allowance for the usual fluctuations of demand incident to the needs of the community, including a fair allowance for fire extinguishment. The next common question is area of territory to be served and density of population on that area. We have drawn both water and sewerage plans to serve the twenty-three square miles of area south of Metairie ridge when said area shall contain 850,000 people. At present thirteen square miles of this area contain about 300,000 people, and the remainder is mostly open. Present construction in both sewerage and water-works systems will only cover the well-populated area.

Turning now to Map III, I will very briefly describe the sewerage system as now proposed. I should say, first, that the private company which undertook a sewerage franchise in 1892, after spending nearly $300,000 on plans and construction, went into the hands of a receiver, and its works and rights were finally purchased by the city in 1902.

A sewerage plan naturally centers about and depends on the available point for outfall, or disposal of sewage. For New Orleans, beyond any possible doubt, the Mississippi river is the proper point for disposal. By a discharge of sewage, below its surface, into its direct current, almost infinite dilution is accomplished and, provided your point of discharge is not into, or above the eddy, you have also instant and continuous removal.

The map shown indicates the lowest considerable eddy existing in the river at New Orleans, and any convenient point below this eddy, on either bank of the river, will receive and effectually remove the sewage of the city. Points on this map marked "X," "Y" and "Z" are the points at which the sewage will be discharged into the river, and points marked "A," "B" and "C" show locations of the pumping stations at which the centrifugal pumps will drive the sewage into castiron force mains leading uphill to the river. The maximum lift which any of these pumps will make will be fifty-five feet.

At station A, where most of the sewage will be collected, the pumps will be operated by steam power and there will be located there also electric generators that will furnish the power to run all of the other pumping stations required for intermediate sewage lifts in the system on the east bank of the river and indicated by circles on the map, numbered from 1 to 15, inclusive. These intermediate lift stations will be connected with station "A" by wire lines laid under ground as the sewers are laid, and will be very small affairs; merely wells into the bottom of which a low level sewer will enter, and in which motor-driven centrifugal pumps, arranged to stop and start automatically with the rise and fall of the sewage in the well which they occupy, will lift the sewage some eight or ten feet and discharge it into another sewer at a higher elevation.



The proper location of these pumping stations, and the most advantageous and economical arrangement of the collection system leading to them, is the whole secret of sewer design for New Orleans. Years of study have developed the system as outlined on the map shown; every available foot of natural fall is used to the utmost, and the principle of concentration of flow as outlined in connection with the drainage plan is applied with immense advantage.

The map before you only gives the main lines into which the flow from the local areas is concentrated.

As designed, 87 per cent. of the total mileage of sewers will be eight-inch laterals laid with a fall of one foot in 300 feet, with their tops nowhere less than five feet below the surface and seldom more than nine feet below the surface. At each dead end (i.e., the head of each lateral sewer) an automatic flush tank will be placed, which will be gradually filled with clear water from the water-works system, and once every twenty-four hours will discharge all at once some 250 gallons of water, thus creating a cleansing current at the extreme upper end of each lateral sewer. Beside the sewage proper and the flow from flush tanks the sewers will also receive a considerable amount of ground, or seepage water which, no matter how carefully the joints are made, will find its way into them. In calculating the size of the sewers we have estimated that about one-third of the annual rainfall will gradually sink into the soil and run off through the sewers as a constant ground water flow. The under-drainage of the soil thus ob-

tained will be of advantage from every point of view, decreasing the saturation of the soil and guaranteeing, even during the early life of the sewers, a sufficient volume of flow to procure good velocities.

The system as designed, when working at its full capacity, or even when the sewers are half full, will carry sewage at gradually increasing velocities, ranging from two to three and one-half feet per second, from the most distant portions of the system to the final disposal pumping stations. Every pumping station will create, continually, an artificial low outlet for all of the sewers draining to it, and the flow in the sewers themselves will be only due to their fall, and as certain as the laws of gravity which hold, even for New Orleans. The very longest line of travel from point of origin to river outlet will be 7.8 miles, and this distance will be covered in less than five hours, before putrefactive changes have had time to manifest themselves, in channels which are smooth, clean, well ventilated and designed exactly to perform most efficiently the one particular object of sewage removal.

The question of a water supply begins naturally at its source. For New Orleans there is simply no possible gravity source of supply. Local artesian waters are bad in quality, inadequate in quantity and beyond consideration in the cost of either constructing or operating a system of water supply for a large city.

North of Lake Pontchartrain there are several water sheds, already referred to, which would furnish, or could be developed to furnish, a very desirable water supply of soft and reasonably clear water. Local population on their area and a certain amount of color, of vegetable origin, and of fine silt in suspension would necessitate filtration for any one of these waters, but they would not be difficult to filter. The nearest and cheapest of these projects, however, would require a pipe line forty miles long, mostly through a gulf level marsh. The delivery of forty million gallons per day through a forty-eight inch pipe line for such a project would necessitate the construction and operation of two pumping stations, each capable of lifting water 220 feet to overcome the frictional loss in the level pipe line and deliver the water into a tide level reservoir at New Orleans, after which filtration and pumping for distribution would still be necessary.

The cost of such a forty-mile pipe line and pumping stations to force water to the city would be over $4,000,000, or very nearly all that the city has to spend in waterworks construction, so that nothing would be left to construct filters, pumping station for distribution, or a system of distribution pipe over all of the streets of the city; which last-named works stand ready to consume the whole fund available for water-works construction, and without which an abundant water supply in Africa would be just as valuable an asset to New Orleans as though it were at the city line. Evidently the supply from over the lake is beyond present consideration. There remains, then, only the Mississippi river. Its advantages as a source of supply are manifest. It is at our door and inexhaustible; in many respects it is a most desirable water, being low in bacteria, free from odor and color, and cool and pleasant to the taste and showing practically no evidence of sewage pollution. It is, however, not a soft water, since it contains a fair amount of the carbonates and sulphates of lime and magnesia in solution, and it most certainly is not a clear water, being, on the contrary, at New Orleans, almost always very muddy, and a large proportion of this suspended matter is composed of submicroscopic clay particles which it refuses persistently to part with in any reasonable period of subsidence. It was evident to the author of this paper, when he was elected to his present position in 1900, that the problem of the clarification of Mississippi river water must be solved successfully and economically if the present generation was to see an adequate clear water supply in New Orleans. A careful study of investigations lately made at Louisville and Cincinnati looking to the purification of somewhat similar waters convinced him that a study along the same lines at New Orleans could not fail to point a proper solution, and he, therefore, immediately commenced to urge the necessity for such an investigation.

The advisory board of engineers which was consti-

tuted a little later also urged an early investigation in this connection, and the sewerage and water board promptly appropriated the necessary amount of money for its execution. The investigation was carried out under the personal supervision of Mr. Robert Spurr Weston, resident expert, along lines approved by Mr. Geo. W. Fuller of the advisory board of engineers, who had conducted the similar investigations at Louisville and Cincinnati, and resulted in demonstrating an economic and efficient method of purification for Mississippi river water at New Orleans. I understand that Mr. Fuller will present you a paper on water purification, and will leave in his hands any general discussion of this subject, only giving in very hastly outline here a description of the plant which is now being designed to carry out the method of purification which was shown to be most efficient and economical to meet the local requirements.

Map IV shows the proposed pipe distribution system for the delivery of water throughout the city, and at the left-hand side of the plate, along the upper city line, is the proposed location of the pumping and purification plant. Seventy acres of ground will be needed when New Orleans has 1,000,000 of population, and that area will be acquired now. The advantages of the particular location chosen lie in the facts that it takes its water from the river above the city, is near enough to the river to allow of the location of all pumping machinery under one roof, is in proper line and will serve equally well as a purification and distribution station if later it should become advisable to go higher up the river for a supply, or even to bring in water from across Lake Pontchartrain, and that from it better than any other point in the city an economical distribution system, adequate to present needs and extensible to conform with future requirements, can be constructed. The distribution system, both present and future, will have to speak for itself from the map while we trace briefly the outline of the proposed purification and pumping plant.

An intake will be located at the low water shore line of the river, at the upper end of the city. The suction pipe will terminate in this intake, and river water, always taken from near the surface where the turbidity is least, will be admitted into this intake. The suction line from the intake will be a level line nearly a mile long, and laid two feet below the lowest water level in the river. Through this line centrifugal pumps will draw a constant stream of water, containing an average of 650 parts per million of suspended matter and will discharge it at the bottom and the back end of a masonry reservoir ten feet deep and holding about twelve hours' supply for the city; at the other end of this reservoir, from its top, a skimming weir will collect an equal amount of water which will be found to have lost an average of 35 per cent. of its suspended matter by twelve hours of plain subsidence. To this water then a coagulant will be added and, after thorough mixing, the whole will pass into the bottom at the back end of the coagulating reservoirs, where again twelve hours of subsidence will be allowed, after which the effluent of these basins will be skimmed into a collecting conduit leading to the filters. The rate of application of coagulant will be so proportioned that when the water reaches the filters not more than 50 to 75 parts out of the original average of 650 parts per million of suspended matter contained in the river water will be carried over and this last contingent of persistent turbidity will have been so altered in its form that, whereas in its original condition a very slow passage through a thick layer of fine sand would not have removed it, in its present condition even rapid passage through a thin layer of relatively coarse sand will suffice, not only to remove the last trace of it, but to enmesh as well a very high percentage of the bacteria which the water contained. As coagulant, sulphate of alumina will probably be used, an average of about four grains per gallon of water being required.

The filters are merely thin layers of sand underdrained each to a single discharge pipe terminating in an automatic controller by means of which the rate of passage of water through the sand layer is regulated. When the sand layer becomes clogged by the retained suspended matter the filter is cut out of service and cleaned, first by forcing air and then filtered water at a very high rate backward through the sand layer, thus loosening and removing the deposit which is collected by overflow into channels just above the sand layer and drained off into a sewer. Three or 4 per cent. of the water filtered will be required for washing the filters. Beneath the filters will be a small clear water basin from which the water will flow to the pumps which will either force it directly into the mains of the city distribution system, under a pressure of about ninety pounds per square inch, or else raise it into covered clear water reservoirs where it will act as a reserve supply to tide over periods of greater demand when the flow from the filters is insufficient.

A year's operation of the system, just above roughly outlined, during our investigation never once failed to yield continuously a perfectly clear water which satisfied every practical hygienic test for purity, and there is no reason why an intelligent operation of a larger plant should in any degree fall short of equally good results. The process, however, requires a high grade of supervision, if its best results, both in cost and quality, are to be obtained.

The foregoing attempt to cover the three topics of the sewerage, water and drainage of New Orleans in brief descriptive form, within a compass that would really be too short to even treat adequately either project, has necessitated the utmost simplification of even the general subjects, and the passing over of all detail.

These works, to accomplish ends long held to be impossible by many citizens of New Orleans, have really been reduced to such simple and certain general form that their successful operation is now beyond question. All three of the plans are the "boiled down" results of many more pretentious efforts. The simplicity of general features is their greatest strength.

Many details are less simple, but it is probable that further study and the application of experience gained elsewhere up to the time of complete construction will result in a further simplification even of such details. Especially is this true in the water purification plant, which plant, as applied to waters of the character of the Mississippi river water, represents an art whose birth and development is of the last decade, and one in which for some years to come, at least, every effort must bring added evidence for the more positive determination of the large number of variable factors which must be most advantageously combined to produce the best results at the least cost.

We are certain that we can purify Mississippi river water at an additional total cost for purification of not over one and one-half cents per 1,000 gallons. This seems a very modest sum and if quoted at the cost per pint it would sound even better, but a great city uses millions of gallons, and in our case for 40,000,000 gallons of water it amounts to $600 per day for the removal

of about 100 tons of mud and 98 per cent. of the bacteria. It is well worth the cost, and more if necessary, but very small items of improvement as they can be developed aggregate immense savings and are, therefore, decidedly worth while.

The total expenditure available for sewerage, water and drainage construction by the end of 1908, when the aim is to have practically completed the sewerage and water system, will have been about $18,500,000.

602 Carondelet Street.

DISCUSSION.

Dr. G. T. Swarts, Providence, R. I.—Is there any underground system at all in New Orleans, or is it all open canals?

Mr. Earl—The drainage system is covered and lined pretty well throughout the populated area of the city. However, that only covers about sixty out of four hundred miles of streets, so that, in effect, all of our sewage at present goes to surface gutters, and eventually gets into the drainage canals which intercept the flow from the surface gutters; there being no sewerage system proper, in any sense of the word.

Dr. Swarts—No pipes, drains or brick sewers under the ground?

Mr. Earl—No, sir; except in individual cases, such as the Charity Hospital and a number of places which have force mains running to the river through which they discharge by pumping.

Dr. Swarts—What about the St. Charles Hotel, for instance?

Mr. Earl—It has a force main and pumps its sewage into the river. So also do a number of the leading hotels, the Charity Hospital and other public buildings.

Dr. Swarts—They build, I suppose, below the proposed intake you mentioned?

Mr. Earl—The proposed water-works intake is at the extreme upper end of the city, and everything that goes into the river is below that intake. You know, we have some fifteen miles of river front.

Dr. Swarts—From an engineering standpoint I would like to ask why the pumping stations are placed so far from the river; why should not the pumping be done at the river?

Mr. Earl—It was a question, first, of the acquisition of the necessary area; we have to get land where it can be reasonably acquired, where it is not much built up. Beside, it fits in better in the matter of distribution. From the point chosen you get the shortest line of transmission to your center of population for your large water mains.[1]

Dr. J. S. Fulton, Baltimore—I remember, six or seven months ago, seeing a sample of the water here. It had been standing for some length of time, but had not yet deposited its milky sediment. Will the proposed plan of filtration exclude that in any way? Will chemical precipitation get rid of that sediment or is there any mechanical way of doing it?

Mr. Earl—The fine particles you speak of can only be gotten out by coagulation. Filtration without coagulation fails almost every time to entirely clarify the water, and no term of subsidence will bring out that milky deposit. It is submicroscopic matter that will not go down except by means of a coagulant. After being properly coagulated it is easily removed by filtration.

Dr. Swarts—How long will the filter operate?

Mr. Earl—From 12 to 24 hours between washings.

Dr. Seneca Egbert, Philadelphia—In my humble judgment the city of New Orleans is going at the problem in the right way, and they seem to forestall, as far as they can, the various questions that may arise as the city grows larger. I was especially glad to see that they intend to use the separate system in a large part of their sewerage plan; and the idea of the pumps at the substations driven automatically by electric motor, using power from a central station, was very unique to me. It struck me as a clever solution of a difficult problem. It may have been tried in a crude way before, but I do not know of any place where it is done on such a large scale as here. I think, with the longest lines not over eight miles in extent, they will get a speedy removal, within five or six hours, of their sewage, which means the elimination of a great deal of annoyance, offense and danger from stagnant or decomposing sewage.

Of course, as to the water supply, we have to take their word about the sedimentation, coagulation, etc. It is interesting to learn that coagulation will be used on such a large scale, and also that the work can not be done with the sand filters that are working so well elsewhere, as, for example, in Albany, N. Y. But I understand the problem that confronts this city, and can appreciate this solution of the problem.

1. This question and reply referred to the water works pumping stations. The sewer pumping stations are located on the lines of most economical gravity collection in low areas; from such stations shallow force mains leading to the river are much cheaper than the very deep sewers that would be required if pumping stations were located on the river bank.

Special Article.

THE PURIFICATION OF WATER SUPPLIES BY SLOW SAND FILTRATION.

(*Concluded from page 967.*)

IV.

WATER FILTRATION IN THE UNITED STATES (CONCLUDED).

C. THE PHILADELPHIA FILTER.

The city of Philadelphia has long and faithfully served sanitarians as a text for discourses on the effect of polluted drinking water. Not only has the physical character of the city water, as drawn from the tap, ordinarily been sufficient to excite the repugnance of every stranger who has tarried for a while within the gates, but the citizens of Philadelphia themselves have for years suffered so severely from typhoid fever that the local conditions have been a by-word and a reproach all over the United States. Civic pride, some of which undoubtedly exists in Philadelphia, can hardly contemplate with equanimity the yearly tale of youths and maidens offered up to the Minotaur of ignorance and neglect.

At intervals, during more than a quarter of a century, various public-spirited organizations have employed experts and commissions to report some plan for purifying the water supply and for abolishing the source of so much municipal suffering and disgrace. All these projects, however, although they have been worked out with more or less elaboration and usually with due regard to the state of knowledge concerning water purification at the time of their presentation, have not until very recently received serious consideration by the responsible authorities. About 1898-9 an outbreak of typhoid fever of unusual severity caused even the supine municipal authorities of Philadelphia to recognize the imperative necessity for immediate action.

In 1899 a commission of distinguished engineers appointed by the mayor presented a report recommending (1) the adoption of a project by which the waters of the Schuykill and Delaware rivers should be purified by filtration; (2) the immediate improvement of the existing plant in accordance with the detailed recommendations of their report. This report, in its main features, has formed the basis for the final plan for filtering the entire city water supply, and at this date the construction of a comprehensive filtration plant is well under way.

One feature in the situation at Philadelphia demands consideration not so much from its rarity as from its deplorable frequency of occurrence in American cities.

This is the enormous consumption of water as compared with the consumption in all European cities and in some of the more carefully controlled American municipalities. All responsible authorities are agreed that the Philadelphia consumption of 175 to 200 gallons daily per capita indicates excessive waste. When so large an amount of water is demanded by a municipality, the cost of constructing proper filtration works is proportionately enhanced and in some cases may prove an insuperable obstacle to the installation of a suitable plant. It is well known that the consumption of water can be reduced to a reasonable point by the introduction of the metering system and other devices, which tend to diminish avoidable and wilful waste. "Consider, if you please, what would happen to the city gas-works if bills were collected according to the size of the house and the number of fixtures, the charge being the same whether gas was used in an economical and modern manner or whether every jet was lighted and allowed to burn all night and all day long, too, for that matter. You will see that with such a system gas would be deliberately wasted on every hand and the consumption would increase to several or many times the normal and proper amount. As the works would not be operated at a loss the rates would be raised to cover the needless use of gas and would be much higher than would be necessary under economical conditions. This condition of affairs is so absurd that it is difficult to give it serious consideration, but it is precisely what is being done in the water department, in spite of the urgent protests and appeals of the present chief and of his predecessors for the substitution of a more rational and business-like basis."

The plans for the yield of water from the Philadelphia filters are on a most liberal scale, and if reasonable measures for the restriction of water waste are gradually introduced the cost of filtration to the citizens of Philadelphia should not on this ground prove excessive. The city of Philadelphia has in the past derived its water from the Delaware and Schuylkill rivers, over 90 per cent. of the supply coming from the latter source. The Schuylkill river has been the recipient of sewage not only from a rather densely populated watershed, but from important suburbs of Philadelphia itself. A large amount of the drainage from these suburbs has been permitted to enter the river only a short distance above the city waterworks, and, although attempts have been made to lessen this pollution by the construction of intercepting sewers and in other ways, recent investigations and occurrences have shown that the Schuylkill is still grossly and dangerously contaminated. In addition to receiving a mischievously large amount of sewage, the Schuylkill is most objectionable from the point of view of its mineral constituents. Near its source it receives sulphuric acid from the oxidation of the sulphid of iron in the coal, and this sulphuric acid is neutralized during the passage of the river through extensive limestone formations, so that the reaction of the river water, on reaching the city, is excessively "hard" and unsatisfactory. The river also passes through a soft red shale which is easily disintegrated and at certain times contributes its quota of suspended matter to the stream. Mr. Trautwine, who was for some years chief of the bureau of water, writes as follows concerning the mineral matter in suspension:

> In times of flood this formation (the red shale) sends vast volumes of its substance in suspension into the stream, which at such times runs blood red. The first effect of a general storm is therefore a visitation of red mud, which a day or two later is followed by water charged with coal dust. The writer has seen water drawn from faucets in Philadelphia, after storage in the city reservoirs, so black from coal dust as to be scarcely distinguishable from ink.

The serious character of the task thus confronting the citizens of Philadelphia and the necessity for radical action can be readily appreciated from the facts just given. The custom of supplying an inordinate quantity of water, combined with the unfortunate character of the Schuylkill, both as regards mineral and organic constituents, caused the path toward water purification to bristle with unusual difficulties.

A very fortunate solution of the problem, albeit an expensive one, has been found. This is nothing less than the virtual abandonment of the Schuylkill as the source of the main city supply, recourse being had to the Delaware river for the major portion of the new supply. This involves practical reconstruction of a large portion of the distribution system and entails the reorganization of the whole system of expensive reservoirs and pumping stations. Taken in addition to the cost of filter construction proper, it will be seen that the expense of the whole sweeping improvement will be indeed formidable.

Filter beds are now being constructed in four separate localities: (1) At Belmont on the west bank of the Schuylkill, comprising eighteen filter beds and designed to supply West Philadelphia, a region of the city which in the past has been a severe sufferer from typhoid fever. Ultimately 26 filters will be installed at this point. The water for this plant is taken from the Schuylkill. Ample space is allotted for a sedimentation basin and a pure water reservoir, and space is available for the extension of the system when necessary. (2) Lower Roxborough, on the east bank of the Schuylkill, is equipped with five filter beds which have been in operation some months. (3) Upper Roxborough, a plant of eight filters, some of which are now in operation. The upper and lower Roxborough stations are designed to supply the Germantown district. (4) The main filtering plant in the new system is at Torresdale on the Delaware river, well above the influence of the city sewage and in a district adapted for filter-construction. Here an enormous plant of fifty-five filters is being installed, with prospects that ten more filter beds will be contracted for in the near future. The total capacity of the Torresdale works, after preliminary rapid filtration of the water, will be 248,000,000 gallons daily.

The method of construction is substantially the same at all of these stations. The first filter beds built, those at lower Roxborough, are about half an acre in area and are somewhat smaller than the later filters, those at Belmont and Torresdale being about three-fourths of an acre each. Full advantage has been taken of the experience gained in the construction and operation of the Albany filter and several improvements suggested by recent American experience have been carried out. The filters are all covered, and both piers and vaulting are of concrete, a construction device that marks an advance over the brick piers laid at Albany. Great care is being taken at Philadelphia in the arrangement of the graded layers of gravel, five layers, ranging from six inches to one inch in thickness, being used. An ingenious and most economical contrivance is being employed at Roxborough for removing the scraped sand from the surface of the bed to the central court, where it is washed and stored. In the older works the "scrapings" are wheeled out in barrows. The new sand-ejector invented at Philadelphia, by means of which the sand, shoveled into a hopper

directly from the surface of the bed, is conveyed by a stream of water to the outer court, ought to diminish very greatly the expense of operation.

During the course of the work many experiments have been made under the direction of Mr. Hill, chief engineer in the work of construction, and some of these led the officials to believe that by subjecting the water to preliminary rapid filtration through layers of gravel, slag and sponge it will be possible to operate the slow sand filters at a rate far beyond that which is customary when raw surface waters are applied directly to the sand beds. It is even believed that as high a rate as 6,000,000 gallons daily per acre can be reached after this preliminary treatment. If the event justifies this hope, the filtering surface needed to supply the city, even with its present exorbitant demand, can be greatly reduced. It is estimated that the Torresdale filter-beds alone will supply more water than is obtained by the city of London from all sources, over twice the daily consumption of water in Paris and four times that in Berlin.

The general opinion prevails among informed engineers that the construction of the Philadelphia filter plant is being conducted in a careful and efficient fashion, and that when the works are completed they will compare favorably in point of good construction with any similar undertaking. It is most unfortunate that, together with this belief in the high character of the work as actually performed, there should be a very general feeling that the price paid for the work by the city is inordinate. Rumors of favored contractors, of large "rake-offs" and of a general atmosphere of "graft" are so common in connection with the discussion of the Philadelphia situation that one is reluctantly compelled to lend them credence. It is, for example, a well-known fact, and one that is openly discussed, that all employes engaged in the work are assessed for "campaign funds" on a graded scale. It is said that 1 per cent. is levied on salaries up to $1,200, 1.5 per cent. on those up to $2,000, 2 per cent. on those from $2,000 to $2,500, and that even those holding high positions are not exempt. It is alleged on excellent authority that promotions are controlled absolutely by political influence, and it is claimed that some of the ablest engineers engaged in the work at the outset have been gradually driven out by a swarm of political appointees. It is surely unfortunate that so great an undertaking, involving the coöperation of many scientifically trained engineers and investigators, should thus suffer from being dragged in the slime of politics. The situation is one of general interest and concern. It is not a matter of merely local importance that the Philadelphia filter plant should be costing so much more than it ought to legitimately, but the event affects all cities interested in water purification, since a large expenditure at Philadelphia will be used as an argument for opposing the introduction of purification methods into other municipalities, on the ground of the costliness of the undertaking.

Museum Appliance.

ROUND OR SQUARE JARS FOR MUSEUM SPECIMENS.

D. S. LAMB, M.D.,
Army Medical Museum.
WASHINGTON, D. C.

An objection and, so far as I know, the only objection to the use of round jars for museum purposes is that the round jar distorts the view of the specimen. After many years experience in museum work I believe that the objection is more theoretical than real; practically there is no difficulty in getting a satisfactory view of specimens in round jars. The same objection, of course, would hold against the "Buchhold" preparations and against all specimens mounted under bell glasses. I believe, however, that in these cases also one who examines the preparation is brought so near it during the examination that the distortion is practically unrecognized.

On the other hand, the round jar has many advantages which I believe far outweigh its one disadvantage. The following may be mentioned:

First, the simplicity of the round jar, consisting as it does of but two parts, the jar proper and lid, both made of glass. The lid is ground so that it closely fits the mouth of the jar and thus prevents the entry of dust and evaporation of the preservative fluid. The matter of evaporation is of importance for some fluids, especially alcohol, but of little moment where hygroscopic fluids like glycerin are used. The square jar is fitted with a glass or metal top or cover which is either cemented tightly to the jar or not; if it is, it of course prevents entirely the removal of the contents of the jar. Otherwise the top is clamped to the jar by means of two metal or wooden screws. Some jars have also a bottom plate which is fastened to the top plate on each side by two pillars and these are made tight by nuts. To prevent evaporation and keep out dust, a rubber pad or ring is inserted between the plate and jar; and if there is also a bottom plate another pad is inserted there to avoid the shock of the jar against the plate. It hardly needs to be mentioned that the square jar is complicated as compared to the round jar.

The second advantage of the round jar is the ease and rapidity with which it may be cleaned and emptied. The cleaning is as simple as is the construction; its contents can be quickly changed and its contained specimen can be removed and replaced in a moment.

To keep the metal work of the square jar clean and bright would be a task indeed in a museum of some thousands of jars. The brass mountings quickly tarnish and indeed at the best the jar with its mountings lacks the beauty and grace of the round jar. And to change the contents or remove the specimen from the square jar requires the unscrewing of the clamps and removal of the rubber pads. Sometimes the screws are rusty and the rubber often adheres to the glass so firmly that it has to be torn away and is ruined in doing so. It must be stated in fairness that sometimes the lid of the round jar sticks closely to the neck and requires to be tapped with a mallet to be loosened.

Third, an objection to the rubber pad and ring is that some preservative fluids act on the rubber, rotting it and causing not only a discoloration of the fluid itself but a permanent discoloration of the specimen.

Fourth, the round jar has attached to the under side of its lid a hook on which the specimen may be hung by a thread; the removal and replacing of the specimen is thus made easy. Nothing could be more simple. The absence of the hook from the square jar (for it is usually absent), renders it necessary many times to make a glass frame to which the specimen may be attached; this frame is of course very liable to be broken, in which case a new one is necessary.

Fifth, the round jar adapts itself to the shape of many specimens such as the entire brain and heart to which the square jar is hardly ever suitable; and almost any specimen can be mounted to look well in a round jar. The esthetic effect is of some importance, indeed of much importance to a museum.

Sixth, there is no difficulty in obtaining round jars of clear glass, whatever the size. Most of the square jars in the market are not clear and are not of even thickness, which is a serious objection also, since the wavy and uneven glass must cause some distortion of view.

Seventh, the cost of round jars is, I believe, about one-third that of square jars of the same capacity and of good quality.

It seems to me that a consideration of all the advantages named would give the preference to the round jar, especially in the case of a museum of any size.

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EXAMINATIONS FOR MEDICAL STUDENTS.

The American student, more than the medical student of any other country perhaps, dreads what he calls the "ordeal" of an examination. Teachers and students both, especially in the middle and western states, are apt to inveigh against the evils of examination systems, sometimes, perhaps, without regarding sufficiently the advantages which are derivable from well-conducted examinations. In many medical schools students are subjected to no examinations at all, except a superficial test at the end of each individual course; in other schools there is one great final examination at which the student either succeeds or succumbs, this examination often being limited to the clinical branches alone on the theory that the clinical work necessarily includes a knowledge of the practically important portions of the fundamental sciences; in still other schools yearly examinations are imposed, the student being subjected each spring to an examination covering the whole of the subject matter studied since the preceding October; finally, some few schools and in Canada some of the provincial governing boards have instituted a primary and a final examination, the former covering the work in the fundamental branches of the first two years, the latter the work in the clinical branches of the last two years, a system not unlike the one prevalent in Germany and in Austria.

It is not our purpose at this time to enter into a discussion of the advantages and disadvantages of various examination systems, nor to say anything in detail about the conduct of an ideal primary or final examination, though we may perhaps do so later. We desire, however, to say a word about one feature of examinations for medical students that is too frequently overlooked, namely, the educational function subserved. Too often by both student and teacher it is the selective function of an examination alone which is considered—the examination is regarded as a sieve which lets men whose attainments are of small dimensions fall through. But this selective process ought to be the least important feature of an examination. The main stress should be laid on the educational value of the test. The clearness of thought, the accuracy and brevity of statement, the avoidance of tautology and irrelevant assertion that a properly conducted written examination cultivates, are qualities too often found wanting in the writings of those medical practitioners who have not gone through, as medical students, the careful training that a well-conducted series of examinations can give. Again, an oral examination demands presence of mind on the part of the student, a readiness of wit, a coolness and freedom from embarrassment, if he is to do his best—and these also are qualities which, if well developed in student days, will stand the physician in good stead at the bedside and in the consultation room in later years. In a good practical examination, conducted by a master of the subject examined on, the student has the opportunity of showing what he has learned to do, rather than what he has remembered by cramming, and of illustrating the extent of his assimilative knowledge rather than the dimensions of his portative capacity.

The educational value of an examination will, of course, vary enormously with the character and professional ability of the man who sets it. An examination ought always to be a sanction for the highest kind of teaching in the course or courses preceding it, and ought by its results to set the stamp of approval on the best kind of study and practical work. We shall not have solved the much vexed examination problem until we find that those students stand highest at examinations who, having the best natural capacity, have had the best instruction, and have done their work in the best possible way.

FAITH HEALING AND CRIMINAL NEGLECT IN NEW YORK.

A very important legal decision as regards the practice of faith healing was handed down last week by the Court of Appeals of the State of New York (in that state the court of last resort) in the case of the People vs. Pierson. The defendant, a follower of John Alexander Dowie, was sentenced two years ago to pay a fine of $500, or undergo 500 days' imprisonment for criminal neglect in failing to call a physician to attend an infant adopted daughter in a case of pneumonia, which eventually proved fatal. Under the penal code in New York, a person who omits without lawful excuse to perform a duty by law imposed on him, to furnish food, clothing, shelter or medical attendance to a minor, is guilty of criminal neglect and is liable to fine or imprisonment, or both, according to the will of the judge. Pierson's case was selected by Eddyites and faith healers generally as a test, and was taken to the court of next resort, the appellate division of the Supreme Court, which reversed the decision of the original trial court, holding that medical attendance as referred to in the criminal code does not signify absolutely the attendance of a regular medical practitioner in the ordinary sense of that term. Money was liberally donated from all over the country by those interested in faith healing, and eminent counsel was employed so as to secure, if possible, a favorable decision. The Court of Appeals now

reverses the decision of the appellate division and upholds the original conviction. In the opinion of the court, as written by Justice Haight:

> It would seem that the legislative intent is reasonably clear, although possibly more concise language could have been employed. The section of the code under which the indictment was found contemplates that there are persons on whom the law casts a duty of caring for minors. Sitting as a court of law for the purpose of construing and determining the meaning of statutes we have nothing to do with variances in religious belief and have no power to determine which is correct. We place no limitations on the power of the mind over the body, the power of faith to dispel disease, or the power of the Supreme Being to heal the sick. We merely declare the law as given us by the legislature. We find no error on the part of the trial court which calls for a reversal.

This is the first time, we believe, in this country that a court of last resort has decided this vexed question of the bounden duty of parents and guardians to furnish proper medical attendance to minors. It is all the more fortunate that this decision comes in perhaps the most important state of the Union and from a court whose opinions are held in high estimation all over the civilized world. This declaration of the meaning of a statute is expressed in no doubtful language and formulates with absolute clarity the sentiment that must be supreme in such matters unless confusion is to supervene. It should apparently not be a difficult matter to secure the enaction of corresponding statutes in states where they do not already exist. There is no doubt that this opinion of the Supreme Court of New York will stand as a precedent to be followed in all future decisions in this matter under corresponding circumstances. The decision is all the more welcome and must prove a source of encouragement to those who are striving faithfully for the extension of proper medical regulations since it followed the reversal of the trial court's decision by the appellate division—a reversal which proved a serious setback to those who were honestly laboring to save misguided individuals from the unfortunate results of their own illusions and especially to preserve the minors under the charge of such individuals from suffering at the hands of their legal guardians. There seems every reason to hope that even more good than can be anticipated at the present time will follow from this definition of the phrase, "medical attendance," as indicating the necessity for the presence of a legally qualified practitioner.

There is an added interest in the case in that the reversal by the appellate division was not unanimous, but was made with Justice Goodrich dissenting. It is this dissenting opinion that the Court of Appeals now accepts on the very day that Justice Goodrich read an important paper before the Medical Society of the State of New York on "Medicolegal Aspects of the Roentgen Rays." Justice Goodrich's personal relations to the medical profession are most intimate and it was his close knowledge of medical affairs that evidently guided him to the real solution of a vexed problem in the dissenting opinion which now becomes New York State law. It would seem clear that this more intimate acquaintance is of itself eminently desirable for both professions and that it will surely lead to the happiest results in a mutual understanding and mutual support for measures that manifestly involve the public good, yet are sometimes misunderstood by the public as being the index of narrow professional, or even selfish, purposes.

WORK AT THE SMALLPOX LABORATORY IN CLEVELAND.

A most gratifying tendency of the times is one exhibited by the boards of health in some of our larger cities. We refer to the appropriation of funds for the support of special researches bearing on the causation, nature and treatment of some of the diseases more prevalent in the cities concerned. A notable example in this direction is that set by the board of health of Cleveland. The authorities in that city have voted a liberal fund for the investigation of smallpox. The scourge from which the city has suffered for several years certainly justifies a large expenditure for this purpose. The Smallpox Research Laboratory, which has been established in Cleveland under the directorship of Dr. Wm. T. Howard, Jr., professor of pathology in Western Reserve University, has, during the past year, been the scene of active work carried on by the director and by several assistants under his supervision. The last number of the *Journal of Medical Research* contains several reports from this laboratory, among which are included "A Study of the Agglutinating Hemolytic and Endotheliolytic Action of the Blood Serum in Variola," by Dr. Howard, and "Studies on the Etiology and Pathology of Variola," "Streptococcus Pyogenes in Variola," "Bactericidal Action of the Blood Serum in Variola and in Varioloid," by Drs. Perkins and Pay. The titles of these papers alone indicate the high order and modern character of the work which is going on in the laboratory, and a perusal of their contents reveals an accuracy of observation, a comprehensiveness of grasp of the problems involved, and a thoroughness of research which make one feel that could more laboratories be conducted in this scientific way there would be less dissatisfaction than there is at present at the disposition which is made of public funds in connection with city boards of health.

The Cleveland authorities have done well to direct the researches toward a disease which, at this time, is of such great local importance, aside from the general interest which attaches to it. We have always thought it would be well if the clinicians of various cities would concentrate their attention on the diseases which most largely prevail in their midst, rather than dissipate their interests and energies by dividing their investigative work among the host of rare mala-

dies that they meet. The success of the studies of typhoid fever and malaria in Baltimore by the hospital physicians there illustrates what we mean. Smallpox is being studied in Boston and Cleveland. Let other cities pick out the problems which more particularly belong to them and progress should be rapid.

THE REORGANIZATION OF THE BRITISH MEDICAL ASSOCIATION.

The new plan of organization of the British Medical Association, which went into effect about a year ago, according to an editorial in the *British Medical Journal*, October 3, is proving decidedly successful and satisfactory. This is shown by the increased membership and by the greater activity in every part of the complex organization. The branches and divisions are showing an activity markedly in contrast to former conditions. The prospect is that if this is kept up it will in time bring the whole profession within the association. The new constitution of the British Medical Association which was adopted after considerable discussion is in many respects similar to that of the American Medical Association. The British representative body is similar in every respect to the House of Delegates of the American Medical Association; its members are elected by the "branches," which are—organically, not geographically—similar to our state associations. The "branches" are made up of the "divisions" which are their units, as the county society is the unit with us. The arrangement for including the colonial branches—Canada, Australia, etc.—is rather mixed and not easily comprehended by an outsider. The editorial refers to the good work that is being done by certain secretaries of branches and of divisions, and also by the general "organizing secretary," showing that the work of organization is being pushed with as much vigor there as with us. While their annual dues were increased from about $5 to about $6 to meet the increased expense—which action some thought would cause many to drop out—the work seems to be very successful and the membership is increasing rapidly to the point where it will include all who are eligible.

THE SIGNIFICANCE OF THE CENTRAL SULCUS OF THE CEREBRAL CORTEX FOR LOCALIZATION.

Opinion has swung to and fro for a long time as to the relation in which the cerebral sulci, and especially the central sulci of Rolandi of the two sides, stands to the localization of function in the cerebral cortex. The early view that functional areas are sharply marked off from one another by the various sulci gradually gave way before the doctrine that the sulci and gyri are of morphologic interest only and possess no delimiting functional significance whatever. Recent experiments made on motor localization in the cortex indicate, however, that at least for the sulcus centralis in the anthropoid apes, a very sharp localizing significance is maintainable. Sherrington has shown that if the animals be examined under precautions greater than those hitherto taken, no motor response can be elicited by stimulation behind the central sulci, all the cortical motor innervations apparently starting out from the anterior central gyrus situated in front of the sulcus. Sherrington's observations are being confirmed by other workers, and it has now become necessary to revise the well-known and time-honored charts of the motor cortex which clinicians use, and to bring them into accord with this newer knowledge. Even the upper and lower knees of the sulcus have definite localizing significance, one set of motor functions being constantly represented above each knee, another below. In how far time and further investigation will reveal a similar practical physiologic significance for the other sulci of the cerebral hemisphere it is impossible to say. It would certainly be convenient for the surgeon, especially if brain surgery goes on developing at its present rate, to have such clean-cut landmarks as the larger cerebral sulci to serve him as a reliable guide to functional areas when he has to apply his knife. It seems to us improper, however, that the exploration of other regions of the brain will ever yield us such definite and satisfying information concerning functions as the study of the motor areas has afforded us. Still, it is rash to make prophecy; new men may arise and new methods may be devised which will some time chart out for us even those great silent territories which Flechsig calls "association centers."

THE CORDITE EATERS.

It is a well-known fact that all confirmed users of stimulants and narcotics are not very particular as to the source of the agent they use. We have heard of sailors drinking off the liquor from a preserved admiral. One of the most peculiar methods of inducing intoxication, however, of which we have heard lately is the nitroglycerin habit in the British army. The material used in this instance is cordite. This is employed for the cartridges of small arms of that service, and consists of 58 parts of nitroglycerin, 37 of gun cotton and 5 parts of mineral jelly. It would seem that this combination would be rather awkward to masticate; nevertheless the British soldiers do not seem to find it so. In the *Journal of the Royal Army Medical Corps*, October, Maj. J. W. Jennings of the British service reports his observations in South Africa. It appears that the drug produces in the novice a racking splitting headache which may last for 24 hours or more, but the experienced user manages to obtain some satisfaction from its employment. When taken with beer or tea it seems to produce a heavy sleep, followed by stupor lasting approximately from 5 to 12 hours. It is difficult to awaken the subject, and when apparently awakened the cordite user does not seem to recognize his surroundings. There is a dull boring headache, slight facial twitching, protrusion of the eyes, a slowness of comprehension, and a disinclination to food, accompanied with a tendency to vomit. Taken in solution, as with tea, it appears to produce an exhilarating effect. If many take the beverage all begin talking at once, seeming anxious to inform each other of everything that has happened since their birth. This lasts for two or three hours, after which the effects seem to die away.

and sleep follows. If beer is taken during the excitement it brings on a combative and destructive tendency; the worst qualities of the individual are exhibited. Dr. Jennings gives a number of interesting personal histories and thinks it may be a new and rather peculiar form of vice. He does not see how the effects are likely to help a man to escape service unless it be by imprisonment as a hopeless lunatic or as a suicide. It was this claim that it was used to enable men to obtain their discharge that first called his attention to its use, but instead of being particularly for that purpose it seems to be a characteristic drug habit and a method of intoxication which has originated under special conditions. The subject is worthy of the investigation of military surgeons and officers generally. There must be many drug habitués who drift into the army, and if they can not get their ordinary intoxicant they take some other, as in this case, and add another to the already too extensive catalogue of "drugs that enslave."

CENSORSHIP OF NEWSPAPER ADVERTISEMENTS.

Justice Mayer of New York City, in a paper read at the 175th meeting of the Society of Medical Jurisprudence, October 13, on the subject of "Criminal Procedure Against the Unlawful Practice of Medicine," said some things that are not only of great interest to the medical profession, but that are worthy of arresting the attention of all serious-minded journalists of this country. He declared that the worst agency in New York to-day —as, of course, it is also in every large city throughout the country—in helping the person who sells either real or pretended abortion remedies, is the newspapers, for they make it possible to ensnare the unwary, the superstitious and the fearful. He adds: "I suggest that in the new school of journalism about to be established in connection with Columbia University there be a chair of advertising, and let it be taught to the young men of the newspaper profession that the first duty of a great newspaper is to censor its medical advertising." All those who are interested in the improvement of public morality will at once agree with this declaration of a distinguished member of the New York judiciary, who, with his opportunities as a justice of the Court of Special Sessions before which cases involving infractions of law in this matter are being constantly presented, is in a position to know by practical experience better than almost any one else the real causes that underlie the evils of which he complains. If it is possible it would be much better that this censorship he demands should be created by the voluntary good sense and the good will of the managers of newspapers than that it should be imposed on them by legal regulations; but those in control of some papers appear to consult only their commercial interests. The evils involved in this question have, however, of late years grown to such an extent as absolutely to require some regulation if public morality is not to suffer. As pointed out by Justice Mayer, the full extent of the criminality encouraged can not be estimated from the comparatively overt advertisements between the lines of which can rather easily be seen the criminal intent of the advertisers. Many apparently less reprehensible advertisements are only a cloak for criminal measures. "Many persons who advertise as palmists and clairvoyants," to quote Justice Mayer's words, "advertise simply to cover the giving out of medicines of the kind I have mentioned." Here is something for the responsible directors of newspaper policy to consider seriously. If their pretentions to help the cause of public morality mean anything, there is a clear method open to them by which to accomplish a great and lasting good.

Medical News.

DISTRICT OF COLUMBIA.

New Superintendent on Duty.—Dr. William A. White, Binghamton, N. Y., has assumed the duties of his position as superintendent of the U. S. Hospital for the Insane (St. Elizabeth's).

Medical School Opens.—The session of 1903-04 of Georgetown Medical School opened October 3 with addresses by Father Daugherty, director of Georgetown University, Drs. Joseph Tabor Johnson and George M. Kober.

American Public Health Association.—The thirty-first annual convention of the American Public Health Association of the United States, the Dominion of Canada, Mexico, and Cuba, will be held in Washington, October 26 to 30.

Woman's Clinic in New Home.—This institution, non-sectarian in character and a part of whose work is charitable, which was established thirteen years ago, has moved into its new hospital building at Thirteenth and T Streets, N. W. It is gathering a fund and is paying for its new home by degrees.

Society Elects Officers.—The Washington Obstetrical and Gynecological Society, at its meeting, October 16, elected the following officers: President, Dr. J. Wesley Bovée; vice-presidents, Drs. John F. Moran and Elmer H. Southron; recording secretary, Dr. J. Thomas Kelley; corresponding secretary, Dr. Edward E. Morse, and treasurer, Dr. John Van Rensselaer. The annual banquet followed.

Health Report.—The report of the health officer for the past week shows the total number of deaths to have been 92. There were 102 births and 13 stillbirths. There were 191 cases of typhoid fever, 18 cases of diphtheria, 18 cases of scarlet fever and one case of smallpox under treatment. The medical inspection of schools provided for at the last session of congress has begun. Printed regulations governing the medical inspection are being distributed to the teachers of the schools and the inspectors.

ILLINOIS.

Chicago.

Bequests.—The will of the late Henry J. Willing gives $5,000 each to the Chicago Home for Incurables and the Presbyterian Hospital, in the latter case to be used for the endowment of a bed in memory of his mother, Mary Jane Willing.

The Week's Deaths.—For the week ended October 17, the deaths numbered 459, 32 more than for the previous week and 14 more than for the corresponding week of 1902. The annual death-rate per 1,000 was 12.68. Acute intestinal diseases head the list with 51 deaths; other chief causes were: consumption, 45; pneumonia, 38; violence, 36, and heart diseases, 35.

Advisory Board Organizes.—The advisory board on management of county institutions has elected Dr. John B. Murphy president. The medical members of committees are as follows: Medical administration—Dr. Frank Billings, chairman, and Dr. Hugh T. Patrick; care of insane patients—Dr. Sidney Kuh, chairman, and Drs. Isaac A. Abt and Hugh T. Patrick; hospital for consumptives—Dr. Frank Billings, chairman, and Dr. W. A. Evans, and infirmary—E. R. LeCount.

Founded a Quarter of a Century.—The Chicago Gynecological Society held a banquet, October 16, in commemoration of the twenty-fifth anniversary of its foundation. In addition to an address by Dr. J. Henry Carstens, Detroit, reminiscent remarks were made by several members. The following officers were elected: Dr. Emil Ries, president; Drs. Joseph B. De Lee and Frank T. Andrews, vice-presidents; Dr. Palmer Findlay, secre-

tary, and Dr. Charles B. Reed, treasurer; Dr. Gustav Kolischer, pathologist, and Dr. Rudolph W. Holmes, editor.

Dr. Frank Billings Submits to an Operation.—Dr. Frank Billings, who has been ill for some time, but who has remained at work in spite of his condition, submitted to an operation, October 15. The procedure was in the nature of an exploration, the gall bladder being suspected as the cause of the trouble. Dr. L. L. McArthur, assisted by Dr. A. D. Bevan, performed the operation. A congestion of the liver was found with cholecystitis, and gall-bladder drainage was established. Dr. Billings is doing well, and it is hoped he will entirely recover.

Decrease in Infant Mortality.—A well-nigh incredible decrease in the deaths and the death rates of the two most dreaded diseases of childhood was demonstrated during the week, says the department of health.

Briefly stated, the records for sixteen years show that there were 2,152 deaths reported from scarlet fever during the eight years, 1887 to 1894 inclusive, while there were but 1,648 such deaths reported during the last eight years, 1895-1902 inclusive. In the first period there were 11,251 deaths from diphtheria and croup; in the second period only 7,093. The average yearly population of the first period was 1,050,000; of the second period it was 1,610,000—or 53.3 per cent. greater. In proportion to the increased population, the scarlet fever deaths decreased exactly 50 per cent. and the diphtheria and croup deaths decreased 59 per cent.

Reforms at Dunning.—The citizens' advisory board appointed several months ago to assist in the management of the county insane asylum, consumptive hospital and the infirmary, accompanied the County Board to Dunning October 14, and considered matters of scientific administration reform, and the new buildings and improvements needed. The plans as outlined by President Foreman, are as follows:

Erection of three new cottages for insane patients at an expense of $60,000.

Erection of five cottages for consumptive patients, with a central administration building, all structures to be connected by enclosed corridors, at an expense of $125,000.

Erection of a modern morgue and pathologic laboratory, with an amphitheater for lectures.

Erection of a training school for nurses and attendants.

The present consumption hospital to be converted into a hospital for the sick insane.

Erection in Chicago of a branch hospital for consumptives, where incurable cases may be treated.

Erection of a central power house, surrounded by shops, where the patients may be provided with light employment, such as making clothing, brushes and brooms for the use of the institution.

Installation of a vacuum system of steam heating in all institutions.

Light manual labor provided for all patients in good physical condition.

Books and games provided patients in the wards.

Baseball games, band concerts and other amusements to be provided for the patients in an enclosed space on the lawn in seasonable weather.

Clubrooms to be opened for the use of the nurses and attendants of the institutions.

Better protection against fire to be supplied.

The adoption of the latest scientific methods of treatment for insane patients.

A complete reclassification of insane patients by grouping along scientific lines.

Internes to be employed to assist the physicians in keeping a complete record of the history of cases.

MARYLAND.

Baltimore.

Deaths of the Week.—The deaths for the week ended October 17 were 168, an annual death rate per 1,000 of 15.61. Those from pneumonia rose to 18.

Bequests.—Mrs. Elizabeth A. Innes' will makes the following bequests: $4,000 to Church Home and Infirmary for the establishment of two beds; $500 to the Nursery and Child's Hospital.

Death in Narcosis.—A death occurred at the University Hospital, October 14, during the administration of ether for anesthesia. The patient, aged 22, had a severe cut in the palm of his hand. Shortly after administration was begun he began to vomit, the windpipe became clogged with food and he choked to death, notwithstanding an immediate tracheotomy.

Hospital Building Secured.—The faculty of Baltimore University School of Medicine has rented a building for hospital purposes. Drs. I. B. Kellar and E. C. Moriarty are resident physicians. Heretofore the school and hospital have been in the same building, the laboratory and dissecting room being elsewhere, but in the new arrangement everything will be concentrated in the college building except the hospital.

Personal.—On October 16 Dr. John D. Blake was elected chairman, and Dr. W. Edward Magruder secretary, of the Section on Clinical Medicine and Surgery of the Medical and Chirurgical Faculty of Maryland.——Drs. Hugh H. Young and Thomas Shearer have returned from Europe.——Dr. William Hewson, Baltzell, has returned from summering in Canada and Pennsylvania.——The friends of Dr. J. C. Hummer entertained him, October 11, on the occasion of his seventieth anniversary.

The Hebrew Hospital.—At the thirty-sixth annual Succoth festival banquet, October 11, $2,200 was raised for the Hebrew Hospital; $1,500 in legacies was reported during the year, and $1,735 in memorial gifts. The expenses for the year were $18,720, and the receipts $14,301. There were 296 inmates during the year, of whom 168 were discharged cured, 58 improved, 12 died; 127 operations were performed; 7,795 persons were treated in the dispensary; 8,692 prescriptions were compounded for the dispensary and 9,125 for the hospital.

MICHIGAN.

Personal.—Dr. James H. Reed, Battle Creek, has been reappointed lecturer of the third district of the state by the president of the state medical society.——Dr. N. Dudley Kean, Ishpeming, moved to Michigamme, succeeding Dr. Horace H. Loveland, who has gone East.

Lapeer County Society Election.—At the annual meeting of Lapeer County Medical Society the following officers were elected: Dr. Hugh D. McColl, Lapeer, president; Dr. Sparrow A. Snow, North Branch, vice-president; Dr. Peter Stewart, Hadley, treasurer, and Dr. Herbert E. Randall Lapeer, secretary.

Health of Michigan.—Reports to the State Board of Health for September concerning the most prevalent diseases in the state show that in 57 per cent. of the reports rheumatism and diarrhea were mentioned; in 44, neuralgia; in 42, bronchitis; in 39, tonsillitis; in 24, typhoid fever; in 23, cholera morbus and consumption, and in 22 dysentery.

Comparative Morbidity.—For September, compared with the average for September in the last 10 years, pleuritis, scarlet fever and smallpox were more than usually prevalent; and cholera morbus, dysentery, cholera infantum, influenza, intermittent fever, remittent fever, erysipelas, inflammation of brain, meningitis and measles less than usually prevalent.

The Most Dangerous Communicable Diseases.—Meningitis was reported present during September at 8 places, measles at 24 places, whooping cough at 32 places, smallpox at 57 places, diphtheria at 73 places, scarlet fever at 103 places, typhoid fever at 182 places, and consumption at 233 places. Reports from all sources show meningitis reported present at 5 places more, measles at 22 places less, whooping cough at 4 places less, smallpox at 4 places less, diphtheria at 24 places more, scarlet fever at 11 places more, typhoid fever at 55 places more, and consumption at 7 places more, in September than in the preceding month.

September Mortality.—The total number of deaths reported for September was 2,722, or 78 less than the number for the preceding month. The death rate was 13.4 per 1,000 population. There were 682 deaths of infants under 1 year of age, 233 deaths of children aged 1 to 4 years, and 730 deaths of persons 65 years and over. Important causes of death were as follows: tuberculosis, 184; typhoid fever, 74; diphtheria, 42; scarlet fever, 6; measles, 2; whooping cough, 22; pneumonia, 38; diarrhea and enteritis, under 2 years, 408; cancer, 154, and violence, 163. There was 1 death from smallpox. Typhoid fever increased somewhat in mortality, as is usual at this time of the year. The number of deaths for the month was less than the number reported for the corresponding month last year.

MINNESOTA.

Lauds St. Paul's Health.—St. Paul's death rate is reported to be 9.2 per 1,000, and the health commissioner boasts that it is the most healthful city in the United States.

Presentation.—In honor of the thirty-second anniversary of the arrival of Dr. Charles Simpson in Minneapolis, a number of his professional friends met at his house and presented him with a gold-headed cane.

Would Bar Out Trachoma.—Ramsey County Medical Society has passed a resolution urging the St. Paul School Board to prohibit pupils suffering from trachoma or any other infectious diseases of the eyes from attending the public schools.

Academy of Medicine Election.—At the annual meeting of the Minnesota Academy of Medicine, held October 7, the following officers were elected: President, Dr. William Davis, St. Paul; vice-president, Dr. James H. Dunn, Minneapolis, and secretary and treasurer, Dr. Arthur W. Dunning, St. Paul.

The New College Year.—The medical department of the University of Minnesota opened September 8, with an address

by Dr. Alexander J. Stone, St. Paul.——The College of Physicians and Surgeons, Hamline University, opened for its twenty-first school term, September 27, with a lecture by Dr. Charles W. Malchow, Minneapolis.

NEW YORK.

Pavilions for Insane Consumptives.—Governor Odell has approved the plans and specifications for the new tuberculosis pavilions to be erected at the Utica, Binghamton and Middletown state hospitals.

Against Tetanus.—Dr. Louis C. Ager, chairman of the Committee on Public Health and Medical Charities of the Kings County Medical Association, has sent to the various chairmen of the county associations a request to influence the members of the legislature and the local newspapers for the passage of an antitetanus bill at an early session of the legislature. The Buffalo Academy has, as previously reported, already taken action on this subject.

Alumni Dine and Hold Election.—The Central New York Alumni Association of Albany Medical Colleges held its third annual meeting and banquet in Utica, September 30. The following officers were elected: Dr. Merritt B. Fairchild, Syracuse, president; Drs. Arthur C. Hagedon, Gloversville, Otis H. Deck, Herkimer, Leroy F. Hollis, Lacona, Ward E. Hunt, Little Falls, Israel M. Slingerland, Fayetteville, and William T. Hudson, Auburn, vice-presidents; Dr. Frederick H. Brewer, Utica, secretary, and Dr. A. Wieting Hedding, Syracuse, treasurer.

New York City.

Personal.—Dr. Joseph B. Bryant, who visited Chicago with ex-President Cleveland, held two clinics while there at Mercy Hospital, October 16.

Norwegian Hospital Staff Changes.—Dr. R. G. Moore has resigned and will take a service in the Orthopedic Hospital, Manhattan.——Dr. W. R. Hersman succeeds him, and the place of the latter as assistant has been filled by the appointment of Dr. L. W. Stork.

Day Treatment for Tuberculosis.—At the Metropolitan Hospital, Blackwell's Island a day-treatment system has been instituted in the tuberculosis department, whereby the female patients remain at the island during the day and are given the open-air treatment, together with medicine and good food.

Hospital for Consumptive Children.—Mr. John Seeley Ward, Jr., of the Association for Improving the Condition of the Poor, has returned from a trip abroad full of the determination to see what can be done toward establishing a seaside hospital large enough to care for at least 100 tuberculous children. He states that at the hospitals visited by him in the vicinity of Paris 29 per cent. were cured.

Asks for More Inspectors.—President Lederle of the board of health has asked the board of estimate for an appropriation for 1904 of $1,631,500, an increase of $597,108 over the appropropriation for 1903. Of this $190,612 is needed for an enlargement of his staff, and part will be expended in providing for a summer corps of physicians for house-to-house inspection in tenement districts. He wishes also to appoint more inspectors for the prevention of contagious diseases; to look after the food and milk supplies, and to visit the factories and other places where children are employed and for the suppression of glanders.

Alleged Conspiracy to Evade Medical Examination of Immigrants.—Mr. Broughton Brandenberg, who has just returned from Italy as a steerage passenger in order that he might study the conditions of Italian emigrants coming to this country, has just unearthed what he believes to be a conspiracy, which directly affects the public health. He had with him a party of emigrants, and while they were waiting on the wharf at Naples to have their baggage examined and fumigated, they were approached by a man who offered for $5 to put through all their baggage without medical examination. After some parleying his services were accepted, and he proceeded at once, with the aid of assistants, to place counterfeit pasters on the baggage. A lead tag indicates that the baggage has been fumigated, a red label that the emigrants have passed the Italian government officials, and the red label that the representative of the United States consul has seen the other labels affixed. Our own officials accept this evidence of medical inspection of emigrants except as regards the head and eyes. After the party and baggage had been passed on board the steamer, Mr. Brandenberg informed the consul, and as a result three of the men were arrested. On them were found a large number of the counterfeit seals and pasters, and on searching the baggage on the vessel it was discovered that 68 out of 140 pieces were provided with these counterfeits.

Buffalo.

Personal.—Dr. Montgomery A. Crockett has returned from Europe.——Dr. Allen A. Jones has returned from Big Moose Lake in the Adirondacks.

Hospital Moves.—The Riverside Accident Hospital has removed into its newly-renovated home on Swan Street, where all emergency cases can be attended to.

Club Election.—The Roswell Park Medical Club elected as president Dr. Frederick C. Busch; vice-president, Dr. James A. Gibson, and secretary-treasurer, Dr. George F. Cott.

OREGON.

Personal.—Dr. DeWitt A. Paine, Eugene, has retired from practice and will move to Portland.——Drs. David H. Rand and George Ainslie and wife of Portland have returned from Europe.

State Needs Institute for Feeble-Minded.—The Oregon State Medical Society, at its recent meeting, favored the maintenance at state expense of a feeble-minded institute separate from the present State Insane Asylum at Salem.

State Society Elects Officers.—At the thirteenth annual meeting of the Oregon State Medical Society, held in Portland, September 29 and 30, the following officers were elected: President, Dr. Walter T. Williamson, Salem; vice-presidents, Drs. George W. Tape, Hot Lake, Elmer E. Ferguson, The Dalles, and Mae H. Cardwell, Portland; treasurer, Dr. Jessie W. McGavin, Portland; secretary, Dr. Luther H. Hamilton, Portland; councilors, Drs. Simeon E. Josephi, R. C. Coffey and George F. Wilson, Portland, and Calvin S. White, Gervais, for one year; Drs. William J. May, Baker City, and Jacob A. Fulton, Astoria, for 2 years; Drs. William F. Amos, Portland, and William House, Pendleton, for three years, and Drs. Walter T. Williamson, Salem, and Samuel T. Linklater, Hillsboro, for 4 years; delegate to the American Medical Association, Dr. Charles J. Smith, Pendleton, and alternate, Dr. Kenneth A. J. Mackenzie, Portland.

PENNSYLVANIA.

Personal.—Orders have been issued appointing Dr. Henry Norris, Philadelphia, assistant surgeon of the Third Regiment Pennsylvania National Guards, with the rank of first lieutenant.

Hospital Day at St. Luke's.—St. Luke's Hospital, South Bethlehem, Pa., celebrated "Hospital Day" October 17. An address was delivered by Dr. Edward Wallace Lee of New York, and a class of nurses was graduated.

Insane Hospital Crowded.—Superintendent Orth of the Harrisburg Insane Hospital says that the attention of the courts and the legislature has been repeatedly called to the pitiable crowded condition of the hospital. There are now 213 patients in the hospital beyond its capacity. The overcrowded condition has existed for ten years.

Philadelphia.

Girard Memorial Tablet.—A tablet to the memory of Stephen and Mrs. Girard will be unveiled in November in the Assembly Hall of the Pennsylvania Hospital.

Lectures on Tropical Medicine.—A course of lectures on tropical medicine will be given at the Jefferson Medical College by Capt. Charles F. Kieffer, assistant surgeon U. S. Army. The lectures will be given at 4 p. m. each Monday in the amphitheater of the hospital.

An Unwilling Bather.—John F. Rapp and his wife, Maggie K. Rapp, charge abuse and cruelty against the board of health and bring suit against the city for $25,000 for the alleged forcible removal of the latter from her home, while sick, and compelling her to take a cold disinfectant bath at the Philadelphia Hospital.

Smallpox Continues.—For the week ended October 17, 54 new cases of smallpox were reported to the bureau of health. Within two days, 30 cases were reported. This is the greatest number for one week in the past two years. Eleven new cases were reported for the previous week. The authorities state that the disease will continue so long as people refuse to be vaccinated and there is no compulsory vaccination law.

Faculty Changes.—Dr. George W. Pfromm has been elected clinical professor of applied therapeutics in the Medico-Chirurgical College, and Dr. Hilary N. Christian clinical professor of genito-urinary diseases. Dr. Judson Daland has been nom-

inated by the faculty for election by the board of trustees as professor of clinical medicine. Dr. Mitchell P. Warmuth has been elected demonstrator of operative surgery, and Dr. S. Leon Gans demonstrator and chief of clinic of genito-urinary diseases.

Voluntary Advisory Board.—Drs. William D. Robinson and Charles D. Hart, inspectors of the Eastern State Penitentiary of Pennsylvania, who were appointed as a special committee to obtain the voluntary services of an advisory board of physicians and surgeons, announce the following members of such a board: Surgeon, Dr. Robert G. LeConte; physician, Dr. Judson Daland; ophthalmologist, Dr. George E. de Schweinitz; otologist and laryngologist, Dr. Francis R. Packard; alienist, Dr. Horace Phillips. These will act as consultants with the prison physician.

Wants Medical Inspection in Schools.—Dr. Edward Martin, director of the Department of Public Health and Charities, has asked the board of education to allow a system of medical inspection in all the public schools. It is the plan to have one of the regular city medical inspectors call at each school once a week, and with the coöperation of the principal, to inspect all the children of the school, prescribe treatment when needed, send home those requiring quarantine, receive reports of sickness in the homes of children, and when parents are believed to be ignorant to send a visiting nurse to instruct the mother in the care of the sick child.

Sand May Cause Typhoid.—Regarding the large number of typhoid fever cases occurring in sections of the city supplied with filtered water, Dr. A. Frank Ziegenfus, in an open letter, advances the theory that the infection is from sand dredged or pumped from the Delaware river bed, which the contractors are using in construction of the filter beds. The use of such sand to "purify" Philadelphia's water supply is severely condemned, especially when there are extensive banks of the best surface sand near at hand. From another source attention is called to what are considered grave defects in the new filtration system being constructed, namely, absence of provision for sunlight and aëration.

X-Ray and Light Research.—At the last session of the legislature $25,000 was appropriated to the University of Pennsylvania for a laboratory for *x*-ray research and for Finsen light apparatus. The department will be connected with the University Hospital. It is planned to build a laboratory in connection with the Agnew pavilion. Dr. Henry K. Pancoast, assistant instructor in clinical surgery, and assistant demonstrator of surgery, will have charge of the department. It is the purpose to establish a very complete Finsen light plant, with the prospect of undertaking the first extensive experiments conducted in this country by this method in the treatment of diseases of the skin.

The Moseley Education Commission.—Dr. J. Rose Bradford, professor of medicine, University College, London, and Prof. W. H. Gaskell, fellow of Trinity Hall, Cambridge University, and university lecturer in physiology, were the first members of the Moseley Education Commission to visit Philadelphia. This commission, composed of some of the most distinguished British educators, are visiting this country as the guests of Alfred Moseley, M.P. Their work will include the study of our educational system from the elementary schools to the technical and professional schools and universities. The commission will be tendered a reception by the American Academy of Political and Social Science on the evening of October 24, at which distinguished educators will be present. Dr. Bradford and Professor Gaskell were the guests of Dr. Hobart A. Hare at dinner on October 16. Dr. Bradford purposes visiting New York, Baltimore, Washington, Chicago, Ann Arbor, and Harvard and Yale universities. Dean Charles H. Frazier of the Medical School of the University of Pennsylvania, on October 16, entertained Dr. Bradford and Professor Gaskell at luncheon, at which a number of the faculty were present. The visitors were afterward shown through the various departments of the university.

TEXAS.

Examiners Meet.—The regular State Board of Medical Examiners met at Fort Worth, October 13, and examined 34 candidates for license to practice medicine, and one midwife.

Sanitarium Cornerstone Laid.—On October 11 the cornerstone of Providence Sanitarium, Waco, was laid by the bishop of Galveston with appropriate ceremonies. The institution will cost, with equipment, over $100,000.

Yellow Fever at Laredo.—On October 19, the new yellow fever cases numbered one more than on any day since the outbreak. The official bulletin is as follows: New cases, 36; deaths, 5; total cases to date, 436; total deaths to date, 32.

GENERAL.

Honolulu Hospital Receives Gift.—A former resident of Honolulu, Charles R. Bishop, San Francisco, has given $50,000 to Queen's Hospital, Honolulu. Most of this will be spent in erecting a wing, which is much needed.

FOREIGN.

An outbreak of cholera is reported in Bethlehem, Palestine.

Dowieite in Prison for Cruelty.—On a charge of cruelty to his child, a Dowieite in London was sentenced to a month's imprisonment at hard labor. The little girl broke her collar bone and was compelled to suffer with the break untreated.

Hygienists at Home.—The French Académie de Médecine has always taken the lead in matters of hygiene and its resolutions have commanded the attention of the world. All Paris is smiling now at the discovery that in the hall occupied until recently by the académie each new carpet needed in the century of its existence has been laid on top of its worn and dusty predecessors—ten layers in all.

Antistreptococcus Serum in the Moscow Hospitals.—The Institute of Bacteriology at Moscow has petitioned the municipal authorities for means to defray the expenses so that antistreptococcus serum can be supplied to the hospitals free of charge. The authorities have empowered the physicians in the hospitals to test and report on the serum, and if their report is favorable funds will be appropriated for the desired purpose.

"Archives Latines de Medecine et de Biologie."—This is the title of a new medical monthly recently started by prominent physicians in France, Spain and Italy, to contain articles in the Latin tongues. Each communication will be published in the writer's own language, and be followed by a summary in the two other languages, French, Spanish or Italian as may be. Drs. A. Robin and R. Blanchard of Paris, Cortezo and Ramon y Cajal of Madrid, Maragliano of Genoa and Grassi of Rome are the founders of the new periodical.

LONDON LETTER.

Death of Alexander Bain.

Alexander Bain, the celebrated philosopher, has died at his residence in Aberdeen. Though not a medical man, or even a biologist, his work in the realm of psychology can not be regarded as without importance from the merely professional standpoint. The evolutionary school has largely thrown much of his psychologic work in the shade, but some of it will remain an important and permanent contribution to science. His treatises may be described as "the last word" of the earlier stage of psychology, which proceeded in the main by introspective analysis of the individual mind. The principle of association so fruitfully applied by English philosophers from Hartley to John Stuart Mill received from Bain its fullest development and illustration in every region of mental experience. In insisting on the study of mental facts in connection with their physiologic conditions he was one of the pioneers of newer methods and he laid down the principle of psychophysical parallelism, which most psychologists now employ, at least as a working hypothesis. The stress which he laid on our active experiences of movement and effort was entirely original; and though his theory of a central innervation sense is no longer tenable in the form in which he stated it the investigations to which it gave rise have been an important factor in advancing our knowledge of the subject.

The Drinking of Methylated Spirit in Aberdeen.

In his annual report for 1902 Dr. Matthew Hay draws attention to the growing use in Aberdeen of methylated spirit as a beverage. The government has recently authorized the addition to methylated spirit of a small proportion of petroleum oil (3 to 800). It was thought that such a mixture would be too nauseous to drink. But this modification has failed to effect its purpose. The poorer and more degraded drinkers of Aberdeen take this altered spirit in an increasing degree. It is so cheap that for 2 cents the equivalent of 4 ounces of whisky can be obtained. The extent to which the trade is carried on is shown by the fact that as many as 70 men have been seen to enter a grocer's shop and purchase it for drinking in 2 hours. This spirit produces a state of stupor similar to that of opium poisoning.

Correspondence.

Dead Yet Speaketh.

St. Johnsbury, Vt., Oct. 12, 1903.

To the Editor:—I read my obituary notice, published in your last week's issue, with interest. As Mark Twain said of a similar occurrence: "The report was greatly exaggerated." I was injured in an automobile accident, and received fractures of each femur, dislocation of the left elbow and right shoulder and fractures of the nasal and superior maxillary bones. Aside from these I am all right and am getting on well with them.

John M. Allen.

Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

MEDICAL BIOGRAPHY.

New York, Oct. 15, 1903.

To the Editor:—After carefully reading your grand editorial in the issue of August 15, on "The Value of Medical Biography to the Medical Student," I ask where I can secure (in English) Sir Michael Foster's Lane Lectures, "Masters of Medicine," and Rene Vallery-Radot's "Life of Pasteur"? S. H. Cassidy.

Ans.—Foster's book on the "History of Physiology," being the Lane Lecture of 1901, is published by the Macmillan Company, New York, price $2.25; "Masters of Medicine," by Sir B. W. Richardson, is published by Longmans, Green & Co., London and New York, price $1.25 per volume; "The Life of Pasteur," in two volumes, is published by McClure, Phillips & Co., New York, price $7.50. Any book house will order them if they are not in stock.

Marriages.

George H. Miller, M.D., to Miss Alice Lawler, both of Chicago, October 7.

Samuel J. McNeill, M.D., to Miss Amy E. Jackson, both of Chicago, September 9.

Clara Meltzer, M.D., to John Auer, M.D., both of New York City, October 1.

William J. Hammond, M.D., Boston, to Miss Edith Lewis, at Baltimore, October 7.

E. Norman Foster, M.D., to Miss Pearl Thomas, both of Pittsburg, Pa., August 20.

Charles W. Pfeiffer, M.D., to Miss Theresa Golm, both of Quincy, Ill., September 30.

W. M. French, M.D., Chicago, to Miss Mabel Shelton of Macon, Mo., September 24.

J. Wesley Graham, M.D., Jackson, Tenn., to Miss Crigler of Saybrook, Ill., October 7.

Van H. Wilcox, M.D., to Miss Margaret Caton, both of Minneapolis, Minn., October 6.

Alvah Childs Remington, M.D., to Anna S. Wilson, both Rochester, N. Y., September 30.

Seeber King, M.D., Lake Butler, Fla., to Miss Agnes V. O. Wilson, at Laurel, Md., October 7.

Philip E. Stockhardt, M.D., Elwood, Ind., to Miss Mabel G. Stout of Louisville, Ky., October 14.

Frederic H. Slayton, M.D., Clifton, Ariz., to Miss Louise Downing of Macomb, Ill., October 6.

A. Aronheim, M.D., Ghent, Norfolk County, Va., to Miss Hilda B. Kline, at Baltimore, October 8.

Roy S. Donaldson, M.D., Maywood, Ill., to Miss Elizabeth Wolfe Giles of Oak Park, Ill., October 12.

William Major, M.D., Aguas Calientes, Mexico, to Miss Maude Meacham of Eureka, Ill., October 7.

Chester A. Miller, M.D., Sharpsburg, Iowa, to Miss Louie Dewees of Fontanelle, Iowa, September 16.

Harlan Page Mills, M.D., Sheridan, Mo., to Miss Maude Edith Benton, at St. Joseph, Mo., October 14.

Albert E. Brennen, M.D., Niagara Falls, N. Y., to Miss Mary McInnes Read, Niagara, September 29.

Henry Krone, Jr., M.D., Hamilton, Ohio, to Miss Grace Janet Seesloth of Richmond, Ind., October 21.

Andrew F. McBride, M.D., Paterson, N. J., to Miss Kathleen Galvin, in New York City, September 29.

Henry E. Haskins, M.D., Kingman, Kan., to Miss Bertha Knappenber of Penaloosa, Kan., September 18.

John W. Osborne, M.D., Rantoul, Ill., to Miss Gertrude Pitsenbarger of Champaign, Ill., September 23.

Robert Bland Grubbs, M.D., U. S. A., San Francisco, to Miss Alice Maude Eagan, at Washington, D.C., September 17.

Albert F. Caldwell, M.D., Shenandoah, Iowa, to Miss Emma Pierce of Boston, Mass., at Clarinda, Iowa, September 26.

Archibald Cameron Nash, M.D., Cleveland, Ohio, to Miss Clara Margaret Huddleston of Hartwell, Ohio, September 30.

Deaths.

JOHN BATES JOHNSON, M.D.

On October 6, Dr. John Bates Johnson, who was the first to receive the honor of being elected vice-president of the American Medical Association, died at his home in St. Louis, aged 86.

He was born at Fairhaven, Mass., April 26, 1817, and was graduated from Harvard University. He then went to Pittsfield, Mass., where he attended Berkshire Medical College and received his medical degree from that institution in 1840. He settled in St. Louis in 1841 and soon attained prominence. Two years after his arrival there he established the first public dispensary west of the Mississippi river and in 1840 he commenced his career as a medical teacher in the Kemper Medical College, which afterward became the Missouri Medical College. In 1850, when the American Medical Association was founded, he was one of its organizers and was made vice-president. He was also one of the founders of the Medical Association of the State of Missouri and served one term as president. In 1854 he was elected to the chair of principles and practice of medicine in the Washington University and con-

JOHN BATES JOHNSON, M.D.

tinued in this position for nearly half a century. At the time of his death he was professor emeritus of this branch.

During the Civil War he was prominent as a member of the United States Sanitary Commission and rendered signal service in raising funds and caring for the sick and wounded soldiers.

Dr. Johnson was one of the most honored and esteemed physicians of St. Louis and was one of the four veterans who, only a few months ago, were tendered a banquet by the medical profession of the city and state. He continued in practice and was in good health until a short time before his death, when acute kidney disease developed, for which an operation was unavailingly performed. He failed rapidly after this and died from uremia.

The St. Louis Medical Society held a special meeting, October 7, at which Dr. Johnson's personality and excellent qualities as a physician and man were eulogized. A committee was appointed to draw up resolutions expressive of his worth and of the society's loss in his death. The society voted to attend the funeral in a body.

David Franklin, M.D. University of New York, 1878, died at his home in New York City, October 6, from septic peritonitis after an operation for appendicitis, aged 48. He was a member of the American Medical, New York State Medical, New York County Medical and Harlem Medical associations and of the Bellevue Hospital Alumni Association. For twenty years he was house physician to the Hebrew Orphan Asylum. At a special meeting of the Harlem Medical Association, October 7, resolutions were unanimously adopted extolling the many noble traits of character of Dr. Franklin, who was once president of the association, and regretting his untimely death.

John W. Hulick, M.D. Medical College of Ohio, Cincinnati, 1882, member of the American Medical Association, American Association of Life Examining Surgeons, Ohio State Medical Society, Clermont and Clark County Medical societies, died at his home in Springfield, Ohio, October 4, from typhoid fever, after an illness of two weeks, aged 45. The Clark County Medical Society at a special meeting, October 5, listened to a brief sketch of Dr. Hulick's life, prepared by Dr. John P. Dugan, and adopted resolutions of regret and regard.

William C. Denman, M.D. Medical College of Ohio, Cincinnati, 1878, a member of the American Medical Association and of the Marion County Medical Society, died at his home in Marion, Ohio, October 1, from Bright's disease, after an illness of a few months, aged 52. The county medical society, at a special meeting called on the day of Dr. Denman's death, decided to attend the funeral in a body, and also adopted suitable resolutions of regret.

James Gamble, M.D. Medical Department of the University of Missouri, St. Louis, 1847, treasurer of the Iowa State Medical Society in 1857 and president in 1870, one of the oldest members of the Scott County Medical Society, assistant surgeon of the Third Iowa Volunteer Infantry in the Civil War, died at his home in Le Claire, Iowa, October 6, after an illness of only twelve hours, aged 82.

Virgil McDavitt, M.D. University of Louisville, 1850, formerly dean of the Quincy (Ill.) Medical College, and during the Civil War, surgeon of the First Alabama Cavalry, died at his home in Quincy, Ill., October 2, from septicemia caused by a prick from an instrument eighteen days before, aged 74. Members of the Adams County Medical Society acted as pallbearers at the funeral.

Sam C. Johnson, M.D. Long Island College Hospital, Brooklyn, N. Y., 1864, formerly president of the Wisconsin State Board of Medical Examiners; a member of the American Medical Association, American Public Health Association, Wisconsin State Medical Society, and the Inter-County Medical Society, died suddenly at his home in Hudson, Wis., October 17, from heart disease.

David Rector McKinney, M.D. Medical College of Indiana, Indianapolis, 1878, of Banquo, Ind., an old practitioner of Champaign County, Ill., and some-time president of the county medical society, who was injured by falling from a train near Fithian, September 17, died as a result of his injuries at the home of his son in Gifford, Ill., September 29, aged 66.

William Danderson Wood, M.D. Castleton (Vt.) Medical College, 1854, one of the organizers and for several terms president of the Queen's County Medical Society, and surgeon of the Eighty-ninth New York Volunteer Infantry in the Civil War, died at his home in Jamaica, L. I., October 4, aged 82.

Cornelius Shepherd, M.D. University of Pennsylvania, Philadelphia, 1861, a member of the American Medical Association, died at his home in Trenton, N. J., October 7, after a lingering illness, aged 66. He was active in establishing the present school system in New Jersey.

Joseph Hinson Mellichamp, M.D. Medical College of the State of South Carolina, Charleston, 1852, of Bluffton, S. C., surgeon in the confederate service during the Civil War, and an eminent botanist, died on James Island, S. C., October 3, after a long illness, aged 74.

Albert S. Amerman, M.D. University of Michigan, Ann Arbor, 1871, of Rockford, S. Dak., twice a representative in the legislature, a pioneer physician and gold-seeker in the Black Hills, died at Rapid City, S. Dak., October 6, from dropsy, after a long illness, aged 54.

William Johnson Dale, M.D. Harvard University Medical School, Boston, 1840, for 21 years surgeon-general of Massachusetts, and acting medical director U. S. Army during the Civil War, died at his home in North Andover, Mass., October 7, aged 88.

George Landerkin, M.D. University of the Victoria College, Cobourg, Ont., 1862, died at his home in Hanover, Ont., October 4, aged 64. He was elected to the House of Commons in 1873, and subsequently occupied a seat in the house from 1882 until 1896.

Chas. F. Goodrich, M.D. St. Louis Medical College, 1866, assistant surgeon in the Ninth Missouri Volunteer Cavalry and a member of the American Medical Association, died at his home in New Haven, Mo., September 25, from apoplexy, aged 66.

James Davis Gardiner, M.D. Columbus (Ohio) Medical College, 1879, one of the oldest practitioners of Illinois, died at the home of his daughter in Farmer City, Ill., from paralysis, after an invalidism of four years, September 28, aged 83.

Edward E. Stonestreet, M.D. University of Maryland, Baltimore, 1852, secretary of the Montgomery County Board of Health, died, October 9, from heart disease at his home in Rockville, Md., where he had practiced for 51 years, aged 73.

Benjamin F. Rivers, M.D. Howard University, Washington, D. C., 1902, house physician of the Charleston Hospital and Training School for Colored Nurses, died at the home of his father on James Island, S. C., September 25.

Charles Blackwell Sweeting, M.D. London College Hospital, 1867, of Key West, Fla., a member of the American Medical and the Florida Medical associations, died in Brooklyn, N. Y., October 4, after a lingering illness, aged 58.

John Polson, M.D., a member of the American Medical Association, Medical Association of the State of Missouri and Linn County Medical Society, died at his home in Laclede, Mo., October 13, from typhoid fever, aged 61.

Edwin N. McPheeters, M.D. Tulane University, New Orleans, 1903, interne at the Natchez (Miss.) City Hospital, died at the hospital, October 2, a short time after an operation for appendicitis, aged 21.

George W. Bowen, M.D. University of Pennsylvania, Philadelphia, 1872, a member of the Philadelphia County Medical Society, died at his home in Philadelphia, September 30, aged 56.

Lyman M. Willard, M.D. University of Pennsylvania, Philadelphia, 1870, was found dead in bed, September 29, at his home in Loomis, Wash., with a bottle of chloroform in his hand.

Wilson W. Stroup, M.D. University of Pennsylvania, Philadelphia, 1874, committed suicide by shooting himself with a revolver at his home in Harrisburg, September 30, aged 54.

Charles G. Bowers, M.D. Medico-Chirurgical College, Philadelphia, 1903, of Brooklyn, N. Y., fell from a train near Jersey City, September 26, and was drowned, aged 25.

Thomas V. Gifford, M.D. Hygeio-Therapeutic College of New York, 1863, a noted opponent of vaccination, died at his home in Kokomo, Ind., September 25, aged 72.

J. Walter Burch, M.D. University of Maryland School of Medicine, 1903, died from obstruction of the bowels, in Baltimore, October 2, aged 26.

William A. Evans, M.D. New York University, 1859, died October 8, from gunshot wounds accidentally received, at his home in Aberdeen, Miss.

Michael C. Kreitzer, M.D. Jefferson Medical College, Philadelphia, 1850, died from apoplexy at his home in Philadelphia, September 25, aged 77.

John T. Slaughter, Jr., M.D. Atlanta Medical College, 1879, of Villa Rica, died at Grady Hospital, Atlanta, October 3, from appendicitis, aged 51.

W. H. Russell, M.D., of Providence, R. I., died recently and was buried September 21, the pallbearers being brother physicians of Providence.

Lyman N. Mixer, M.D., an eclectic physician of Hastings, Mich., died, September 22, from paralysis, after an illness of one week, aged 75.

John R. Goodale, M.D. Eclectic Medical College of the City of New York, 1872, died at his home in Oakland, Cal., September 26, aged 67.

Franz F. A. Hoogen, M.D. Missouri Medical College, St. Louis, 1886, of St. Louis, died at his winter home in Helwan, Egypt, October 7.

Armand Derivaux, M.D. Faculty of Medicine, Paris, France, 1876, a veteran of the Franco-Prussian War, died at his home in St. Louis recently.

Jesse Taylor, M.D. Eclectic Medical Institute, Cincinnati, 1897, died at his home in Vermont, Ill., October 2, after a short illness, aged 30.

Andrew Jackson McIntyre, M.D. University of Michigan, Ann Arbor, died from pneumonia at his home in Galatia, Ill., October 2.

J. Chester Pratt, M.D. Eclectic Medical College of the State of New York, 1891, died at Springfield, Mass., October 5, aged 36.

Dominick F. Harang, M.D. Tulane Medical College, New Orleans, 1901, died at his home in New Orleans, October 5, aged 25.

James M. Brydon, M.D. Medical College of Indiana, Indianapolis, 1875, died at his home in Chicago, September 29, aged 59.

John D. Key, M.D. Bellevue Hospital Medical College, New York, 1885, died at Halfmoon Bay, Cal., September 24, aged 40.

James Nixon Butt, M.D. University of Pennsylvania, Philadelphia, 1855, died at his home in Orlando, Fla., September 29.

George K. Elder, M.D., of Kansas City, Mo., died at Toledo, Ohio, October 1, from dropsy complicated with asthma, aged 50.

James W. Akers, M.D., Jefferson Medical College, Philadelphia, 1876, died at his home in Curran, Ill., September 28.

A. M. Jackman, M.D. University of Louisville, 1874, died at his home near Kendall, Ky., October 3, aged 64.

William G. Montgomery, M.D., of Minden, Ont., died at Gorrie, Ont., September 8, aged 29.

George W. Henderson, M.D., died at his home in Waynesville, Ohio, September 27.

W. Frank Park, M.D., died at his home in Tracy City, Tenn., September 30.

Deaths Abroad.

Theophile Roussel, M.D., died at his country home at Mende, September 27, aged 87. He was venerated throughout France for his active and enlightened philanthropy, and especially as the author of the laws for the protection of children, nurslings boarded out, factory children and those abandoned and ill treated. He served for many years as senator from Lozère and on important committees. His eightieth birthday was the occasion of an ovation from the authorities and the public in general, the government presenting him with a gold medal. His published works on medical and hygienic subjects are numerous, his "Public and Private Charities" being the standard reference book on this subject.

A. Rollett, M.D., one of the most prominent physiologists of his day, died at Graz, October 1, aged 70.——**E. Pflueger, M.D.**, professor of ophthalmology at Berne, died September 28, aged 57.——**A. Regnard, M.D.**, "inspecteur général des services administratifs" at Paris, died September 28, aged 77.——**E. Boisseau, M.D.**, chief of the army sanitary service of France, died at Paris, September 25.

H. R. Pott, M.D., died at Halle, September 25, aged 59. He was born and graduated at Halle and has served there as professor of children's diseases since 1883. He was a frequent contributor to the medical press on subjects connected with internal medicine and pediatries.

P. Goetsch, M.D., died at Slawentzitz, September 24. His report of the remarkable success obtained at the sanatorium in his charge by treatment of tuberculosis with long continued, minute doses of tuberculin, attracted much attention three years ago.

R. Landau, M.D., died at Nuremberg, September 21, aged 39. His name is well known by his numerous contributions to the medical press and his works on the history of medicine, especially his "History of Jewish Physicians."

F. Wuerth, M.D., died at Freiburg in September, aged 98. He had long been the oldest practicing physician in Germany, his medical degree dating from 1828.

Miscellany.

A Medical Museum.—Rush Medical College, Chicago, has established a museum in which will be preserved and exhibited permanently objects of interest and value in the history of medicine. Especial attention will be given obsolete instruments and appliances for the diagnosis and treatment of disease. Many physicians and others have instruments that perhaps even a short time ago were in use, but which have been laid away for more recent inventions; these are of historical value. Medicine in the United States has so brief a history that it should not be difficult to represent in this museum its complete development in the instruments and appliances that have come and gone, that have been of great value, but have given place to better inventions as the art has progressed. The late Professor Fenger bequeathed his own instruments to this museum, and it was the wish of this thoughtful man that his gift should be but the foundation for a collection that would show the development of the art he loved and for which he did so much. Rush Medical College has set aside a commodious room in the newly-opened Senn Hall for the permanent use of this museum. Gifts will be inscribed with the name of the donor, and any remarks as to their history, original owner, user, etc., that may increase their interest. All other objects that have any interesting relation to the history of medicine or to renowned physicians will be given place, such as original manuscripts, autograph letters, portraits, etc. Information may be had by addressing Rush Medical College, Chicago.

[Signed] DR. F. HENROTIN.
(Class of 1868.)

State Boards of Registration.

COMING EXAMINATIONS.

Louisiana State Board of Medical Examiners, Tulane Medical College Bldg., New Orleans, Oct. 26-27.

State Board of Examiners of Alabama, Montgomery, Nov. 1-10.

Oklahoma Medical Examining Board, Enid, Nov. 10.

Committee of the Connecticut Medical Society, City Hall, New Haven, Nov. 10.

Board of Registration in Medicine of Massachusetts, State House, Boston, Nov. 10-11.

State Board of Health of West Virginia, Point Pleasant, Nov. 10, 11, 12.

Nebraska State Board of Health, Lincoln, Nov. 11.

Board of Registration of Medicine of Maine, Augusta, Nov. 11.

District of Columbia Report.—The Board of Medical Supervisors of the District of Columbia, in their sixth annual report, say that they have decided, after long consideration of the subject, that reciprocity is impossible without an amendment of the law under which they operate. They announce plans for the prosecution of those who are practicing criminally, and those who are liable to a revocation of license for other reasons.

Ohio Reciprocity.—The State Board of Medical Registration and Examination of Ohio adopted the following resolution at its regular meeting, October 6, 1903:

The Ohio State Board of Medical Registration and Examination will dispense with the examination of a candidate presenting a license from another state board, or from the Board of Examiners of the District of Columbia, issued after an examination on which a general average of 75 per cent. was obtained, on payment of the fee, $50, required by law; provided, the applicant was, at the time of such examination, the holder of a diploma from a medical college recognized as in good standing by the state board of Ohio, and provided that the applicant has complied in all other particulars with the laws of Ohio governing the practice of medicine and surgery and the rules of the Ohio State Board of Medical Registration and Examination, and provided that the state board issuing such license will, in like manner, accept the license issued by this board.

Book Notice.

A TEXT-BOOK OF OBSTETRICS. By J. Clarence Webster, M.D. Edin., F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology, Rush Medical College, in Affiliation with the University of Chicago. With 383 Illustrations; 23 in Colors. Cloth. Pp. 761. Price, $5.00 Philadelphia, New York, London: W. B. Saunders & Co. 1903.

Webster has adopted a different arrangement from that usually found in works on obstetrics. He first considers normal pregnancy, normal labor, and the normal puerperium, then their pathology in the same order, followed by operative obstetrics. In part one, consisting of seven chapters, are considered the anatomy and physiology of pregnancy, bacteriology of the vagina, diagnosis, length of gestation, multiple pregnancy, false pregnancy and management of pregnancy. The first chapter on the anatomy and physiology of pregnancy is the most important from the scientific viewpoint. The theme is one on which the author is especially qualified to write, as it is one to which he has devoted much time in research and investigation. Naturally, therefore, we might expect to find all the latest scientific views and most recent established facts regarding placentation, etc. The author has not only given us these, but being thoroughly master of the subject, he is able to present the matter clearly and lucidly and in such a manner that the ordinary student can easily grasp and master it. This is especially noticeable in the discussion of the anatomy and physiology of the fetus. In the chapter on the bacteriology of the vagina in pregnancy is given, in brief, the results of the various experimental investigations and examinations of the vaginal secretions, and the author concludes that douching for prophylactic purposes either before or after confinement is unnecessary, unless there has been exposure to contamination. The subjects of diagnosis of pregnancy, length of gestation, and management of normal labor are considered fully and in every detail. In the five chapters of part two are considered the clinical phenomena, anatomy and physiology, and conduct and management of normal labor, together with asepsis and antisepsis and anesthesia. The chapter on the anatomy and physiology of normal labor is accompanied with illustrations that are especially to be commended, many of them being taken from frozen sections, and all being true to nature. As might be expected, the author is very insistent and emphatic regarding the value of asepsis in labor; but not too much so. He is not a faddist and his recommendations and suggestions are practical and can easily be carried out by every practitioner. The three chapters in part three are devoted to the management of the puerperium and the care of the new-born child. In part four—fifteen chapters—the diseased conditions complicating pregnancy are considered. Part five, composed of five chapters, is devoted to the various complications of labor; part six—three chapters—to the pathology of the puerperium, and part seven—six chapters—to operative work. Every subject is thoroughly covered and no detail, so far as we can find, has been omitted. The author recognized that thorough knowledge of the anatomic and pathologic changes that occur in pregnancy, in labor and in the puerperium is a necessary basis for a clear understanding of the various complications and conditions that are to be met in obstetric work, and consequently more than usual attention is given to these subjects. The work represents the most modern views—those that are based on proven facts; it is scientific in the best sense of the word, and at the same time it is practical. It is written for the scientific student and also for the general practitioner who does the major portion of obstetric work. In considering the management of complications and the treatment of conditions the directions are given with clearness and exactitude, and only those methods and remedies are recommended that have been proven. The illustrations are especially to be commended. While we miss many of the old reliable cuts that have done service for so long and in so many books, yet in their places are those more in accord—artistically and for practical use—with present-day knowledge and requirements. As a whole, the book represents as much of a step forward in the obstetric literature of our day as did the classic work of Lusk nearly a quarter of a century ago.

Medical Organization.

California.

SHASTA COUNTY MEDICAL ASSOCIATION.—Physicians of the county met at Redding, September 21, with Dr. Andrew W. Morton, San Francisco, trustee of the state society, and organized a county society to be auxiliary to the state organization. Dr. Olin J. Lawry was elected temporary president, and Dr. R. F. Wallace temporary secretary, both of Redding; Drs. R. F. Wallace, John M. Read and Joshua T. Rohn, all of Redding, were appointed a committee to complete the organization and to draft a constitution and by-laws.

Indian Territory.

NORTHERN DISTRICT MEDICAL SOCIETY.—The physicians of the Northern District of the Indian Territory have organized with the following officers: Dr. Benjamin F. Fortner, Vinita, president; Drs. William T. Tilly, Pryor Creek, and Frank L. Wormington, Miami, vice-presidents, and Dr. Robert H. Harper, Afton, secretary and treasurer.

Indiana.

VIGO COUNTY MEDICAL SOCIETY.—Dr. Myron A. Boor, Terre Haute, councilor for the Fifth District, met the Vigo County Medical Society at Terre Haute, October 1, and explained the plan of reorganization recommended by the American Medical Association. The society then adopted the standard constitution and by-laws.

FOUNTAIN COUNTY MEDICAL SOCIETY.—On October 1 this society, one of the oldest in the state, met at Covington and reorganized, adopting the standard constitution and by-laws. Dr. Paul J. Bareus, Crawfordsville, councilor for the Ninth District, was present and aided in the reorganization. Dr. Charles J. Wert, Kingman, was elected president, and Dr. George Rowland, Covington, secretary-treasurer.

Iowa.

MUSCATINE COUNTY MEDICAL SOCIETY.—This society made a complete reorganization, October 8. The charter membership was 20. Dr. Henry M. Dean was made temporary chairman, and Dr. Thomas F. Beveridge temporary secretary, both of Muscatine. The temporary organization was made permanent.

SAC COUNTY MEDICAL SOCIETY.—Physicians of the county met at Sac City, October 6, and organized this society. The following officers were elected: President, Dr. Thomas Farquhar, Early; vice-president, Dr. William Y. Herrick, Lytton; secretary, Dr. Frank H. McCray, Schaller; treasurer, John H. Stalford, Sac City, and censors, Drs. Zachary Fuller, Sac City, John W. Graham, Early, and Andrew T. Brenton, Sac City.

WASHINGTON COUNTY MEDICAL SOCIETY.—The annual meeting was held in Washington, October 8. Dr. Charles E. Ruth, Keokuk, councilor for the First District, was present and explained the plan of reorganization, and the society adopted a constitution and by-laws in accordance therewith. The following officers were elected: Dr. George W. Hay, Washington, president; Dr. Charles W. McLaughlin, Crawfordsville, vice-president; Dr. Clyde A. Boice, Washington, secretary and treasurer; Dr. Edward R. Jenkins, delegate to Iowa State Medical Society, and Drs. William E. Fordyce, Ainsworth, Emmett T. Wickham and J. C. Boice, Washington, censors.

Louisiana.

WEST BATON ROUGE PARISH MEDICAL SOCIETY.—On October 1, six of the seven available physicians of the parish met at Devall, and organized a parish society with Dr. Franklin H. Carruth, Lobdell, president; Dr. James O. St. Dizier, Walls, vice-president, and Dr. H. Guy Riche, Devall, secretary-treasurer.

EAST FELICIANA PARISH MEDICAL SOCIETY.—Physicians of the parish met in Wilson, October 3, and organized, with the assistance of Dr. John M. Barrier, president of the state society. Dr. S. L. Singletary, Wilson, was elected president; Dr. Aquippa Gayden, Norwood, vice-president, and Dr. E. C. McKowen, Jackson, secretary and treasurer.

EAST BATON ROUGE PARISH MEDICAL ASSOCIATION.—Dr. J. M. Barrier, Delhi, president of the Louisiana State Medical Society, met the physicians of the parish at Baton Rouge, October 1, and organized a parish society with 12 members. The following officers were elected: Dr. James W. Dupree, Baton Rouge, president; Dr. George W. Sitman, Burtville, vice-president, and Dr. Charles McVea, Baton Rouge, secretary and treasurer.

VERMILION PARISH MEDICAL SOCIETY.—Dr. Milton R. Cushman, Abbeville, was chairman, and Dr. Clarence J. Edwards, Abbeville, secretary, of an informal meeting of physicians of

the parish, October 3, at Abbeville, for the purpose of taking steps to reorganize in accordance with the plan proposed by the American Medical Association. It was resolved not to go into permanent organization until all the reputable physicians of the parish had been afforded an opportunity to participate. The meeting then adjourned until October 15.

North Carolina.

Cleveland County Medical Society.—Dr. Edward C. Register, Charlotte, organized a county medical society at Shelby, September 12.

Davie County Medical Society.—Dr. Thomas E. Anderson, Statesville, councilor for the Fourth District, met physicians of Davie County recently and organized a county society with Dr. M. D. Kimbrough, Mocksville, president; Dr. Robert L. Rierson, Cooleemee, vice-president, and Dr. W. C. Martin, Mocksville, secretary and treasurer.

Duplin County Medical Society.—Dr. Frank H. Russell, Wilmington, at Warsaw, October 2, organized a county society with the following officers: Dr. John M. Faison, Faison, president; Dr. A. N. Smith,, Magnolia, vice-president; Dr. Benjamin R. Graham, Wallace, secretary and treasurer, and Drs. J. W. Carroll, Wallace, James M. Williams, Warsaw, and Albert F. Williams, Kenansville,, censors.

Columbus County Medical Society.—Dr. Frank H. Russell, Wilmington, on September 29, organized a county society whose membership is said to include every physician in the county. The following officers were elected: President, Dr. N. A. Thompson, Whiteville; vice-president, Dr. Samuel M. Withers, Chadbourn; secretary and treasurer, Dr. J. Clegg Hall, Boardman, censors, Drs. John M. McGougan, Cerro Gordo, David B. Jordan, Cronly, and Henry B. Maxwell, Whiteville.

Mecklenburg County Medical Society.—This society was organized at Charlotte, October 7, with an initial membership of 41, under the standard constitution. The following officers were elected: Dr. Harry Q. Alexander, Davenport, president; Dr. Annie L. Alexander, Charlotte, vice-president; Dr. Parkes M. King, Concord, secretary and treasurer; Drs. Walter P. Craven, Charlotte; I. Wellington Faison, Charlotte, and Theodore F. Pharr, Harrisburg, censors, and Drs. Edward C. Register, Calvin S. McLaughlin and F. O. Hawley, all of Charlotte, committee on public health and legislation.

North Dakota.

Sixth Judicial District Medical Society.—The physicians of the Sixth Judicial District organized at Bismarck with the following officers: Dr. Francis R. Smyth, Bismarck, president; Dr. G. E. Chamberlain, Bismarck, vice-president; Dr. Frederick B. Strauss, Glenullin, secretary-treasurer, and Drs. George A. Perkins, Dickinson, Gilbert B. Furness, Mandan, and Nels O. Ramstad, Bismarck, censors. A committee was appointed to draw up a constitution and by-laws conforming to the recommendations of the American Medical Association.

Ohio.

Henry County Medical Society.—On October 7, Dr. Julius H. Jacobson, Toledo, councilor for the Fourth District, organized at Napoleon a county society, with the following officers: President, Dr. Eugene B. Harrison, Napoleon; vice-presidents, Drs. Harry P. Haag, Liberty, and Ora L. Norris, Deshler; secretary and treasurer, D. Alfred E. H. Mearker, Napoleon, and censors, Drs. John Bloomfield, Napoleon, Samuel E. Miller, Florida, and James D. Archer, Holgate.

Texas.

Parker County Medical Association.—Dr. Charles E. Cantrell, Greenville, councilor for the Fourteenth (North Texas) District, organized this association at Weatherford, October 5.

Fannin County Medical Association.—Physicians of the county met at Bonham, October 5, and organized with Dr. John M. Neel, president; Dr. Carey A. Gray, vice-president, and Dr. Alvis B. Kennedy, secretary and treasurer, all of Bonham.

Bell County Medical Society.—On October 3, 39 physicians of Bell County met at Belton and organized on the standard plan with the following officers: Dr. Jacob M. Frazier, Belton, president; Dr. J. H. Payne, Holland, vice-president, and Dr. John M. McCutchan, Temple, secretary and treasurer.

Big Springs District Medical Association.—This has been organized at Colorado with the following officers: Dr. William H. Morrow, Dunn, Scurry County, president; Dr. Preston C. Coleman, councilor for the Second District, Colorado, vice-president, and Dr. Willis R. Smith, Colorado, secretary and treasurer.

Wisconsin.

Price County Medical Society.—Dr. John M. Dodd, Ashland, councilor for the Tenth District, organized a county society at Phillips.

Monroe County Medical Society.—Physicians of the county met at Sparta, October 6, and organized under the standard constitution. The following officers were elected: President, Dr. George R. Vincent, Tomah; vice-president, Dr. Crawford E. Phillips, Wilton; secretary and treasurer, Dr. Carl M. Beebe, Sparta; delegate to the Wisconsin State Medical Society, Dr. Wilbur T. Sarles, Sparta, and censors, Drs. Jacob J. Simonson, Tomah, Cornelius H. Cremer, Cashton, and Fred P. Stiles, Sparta.

Society Proceedings.

COMING MEETINGS.

Congress of State and Provincial Boards of Health of North America, Baltimore, Oct. 23-24.

American Public Health Association, Washington, D. C., Oct. 26-30.

Hawaiian Territorial Medical Society, Honolulu, Nov. 7.

Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

PENNSYLVANIA STATE MEDICAL SOCIETY.

Fifty-third Annual Meeting, held at York, Sept. 22 to 24, 1903.

(*Concluded from page 982.*)

Is Registration and Disinfection a Successful Method of Combating Pulmonary Consumption?

Dr. Thomas J. Mays of Philadelphia read this paper at the second session of Section A, Wednesday afternoon, September 23. He gave an elaborate array of statistics and concluded that thus far registration and disinfection do not appear to be a success in combating consumption.

Dr. Lawrence F. Flick, Philadelphia, in speaking on "The Prevention of Tuberculosis," called attention to the fact that many deaths formerly accorded to bronchitis, inanition, etc., are now recorded strictly under the tables they should be, because there is a clear diagnosis of tuberculosis and not of pneumonia or of bronchitis.

The Specific Treatment of Tuberculosis.

Dr. Mazyck R. Ravenel, Philadelphia, reviewed the attempts made to discover a specific against tuberculosis. He believes that past results justify the strongest hope that the immunization of man against tubercle bacillus may be realized in the near future.

Trauma and Phthisis.

Dr. William T. English, Pittsburg, read a paper on "Trauma as an Etiologic Factor in Phthisis Pulmonalis." He believes that passive predisposition is often rendered active by the intervention of traumatism, and states that injury awaits the thorax and contained organs from the period of formation *in utero* throughout all independent existence, and that resulting traumatism has the power to produce phthisis pulmonalis, or to make more favorable the soil for tubercular deposit. The author emphatically declares that it is unfair to withhold sick benefits and remuneration for accident from those who develop phthisis pulmonalis after injury. Out of 128 cases in injury followed by traumatic pneumonia the writer finds that about 63 per cent. were associated with fracture. The conclusion seems justified that over 48 per cent. of those recovering from the immediate results of the injury and pneumonia developed pulmonary phthisis.

Discussion on Tuberculosis.

Dr. Lawrence F. Flick said he thought it would be a little bit dangerous in the sense of equity to conclude that because a person has developed tuberculosis which has been preceded by traumatism that he is entitled for damages in a suit for damages. He is of the opinion that there has been previously the implantation of the disease. He also thought that the

statistical tables presented by Dr. Mays were exceedingly misleading. The mere fact of an increase in the death rate of tuberculosis means nothing unless all other factors are excluded.

DR. M. V. BALL inquired whether Dr. Flick would advise the establishment of sanatoria in a county such as his, one of the very dampest, and thus deprive the patients of seeking a more favorable climate.

DR. ALEXANDER R. CRAIG said that in sanatoria under the management of the Massachusetts State Board of Health, in spite of the fact that the country is damp and the land is somewhat low, the results shown in the work are extremely gratifying. He assumed that there were many in Warren County who could not get out of their own county, and that it was better to give them the benefit of a sanatorium.

DR. A. C. WENTZ, Hanover, said that the majority of the profession must first learn to recognize a tubercle bacillus before they can decide when a man shall go to such and such a place for his health.

DR. MAYS said that he believed that no more blunders occurred twenty years ago than occur now in physical diagnosis of lung diseases. Notwithstanding that New York has followed the methods of disinfection and registration, Dr. Mays stated his statistics show that in New York the death rate from pneumonia has been the highest in the last ten years of any city or locality. The death rate of phthisis, consumption and tuberculosis has diminished in New Jersey and in Washington in the last fifteen or twenty years, but in these places there has not been registration or disinfection.

DR. FLICK called attention to the death rate of pneumonia in children referred to by Dr. Mays, and stated that ten or fifteen years ago nearly all deaths from lung disease in children were recorded as bronchitis, while now they are known as pneumonia. This is also true concerning the death rate of old age. This has been the cause of the increase of the death rate of pneumonia.

Committee on School Text-Books.

The report of the committee appointed to examine school text-books, which is given above (page 925, October 10) was, after much discussion, laid on the table and a new committee of five was appointed to continue the work of examination and scientific comment on the text-books of physiology and hygiene used in the public schools of Pennsylvania.

Family Periodic Paralysis.

DR. GEORGE F. HOLTZAPPLE, York, read a paper by this title at the third session of Section A, Thursday morning, September 24. He gave a history of the affection as he had seen it in a family extending through four generations. Of the family of which the author writes a number have died in an attack. The cases were minutely described, and their characteristic symptoms and clinical phenomena correspond to those of cases previously observed by European and American investigators. The author believes that a postmortem would doubtless reveal much explanatory of the pathology. Personally he regards the condition one of vasomotor neurosis affecting the blood supply to the anterior horns which are almost wholly supplied by the anterior spinal artery. Believing that the attacks of hemicrania and paralysis in this family have a common cause and assuming that both conditions are a vasomotor neurosis, large doses of bromids with caffein were used, repeated in one or two hours if necessary. Prophylaxis he regards as an important matter in some cases. With a view to making a decided impression on the nervous system only large doses of bromids have been used.

Case of Cerebral Thrombosis with a Skiagraph Showing the Area of Softening.

DRS. CHARLES W. BURR and G. E. PFAHLER, Philadelphia, described the case of a woman 67 years of age who had had a stroke 30 years before, resulting in a right-sided hemiplegia and aphasia. Although she had complete motor aphasia, word blindness and agraphia, word deafness was not complete. The auditory speech center, however, was completely destroyed. There was some word deafness. Dr. Pfahler had made a skiagraph postmortem, having replaced the brain for the purpose. The picture showed many of the normal contents of the skull and the area of softening. Stress was laid on the fact that in interpreting skiagraphs little dependence could be placed on the results, unless the normal structures came out well. If they failed to be shown appearances seemingly abnormal might be so or not. The value of skiagraphy in the differential diagnosis of hemorrhage and thrombosis from hemiplegia occurring in uremia without any gross cerebral lesion, was considered.

DISCUSSION.

DR. PFAHLER said that Dr. Charles K. Mills had reported three cases of brain tumor in which the skiagraphic report was confirmed by operation. One was of unusual interest from the fact that it was a gumma and was only about half an inch in thickness. The shadow shown corresponded exactly in size, shape and location with the gumma removed.

(*To be continued.*)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, held at Memphis, Oct. 7 to 9, 1903.

(*Continued from page 982.*)

This meeting was held under the presidency of Dr. Edwin Walker, Evansville, Ind. His president's address on the conduct of the practice of the general practitioner will be published in THE JOURNAL. The meeting was a great success from a scientific standpoint, although the attendance was no larger than usual. The papers were of unusual merit and were of practical value to the practitioner, establishing a standard perhaps higher than that of any previous meeting. The long discussions on the much-fought-over points in pneumonia and appendicitis treatment were lacking and the other papers were actively discussed. The social side of the meeting included an old southern barbecue, a reception and ball, a trolley party and other events and made this feature of the meeting one of unusual pleasure to all.

The Decision to Operate.

DR. AP MORGAN CARTLEDGE, Louisville, Ky., in the address in surgery, said that the physician or surgeon who decides that an operation should be performed should be keenly alive to the alarm and perturbation his announcement would cause to both patient and friends. Therefore, he should be prepared to make such announcement with the greatest clearness and candor, mingled with as much encouragement and hope as the condition would justify. He sounded a note of warning against the too common practice of treating surgical operations as trivial affairs, free from danger and pain.

The following four papers, which were read, will be published in THE JOURNAL: "The Causes of Occasional Failure of Operation to Cure Gallstone Disease," by Dr. W. J. Mayo, Rochester, Minn.; "Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen," by Dr. John Young Brown, St. Louis; "The Importance of Medical Organization in Securing and Enforcing Medical Laws," by Dr. T. J. Happel, Trenton, Tenn.; and "Treatment of Tubercular Joints," by Dr. David C. Peyton, Jeffersonville, Ind.

The Prevention of Heart Disease.

This was the subject of the address in medicine by Dr. Robert H. Babcock, Chicago. He regarded the removal of all chronically diseased tonsils as of the utmost importance in all persons who had had once an attack of inflammatory rheumatism, whether the heart had been damaged or not. The physician should guard against the results of syphilis, gonorrhea, pneumonia, chorea, scarlatina, influenza, diphtheria, overstrains and toxic affections, constantly bearing in mind the liability to cardiac mischief.

Medical Organization.

DR. J. N. MCCORMACK, Bowling Green, Ky., stated that it was only a question of time when every state society in the Union would adopt the plan of reorganization of the American Medical Association. The results thus far accomplished are

very encouraging. Within the last two years progress has been very rapid in many states. For instance, in Michigan the membership of the state society within one or two years has increased from 490 to almost 2,100 members; in Kentucky from less than 400 to nearly 1,600. Dr. McCormack urged physicians to establish pleasant relations with one another. With this idea in view every physician in the United States should begin to do good, and soon personal bickerings would be at an end.

Relation of the Medical Department of the United States Army to the Profession.

Major W. C. Borden, U. S. A., Washington, D. C., delivered an address on this subject. The medical department of the United States Army is recruited from all parts of the United States, and is, therefore, in a way representative of the medical profession of the country. Men from all prominent medical schools and hospitals are found in its ranks. The standing and efficiency of the medical department are of importance to the medical profession, not only as it is in part representative of that profession, but also from the important relation which it bears to the efficiency of the Army as a whole, and, therefore, the interests of the nation at large.

The ranking of medical officers below that of officers of other staff departments is distinctly derogatory to the dignity of the profession, and the profession at large should see that the medical department of the Army receives due recognition.

Only by mutual assistance and support can the profession attain its highest end. This is true of the various professional societies and of the medical departments of the Navy, the Army and the Public Health and Marine-Hospital Service.

In the past the relationship between the officers of the medical department of the Army and the profession at large has always been close, and thereby the officers of the medical department have kept in touch with the great advances in medicine and surgery which the civil practitioner in time of peace has the greatest opportunity to practice. In return, in time of war the civil practitioner called into the military service has to look to his brother in medicine, who has spent his life in the military service, for those details of medico-military work on which the efficiency of an army depends, and by which sickness and suffering may be prevented, or alleviated under war conditions. At all times, therefore, greatest good to the greatest number and the best interests of the nation demand that the most cordial relationship, association and unity of endeavor obtain between the medical department of the Army and the profession at large. With this in mind, community of interest, mutual support, and work toward the common good of our fellows and our country will increase.

Hypodermatic Use of Mercury in Syphilis.

Dr. S. P. Collings, Hot Springs, Ark., said that the use of this method should be largely confined to cases in which there was a necessity for the patient to be brought rapidly under the influence of mercury.

Specialism in Its Modern Significance.

Dr. Albert B. Hale, Chicago, said that no real dividing line separates the branches of medicine, but modern specialism means time to devote to the delicate technic of diagnosis and of treatment. If these functions are not recognized for the patient's good, but if every practitioner accepts cases on which to practice, even when not equipped, the advance of true specialism is discouraged.

The Early Diagnosis of Mental Diseases.

Dr. C. B. Burr, Flint, Mich., outlined the differential diagnosis of many conditions. Self-deception on the part of the physician or inaccuracy in diagnosis leads to improper methods of management. The prescription of travel often made for neurasthenics was deplored and hospital care was advised.

What a General Practitioner Should Do in the Early Stages of Mental Disease.

Dr. Brooks F. Beebe, Cincinnati, said that the great progress in the treatment of mental diseases is a result of the recognition that psychology rests on physiologic bases, and metaphysical theories no longer have weight. In the treatment of mental diseases the intelligent physician should proceed in the same way as in treating other affections.

Masked Epilepsy.

Dr. W. B. Fletcher, Indianapolis, said this disease, usually unrecognized until it had progressed to a degree dangerous alike to the patient and those about him, presented one of the most intricate medicolegal questions. Little is known of the pathology. Among adults it is usually caused by alcoholic, syphilitic and autotoxic conditions. Treatment should begin with the mildest symptoms and war be waged on the vicious constitutional tendencies.

Local Lesions and Treatment of Amebic Dysentery.

Dr. James P. Tuttle, New York City, said that the value of flushing the bowel with cold water had been repeatedly proven. Flushings were given three or four times a day from a fountain syringe, in winter using water direct from a hydrant, in summer adding a little ice. At least one douche a day was continued for eight weeks. Treatment of rectal ulcers should be carried on according to requirements. A summary of the author's experience was: Total cases treated, 63; cured, 61; disappeared, 1; abscess of liver, 1; died, none.

Neuroses of the Stomach and Intestines.

Dr. Frank P. Norbury, Jacksonville, Ill., read this paper and emphasized that the background of all was the neuropathic constitution. By using the methods which best combat this feature, and which best subserve the observation of the case and the carrying out of the details of treatment, e. g., the rest treatment, and by studying each case with the consideration of all etiologic factors, the results will be found highly satisfactory.

The Principles of the Diagnosis of Medical Malingering.

Dr. John Punton, Kansas City, discussed this subject in a very exhaustive and interesting paper. He narrated the case which he described in the *Kansas City Index-Lancet*, July, of which an abstract appeared in The Journal, Aug. 1, page 338, No. 69.

Infantile Paralysis; Its Nature and Treatment.

Dr. Albert E. Sterne, Indianapolis, said this was essentially an infectious disease, and was regarded by some authors as the purest form of a true nerve tissue process. Unless epidemic, diagnosis was almost impossible before there was evidence of spinal involvement manifested. When the child first became ill, almost all symptoms pointed to an affection of the stomach, usually a couple of days before paralysis set in. If evidences of profound nervous involvement were found, associated with vomiting, it should serve as a diagnostic and prognostic warning. Counter-irritation should be used along the spine, antiphlogistic applications, and the constant use of dry cold to the vertebral column. Perfect rest should be maintained. No specific is known.

Dr. A. C. Wiener, Chicago, in a paper on the same subject, said that, after nine months had elapsed, any therapeutic attempt was futile. Good functional results were obtained by a brace which would put the paretic muscles of the leg at an advantage over the stronger opponents. The permanent restoration of the balance of two opposing muscle groups might be effected in two ways: First, by implantation of the paralyzed tendon into a normal one of similar function. Second, splitting off a part of the belly of a healthy muscle with its tendon and connecting it with the tendon of a useless muscle. The greatest usefulness of tendon grafting would be found in the frequent cases of infantile cerebral paralysis.

Syphilitic Manifestations in the Nose and Pharynx.

Dr. Paul Turner Vaughan, Hot Springs, Ark., spoke of the rarity of a primary sore in either of these localities. The primary sore should be cleansed with some antiseptic wash and dusted with some mild powder. Calomel is the best he has found. Locally caustics do harm in this stage.

The following papers were also read:

"Surgery of the Thyroid, Historical and Experimental, Illustrated with One Hundred Stereopticon Slides," by Dr. B. Merrill Ricketts, Cincinnati; "Dysmenorrhea" (treatment of nasal cocainization), by Dr. Emil Ries, Chicago; "Therapeutic Value of Heat and Cold Applied to the Spinal Cord," by Dr. W. Frank Glenn, Nashville,

Tenn.; "Brain Strain Dyspepsia," by Dr. C. H. Hughes, St. Louis; "Scarlet Fever," by Dr. J. M. Batten, Huntington, Pa.; "Diabetes," by Dr. A. C. Croftan, Chicago; "Leukemia," by Dr. W. B. Burns, Memphis; "Castor Oil in the Treatment of Typhoid Fever," by Dr. C. C. Bass, Columbia, Miss., (adding 47 more to the 32 cases already reported); "Chronic Intestitial Nephritis," by Dr. R. Alexander Bate, Louisville, Ky.; "The Use and Abuse of Fresh Air and Over-Feeding in Tuberculosis," by Dr. W. H. Prioleau, Asheville, N. C.; "Cyclical Albuminuria" (reporting two interesting cases), by Dr. Arthur R. Elliott, Chicago.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Gastric Ulcer.

According to an article in *Amer. Med.*, in cases in which there is free hydrochloric acid present in excess, bismuth must be given in 30-gr. (2.00) doses three times a day at a time when the stomach is as nearly empty as possible or one dose of 2½ drams (10.00) may be given every morning one hour before any food has been taken. Silver nitrate is valuable in mild cases, especially when hyperesthesia of the stomach is present with intolerance of food, and in chronic gastric ulcer when there is hypochlorhydria or achylia. It acts by producing a thin film of coagulated albumin over the inflamed mucous membrane around the sore. If pain is persistent after the treatment has begun, orthoform should be given in 5-gr. doses (.30) once or twice a day, which will give prompt relief. Patients suffering from chronic gastric ulcer should be kept on liquid food until the ulcer heals or when the epigastric tenderness has disappeared.

Welch, as noted by *N. Y. and Phil. Med. Jour.*, states that the treatment consists in: 1, rest in bed; 2, absolute rest for the stomach until improvement occurs; 3, symptomatic medication. The patient's strength must be cared for, and by giving the stomach complete rest healing is promoted and the tendency to vomiting, pain and hemorrhage decreased. So the patient must be nourished by rectal alimentation. The bowel must be flushed out one hour before the nutritive enema is given, with a pint of normal saline solution. When the rectal feeding is first given the food should be started in small doses and not oftener than once in eight hours. Iron, when anemia is present, may be given with the enemata. The following preparations are recommended as easily assimilated by the bowel: Defibrinated blood in amounts of 5 or 6 ounces at a time or somatose one teaspoonful; two eggs added to four ounces of peptonized milk. This method of feeding should be continued for ten days or two weeks. As to the treatment of the symptoms, thirst is controlled by the enemas and in addition small pieces of cracked ice may be given cautiously by the mouth. Pain and vomiting can often be relieved by external applications of the following mixture:

℞. Spts. chloroformi .....ʒi 30
Alcoholis .....ʒiii 90

M. Sig.: Apply locally to the epigastric regions on flannels.

In cases of obstinate vomiting the following is recommended:

℞. Sodii bromidi .....gr. lxxx 5
Ext. cannabis indicæ .....gr. ss 03

M. Ft. pulvis No. i. Sig.: To be dissolved in three or four ounces of water and administered by the bowel.

The hemorrhage which occurs in about one-half of all the cases is controlled by twenty to thirty drop doses of equal parts of turpentine and egg albumin. And for the collapse due to hemorrhage flooding the colon with salt solution and strychnin and digitalis hypodermically will be of use.

For the hemorrhage gelatin may be given internally in tablespoonful doses of a 5 to 10 per cent. solution every 3 or 4 hours or given hypodermically in weaker solutions. Adrenalin is also recommended given 10 to 15 drops of a 1-2,000 solution three or four times a day. Morphin may be resorted to in stubborn cases and even operation if perforation of the stomach wall should occur.

Leube recommends the following to relieve the pain in gastric ulcer:

℞. Codeinæ phos.
Ext. belladon., ää.....gr. v 30
Bismuthi subcarb. 3i 4
Saech. lactis 3i 4

M. Ft. chart. No. xv. Sig.: One powder two or three times daily.

The following combination is recommended by Hare to relieve the pain and to promote healing:

℞. Argenti nitratis .....gr. iv 25
Ext. hyoscyami .....gr. x-xx 65-1.30

M. Ft. pil. No. xx. Sig.: One capsule twenty minutes before each meal.

In the treatment of gastric ulcer the following combination is recommended by *Columbus Med. Jour.:*

℞. Pierotoxin
Morph. hydrochlor., ää.....gr. i 06
Atropinæ sulph. .....gr. 1/5 013
Ergotin .....m. xx 1 30
Aq. laurocerosi 3iii 12

M. Sig.: Four to six drops ten minutes before each meal.

The following is also recommended:

℞. Argenti nitratis .....gr. v 30
Tinct. opii 3iss 6
Aquæ anisi q. s. ad.....ʒiiss 75

M. Sig.: One teaspoonful three times a day before meals.

Calcium Chlorid as a Hemostatic.

Bartignon, in the *Courier of Med.*, advises the employment of calcium chlorid as a hemostatic in hemorrhages from whatever source, in diseases presenting hemorrhagic tendencies, and especially in hemophilia. According to the author it surpasses in efficiency perchlorid of iron, antipyrin, ergotin, and at the same time is better tolerated by the stomach. He prescribes it as follows:

℞. Calcii chloridi (crys.) 3i 4
Syr. opii .....ʒiii 90
Aquæ .....ʒiv 120

M. Sig.: This amount to be taken in twenty-four hours and renewed so long as the hemorrhage continues.

Terpen Hydrate.

The following methods of prescribing terpen hydrate are recommended by *Rev. francaise de Med. et de Chir.:*

℞. Terpen hydratis .....gr. 3/4 05
Terebenthinæ (Venice) q. s.

M. Ft. pil No. i. Sig.: One such pill four or five times daily; or:

℞. Terpen hydratis
Sodii benzoatis, ää .....gr. 3/4 05
Ext. aconiti .....gr. 1/65 001

M. Ft. pil. No. i. Sig.: Four to six such pills daily.

Phosphaturia.

According to an abstract in *Amer. Med.*, phosphaturia is nearly always associated with some dyspeptic disturbance. The treatment of this condition is rest and the regulation of the diet. Beef bouillon, eggs, brains, sweetbreads, fish, oysters, peas, lentils, turnips, celery and beans. The nitrogenous foods are generally diminished while the green vegetables and fruits are increased. In phosphaturia due to gout, the patient may be instructed to take a teaspoonful of the following for fifteen days three times a year:

℞. Sodii et pot. tartratis .....ʒiii 90
Sodii bicarb. 3v 20

M. Sig.: One teaspoonful in water daily on an empty stomach.

In phosphaturia resulting from overwork, lecithin alternated with arsenic is advised. Lecithin may be given in three-grain doses three times a day for ten days, followed by the following combination, which should be taken for twenty days:

℞. Sodii arsenatis .....gr. i 06
Aq. destil. .....ʒx 300

M. Sig.: One dessertspoonful before breakfast and dinner.

Cod-liver oil is recommended, giving one or two teaspoonfuls three times a day. A combination of calcium glycerophosphate

and the glycerophosphate of iron may be substituted for the lecithin in anemic individuals.

Rheumatism.

L. G. Doane, in *Med. Bul.*, recommends the following combinations in the treatment of chronic rheumatism:

℞. Acidi salicylici 3iii 12
Ext. pruni virg. flu. 3ii 8
Ext. gentianæ flu. 3i 4
Elix. simplicis .....℥v 150
M. Sig.: One teaspoonful every three hours; or:
℞. Ext. taraxaci flu. 3iii 12
Ext. pruni virg. flu. 3ii 8
Ext. glycyrrhizæ flu. .....gtt. ivss 25
Elix. simplicis .....℥v 150
M. Sig.: One teaspoonful every three hours.

Syrup of the Iodid of Iron.

The value of the iodid of iron as a remedy and its range of usefulness is recalled by M. D. Hodge in *Cin. Lancet-Clinic*. The preparation should, as a rule, be given alone and well diluted after meals. The dose may range from five to sixty drops, as desired. He especially calls attention to its value:

1. In the early stages of phthisis, given in one-dram doses three times daily. It promotes secretion, acts as a diuretic slightly, and the weight of the patient increases.

2. In dry, rasping coughs of bronchitis it will soon relieve the congestion and increase the expectoration after the ordinary cough syrups have failed.

3. In amenorrhea and dysmenorrhea, in scrofulous women especially, it is of special benefit, the menstrual flow often being properly regulated. The dose in such cases should range from twenty to thirty drops after each meal.

4. In anemic individuals suffering from chronic rheumatic gout it is of service given in doses of one dram, combined with cod-liver oil.

5. In constitutional syphilis it is a valuable remedy.

6. In children with a strumous diathesis, enlarged cervical glands associated with catarrhal conditions of the throat, and enlarged tonsils, it should be given, administered in ten-drop doses three times a day. It produces marked alterative effect, hastening absorption and reducing the swollen glands and at the same time increasing the hemoglobin.

7. In cases of delayed resolution following croupous pneumonia it is a splendid reconstructive and tonic.

8. In the incontinence of urine in children it serves a good purpose given in twenty or thirty drop doses in water after meals.

Shoemaker recommends the following combination in the treatment of chronic bronchitis and pleurisy:

℞. Pot. iodidi 3iv 15
Syr. ferri iodidi
Glycerini, āā .....℥iss 45
M. Sig.: One teaspoonful in water or milk after each meal.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

California—Requires License for Vending Drugs, Etc.—Chapter CCXXXIII of the Statutes of California of 1903 provides that no person, as principal or agent, shall conduct as an itinerant vendor the business of selling drugs, nostrums, ointments or any appliances for the treatment of disease, deformities or injuries, without a license. An annual fee of $200 is charged.

Arkansas—Provision for County Boards of Health.—Act 42 of the Acts of Arkansas of 1903 provides that the several county judges may appoint county boards of health for their respective counties to be composed of three physicians authorized to practice medicine in the state. A majority of the board shall be sufficient to make any order or perform any duty provided for in this act. The board is authorized to order the seclusion or the isolation of any persons, and any person who shall fail or refuse to obey the order, and who shall be found exposing himself in such a way as to transmit any contagious or epidemic or dangerous disease, shall, on conviction, be fined from $10 to $100, and may be imprisoned in the county jail not exceeding ten days.

California—To Regulate Practice of Optometry.—Chapter CCXXXIV of the Statutes of California of 1903 makes it unlawful to practice optometry without having obtained a certificate of registration from the board of examiners which the statute creates and having filed such certificate with the county clerk. The practice of optometry is defined as the employment of subjective and objective mechanical means to determine the accommodative and refractive states of the eye and the scope of its functions in general. An examination is required before the board, to be confined to such knowledge as is essential to the practice of optometry. Each succeeding year the certificate may be renewed for a fee of $2. The board may revoke any such certificate for conviction of crime, habitual drunkenness for six months immediately before a charge to be made, gross incompetency, or contagious or infectious disease. The act specifies that it does not apply to physicians, etc., authorized to practice in California, nor to persons who sell spectacles in the ordinary course of trade, and who do not employ mechanical means to determine the states of the eye as defined above.

California—Relative to Maternity Hospitals, Etc.—Chapter CCXXXIX of the Statutes of California of 1903 provides that any person who, without first having obtained a license in writing from the county health officers, conducts any maternity hospital, or who conducts any institution or other place for the reception or care of children, or who keeps at any such place any child under the age of 12 not his relative, apprentice or ward, without legal commitment; or who violates the provisions of this act, is guilty of a misdemeanor. Every such license must specify the name and residence of the person so undertaking the care of such females or children and the location of the institution and the number of females or children allowed to be received. Licenses shall be revocable for any violation of the provisions of the act, or in any case where, in the opinion of the licensing body, such place is being conducted without proper regard for the health, comfort or morality of the inmates thereof, or without due regard for proper sanitation or hygiene. Every person so licensed must keep a register of the names and addresses of all such females, the names and ages of all such children and of all children born on the premises, and the names and residences of their parents, so far as known, and the time of the reception and discharge of such children and the reasons therefor, and also the name and age of every child who is adopted or taken away, together with the name and residence of the person taking away the child; and within forty-eight hours shall cause a correct copy of the register relating to a child who is taken out to be sent to the county board of health or county health officer, as the case may be. It shall be lawful for all health officers, at all reasonable times, to enter and inspect the premises, to inspect the license and the register and to see and visit the inmates.

Arkansas—Against Unprofessional and Immoral Conduct.—Act 178 of the Acts of Arkansas of 1903 provides (Section 1) that any physician, surgeon or person practicing medicine who shall employ any solicitor, or drummer, or shall subsidize or employ any hotel or boarding-house, or advertise his business or remedies by untruthful or improbable statements, circulars or cards, or who shall obtain any compensation by any assurance that a manifestly incurable disease is curable, or who shall wilfully expose any professional secret learned from his patient, to the detriment of the patient, or who shall become a habitual drunkard and continue the practice of medicine, etc., or who shall administer any medicine or perform any operation while drunk, shall, on conviction, be punished by a fine of from $25 to $200, and by a revocation of his license. Section 2 provides that whenever any practitioner shall be convicted of any misdemeanor, involving moral turpitude, in addition to any other penalty shall be added a revocation of his license. Section 3 provides that if any practitioner shall commit the crime of abortion, or aid therein (provided

this section shall not apply to any abortion produced by any regular practicing physician to save the mother's life) he shall be adjudged guilty of a felony and punished by imprisonment in the penitentiary for from one to five years, and his license shall be revoked. Section 4 provides that any practitioner whose license is thus revoked may appeal, but shall not practice pending the appeal, and that if he does so practice, or attempt or offer to do so, he shall be punished in the same manner and to the same extent as if he had never had any license to practice. Section 5 provides that after one year from the date of the revocation of his license for these causes a practitioner may ask for and receive a new license, if he shall satisfy the board that he is qualified, has reformed and is worthy.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

October 10.

1 *The Electrothermic Angiotribe in the Removal of Hemorrhoids. A. J. Downes.
2 *On a Certain Form of Xanthoma or the "Mushroom Growth." W. Moser.
3 *The Dangerous Operation of Uterine Curettement. Ely Van de Warker.
4 *Sterility from Obstruction at the Epididymis Cured by Operative Means. Edward Martin.
5 Transient Postconvulsive Astereognosis in Jacksonian Epilepsy. Charles W. Burr.
6 *Edebohls' Operation of Decapsulation of the Kidney for the Cure of Chronic Bright's Disease and the Indications for Its Performance. James Tyson.
7 Stillbirth Due to Strangulation. J. Milton Mabbott.
8 The Treatment of Delirium Tremens. (To be continued.) J. R. Clemens and others.

1. **Hemorrhoids.**—Downes describes his electrothermic angiotribe and points out its advantages over Skene's instrument. He describes the technic of removal of hemorrhoids by this method, dilating the sphincter, using his self-acting anal speculum to expose the areas, seizing the pile area by a suitable narrow-bladed forceps so as not to encroach on the area to be included within the grasp of the angiotribe, then introducing the latter well oiled to crush the pile as near to its base as possible. The shield is then carefully applied and the proper current connected by attaching the cable to the poles near the proximal end of the healing blade. In twenty seconds, he says, it will be noticed that the tissues in the grasp of the blades are cooking, and this amount of current is allowed to act for about ten seconds longer, when the cable is disconnected. A few seconds later a knife should trim the projecting portion of pile from above the blades of the angiotribe, which should be loosened and removed, exposing a white, thin, sterile ribbon in the hollow of the shield. On removal of the shield the ribbon shrinks to the side of the bowel. The same procedure should be carried out on the various pile areas and at the completion of operation a number of bloodless sterile amputation tracks projecting into the bowel and parallel with its axis will be left. A little care is required so that the clamp may not take in the skin margin, though a little of this involved seems to obliterate the nerve filaments. There is never so much pain in this operation, he says, as in others. Unnecessary manipulation during efforts to clamp successfully the pile areas might open one or more ribbons already made, but this is far less likely to occur than with the clamp and cautery, and with proper technic should never happen. The postoperative period in all his cases thus operated on, 25 in number, was much less painful and cleaner than by the various other methods by which he has operated. He thinks it better to put a little gauze into the bowel. In case of fissures he uses his cautery knife and burns through the base of the fissure thoroughly after the completion of the hemorrhoidal operation. In one case he dissected a fissure and closed with catgut. He thinks this method will be very convenient for surgeons provided there is an electric current in the room, but its great practicability is hardly yet understood. He has lately developed a foot brake to turn on or off the current as desired, which places the operator in absolute control. The counting of seconds to get the proper amount of heat in the compressed tissue is necessary, but this is soon learned practically.

2. **Xanthoma or "Mushroom Growth."**—In the case reported by Moser the patient, a boy, was covered with bright yellow tumors of various sizes, chiefly over tendons and bursæ, varying in size from that of a pea to that of a hen's egg. The bases had usually a normal skin structure, were somewhat pinkish in color, had no inflamed areolæ and the tumors were not painful but annoying. He is inclined to consider the growth as a distinct type that may possibly become sarcomatous. Its chief distinctive features are reviewed as follows:

1. The large size of the tumors.
2. Their "mushroom" appearance.
3. Their smooth, even surface, being one mass, and not nodulated, tuberculated and fissured, as in the ordinary form of xanthoma tuberosum, which is formed by the coalescence of smaller masses or papules and is not infrequently associated with the macular variety of flat plaques or striæ, which in this case were conspicuously absent.
4. Their predilection for tendons and bursæ.
5. The absence of icterus.
6. The absence of glycosuria.
7. Their occurrence in childhood, which is very exceptional for xanthoma tuberosum, most cases occurring in middle life, especially in women.
8. Their subcutaneous character.

3. **Uterine Curettement.**—Van de Warker strongly objects to the too frequent use of curettement, especially the use of the sharp curette, pointing out the serious dangers of bowel perforation, etc. He says the text-books and surgical teachings are at fault in this matter. He gives instances of the bad effects and describes the proper aseptic measures required and the technic, character and treatment of complications, such as uterine perforations. In this latter case it would be necessary to see that there has been no hernia of the bowel or omentum through the wound. This will require a free opening. He thinks it is better in this case to incise the cervix clear up to the inner neck to allow the finger to pass freely, and if hernia has occurred it should be reduced. The probability is that it will not come down again, but if the rupture is extensive, gently applied strips of gauze pressed against the uterine side will prevent hernia. They should not be inserted into the wound, which would interfere with healing and contraction. Then the peritoneal cavity should be opened through the postvaginal space and wiped out with a sponge on a long curved holder, and gauze inserted to the level of the fundus and brought into the vagina. If the intestine is torn and it is necessary to open the abdomen, in case the uterine tissue is friable, no attempt should be made to suture the uterine wall, but slide a flap of peritoneum over the rent and suture with fine silk. The uterine rent can be left to itself. An abdominal incision adds enormously to the dangers in these cases and should never be done except to repair intestinal damage.

4. **Epididymis Anastomosis.**—Martin reports a case of sterility due to earlier urethritis and double obliterative epididymis in which repeated examination failed to show the presence of spermatozoöids. Operation was performed and spermatozoöids found in the tail of the epididymis. The vas deferens was implanted into the wound and sutured with a fine silver wire and the skin closed with catgut. The dressing slipped the next day, exposing the wound, which became infected and suppurated superficially. Later examination showed normal seminal fluid. The patient completely recovered, and his wife, on resuming sexual relations, was delivered of a normal girl baby exhibiting a striking resemblance to her father.

6.—This is abstracted in the report of the Pennsylvania State Medical Society in this issue.

Medical News, New York.

October 10.

9 Symposium: The Teaching of Therapeutics. Reynold W. Wilcox.
10 *From Pharmacologic Science to Therapeutic Art. Ell H. Long.
11 Recent Advances in Genito-urinary Surgery. James Pedersen.
12 On Last Year's Progress in Surgery. Carl Beck.
13 Recent Advancement in the Therapeutics of the Eye. John E. Weeks.

14 Report on Laryngology. Charles H. Knight.
15 *Recent Advances in Electrotherapeutics. William J. Morton.
16 Recent Advances in Orthopedic Surgery. Henry L. Taylor.
17 *Notes on Obstetric Therapeutics. Charles M. Green.
18 *Recent Advances in the Therapeutics of Pediatrics. Noble P. Barnes.

10. The Teaching of Therapeutics.—Long advocates the case method, or what may be called the Socratic method, where students and teachers meet for discussion of cases and their treatment. The discussion is given direction by the teacher, but each student is free to ask questions and state opinions. The marking is based on ability to develop or reason out points in the discussion. Various diseases are gone over and the student is expected to acquire a knowledge of the principles of treatment, the ability to weigh indications and contraindications and reason out a rational plan for each case, as also to learn the relative importance of hygiene and medicinal treatment and the various drugs to be employed. It gives him a more intimate knowledge of the remedies of greatest importance and those of subordinate or uncertain value, and a valuable medical training that he will need in actual practice.

15. Electrotherapeutics.—Morton reviews the advances in phototherapeutics, summing up by saying that all the artificial sources of light possess only a feeble power of penetrating living animal tissue until prior compression (as by Finsen in lupus) is employed. There is really but one conclusion to be drawn, and that is that all forms of solar, electric arc and other artificial lights are entirely supplanted in their efficacy and usefulness by the *x*-rays. These may in turn give way to Becquerel's radiations, but the present cost of radium is prohibitive. Recent advance in phototherapy, therefore, consists in an increasing clinical experience with the *x*-rays. In the selection of a working tube, a soft tube will do superficial work while the hard tube is better for deep structures and is safer. The question whether an *x*-ray burn can be a cancer nidus is answered in the affirmative and 4 instances noted. Morton also mentions the possibility of secondary infection of open cancer. The use of the Crooke's tube itself gives evidence of this in its attraction for dust, and what is true of the tube is equally true of the patient. The case is as if we sprayed the dust of the room directly into the ulcer. In conclusion he calls attention to the *x*-ray histofluorescence with which he has practiced for some time, and this may be considered as possibly an advance step in the treatment of cancer. It occurred to him he might administer a drug medicinally, capable of fluorescence, and at the same time increase its fluorescence in the tissues themselves by means of the *x*-ray. He can not affirm it, but he believes that cases treated by a combination of fluoresceing medicines and the *x*-rays have made more improvement and more certain recoveries than cases not thus treated.

17. Obstetric Therapeutics.—Green discusses the use of antistreptococcic serum and the intravenous use of formalin for puerperal sepsis. He has observed 3 cases of ineffective formalin injections, "2 died in spite of, and 1 recovered notwithstanding, the use of formalin." A safe and effective intravascular antiseptic agent against the streptococcus is not known. He notices also obstetric asepsis and the use of suprarenal extract as an astringent and hemostatic in uterine hemorrhage. He goes at length into the subject of obstetric anesthesia, giving his own experiences with the scopolamin-morphin admixture recommended by Von Steinbüchel as an ideal anesthetic for obstetric use. Scopolamin hydrobromate and morphia nitrate were so combined that ten minims of the mixture contained 1/200 gr. of the former and 1/6 gr. of the latter drug; administered hypodermically. Some 16 cases of primiparæ thus treated are reported with good results. In 3 multiparæ it seemed to have less effect in relieving the pains. He remarks that as a result of these observations it would seem that in the scopolamin-morphin narcosis we have a valuable addition to our obstetric therapeutics. The combined drugs seem especially serviceable in primiparæ of nervous, excitable, hyperesthetic organization. The best results are obtained when the drugs are given early in the first stage as soon as nervous irritability appears. He remarks in regard to puerperal eclampsia that recent experience has taught him that in hyoscin and morphin in heroic doses we have a potent agent for the control of extreme restlessness and maniacal excitement. Three cases are reported. As regards the prophylaxis of the condition he says he has never had a case of puerperal eclampsia among women who have been under his care during pregnancy. All the cases he has seen have occurred in consultation or hospital practice. Careful attention to diet, hygiene, the condition of the nervous system and the functional capacity of the eliminative organs has brought him suitable results in cases where he has supervised the condition from the beginning. Nicholson's theory that the use of thyroid extract is indicated in eclampsia, the latter being due to thyroid inadequacy, Green considers worthy of further investigation.

18. Pediatrics.—Several points of interest are mentioned by Barnes: The importance of adapting children's clothing so as not to interfere with muscular development; the usefulness of thyroid in mammary inactivity; the danger from tuberculous milk; the treatment of anemia; the isolation of contagious diseases in children; the use of antistreptococcic serum in scarlet fever; the usefulness of guaiacol and creosote carbonate in pneumonia, and the valuable therapeutic advantages of lumbar puncture, as well as its diagnostic utility.

Medical Record, New York.

October 10.

19 *Fibrocystic Tumors of the Uterus; Their Etiology. Mary A. Dixon Jones.
20 *Copper in Syphilis. A. F. Price.
21 Aneurism of the Transverse Arch, with Obliteration of the Innominate and Left Common Carotid Arteries. U. S. Bird.
22 A Case of Combined Pyloric Cancer and Phlegmonous Gastritis. G. M. McCaskey.
23 Congenital Absence of Rectum with Imperforate Anus. G. W. Squires.

19. Fibrocystic Tumors.—Jones discusses the literature on the etiology of fibrocystic tumors, pointing out that the majority of cases that have been described are fibrocysts of tumors, and reports cases of fibrocysts of the uterine tissue itself. There is a change of the whole uterine tissue and the formation of partial blood cysts. She gives her ideas as to the formation of blood corpuscles and inflammatory bodies and claims that all abnormal growths are in a pathologic condition and in a state of change, and possibly in these cases are developing into even more serious conditions, such as malignancy, etc.

20. Copper in Syphilis.—Price notices the intolerance of copper in old syphilis, and the results of his treatment with small increasing doses. An experience of many years, he says, has led him to formulate his belief as follows:

1. The treatment of syphilis in all its stages, inclusive of the cachectic and the parasyphilitic forms, is well founded on sulphate of copper in the average dose of 1/30 gr., aided by such a quantity of blue mass as is borne readily by the patient.
2. In old syphilis in any form the copper salt must be given in minute doses, and gradually increased as tolerance is established, until the usual dose of 1/30 gr. is given, when the mercurial should be added in a rather small dose. It is sometimes better to give the medicine only on alternate days.
3. In acute syphilis the copper salt is to be given in the dose of 1/30 gr. and the mercurial added at once and increased as much as the patient will tolerate, in order that the disease shall be neutralized and eliminated as completely as possible.
4. Iodin, iron, arsenic and tonics of any sort, while useful, occupy a subordinate place in the treatment of syphilis.
5. Alcohol and, especially, tobacco, should be forbidden to syphilitics.

The Boston Medical and Surgical Journal.

October 8.

24 Memorial Meeting to John Homans, M.D. Addresses Read Before the Boston Society of Medical Improvement. Maurice H. Richardson and others.
25 *The Operative Treatment of Umbilical Hernia. J. Collins Warren.
26 *Vesico-intestinal Fistula. Joshua C. Hubbard.

25. Umbilical Hernia.—Umbilical hernia in children rarely comes under the surgeon's care, as it is usually kept reduced by a suitable support until the opening disappears and a cure is effected. The typical surgical case is that of a woman of middle or advanced life, corpulent habit and mother of a large family. The etiology seems apparently to be the changes of pregnancy and the relaxed condition in which the parts are left, the force of gravity and the pressure of clothing causing giving way of the weakened walls. As the adipose tissue accumulates, the cicatricial tissue of the umbilicus is drawn on

and drags the funnel-shaped fold of peritoneum through the true abdominal wall. While this form of hernia has generally been considered more liable to relapse than the others, recurrences, Warren says, are becoming fewer with improved conditions. This is not due to new methods but to more care in suturing and in perfecting the operation. The hernial sac should be exposed by two slightly curved incisions on the median line, meeting above and below and exposing the walls of the sac as far as the neck and surrounding aponeurosis. It should then be opened and the contents freed from adhesions and returned into the abdomen. If the omentum is matted together it had better be excised at a point below the portion usually occupying the sac. The sac should then be carefully excised and the vessels secured. The opening that is left in the abdominal wall is oval, with its long diameter lying at right angles to the linea alba. The peritoneum should, if possible, be separated from the fascia and secured by fine sutures. The edges of the hernial ring consist of the tendinous raphe formed from blending of the aponeuroses of the abdominal muscles. The accurate coaptation of these edges is important and is best effected by closing the ring transversely instead of vertically, which is much easier. The material used for suturing the peritoneum is fine silk, No. 8, such as is used for intestinal suturing; No. 10 silk is used for suturing the aponeurosis. Enough of this layer should be taken up to hold the sutures securely. Warren does not advise the use of quilted or complicated sutures or exposing the edges of the recti except in rare cases of wide separation. In aseptic wounds attention to the above-mentioned points is enough. The adipose layer and outer integuments should be trimmed with a knife so as to fall easily into apposition. This involves excision of the umbilicus and a certain amount of skin on either side. The adipose layer is then caught together by medium silk sutures and the skin united by silkworm gut. A new feature in the treatment of these cases is excision of the thick layer of adipose tissue, sometimes several inches in thickness in the median line. To remove this a median incision should be extended through the skin and subcutaneous adipose tissue from a point two inches below the ensiform cartilage to the transverse fold defining the upper limit of the mons veneris. The skin, with the adipose tissue still attached, is then dissected away until the integument has been freed as far as the loins. The vessels that are divided are easily secured. After hemorrhage has been arrested the skin should be attached to the aponeurosis by two or three catgut sutures to prevent dead spaces, and the edges of the skin should be united in the usual way by silkworm gut. This leaves a long cicatrix, but it contracts considerably with time. It is a better method than the transverse or crescentic-shaped incision by which the fold itself might be excised. He reports a number of cases from his practice.

26. Vesico-intestinal Fistula.—After reporting a case in detail in which the patient died in a postoperative delirium, Hubbard describes the condition, which is most frequent in males, three cases to one in women. This is partly due to the intraposition of the vagina between the bladder and rectum. The cause seems to be an inflamed perineum or inflamed new growth of the uterus and its adnexa, the primary focus invading secondarily the bladder and intestines thus forming a fistulous connection between them. The fistula is usually rectal, next to that in frequency the sigmoid and colon are involved, and occasionally the ileum. The symptoms are discharge of gas and fetid matter through the urethra and urine through the rectum. There are usually pain and vesical and rectal tenesmus, cystitis, pyelitis, etc., caused by the presence of the fecal matter, but sometimes the discharge of gas alone is the only symptom. He points out the various conditions which may need to be differentiated from it, such as the condition of the bladder after catheterization or litholapaxy or diabetes, which may develop the gas, and the possibility of the existence of fistula, with an intestinal opening into the urethra below the bladder. The prognosis depends primarily on the cause of the fistula and, in simple inflammatory fistula, largely on its size. Palliative treatment is devoted to keeping the bladder and rectum clean by thorough irrigation and drainage or in some cases by the position of the patient. He mentions the various methods of cutting for fistula, the rectal route, the perineal route, the sacral route, the vesical route, which is difficult, and the abdominal route. The best results appear to be with the rectal or perineal routes. The causes of death in the fatal cases have been peritonitis and shock.

American Medicine, Philadelphia.

October 10.

27 Construction of the Proteid Molecule. B. H. Buxton.
28 *The Rôle of Local Sanatoriums in Preventing the Spread of Tuberculosis. DeLancey Rochester.
29 Pyloric Carcinoma, with Symptoms Resembling Gastrocolic Fistula. David L. Edsall and Charles A. Fife.
30 Insanity as a Sequel to Physical Conditions. A. B. Richardson.
31 Case of Enlarged Pedunculated Middle Lobe of the Prostate, Suprapubic Prostatectomy, Recovery; Followed by Epididymitis, Appendicitis, General Peritonitis, Recovery without Operation; Universal Eczema and Finally Cholelithiasis. Moses Behrend.
32 *Some Observations on Trachoma. A. A. Ripperger.
33 Eye Strain and Civilization. George M. Gould.

28. Tuberculosis.—Rochester would have two types of sanatoriums, one for the incipient cases and another for the chronic ones, but the essential point is removal of the patient from his surroundings. He remarks in favor of this, claiming that the procedure is not unprecedented and the good to the entire race from such sequestration kept up persistently for ten or fifteen years would far outweigh the slight psychic disturbance of the few. The bodies of all dead from tuberculosis should, of course, be cremated.

32. Trachoma.—Ripperger gives the results of his own experience, which seems to show that uncleanliness and close huddling together of people under unhygienic conditions favor the spread of the disease. He also remarks on the advantages of protargol in treatment.

Cincinnati Lancet-Clinic.

October 10.

34 The Doctor and the Public. E. Stuver.
35 Iodine and Its Use. Brose S. Horne.
36 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

American Practitioner and News, Louisville, Ky.

August 15.

37 Diagnosis and Management of Appendicitis. A. D. Willmoth.
38 Remarks on the Criminal Insane and Their Care. Joseph W. Irwin.
39 Cerebral Sclerosis. Orville A. Kennedy.
40 Address, Medical Department of the University of Louisville. W. H. McCracken.
41 *The Paroxysms of Whooping-cough Treated by Pulling the Lower Jaw Downwards and Forwards (Naegeli). Jacob Sobel.
42 A Case of Gastric Syphilis. H. A. Lefleur.
43 *Fibromata as Complications of Pregnancy. Reuben Peterson.

41. Whooping Cough.—Sobel calls attention to Naegeli's method of relieving paroxysms of whooping cough by pulling the lower jaw downward and forward, a procedure which has not been noticed to any extent by recent writers. He has used this method in all cases of whooping cough presenting themselves at the dispensary for children's diseases at the Beth Israel Hospital, New York, since June, 1901; a total of 96 cases, the age ranging from three months to eight years. No selection of cases was made and all stages were observed. He has had only 9 failures out of the 96 in which no effect on the paroxysm was produced by this method. He claims that the method is usually more successful in older children. In cases without the whoop the expiratory spasm with its asphyxia is generally overcome. The method deserves a place in the treatment of pertussis and is as successful as any other. It is harmless, painless, and easy of application. The only contraindication to it is the presence of food in the esophagus or mouth. A patient treated this way is less likely to suffer from complications and sequelæ than those treated only medicinally. Mothers and attendants should be instructed in the method. The best other treatment should accompany.

43.—This article appeared elsewhere. See THE JOURNAL of September 19, ¶50, p. 746.

The Laryngoscope, St. Louis.

September.

44 Some Critical and Desultory Remarks on Recent Laryngologic and Rhinologic Literature. (Continued.) Jonathan Wright.
45 Retropharyngeal Abscess; Report of Three Cases. L. C. Cline.

46 Case of Mastoid Suppuration Accompanied by Epithelioma. Carl E. Munger.
47 *The Import of the Salivary and Nasal Secretions in Hay Fever. D. Braden Kyle.
48 Report of Cases of Pyogenic Brain Diseases, Associated with or Caused by Acute and Chronic Nasal Suppuration. Thomas Hubbard.
49 Supernumerary Teeth in the Nose and the Maxillary Sinus. J. M. Ingersoll.
50 Presentation of Instruments. (Laryngotomy Canula, etc.) Chevalier Jackson.

47. Nasal and Salivary Secretions in Hay Fever.—Kyle thinks from a study of the saliva we can gain some idea as to variations in the chemistry of the body. He applies this suggestion to the etiology of hay fever, holding that there has not yet been determined a definite cause. He thinks in many cases local irritation of the mucous membrane is brought about by some chemical change in the secretion of the mucus-secreting glands, and that there is quite a field for investigation in this line to determine if the irritating material bringing about an attack is not manufactured within the system.

Medicine, Detroit.
September.

51 *Atony of the Stomach. J. H. Salisbury.
52 *The Prevalence of Tuberculosis, and Measures for Increasing the Individual Resistance to Its Attacks. F. M. Pottenger.
53 Compound Ovarian Cystomata. W. Ramsay Smith.
54 *Eye Complications that at Times Attend Measles. George F. Suker.
55 The Treatment of Acute Inflammations of the Middle Ear. Otto J. Stein.
56 A Glance at the History of Medicine. Charles D. Center.

51. Atony of the Stomach.—Salisbury agrees with Stiller as to the importance of the splashing sound and the floating tenth rib as signs of the condition. He concludes that mobility of the tenth rib marks an arrest of development connected in some way with imperfections in the abdominal organs manifesting itself particularly in atony of the stomach and intestines and corresponding atony of the ligamentous tissues and skeletal muscles, especially of the abdomen. The only common structure that we can suppose to produce this symptom is the nervous system, hence he refers all manifestations that follow this to disturbance of the nervous system affecting the nervous supply of the abdominal organs and corresponding external parts. The consequences of atony are, first, the imperfect mixture of the ingested food with the gastric secretions. Gaseous fermentation rarely occurs unless the food is retained too long, though other fermentations may develop, producing trouble. Other symptoms which are likely to occur are the entrance of bile from the duodenum through the relaxed pylorus and the prolongation of the digestive act beyond the time when the stomach should be empty. Often a second meal is introduced into the stomach that has not relieved itself of the first. The question of atony terminating in dilatation is discussed. He thinks that probably every degree results in a temporary and slight degree of dilatation. Retardation of digestion has a tendency to set up gastritis. The prognosis of chronic atony ofthe stomach depends more on the complications than the disease itself, and the tendency to gastroptosis is a marked feature. The discovery of a floating tenth rib may enable the physician in acute debilitating diseases to put the patient and friends on their guard and save trouble, especially if the disease is of a disabling nature. The disorder must be recognized as an affection of the nervous system demanding general systematic tonic treatment. Rest in bed is an important adjunct; care as to the diet, a nutritious and not too bulky one, and repeated analyses of the stomach contents to test the digestive capacity, are of importance. Cold bathing, massage, electricity, etc., exercises to strengthen the muscles of the trunk, play important parts in the treatment. The faradic current is to be preferred to the galvanic.

52. Tuberculosis.—Pottenger considers that tuberculosis is the most frequent of fatal diseases and gives tables showing the mortality in different countries. While we have been obliged to discard heredity as a common cause, he thinks we have gone too much to the other extreme and neglected the question of predisposition. Childhood is a period that needs our most earnest attention, and while we must recognize the possibilities of heredity, most of the trouble comes from environment. Our hope as to the future prophylaxis of tuberculosis largely depends on our attention to this point. Overcrowding is one of the most active causes in rendering the environment unhealthy, and the part played by acute infectious disease, especially in childhood, deserves earnest consideration. He also cautions against over-exercise and over-training as a possible cause.

54. The Eye Complications of Measles.—Suker reviews the various eye complications as they occur in measles, the most frequent of which are conjunctivitis and superficial inflammatory conditions. Fundus complications are rather infrequent as well as other deep-seated disorders. The possible complications are reviewed in detail. Among the more frequent ones are mentioned catarrhal and follicular and phlyctenular conjunctivitis and phlyctenular keratitis. In both phlyctenular complications the gastro-intestinal tract must be looked after as the possible source of an auto-intoxication. Marginal blepharitis is a common accompaniment of measles. Photophobia and asthenopia are also common. Of the deep complications optic neuritis and neuroretinitis are the most frequent of the fundus conditions. Total blindness coming on during an attack is rare. Muscular insufficiencies are sometimes noticed. In some cases strabismus has been credited to the disease. Disturbances of accommodation of the peripheral type are sometimes observed after apparent recovery in measles as in diphtheria. Non-inflammatory complications scarcely require treatment except rest for the eyes and tonics. The strabismus should be treated as if from any other cause and inflammatory disorders receive such treatment as would ordinarily be suitable. Suker thinks, however, that it would not be amiss to employ mild prophylactic treatment in the scrofulous or greatly debilitated cases so as to guard against phlyctenular complications and continue this for several weeks.

American Journal of the Medical Sciences, Philadelphia.
October.

57 *Hypertrophic Osteoarthropathy, with Report of Two Cases. Theodore C. Janeway.
58 An Hour-glass Stomach Observed in Situ. Thomas Dwight.
59 An Operation for the Repair of the Pelvic Floor. J. G. Mumford.
60 *Two Cases of Left Duodenal Hernia, in One of Which the Sac Contained the Entire Small Intestine, the Cecum and a Portion of the Colon, Which Was Strangulated. Leonard Freeman.
61 Rare Case of Appendicular Abscess Situated Between the Layers of the Mesentery of the Small Intestine. Joseph C. Bloodgood.
62 *The Results in Bloodless Reposition of Congenital Dislocation of the Hips, with a Report of Cases. Gwilym G. Davis.
63 Tortuosity of the Aorta. Joseph Sailer and G. E. Pfahler.
64 The Occurrence of the Bence-Jones Albumin in a Pleuritic Effusion. Isador H. Coriat.
65 Multiple Myeloma (Myelomatosis), with Bence-Jones Proteid in the Urine. F. Parkes Weber. With Report on the Chemical Pathology. R. Hutchison and J. J. R. Macleod.
66 A Convenient Modification of Tests for Hydrochloric Acid in Gastric Contents. Charles S. Fischer.
67 Two Cases of Relative Aortic Insufficiency. W. F. Hamilton and J. R. Byers.
68 The Community and Tuberculosis. Beverley Robinson.
69 *An Epidemic of Typhoid Fever Due to Impure Ice. R. H. Hutchings and A. W. Wheeler.
70 *The Transmission of Bovine Tuberculosis by Milk, with a Tabulation of 86 Cases. George M. Kober.
71 *Tabes in the Negro. D'Orsay Hecht.

57. Hypertrophic Osteo-arthropathy.—Two cases are reported by Janeway illustrating the symptomatology of the Marie and von Bamberger types of this condition. He discusses the theories and reviews cases he has found in the literature with regard to the etiology and pathology of the affection, and concludes that the incidence of osteo-arthropathy and tubercular pulmonary lesions is too marked to be made light of. Other associations are suppurative, gangrenous, etc., but some cases seem to have occurred without being apparently secondary to any known disease. He remarks that great individual differences in the reaction of the bones to irritants evidently exist in different persons. He asks for a careful recording of cases of osteo-arthropathy and allied conditions by the radiograph, as the problem of its true etiology requires a larger knowledge of bone pathology and of pathologic metabolism than we now possess.

60.—See abstract in THE JOURNAL, xl, p. 1669.

62. Congenital Hip Dislocation.—Four cases are reported by Davis involving seven hips. One was operated on and one was

lost sight of while under treatment. Of the other 5, 2 were anterior transpositions; 3 were apparently perfectly normal in every way, five, two and one-half years and six months after replacement by manipulation. He reviews the methods of open and forcible bloodless reposition and notes their respective advantages. The general conclusion is that perfect reposition is rarely attained in forcible reposition. As an absolute cure it hardly meets the full claims. If one is critical as to cures like Kirmisson, Hoffa, Kollicker, Schede, Codivilla and others, we can call 5 per cent. cured, but if one is more easily satisfied then the cures will amount to 50 per cent. It is probable that total failure under the age of 6 to 8 years is rare; that approximately one-half the cases are replaced in a more or less normal acetabulum and kept there; that a small proportion are apparently quite normal; that in most of the remainder the head is transposed forward or forward and upward and remains there. In many of these cases subsequent operation may perfect or improve the condition. Others seem to do well and still others have a tendency to slip backward to their former condition. It is absurd to speak of a cure within a short time after reposition. One should be cautious as to promising results of treatment.

69.—See editorial in THE JOURNAL of October 10, p. 913.

70. **Bovine Tuberculosis.**—From a careful study Kober concludes that tuberculosis may be transmitted to man in milk from tuberculous cows. The danger is real and can not be measured by the actual number of recorded cases, but should be judged, in part at least, by inoculation and feeding experiments and the accidental wound infection that has occurred. The degree of danger may also be estimated by the prevalence of bovine tuberculosis and of the forms other than phthisis pulmonalis in man, remembering that the infectious qualities are greater when the udder is the seat of lesions, and that Gebhardt's experiments show that tuberculous milk when diluted with milk of sound animals in the proportion of 1 to 40 loses its infective power. Experiments also indicate that while the bacilli of human tuberculosis possess different degrees of pathogenic power and are often of feeble virulence for cattle, Koch's claim that human and bovine tuberculosis are distinct, and that human tuberculosis can not be conveyed to cattle, appears to be disproved aand his failure to secure results may be attributed to the use of human bacilli of diminished virulence. Recent studies have strengthened Smith's claim that there are two types of tubercle bacilli, the human and bovine, with morphologic and biologic differences, but both of these may produce virulent cultures which, when inoculated into animals, produce the disease. It is desirable to have further study as to the frequency of primary intestinal and abdominal tuberculosis in all cases, whether the child died of tuberculosis or not, and bacteriologic examination should be directed to the existence of both of these types. As to whether the bovine type predominates, a careful chemical analysis of the milk of tuberculous animals should be made to determine the amount of phosphoric acid as compared with the quantity in normal milk, since de Schweinitz's researches seem to show that the excess noted by the older chemists is really the result of bacterial activity in the udder of the cow. The pathologist need not reverse his opinion as to the identity of human and bovine tuberculosis and the sanitarian has no reason to assume that the human subject is immune against infection or to cause him to relax his efforts in preventive measures.

71. **Tabes in the Negro.**—Hecht reports a carefully examined case and discusses the disease, especially in its occurrence in the black race. He concludes that long residence with the white man has made the American negro anthropologically, physiologically, and pathologically different from the original stock. This has been due to acclimatization, social environment and more than anything else to miscegenation. This latter and the advent of personal liberty are responsible for a new era of diseases. The newer diseases in the negro, of which tabes is an example, are becoming more commonly recognized, miscegenation being the potent factor in reducing the negro's resistance. Tabes probably occurs more commonly than has been supposed, and the failure to recognize it may be due to the abeyance or total absence of the ataxic symptoms in the amaurotic type. The Edinger-Marie observations as to optic atrophy satisfactorily explain that class of cases in which the tabes is arrested by blindness. Finally he concludes that Aryan admixture is essential to the production of tabes in the negro.

Brooklyn Medical Journal.

October.

72 *Notes on Urinary Casts. Z. Taylor Emery.
73 A Report of Present Methods of Administering General Anesthetics in the Brooklyn Hospitals, with Comments. A. F. Erdmann.
74 The National Formulary. W. N. Belcher.
75 The Hypothesis of Cohnheim Concerning Carcinoma. Algernon T. Bristow.

72. **Urinary Casts.**—The clinical significance of hyaline casts is open to many qualifications, according to Emery. They may be dependent on weakened or disturbed circulation or subject to altered conditions of the blood and febrile conditions. If the casts are small or medium sized and not accompanied by albumin and not numerous, or occurring in a man over 45 years old, they need not be considered necessarily of special significance, but if they are large or medium sized in large numbers, further examination and careful inquiry are indicated. The appearance of hyalin casts containing granular matter does not always indicate an active destructive process within the kidney, nor do small hyaline casts in young persons after exhausting or long-continued severe exercise. Large hyaline casts in the urine of middle-aged persons, if long continued, may indicate beginning intestinal nephritis. If there is a continued trace of albumin, suspicion should be excited to the point of certainty, especially if the daily output of urea is decreased. The occurrence of epithelial, blood or granular casts in the urine is of sufficient gravity to call for systematically conducted chemical and microscopic examination, though such may occur from localized infarcts which heal up. In patients ill from tonsillitis, pneumonia, and typhoid, albumin and casts may appear and no detrimental effects follow. Bacterial casts are occasionally seen and are of importance. Waxy casts are often of grave import. He suggests in cases in which it is impossible to obtain a twenty-four-hour specimen which can be identified as such to make a series of examinations at intervals during several weeks.

American Gynecology, Baltimore.

September.

76 *Concerning Tuberculosis of the Female Sexual Organs and the Peritoneum. J. Veit.
77 *Intestinal Anastomosis by the Elastic Ligature. Theodore A. McGraw.
78 A Sketch of the History of Obstetrics in the United States up to 1880. (To be continued.) J. Whitridge Williams.
79 *Instrumental Dilatation of the Cervix in the Last Months of Pregnancy. H. S. Lott.
80 *The Effect of Anesthesia on the Body Temperature. W. H. Morley.

76. **Tuberculosis of the Genital Organs and Peritoneum.**—Veit finds that this is more frequent than was formerly supposed, and while it may be primary, the secondary form is the most common. It is usually descending, more rarely ascending, but the infection may also follow the blood vessels or occur after accidental injury of the lymph glands. The diagnosis is based in particular on the discovery of the bacillus; in some cases, however, the certain occurrence of tubercles is sufficient. Recovery may be spontaneous. In primary isolated genital tuberculosis operative treatment, however, is still the best. In secondary tuberculosis or cases not isolated, the general therapeutics must be first considered, especially constitutional treatment. Good and permanent results are sometimes obtained from operation and, exceptionally, this may be considered. The best local palliative is iodoform. He says that tuberculosis of the peritoneum is always secondary. There are two forms, the ascitic and the adhesive. It may be secondary or primary. Peritonitis, with extensive nodule formation, which can not be explained by ovarian tumors or carcinoma, must generally be considered as tubercular. It may even heal spontaneously, though not very frequently, and is cured by laparotomy, even though some failures, due mostly to too far advanced tuberculosis in other organs, do occur. A generally accepted explanation of this healing process does not exist;

the influence of the serum (whether normal or antitoxin) is very probable. Therapeutically speaking, therefore, recent cases should be operated on when difficulties arise as the result of disease. A repetition of the operation may, if it is performed very early, become necessary. Chronic cases should be observed, and if spontaneous recovery does not soon occur, laparotomy should be performed. A simple laparotomy along the linea alba with evacuation of the fluid and closure of the abdominal cavity is usually sufficient. The abdominal radical operation should be performed only if at the same time we find a completely isolated genital tuberculosis. Veit's article was one of the principal addresses at the last international congress of gynecology.

77.—This article appeared elsewhere. See THE JOURNAL of October 17, ¶7, p. 985.

79. **Instrumental Dilatation of the Cervix.**—Lott redescribes a metallic dilator invented by him, a description of which was published in the *North Carolina Medical Journal* in 1892. Bossi's dilator was first described in an Italian journal in 1891, and Lott's invention was entirely without knowledge of the Italian's work. It was employed successfully in this country ten years before the Bossi invention was here introduced.

80. **The Effects of Anesthetics on the Temperature.**—Morley gives his observations on the effect of anesthetics on temperature. He concludes that ether anesthesia lowers the body temperature; that this is due to the increased heat output through the dilated skin vessels and to lessened heat production from diminished muscular movement. Hence the patient should be well protected with lint and bandages and the operating room should be warm. Many of the so-called postoperative pneumonias are due to the chilling of the patient.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

September.

81 *The Management of Fever in General. Augustus A. Eshner.
82 *The Contagiousness of Pneumonia. Robert N. Willson.
83 A Report of Three Cases of Lupus of the Mouth. W. G. B. Harland.
84 Ligation of the Subclavian Artery for Aneurism of the Second and Third Portions. Charles F. Nassau.
85 Three Cases of Subcutaneous Injection of Paraffin for the Correction of Nasal Deformities. A. B. Kirkpatrick.

81.—This article appeared in THE JOURNAL, July 11, 1903.

82. **Pneumonia.**—Three cases in the same house in previously healthy persons are reported by Willson. The possibility of their being cases of independent infection seems dubious.

Northwest Medicine, Seattle, Wash.

September.

86 Presidential Address. Washington State Medical Association. Charles McCutcheon.
87 *The Hygiene and Dietetic Treatment of Chronic Nephritis. Victor C. Vaughan.
88 *Renal Decapsulation as a Cure for Chronic Bright's Disease. Franz H. Coe.
89 The Treatment of Vascular Tumors by the Injection of Boiling Water. N. G. Blalock.
90 Treatment of Pelvic Disease in the Female Insane. Ernest A. Hall.
91 Fatal Poisoning by Oil of Wintergreen. J. B. McNethney.

87. **Chronic Nephritis.**—Vaughan reviews the dietetic instructions of various authorities. He criticises the exclusive milk diet. The diet which Vaughan has found most serviceable in chronic nephritis is, with the exception of cream and butter, wholly vegetable. He forbids meat in every form, eggs and milk. What he seeks is to profoundly alter the proteids in the circulating blood, and believes he has the best reasons for the selection of the vegetable diet. The urine for twenty-four hours should be collected and its albumin carefully determined, both absolute and percentage, also the amount of urea and total nitrogen should be ascertained. Then the patient should be placed on a diet for three days or more and corresponding analyses made. The diet permits cream, which should be separated as quickly as possible from the milk, and should not contain more than 1 per cent. of proteid. The amount of cream per day is limited to 500 grams, or one pint. Among the cereals he prefers cornmeal mush, which may be allowed *ad libitum*, or oatmeal and cracked wheat may be substituted. Sugar is allowed freely for the mush and zwieback and butter and potatoes complete the substantials of the ration, although he permits the legumins, peas and beans either fresh or canned, green vegetables, fruits and melons. Patients living on such a diet have no difficulty in becoming accustomed to it and lose their desire for meat and eggs. He tabulates the number of calories in this diet, showing that it is sufficient. In order to scientifically determine the value of such a diet in chronic nephritis it will be necessary to test the relative toxicity of the blood of the patients on animals, especially with reference to its action on the kidneys under different diets. This offers a promising field of research. He considers the diet as important in nephritis as in diabetes. The digestive organs need to be carefully watched. Lavage of the stomach is frequently indicated and an analysis of the gastric juice should be made in all cases. The eliminative organs, bowels, skin, etc., should be kept in normal condition, but not too active. Flannel clothing, varying according to the seasons, should be used. Blood counts and hemoglobin estimates should not be neglected.

88. **Renal Decapsulation and Bright's Disease.**—Coe relates his own case and his observation of others treated by Dr. Edebohls and two cases from his own operative experience. He has become an advocate of the method from these observations. He suggests to those who will try the surgical procedure to keep the patient in bed for one week preceding the operation, examine the mixed twenty-four-hour urine for reaction, quantity, albumin by the Esbach or better still by the centrifuge method with potassium ferricyanid; supplemented by repeated estimation of urea for total average quantity. Some value can be attached to the lessened quantity of chlorids as demonstrating renal insufficiency. He says do not trust the settling glass for examination for casts; use the centrifuge. Do not think there is no nephritis because there is no albumin; use the contact test. Conspicuous edema is not essential. Be sure of the condition of the heart and blood vessels. Do not belittle the difficulties of operation, which may be simple or complicated according to the thickness of the walls, the high position of the kidneys, the shortness of the pedicle, possible injury to the nerves or puncture of the pelvis. He believes in the use of the method in eclampsia; in the hands of a rapid operator he would suggest it as the operation of choice. The danger of anesthesia he says may be negative. He is using at present in all his major operations the Bennett inhaler and combined nitrous oxid and ether anesthesia.

Journal of the Michigan State Medical Society, Detroit.

October.

92 Sklascopy of the Heart. A. W. Crane.
93 *A Procedure for the Prevention of Infection, After Cataract Extraction. Walter R. Parker.
94 The Value of Conservative Operations on the Uterus and Its Appendages. W. P. Manton.
95 The Removal of the Appendix During Abdominal Section. J. H. Carstens.
96 Rectal Examination; Its Importance and Value in General Practice. Louis J. Hirschman.
97 Disorders from Eye Strain. Ovidus A. Griffin.

93. **Cataract Extraction.**—Parker describes a case in which he operated successfully, protecting the cornea by conjunctival flaps, according to the method described by Ellett (abstracted in THE JOURNAL of vol. xl, ¶58, p. 1400), everting the flaps over the cornea in order to prevent infection. He thinks it is a valuable method not only for protection against infection but also against accidents in the nervous and insane.

International Journal of Surgery, New York.

September.

98 *The Differential Diagnosis of Acute and Chronic Brain Abscess by Means of the Encephaloscope. Frederick Whiting.
99 Sacculated Bladder. Joseph B. Bissell.
100 Cystotomy in Chronic Cystitis. F. B. Dorsey.
101 The Surgical Assistant; Abdominal Operations. (Continued.) Walter M. Brickner.
102 Rubber in Windowing Plaster Casts in Compound Fractures. Hugh Crouse.
103 The Surgical Treatment of Nephritis: A Physician's View. William F. Waugh.

98. **The Encephaloscope.**—The treatment of brain abscess is a difficult subject and very few if any have duplicated the successful results of MacEwen. It is dangerous to introduce

gauze into the abscess, the walls of which are especially delicate. Whiting has devised an encephaloscope, consisting of a hollow metal tube with flaring orifice and slightly contracted extremity, very similar to an enlarged type of ear speculum. Into this tube an obturator fits in such a way as to accurately occlude the extremity and preclude the possibility of laceration of the soft brain substance which must be displaced or thrust aside when the instrument is introduced into the abscess cavity. This obturator can be quickly withdrawn or speedily replaced should circumstances require. He describes the appearances in acute and chronic brain abscess. In the former there is simply a space with pinkish or reddish walls, with here and there thin shreds of plastic lymph, but nowhere any appearance of an investing layer. Chronic abscess, on the other hand, has a marked yellowish white opaque capsule distorted and irregular in shape and dense in structure. When the examiner looks through the encephaloscope, the interior of which is illuminated by a head mirror, he notices that the collapsing walls come in contact with one another, except where there is a slight depression which, of course, corresponds to the situation and direction of the drainage path. If this lies in the center of the field of observation the obturator can be replaced into the tube and the instrument carried one-half an inch deeper into the brain and straight forward. If it does not correspond with the center of the field, but is situated below the center, to the right, left or above, it is inclined in the direction corresponding to the depression and is carried by gradual stages and repeated observation until the bottom of the pus sac is reached. For acute brain abscess he would adopt an entirely different plan from that with chronic abscess. He would simply introduce to the bottom of the cavity a single wick of iodoform gauze the size of a crow quill, the dressing to be changed at intervals of forty-eight hours until the surface exposed to view is seen to be covered by pinkish granulations. Then the length of the drain should be reduced and the depths of the abscess permitted to heal, preliminary to complete closure of the canal from the dura inward. In chronic brain abscess where there is a dense, firmly-resisting, fibrinoplastic membrane which must slough away or undergo absorption, he would mop the cavity clean with sterile cotton and introduce sufficient iodoform gauze to distend or balloon it, which must be kept up until all fetor disappears and the former lymph-coated suppurating surface is covered with small, red granulations. With the appearance of these granulations favorable and speedy healing may be anticipated. He thinks curetting of a chronic brain abscess cavity might be done with great care, and when large tufts of necrotic granulations are seen they might be scraped away so that they will not conceal a path of infection extending into the adjoining brain tissue. His experience with brain abscess comprises 8 cases, 3 treated without the encephaloscope with gauze packing with or without irrigation. There was 1 recovery. With the encephaloscope he has had 5 cases and treated them all with gauze packing without irrigation with 1 death. This change of mortality from 66 per cent. to 20 per cent. is, he thinks, decidedly in favor of the instrument so far as his experience goes.

Northwestern Lancet, Minneapolis.

October 1.

104 The Relation of the American University to the Medical and Other Professional Schools. John M. Dodson.
105 Nihilism in Therapeutics in Its Relation to Pharmacy. Richard O. Beard.

Medical Age, Detroit.

September 25.

106 Cataract in the Young. William Cheatham.
107 Some Interesting Surgical Cases. Ap Morgan Vance.
108 Exostosis of the Orbit, with Report of a Case. D. C. Bowen.

St. Paul Medical Journal.

October.

109 Materia Medica, Pharmacy and Therapeutics of the Cree Indians of the Hudson Bay Territory. R. Strath.
110 Inflammation of the Gall Bladder and Biliary Passages. Archibald MacLaren.
111 The Treatment of Recent Hernias. J. Clark Stewart.
112 Unusual Forms of Hernia. V. Pleth.
113 Medical Studies in Europe. John Sutherland.
114 Needed Reform in Modern Therapeutics. W. S. Fullerton.
115 Gastrophilus Epilepsalis Larvæ in the Skin of an Infant. Burnside Foster.
116 Puerperal Sepsis. A. McEachran.
117 The Danger of Error in Diagnosis Between Typhoid and True Appendicitis. R. C. Dugan.

Bulletin of the Kentucky State Medical Association, Louisville.

September.

118 Field Notes on Smallpox and Vaccination. R. E. Garnett.
119 Fence-corner Surgery. I. A. Shirley.

Louisville Monthly Journal of Medicine and Surgery.

October.

120 Salpingitis. James Vance.
121 Chronic Gonorrheal Prostatitis. P. C. Layne.
122 The Chemistry of Life. Jacob Glahn.
123 A Rare Case of Sexual Perversion. C. C. Godshaw.
124 A Plea for More Accurate Diagnosis in Diseases of the Upper Abdomen. Louis Frank.

Medical Times and Register, Philadelphia.

August.

125 Practical Experiments in the Treatment of Anemic Conditions. Fritz Euler-Rolle.
126 Impaired Digestion of Infants, Particularly Bottle-fed Babies. F. H. Munroe.

American Medical Compend, Toledo.

October.

127 The Hematology of Syphilis. R. C. Longfellow.
128 Report of a Case of Mastoiditis. Emil Amberg.
129 General Topography of the Ureter. Byron Robinson.

Medical Herald, St. Joseph, Mo.

October.

130 Typhoid Spine. J. W. Cannon.
131 Intestinal Perforation in Typhoid Fever. Wilson O. Bridges.
132 Some Cases of "Cured" Appendicitis. H. H. Everett.

Medical Review of Reviews, New York.

September 25.

133 Syphilis Considered in Its Ethical Relations. S. Seabury Jones.

Medical Sentinel, Portland, Ore.

September.

134 A Case of Enterolith. Drs. Ferguson and Reuter.
135 Scarlet Fever; Etiology and Morbid Anatomy. G. W. Gregg.
136 The President's Address, Eastern Oregon District Medical Society. Nicholas Molitor.
137 *Appendicitis as an Incident in Development. Woods Hutchinson.

137.—This article has appeared elsewhere. See THE JOURNAL of August 15, ¶16, p. 468.

Clinical Review, Chicago.

October.

138 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
139 Eczema and Pruritus. B. Pirosh.

Buffalo Medical Journal.

October.

140 Fibroid Tumors of the Uterus. Herman E. Hayd.
141 An Easy Method of Percentage Infant Feeding. C. W. M. Brown.
142 Some Diseases of the Respiratory Tract from the Viewpoint of the Pension Examiner. William W. Potter.
143 A Critical Clinical Study of Hedonal. A. Toepfer.
144 Myxosarcoma of Right Ovary; Operation; Recovery. L. G. Hanley.

Mobile Medical and Surgical Journal.

September.

145 Report of a Case of Uncinariasis. J. B. Guthrie.
146 Mercury; with Special Reference to Syphilis. E. F. Moody.
147 What Precautions Should be Observed in the Selection of Anesthetics, and How to Administer Them. Edwin L. Marechal.

Kansas City Medical Record.

September.

148 Lachrymal Drainage. Hugh Miller.

New Orleans Medical and Surgical Journal.

October.

149 Some Points in the Development of Dermatobia Hominis. Henry B. Ward.
150 Foreign Bodies in the Ear. B. A. Colomb.

Texas Medical Journal, Austin.

September.

151 Malarial Hemoglobinuria. M. M. Pool.
152 The Therapeutic Value of Animal Extracts. A. S. Epperson.
153 The American Medical Association Plan of Reorganization. James H. Bell.
154 A Case of Snakebite Treated with Adrenalin Chlorid. J. D. Hooker.

Journal of Advanced Therapeutics, New York.

October.

155 The Current: Its Effects and Physiologic Action. Margaret A. Cleaves.

156 The Roentgen Ray as an Aid in Diagnosis. Herman Grad.
157 The Treatment of Chronic Diseases by Physical Therapeutics, Through the Sympathetic Nervous System. (Continued.) Albert C. Geyser.
158 The Vis Medicatrix Naturæ. Maurice F. Pilgrim.

Southern Practitioner, Nashville, Tenn.

October.

159 The Treatment of Pelvic Inflammation. John A. Gaines.
160 Cases in Practice: Dystocia, with Lacerated Perineum; Hemorrhoids, and Abortion. T. J. Happel.

Medical Mirror, St. Louis.

September.

161 The Treatment of Burns. Edward Wallace Lee.
162 Formaldehyd. J. W. Wainwright.
163 Consolation. William C. Cooper.

Toledo Medical and Surgical Reporter.

October.

164 The Indispensable Importance of the X-Ray. John F. Wright.
165 The Hematology of Syphilis. R. C. Longfellow.
166 History of a Case of Quadruplets. Christian Storz.
167 Interstitial Nephritis. William F. Waugh.
168 The Relation of Physical Defects to Mental Development. George Stockton.

Texas Medical News, Austin.

September.

169 The Dangers of Tuberculosis. D. Monroe.
170 Tonsilitis. A. Nowlin.
171 Some Work on the Head. R. E. B. Bledsoe.
172 Maternal Impressions; Report of a Case. S. S. Watson.
173 *The American Medical Association Plan of Reorganization. James H. Bell.

173.—See also title 153 above.

Columbus Medical Journal.

September.

174 Water-Borne Diseases. John H. J. Upham.
175 Chemical Analyses of the Present Public Water Supply of the City of Columbus, Ohio. Elmer G. Horton.
176 Bacteriologic Analysis of Present Water Supply. H. C. Fraker.
177 What Is Our Present Water Supply? Supt. O'Shaughnessy.
178 Theory and Efficiency of Filtration. R. Winthrop Pratt.
179 What Should the Physicians Advise as to the Use of Hydrant Water? J. W Clemmer.
180 The Development of Obstetric Surgery. (Continued.) James U. Barnhill.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 3.

1 Reverence and Hopefulness in Medicine. Dyce Duckworth.
2 The Relationship of the Military Medical Service to the Civil Profession. V. Warren Low.
3 The Relation of Dental Hygiene to the General Hospital. William Hern.
4 The Trend of Opinion in Obstetrics. William Stephenson.
5 *Discussion on the Management of Pregnancy Complicated with Uterine Fibroids. Amand Routh and others.
6 A Case of Persistence of the Urogenital Sinus, with Especial Reference to the Later Theories of the Mode of Development of the Female Genital Tract. C. E. Purslow.
7 *Some Remarks on the Maternal Circulation in Pregnancy. H. Oliphant Nicholson.
8 Clinical Study of Internal Hemorrhage in Association with Ectopic Pregnancy. James Oliver.
9 Two Successful Cases of Cesarean Section for Contracted Pelvis in Dwarfs. Ewen J. Maclean.
10 A Case of Hairpin in the Uterus, Discovered by the X-Rays. Arthur H. N. Lewers.
11 *A Discussion on Alcohol in Relation to Mental Disorders. Theo. B. Hyslop and others.
12 *Human Evolution, with Special Reference to Alcohol. G. Archdall Reid and others.
13 *Preliminary Note on the Action of the Blood Serum from Cases of Mental Diseases on *B. Coli Communis*. A. V. Johnson and E. Goodall.
14 *The Nature of Fragilitas Ossium in the Insane. W. Manle Smith.
15 *Some Slighter Forms of Mental Defect in Children and Their Treatment. G. E. Shuttleworth.
16 The Classification of Insanity. Charles Mercier.
17 A Discussion on the Cure and Treatment of Incipient Insanity. David Yellowlees and others.
18 Psycho-therapeutics. A. T. Schofield.

5.—This was abstracted in THE JOURNAL, September 5, p. 625.

7. **Maternal Circulation in Pregnancy.**—Certain normal changes occur in the blood during pregnancy; it is increased and more dilute. Nicholson, however, notes certain abnormal conditions. With the hypertrophy of the heart that occurs, especially of the right side, showing itself by pulsation in the jugular vein, there is still likely to be some overstrain; If the normal heart is dilated in pregnancy the arterial pulsation does not always show it, and this form may often be found in a woman who exhibits large pulsations in her jugular. The type of the radial pulse is quite consistent with the left ventricular hypertrophy, and yet other evidence points to dilatation of the right heart. He thinks the explanation is not a simple one. There are possibly toxic influences of some sort at work. The peripheral resistance is often increased and the protective action of the cardiac and vascular reflexes are interfered with. He thinks it is not improbable that some powerful and universal vasoconstrictor is generated during pregnancy; something which produces similar effects to those of suprarenal secretion and at other times the thyroid action seems to be increased. One or the other of thyroid or suprarenal secretions seem at times to gain the upper hand and patients that have a decided increase of blood pressure without edema, or only a firm or solid one, have no tendency to postpartum hemorrhage, but are likely to develop eclampsia and the arterioles must be relaxed. Thyroid extract, he thinks, is the ideal vasodilator for this purpose, and for an emergency a full grain of morphin hypodermically is the proper treatment.

11. **Alcohol.**—Hyslop considers that alcohol always has an evil action in healthy individuals, though it may be used wisely in times of need as a stimulant, nutrient and antipyretic. Stimulating a worn-out machine, however, by improper fuel is not productive of good results. He makes a comparison with financial conditions and claims that alcohol is only useful as a loan to avert physical bankruptcy. It may help to tide over a bodily crisis until the organism can repay the loan with its accumulated interest. The action of alcohol on the nervous element is noted, as also the changes in alcoholic insanity.

12. **Alcohol and Human Evolution.**—Reid reiterates his opinion as to the effect of alcohol in weeding out the unfit and thus acting as a decided factor in human evolution. In the discussion that followed Mercier, Yellowlees, Kelynack, Edridge-Green, Schofield, Ridge, Ford Robertson, Lloyd Andriezen and other prominent alienists and neurologists handled Reid's theory pretty severely.

13. **Blood Serum in Insanity.**—Johnson and Goodall have experimented to ascertain the effect of the action of blood serum in the different forms of insanity on cultures from mixed strains of *B. coli communis* in order to find whether by the determination of agglutinins direct evidence can be adduced of the morbid influence of the colon bacillus in such cases or the indirect evidence of similar action on the heart of other organisms related to the colon bacillus. Twenty-five cases of insanity of various kinds were tested; good agglutination was shown in 4 out of 5 cases of acute melancholia; 1 out of 3 cases of general paralysis; 1 out of 2 cases of delusional insanity, and 1 case of climacteric insanity. Partial agglutination appeared in 6 out of 11 cases of acute mania; 1 out of 2 cases of delusional insanity; 1 case of alcoholic insanity. No agglutination occurred in 5 cases of mania, 1 of melancholia, 1 of puerperal insanity, 2 of general paralysis and 1 case of recurrent mania. Agglutination, therefore, was present in 60 per cent. of all cases; in 28 per cent. good, in 30 per cent. partial. With control experiments, which were made each time, only one showed a slight partial agglutination. The authors have also followed the method of Bruce in counting the number of leucocytes in various cases of insanity at regular intervals over a definite period of time, and they find the leucocytes were in much greater numbers during the acute stages, falling again in remissions and cases of recovery. They were mostly of the polymorphonuclear type. The highest number occurred in acute mania.

14. **Fragilitas Ossium in the Insane.**—Smith has studied the conditions of patients as regards the breaking strain of their ribs in 200 cases from the postmortem records in the Wakefield Asylum. The forms of insanity in which the fragility was most marked were chiefly paresis and dementia; only 1 case of melancholia, and none of mania, under forty-four,

showed this symptom. In epilepsy it seems to be less frequent than in some other forms of mental disorder. The results of the data show that:

1. In percentage cases those of dementia are the highest and those of epilepsy the lowest, while cases suffering from general paralysis do not present the change so markedly as might be supposed.

1.	Dementia	77.7 per cent.
2.	Chronic melancholia	76.4 per cent.
3.	Chronic mania	66.6 per cent.
4.	General paralysis	65.7 per cent.
5.	Idiocy and imbecility	29.6 per cent.
6.	Epilepsy	22.2 per cent.

2. The disease is much more frequent in the female sex, in whom it occurs at an earlier age than in the opposite sex. 3. It is comparatively rare before the ages of 45 or 50, except in general paralysis, where it is oftener met with at a younger period, especially in women. 4. It is essentially a morbid change which occurs in late middle life and old age. 5. It is not a marked pathologic condition in the male sex, who suffer from general paralysis. 6. It is seldom present in epilepsy.

The figures also show that in cases of dementia fragility of the bone is more marked than in other forms of mental disease, occurring in nearly one-half the cases. Smith discusses the histology, pointing out the changes that occur and showing that there are well-marked evidences of gross lesions in the posterior spinal ganglia, sensory roots and the peripheral nerves, and that probably the lesions in the mixed nerves are due to degeneration of the sensory fibers. These nervous conditions remove the trophic influences of bone formation. Minerals are carried away faster than they are deposited and the haversian spaces first suffer, being nearest the blood stream. The change beginning in the normal loose cancellous tissue gradually involves the more superficial dense bone until the whole thickness becomes porous and fracture is likely to occur.

15. **Mental Defect in Children.**—The forms of mental defect noticed by Shuttleworth are sexual erethism in children of the neurotic type, obsessions which are sometimes marked, hysteria, which is not recognized by the English authorities as much as it should be, phobias, etc. These observations were made while examiner of children for admission to special instruction schools of the London School Board and were extensive. He does not touch on the recognized insanities of children, but just alludes to the symptomatic and transient mental defects found in cases of chorea, probably of toxic origin. He remarks that in some cases not obviously cretinoid, benefit is obtained by the administration of thyroid, the more active metabolism producing increased and more regular brain action.

The Lancet, London.

October 3.

19 Reverence and Hopefulness in Medicine. Dyce Duckworth.
20 Address. London (Royal Free Hospital) School of Medicine for Women. Elizabeth M. Pace.
21 Address, School of Pharmacy of the Pharmaceutical Society. Joseph W. Swan.
22 *The Surgical Treatment of Intestinal Perforation in Typhoid Fever. Donald Armour.
23 Notes on Five Cases of Abdominal Section for Emergencies During Pregnancy. Albert E. Morison.
24 *The Circulation of Tissue Fluid in Man. George Oliver.
25 Infant Feeding. G. F. McCleary.
26 *The Immunization of Animals to the Bacillus Typhosus. W. Vernon Shaw.
27 A Case of Pyopericardium Following Puerperal Sepsis; Paracentesis; Excision of Rib and Drainage. Arthur Hall.
28 Five Illustrative Cases of Congenital Heart Disease. John M. Cowan and Alexander R. Ferguson.

22. **Typhoid Perforation.**—Armour gives the history of the treatment of typhoid perforation and the statistics of its incidence and mortality, and calls attention to the fact that there is no pathognomonic sign, though Cushing has recognized a sort of preperforative stage, and there is apt to be a condition of gradual aggravation before complete severe peritoneal infection is attained. A rapid drop of temperature is not infrequent, and Dieulafoy regards it as almost an invariable sign. Rigor may be an early symptom. The value of leucocytosis is not yet positive, and to obtain its value a systematic examination of the blood from the beginning should be made in every case of typhoid fever. The diagnosis is often between typhoid fever and appendicitis. Perforative appendicitis is not so very frequent, according to Osler, though Cushing thinks it is commoner than generally supposed. The percentage of recoveries has greatly increased since the first operations some twelve years ago. The only treatment is surgical. The operation for typhoid perforation does not differ from that undertaken for intraperitoneal perforation from other causes.

24. **The Circulation of the Tissue Fluid in Man.**—Oliver experimented by taking a sample from the first easily flowing drop derived from near the root of the nail, the object being to obtain the actual proportion of lymph present in the tissues around the puncture. From his experiments he concludes that the amount of tissue lymph varies at different times in the day. Ingestion of food produces a rapid flow of lymph into the tissue spaces, the digestive curve always following the same general type with rapid rise, short acme and a gradual subsidence. There is a corresponding rise and fall in the percentage of corpuscles, hemoglobin and specific gravity of the blood. The facts suggest that when the body is in a state of rest the fluid exuded into the tissue is mainly absorbed directly into the blood and a to-and-fro transference from the capillaries to the tissue spaces, interposed as it is between the capillaries and lymph vessels, is called by Oliver the intermediary circulation. In normal individuals at certain times of the day there was apparent withdrawal of the tissue fluid. Oliver thinks that the inquiry has in part confirmed the opinion that goutiness primarily depends on the retention of some waste products, whether uric acid or something else. How gout originates may be a question, but how it is maintained when established is not doubtful in his opinion. It is essentially dependent on a derangement of the intermediary circulation, and the tissues themselves are the area in which gouty disturbances develop and manifest themselves. The residue may accumulate and be deposited in the tissues because their removal is prevented either by excessive capillary blood pressure or by a diminishing of that pressure reducing the fluid exchange between the blood and the tissues. Hence the two leading types of gout that are recognized. The inquiry is still in progress.

26. **Immunization of Animals to the Typhoid Bacillus.**—The following are the conclusions reached by Shaw:

1. The best method of obtaining a typhoid toxin is by the digestion of the bacilli. 2. This product is toxic. 3. This product can excite a reaction in susceptible animals, during which they develop immunity to the injection of living typhoid bacilli, and the serum from such an animal can protect another animal against typhoid infection. 4. The injection, intravenously, of living typhoid bacilli may result in the production of a "negative phase" of resistance.

Australasian Medical Gazette, Sydney.

August 20.

29 Mechanism of the Paroxysmal Neuroses. Francis Hare.
30 Diabetes. C. Reissmann.
31 Ferraresi's Tenoplasty for Fracture of Patella. T. Fiaschi.
32 Columnar-celled Carcinoma of Cecum; Excision; Closure of Both Ends of Intestine; Lateral Anastomosis of Ileum with Transverse Colon; Recovery. R. A. Stirling.
33 Fleas and Plague Convection. J. S. C. Elkington.
34 Macroglossia. M. R. Jay.
35 Hemorrhage in the Newly-born. E. Champion.
36 Two Acute Cases of Tetanus Treated with Antitoxin; Recovery. R. R. S. Mackinnon.

Presse Medicale, Paris.

37 (No. 76.) Hématome traumatique de la dure-mère. Raymond.
38 (No. 77.) *Les streptococcies intestinales. Historique. Symptomes. Lésions. P. Nobécourt.
39 Obsessions et impulsions. S. Soukhanoff.
40 Traitement de la cystite hemorroidale. P. A. Mésnard.
41 (No. 78.) Hypersécretion lymphatique. Retentions et edèmes. M. Loeper.

38. **Streptococcus Infection of Intestines.**—Nobécourt analyzes the various cases of streptococcus infection of the intestines that have been published, from Beck's case in 1892 to Durante's recent communications, showing the large share of the streptococcus in infantile enteritis. The intestinal affection has been described variously as resembling cholera nostras, dysentery and typhoid, and Booker found streptococci in 27 out of 92 cases of gastro-enteritis characterized by high fever and by the presence of numerous mononuclear and polynuclear leucocytes in the diarrheic stools, with red corpuscles and mucus. Streptococcus enteritis is particularly severe in adults. Only 5 recovered out of 12 cases reported by Tavel and 4 of these had presented the typhoid form. The others were more of the type of septic pyemia or fulminating cholera nostras. In children the streptococcus is liable to induce a dyspeptic, catarrhal

type, infantile cholera, follicular enteritis, acute enterocolitis with severe symptoms (Hutinel's "dry cholera"), or a chronic gastro-enteritis. Symptoms on the part of the stomach are frequent and severe, as also buccopharyngeal lesions. Secondary bronchopulmonary affections are more frequent in the hospital than in general practice. Nephritis and cystitis may also occur, with erythemata, and meningeal symptoms are not infrequent. Other complications that have been observed are peritonitis, pleurisy, pericarditis, icterus and otitis. None of these manifestations are pathognomonic of the underlying streptococcus intestinal affection, and the lesions induced are not specific, although the streptococci seem to have a special predilection for the follicular apparatus.

Semaine Medicale, Paris.

42 (No. 38.) *Etude expérimentale de l'action des solutions de chlorure de sodium sur l'épithelium rénal. J. Castaigne and F. Rathery.
43 La legislation antialcoolique de l'état d'Iowa. F. Munch.
44 (No. 39.) *De l'origine des néoplasmes malins. F. de Quervain.

42. Experimental Study of Action of Sodium Chlorid on Kidney Epithelium.—Castaigne and Rathery have been experimenting *in vitro* with saline solutions of varying density and found that all solutions above and below a specific gravity of .78 C. were distinctly injurious to rabbit kidney tissue, actually dissolving it. The salt solution is not *per se* nephrolytic, but the osmosis must be identical with that prevailing in the kidney tissue. They then studied the effect on the rabbit organism of deprivation of salt and supersaturation. They have become convinced that the salt solution which filters through the glomeruli has a constant osmotic tension in physiologic conditions, similar to what has been established in regard to the blood and cerebrospinal fluid. When the kidney is sound, as more or less salt is ingested and eliminated through the kidney, more or less water comes with the salt, thus maintaining the constant specific gravity unless the intake is unusually large. The glomeruli are protecting filters which spare the renal tissue from the nephrolytic effect of a too concentrated or too diluted saline solution. The kidney tissue is protected against the effect of an injurious saline solution by the special arrangement of the protoplasm which these writers call the "brush border"—*bordure en brosse.* This border disappears in epithelial nephritis and the loss of this protecting device renders the kidney more sensitive to the variations in the osmotic tension of the fluid issuing from the glomeruli. Briefly transient variations pass without causing disturbance on account of this protecting device, but when the kidney tissue is diseased, variations in the osmotic tension entail severe injury. Lesions were found in the kidneys in every cadaver in which polyuria was known to have existed during life, and lesions were found in the rabbits every time polyuria had been experimentally induced for a certain length of time. Albuminuria developed invariably in the animals deprived of salt, and it also appeared in a subject placed on a salt-free diet who had previously shown no evidence of renal derangement. On the other hand, deprivation of salt had an unmistakably favorable action on a number of patients with pronounced nephritis, considerable edema and albuminuria. Salt administered to rabbits in small amounts did not induce albuminuria, but when continued beyond a certain limit, or larger amounts were given, albumin appeared in the urine in every instance, whether the salt was injected or ingested per os. The effects were more marked as the kidneys of the animals were more inclined to be diseased. Injections of salt solution so small as to cause no appreciable effects in healthy animals produced serious and sometimes fatal manifestations on the part of the kidneys in animals already affected with kidney lesions. Clinical experience to date has shown that in subjects with interstitial nephritis without albuminuria or a specially fragile epithelium, the alimentary salt test causes merely transient albuminuria. In subjects with Bright's disease and edema, the alimentary salt test continued for several days increases the albuminuria and the edema. Fatal uremic manifestations have been observed after infusion of large amounts of artificial serum in patients with slow, atrophying nephritis.

44. Origin of Malignant Neoplasms.—De Quervain reviews the wealth of literature published on this subject of late, and remarks that the assumption of a parasitic origin for cancer far from settling all difficulties raises a host of new problems. He thinks that the various explanations of the origin of these neoplasms offered to date are none of them sufficient, and that further research along all lines is required. He suggests that the prospects are brighter for this research in the line of the transmission of cancer from animal to animal. The first question to be solved is whether the cancer is transmissible by the cancer juice alone, strictly excluding all the cancer cells. As we learn the true nature of the transmitting virus, the study of the subject will be facilitated. He adds that in any event further researches must be conducted with the application of critical judgment which seems to have been lacking in much of the experimental work that has been done, which has resulted in parasite discoveries as numerous as the parasites have proved ephemeral.

Archiv f. Gynäkologie, Berlin.

Last indexed page 885.

45 (LXIX, No. 2.) *Syphilitic Changes in Umbilical Cord. J. Bondi (Vienna).—Die syph. Veränderungen der Nabelschnur.
46 *Zur Therapie der Geburt beim engen Becken (delivery with contracted pelvis). B. Wolff.
47 *Obstetric Statistics. C. J. Bucura.—Wochenbett-Statistik.
48 Zur Kenntnis der Adenomyome des Uterus. O. Nebesky.
49 *Spreading of Carcinoma in Parametrium. R. Kundrat (Werthelm's clinic, Vienna).—Ueber die Ausbreitung des Karzinoms im parametranen Gewebe bei Krebs des Collum uteri.
50 *Ueber Hyperemesis gravidarum mit Aufstellung einer neuen Intoxikations-Theorie vom Wesen der Krankheit. C. Behm (Berlin).
51 *Ueber die Bedeutung des Lig. rotundum uteri bei Herniotomien. F. Kayser (Gusserow's clinic, Berlin).

45. Syphilitic Changes in Cord.—Bondi found arteritis or phlebitis in the umbilical cord in 15 out of 31 cases of certain syphilis and 4 other probable cases. The process was always inflammatory with exudation. In 100 other cases, free from any taint of syphilis, no evidences of inflammation could be detected in the cord.

46. Delivery with Contracted Pelvis.—Wolff states that there have been 581 cases of delivery with contracted pelves during the last ten years at the Berlin Charité. In 297 the conjugata vera was 9.75 cm. or less in diameter and birth occurred with head presenting. In 99 it proceeded spontaneously, and in 161, forceps were applied; high forceps in 71 cases, 14 times ineffectually. In 51 the head had to be perforated. Prophylactic version and high forceps are valuable aids for reducing fetal mortality, but craniotomy is still indicated in certain cases. One of the patients was a woman with a conj. vera of 7.5 cm. who was delivered twelve times in the clinic. Four times craniotomy was necessary with head presentation; seven times delivery was accomplished by version and extraction. Four of the children were delivered alive.

47. Obstetric Statistics.—Bucura states that the total puerperal mortality in Chrobak's service among the 23,639 maternity cases for the last seven years has been 2.79 per cent. As there are from 8 to 18 births a day and only one bath tub in the receiving room the full bath has been supplanted by washing the patient with running water as she lies in a shallow tub, cleansing the external genitalia with 1 per 1,000 sublimate, never douching the vagina in healthy women. In 6,505 non-operative births, morbidity was 10.05 per cent., and mortality 1.2 per 1,000. In 161 operative cases the morbidity was 27.3 per cent. and the mortality 35.6 per 1,000. The morbidity of those examined and operated on in the clinic was 23.02 per cent. and the mortality 16.45 per 1,000, while those who had been examined before entering the clinic showed a morbidity of 32.3 per cent. and mortality of 56.1 per 1,000. Stroganoff was the first to insist on the advantages of bathing the woman under running water instead of in a full bath, and thinks that this is the cause of the reduction of his morbidity from 15 to 7 per cent. Bucura's article fills thirty-four pages.

49. Spreading of Carcinoma of Cervix.—Kundrat found the parametrium involved in 44 out of 80 cases in which the uterus had been removed on account of carcinoma of the collum. The connective tissue between the parametrium and the regional

lymphatic glands and the lymph passages in the connective tissue were always found intact even when the regional lymphatic glands themselves were carcinomatous. He examined 21,000 sections under the microscope and gives the particulars of the 80 cases. In 22 the parametrium was intact, and in 8 the glands were invaded while the parametrium was intact; in 18 both were involved. In only 2 were the lymphatic vessels carcinomatous.

50. **Hyperemesis Gravidarum.**—Behm suggests that this condition may be due to intoxication of the maternal blood, proceeding from the periphery of the ovum, probably of a syncytial nature. He treated 6 cases on this assumption, flushing the rectum with .6 per cent. salt solution at 28 to 30 C., using four to six quarts a day. Two were severe cases and all recovered with such promptness as to confirm him in this assumption of intoxication and relief by flushing the system.

51. **Round Ligament in Herniotomies.**—Kayser found that previously unknown retroflexion has developed after radical operations for hernia. He thinks that injury of the round ligament may have something to do with the retroflexion, and consequently advises isolating and fastening this ligament in the abdominal ring when operating for an inguinal hernia on a female subject, being careful not to shorten the ligament.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 886.

52 (LXX, No. 4.) Fetal Bone Affections. A. Silberstein.—Zur Lehre von den fötalen Knochenerkrankungen.
53 *Simple Inflammatory Strictures of Large Intestine. J. Koch. —Ueber einfache entzündliche Strikturen des Dickdarms.
54 *Internal Obstruction of Intestines. W. Philipowicz.—Ueber inneren Darmverschluss mit bes. Berücksichtigung des Volvulus der Flexura sigmoidea. (Concluded.)
55 Origin of Hygroma. O. Langemak.—Die Entstehung der Hygrome.
56 Ganglia of Palm. Franz.—Ueber Ganglien in der Hohlhand.
57 Zur Kasuistik der Thrombose und Embolie der Mesenterial-Gefässe (vessels). C. Falkenburg.
58 *Hacker's Method of Treating Fistula. F. König.—Ueber Einstülpungsmethoden bei der Operation der Fistula colli congenita und die gelegentliche Anwendung bei einer Mastdarm-Fistel.
59 *Hare-Lip. T. Haymann.—Amniogene und erbliche Hasenscharten.
60 Das neue Operations-Haus zu Altona, eine moderne chirurgische Arbeitsstätte. F. König.
61 Genuine Cysts in Long Bones. C. Beck (New York).—Ueber echte Cysten der langen Knochen.

53. **Simple Inflammatory Strictures of Large Intestine.**—One of the 3 cases described simulated carcinoma, but proved to be a cicatricial stricture resulting from a diffuse ulceration of the mucosa of the colon of unknown origin. In another case there had been suppuration in a false diverticulum with secondary stenosis of the flexure. The third case was consecutive to appendicitis. The symptoms had simulated a tuberculous intestinal trouble. The patient recovered after resection of the lesion.

54. **Intestinal Occlusion.**—Philipowicz noted volvulus of the sigmoid flexure in a third of his 98 cases of ileus observed at Czernovitz. The disturbances were due more to the strangulation induced than to the torsion *per se*. Torsion of 180 degrees was liable to cause greater disturbance if tight, than in other cases with torsion of 360 degrees. The latter was tolerated for days by certain patients without serious injury of the intestines when the strangulation was not pronounced. In 5 patients he was able to reduce the torsion by inserting the rectum tube without operative intervention. In others he succeeded in evacuating the contents of the twisted loop by this means, but the flexure became redistended, showing that the torsion still persisted and an operation became necessary. On account of the liability to recurrence he always fastens the loop after reducing the torsion so that it can not occur again. He reviews his extensive experience with ileus in detail, tabulating the cases in twelve groups.

58. **Technic of Treating Congenital Fistula of Neck.**—Kocher believes that Hacker's method of turning the end of the fistula wall over inside like the finger of a glove, and suturing the mucosa above it, is not applicable to every case on account of the difficulty of mobilizing the walls of the fistula sufficiently for the purpose. He recommends another method which is applicable to all cases. The fistula walls are mobilized as much as possible, then a large sound is inserted in the outer opening of the fistula and pushed in until it protrudes in the mouth, pushing up the mucosa in front of the lower front edge of the tonsil. The mucosa is then incised. Then the lower end of the fistula opening is fastened to the sound and drawn through with the latter into the mouth where it is sutured and cut off short. Nothing is left then of the fistula except a short, open passage under the mucosa of the mouth, passing around the tonsil, both ends opening into the mouth. He found Hacker's method useful in obliterating an incomplete internal anal fissure resulting from an abscess due to actinomycosis. He mobilized and drew out into the rectum the head of the fistula, then turned it back inside the fistula, and sutured the rectal mucosa over it. The article is illustrated.

59. **Origin of Hare-Lip.**—Haymann found the hand of the fetus in the cleft in a case described, held there by an amniotic cord formation. The child presented several other deformities. After going over the subject carefully he thinks that we have no ground for assuming an amniogenic origin for hare-lip. He also reviews the heredity of such deformities. He found heredity noted in 20 per cent. of 244 cases on record. In one family hare-lip recurred through four generations.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 887.

62 (XXXVIII, No. 3.) *Injuries of the Skull and Fate of the Injured. H. Brun.—Der Schädelverletzte und seine Schicksale. (Commenced in No. 1.)
63 *Beiträge zur Genese, Pathologie und Diagnose der Dermoid-Cysten und Teratome im Mediastinum anticum. B. Dangschat (Garré's clinic, Königsberg).
64 Embolie und Thrombose der Mesenterial-Gefässe, Vorkommen und diagnostische Bedeutung der Purpura hemorrhagica bei der Embolie der Art. meseraica. L. Talke (ibid.).
65 Plastics of Face. H. Schloffer (Prague).—Gesichtsplastik mit Wangenverschiebung unter temporärer Aufklappung der knorpeligen Nase.
66 *Articulated Plaster Cast. V. Lieblein (ibid.).—Ueber den artikulierten Gipsverband und seine Anwendung zur Behandlung angeborener und erworbener Deformitäten.
67 *Injuries of Tongue-Shaped Process of Upper Tibial Epiphysis. C. Schlatter (Zurich).—Verletzungen des schnäbelformigen Fortsatzes der oberen Tibia-Epiphyse.
68 Recovery After Operation for Traumatic Hernia of Diaphragm. O. Riegner (Breslau).—Eine traumatische Zwerchfellhernie.

62. **Injuries of the Skull and Fate of the Injured.**—Brun's article is completed in this number. It contains 200 cuts and is a most exhaustive study of the subject from every point of view, based on 404 cases observed at Krönlein's clinic at Zurich. The primary and secondary disturbances are particularly noted, as well as the symptoms of apathy, disturbances in memory, vertigo and headache. The literature on the subject is also extensively reviewed. The cases are classified and each group is studied separately.

63. **Dermoid Cysts and Teratomata in the Mediastinum.**—Dangschat has observed 2 cases and reviews 42 others he has found in the literature. Without operation the prognosis is absolutely bad. Only 13 out of the 44 were operated on and total extirpation of the cyst was possible only once. In 3 cases the fatal termination followed soon after the intervention; in one instance it was due to hemorrhage from the mammary vein. When extirpation is not possible, the cyst should be evacuated and sutured to the skin. In 19 cases symptoms of the tumor had been noticed for two to several years. The growth is much slower than that of malignant tumors, and the latter seldom appear before the age of 30, while these tumors usually make their presence known before this age. Out of 29 cases pains in the thorax had been noted in 9, and in the shoulder, head and ear in 3. Difficulty in breathing was the most frequent symptom and sometimes the only one for years. One patient had been troubled with this symptom for 44 years, dying at 60 from the progress of the lesion. Discovery of hair in the sputum is the only pathognomonic sign. It was found early in 3 cases. In 2 there were no symptoms of any kind.

66. **Articulated Plaster Casts.**—Lieblein urges more general use of hinged plaster casts for the treatment of congenital and acquired deformities. He considers them indispensable for the treatment of club-foot, especially in adults. He describes the technic of making and applying them and gives radiograms of the progress attained.

67. **Injuries of Tongue-Shaped Process of Upper Tibial Epiphysis.**—Schlatter gives radiograms of 7 cases in which this process was injured in male subjects, all but one affecting the right side. The pain on pressure is typical. An immobilizing dressing with early massage of the muscles of the thigh will aid in the cure.

Centralblatt f. Bakteriologie, Jena.

Last indexed page 888.

69 (XXXIV, No. 1.) *Zur Differential-Diagnose einiger pathogener Bakterien-Arten. W. Omelianski.
70 *To Test Agglutination of Tubercle Bacilli. A. Köppen (Norden).—Methode für die Agglutinationsprüfung der Tub.-Bac.
71 Anaërobic Bacteria in Intestinal Affections. A. Rodella.—Zur Frage der Bedeutung anaerober Bakterien bei Darmkrankheiten.
72 *Bacteriology of Pneumonia During Whooping Cough. G. Jochmann and Moltrecht.—20 Fälle Broncho-Pneumonie bei Keuchhusten-Kindern hervergerufen durch ein influenzaähnliches Stäbchen.
73 *Yeast in Experimental Infections. R. Turro and others (Catalina).—Die Bier-Hefe bei exp. erzeugter Streptokokken- und Staphylokokken-Infektion.
74 Zur Kenntniss einiger Trematoden. L. Cohn.
75 Neuer Fall von Dipylidium caninum beim Menschen. F. Zschokke (Basle). (Thirty-fourth case in man on record.)
76 Zur Agglutination der Staphylokokken. R. Otto.
78 Weitere Studien über das Lakto-Serum. P. T. Müller (Graz).
79 Zur Theorie der bakteriolytischen Immunität. R. Pfeiffer and E. Friedberger.
80 Einige Hände-Desinfektions-Versuche. Engels (Marburg).

69. **To Differentiate Bacteria.**—Onelianski describes a new culture medium made of phenolphthalein, sodium formate and agar. The bacteria stain differently on this medium and it is possible to differentiate readily the colon, typhoid, diphtheria and pseudodiphtheria germs.

70. **To Test Agglutination of Tubercle Bacilli.**—Köppen treats the bacilli with caustic potash solution, thus saponifying them. The stem fluid he uses for the agglutination is milky and homogeneous and does not become putrid, thus not requiring an antiseptic ingredient. After this saponification the tubercle bacilli take the stain as readily as before.

72. **Bacteriology of Whooping Cough.**—Jochmann found the *Bacillus pertussis* (Eppendorf) in 20 cases of pneumonia complicating whooping cough. As this bacterium is so similar to the influenza bacillus, he suggests that attention had better be paid to the presence of cases of influenza in the environment of children with whooping cough.

73. **Yeast in Experimental Infections.**—Turro found that yeast had an unmistakably favorable effect in cases of experimental streptococcus infection in rabbits, both local and general. He asserts that it was possible to confer temporary immunity to both streptococcus and staphylococcus infection by subcutaneous injection of the yeast.

Centralblatt f. Chirurgie, Leipsic.

81 (XXX, No. 39.) *Ogston's Operation for Club-Foot. C. Lauenstein (Hamburg).—Zu Ogston's Operation des rebellischen Klumpfusses.

81. **Club-Foot.**—Lauenstein advocates Ogston's method of enucleating the bony kernel. He finds it is easily performed but should be preceded by an *x*-ray examination. What bones are to be operated on must be determined by the operator in each individual case. It is not specially important whether the wounds of the soft part are sutured after operation or not, if sufficient portions of the bony kernel have been removed. The remedying of the condition is very easy and complete. Besides the equinus and varus types any inward bending of the foot is easily relieved. The after-treatment is notably shortened and the danger of disturbance to the growth of the foot is not to be dreaded. (The technic of Ogston's operation was described in THE JOURNAL, xxxix, p. 110, 1902.)

Centralblatt f. Gynäkologie, Leipsic.

82 (XXVII, No. 39.) Sectio cesarea und Total-Extirpation des Uterus wegen Myom, ausgführt im Januar, 1894, Heilung. K. G. Lennander (Upsala).
83 *Ein Ligamentum suspensorium fundale medium nach Ventrifixur. F. Michel.
84 *Treatment of Apparent Death of the Newly Born. W. Zangemeister.—Ueber die Behandlung des Scheintodes Neugeborener.

83. **Ligamentum Suspensorium Fundale Medium.**—Michel adopts this name proposed by Fritsch for a formation which sometimes follows ventrofixation of the uterus, viz., a fibrous cord extending between the fundus and the parietal peritoneum. In the course of years this may reach several centimeters in length, and he gives an account of a case, with illustration, where it was 15 cm. long. He remarks that such a condition may have uncomfortable results for the patient, as was the fact in the case reported, and recommends that in ventrofixation one should not make a limited attachment of the fundus to the peritoneum, but make a much more thorough fixation.

84. **Treatment of Apparent Death of the Newly-Born.**—Zangemeister remarks that the attempts to apply the inhalation of oxygen as a therapeutic measure have not been very satisfactory as a general thing, but there is one condition in which it is proving extremely valuable. This is in severe asphyxia neonatorum. The almost invariable success and the rapidity of its action, with no inconveniences, render it a most valuable aid in this emergency. He uses a thin-walled rubber bulb filled from a small portable tank of compressed oxygen. The oxygen is forced through a tracheal catheter into the infant's lungs by gentle, regular pressure on the bulb. When the lungs have become distended he applies gentle external pressure to the thorax. The air escapes along the outside of the catheter, which must be of small diameter to allow this. The lungs are then inflated again by gentle pressure on the bulb and emptied as before, and these procedures are repeated continuously as long as required. The prompt reddening of the skin shows the favorable action of the oxygen. It can be applied while the infant is in a warm bath. The narcosis from carbon dioxid is dispelled in this way more rapidly than by any other means and the stimuli applied become more promptly effectual.

Monatsschrift f. Geb. und Gynäkologie, Berlin.

Last indexed XL, page 1405.

85 (XVII, No. 5.) Causes of Increased Blood Pressure During Childbirth. H. Schroeder.—Ursachen der Blutdrucksteigerung während der Geburt.
86 *Apparent Extra-uterine Gestation in a Rabbit. K. Kamann (Greifswald).—Scheinbare Bauchträchtigkeit bei einem Kaninchen.
87 *Zur Prophylaxie der Gynatresie. L. Pincus (Dantsic).
88 *Vaginale Total-Exstirpation ohne Narkose. R. Gradenwitz (Breslau).
89 *Kastration wegen funktionierender Ovarien bei rudimentärer Entwicklung der Müller'schen Gange. Ibid.
90 *Beitrag zur Pubiotomie nach Gigli. P. Baumm (Breslau).

86. **Apparent Extra-uterine Gestation in a Rabbit.**—In Kamann's rabbit the placenta was found attached to the greater omentum with a long twisted pedicle of omentum tissue and vessels. He considered it a case of abdominal gestation and as such exhibited the specimen at his local medical society. Further investigation, however, revealed a cicatrix in the wall of the uterus and evidences that the uterus had been the original seat of the fetus but that the latter had escaped into the abdominal cavity in consequence of rupture of the uterus, still enclosed in its intact membranes, and that a connection between the latter and the omentum had occurred secondarily.

87. **Prophylaxis of Gynatresia.**—Pincus thinks that the vagina may become obliterated or obstructed in consequence of gonorrheal infection during birth or during other severe infections later in which the vaginal mucosa may share in the inflammation. He advocates systematic investigation of the permeability of the vagina in new-born infants. It can be done with the sound in the absence of gonorrhea, and in case of the latter infection the vulva and vagina should be appropriately treated. The pains and tempestuous onset of menstruation in case of gynatresia may entail a severe shock to the nervous system. He adds that it is important to instruct growing girls approaching menstruation and to inquire after children's diseases in persisting amenorrhea. In molimina with vicarious hemorrhage and in case of preceding severe disease, he urges careful examination for possible gynatresia. Stagnating blood may prove a culture medium for germs and the source of virulent infection later.

88. **Vaginal Pan-Hysterectomy Without Narcosis.**—Gradenwitz reports 3 cases of total extirpation without narcosis. One was on account of retroflexio with obstinate hemorrhage, phthisis and anemia; another for total prolapse of the uterus and vagina in a subject with a large struma, and the third

on account of carcinoma of the portio accompanying severe degeneration of the heart. The latter patient succumbed in shock. The only painful steps in the operation were the ligation of the lower parts of the broad ligaments and tubes. In one case anesthesia of the broad ligaments was first induced with Schleich's solution, and in another it was used for the plastics of the perineum. He injected a syringeful of 1 per cent. morphin fifteen minutes before operating.

89. **Functioning Ovaries with Rudimentary Development of Mueller's Duct.**—Gradenwitz relieved a patient who suffered from violent pains every four weeks, without further evidences of menstruation, by ablation of the rudimentary uterus bicornis and ovaries, the latter being in cystic degeneration. Complete recovery. In 23 similar cases on record all were cured by operation, with 2 exceptions, one succumbing to sepsis.

90. **Adverse Criticism of Gigli's Pubiotomy.**—Baumm followed Gigli's technic for extramedian symphyseotomy in 2 cases and his experience was very unfavorable. The bleeding was more severe than in cases operated on in the mons veneris, and in both instances the vagina and bladder were lacerated. The abundance of blood in the cut ends of the bones also complicated the wound. Both patients succumbed to sepsis.

Münchener Med. Wochenschrift, Munich.

91 (L, No. 38.) *Frequency of Carcinoma in Munich. O. Bollinger.—Ueber die Häufigkeit des Karzinoms in München.
92 *2 neue Fälle von Acanthosis nigricans. O. Hess.
93 *Die Prophylaxe der postoperativen Cystitis. K. Baisch.
94 *Radioscopy of Movements of Stomach and Intestines and Their Modification by Various Influences. F. Lommel (Matthes' clinic, Jena).
95 Roentgen-Befund nach Iodipin-Injektionen. M. Landow.
96 Baker's Acne. Galewsky.—Ueber Bäcker-Akne.
97 *Zur Behandlung des Abortus. M. Nassauer.
98 *New Centrifuging Tube. Napp (Duisburg).—Ein neues 2-theiliges Zentrifugenröhrchen.
99 Six at One Birth. H. Vortisch.—Afrikanische Sechslinge.
100 *Study of Heredity. E. Schwalbe.—Das Problem der Vererbung in der Pathologie. (Commenced in No. 36.)

91. **Cancer Statistics at Munich.**—Bollinger's statistics for fifty years show that the proportion of deaths from cancer has paralleled the growth of the population and not exceeded it as in most cities. He mentions as an argument against the assumption of an infectious origin for cancer the rarity of its occurrence under the age of 15. This is directly the opposite of what is observed in case of infections in general.

92. **Acanthosis Nigricans.**—The 2 cases reported from Marburg by Hess bring the number on record to 40. Treatment has been only symptomatic to date except in Spietzka's patient, the ablation of a malignant deciduoma being followed by complete subsidence of the affection in this case.

93. **Prevention of Postoperative Cystitis.**—Baisch describes the method of preventing postoperative cystitis which has been adopted at Döderlein's clinic at Tübingen with complete success. He defines the affection as a bacterial inflammation of the bladder developing consecutive to operations in which the innervation or nutrition of the bladder has suffered and catheterization is necessary. It is impossible to prevent the entrance of germs in all cases, and it is likewise impossible to refrain from injury to the bladder in many instances. The use of the catheter is avoided to the utmost possible extent, but if absolutely required, the bladder is stimulated to extra secretion by injection of glycerin. The evening after the operation, if the patient has not urinated spontaneously, he injects 20 c.c. of a 2 per cent. glycerin solution of boric acid. A Nélaton catheter is first introduced, and as soon as the first drops of urine make their appearance the syringe is applied and the borated glycerin slowly injected into the full bladder. Usually in less than five to ten minutes the patient experiences a desire to urinate spontaneously, and the evacuation of the bladder is not followed by any after-effects. No inconveniences have been observed in any case. It was not necessary to repeat the injection except in the rarest cases, generally after anterior colporrhaphy. The bladder is injured to such an extent in a Wertheim abdominal operation for cancer of the uterus that it is not able to respond to this stimulus. In these cases the inevitable catheterization is followed each time by rinsing out the bladder with 500 c.c. of a 3 per cent. solution of boric acid. By these prophylactic measures postoperative cystitis has been warded off in nearly every instance. If no effect is derived from the glycerin injection, it is followed in an hour by catheterization with the disinfecting rinsing immediately afterward. The rinsing procedure should be repeated as long as the catheter is needed, until urination has become spontaneous and complete.

94. **Radioscopy of Peristalsis.**—Lommel describes his experiments with docile dogs fed with chopped meat mixed with bismuth and fastened so that the *x*-rays could be passed through them at the most convenient angle. Two minutes after ingestion of milk rhythmic wave movements could be seen in the greater curvature. Ten complete peristaltic waves almost invariably corresponded to 120 seconds in all the animals. The latter were not fatigued nor pathologic from application of fistulas, etc., so that the peristalsis observed could be regarded as entirely normal. Application of warmth to the stomach and abdomen did not materially modify the number or velocity of the waves, but it was noted that the waves were smaller at the beginning than in the control animals. The pylorus opened a little earlier in some of the animals that had been treated with warmth, than was noticed in the controls. Application of cold had no appreciable effect on the movements of the stomach nor on the opening of the pylorus. Administration of somatose accelerated the stomach digestion, increasing the rhythm so that ten waves were counted in 105 to 110 seconds, instead of in the normal 120. Meat extracts had a similar but even more pronounced action, accelerating the rhythm to ten waves in 100 seconds. Whether this stimulation of the rhythm means an actual acceleration of the stomach digestion is not revealed by the *x*-rays. So much bismuth clings to the walls of the viscus that the final evacuation of the stomach passes unperceived. His researches established another point, namely, that emotion, psychic factors, have a far greater influence on the stomach peristalsis than physical or chemical factors. Again and again he witnessed that animals not accustomed to laboratory maneuvers, which were frightened and depressed, did not show any signs of waves nor evacuation of the stomach, sometimes for two and three hours, but so soon as they were released, marked peristalsis could be seen, soon followed by the emptying of the stomach. Docile, trusting animals showed peristalsis in less than ten minutes after the experiment was commenced, the stomach emptying in forty to fifty minutes. By intentionally annoying or depressing the docile, well-trained animals, it was possible to delay or completely arrest the stomach peristalsis, delaying the emptying of the stomach past two or three times the normal period of digestion. He thinks these results demonstrate that the human stomach is capable of being profoundly influenced through the psyche, probably more profoundly than by many of our therapeutic measures. Interesting phenomena were noted in respect to the intestinal peristalsis. The *x*-rays showed unmistakable antiperistaltic movements, and a distinct periodicity in the emptying of the stomach and the peristaltic movements of the intestines. During the pauses after energetic peristalsis the emptying of the stomach was also temporarily suspended, the stomach resting with the intestines and resuming activity with them.

97. **Treatment of Abortion.**—Nassauer illustrates a forceps for emptying the uterus in case of abortion, which he claims can be used by the general practitioner without fear of injury. The tips form thick, oval spoons, the edges of which are so broad and rounded that perforation of the uterus wall is impossible.

98. **Two-Part Centrifuging Tube.**—Napp's tube is shaped like the ones ordinarily in use, but the tapering end below is cut off a short distance from the point and a cap of the same size fits tightly over it. The fluid above can be poured off after centrifuging and the cap below removed. Even the smallest amount of sediment can then be easily taken out of this conical cap.

100. **The Problem of Heredity in Pathology.**—Schwalbe reviews recent researches and theories, and remarks that ex-

periences in pathology so far afford no data for the assumption of inheritance of acquired properties. Neither do they sustain Weismann's theory, or rather they do not confirm it. Its proof must be sought in other sources than pathology; it is neither overthrown nor confirmed by what we know of pathologic heredity.

Riforma Medica, Palermo.

101 (XIX, No. 38.) Hemolytic Property of Extracts of Organs and Malignant Tumors. F. Micheli and M. Donati (Turin). —Sulle proprieta emolitiche degli estratti di organi e di tumori maligni.

Russkii Vratch, St. Petersburg.

Last indexed page 819.

102 (II, No. 9.) *Diagnosis of Catarrhal Form of Pyelitis. A. P. Favitzky and V. Orlovsky.—K rasposnavaniu catarrh. form vospaleniya potchetchnykh lokhanok. (Commenced in No. 8.)

103 *Differential Value of Oliver's Sign in Aneurism of Aorta. P. I. Drozdovsky.—Rasposnavatelnoe znatchenie prisnaka Oliver'a pri aneurismakh grudnoi tchasti aorty. (Concluded from No. 8.)

104 Bacteriologic Differentiation of Typhoid. Z. F. Orlovsky.— K. bakt. rasposnavaniyu briushnogo tipha.

105 (No. 10.) Abdominal Massage. V. A. Stange.—O massagye zhevota.

106 *Heredity of Cancer. V. N. Geinatz.—O naslyedstvennosti raka. (Concluded.)

107 *Transitional Forms of Rheumatism and Pyemia. A. A. Byelogolovy.—K voprosu o porubezhynkh formakh mezhdu reumatizmom i gnoekroviem.

108 (No. 11.) Accuracy and Technic of Ehrlich's Method of Testing Diphtheria Serum. S. V. Korshun.—Ehrlich'obskii sposob i ego teroretitcheskiya osnovaniya.

109 (No. 12.) *Clinical Studies of Amyloid Kidney. A. P. Favitzky.—Iz klinitcheskikh nabliudenii nad amiloidom potchek.

110 *Operation for Retroflexed Uterus. C. A. Alexandroff.— Operatziya retrofleksii matki.

111 *Artificial Fertilization of Mammals. E. E. Ivanoff.—Iskusstvennoe oplodotvorenie miekopitayushtchikh.

112 (No. 13.) Mnimaya malosposobnosti k utcheniu pri Astigmatism glaz. R. A. Katz.

113 Is Leprosy Contagious? M. A. Tchlenoff.—Zarazitelna-li prokaza?

114 *New Parasite from Sarcomatous Tumor in Stomach. G. S. Kulesh.—O novom tchuzheyadnom iz sarcomatoznoi opukholi zheludka.

115 Instrumental Dilatation of Uterus. D. I. Konteff.—K voprosu ob iskusstvennom raskryvanii matki.

116 Study of Influence of Electric Baths on Pulse, Temperature, etc. A. P. Rozen.—P voprosu o vliyanii eletritcheskikh svyeto-teplovykh i tchisto-svyetovykh vann na sostav krovi, etc., zdorovnykh liudi.

117 (No. 14.) *Alkalinity of Blood in Leucocytosis and Infections. V. F. Orlovsky.—Shtchelotchnost krovi pri sostoyaniakh leuc., etc.

118 General Remarks on Surgical Treatment of Uterine Myomata. D. A. Abuladze.

119 (No. 15.) Obsessions and Impulsive Actions. S. A. Sukhanoff.—Navyaztchivya mysli i impulsivniya dyestviya. (In French, paragraph 39 above.)

102. Diagnosis of Catarrhal Form of Pyelitis.—Favitzky reviews the details of 14 cases of catarrhal pyelitis, endeavoring to prove that it is possible to differentiate this form of kidney affection from others. The pains, composition of the urine, variations in the sediment and specific gravity are not pathognomonic, but they suggest the catarrhal form as they continue with periodical febrile exacerbations and periodical changes in the urine.

103. Differential Value of Oliver's Sign in Aneurism of Aorta.—This sign is the upward movement of the larynx, synchronous to the cardiac systole, which Oliver announced was encountered in subjects with aneurism of the arch of the aorta. Drozdovsky states that he noted this sign in a number of cases of aneurism of the aorta, but found it equally marked when the aneurism was located at other points of the thoracic aorta than the arch. He gives the clinical history of 9 cases.

106. Heredity of Cancer and Trauma as a Factor.—Geinatz rejects the theory that cancer can be inherited. He found no history of cancer in the family in 192 out of 210 cancer patients. Only 18, that is, 8.6 per cent., reported previous cases of cancer in the family, and in only 7 of these the father was mentioned and in 1 the mother. In the other 10, more distant relatives had been the cancer subjects. In only 2 did the cancer affect the same organ as in the other member of the family. In 3 cases cancer had occurred several times in the same family. [In an article recently published in the *Vratchebnaya Gaseta*, Nos. 13-16, Geinatz announces that among 1,906 cases of various neoplasms he found there had been a preceding trauma at the spot in 233 cases. The largest proportion of tumors with a history of preceding trauma was observed in the neuromata, 38.5 per cent. of which had followed a trauma. In the 233 cases of tumors with preceding trauma, sarcomata took the lead with 20.3 per cent.; then came carcinomata with 15.1 per cent.; the mixed neoplasms, chondromata, endotheliomata and myxomata, with 8.6 per cent., and lastly, the benign neoplasms with 5.4 per cent. The trauma had been single in 87.9 per cent., and the skin had not been broken in 27.4 per cent. of the total number of cases of cancer. The interval between the trauma and the first signs of the cancer ranged from six weeks to two years in the 75 cases in which this point could be ascertained, with 9 exceptions in which the interval was longer than two years. In the 716 cases of benign tumors, preceding trauma was noted in 5.4 per cent., and in 92.4 per cent. of these the trauma had been single. In 30.7 per cent. there had been solution of continuity. He thinks that these facts indicate that trauma certainly affords a predisposition for tumor formation, although it does not of itself cause the subsequent neoplasm.—Ed.]

107. Transitional Forms of Rheumatism and Pyemia.—Byelogolovy regards articular rheumatism as a mild form of pyemia, and cites a number of instances of transitional forms to sustain this assumption.

109. Amyloid Kidney.—Favitzky concludes in this number his comprehensive study of 7 cases of amyloid kidney. He gives in tabulated form the various symptoms and condition of the organs. The liver and spleen were enlarged in some and not in others. The amount of urine in 3 cases averaged 2,300, 3,700 and 1,900 c.c. in the twenty-four hours, and in the others ranged from 200 to 1,000 c.c. Albuminuria was noted in all, averaging 2.5 to 3.2 per cent.

110. Operation for Retroflexed Uterus.—Alexandroff puts a suture through the rear edge of each broad ligament a short distance from its attachment to the uterus. He then draws the edges together over the uterus and fastens them in contact with a stitch above and below. The results in 4 cases have been excellent. He illustrates his technic.

111. Artificial Fertilization of Mammals.—Ivanoff's experiments were conducted at first on guinea-pigs, rabbits and dogs, but proved so successful that he included horses and cows in his research as also sheep, mice and birds. The results have established the possibility of fertilizing mammals with semen in an artificial medium entirely free from the secretions of the male sexual accessory glands (prostate, seminal vesicles, etc.). The practical results of this research have already been adopted to some extent in stock-raising in Russia. Most remarkable results have been obtained in this way in cross-breeding and the production of hybrids. He has found that the psychic condition of the female animal and the excitement connected with copulation have nothing to do with successful conception nor with the determination of the sex of the offspring. In fact, conception occurs more regularly with artificial than with natural fertilization when it is systematically conducted, utilizing the most favorable seasons of the year and the heat of the animals. Every one of his experiments on horses in the spring of 1901 resulted positively. Artificial fertilization is thus a powerful means of combating sterility in brood animals. The spermatozoa are equally lively and capable of fertilizing the ovum whether they are suspended in the secretions of the prostate and seminal vesicles or in physiologic salt solution or in Locke's fluid or in any weak alkaline solution. The spermatozoa retain their fertilizing power for twenty-four hours after the death of the animal. It is not necessary to introduce them directly into the cervix; a large number of experiments resulted positively with the spermatozoa placed merely in the vagina. The young conceived and born under these conditions developed normally in every respect, without the slightest apparent deviation from the standard type.

114. New Parasite Found in Sarcoma in Stomach.—Kulesh describes a sporozoön to which he ascribes etiologic importance, He gives good illustrations of it and shows that it develops at the expense of the juices and tissues of its host, with an extracellular and intracellular dual life cycle.

117. **Alkalinity of Blood in Leucocytosis and Infections.**—Orlovsky's comprehensive researches on dogs and human beings, sick and well, all resulted negatively, confirming his previous announcements that the alkalinity of the blood is not proportionate to the number of white corpuscles, but is an almost constant phenomenon through the most diverse conditions, varying very slightly from normal at any time. The only exceptions to this rule are in advanced stages of cachexia from cancer, uremia or diabetes. The blood retains its normal alkalinity during infections until they become very virulent, when it gradually declines, usually an almost agonal phenomenon.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. For Practitioners and Students. A Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and the Kindred Branches, Including Much Collateral Information of an Encyclopedic Character, Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc., etc. By W. A. Newman Dorland, A.M., M.D., Editor of the "American Pocket Medical Dictionary." Third Edition, Revised and Enlarged. Flexible Leather. Pp. 798. Price, $4.50 net; with Thumb Index, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

PHYSICS AND INORGANIC CHEMISTRY. A Manual for Students and Practitioners. By Alexius McGlannan, M.D., Associate Professor of Physiologic Chemistry, Instructor in Clinical Laboratory, College of Physicians and Surgeons, Baltimore, Md. Series Edited by V. C. Pedersen, A.M., M.D., Instructor in Surgery and Anesthetist and Instructor in Anesthesia at the New York Polyclinic Medical School and Hospital. Illustrated with 20 Engravings. Cloth. Pp. 216. Price, $1.00. Philadelphia and New York: Lea Brothers & Co.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA. For Students of Medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia. Fourth Edition, Revised and Enlarged and Entirely Reset. Fully Illustrated; a Number in Colors. Cloth. Pp. 629. Price, $3.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. With 394 Text Illustrations, Many in Colors, and 7 Full-page Colored Plates. Fourth Edition, Revised and Enlarged. Cloth. Pp. 933. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. With 746 Illustrations; 39 of Them in Colors. Fourth Edition, Revised and Enlarged. Cloth. Pp. 900. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA (State Board of Health). Organized 1847. Meeting of 1903. Talladega, April 21-24. Cloth. Pp. 553. Montgomery, Ala.: Brown Printing Company. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Oct. 3, 1903:

Borden, William C., major and surgeon, is detailed to represent the Medical Department of the Army at the annual meeting of the Mississippi Valley Medical Association, to be held at Memphis, Tenn., October 7, 8 and 9.

Glennan, James D., major and surgeon, in addition to his present duties, is detailed as professor at the Army Medical School in Washington, D. C.

Miller, Reuben B., first lieut. and asst.-surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines, and will report to the commanding general, Department of California, for assignment to duty.

Patton, Irvine W., first lieut. and asst.-surgeon, is relieved from further duty in the Division of the Philippines and from temporary duty at the Presidio, and will proceed to Fort Hamilton for duty, to relieve First Lieut. Walter D. Webb, asst.-surgeon, who will proceed to West Point, N. Y., and report at the U. S. Military Academy for duty.

Rafferty, Ogden, major and surgeon, will proceed from San Francisco to Seattle, Wash., and make a sanitary inspection of the transport *Dix*.

Truby, Willard F., first lieut. and asst.-surgeon, will proceed to West Point, Ky., and report to Major-General J. C. Bates for duty, and, on the completion thereof, will return to his proper station.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Oct. 10, 1903:

Surgeon T. W. Richards, commissioned surgeon, with rank of lieutenant-commander, from March 3.

Asst.-Surgeon B. L. Wright, ordered to the Naval Hospital, Pensacola, Fla.

A. A. Surgeon F. A. Richardson, appointed acting assistant surgeon, with rank of lieutenant, junior grade, from September 29.

A. A. Surgeon W. N. McDonnell, ordered to the Naval Academy.

Surgeon D. N. Carpenter, commissioned surgeon, with rank of lieutenant-commander, from March 3.

Surgeon E. J. Grow, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Mohican*.

Asst.-Surgeon C. N. Fiske, detached from the *Mohican* and ordered home to await orders.

A. A. Surgeon L. H. Schwerin, detached from the *Southery* and ordered to the *Yankton*.

A. A. Surgeon J. T. Miller, detached from the Navy Yard, Mare Island, Cal., and ordered to the Naval Hospital, Mare Island, Cal.

Pharmacist J. Cowan, detached from the Naval Magazine, Iona Island, N. Y., and ordered to Washington, D. C., for examination for retirement and then home to wait orders.

Surgeon E. H. Marsteller, detached from the *Panther* and ordered home to wait orders.

P. A. Surgeon J. C. Thompson, ordered to additional duty at the Navy Yard, Puget Sound, Washington.

P. A. Surgeon W. H. Bell, detached from the *Yankton* and ordered to the Navy Yard, Portsmouth, N. H., for additional duty on the *Southery*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 10, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Sept. 27-Oct. 3, 3 cases.
California: Los Angeles, Sept. 20-26, 8 cases.
Illinois: Belleville, Sept. 27-Oct. 3, 3 cases.
Maine: Grant Isle, Oct. 2, 3 cases; Madawaska township, Oct. 2, 5 cases; Van Buren, Oct. 2, 2 cases.
Massachusetts: Cambridge, Sept. 27-Oct. 3, 1 case; Taunton, Sept. 27-Oct. 3, 2 cases.
Michigan: Port Huron, Sept. 27-Oct. 3, 3 cases.
Mississippi: Natchez, Sept. 20-26, 1 case.
Missouri: St. Louis, Sept. 29-Oct. 5, 1 case.
New York: Niagara Falls, Sept. 27-Oct. 3, 1 case.
Ohio: Dayton, Sept. 27-Oct. 3, 2 cases; Lorain, Sept. 27-Oct. 3, 1 case.
Pennsylvania: Altoona, Sept. 27-Oct. 3, 4 cases, 1 death.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Aug. 16-22, 1 case.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Sept. 12-19, 3 cases.
Brazil: Rio de Janeiro, Aug. 31-Sept. 13, 124 cases, 64 deaths.
Belgium: Brussels, Sept. 12-19, 1 death.
Canada: Quebec, Sept. 27-Oct. 3, 1 case.
Chile: Antofogasta, July 25-31, 20 cases, 9 deaths.
France: Paris, Sept. 12-19, 1 death.
Great Britain: Birmingham, Sept. 12-26, 15 cases, 1 death; Glasgow, Aug. 31-Sept. 25, 1 case; Leeds, Sept. 12-26, 24 cases; Liverpool, Sept. 12-26, 6 cases, 2 deaths; London, Sept. 12-26, 8 cases, 2 deaths; Newcastle-on-Tyne, Sept. 12-19, 16 cases.
Italy: Catania, Sept. 10-17, 1 death.
Mexico: City of Mexico, Sept. 13-27, 6 cases, 3 deaths.
Netherlands: Amsterdam, Sept. 20-26, 4 cases.
Russia: Moscow, Sept. 5-12, 2 deaths.
Straits Settlements: Singapore, Aug. 16-22, 1 death.
Turkey: Constantinople, Sept. 7-20, 3 deaths; Smyrna, Sept. 7-20, 118 deaths.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Sept. 28-Oct. 7, 105 cases, 2 deaths; Minera, to Oct. 3, 7 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Aug. 31-Sept. 13, 1 case.
Colombia: Panama, Sept. 21-28, 2 cases, 1 death.
Costa Rica: Limon, Sept. 18-24, 6 cases, 5 deaths.
Mexico: Nuevo Laredo, Sept. 30, 12 cases, 9 deaths; Progreso, Sept. 20-27, 1 case; Vera Cruz, Sept. 20-26, 49 cases, 17 deaths.
Venezuela: Maracaibo, July 5-11, 1 case, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 16-22, 29 cases, 22 deaths; provinces, Aug. 16-22, 5,663 cases, 3,811 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Aug. 29-Sept. 5, 8 deaths; Madras, Aug. 22-Sept. 5, 5 deaths.
Straits Settlements: Singapore, Aug. 8-22, 11 deaths.
Turkey: Syria, Birejik, Sept. 24, prevailing.

PLAGUE—INSULAR.

Philippine Islands: Manila, Aug. 16-22, 4 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Aug. 31-Sept. 13, 42 cases, 20 deaths.
Chile: Iquique, Aug. 21-28, 14 cases, 8 deaths.
Egypt: Alexandria, Aug. 29-Sept. 4, 6 cases, 4 deaths.
Japan: Yokohama, Aug. 22-29, 1 case, 1 death.
Mauritius: July 17-Sept. 3, 111 cases, 55 deaths.
Turkey: Smyrna, Sept. 29, 1 death.

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Original Articles.

TALMA'S OPERATION IN CIRRHOSIS OF THE LIVER.

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CHICAGO.

Since Greenough's recent article[1] contains a list in detail of the cases of ascites due to cirrhosis of the liver operated on up to the end of 1902, no attempt will be made to review the literature. The author desires, however, to briefly mention his own experience in operating on this variety of cases.

In an article on this subject in THE JOURNAL of the American Medical Association, May 3, 1902, the author reviewed the available literature up to that date and published two cases of his own. Since then he has operated on four more cases, making six altogether. The two cases previously reported were:

CASE 1.—Man, aged 56, hard drinker; atrophic liver, enlarged spleen, jaundice, ascites; duration about one year: tapped nine times. Omentum greatly thickened and very vascular. Operation March 30, 1900. Abdomen closed without drainage. Recovery. No improvement. Died in three weeks. Autopsy showed cause of death was cerebral hemorrhage.

CASE 2.—Man, aged 55, hard drinker; atrophic liver, spleen enlarged, ascites; duration about four months. Edema of feet; marked arteriosclerosis. Operation July 10, 1901. Abdomen closed, no drainage, recovery. Tapped three times after operation. Died in two months.

The unpublished cases are:

CASE 1.—F. P., aged 40, farmer. Admitted to hospital Oct. 23, 1902. Family history negative. Had pneumonia at 14 and smallpox at 18. No venereal history. Had taken alcoholics freely for years.

Present trouble began about six years ago with weakness, pain in the right side in region of liver, with slight jaundice. Since then has gradually lost in weight and strength. About six weeks ago noticed that his legs and abdomen began to swell. Has had considerable bleeding from the nose.

Examination.—Poorly nourished; complexion sallow, conjunctivæ icteric; tongue coated. Heart negative; double hydrothorax. Few dry râles at apex of left lung. Abdomen moderately distended with fluid. Edge of liver felt hard and granular. Spleen enlarged. Urine clear; 1003; slightly acid, yellow. Urea 0.5 per cent., no albumin, no sugar, no casts. Was tapped once. Fluid was alkaline, sp. gr. 1009. Did not coagulate. Contained red blood cells, some normal, others crenated and a few leucocytes.

Diagnosis.—Cirrhosis of liver with ascites.

Operation.—Oct. 30, 1902. Median incision above umbilicus. Liver was hard and granular, but apparently not much diminished in size. Parietal peritoneum denuded by scraping with scalpel and omentum stitched to it over as large an area as possible. As the gall bladder was quite large and distended it was drained through a second incision. Incision in midline closed without drainage.

Recovery. After two weeks he was up and around. Some fluid reaccumulated in the abdomen, but not enough to require tapping. He carried a bottle pinned to the dressing, into which the bile drained. He felt quite bright and was very active, while before the operation he had been confined to his bed. On November 26 he took an ordinary dose of Epsom salts. This produced considerable griping. He became collapsed and died in a few hours.

Autopsy.—Limited to abdominal cavity. Considerable fluid in peritoneal cavity. Liver firmly adherent to diaphragm. Omentum, transverse colon and stomach adherent to parietal peritoneum. Liver very small, markedly granular and cuts with greatly increased resistance. Spleen enlarged, firm and of a dark reddish color. Liver with portion of diaphragm, mesentery, etc., removed for microscopic examination. Peritoneum showed marked thickening of the endothelial layer. Hyperplasia of subendothelial connective tissue with slight diffuse round cell infiltration.

CASE 2.—E. W., aged 43, watchman. Family history negative. Excessive smoker of cigars and pipe. Heavy drinker; daily average six glasses of gin, eight of beer and an occasional whisky. Specific infections denied. In 1891 lost right arm in railroad accident.

General health fair until about four years ago, when he was admitted to Alexian Brothers' Hospital with ascites. He remained in the hospital about three weeks and was tapped three times. He left improved, and continued feeling fairly well without reaccumulation of the ascites for about three years. The abdomen then became distended and he was tapped once. Following this was about one year of comparative health. The only complaints were a rather poor appetite at times and an occasional attack of diarrhea, alternating with constipation. Two days ago he caught cold and the abdomen rapidly filled again. He had considerable paroxysmal pain in the abdomen. No vomiting, but eructations of gas.

Examination.—On entering the hospital, Dec. 22, 1902, examination showed a well-developed man, though beginning to show emaciation. Skin and conjunctivæ distinctly icteric. Right arm absent. Slight edema of legs.

Heart: Apex in fourth interspace one inch inside of nipple. Rhythm rapid but regular. Second sound accentuated. No murmurs. Lungs: A few râles.

Abdomen: Filled with fluid; superficial veins distended; a distinct line of dilated capillaries following the costal arch on each side. Upper border of liver at fifth rib in mammary line. Lower border not distinctly outlined on account of the ascites. Spleen not palpable.

Urinalysis: 1020, dark brown. Urea, 2.4 per cent. Alb. +; sugar —; bile +. Microscopic: casts, erythrocytes, leucocytes and epithelial cells.

Blood: Reds, 3,976,000; whites, 2,750; differential count, 400 counted. Polymorphonuclear, 84 per cent. Small lymphocytes, 12 per cent. Large lymphocytes, 4 per cent. One eosinophile.

Jan. 1, 1903, tapped and 3,000 c.c. fluid withdrawn. Fluid alkaline, bile stained. Contained albumin. The fluid was

1. Am. Jour. Med. Sci., 1902, cxxiv, p. 979.

centrifuged and the cells stained. Result: Polymorphonuclear 84 per cent. Lymphocytes, 16 per cent.

Operation.—Jan. 6, 1903. Median incision above umbilicus. On getting through the abdominal wall very extensive adhesions were found attached to the omentum and colon. The veins were greatly enlarged and considerable hemorrhage was encountered. The adhesions were so extensive that it was impossible to get through them into the abdominal cavity. Another incision was therefore made below the umbilicus. This entered the free cavity. Examination now disclosed the most extensive adhesions, involving the entire omentum throughout the length of the transverse colon. The liver was also adherent to the diaphragm. The spleen, stomach, gall bladder and edge of liver could not be palpated at all, owing to the mass of adhesions. The walls of the small intestine were unusually thick and edematous. As there was no hope of making adhesions any more extensive than were already present, the incisions were closed.

Patient died Jan. 12, 1903, six days after the operation.

Autopsy showed typical contracted liver adherent to diaphragm, with extensive adhesion of omentum, etc., to anterior abdominal wall. Collateral circulation was well established and the veins very large.

CASE 3.—Wm. K., aged 36. Bartender. Family history not known. Smokes and chews tobacco to excess. Has tended bar for 20 years. During first ten years drank only a few glasses of beer a day; during last ten years drank from 15 to 18 whiskies a day with the beer, and for the past year drank even more heavily. Has had measles and smallpox, gonorrhea, but no syphilis.

Present Trouble.—About one year ago began to have morning vomiting. A drink of whisky would stop vomiting and nervousness. Occasionally could not retain his meals. Appetite variable. Easily fatigued. Slept poorly. Troubled with alternating constipation and diarrhea. About four months ago he began to have chilly feelings once or twice a week followed by sweats. Five months ago jaundice gradually appeared without pain. Stools for past week have been clay colored and pasty. Three days before entering the hospital pain, cramping in character, appeared in the right hypochondriac region and he noticed that the abdomen began to swell.

Examination.—Entered hospital Feb. 26, 1903. Weight, 120 pounds. Loss in past year, 30 pounds. Skin and sclera deeply jaundiced. Lips dry and cracked. Tongue furred. Showed marked symptoms of cholemia.

Heart: All sounds weak. Lungs: A few râles. Liver dulness extends about 3 cm. below arch. Spleen not palpable.

Abdomen considerably distended with fluid. Hemorrhoidal veins greatly distended and dilated. Knee reflexes absent. Eye reflexes present.

Urinalysis: Color dark, greenish cast, turbid, alkaline 1008. Urea, 0.2 per cent. Albumin trace. No albumose, no sugar. Bile, much. Hyaline and granular casts few. Leucocytes and epithelial cells.

Blood examination: Reds, 3,160,000; whites, 25,600; polymorphonuclear, 75 per cent.; large mononuclear, 13 per cent.; small mononuclear, 12 per cent.; no eosinophiles; hemoglobin, 50 per cent.

Inoculations were made from the blood drawn from a vein in the arm, but no growths were obtained.

Operation.—Longitudinal incision right border of rectus. No adhesions of omentum present. Gall bladder filled, but not abnormally distended. Liver decidedly cirrhotic, very firm in consistency; surface granular. On the inferior surface of the liver about the hilus were two or three lobules or masses about the size of hens' eggs. When first palpated they felt like a malignant growth, but closer investigation showed them to be composed of tissue similar in appearance to the surrounding liver.

The gall bladder was stitched in the upper edge of the wound and drained. A large pocket was formed by dissecting up the inner layer of the sheath of the rectus, and into this the omentum was placed and stitched with catgut. The incision was closed up to the drain. His symptoms of profound cholemia or intoxication continued unabated and he died on the second day. No autopsy permitted.

CASE 4.—Mrs. E. C. S., aged 43. Father and mother living and well, aged 68 and 62 respectively. Six sisters living and in good health. Was healthy as a baby and throughout youth. Had usual diseases of childhood, except scarlet fever. Menstruation began at 13. At 18 was treated for chlorosis. At 27 had diphtheria, was very sick for four weeks, but recovered without complications. Married at 30. Has had two abortions, both induced by drugs at about the third month. Contracted syphilis at about the age of 25. Has been an excessive drinker of coffee, especially for past eight years. Drinks coffee at each meal and often between meals.

About two years ago patient was taken with attack of severe pain in right hypochondriac region. These attacks would recur at irregular intervals and often with increased severity. About one year ago began to have trouble with her stomach. Had feeling of fulness and distress in epigastric region with vomiting and palpitation of the heart.

About nine months ago had attacks of pain in both hypochondriac regions and soon thereafter first noticed abdomen enlarging. In July, 1902, was tapped and a large amount of fluid removed. Since then has been tapped fifteen times and from two to four gallons of fluid removed. At last tapping but little fluid was obtained, although abdomen was greatly distended. Constipation has been the rule. Has never been jaundiced. Is troubled considerably with dyspnea and cough with expectoration of tenacious mucus. Has lost considerable flesh. Legs somewhat edematous. Abdomen greatly distended.

Urinalysis Nov. 25, 1902: Acid, 1020; urea, 1.2 per cent.; albumin, —; sugar, —, casts, —.

Operation.—Nov. 25, 1902. Abdomen opened in the midline above the umbilicus. The most extensive adhesions were found between the omentum and anterior abdominal wall. The liver was adherent to the diaphragm and the gall bladder and edge of the liver could not be located owing to the mass of adhesions. As no more extensive adhesions could be produced the abdomen was closed. No improvement followed. She left the hospital Jan. 6, 1903, and went to a neighboring state, where she was heard from last about five months after the operation. The abdomen filled and tapping was necessary.[2]

Of the six cases, five were dead inside of a month after operation and one was alive, but without improvement, five months after operation. The five cases that died were undoubted cases of alcoholic cirrhosis; the one that was living at the end of five months was in all probability due to syphilis. All of them were far advanced when operation was undertaken, and, while it can not be claimed that any material improvement followed the operation, the cases are of interest and show some instructive points.

In two of the cases, in addition to omentopexy, cholecystostomy was performed in order to drain the gall tracts for the purpose of relieving, if possible, the so-called cholemic symptoms. Death followed in one of the cases in a few days; in the other, some apparent improvement occurred. From a bedridden patient, he was able to be up and about, became quite active mentally and physically, and the color of his skin cleared up considerably. The bile flowed freely. Just as we were feeling encouraged somewhat over his condition, he rather suddenly and quite unexpectedly died. We believe, however, that drainage of the gall tracts in connection with Talma's operation may be desirable in some cases showing cholemic symptoms.

The case of E. W. is of particular interest. A hard drinker, entering the hospital first in 1898 with distinct symptoms of cirrhosis with ascites. He was tapped three times in three weeks. The abdomen did not refill again for about three years, during which time he felt

2. Since writing this I have learned that the patient has died.

fairly well. Why did the ascites remain absent for such a long time following the three tappings? It is well-known that ascites sometimes disappears following the reduction in size of an enlarged and congested liver; but such can scarcely have been the case here, for the condition was one of a markedly contracted liver. It is also known that adhesions occasionally take place after tapping. The most probable explanation, therefore, is that the extensive adhesions which were found at the operation between the omentum, liver and abdominal parietes, and which were evidently of long standing, formed at the time of the first tappings, and the collateral circulation which resulted was sufficient to prevent the reaccumulation of the fluid for some time. If this explanation be correct, the case furnishes an excellent illustration of the benefits which might be expected at times to follow Talma's operation under favorable conditions.

The case also shows, as does that of Mrs. E. C. S., that, notwithstanding the most extensive adhesions, the time comes, sooner or later, when even a free collateral circulation is insufficient to prevent the development of ascites and the progress of the case to a fatal issue.

These cases also tend to confirm the statement of the writer in the article above mentioned on this subject to the effect that the congestion of the portal radicles was not the sole cause of the ascites, but that the changes in the peritoneum of a chronic inflammatory nature were instrumental in its production, particularly during the terminal stage. The fact that the fluid taken from the abdomen was hypertonic in the two cases, as shown by its crenating effect on freshly drawn blood cells from the same patient, is another evidence of the inflammatory character of the fluid.

In conclusion, the writer is of the opinion that the benefits to be derived from Talma's operation in alcoholic cirrhosis, even under favorable conditions, are but temporary. (In 105 cases collected by Greenough, but 9 showed improvement after two years.) In order to obtain the full benefit of the operation, it should be performed early, at the first appearance of ascites or even to anticipate the ascites, if possible. In cases showing jaundice or symptoms of cholemia, cholecystostomy should be performed at the same time.

THE RESTORATION OF THE PERINEUM.*

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Recent publications show that, notwithstanding the study of the subject by many of our best surgeons during the present generation, there is by no means a general acceptation of any well-settled method for the repair of the injuries of the perineum. On this account I add this contribution, although I have several times published monographs on this subject.

As a primary premise, it may be accepted that the repair of any injured organ should be undertaken to restore it, as far as possible, to its original normal condition. In order to accomplish this, it must be first ascertained just what the normal condition has been. In other words, it must consist of an accurate knowledge of the anatomy and function of the component parts.

The injuries to the perineal structures vary widely. In the minor degree, the hymen, or the vaginal fourchette, may be the only part involved, but such lesion is, of course, excluded, except in the rarest instances, from surgical consideration.

The union of the transversi, interdigitating with the levator ani muscle, making the so-called perineal body, with their connective tissue sheaths, is the more common part to suffer injury. The lesion of these muscles may be central or lateral, a factor of some importance to determine before attempting restoration.

The lack of the central support due to such injury causes the transversi to contract toward their point of origin, resulting in a more or less marked patency of the vulvar opening. Where the injury is within this limit, the sphincter ani muscle, although itself uninjured, is in a measure disabled from the proper performance of its function by being no longer supported anteriorly. On this account the curve of the rectum is lost and the anal aperture falls posteriorly, inducing a saccation or pouching forward of the rectum, resulting in a more or less marked rectocele. *Pari passu,* the cervix is no longer held backward, and varying degrees of uterine displacement follow.

When the lesion has destroyed the entire septum between the vagina and rectum, the laceration is called complete. Of course, the saccation of the rectum does not take place, and more commonly the uterus remains in its normal position.

Since the dissections of Wm. Hunter, undertaken to demonstrate the anatomy and the physiologic function of the reproductive organs during pregnancy, the most valuable contribution to the proper understanding of the anatomy of the pelvic structures in the female are those of Dr. Henry Savage of London. These studies, supplemented by the important teachings derived from the study of frozen sections, greatly modify the previous views of the physiologic relationship of the pelvic organs. The depth of the perineum is less than usually described. The axis of the anus, cutting that of the vagina at nearly right angles, leaves in the external angle an irregular flattened position of tissue rarely, when examined on the living subject, more than one-half an inch in thickness. In the nulliparous woman this is clearly defined as a firm portion of the pelvic floor, and is composed of skin, fat, elastic and connective tissue, transverse muscles, sustaining fascia and the anterior portion of the sphincter ani muscle.

The vaginal side is usually concave and the rectal side convex, owing to the interblending of the sphincter ani. If the finger is carried just within the perineum proper, and a little to one side, there can be felt the firm encircling band of the levator pubococcygeus, attached to each rami of the pubes above and descending to join with the posterior fibers of the sphincter ani and the coccyx. In the perineum, posteriorly, this is firmly interblended on either side with the transverse perineal muscles. These muscles are under the control of volition, in considerable degree, and, acting conjointly, serve to draw the vagina forward toward the pubes.

The parturient and fecal canals are supported in the pelvic basin in close opposition, and the functional relationship is often such that the one may encroach on the other, in a way so as to occupy nearly all the space accorded to both. This is especially true in parturition, when the rectal space is reduced to a thin, folded, flattened tube; and often in elderly women, with old perineal lacerations, the rectum becomes saccated, pushing forward the posterior vaginal wall, forming a considerable-sized external tumor. The pelvic floor is so formed and blended about these openings that it not only sup-

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ports these canals, but also materially aids them in their physiologic function. In intimate relation to both are the bladder and uterus in their ever-varying functional activity, and each is surrounded by a delicate plexus of nerves and vessels.

The sacral prominence throws a large proportion of the abdominal weight on the symphysis pubis and the recti muscles in the support of the body, and thus relieves the pelvic basin and takes off undue strain on the pelvic floor. The rectum is rarely entirely empty, is circular in shape, serves the digestive apparatus, in a measure, as a constantly receiving reservoir, and, when not distended, may be felt from the vagina as a flattened tube curving posteriorly. It is suspended and supported, so to speak hung, by the levator ani muscles which hold the vagina in their encircling loops. On the contrary, the vagina, entirely unlike the earlier diagrams, is flattened anteroposteriorly on itself, and, normally, its walls are, when at rest, ever in close apposition.

The vagina joins with the vulva at right angles to its lateral opening at the entrance of its passage through the pelvic floor.

The vulvar organs are all intimately blended with and go to form a part of the perineum proper. On each side of the vaginal orifice are the erector clitoridis, the bulbocavernosus and the transversus perineii muscles, and these with the levator ani make up, in large measure, the pelvic floor. The bulbi vaginæ and bartolinian glands are covered by these muscles with their erectile plexus of vessels and abundant distribution of lymphatics and nerves.

The erector clitoridis and bulbocavernosus muscles, with the transversus perineii, join on each side to constitute the ovate muscular vaginal orifice, and in their conjointed action perform a very important physiologic function in sexual congress, often underestimated or ignored. Their impaired function frequently underlies certain reflexive nervous conditions, distinctly pathologic, which are easily overlooked, but are the causes of much suffering and unhappiness.

The much-discussed, so-called perineal body has, in my opinion, misled some of our prominent authors into false positions, and caused great confusion and misunderstanding among physicians.

I have been criticised in emphasizing the muscular floor of the pelvis, and that I underestimate the importance of the variously distributed connective tissue fascia. This is not by any means my intention. The superficial perineal fascia, in its deep layer in the male, as well as in the female, covers and encloses the transversus perinei muscles, forming strong ligamentous transverse bands, uniting in the perineum, designated by Savage as ischio-perineal ligaments. The pubococcygei, acting in unison with the other muscles of the pelvic floor, draw forward and thus aid, not only in closing the rectum, but in holding both it and the vagina in the anterior curve, so important to be retained for the preservation of normal function.

A horizontal section made through the floor, just above the sphincter vaginæ, and posterior to the junction of the transversus perinei, shows the deeper fibers of the pubococcygeus, united in a loop behind the lower border of the rectum, holding it from its fixed point at the pubes, as in a sling. This loop is connected with the transversus perinei, bulbocavernosus, erector clitoridis, sphincter vaginæ and sphincter ani muscles by strong layers of connective tissue, the importance of which, for union and support, can not be readily overestimated.

On the posterior wall of the vagina, in its lower third, longitudinal muscular fibers are found external to the circular layer, and these intimately blend with the pubococcygeus, giving a firm support to the vaginal outlet, quite as the outer longitudinal fibers of the rectum unite with the deep layers of the sphincter ani. The physiologic action of the muscles, thus grouped, serve to draw the rectum forward toward the pubic arch, and this explains, in large degree, why the circular fibers of the vagina, left free to act in other directions, are intrafolded laterally, making in cross section an imperfect letter H, first pointed out by Freund in 1883. The intrafolding of the vagina at right angles to the vulvar outlet is very important in its relationship of support to the uterus and its appendages.

The surgical procedures which have been devised for the restoration of these structures are manifold, and many of them are in the highest degree ingenious, but too often confusing and unsatisfactory.

The study of their history is instructive and profitable, but the field is to me more tempting for review than it is to the junior practitioner, since these various procedures have been elaborated, for the most part, within the period of my surgical experience. I purpose, however, to limit myself to those only which have a bearing on the methods which I have especially commended.

My earlier masters, Marion Sims and Thomas A. Emmet, most ingeniously devised scissors with various curves and dextrously used them to denude the posterior V-shaped portion of the vagina which was thought advisable for coaptation. So exceedingly dextrous were these men that I have seen them pare back and forth a narrow ribbon from this portion of the vagina, leaving the dainty piece unbroken.

My late friend, Dr. Edward Jenks of Detroit, separated this portion of the posterior wall of the vagina as a flap instead of denuding with the scissors and then cut it away and sutured as Sims and Emmet had done. Not long prior to this I had begun the use of buried animal sutures in a considerable variety of wounds, and it occurred to me that, by adopting the method of Dr. Jenks, I could preserve the flap thus separated and coapt the deep structures by sutures buried beneath it.

I soon found that the line of division was not the mucous membrane from the vagina, as these authors had supposed, but the attenuated posterior vaginal muscle, often so thinned out as to be hardly recognizable. For obvious reasons the posterior vaginal fascia holds the vagina loosely to the subjacent structures and the separation is not difficult except when united by bands of cicatricial repair. By this division, it is not difficult to differentiate the levator loop and bring it with the ends of the separated transversi into easy inspection. A further dissection externally on either side of the sphincter ani makes the wound of sufficient size for easy manipulation. This permits the reconstruction of the perineal structures in a simple and easy manner.

With various unimportant modifications, this is the method which I have practiced and taught for more than a quarter of a century.

Finding that the catgut sutures did not always hold the parts in coaptation sufficiently long, I devised a lateral support by means of two or more disjointed pins, which united after their introduction, held the parts in juxtaposition after the manner of an ordinary safety pin. I had the good fortune to obtain tendon sutures

from the tail of the kangaroo which proved reliable and rendered the use of fixation supports unnecessary. Since this period I have used only chromicized tendon sutures with entire satisfaction. These have been, and may be, applied in a variety of manners.

The first step in the operation is to dilate the sphincter. The index and middle fingers of the left hand are introduced into the rectum and retained there until the end of the operation.

The septum is made tense by the retained fingers and a button-hole incision is made on the median line by either knife or scissors. I prefer a double-edged, pointed knife.

Through this opening I introduce a knife of special design. I am sure additions to our armamentarium should not be made without good reason, but this instrument adds materially to both ease and safety of dissection. The cutting part is something the size and shape of the little finger nail and is placed at an angle with the handle, so that when pushed in a direct line the edge is at an angle of about forty-five degrees to the part to be divided. The parts are made tense by the fingers in the rectum and the knife is guided so that neither rectum nor vagina is injured. The lateral dimpled depressions in the vagina mark the site of the separated retracted transversi. Even with a sharp knife these are divided with some difficulty. Elsewhere the separation is easy and is often made almost entirely with the fingers, dividing an occasional cicatricial band by scissors. The Emmet scissors serve admirably for the separation of the vagina from the vulva. The little lateral fold of mucous membrane on either side shows the inception of the original lesion. To these points the dissection is carried anteriorly. Thus the posterior third or more of the vagina is separated from its attachments quite to the crest of the rectocele.

This flap is held anteriorly by an assistant. A large curved needle, firmly set in a handle, with the eye near the point, carries the suture. The fingers in the rectum materially aid in guiding the needle. It is carried through the left side penetrating the transversus and levator unthreaded and withdrawn. Rethreaded, the needle is made to penetrate just above the vaginal junction with the rectum and then is carried through the right transversus, unthreaded and withdrawn. This makes the upper border of the upper stitch. The suture is centered at this point of fixation and held by an assistant. The suture is again carried by the needle parallel to the first introduction—about one-third of an inch below it; unthreaded, rethreaded with the opposite end and withdrawn. This makes a double stitch exactly like that of the cobbler, the needle serving as carrier of the suture from opposite sides. In this way three stitches are usually taken. When drawn on moderately tight, the widely separated structures are evenly coapted on the median line and are held in fixation.

The remaining tissues are united by a light, continuous running suture, best effected by a rather large-sized, full-curved Hagedorn needle. The distal end is fixed by a loop knot and the needle, carried deeply from side to side, places the suture at right angles to the long axis of the wound. Where drawn on, the tissues are evenly coapted in the median line, with no suture material in the line of union save where it crosses at a right angle to it.

I have called this stitch the parallel suture, since the needle is inserted parallel to the long axis of the wound. In this way the entire wound is easily and rapidly closed, the reconstruction being made so complete that the vulvar opening is entirely restored, even to the reformation of the hymen if desired.

When the laceration has been so extensive as to include the sphincter ani muscle and a portion of the rectum we have quite another problem.

The posterior vaginal wall is not thinned out as in rectocele. Quite the contrary, the vaginal muscle is contracted, often the vagina thick-walled. The rectum and vagina are separated quite as freely as in the incomplete form of the injury. This permits the reconstruction of both rectum and vagina by separately reuniting them with continuous sutures, care being taken not to penetrate the bowel or vagina by inserting the stitches from side to side from the dissected surfaces only. The rectal suture must penetrate the connective tissue of the bowel, here much thicker than in the free portion of the large intestine. The vaginal suture is given to an assistant and held forward. The rectal suture is held by the weight of a pair of forceps. The wound is now restored to conditions not unlike those of the incomplete rupture when ready to introduce the parallel double fixation sutures for the reunion of the transversi, and the operation is completed, as above described, only the separated retracted fibers of the sphincter ani muscle must be freed and sutured. The short wound in the median line is closed by a light-running buried suture, the wound dried and sealed with iodoform collodion.

IN RESUME.

By free dissection and the use of buried absorbable sutures, the parts are entirely restored to their former normal anatomic condition and physiologic function. Aseptically maintained, the repair is rapid and painless.

The urine should be drawn for the first days. The bowel is never allowed to become distended with hard fecal masses. In complete laceration, a large rectal tube of soft pure rubber should be used.

RESULTS.

I have within a few days seen a lady on whom I operated thirty years ago by the methods as above outlined. I since have operated several hundred times.

Recently a visiting surgeon, seeing the operation, asked our matron: "How large a percentage of Dr. Marcy's cases have failed of good results?" She looked surprised, but replied: "I do not know of a single case." "How long have you been in charge of the hospital?" "Over sixteen years." So seeming an unimportant operation has it become with us that a careful statistical table could be made only by an amount of research work not deemed necessary, but I am sure the reply of our matron is essentially correct.

DISCUSSION.

Dr. A. H. Goelet, New York—I doubt whether the deep through-and-through suture would succeed in the hands of all who should attempt this operation. The objection is that it constricts the parts, cuts off the circulation and nutrition and often results in failure. I have tried every operation on the perineum, except the Tait flap-splitting operation, which I do not approve, and have abandoned them all for the Hegar-Martin operation in which the denuded surfaces are united by means of buried layer sutures of chromicized catgut. That has given me far better results than any other operation on the perineum and I now never have a failure. It seems to me a valuable point to avoid as much as possible handling the denuded area, and instead of sponging to keep a continuous stream of normal salt solution playing on the wound to keep the field clean. This will aid materially in securing primary wound healing.

DR. F. A. DUNSMOOR, Minneapolis, Minn.—One of the essential things brought out in the paper is that the reason for so many failures in repair of the perineum is that the sutures are not introduced properly; not that they fail to close up the denudation, but the result is not what we should wish it to be. If we are to get any real benefit from this operation in the vagina we must increase the depth of the vagina from the vulva to the region of the cervix, and narrow it from side to side, thus tightening up the relaxed walls. This can be done whether the freshening is made by the flap-splitting method or by any other plan, but it is extremely important that the sutures are passed horizontally and are not to be introduced from the margin of the vulva, then carried to an apex near the emergence of the cervix, returning by a corresponding oblique line to a point opposite that starting. In the latter case, when we tighten the sutures, we bring the upper part of the vagina down toward the lower, and the vagina is widened and shortened. As time goes on the posterior wall relaxes more and more, forming a rectocele. There is a way of overcoming the objection made by Dr. Goelet. If we introduce the sutures in two layers, beginning one-third of an inch inside the margin of the denuded wall on the right side and depress the middle of the denuded septum, emerge for half an inch, and then pick up the opposite side, to within one-third of an inch of left margin, repeating every one-third inch, we will make all the way down a backbone or thick septum. Then while passing the second layer of sutures, pass the needle in the first instance horizontally across to accurately adjust the wound margin. Next through the new body made by the first tier of sutures and include fascia and supporting muscles of each side. Alternate these two styles of sutures until the vulva is reached. The circulation is not cut off. Further, we get a more lengthened perineal body then by any other method, and a support for the rectum, thus correcting the rectocele and assisting the expulsion of fecal matter from the rectum; narrowing the vagina from side to side and increasing its depth. This operation on the perineum should have for its object the restoration of the normal supports of the perineal body and holding it up in a definite position. Dr. Marcy's method of reuniting the divided muscles by suturing at right angles to axis of vagina accomplishes the desired result.

DR. A. M. HAYDEN, Evansville, Ind.—I have made it a point to absolutely coaptate the parts without any wrinkling. I denude and take out the flaps as much as I want so as not to narrow the caliber of the vagina, and then use interrupted or continued catgut sutures, commencing at the lower border and putting them in back and forth. After I get the muscle all coapted nicely, I suture the vaginal mucous membrane from the upper part down to the skin without catching the muscle at all. The skin of the perineum I suture in the same way with superficial sutures. I use two or three layers of sutures to coaptate all the parts and bring them together nicely.

DR. HANNAH GRAHAM, Indianapolis—I have used a method of repairing the perineum for the last four years, but have not published it. I insert a Kelley tenaculum on each side and with the scissors cut straight across. I slip the finger into the rectum and with an ordinary scalpel I make a sort of bib-shaped denudation. Instead of cutting down and making a Y-shaped denudation, I denude perfectly straight. Then I pull down the center point of the upper edge of the denuded area to about the site of the fossa navicularis, where I unite it on each side with a continuous catgut suture, after having united the edges of the transversus perinei with a buried suture. I have used this method in cases of prolapsed uterus and it has held the uterus up very well. The perineum does not stretch out as I have seen it do with other methods, and I have examined patients who have had as strong a perineum after four years' standing as immediately after the work.

DR. R. H. GIBBONS, Scranton, Pa.—If Dr. Marcy's stitch is properly introduced and fixed it can not cause choking of the muscular structures or vessels; nothing but good can happen. I tried it on many occasions and it was the fault of the absorbable material that I gave it up and also because I went back to my first love, Dr. Emmet's method. I can do this operation better than any other and I believe it meets every indication. Those who talk of the operation of exposing the muscle where it is torn, Reed, Harris and others, claim that Emmet's operation will not do what he claims for it. If the denudation is properly made all the separated fibers of the muscle are exposed, and if the stitches are properly applied all the parts must be brought into apposition. If you pass the suture downward from the very apex of the denudation and bring it down into the muscle, you catch the principal fibers of the muscle, and passing it down, the lower fibers are caught, thus bringing all the fibers in apposition. There is no operation that can improve on the Emmet method if it is learned from Emmet or his students. Dr. Marcy's operation is the first of what are termed modern operations and he is entitled to credit for having formulated a method of introducing a buried absorbable suture that fixes the parts and keeps them fixed without strangulation. Dr. Graham has introduced a very practical point, the idea that the first stitch usually throws the apex of the rectocele high up where it should be after the method of Andrews of Chicago.

DR. A. H. GOELET, New York—I overlooked a point in my previous remarks which is very important in obtaining primary wound healing, and that is to keep the wound dry. Many practitioners who are compelled to do this operation are obliged to practice without the aid of a nurse and who must care for the patient after the operation, can avoid the necessity of coming back a number of times a day to catheterize. I have had made a rubber perineal shield which has a little tongue that is inserted into the vagina and catches under the urethra forming a gutter for the urine. It is strapped with adhesive plaster to the thighs, so that when the patient urinates the urine passes down the gutter into a bedpan beneath without soiling the perineum. The perineal wound can then be dressed with gauze beneath this shield and can be kept dry just as any other wound. This shield is not, of course, necessary when the services of a skilled nurse is obtainable, but it adds greatly to the comfort of the patient if repeated introduction of the catheter can be avoided, and I regard it important to prevent contamination of the wound by the urine.

DR. WALTER B. DORSETT, St. Louis—I object to the word denudation. It implies very little. Usually when we speak of denudation we mean that we take off the mucous membrane. If we are going to make a perineum that is going to be of any service, whether for rectocele or simply for a relaxed outlet, we have in the first place a stretching of the mucous membrane, together with a stretching of the vagina, a stretching of the circular muscle fibers of the vagina; therefore, in order to repair that properly we must do something more than a simple denudation; we must take out sections from the vagina. I commence on one side and cut deeply until I get beneath the vagina, then I take hold of it with a pair of forceps, pass my fingers up and dissect the vagina from the rectum. Then I begin at the upper angle and introduce the sutures. (Dr. Dorsett illustrated his technic.) When I draw on the upper suture I lift up the whole perineal body. If we simply denude, as I have seen many surgeons do, we fold the connective tissue together, and if we get any union at all it is only by slight adhesions, and it is of absolutely no benefit. The operation I do is essentially that given us by Emmet.

DR. J. H. CARSTENS, Detroit—Concerning the denuded surface, what is there in the first place? A ruptured perineum, torn fascia everywhere and a muscle that is torn completely through. If there is an Emmet suture put in, I do not care which way it is pulled, on being drawn together it puckers up. One can not do anything different with a large suture. One can not get the parts accurately together. (Dr. Carstens then illustrated his method on the blackboard.) I put in thirty or forty stitches and build up a perineum that is as near like the original perineum as I can make it. Ideal surgery is to use the buried suture, and not the big *en masse* suture, which is a catch-as-catch-can suture. If you hit it, all right; if not, then you don't.

DR. A. PALMER DUDLEY, New York—What is the pelvic floor? The levator ani muscle; the transverse perineal muscle from the ramus around to coccyx and to anus. What is split? The perineum. What is the perineum? The two halves of the

levator ani muscle. You get them together to have a returned sphincter action. I am going to reverse the order of operation on the perineum entirely. The muscle is surrounding the vagina; it is ruptured. If you make Emmet's operation where is the fixed point, and from where are you drawing tissue? You are drawing movable vaginal tissue. If you will do a proper operation you must denude and use some suture which will unite the muscle end to end and not to cellular tissue or mucous tissue. (Dr. Dudley demonstrated his points on the blackboard.)

Dr. H. O. Marcy—The premises I took at the opening are verified. There is as yet an entirely unsettled idea as to what we should do in restoration of the perineum. Two or three things should be settled on here and now, and the discussion aids in elucidating this matter. I omitted much in the reading of my paper in order to save time. The whole idea is that we must reunite the ruptured muscles in the median line, where the interdigitation of the transversi with the levatores make the so-called perineal body. How this can best be effected is the problem. That which I claim to be of advantage is, that in dissecting up the posterior two-thirds of the vagina we are enabled to reach and reunite the separated structures. Into the vulvar opening, thus restored, we suture the thinned-out vaginal muscle sheath, much as the tailor the sleeve into the arm hole of a coat. In this reconstruction, all the tissues are utilized. Nothing is dissected away. The process of restoring the soft parts is simple and easy. The operation is really done in half the time I am discussing it. Dr. Goelet's criticism is well taken if too much force is applied in the constriction of the sutures. Retention at rest of the reconstructed tissues without constriction is of vital importance in the application of all buried sutures. Continuous suturing is safer than interrupted stitches, since the force must act equally on every stitch. The wound must be protected from the urine. With the assistance of trained nurses I have operated on several hundred cases without a single failure.

THE REPAIR OF CYSTOCELE

BY UTILIZATION OF THE ANATOMICALLY FIXED POINTS IN THE ANTERIOR VAGINAL WALL.*

E. REYNOLDS, M.D.
BOSTON.

A year ago I read before the American Gynecological Association a paper on this same subject, setting forth what I believed to be somewhat new and important points in the repair of cystocele. My object in this present paper is to restate the facts and conclusions then brought forward, with the developments which have been obtained in another year of work, and supported by the ultimate results of the cases then reported.

We hear nothing nowadays of new methods of operation in the repair of the lacerated cervix, and for several years have heard nothing of new methods in the repair of the perineum. These operations are satisfactory. The anatomic principles on which they were founded are well worked out, and there is little more to say about them, hence the silence. The third great plastic—the operation for the repair of cystocele—stands on very different ground. New operations are still proposed almost as frequently as in the early days of plastic operating, and we should most of us agree at once that no one of all these many operations and no group of operations has overcome the others and become accepted. I believe that this uncertainty and unsatisfactory state of the cystocele operation has been due to our failure to comprehend until recently the anatomic conditions, an observance of which must necessarily underlie all successful repair, i. e., I believe we have been in the habit of puckering up the loose tissues by merely empirical methods, and have not searched intelligently for the anatomic supports of the wall and sutured them directly to each other. If the operation is ever to be put on a rational basis, the first step in the process must be an inquiry into the anatomy of the anterior vaginal wall; and to state the results of such an inquiry is the first purpose of this paper.

The structure usually spoken of as the anterior vaginal wall is really two structures and is composed of the loose, elastic, non-resistant posterior wall of the bladder in combination with the strong sheet of muscular and connective tissue which forms the true anterior vaginal wall, but which may be here called for distinction the vaginal plate of the anterior wall. The vaginal plate is but loosely attached to the bladder, is normally firm, non-distensible, and strongly fastened to supporting tissues on all sides. It is attached at its lower end to the tissues immediately behind the pubic bone. At its upper end it is inserted by its central portion into the cervix and, which is of more moment, by its lateral corners into the important masses of connective tissue and unstriped muscular fiber which extend through the lower portions of the broad and uterosacral ligaments to find their attachments in this vaginal plate and in the supravaginal cervix. By its lateral edges throughout it is attached to the pubococcygeal and the allied group of transverse muscles which here find their only insertion into the vagina. To recapitulate: In the normal state these strong supporting structures are inserted into the four edges of the strong sheet of muscular and connective tissue which we know as the anterior vaginal wall, and are by it bound together into a firm floor which supports the bladder, the whole being in its turn reinforced, but only reinforced, by the support of the posterior vaginal wall below it.

This being the normal anatomy of the anterior vaginal wall, we should next inquire into the anatomic conditions which prevail in cystocele, and this is perhaps best reached by considering the conditions which are found during and at the close of labor.

It must be remembered that the posterior vaginal wall is mainly, and the anterior wall is wholly, supported by structures springing from the anterior half of the pelvic bones, hence it happens that while the walls themselves are exposed during labor to almost equal distending forces, the supports of the anterior wall are subjected to but little strain, and may even be relaxed by its forward distension during labor, while the supports of the posterior wall are subjected to great strain during its backward and downward distension, and in the concluding stage of labor the posterior wall and its attachments receive almost the whole strain of the advancing head.

The result is that the distended posterior wall is exposed to laceration, while the anterior wall, though always distended, is seldom lacerated. At the conclusion of labor, then, the attachments of the anterior wall are intact, but the wall itself between the attachments is greatly distended and therefore sags forward and downward under the influence of gravity. The natural result is that when the support of the posterior wall has been lost the vaginal plate often fails to recontract during involution, loses resiliency, and no longer supports the bladder, though its edges are still inserted into the intact supporting structures. This is, then, the anatomy of cystocele, and the condition is, in effect, a hernia of the bladder through the foramen formed by the attachments of the anterior vaginal wall, carrying before it as its

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

distended and overstretched covering the vaginal plate of the anterior vaginal wall. A persistence of this condition is, in my mind, the anatomy of cystocele, but whether this theory of its causation be right or not, it is a fact, as anyone may convince himself by examining a series of cystoceles, that the central portion of the vaginal wall has lost its elasticity and becomes thinned and non-resilient; the weakening process being most marked at its center, and decreasing until at the upper and lower extremities and also at the lateral edges, the wall is still thick, strong, and held firmly in place. It is, then, this hernial condition which we are to repair.

It is an universally conceded principle in other hernias that an operation which pushes back the distended sac and unites its surfaces to each other will be inferior to an operation which excises the sac and brings together the actual raw edges of the supporting tissues which surround it. I believe that we shall find that the essential weakness in the many operations proposed for cystocele lies in our habit of merely refreshing the vaginal surface by superficial denudations and so uniting only the already overstretched and comparatively useless tissues of the hernial sac, instead of searching, as in other hernias, for the insertions of the supporting muscular attachments and uniting them directly to each other after an excision of the overstretched tissues. I believe that if this is done the actual shape of the excision is carried into the unthinned portions of the wall, and that the direction of the sutures is such as to bring the supporting structures together. The actual excision of a large portion of the anterior vaginal wall sounds at first like a far more severe affair than a denudation, but even if that were so, we have learned not to be afraid of severe operations for adequate cause, and, as a matter of fact, its technic is so exceedingly easy, simple and rapid that I do not think that any man who has even once performed the operation will look on it as being, in fact, more severe.

One further piece of anatomy should, however, be here referred to, since it is frequently of essential importance to a good repair, viz., the anatomic conditions present when cystocele is complicated by descent of the cervix. Even when this complication is present the conditions insisted on above will be found but little altered. The lateral and lower attachments of the vaginal plate will be found non-stretched, and even its upper lateral corners are, in point of fact, but little displaced, i. e., their supports are but slightly stretched and require for the replacement of the upper end of the vaginal wall no more than a slight shortening of their ends, but it is here essential to good repair that the cervix should be extensively freed from the central portion of the upper end of the anterior plate and from the bladder as well, both to prevent further tendency toward displacement, and also to permit the cervix to move backward and upward into its original position before the sutures are brought together. The condition is still a hernia of the bladder, though complicated by slight overstretching of the supports of the upper lateral corners, and by a traction on the cervix which must be released as one essential step in the operation.

While this paper was in process of preparation I was much interested in reading an article by Hirst of Philadelphia in which the importance of bringing together the intact lateral supports is detailed, although the necessity for excising the weakened portion of the vaginal plate is not recognized. I was still more gratified by a paper[1] by Dudley of Chicago in which my former paper is referred to most kindly. In it the principles then enunciated are adopted as the necessary foundations for the repair of cystocele, the necessity for so shaping the excision as to throw the cervix well backward is described more forcibly than I had heretofore succeeded in doing, and an operation of Dr. Dudley's own devising is described. I can not help thinking that the shapes of both Hirst's and Dudley's operations are a little unnecessarily complicated. I believe that any operation which is to be successful must be so shaped and the stitches so inserted that both the lateral and upper and lower supports of the anterior vaginal wall will be utilized, i. e., so planned that the broad ligament attachments of the upper lateral corners and the firmly supported lower end of the wall will be brought together, as well as the insertions of the transverse muscles into its lateral edges. I think that if Watkin's operation or Emmet's latest operation were made excisions instead of denudations they would often fulfill well the anatomic conditions. I think that the operation which I have to report, as having been successful in my own hands, is, so far as the shape of the excised portion of the wall is concerned, merely one of many which might be devised, and probably one of many modifications which should be used for the differing forms of cystocele.

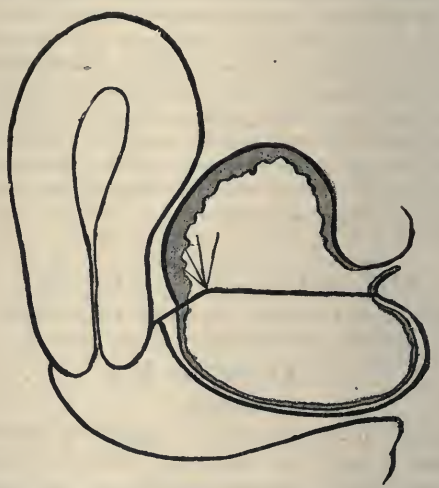

Fig. 1.—The heavy straight line shows diagrammatically the line of the repaired anterior wall.

In short, I do not think that any of us have as yet evolved an operation which is perfect in its details, but, although I have been trying during the past year several modifications in the shape of the excised areas and the insertion of sutures, I have so far found none which has yielded me as good results as the operation which I reported last year, and have now to describe again.

Its main features of value are that it throws the cervix far backward into its original position and that while it shortens the vagina enough to restore the upper and lower supports to their original position, it is essentially a transverse operation.

The anterior wall having been exposed, preferably in Sim's position, the points AA (Fig. 2) at the sides of the cervix are marked by tenacula or tissue forceps. The point C, the highest point in the anterior wall which is still entirely intact and unthinned, is seized with tissue forceps and pushed upward along the median line until it is on the stretch. The points BB, situated laterally exterior to AA, are then selected as those which can be drawn by tenacula or tissue forceps into apposition with

1. THE JOURNAL A. M. A., April 4, 1903, vol. xl., No. 14.

C on the median line, and are similarly marked. The crescentic area indicated in the diagram is then lightly marked out with a knife as a guide in the excision of

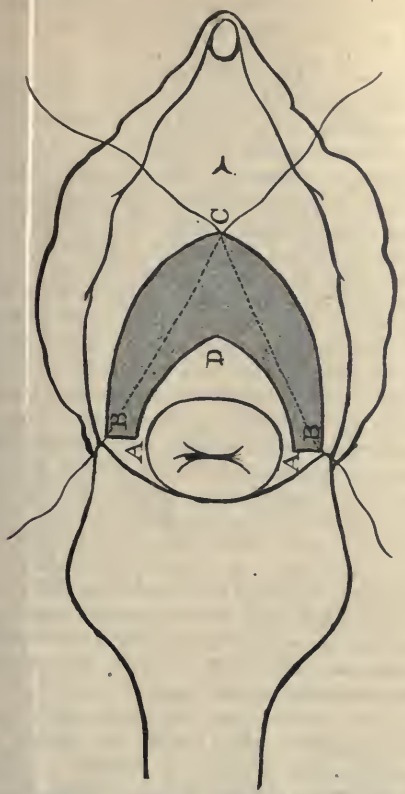

Fig. 2.—The excision complete and the primary sutures inserted.

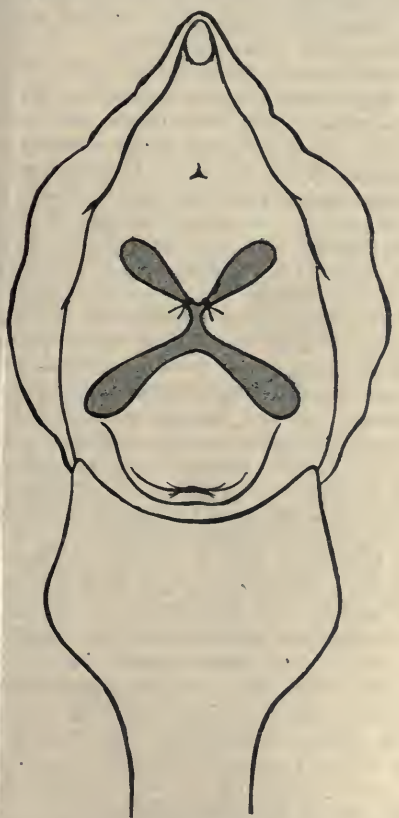

Fig. 3.—The first suture tied and the cervix thrown strongly backward.

the weakened portion of the wall, the point D being not more than half an inch in front of the cervix. Its exact position is unimportant. A short transverse incision at C is then carried through the vaginal wall until the point of cleavage between this wall and the bladder is found. The handle of the scalpel is then pushed upward, easily separating the vaginal and bladder walls until it is seen to reach the inner edge of the crescent at D.

The vaginal wall is then, as a matter of convenience, divided along the dotted line CD, and the vaginal and bladder walls are then rapidly and easily separated by the handle of the scalpel over the whole of one lateral half of the area marked out by the knife. The separated vaginal wall is then removed with the scissors and the process is repeated on the opposite side, leaving the uninjured bladder wall exposed over the whole crescentic area. The bladder is then separated from the supravaginal cervix and muscular fibers of the broad ligaments to the level of the internal os, a point the importance of which can hardly be overestimated, more

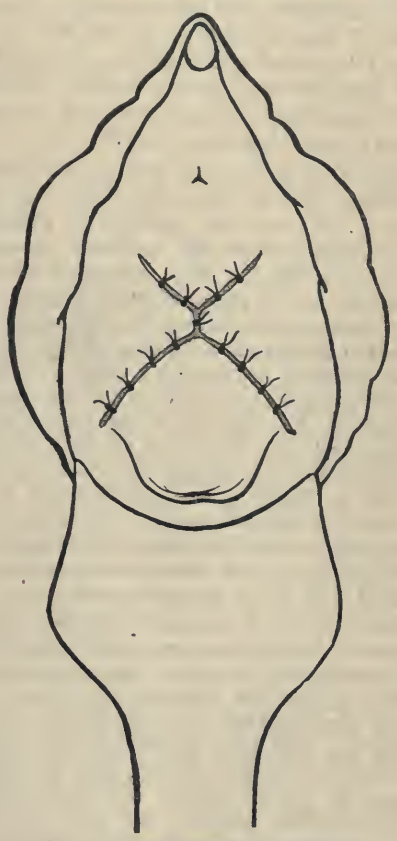

Fig. 4.—The operation completed.

especially in the presence of descent of the cervix. The points BB are next connected with C by sutures as indicated in the diagram, at C the needle being made to pass deeply through the whole thickness of the vaginal wall, and at B still more deeply in order to catch the fibers of the lower portion of the broad ligament; these sutures having been tied, the incision falls into the shape shown in the third diagram; the remainder of the wound is rapidly whipped together with a running catgut suture, the needle passing at each insertion through the whole thickness of the vaginal wall, and the operation is thus completed, the lines of union lying in the form shown in the fourth diagram.

As the result of this operation, the cervix is thrown markedly backward and the anterior vaginal wall is therefore in appearance rather lengthened than shortened, but its attachment has been transferred to the firmest supports of the vaginal vault, the bases of the

broad ligaments; the uterus has thereby been relieved of weight, and is found to be higher rather than lower; and the wall, as a whole, is drawn upward and forward behind the pubes in a way which affords a surprisingly firm support for the base of the bladder. (See straight lines on Fig. 1.) It might appear at first sight that a cavity would be left between the unaltered bladder wall and the line of union of the vaginal wall, but in practice the contractile bladder wall at once shortens itself to its new position, and no such cavity is left. The only vessels divided are situated in the vaginal wall, and bleeding is consequently controlled by the sutures. In practice I have had no trouble from this source. The only objections to the operation which I have been able to find so far are that in case of failure of union a secondary operation would be more difficult than after a simple denudation, and that it is not well adapted for performance at the same sitting with the repair of an unusually deep laceration of the cervix. An ordinary trachelorrhaphy does not interfere with it.

Last year I reported immediate good results in five cases, the ultimate results of which I have now looked up. I have since performed it with uniform satisfaction in many more recent cases.

CASE 1.—Mrs. A. D. P., aged 38, is the mother of three children, the youngest aged 3. The heart, lungs and urine were normal. Uterus was heavy and retroverted. There was moderate cystocele with considerable rectocele. Operation was performed Jan. 24, 1902, in the presence of Drs. Hubbard, Wadsworth and Allen. The cystocele was treated by the method described. Perineorrhaphy and ventrosuspension were done with exceptionally good results. To-day, fifteen months after operation, the perineum has yielded a little, but the anterior wall is nevertheless as firm as at the end of the operation.

CASE 2.—Mrs. M. Mc., aged 52, is the mother of two children, youngest aged 20. The heart, lungs and urine were negative. There was cystocele and rectocele. Operation was performed Jan. 30, 1902, in the Free Hospital for Women. Cystocele treated by method described. Perineorrhaphy was done and the perineal result was good. Operation on cystocele was exceptionally good. Has moved and been lost sight of; when last heard from result was unchanged.

CASE 3.—Mrs. N. M. B., aged 56, has ten children, the youngest aged 21. She presented no constitutional symptoms. There was cystocele with rectocele. Operation was performed March 4, 1902, in the Free Hospital for Women. Cystocele operated on by above method. Perineorrhaphy was done; the results were good. Seen April 30, 1903; result admirable.

CASE 4.—Mrs. A. D. W., aged 65, has five children, the youngest aged 30. Heart, lungs and urine were normal. Fundus was in normal position, but there was a greatly elongated and supravaginal cervix with prolapse of the anterior and posterior vaginal walls. Operation was performed March 18, 1902, in the Free Hospital for Women. The cervix was amputated. Cystocele operated on by above method. Perineorrhaphy was done. The result is good. Uterus outside of vulva. This was a large, stout, aged woman who has been doing hard work, whose perineum has yielded utterly as well as the cystocele. It is probable that no plastics would have been enough and that an abdominal operation should have been performed in addition. The typical cystocele operation was further complicated in this case by amputation of the cervix and consequent impairment of the whole vaginal vault.

CASE 5.—Mrs. E. K., aged 49, is the mother of two children, the youngest aged 26. She entered the Free Hospital for Women with pain about an encysted hydrocele of the cord. The heart, lungs and urine were normal. The uterus was retroverted and prolapsed with cystocele and rectocele. Operation was done March 13, 1902. Closure of inguinal ring and ventrosuspension were done by Coley's method. On March 25 cystocele was treated by above method. Perineorrhaphy was done and there were good results all around. She has grown enormously stout since the operation, but when seen, April 30, 1903, had an absolutely good result.

In all these five cases the anterior vaginal wall arched upward and forward in front of the cervix at the end of a year just as it had done immediately after operation.

DISCUSSION.

DR. C. O. THIENHAUS, Milwaukee, Wis.—The methods of operation for cystocele differ according to the malformations present in the individual case and the forms of the cystocele. Take, for instance, a woman of 50, with a prolapse of the uterus together with cystocele, when the vaginal mucosa is thinned by overdistention, for such cases the operation advised by the author to-day is certainly not sufficient. These cases must be treated as a hernia, and last year I advocated the use of the muscular wall of the uterus as a protection against the pressure of the abdominal contents and the bladder. Free the bladder from the elongated cervix and push it up so that it disappears like a ball behind the symphysis and then fix the entire anterior wall of the uterus to the vagina, thereby supporting the bladder by the uterus. This will prevent the descent of both the bladder and uterus. Some have even found this not sufficient, but they fix the posterior wall of the uterus to the vaginal wall, thereby leaving the uterus in the vagina. Reynolds' method is a good one for certain cases, but in every case where there is retroversion of the uterus and the uterus lies in the axis of the vagina, what will happen? The uterus descends more and more with or without elongation of the cervix and the external os soon appears in the vulva. At the same time the bladder is naturally drawn down. Therefore, to correct this condition we must do something for the correction of the causative agent, that is the retroversion of the uterus, and for these cases in younger patients I have advocated, after freeing the bladder and pushing it up as above cited, the vaginal suspension which leaves the uterus in the small pelvis where it belongs, and does not drag it up into the abdominal cavity and against the abdominal wall (as an abdominal suspension), where it does not belong and has no place under normal conditions.

DR. J. WESLEY BOVÉE, Washington, D. C.—The treatment given by Dr. Reynolds is practically correct. We should treat this hernia as we do every other hernia, but we have conditions here which we do not have in the ordinary hernia. He said the operation draws the cervix back, but my impression has always been that any traction on the broad ligament anteriorly tends to drag the cervix forward. I think that the raising of the bladder and the high suturing in front is one of the strong elements which tends to prevent the cervix from taking an anterior position. I practice the method of separating the bladder, raising it and suturing the fascia laterally. I aim to do what I think he fails to do, to push the cervix back. My belief is that it is a better method to put all the sutures transversely and none of them anteroposteriorly. W. H. Byford taught us that the cervix must not be brought within less than 2¼ inches of the posterior surface of the symphysis. And I know that men who are less skilful than Dr. Reynolds in doing this plastic work will occasionally pull the cervix forward by improper traction in that direction if the sutures are placed in the broad ligament.

DR. E. REYNOLDS—I wish to express my interest in Dr. Bovée's criticism and to express my opinion that very much to my own surprise the effect which is produced by these sutures is a transverse narrowing and an elongation rather than a shortening of the anterior vaginal wall. I think I know why this is, but could not give an explanation briefly enough to be proper here. However, I do not care what shape of denudation you make, nor how many sutures you put in, nor how, if you will only get rid of the hernia after a rational method by complete excision of the hernial sac and direct suture of the ends of the undistended tissues.

Flies.—In all diseases in which infection occurs through the alimentary tract, flies should be considered as important carriers of the infection, until this possibility is absolutely disproved.—*Brooklyn Med. Jour.*

REPAIR OF LACERATIONS OF THE CERVIX UTERI.

AN INVESTIGATION AS TO THE PROPER TIME FOR THE OPERATION.*

DANIEL H. CRAIG, M.D.

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BOSTON.

The following paper embodies the conclusions derived from an investigation covering one year and five months. At the outset all preformed opinions were relinquished and a true spirit of unbiased investigation prevailed. Realizing that it is far easier to teach one wholly ignorant than to controvert preformed opinions, I placed myself in the attitude of a beginner. At the outset I was a partisan of certain operative procedures and certain methods of technic, but this investigation has shown me the narrowness of this attitude. The indications for any certain procedure or technic are inherent in the individual case, not in the predilection of the operator. It is, then, a modest following of the example of Herodotus in that it is "a setting forth of investigation."

As a basis of my study I carefully tabulated the results of one hundred tracheloplastic operations performed at the Free Hospital for Women. A majority of these operations were trachelorrhaphies. This number was selected, as the proportions also represent percentages. Considering two years as a minimum allowance in which to observe the ultimate results of the operation, including its effects on subsequent pregnancies, I began at Jan. 1, 1900, and worked back until replies were received from one hundred women.

So difficult is it to trace these nomadic patients that my one hundred include cases in which from two to five years have elapsed since the operation. Reporting cases under two years would easily have enabled me to tabulate results of several hundred cases, but would have lessened the actual scientific value of the deductions.

My first desire was to prove tracheloplasty a necessary and justifiable procedure. I use the word tracheloplasty, as suggested by Newman in 1898, advisedly, as I distinctly disclaim partisanship to any one procedure.

To consider an operation necessary, symptoms must exist which fail of relief by palliative treatment. To be justifiable, it must relieve these symptoms without endangering the patient's future welfare to a greater extent than does the disease, or it must protect her against a presumably more serious sequel of the above-mentioned symptoms. Except in very exceptional cases, tracheloplasty should be resorted to only after all possible improvement has been achieved by palliative treatment, and this failing, if the operation accomplishes the desired relief it is fair to assume that the operation was necessary. In practically all of these one hundred cases competent palliative treatment had been employed in our out-patient department.

To be justifiable, it must relieve the symptoms, local, referred, and so-called reflex, without causing future sterility, miscarriage or dystocia. Another justification exists if it can be shown to act as a prophylactic of cervical carcinoma.

My first step, coincidently with an extensive research of all reliable recent and much antequated literature on the subject, was the sending of a circular letter to ex-patients requesting answers to the following questions:

THE QUESTIONS ASKED OF EX-PATIENTS.

1. Did the operation relieve your suffering?
2. Have you given birth to any children or had any miscarriages since the operation?
3. How many and when?
4. Was your womb injured by any of these births?
5. If so, how?
6. What is the name and address of the physician who attended you in each confinement since the operation?
7. Have you had any womb trouble since the operation? If so, please state the nature of the trouble.

The following is a summary of the answers received:

QUESTION 1.—Did the operation relieve your suffering? Complete relief resulted in 78 (78 per cent.) cases. Great relief followed in 11 (11 per cent.) cases. No benefit accrued in 11 (11 per cent.) cases. No patient was made worse by the operation. We are accordingly justified in stating that in properly selected cases a properly selected procedure is here devoid of danger; that it is followed by beneficent results in 89 per cent. of the cases. Eighty-nine per cent. of cure or great relief justifies the operation, but this percentage can be materially raised by a more discriminating selection of cases, more thorough palliative preparation and improvement of technic.

QUESTION 2.—This question regarding subsequent pregnancies sought a two-fold enlightenment, namely, does tracheloplasty predispose to sterility or to miscarriage? There were thirty-seven pregnancies subsequent to the operations and of these 24 (80 per cent.) went to full term. Whether any of these 13 (20 per cent.) miscarriages were procured I was unable to learn. Probably a few were. Twenty-three of my 100 women were past the child-bearing period or were widows, which elevates the percentage of pregnancies from 37 per cent. to an actual 49 per cent. Therefore, a proper tracheloplasty does not engender sterility. Moreover, accurate determination of this point is impossible, as most women having undergone one operation, the direct result of injuries incident to parturition, will by every means short of sexual abstinence avoid the possibility of another pregnancy, and such pregnancy occurring will still seek to avoid an operation by seeking early abortion. Twenty per cent., undoubtedly including some procured, is too small a percentage to justify the statement that tracheloplasty predisposes to miscarriage.

QUESTION 3.—This proved almost entirely irrelevant, most ex-patients having had but one child. This fact is due to my receiving more answers from recently operated women than from those of more remote date.

QUESTIONS 4, 5 AND 6.—These questions regarding injuries, their nature and the accoucheur can be considered together, as they coincidently led to much investigation. Only 4 patients were aware that they were relaccrated; definite negative answers were received in 13 instances; 20 failed to answer the question. The fifth question (if so, how?) was irrelevant. Each accoucheur was addressed through a circular letter. All letters reached their destinations, but only 16 of the physicians took the trouble to furnish me with data. On the other hand, several went to great trouble, even visiting and examining patients for me, and to all who answered I wish to express my thanks.

The questions were:

THE QUESTIONS ASKED OF ACCOUCHEURS.

1. Did the cervix dilate easily?
2. Was the cervix relacerated?

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

3. If a laceration occurred should you estimate it as of the first, second or third degree?

Fourteen of sixteen answers told of easy dilatation of the cervix and in 3 instances it was "very easy." In 2 others no dystocia existed, the cervix behaving like that of a primipara. The cervix was relacerated in 8 cases, not relacerated in 7, and in 1 case the physician did not know. Of the 8 relacerations 5 were slight, 3 were of the third degree and in 1 the degree was not recorded. While these numbers are too small to justify broad deductions they at least show that relaceration can not be justly exploited as a serious contraindication when definite indications for tracheloplasty exist.

Question 7.—Sixty-seven women (67 per cent.) have after the lapse of from two to five years been entirely free from "womb trouble." Nineteen of these have sustained labor or miscarriage without recurrence of symptoms. In 8 cases a subsequent labor or miscarriage determined a recurrence of former symptoms. By extra investigation or personal examination I have ascertained that 12 of the 33 not permanently cured owe their symptoms at present to adnexal lesions, fibroids, etc. There has been no instance of malignancy. In 5 instances the recurrence of pelvic symptoms was due directly to traumatism, and, lastly, in 7 cases I thought it possible that the technic might have been faulty. Thus ruling out the 12 non-cervical and the 5 traumatic cases our percentage of recurrences is reduced to 16. Therefore, in properly selected cases a proper plastic operation is capable of being permanently curative, exclusive of relaceration, in 84 per cent. of the cases.

Another fact brought out is that women past 35 are more permanently benefited than those younger. I consider the reason for this to be the fact that they do less hard work than younger women; their children have outgrown the age of being constantly lifted and carried; they are more temperate in all things, including sexual relations, and they seldom have children after the operation at this age.

Having satisfied myself that a proper operation after proper palliative preparation was curative and justifiable, I turned my attention to its prophylactic influence as regards cervical carcinoma. The literature is meager and contradictory, and afforded me no help.

Not facts but locality regulates the expressed opinion as regards the influence of cervical lacerations in predisposing to cervical carcinoma. American authorities so unanimously agree that local traumatism predisposes to future malignancy that the exceptions but serve to prove the rule. In Europe, especially in England, the statement should be exactly reversed.

Laceration and its sequelæ is, we know, not the sole cause of cervical carcinoma, but as we do not yet know even the nature of the remaining factors, we are greatly handicapped in tracing a relation of cause and effect. I determined to learn whether women having had successful tracheloplastic operations were more exempt from cervical malignancy than other women. To this end and also to learn their views regarding relaceration of the repaired cervix, fifty of our most distinguished gynecologists were addressed. In addition, our resident house surgeon, Dr. Bradley, kindly investigated seventy-eight cervical carcinoma cases treated in the Free Hospital for Women. These two lines of investigation cover an enormous, but obviously unknown, number of cases.

After the most careful search of all available records and literature in not a single instance was a history of a previous tracheloplastic operation found in a carcinomatous cervix. Patients contemplating a serious operation on the pelvic organs seldom fail to mention at the very beginning of an anamnesis the fact of a previous operation and few surgeons fail to inquire regarding such. The absence of such history is emphatically significant.

Nearly all specialists addressed responded promptly, a few even writing very instructive letters, and to them all I tender my hearty thanks and appreciation. The following questions were asked:

THE QUESTIONS ASKED OF SPECIALISTS.

1. In what percentage of cases should you estimate that a relaceration of a repaired cervix occurred?

2. What percentage of the total number of cases of cancer of the cervix you have observed should you say had an unrepaired laceration of the cervix?

3. What percentage of the total number of cases of cervical cancer observed by you should you say had undergone previous operations for such lacerations?

The infinite diversity of the answers obtained, defying tabulation, shows that thirty-five years after Emmet's classic paper much need of scientific investigation in this field still exists. The attitude of many of our ablest men also shows that much injury has been done by classing plastic operations as minor surgery. A few admitted the relegation of such cases to their assistants. As a matter of fact, plastic operations require greater technical address than any other. They are less sensational, and to many less interesting than the major operations, but there are many good abdominal surgeons for each good plastic operator.

Question 1.—This elicited answers as follows: Six men express the opinion that no primiparous or repaired cervix ever undergoes the dilatation incident to parturition without at least a slight laceration; the same number state positively that they have never known relaceration to occur after a properly executed operation. Between these extremes are all grades of opinion. Many men of unassailable wisdom and experience answered: "I do not know." Many others stated that they had no data, but that their replies were mere guesses, and, therefore, though fully appreciated, they are useless. From information gathered from all sources, I am convinced that a properly repaired cervix reverts to about the condition of the primiparous cervix as regards laceration. Improper repair may not only predispose to a relaceration worse than the original tear, but like certain unrepaired lacerations, may cause serious dystocia, through containing an excessive amount of cicatricial tissue.

Question 2.—What percentage of cancer cases had unrepaired lacerations? This brought out several replies of: "I do not know." The vast majority estimate them at 75 to 100 per cent. Several obviously confused the question with that of the occurrence of cancer in the nulliparous cervix, and others were stated to be guesses and therefore valueless. Their answers, in connection with my coincident investigation, convince me that at least 90 per cent. of the cases of cervical carcinoma occur in previously lacerated cervices remaining unrepaired. Laceration is by no means a necessary antecedent, nor must carcinoma necessarily follow laceration. If laceration plays an actual etiologic rôle, it is merely as one of an unknown number of factors.

Question 3.—This question, regarding previous tracheloplasty, achieved the nearest approach to unanimity. Fourteen of the gynecologists declared positively that such operation had not been performed in any case observed by them. Many left the question unanswered

and others, confusing the question with that of cancer in the nulliparous cervix or stating that they were guessing without reliable data, estimated the percentage at from 3 to 25. One man stated definitely that cervical cancer was preceded by a tracheloplasty in 6 cases out of 460.

We all know that carcinoma occurs, whether or not as the result of traumatism, in the nulliparous cervix, and it is inconceivable that any tracheloplastic procedure should render a cervix less susceptible to cancer than one never subject to any traumatism. Therefore, I believe that these answers, in connection with the above-cited results of my investigation of all available cases and literature, at least warrant the conclusion that the properly repaired cervix is no more liable to cancer than the nulliparous cervix, and that tracheloplasty is therefore prophylactic of cervical carcinoma. Granting that the operation is justifiable, when indicated, when should it be done?

There are unquestionably a vast number of cervical lacerations which cause absolutely no symptoms and do no harm and in which operation is, hence, not indicated, except perhaps as concomitant of other plastic vaginal operations. Moreover, although the statement has been challenged, it is a fact that many very considerable lacerations of the cervix heal entirely or nearly so by first intention. It is my firm conviction that the cases which heal primarily are not the result of chance, but heal because kept clean and not too badly bruised. Three cases observed at the out-patient clinic are interesting in this connection. All three showed unmistakable evidence of healed cervical lacerations, all denied a tracheloplasty and all three completed the expulsion of their children before the arrival of their attendants, and no examination was made. These facts would probably never have been elicited but for the enthusiasm of this inquiry.

During the past year I have almost daily been able to demonstrate to my students the scars of more or less perfectly spontaneously healed lacerations. Further, surgeons who also practice obstetrics almost invariably get good results from primary operations on the cervix while general practitioners not surgically trained do not. Why? Because surgeons, as no other accoucheurs, can carry out a thorough aseptic technic. A majority of the cases healed by primary operations would heal spontaneously and I know, as you do, that sepsis, not union, will follow the primary suturing of an unclean cervix.

These facts show that in many instances tracheloplastic operations may never be needed. We know that primarily placed sutures, as Hirst has shown, hang like earrings in the cervix after the subsidence of the edema and so do no good, and these data seem to indicate that the primary operation should be reserved for the control of hemorrhage.

If a primary operation is unnecessary for the above reasons, the same is true of the mediate operation. Moreover, Girvan has shown that traction on the ligamentous supports is more productive of uterine prolapse or retroversion at this time than at any other, while Wilcox has shown that for many days following labor the traction and manipulation incident to tracheloplasty is especially liable to cause embolism, possibly septic, from the placental site. The lochia are also troublesome at this period and mediate repair should be reserved for some special indication.

Having passed the above arbitrary periods definite symptoms certainly traceable to the cervix or local physical evidences should be awaited as an indication for operation except the patient be anesthetized for other vaginal work.

As regards tracheloplasty for the prophylaxis of carcinoma, a strict adherence to the above indications is all sufficient. Cervical malignancy begins in the cellular element of the cervix, not in the cicatricial tissue unless the cicatrix has caused cellular inclusions, and so long as these cellular elements remain unirritated as the result of the laceration so long the laceration is doing no mischief. Cancer is, so far as we now know, an uncontrolled, erratic cellular overgrowth due to an ultimate unknown cause or causes. I am convinced that it is through the irritation of these cellular elements on the everted, eroded lips, the seat of the so-called ectropion, that laceration predisposes to carcinoma. Hence if this irritation does not exist, the increased liability to cancer does not exist.

As to technic, a pathologic study of sections from the everted and so-called eroded lips of a cervical laceration shows a decided flattening of the superficial structures. The mouths of the glands, while occluded, are also flattened out. The ectropion which might be termed a pseudo-new-growth constitutes a superficial layer over the deeper and less or unaltered structures. The correct operation for trachelorrhaphy should consist not of an indiscriminate chopping out of the angle of the tear and much comparatively sound tissue by scissors, but of a careful and rational excision of pathologic tissue with a sharp scalpel or specially devised knife.

The symptomatic influence of cicatricial tissue in the cervix has been greatly overestimated in some respects and underestimated in others. Aside from exceptional cases long neglected, cicatricial tissue does its greatest harm in limiting subsequent dilatation. Therefore, so that subsequent dilatation may be free, all excisions of material, especially at the angles, should be done with a knife, which leaves far less scar tissue in its wake than does the crushing out of the scissors.

Tracheloplasty, however, embraces a wider field than is covered by Emmet's operation, and includes the various plastic so-called amputations, Schroeder's operation, and such modifications as have been suggested by Newman, Goelet and others.

In the seven cases early referred to as owing subsequent "womb trouble" to possible error in operative technic, they had displacement apparently or possibly due to too forcible downward traction. All possible plastic operating on the cervix should be done with the patient in Sim's position, thus rendering excessive downward traction unnecessary.

Whenever a repair of the vaginal wall is done at the same sitting, an absorbable suture should be used in the cervix so as to avoid stretching the repaired vagina for the removal of sutures.

CONCLUSIONS.

1. Immediate repair of the cervix is indicated only in exceptional cases aside from the control of hemorrhage.

2. Mediate repair (during continuance of lochia) is contraindicated, except it be in some unusual case.

3. Secondary repair is indicated as soon as symptoms are definitely due to the laceration, such symptoms failing of relief by palliative measures or recurring after apparent palliative cure. Operation should be prompt, not necessarily early.

4. Operations on women past thirty-five give better permanent results than in younger women.

5. Repair of the cervix is indicated as prophylactic of malignancy in a woman approaching the cancer age if the cervix manifests locally evidence of cellular irritation, whether or not causing subjective symptoms.

6. Lacerations in which operation is not indicated should be kept under close observation as the cancer age approaches.

7. Obstetricians are obviously unable to avoid lacerations of the cervix in many cases, but if the above deductions are correct a far more strict asepsis will, by favoring spontaneous primary union of such lacerations, do much toward lessening the number of secondary trachelorrhaphic operations.

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DISCUSSION.

Dr. G. Betton Massey, Philadelphia—This paper represents the methods of investigation that we should apply before forming conclusions. My own conclusions have been necessarily derived from seeing the failures only, and I have seen a great many after late operations. Not being an operator the large number of successes that the Doctor has found in his surgery were not known to me. These failures after the secondary operations were of two kinds: One was failure to remove nervous symptoms. Those cases were very numerous, particularly some years ago when the belief prevailed that all sorts of nervous manifestations in women were due to the existence of a healed scar in the cervix. These healed scars were taken out in many cases, but the patients were not improved. The second class of failures were due to the lack of proper treatment preceding the operative attempts. These patients were really suffering from uterine trouble, but it was a chronic metritis. The scar, which had probably admitted the germs originally, had long ceased to trouble the patient, as was proven by its healing. The subsequent symptoms were due to the enlarged and inflamed uterus, and a failure to cure this before operation probably explains some of the 11 per cent. of cases that were reported as failures. It teaches us that intelligent prior treatment should be exercised in all cases to remove the real seat of suffering, the chronic metritis and endometritis. I conducted a clinic in gynecology for a number of years. Connected with the same hospital were a number of active operators. During the whole time of my clinical work I was anxious to refer as many cases for surgical operation as I could find. Particularly was I looking for laceration cases—cases that in my opinion presented symptoms due to laceration. In the whole time I found but one case that had symptoms due to laceration and not to a metritis. The symptoms were in the nature of miscarriages at a definite period of gestation. The interior of the uterus was normal; there was no leucorrhea, but the uterus was split from the os half way to the fundus. As the patient was anxious to have children I strongly advised an operation. Having absolutely no symptoms from this deep laceration but the miscarriages she failed to take my advice. I want to emphasize the fact that we are looking here at a healed cervix as the cause of symptoms which are either due to the neurasthenic condition of the patient or to an enlarged and inflamed uterus.

Dr. Rudolph W. Holmes, Chicago—Every woman who gives birth to a child at or near term has a laceration. One of the most positive diagnostic signs of a previous pregnancy is that the os is no longer circular, but is generally a transverse slit. We must consider that a laceration is physiologic because every woman has it. We can call it pathologic only when a train of symptoms is produced. Women may have a laceration extending to the vaginal vault and it will be physiologic unless pathologic conditions are caused by it. I would like to ask what are the symptoms of a laceration. I have never heard of them and I do not believe that they exist. The symptoms are not those of laceration, but symptoms of the conditions produced by the laceration, such as sepsis or relaxation of the pelvic floor, which commonly accompanies the cervical laceration. From the obstetric standpoint I condemn the promiscuous repair of lacerations of the cervix. No laceration should be repaired unless there are symptoms of the sequelæ of the laceration and when tentative measures fail. I can not recall one case of obstetrics in which a previous trachelorrhaphy had been done where there were not anomalies in the dilatation. As opening of the os occurred it invariably took place, not from dilatation alone, but with concomitant laceration. The most severe cervical lacerations with the accompanying hemorrhages that I have ever seen in my practice have been in cases where a trachelorrhaphy was done subsequent to a previous labor. Of course, we can predict that a woman who has an immense amount of cicatricial tissue in the torn cervix will have an extension of the laceration in her subsequent labor. Furthermore, in taking up the statement that carcinoma is more frequent in parous women because they have had cervical lacerations, and that the repair of lacerations will serve as a prophylactic measure, seems to me to present a great deal of sophistry; this assertion can only be conclusively demonstrated when a large series of cases of carcinoma are taken, and those who have not had trachelorrhaphies are compared with those who have had the operation. Further, I believe desirable results will be obtained for a working hypothesis if all the non-parous women who die after thirty years of age are compared with the parous in the same period of life; 90 to 95 per cent. of all malignant growths of the cervix are in parous women. Is this far from the percentage of parous women in relation to the non-parous at the time when cancer is prone to occur? Lacerations often heal spontaneously if no infection occurs to retard the reparative process. In some instances it is well-nigh impossible to tell if there had been a laceration because the union is so perfect; that is, there is a mere nicking on one or both sides of the external os; if these cases had been examined immediately after labor a considerable degree of laceration would have been demonstrable. I have verified this statement on a number of occasions, for I always examine the parturient canal after operative labors to ascertain the damages done, and again an examination is made at the end of two months. The reason why lacerations are generally found laterally is not explained alone by the fact that tears almost invariably occur there; tears very frequently are in other quadrants of the cervix; in the latter cases the opposing bladder and rectum act as a sort of splint; in the former this splint action is of no avail, and the movements of the uterus with the respiratory excursions prohibit primary union.

Dr. A. M. Hayden, Evansville, Ind.—We have lacerations that require repairing, and some that do not. If we have a laceration heal, with an inflamed cicatricial scar, that should come out. Endometritis is often directly due to that, and by removal of the scar the endometritis is cured. If we have a laceration that has healed with no inflammation, no endometritis, then, no matter how deep the laceration, there is no indication for an operation. That patient will bear children as well as if she had no laceration. But we find many cases that have nervous symptoms and pain in the pelvis, and we find a laceration that never healed, with endometritis; then we should operate. The patient promptly gets well; the endometritis subsides without further treatment, and there are no further symptoms. Those cases all require operation. I have had many cases of carcinoma of the cervix and I have yet the first case to see where the carcinoma did not follow a laceration of the cervix.

Dr. C. S. Bacon, Chicago—The attempt of Dr. Craig to get definite data on this question of operation is to be commended, but I do not believe he has secured enough data to justify his conclusions. In the main I believe that most obstetricians would agree with Dr. Holmes. I will agree with Dr. Craig concerning the immediate repair of a laceration if he will make one addition to his conclusion, viz.: That immediate repair is important when there is a deep laceration extending up into the musculature of the uterus for some distance after a severe obstetric operation. It is well known that rupture of the uterus is much more common in cases where there has been a rather serious injury of that kind, and in those cases there should be a careful restoration by suture.

Dr. F. A. Dunsmoor, Minneapolis—Physicians criticise these operations because they hear stories of trouble from the failures, from the ones who suffer pain. The cured patient does not go to every dispensary and physician she knows and tell him that she was operated on and benefited. The patients who go around to the dispensaries, hospitals, etc., are rounders, who are never satisfied. They always criticise the surgeon because he failed to cure them of all their ills. This is the reason we hear so much about the failure of operations, and so little of the successes. Let us announce the results of the operations in patients who have been cured. Dr. Holmes does not believe that a laceration *per se* is a cause of cancer. I differ with him. I have operated on more than a hundred women for cancer of the uterus and all had borne children. Take into consideration the number of women who bear children and have a laceration, and those who bear children but do not have a laceration, and it is the non-repaired laceration which is productive of cancer. I have never yet had the opportunity to operate on a sterile woman for cancer of the uterus, although others claim they have. This repair operation is prophylactic for many conditions not cancerous. Women with deep lacerations of the cervix are predisposed to prolapse, endometritis and dragging pain associated with rectocele and cystocele, and early repair prevents the sequence. As to the diagnosis of laceration, Dr. Holmes says it can not be made except through the speculum. I differ with him again. I can certainly make a diagnosis much better with the point of my finger than by inspection. Often the eye says it does not look like a pathologic condition, but the tactile sense discovers it. I had an interview with Dr. Emmet about ten years ago, and at that time he reported two troubles. One was his renal colic, and the second was from people who thought they made an Emmet operation, when really they did something far different from his conception of it. He said he was often sorry that he ever described that operation because it had been abused so much. It is the experienced operator to whom we turn for counsel in this matter, and I am sure that all lacerations of sufficient extent to be shown by examination through eye or touch as a possible seat for future disturbance should be repaired at first opportunity.

Dr. D. H. Craig—Had I trespassed on your time sufficiently to read the remainder of my paper some of the criticisms brought out in the discussion would have been answered. As regards scars in the cervix, there is one important question in the technic of the operation. When the denudation or removal of the diseased tissue is made with scissors you leave behind more scar tissue than necessary. I believe that it is important that we remove this pathologic tissue, not by scissors, but by the knife, whether specially devised or the ordinary scalpel, so that we can have accurate coaptation and leave a minimum amount of scar tissue in the cervix. Remove it as you would any new growth; not by indiscriminate cutting out of healthy tissue through a circular sweep of the scissors. The symptoms of laceration were considered at length in my paper. I consider the symptoms of a laceration of the cervix sufficient justification for an operation when other causes of the symptoms have been ruled out by proper previous treatment. I do not mean that cervices should be indiscriminately operated on, but we should select our cases and also the procedure which must be adapted to the individual case. No one operation will answer for all cases.

The successful physician is usually the man who attends strictly to his own business, and refrains from intruding into the affairs of others; who speaks kindly of his fellow practitioner, whether he deserves it or not; who is studious and observant, and profits by his own and the experience of others; who is full of good cheer, and is competent to give wholesome advice. If all physicians belonged to this school the medical profession would be a mighty power, capable of engineering mighty plans for the good of the people, united and respected, free from unjust criticism, and possessed of more than a "common mind."—*Northwestern Lancet.*

ACUTE GENERAL STAPHYLOCOCCUS INFECTION THROUGH THE PUERPERAL BREAST.*

W. P. MANTON, M.D.
DETROIT.

One of the most important functions devolving on the accoucheur is the management of the nursing breast, a responsibility too often shirked, either from indifference, carelessness or ignorance of the physiologic processes involved—a deviation from which may give rise to great physical suffering and lead to disastrous consequences.

It is now universally conceded that all of the more serious disorders of the functioning mammary gland are the result of microbic invasion, the morbific germs gaining entrance to the lobes and interglandular connective tissue either through the ducts, more rarely, or generally through cracks and abrasions of the nipples and surrounding areolæ. Septic material may readily be conveyed by the hands of the patient or an untidy nurse to the wounded surfaces, while the increased vascularity of the breasts and their augmented lymphatic circulation during the inauguration of the secretory function render these glands peculiarly susceptible to the influence of the materies morbi. Moreover, the researches of Honigmann, Ringel and Kostlin[1] have shown that normal human milk contains both varieties of the staphylococcus, while Escherich maintains that pathogenic germs which have gained entrance to the blood from diseased puerperal organs are excreted by the breasts in the milk—additional evidence as to the necessity for the closest surveillance of the breasts during the whole of the lactational period, and especially during the early stages of beginning glandular activity.

While much may still be said and written regarding cleanliness, asepsis and the general care of the healthy and disordered mammary glands during lactation, it is not my purpose to review these phases of the subject, the sole object of this short paper being to direct attention to a single method of treatment much advocated and in vogue, but which, if misdirected, is capable of producing most serious complications. Take up any of the latest text-books on obstetrics and turn to the chapter on the puerperal breast and you will find that, with one exception (Garrigues), massage is recommended in the treatment of mammary engorgement and beginning mastitis. But nowhere will you find a warning word against the possible dangers which may arise from this practice.

The following case illustrates my meaning:

Mrs. T., primipara, aged 18, white, married and a native of Canada, was delivered at the Woman's Hospital by low forceps after a somewhat tedious labor, March 28, 1902. The male child weighed eight pounds. The placenta was expressed twenty minutes after the delivery of the child, and was of unusual size, weighing two pounds and thirteen ounces. The cord was twenty-four inches long and had varicose vessels. There were no maternal lacerations.

Two days later (30th) the patient complained of sore nipples, but the temperature and pulse remained practically normal. On the evening of the third day the temperature suddenly rose to 102.4 and the pulse to 104. There was no chill and the

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. The latter found micro-organisms, generally staphylococci, in the milk of 91 per cent. of puerperæ. Archiv für Gynäkologie, Bd. liii, 112.

patient appeared in good condition, save that the breasts were tumefied and painful from beginning lactation.

April 1. The temperature was still high and the breasts hard and knotted. Massage with warm olive oil was given in the forenoon and again in the afternoon, and the breast bandage applied.

April 4. The temperature being still much elevated, higher than the condition of the breasts appeared to account for, a careful pelvic examination was made with negative result as to abnormal conditions. A culture taken from the cervical canal at this time was reported by Mr. Tibballs, bacteriologist to the Detroit Board of Health, to be free from pathogenic organisms. The breasts were still sore and painful and massage was continued twice a day, as is customary in such cases in this institution.

April 8. The chart records that the breasts were massaged at 7 and 10 a. m., and again at 4 and 7 p. m. A second culture taken from the cervix was found to contain a few staphylococci and micrococci. As it was evident that the breast massage was being executed in too vigorous a manner it was ordered discontinued. On the following day the patient complained of pain in the left thorax and side.

April 9. An examination of the blood by Dr. Heneage Gibbes showed the absence of micro-organisms. There was slight leucocytosis with polymorphonuclear cells in excess. The blood platelets were disintegrating and did not take the stain in a normal manner.

April 10. The patient had a very offensive, free, watery stool, containing particles of undigested milk. A cough also developed which gave rise to considerable distress, and it was feared that septic pneumonia might be developing, but careful examination showed the lungs to be unaffected.

Fluctuation was for the first time detected in the right mammary gland, and a large parenchymatous abscess was evacuated under chloroform. The pus examined by Dr. Gibbes was reported as follows: "This pus is made up of broken-down material and contains large numbers of staphylococci. There are also a few tetrads. The micro-organisms take the stain faintly and are not in an active condition."

April 19. An abscess appeared in the left breast and was evacuated by incision. A red spot was also discovered near the middle of the patient's back. This subsequently gathered and discharged for several days.

April 23. A second abscess developed in the left breast and one in the right arm.

May 4. An abscess appeared in the right buttock.

May 8. The patient sat up for the first time, the abscess still discharging but gradually healing.

May 27. Another abscess developed in the left breast.

From this time on no new abscesses were formed; the temperature and pulse gradually returned to the normal, and the patient left the hospital well, but still weak from her serious illness, June 5, seventy days from the date of her confinement.

At the beginning of the infection there was more or less gastric irritability and on several occasions vomiting, but as a rule the stomach remained in good condition and the patient took a fair amount of nourishment. Almost from the first the nervous symptoms were pronounced and delirium occurred on the fourteenth day. The patient became noisy and hallucinations of sight and hearing developed. These manifestations persisted more or less for several days. The general condition varied from day to day; the temperature ran an erratic course, fluctuating from normal to 105.6, the highest point reached during the course of the disorder. The pulse rate varied between 76 and 126. The child did poorly from the first, and died on the twelfth day of inanition.

Acute general staphylococcus infection through the puerperal breast is a rare affection, and the case reported is the only one of the kind which I have met in an experience of several thousand midwifery cases. In a fairly careful scrutiny of the literature of the past ten years, I have been able to find but one other somewhat similar instance reported, and in this the pathogenic organisms were streptococci.[2]

2. Max Bensiger: Centralblatt für Gynäkologie, No. 52, 1902.

But however uncommon the condition may be, the case just related stands as a vigorous protest against the indiscriminate employment of massage in mammary engorgement during the early days of the puerperium. Distension and turgescence of the nursing breast can be better and more safely treated by other means, and the dangers of traumatism to the congested and often exquisitely sensitive organs and the formation of mammary abscess together with the possibility of septic infection may thus be obviated.

DISCUSSION.

DR. CHAS. S. BACON, Chicago—Infection of the breast with staphylococci or streptococci certainly is not very rare; nor is a general infection from that source rare. Massage of the puerperal breast is a subject I have talked and written about for the last four or five years, but I do not seem to make much impression. We should distinguish between turgescence or congestion of the breast at the beginning of lactation and infection, but usually that is not done. Very often a large, swollen, overfilled breast is called an inflammation. On the other hand, in the inflamed breast the infection often is not recognized unless the symptoms are very distinctive. The place for massage is the non-infected breast; I would not dare to use it in an infected breast. When there is fever or other symptoms of infection massage is absolutely contraindicated. There support and ice are indicated until the presence of the abscess is determined. When the breast is full and swollen at the beginning of lactation it does not mean that the breast is full of milk; it is an overfilling of the blood vessels. I can make the breast soft and small and not evacuate more than a drop of milk, but the massage must be carried out in accordance with the ordinary principles of massage, and these are not ordinarily taught. You have all seen pictures where massage is done by rubbing toward the nipple. That is absolutely false. The object of massage is not to evacuate the milk, but to empty the overfilled blood vessels and lymphatics. In a congested knee joint you do not rub toward the knee; on the contrary, you rub away from the knee, first emptying the blood vessels before you approach the tender joint. You must begin outside of the breast and empty the vessels leading to the axilla and the subclavian veins and lymphatics. That can be accomplished without pain to the patient. The criterion whether massage is done properly is when the operation is not painful. The manipulator must sit in a convenient position; have sterile hands, place his patient in proper position, and begin outside of the breast, gradually coming nearer and nearer to the nipple as he empties the vessels. In fifteen to twenty minutes the breast is small and soft. How many cases need that massage? Not very many. Nor is it absolutely necessary in any case, because overdistention of the breast is never a serious matter. But a nervous patient who is weak, who has suffered a hard confinement and has this very tender breast, may lose many hours of sleep and rest; if that can be prevented it should be done. One or two such treatments will usually suffice to give relief.

DR. EFFA V. DAVIS, Chicago—For many years I have had a great fear of massage of the breast and also the use of the breast pump. Staphylococci as a cause of infection in the breast is interesting. All of the open glands on the skin surface are likely to be contaminated, and I believe the massage in this case produced the abscess. Infection of any part of the body, the pelvis or elsewhere, is likely to affect the mammary gland as the turgescence offers a good lodging place for bacteria. I warn my patients and nurses to let the breast alone. A bandage is applied smoothly and evenly on the evening of the second day; this minimal pressure reduces the turgescence somewhat and the child is put to the breast on the first day after delivery. If one uses a bandage properly adjusted instead of the rubbing process the natural turgescence will not be troublesome.

DR. RUDOLPH W. HOLMES, Chicago—Dr. Bacon has done a great thing for the profession in exposing that nonsensical massage so commonly recommended in obstetric text-books; he

did a far greater good when he described a method of massage for the breast which was based on sound anatomic reasons. Massage should not be done indiscriminately; it should only be done on an engorged, tender breast. It is almost criminal to continue the manipulations when inflammation has occurred. Then, too, I think the nipple should be better prepared, not by using hardening solution, such as alum, which I believe tends to promote fissures, but by using an oily preparation, such as cacao butter impregnated with some mild, innocuous antiseptic like boric acid. These two suggestions, Bacon's massage and preparation of the nipple, will go a long way toward preventing such complications as were described by Dr. Manton; massage will often disseminate a local process into a systemic disease. Further, a well applied binder is a useful adjunct. I do not believe that staphylococcic infection of the breast is so infrequent; this presumption is based on the myriads of these germs normally found in the skin. Undoubtedly it is more rare to have a systemic infection originating from a mammary contamination. The question naturally arises if the massage in the early part of the treatment might not have been a factor in the later course of the disease.

DR. W. P. MANTON—I do not believe that general staphylococcic infection is uncommon, but I can not find any record of cases.

THE MORPHOLOGY AND BIOLOGY OF THE PARASITE FROM A CASE OF SYSTEMIC BLASTOMYCOSIS.*

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The observations recorded in this paper were made on the parasites obtained in the tissue and by artificial culture from the case of fatal systemic blastomycosis reported by Ormsby and Miller.[1] We wish here to acknowledge their assistance in the work done and kindness in allowing us to use the material from their case.

In May, 1894, Gilchrist[2] described in tissues from a skin lesion the spherical, double-contoured, budding microörganisms which have since been observed in about thirty-five reported cases. In this case cultures were not made and little was known of the biology or nature of the parasite. In November of the same year Busse[3] reported a case of systemic infection resulting fatally in which a similar parasite was described as the etiologic factor. Cultures were made from this case and the organisms extensively studied by Buschke.[4] In culture the organism grew by budding, and mycelial formations were also seen.

The cases reported have had lesions for the most part confined to the cutaneous surface. A few cases of systemic infection, however, have been observed. The cases have largely occurred in the United States. The largest number have been observed in and about Chicago. The cutaneous lesions have characteristics which show such uniformity that they may be distinguished often by their gross appearance. The microscopic findings are similar in all cases, and the presence of the typical organisms in the tissue, or pus of miliary abscesses, is pathognomonic. The cases of systemic infection, as far as we can determine, which seem to have definite confirmation, are four: First, the case of Busse and Buschke; second, a case reported by Montgomery and Ricketts,[5] and later by Walker and Montgomery;[6] third, one reported by Ophüls and Moffit[7] (San Francisco), identical with those cases which have heretofore been called a protozoan infection, but which was proved by him to grow as a typical fungus in artificial media; and lastly, the case of Ormsby and Miller,[1] in Chicago, from which our material was obtained. All of these systemic cases have resulted fatally.

There is much uniformity in the morphology of the organism, as found in the tissues and purulent exudate, in all these cases, both cutaneous and systemic. They are spherical or oval, double-contoured, with very refractive cell capsule, increase by budding, and, in the Ophüls' case by sporulation, which has not been definitely proved in any other case. No mycelia are found in the tissues or pus. The size varies within wide limits in different cases, parasites from three to thirty microns in diameter being seen. The cultural characteristics of the organisms from different cases show marked variations, in some cases multiplying by budding exclusively, in others growing mycelia principally, and in others abundant aërial hyphæ are produced. Hektoen[8] describes very minute forms which, under proper conditions, develop into the larger form. And, further, some of the organisms, if watched for some time through a number of generations of growth, completely change in their characteristics on artificial media, multiplying at one time by gemmation, and afterward forming mycelia, or vice versa. We may thus say that in its growth and cultures, polymorphism is manifested to a striking degree. Hektoen made a careful study of the parasites from a case of blastomycetic dermatitis.[8] He describes the appearance of the different forms of the organism as seen in the tissues; some with a clear zone surrounding the protoplasm inside the capsule, others in which this is inconspicuous; some with large vacuoles in the protoplasm, others with dense, granular protoplasm without vacuoles. He also describes mulberry-like masses of hyaline bodies in the tissues, both intracellular and extracellular. The cultural forms varied much in size, a small, coccus-like form being described.

Gilchrist[9] makes extensive observation on the morphology and biology of the parasite. The process of budding, as it occurs in the tissue, is accurately followed. The endosporium, or protoplasm, of the bud increases to almost the size of the parent, and then becomes separated. He also notes peculiarly refractive forms which will not take the stain. Other forms in

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

1. Ormsby, O. S., and Miller, H. M.: Report of a Case of Systemic Blastomycosis with Multiple Cutaneous and Subcutaneous Lesions, Jour. Cutan. Dis., March, 1903.

2. Gilchrist, T. C.: Communication to the American Dermatological Association, May 30, 1894.

3. Busse, Otto: Ueber Parasitare Zelleinschlusse und Ihre Zuchtung, Centralbl. f. Bakt. und Parasitenk, 1894, xvi, 175; also, Ueber Saccharomycosis Hominis, Virchow's Archiv, 1895, cxl, 23; also, Experim. Untersuch. Ueber Saccharomycosis, Virchow's Archiv, 1896, cxliv, 360; also, Die Hefen als Krankheitserreger, Berlin, 1897.

4. Buschke, A.: Ueber Hefenmykosen bei Menschen und Thieren, Volkmann's Samml. Klin. Vortrage, 1898, No. 218; also Ueber Hautblastomykose. Verhandl. der Deutschen Dermatologischen Gesellschaft. Sechster Congress, 1899, 181.

5. Montgomery, F. H., and Ricketts, H. T.: Three Cases of Blastomycetic Infection of the Skin; One Case Limited to "Tumor" of the Lower Lip, Journal Cutan. and Genitourinary Diseases. January, 1901.

6. Walker, J. W., and Montgomery, F. H.: Further Report of a Previously Recorded Case of Blastomycosis of the Skin; Systemic Infection with Blastomyces; Death; Autopsy. THE JOURNAL A. M. A., April, 5, 1902.

7. Ophüls, W., and Moffit, H. C.: A New Pathogenic Mould. Phila. Med. Jour., June 30, 1900.

8. Hektoen, L.: The Organism in a Case of Blastomycetic Dermatitis, Jour. Exper. Med., vol. iv, 1899.

9. Gilchrist, T. C., and Stokes, W. R.: A Case of Pseudo-Lupus Vulgaris Caused by a Blastomyces, Jour. Exper. Med., vol. iii, No. 1, 1898.

which the protoplasm has contracted into a half-moon shape are described. The adult forms in cultures show in the protoplasm fine, deeply-staining granules, larger refractive granules, and often one or more vacuoles.

Ricketts[10] has collected and tabulated observations concerning the morphologic, biologic and cultural characteristics of the organisms from a number of cases (seventeen), from which table he concludes that there are three more or less distinct groups of organisms having common generic characteristics. Montgomery[11] gives a very careful description of the clinical, pathologic and bacteriologic features from thirteen recorded cases.

DESCRIPTION OF CASE.

The clinical history and discussion of the present case have already been reported by Ormsby and Miller,[1] accompanied by a brief description of the microscopic and gross pathology of the tissues affected, and also a short study of the cultural characteristics of the organism by the present observers. The history indicated that the primary infection was located in the pulmonary tissue, followed by the cutaneous and subcutaneous lesions. Practically all the cutaneous lesions were of such a nature as to indicate the hemal origin of the infection, the superficial tissues being affected only after the process progressed from the deeper tissues. One lesion only, on the hand, had the characteristics described in the lesions of blastomycetic dermatitis of local origin. Of the internal organs, the lungs were most extensively involved; grayish nodules of varying size, and in enormous numbers, being distinguished in all parts of the tissue of both lungs. The pleuræ were extensively affected, and adhesions and whitish nodules of varying size were present in all portions. The lesions in the spleen were almost as extensive as in the lung. The nodules composed of typical organisms were found also in the liver, kidneys, pancreas, trachea and larynx. (This is apparently the first case in which involvement of a mucous membrane proper has been described.) The teased specimens in hanging drop from the different organs gave abundant opportunity for studying the living parasites as they occurred in the lesions. The stained sections from the lung tissue, especially, show parasites in immense numbers.

MICROSCOPIC APPEARANCE OF TISSUES.

Lung.—The slight degree of inflammatory reaction is noteworthy, the lesions being composed almost entirely of the parasites. There is some newly-formed connective tissue containing small round cells, polynuclear leucocytes and many mast cells, the protoplasmic granules of which stain red with polychrome methylene blue. There is some coagulation necrosis, areas of caseation appearing mostly at the center of the nodules. In the areas where the parasites are very abundant the elastic tissue has entirely disappeared, as indicated by staining with orcein. The epithelial cells which are remaining in the lung are largely detached, and are remarkable for the amount of brownish pigment granules which they contain. Similar deposits of pigment are found in many other cells, especially the polynuclear leucocytes of the blood.

The giant cells in the lung tissue are remarkable for their number and size. They vary from twenty microns to many times that diameter. They all contain parasites in different stages of development, and the larger ones are crowded with them, the cell nuclei being few and indistinct, while in the smaller giant cells the cell nuclei are numerous and prominent. The peripheral arrangement of the nuclei seen in the tubercular process is not followed, but many of the nuclei are near the center of the cell body.

Spleen.—The splenic tissue is riddled by the growth of the typical organisms, showing grossly as yellowish-white areas and nodules. Microscopically, the parasites are seen scattered widely throughout the tissue, but not in such large masses as in the lung tissue. The splenic pulp contains much brown pigment.

The lesions of the kidney, liver and pancreas are smaller and less numerous, often escaping naked eye examination. The immense numbers of parasites and small amount of newly-formed connective tissue are the principal characteristics of these lesions. In and about them are always seen typical mast cells.

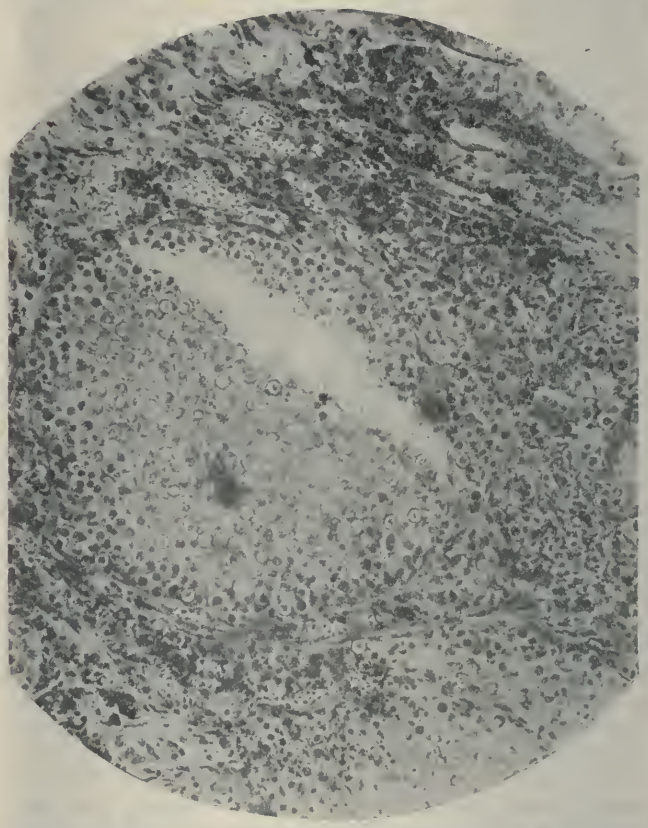

Fig. 1.—Nodule of blastomycetes in lung tissue. Center showing old, poorly-staining organisms, and periphery showing young, deeply-staining organisms.

Lymph Nodes.—The peribronchial lymph nodes were markedly enlarged, and contained large amounts of black pigment, apparently carbon. On microscopic examination we were unable to demonstrate the presence of any parasite in the tissues; however, in one section parasites were seen in the blood stream of one of the vessels.

MORPHOLOGY OF PARASITES IN THE TISSUES.

The stained sections of lung tissue offer excellent opportunity for a study of the parasites in different stages of their development. There are seen large, rounded masses of parasites under the microscope (Fig. 1), at the center of which the organisms are all of large size, take very little stain, show few buds, and many contain large vacuoles, occupying almost the entire cell. These are evidently old cells which are degenerating and disintegrating, as indicated by the granular detritus

10. Ricketts, H. T.: Oidiomycosis (Blastomycosis) of the Skin and Its Fungi, Jour. Med. Research, vol. vi, No. 3.

11. Montgomery, F. H.: A Brief Summary of the Clinical, Pathologic and Bacteriologic Features of Cutaneous Blastomycosis, THE JOURNAL A. M. A., 1902.

among them. At the periphery of these areas the organisms differ much from those at the center. The cells are of various sizes, have deeply-staining protoplasm and are undergoing cell division actively. These areas, therefore, give excellent opportunity for the study of the life history of the parasite in the tissue.

The most satisfactory stain which we have found for studying the structure of the yeast-like organism is the polychrome methylene blue stain, applied according to Unna's method. Other stains used are hematoxylin and eosin, methylene blue and eosin, Gram's stain, Van Giesen's method, carbol fuchsin and orcein.

The typical parasites are of various sizes, measuring from five to fifteen microns in diameter. They all have a definite, refractive capsule, which takes most stains sparingly, usually less than one micron in thickness. The capsule stains best by methylene blue and eosin. Within the capsule the structure has so many variations as to be almost picturesque in the variety of forms seen. Many of the cells have a wide, clear zone within the capsule and surrounding the protoplasm.

In the natural order of growth of any organism, one expects to find a certain definite order of development, and it has been our effort by careful study of the various

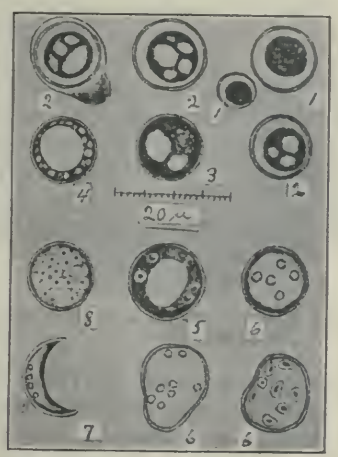

Fig. 2.—Diagrammatic representations of adult forms of parasite showing different stages of development. (Made from drawings.) 1. Young forms, dense protoplasm, wide clear zone. 2. Protoplasm vacuolated; one enclosed by tissue cell. 3. Protoplasm fills capsule. 4. Contains one large vacuole. 5 and 6. Contain spore-like bodies. 7. Collapsed form; one extracellular spore-like body. 8. No vacuole; protoplasm transformed into spore-like bodies.

forms to determine the characteristics of the cells at the different stages of their development. We see, then (Fig. 2), in all forms a capsule protoplasm of varying structure and staining properties; in many the clear space between the capsule and protoplasm, and many contain one or more vacuoles of various sizes. Budding forms are numerous, and cells of almost all types of structure are seen undergoing this form of multiplication; but the budding process is most active in cells of a certain type—those in which the protoplasm is dense, deeply staining and relatively small in amount, being surrounded by a wide, clear zone. These are of medium or small size generally, and are evidently relatively young and actively growing forms. We can distinguish, then, the following types:

1. Cells which are small in size, from five to ten microns usually, having a relatively small mass of deeply-staining protoplasm, surrounded by a wide, clear zone inside the capsule. The mass of chromatic substance is spherical, except in those which are undergoing the budding process, is centrally or excentrally located, is finely granular or homogeneous, but very deeply stained. Many of these are budding.

2. Forms similar to the first, but slightly larger on an average, the deeply staining protoplasm being more coarsely granular and containing clear, rounded spaces, which are evidently vacuoles, of varying size and number. The protoplasm occupies a larger area in the cell, the clear zone being narrower than in the preceding form. Many of these are undergoing the budding process.

3. Forms similar in size to the preceding, protoplasm staining well, granules large, a few large vacuoles being present, all of the space occupied by the protoplasm, the clear zone being obliterated or inconspicuous.

The preceding forms are found especially at the periphery of the circular masses of parasites described in the lung tissue, and are evidently younger and growing forms, actively dividing.

4. Large cells in which the protoplasm fills the capsule and contains a single, very large, spherical vacuole, centrally or peripherally located. The protoplasm thus appears as a ring of granular material, does not take a deep stain, and some small, circular, hyaline areas are seen in it. These forms are seen mostly at the center of the masses of parasites.

5. Large forms with very large central vacuole, a thin layer of protoplasm which has undergone division into spore-like bodies, which have the appearance shown in the figure. These bodies are about one micron in diameter, appear to have a central clear space surrounded by a ring of chromatic substance of irregular thickness, the chromatic substance often being accumulated at one portion of the ring, at other times appearing as two masses on opposite sides of the ring. These spore-like bodies are seen to be only at the periphery of the cell capsule. These forms of cells are found only at the center of the masses of parasites.

6. Similar cells in every respect, except that they are collapsed, the fluid contents of the vacuole having been evacuated. These forms are evidently derived from those described in paragraph No. 5. Very few of those cells with refractive contents have undergone any such change.

7. Another distinctive form appears in which the protoplasm contains no large vacuole whatever, but as they develop the protoplasm divides into from ten to fifteen small hyaline bodies, in many of which is seen a central densely staining body. Similar bodies to these are also seen outside the capsule.

Other variations in the structure of the cells may be seen—some with refractive contents which does not take the stains; others are seen in small numbers in which the protoplasm is completely obscured by a mass of brown pigment. The presence of these forms is possibly an explanation of the origin of the pigment granules described in the tissue cells, and in the leucocytes of the blood. With polychrome methylene blue stain a great many of the organisms contain in their protoplasm basophilic granules staining red. These have been described by Gilchrist and others. There is a remarkable variation in the affinity which different organisms have for the stains, cells lying side by side, and apparently of the same structure, show an entirely different reaction to the stain. Several observers have described adventitious capsules. We have not observed a similar condition, but often individual parasites are seen within the protoplasm of the tissue cells, which is stretched about it and so attentuated as to resemble a capsule.

SPORE FORMATION.

Multiplication of the organism by budding is the usual method within living tissue, and by budding and mycelial and conidial formation in the culture, but the production of endospores and propagation by their development is still a matter of doubt. In the case under consideration the findings in the tissue seemed to indicate the presence of spore formation, and we will endeavor to describe this process here (Fig. 3). These forms occur for the most part in the centers of the masses of parasites where all the organisms are of advanced age, and many are disintegrating. Most of the cells in question contain large central vacuoles, the protoplasm being pushed to the periphery, appearing as a ring just within the capsule. This ring of protoplasm has undergone division into bodies which are small (about one micron in diameter), and are composed of an outer ring of chromatic material and a hyaline center (Fig. 4). These bodies have already been described in a preceding paragraph. These spore-like bodies are seen by careful focusing to be situated at the periphery and not at the center of the cells, the center being occupied by a large vacuole. They number from eight to twelve in a capsule. Exactly identical forms are seen as ex-

Fig. 3.—Sporulating forms and developing spores. 1 and 2. Adult forms containing spores. 3 and 4. Extracellular spore bodies; one at 4 is situated in protoplasm of tissue cell. 5 and 6. Developing spores. 7. Crescentic forms of developing spores. 8. Organism from guinea-pig's kidney, sporulating.

tracellular bodies, and other larger forms which have a crescentic shape and have evidently been formed by the development of these ring-like bodies, the chromatic substance increasing on one side and the hyaline center becoming eccentric, thus producing the appearance of a crescent. Further, there are found in these old capsules just described other small forms having a solid chromatic center surrounded by a hyaline area, and similar to the bodies appearing in the cells which we will now describe.

There are certain cells which we have already mentioned which do not contain vacuoles, at least have no large central vacuole. In their later stages the protoplasm of these forms breaks up into small rounded hyaline bodies, many of which are seen to have a densely stained spherical center. Bodies exactly resembling these are seen outside the cells, and others, which are larger, one to three microns in diameter, and having about them the hyaline zone, but no distinct capsule as seen in the adult form. Some of these forms have been noted within tissue cells, and these tissue cells with their contained spore bodies are probably the beginning of the giant cells. As soon as these developing spores reach a size of about four or five microns a capsule is seen surrounding the clear zone. It was noticed that the parasites which are in the younger and smaller giant cells are mostly the smaller forms, while the older and larger giant cells contain older developmental forms of the parasites. It seems probable that the large rounded masses of parasites described in the pulmonary tissue are the result of further development of the giant cells.

The sporulating forms described here differ radically in the number of spore bodies formed within one capsule

Fig. 4.—Showing spore-like bodies in disintegrating capsule (just above the center of the field).

from the corresponding forms described by Ophüls in his systemic case, also from the forms pictured by Gilchrist.[12] They contain usually not more than twelve or fifteen, while Ophüls describes one hundred or more in each cell. However, we have noted in one of the

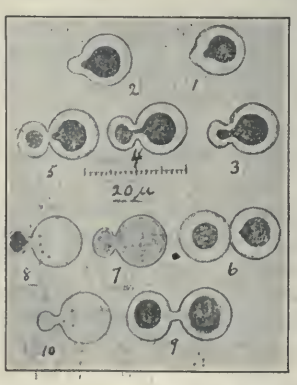

Fig. 5.—Budding forms. 1 to 6. Series showing progressive changes in process of gemmation. 7 to 10. Unusual forms. 8. Organism, budding and apparently sporulating simultaneously.

guinea-pigs experimented on forms containing a very large number of spore-like bodies.

We have, then, two forms of cells producing spore-like bodies, one with a large central vacuole and one without, the bodies produced in these two forms being different in appearance, as already described. In no case

12. Gilchrist, T. C.: Blastomycetic Dermatitis in the Negro, Brit. Med. Jour., Oct. 25, 1902.

have ruptured forms been observed in the tissues, the spores apparently being liberated by the disintegration of the parent organism. There is a possibility of confusing some of the extracellular developing spores with certain products of tissue cell degeneration.

We have not absolutely observed the development of these spore-like bodies into adult organisms, but the appearance of the different forms which we have seen in the tissues leads us to believe that this is really the case.

THE BUDDING PROCESS.

The process of budding, as observed in the tissue sections, is almost entirely confined to the younger forms, those having deeply staining protoplasm and a wide, clear zone within the capsule. However, it is seen in other forms. A few cells are seen undergoing gemmation and apparently sporulation simultaneously. The different stages in the budding process are represented by a series of drawings in Figure 5.

CHANGES IN THE BLOOD.

In the case of Busse,[3] where there was a fatal systemic infection, cultures of the parasite were made from the blood during life. In Gilchrist's case,[12] which he regarded as a beginning systemic invasion, examination of the blood by culture failed to reveal their presence. In the case under consideration, we have observed in the blood stream of vessels of the kidney (Fig. 6), also in other places, adult parasites mingled with the blood cells. On examination of sections of a postmortem clot from the heart practically all of the leucocytes were seen to contain large, brownish pigment granules of uniform size, from three to ten in a cell.

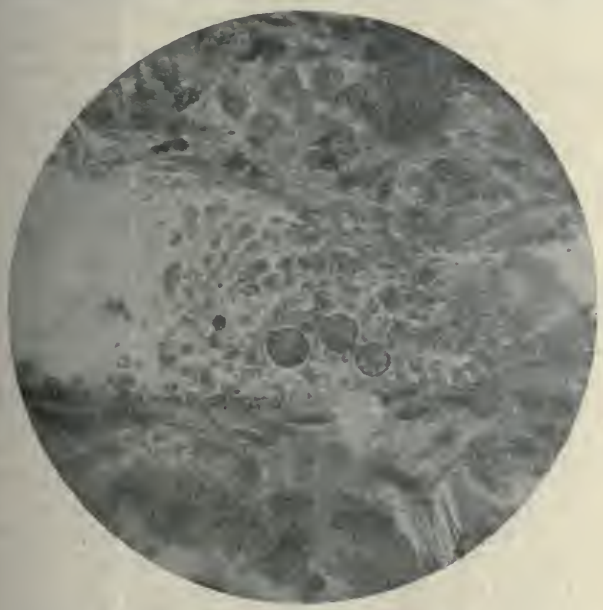

Fig. 6.—Three adult parasites seen in the blood stream of a vein of the kidney.

TEASED TISSUE IN HANGING-DROP CULTURE.

In the teased specimens of fresh tissue from the affected organs large numbers of blastomycetes were observed. They were not all of uniform size and structure. They varied from five to fifteen microns in diameter. The contents of the cell were often nuclear in appearance. Sometimes there were only granules present. Frequently the granular contents were lobular in appearance. raspberry-like; again, they would assume a circular form about a large vacuole.

The cell wall is refractive and perfectly spherical. There is frequently one point where the capsule appears very thin, a point at which the protoplasm is often seen to protrude in the budding process. This is not always the point through which the growth takes place, for budding cells have been observed to produce mycelia from a point at sufficient distance from the point of attachment of the daughter cell to subtend an angle of twenty degrees. At the point where the mycelium appeared the capsule appeared to be perfectly firm.

Cell Development.—When hanging-drop cultures were first made, the cells varied considerably in size, but in a few days they had all reached a uniform size. As far as could be observed, no new budding processes took place after the cells had been placed in artificial media. Buds already existing grew to full-sized organisms. Some time later there appeared a few very large organisms (twenty to thirty microns in diameter) that changed their form from round to oblong. None of these large forms developed mycelia. In old mounts the cell contents of most of the organisms developed oil-like globules that varied from one to seven microns in diameter. In ten days some of them became so large that one globule occupied most of the cell. Some granule-like bodies manifested a very marked brownian movement. The formation of the fat-like globules seemed to be a process of degeneration, for the cells most exposed and those supplied with the poorest pabulum developed the largest globules.

Fig. 7.—Blastomycetes. Teased cells from spleen beginning development in artificial media.

Formation of Mycelia.—Thirty hours after hanging-drop cultures were made with bouillon for nutriment the cell started out small processes (Fig. 7). In the next twenty hours they grew sixty microns in length. The mycelia were homogeneous and possessed a very thin cell wall. Where the media was adequate, its growth seemed unlimited; but where there was but little media they grew slowly and developed a firmer wall. Protoplasmic granules and pinkish vacuoles formed in the processes. Soon these granules became smaller and more dense. Then they manifested a very active brownian movement. After the mycelia were several days old, there appeared a subdivision of the mycelia into cells or segments of varying length (ten to one hundred microns).

These segments near the focus of growth continued to develop, assuming a spherical form.

After a hanging-drop culture in glycerin bouillon had developed for about a month there appeared an end cell that budded. In a few days there were four cells. These, as in several other places, developed until there were a dozen or more in a cluster.

Fortunately, one hanging-drop culture had but six microörganisms present, thus giving excellent opportunity to observe them individually. One of the budding forms started a mycelium. The process originated from a point near the attachment of the daughter cell. Shortly after the mycelia divide into segments, many of them sending out processes (Fig. 8). There were no more than one process from a given segment. The granules that formed in the mycelia showed a more marked brownian movement than particles in the surrounding fluid. It was as marked as the motility of the pigment in the malarial parasite. This movement lasted for more than two months. It was observed also in the mother cell. As the plant became older there appeared an extra development of some of the individual cells in the thread.

Fig. 8.—Blastomycetes. Dividing cell after ten days' growth in hanging-drop culture.

They took on a spherical form, and produced a protoplasm similar to the protoplasm of the cells in the teased specimen.

CULTURAL CHARACTERISTICS.

Petri Dish.—Six to nine days elapsed after a culture was made before any macroscopic signs of development appeared. Then a white area composed of radiating threads might be seen about the center of growth. If the cultures are observed with a microscope, these threads may be seen a few days earlier. One or more mycelia may be seen growing from a point as early as the third day. These soon subdivide, others are given off nearer its point of origin; these grow out in radiating lines, subdividing as they grow. The growth may be very rapid, the mycelia increasing two millimeters in length in a day. The rapidity of the growth did not seem to depend on the temperature so much as it did on the amount of moisture in the atmosphere. The most rapid growth was manifested when the Petri dishes were kept so there was considerable moisture condensed on the inner surface of the covers. In the Petri dish the most rapid growth was manifested in gelatin. It is interesting to note that in all media for some days no aërial hyphæ were produced. Instead, the growth spread beneath the surface in all directions. Later, however, the white aërial hyphæ appeared near the center of the growth.

Bouillon Culture.—Blastomycetes developed in plain, saccharin, glucose, lactose and glycerin bouillon. It is the most rapid and luxuriant in the glycerin bouillon. It grows most readily and rapidly on the surface and clings to the side of the tube very closely. It forms a mycelial growth on the surface of the bouillon so firm that it will prevent the bouillon flowing when the tube is inverted. If the tube is shaken a little after the growth develops, it is forced away from its position on the side and has the appearance of cotton. It never has developed the powder-puff appearance in bouillon. It is quite perfect in agar-agar, however. The teased membrane from the surface of the bouillon showed numerous conidia, three to six microns in diameter. There were also large conidia invariably filled with spore-like bodies. A little pressure between cover slips would liberate the contents of these bodies. Then all the appearances of the cells from teased tissues were observed. These large forms varied in size from seven to fifteen microns. Their arrangement in the teased materials suggested that they grew individually rather than in clusters of conidia.

Agar-Agar.—As has been mentioned, the early growth is quite completely beneath the surface. The growth is silvery white and forms a powder-puff-appearing hemisphere. It sometimes remains entirely beneath the surface and does not wrinkle. Again, it may wrinkle the surface. Sometimes eminences are thus formed from which beard-like tufts of aërial hyphæ are given off. As the culture advances in age it becomes slightly brown. The illustration will show the forms of growth as they appeared under the microscope. Conidia filled with spore-like bodies were also observed. The hyphæ varied much in diameter. There were some very fine forms measuring less than one micron.

Gelatin.—The gelatin plate grew very rapidly and did not wrinkle. No liquefaction was observed. The stab culture grew most rapidly at the surface. No liquefaction was observed in stab culture until after a month, when it was noted that the entire gelatin had gradually liquefied. At the end of three months it is perfectly fluid.

Litmus Milk.—The growth is rapid and abundant. The media changed to a deeper blue.

Potato.—The growth was as rapid as on plain agar. It was white and appeared like froth as the potato dried.

Loeffler's Blood Serum.—The growth was abundant, and did not seem to be more rapid than on glycerin agar. The color was not any different than what might be imparted by the media. There was no liquefaction.

Motility.—The motility of the protoplasmic granules was observed, but there was no motility of the entire microörganism.

Oxygen Requirements.—The cultures grown anaërobically by the Novy method showed no signs of growth in a month; but when removed from the hydrogen developed growth in seven days. A microscopic examination of material from the surface of the culture when taken from the jar showed no growth and no unusual forms.

Gas.—Although growth took place quite readily in the fermentation tube, no gas was produced, though grown in lactose, glucose and saccharose media.

By-Products.—No alcohol was developed in bouillon above mentioned. No carbon dioxid was produced in

quantities that could be detected. There was no nitrite or indol produced.

Destruction by Heat.—Growths in which there were aërial hyphæ grew readily after being exposed to 100 degrees C. for five minutes; while, if the hyphæ were submerged in bouillon before submitting to the heat, they were destroyed in less than five minutes at 54 degrees, centigrade.

Destruction by Antiseptics.—The microörganism is destroyed when exposed as follows: Five per cent. carbolic acid, for one minute; 2 per cent. commercial formalin, one minute; 1/1,000 bichlorid, for one minute. When exposed to 2 per cent. hydrochloric acid, specific gravity 1,320, for fifteen minutes, it not only was not destroyed, but it seemed to grow more rapidly.

Animal Experiments.—Of five guinea-pigs that were successfully inoculated, four developed ulcers at the point of inoculation. One developed simply a nodule. The ulcers were oblong, having the long axis parallel with the long axis of the body. In the center of a typical ulcer there is a dry, bloody scab. If this is raised it bleeds readily, while there may also be seen many pin-head-size gray foci. They suggest the miliary pustules characteristic of the human skin lesion. Around the central portion is a raised slightly indurated area from which the hair has fallen. The third day after inoculation one animal developed a subcutaneous abscess from which a bloody fluid was evacuated in which blastomycetes were observed. Two weeks after inoculation a ridge was noticed from the ulcer along the sternum to the clavicle, suggesting an enlarged lymphatic. The animals died a month after inoculation, all within a few days of each other. Although an epidemic was suspected it could not be proven bacteriologically, as blastomycetes were found near the seat of inoculation, while from the liver and spleen a pure culture of blastomycetes was grown in one instance. Cultures taken from the internal organs of the other animals did not develop any growth. However, had a larger number of cultures been made undoubtedly a positive result would have been more often obtained, for two-thirds of the successful cultures in the one case were negative. The lesions observed were numerous. Infarcts appeared in the lungs, kidneys, spleen, and in one case seven small, round hemorrhagic infarcts were observed in the stomach wall. Pin-point foci were seen in the liver and spleen. An ulcer was noted in the upper intestine. There was also quite an inflammatory condition in the axilla and groin, but no general glandular enlargement could be seen. One guinea-pig inoculated with material from agar-agar died in two months and manifested similar lesions to the above. Two rabbits were inoculated with teased tissue. Both lost in flesh, one more rapidly than the other. One is living; the other was killed five months later. No lesions were observed except numerous subcapsular scars in the kidneys. The microscopic study proved that they were a healing infarct. Two mice were inoculated with a culture after four months of artificial cultivation. They are alive after three weeks.

The microscopic study of the organs of the animals unfortunately has not been completed; nevertheless, quite a complete study was made of those of the guinea-pig dying of systemic infection. The same kind of lesions were noted as in the human. One observation is especially worthy of mention, namely, many large cells, apparently sporulating forms, as mentioned by Gilchrist,[12] were observed in the kidney sections.

There has also been a case of accidental infection following this case. The microörganism has been isolated in pure culture. It has also been observed in sections.

Experiments were undertaken to determine the effect of the *x*-ray on cultures of blastomycetes. They were exposed in Petri dishes with covers of oiled paper for periods from ten to thirty minutes in length every third day for two weeks. No visible effect was produced.

An ordinary sixteen-plate static machine was used with an *x*-ray tube of low tension. The distance of the tube from the cultures was two inches.

Cultures prepared in a similar manner were exposed to the influence of the light of an actinic ray apparatus. In these specimens, the growth of the organisms entirely ceased. However, a certain amount of heat was developed in the exposures, and it is impossible to determine whether the effect was due to the heat or to the influence of the actinic ray.

During these experiments, a very interesting observation was made. The paper covers of the Petri dishes were oiled, some with paraffin, others with cedar oil, to make them more transparent. In the case of those which were exposed to the *x*-ray, those cultures which were under the paraffin paper grew with their usual activity, while the growth of those under paper prepared with cedar oil was absolutely inhibited, and by culture experiments from those plates it was determined that the life of the parasites was destroyed. In a later experiment in which cultures were employed which had been growing for nine days, and in which the colonies had reached a considerable size, their further growth was entirely prevented by the cedar oil paper, while they continued to develop at a rapid rate in the control plate. In this case the cultures were exposed simply to the influence of the cedar oil, no other agents being used which might effect their growth. Subcultures from these plates made after an exposure of seven days to the effect of the cedar oil paper showed that the organisms were not yet destroyed, although absolutely inhibited. This observation may possibly prove to be of some value in the treatment of blastomycetic infections.

SUMMARY.

1. This case is one of systemic blastomycetic infection and belongs to a class of which but a very few instances have been reported.

2. Parasites were demonstrated in the blood post-mortem and dissemination evidently took place through this medium.

3. The lymph glands are remarkably free from infection.

4. In the lesions the parasites were found in immense numbers, and the inflammatory reaction in the tissues were of a remarkably slight degree.

5. The leucocytes of the blood and certain tissue cells contained large quantities of round pigment granules.

6. Parasites grow in the tissue only by budding, the forms appearing from five to fifteen microns in diameter; in artificial culture by segmented mycelia, lateral conidia, and in very old cultures a few budding forms.

7. There is a definite order of development of the parasite in the tissue, the younger forms having a densely staining protoplasm undergoing active cell division by gemmation; the older forms not deeply staining and not actively dividing, and containing spore-like bodies.

8. From the findings in the tissue it seems evident that sporulation occurs, five to fifteen spores developing in each cell where they are seen.

9. Organisms derived from teased tissues have been observed in hanging drop to produce mycelia within a few hours after they were removed from the tissue.

10. The effect of exposure to the *x*-rays was negative.

11. The effect of the actinic ray is doubtful because the element of heat was not eliminated.

12. The cultures covered with cedar oil paper died within one month. Those exposed for one week were completely inhibited from growth, but were not dead.

13. The organism fulfills the laws of Koch, guinea-pigs being more susceptible than rabbits.

14. The organism grows readily on all forms of artificial media used.

15. In gelatin liquefaction was produced after one month.

ANOPHTHALMOS.

REPORT OF A CASE.*

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The case of anophthalmos which I am about to report is not detailed for the purpose of deriving great clinical benefit from its consideration, but purely on account of its scientific bearing, and the possibility of throwing some light on the intrauterine disturbances that may cause the development of monstrosities.

Cases of anophthalmos are indeed rare, and cases of pseudoanophthalmos or microophthalmos are seldom enough seen to warrant us in presenting them to this scientific body. Aside from the complete absence of the eyeballs, other congenital deformities associated in this case are worthy of consideration. Then, too, the possibility of the influence of consanguinity in their causation makes it doubly interesting.

This case was brought to my knowledge in the following manner:

Sept. 7, 1894, I was summoned to a neighboring town to see a child about two months of age, which apparently had something wrong with its eyes. At a casual glance it seemed to be asleep, and aside from a tendency to anemia appeared to be fairly well nourished. On a more careful examination, however, anomalous conditions were brought to view. When I opened the lids I was astonished to find that there was not the faintest resemblance to an eyeball in either socket. The lids, palpebral muscles and orbits were perfectly formed. The lids were depressed exactly as in a case of enucleation of the eyeballs. The palpebral conjunction extended backward and made a complete sac. The most careful examination could not reveal anything that would indicate the presence of an eyeball, either large or small, nor did it appear that any retinal fibers had developed. I examined the child on several occasions during a year, but was unable to get any response to light stimulation. She slept during the day, but remained awake all night. This circumstance, however, is not uncommon with healthy children who have normal eyes. This girl lived until she was 3 years old and then died from enterocolitis. It was impossible to secure an autopsy. Therefore, any minute details or microscopic pathology can not be given.

There are those in the profession (and among them Fuchs) who deny *in toto* the possibility of an absolute anophthalmos, because in several cases eyes as small as a millet seed have been discovered by postmortem examination where anophthalmos was supposed to have existed. Of course, in this case in the absence of postmortem evidences we can not absolutely and conclusively prove our case. But from rational reasoning such an occurrence would seem possible. We have congenital deformities of all parts of the body, and there is no reason why failure in the development of the primitive ocular vesicle should not occur from some interference of nutrition. A few years ago the reports of the Royal London Ophthalmological Hospital gave ten cases.

During the course of the examination of this girl I found that she was deformed in various ways. The right external ear was smaller than the left. The meatus and internal ear were normally developed on each side. The hearing was abnormally acute, as is usually the case with the blind. Before she was a year old she could hear and recognize her father's footsteps long before any one else in the house, and would manifest her delight by clapping her hands.

The hands were flexed on the forearm at birth and the little and ring fingers of both hands were webbed as far as the second joint. By daily massage, however, the flexor tendons were relaxed and the hands and fingers could be fully extended and used normally.

At the lower third of both legs the bones were deformed and jogged, and large exostoses thrown out the same as in a case of fracture that had not been set. The tibia and fibula were involved alike. There was evidently an attempt at intrauterine amputation or arrested development of the extremities. At the time of examination, however, the bones were fully united and firm. Both feet were abnormally small. There were but four toes on each foot, and all the toes were webbed. In addition to this, both feet were inverted. There was marked varus, or equinovarus. Aside from these described deformities the child seemed normally developed. Mentally she was very precocious.

When such a train of congenital deformities occurs in the same child the profession as well as the laity are apt to attempt a solution of the difficulty. By the laity the condition is ascribed to one of two possible occurrences, namely, that the mother was scared by some animal or thing (in which event the child resembles the object that scared the mother), or it was produced by the near relationship of the parents. In this case the opinion of the laity may be set aside as far as the question of fright is concerned, for the mother had no remembrance of any such occurrence, and beside, the child bore no resemblance to a monster. On the other hand, however, the question of consanguinity enters largely into the case. The father and mother were first cousins. For those who recognize the possibility of deformities occurring in children whose parents are closely related, it opens a wide field for discussion and speculation. For my part I could never trace any physiologic or pathologic connection between deformities and consanguinity.

If we consider closely the nature of the deformities in this case we can easily see that whatever the cause of the uterine disturbance it affected the different parts of the fetus at practically the same time—that is, between the sixth and eighth week of gestation. It is true that the primitive ocular vesicle makes its appearance at the third or fourth week, but at the eighth the lens capsule is just beginning to form and the eye is just in the active point of development. At almost the same time the extremities begin to develop. At the fourth week we have the projection of the upper and lower limbs, but at the eighth week the thigh and leg can be distinguished. Up to this period the fingers and toes are webbed. Thus we have the absence of the eyeballs, which develop before the eighth week, and the webbed condition of the fingers

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

and toes, which also occurs before the eighth week, to prove that there was one great systemic upheaval, as it were, which arrested the development of the fetus at these points. What it was I will not attempt to say, for I was unable to elicit any information from the parents on this point. It may have been due to some displacement of the fetus in the uterus, or some temporary interference with the fetal circulation. It must have been temporary, for the fetus developed to full time without any further difficulty. Of course, the effect of some shock to the mother can not be overlooked.

Now as to the effect of relationship in these cases: Personally, I do not believe that *per se* it can have any effect. Two perfect physiologic beings ought to develop perfect offspring, other things being equal. The shortness of time, however, would preclude the possibility of going into this part of the subject in detail.

It is a well-known fact that breeders of stock inbreed closely if they wish to develop some particular trait in the animals, and especially a good trait. This is done with the most excellent results. However, there are few animals that have not some very objectionable characteristics, and these run along the line of heredity. To obviate the necessity or possibility of these bad traits developing out of proportion to the good ones it becomes necessary to cross the breed. For instance, a certain breed of horses are excellent trotters and also always produce good trotters, but they have bad tempers and become unmanageable. By too close inbreeding the vicious temper may more than keep pace with the development of speed, so the breed has to be crossed to secure a milder-mannered horse, even at the expense of a little speed. This condition will hold good among all classes of animals. A physiologically healthy man and woman, whatever the relationship, ought to produce healthy children.

The repugnance to consanguineous marriages is probably religious in origin, but has a basis of sound fact. People become diseased, and those who are closely related and dwell together are apt to develop the same diseases or defects of organization. The theory propounded above will also hold good here. Inbreeding among diseased or deformed humans will develop these deformities. For this reason it is a wise religious or political law that prevents it. It is a noteworthy fact that there are many degenerates and imbeciles among the royal families of the old country. This does not come, however, from the actual fact of relationship, but from the fact that syphilis, insanity and other diseases have been transmitted and developed at the expense of good traits. In many cases, however, remarkable genius has been developed in the same manner. The objection to marriage among blood relations has become so firmly fixed in the general mind that its influence may be felt. I can readily see that if a couple married who were closely related and the possibility of deformed offspring as a consequence of this relationship were brought repeatedly to the mind of a prospective mother, it might have some influence on the development of the fetus. I think there are few men in the profession to-day who are willing to deny *in toto* the influence of the mind on the body, and particularly the influence of the mother's mind on her child in embryo.

Both parents of this child were healthy and free from deformities. The mother was a primipara and 35 years of age. She was inclined to be anemic. The father was a large, rugged man, 55 years of age, unusually well preserved for his age. There was no specific history.

DISCUSSION.

Dr. Casey A. Wood, Chicago—Was the article referred to published in the Reports of the Royal London Ophthalmic Hospital by Lang in 1890? (Dr. Ryan answered "Yes.") I had something to do with the preparation of that article, and I thoroughly agree with Manz, who first made the statement that there is no such thing as a true anophthalmus. The primary optic vesicle forms so early that traces of it are almost always present, even if nothing can be seen or felt in the bottom of the orbit. In all the cases of anophthalmus so far reported which have been thoroughly worked out histologically some part of an eyeball has been found. I remember an alleged case of total anophthalmus, an account of which was published some years ago, in which it was stated, as conclusive evidence of anophthalmus, that nothing could be found at the bottom of the orbit by sight or touch. Of course, the primary vesicle does not constitute a developed eyeball, and in that sense the word anophthalmus might be a proper term to use for these cases.

Dr. J. M. Ball, St. Louis—In a case I have reported the child lived six months; the lids were perfect and there was a complete conjunctival sac. The appearance within the orbit was as if an enucleation had been done. The lachrymal glands were large and secretion was present. The whole subject has been worked out by Von Hippel and can be found in his contribution on the congenital anomalies of the eyes (Graefe-Saemisch Handbuch der gesammten Augenheilkunde). He has collected data in regard to the condition comprising 64 cases of double and 23 of unilateral anophthalmus. Most of them have been cases where postmortem examination was not permitted. Dr. Wood is correct in saying that in an ophthalmologic sense true anophthalmus does not exist, but clinically it occurs.

Dr. J. H. Claiborne, Jr., New York—Two years ago in New London I reported a case of double anophthalmus in which I reviewed the literature, and am much indebted for my knowledge to Von Hippel. I think Dr. Wood is correct, and yet we must have a name for the condition. If we separate the lids and find nothing we can surely say that it is a condition of anophthalmus. Double anophthalmus is more rare than single, and where it is double, as in the paper reported to-day, I think it should be studied with a great deal of care. The relation of the parents to each other is to be looked into. My case was the child of German parents, the father being much older than the mother. The child had no eyes; I could see to the bottom of the sacs. There was an imperforate nostril on one side and on one side the ear was lacking entirely, but there was an attempt at an external auditory meatus below. The father denied syphilis. I noticed one unusual sign, namely, a very high vault to the pharynx which was arched almost to a crevice.

Dr. S. C. Ayers, Cincinnati—I saw a case of so-called double anophthalmus a few years ago. The baby was several months old and, so far as I can remember, well formed. Between the lids nothing was visible except the smooth mucous membrane, just as though an enucleation had been done. I have in my neighborhood a young man with single right anophthalmus, the left eye being normal.

Dr. L. R. Ryan, Galesburg, Ill.—I simply present the clinical case, as I did not have the pathologic evidence. I do not see, however, why we may not have an anophthalmus, just as we may have the absence of any other part.

Fire-escapes and Tuberculosis.—The suggestion recently made by Dr. Alfred Meyer of New York, to utilize the fire-escapes of tenement buildings for the outdoor treatment of consumption, is an excellent one. The tuberculous poor would thus have the benefit of fresh air without the expense of leaving their homes. While the air in the streets of tenement districts is not to be compared to that of the country, it is certainly far superior to that which the patient would be compelled to breathe in a small room of a tenement house. The objection that might be raised that the use of fire-escapes for such purposes would be dangerous in case of fire is not an important one, for in such an event the patient would be the first to escape.—*Med. Age.*

CALCAREOUS DEGENERATION OF CORNEAL CICATRICES.*

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Aside from, or in, association with hyaline degeneration (colloid of Saemisch), deposits of lime salts are described as occurring in the cornea, sometimes superficially, as in the so-called "band-like opacities,"[1] sometimes as infiltrates of small particles,[2] and, again, as larger masses in the form of plates[3] in old cicatrices. It is the latter type to which these remarks refer. Such cases are comparatively rare and clinical reports of them are rarer still. Some text-books do not mention them at all. I have seen but two cases, both occurring within the same month. As they present some interesting clinical features, I report them:

Case 1.—Mr. J. T. W., age 52, a merchant of Indian Territory, referred by Dr. Miller, came Feb. 20, 1901. He had an adherent leucoma in each eye, which he stated originated in an attack of sore eyes in 1865. Until recently the vision of the left eye had been the best. Of late all near work had been given up because it was attended with pain, smarting and excessive secretion of tears in that eye.

The leucoma of the right eye covered the temporal half of the pupillary area of the cornea and involved the iris, but there was nothing unusual in its appearance.

The opacity of the left cornea, about 5 mm. in diameter, occupied the inferior nasal quadrant. In the center, where the iris was most intimately involved, appeared a dense chalky white area 2 mm. in diameter. Its surface was smooth and glistening and the probe failed to reveal any roughness. The eye was not red and its conjunctiva was healthy. There was a prominent pterygium.

Javal's instrument showed the right cornea quite irregular and the left cornea with 7 diopters of astigmatism with the rule.

Vision: R. E. 15/60 with +1.5=15/45; L. E. 15/100 with +1. S. ⊃ +3. cyl. axis 85=15/40.

The pupils dilated to atropin in a direction away from the adhesions, but as good vision was not possible after dilatation as before. As I did not wish to cut into an adherent leucoma without positive indications, and as the symptoms were mainly of asthenopia, I hoped the use of glasses would give relief. These I ordered. I also removed the pterygium at the patient's request, for he attributed his discomfort to its presence. For a short time there was relief and the patient could attend to his books and correspondence. But in three weeks he returned complaining as much as ever. In addition to the other symptoms there was now for the first time a feeling as of a foreign body in the eye. Yet there was no redness or secretion. Feeling sure now that the degenerated scar was the cause of irritation, under cocain I pushed a sharp instrument into the chalky white part of the opacity and encountered a gritty substance. It was covered by superficial scar tissue, which I cut away. The gritty substance in the form of a plate, the thickness of writing paper and like eggshell in appearance and feel, was dug out. It was 2 mm. in diameter, irregular in outline and corresponded to the dense white, sharply defined area before described, lying over and resting on the adherent iris fibers. A deep, undermined excavation was left with exposed blood vessels at its bottom. There was no reaction. Healing was prompt. Relief was perfect and lasting. V. with correction 15/30. The use of the eyes has been comfortable up to this time. Scar is smooth and appears like that of the other eye.

Case 2.—Mrs. B. F. M., age 26, of Magazine, Ark., sent by Dr. Powell, came March 2, 1901, on account of pain in the left eye. Her right eye was normal. Her left eye was diseased when she was 3 years old, and from that time there has been a white spot on the cornea. Only during the past two years had the eye been painful. The pain was in paroxysms, lasting from three days to a week, with quiet intervals of corresponding duration. The pain was described as not that of a foreign body, but neuralgic in type, somewhat relieved when in the dark. It often drove her to bed. The eye was markedly divergent and presented a large dense cicatrix in the inferior nasal quadrant of the cornea involving the underlying iris. Its center had a chalky white area similar to that described in the previous case. The eye was not red, but flushed readily on examination. The fundus was visible through the temporal half of the pupil, with a pale and somewhat cupped disc. Vision: fingers at 1 foot; tension was plus. The glaucomatous symptoms led me to perform iridectomy, without relief, however, of the paroxysms of pain. Two weeks later I cut into the scar and dug out a calcareous plate, 1 by 2 mm. in area, almost identical with that of the first case. Healing was normal and there has been no return of the pain.

In both of the cases I felt certain at the first examination that the chalky white areas were the seat of degeneration, probably calcareous. The reasons they were not removed at once were: First, neither the probe nor magnifying glass revealed any break in the smoothness of the organic tissue overlying them; second, the symptoms were not such as usually are caused by a superficial foreign body, being in one case those of asthenopia, in the other more like those of glaucoma; third, there was some fear of exciting undue reaction by digging into an adherent leucoma, for merely exploratory purposes.

Later, the deposits in one case became partially uncovered, and gave rise to foreign body symptoms, at once indicating the proper procedure. In the other case I cut into the cicatrix, though its surface was still smooth, because the patient demanded relief, even if at the expense of the loss of the eyeball. It is now clear that the symptoms in both cases were due to the irritating effect of the hard substances resting on iris fibers deep in the cicatrices. We may conclude, also, that all leucomata involving iris, presenting a chalky area sharply outlined in contrast with the rest of the opacity, may be safely, and should be, cut into, even though the surface seems smooth. Are such deposits, *en masse*, found alone in adherent leucomata and not in those not involving the iris? That the masses removed were calcareous I take for granted from the statements of the books, but I regret that no microscopic or chemical tests were made.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Norris and Oliver: p. 346.
2. J. P. Nuel: System Diseases of Eyes (N. and O.), vol. iv, p. 238.
3. Fuchs: p. 195.

PRESENT STATUS OF THE PURIFICATION OF PUBLIC WATER SUPPLIES.*

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Ten years have elapsed since the beginning in this country of the epoch of practical accomplishments in the field of municipal water purification. To record and review briefly the more important advances that have been made during the past decade, and to indicate the results, conditions and tendencies as they stand today, is the object of this paper.

In 1893 the water filter for the city of Lawrence, Mass., was put in service. Up to that date comparatively little had been done in the way of purifying city

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water supplies in America; although it is to be remembered that in the early 70's several small sand filter plants were installed, notably at Poughkeepsie and Hudson, N. Y. They were built according to the plans of the late Mr. Kirkwood, following his investigations concerning sand filtration as then practiced in Europe.

Ten years ago mechanical filters attracted but little attention and were not looked on with favor by sanitarians and engineers. They were comparatively crude affairs in those days, representing but few of the improvements resulting from the transitional stages through which they have passed from their original form of mill or industrial filters to the types in which they are found to-day.

Prior to the construction of the Lawrence filter, the combined area of all filter plants then in existence in this country was not more than 1.5 acres, having a rated capacity of 4,000,000 gallons daily. The combined area of all mechanical filters at that time was about 12,000 square feet, having a rated capacity of about 35,000,000 gallons daily.

To those who have not followed closely the developments in this field of sanitary science it is almost inconceivable to look back and realize what uncertainty and differences of opinion prevailed concerning filtration as late as 1892. For some time prior thereto the medical and engineering journals of Europe had much to say concerning the outbreak of typhoid fever during the winter of 1889 in the eastern portion of the city of Berlin, where water consumers were supplied with filtered water from the old Stralau sand filters. At London a royal commission was engaged in an investigation of the future supply for the metropolitan district, and received testimony from many prominent sanitarians to the effect that, in their opinion, filtered Thames river water should be abandoned, and that new supplies should be obtained from mountain sources. In a number of European cities discussions were taking place as to improved water supplies, and many sanitarians urged that new supplies should be drawn only from pure mountain streams, or from ground water.

In view of the somewhat conflicting evidence at that time as to the merits of water filtration, there was conducted at the Lawrence experiment station, as is well known, a series of experiments, starting in with the use of very fine materials, including loam, and very low rates of filtration, giving conditions not much unlike those which had been studied shortly before at that place in connection with sewage purification. In this way evidence was gradually accumulated from tests made under various conditions as to coarseness of materials and rates of filtration, which led, in 1892, to the conclusion by the Massachusetts State Board of Health that the purification of waters as highly polluted with sewage as that of the Merrimac river could be successfully accomplished at a reasonable cost.

Opportunities for putting into practice the results of these investigations, and in the city where they were developed, came quickly. The several large cities in the valley in which Lawrence is situated, and including Lawrence itself, had suffered severely for a number of years from epidemics of typhoid fever due to sewage pollution in the Merrimac river, from which they obtained their public water supply. In the late summer of 1892 it will be recalled that Asiatic cholera appeared in New York harbor. It was the appreciation on the part of the Lawrence city government of the calamity that would befall them, should cholera become established temporarily in the cities situated on the Merrimac river above them, that caused them to take the initial step paving the way for an era of practical accomplishments in municipal water filtration. They placed at the disposal of the water board such sums of money as were available from their limited funds, and construction work was commenced. The Lawrence city filter was carried to successful completion under the guidance of Mr. H. F. Mills, engineer member of the Massachusetts State Board of Health and put in service in September, 1893.

Immediately following developments at Lawrence, Mass., came the first of quite an extended series of investigations as to the efficiency of different styles of filters, and under widely different conditions. The first investigations were made at Providence, R. I., under the charge of Mr. E. B. Weston, engineer of the water department there, and were directed especially to the efficiency of mechanical filters in purifying the Pawtuxet river water. This water is not muddy, but contains considerable vegetable stain and at times is subject to more or less sewage pollution. The Providence tests, which were made on a small scale, led to the conclusion, reached for the first time on data covering a considerable period of time, that mechanical filtration under reasonably favorable conditions would give efficient purification.

Following the Providence tests, a series of three investigations, namely, at Louisville, Pittsburg and Cincinnati, was made, showing the results which could be expected on a large scale in treating certain of the muddy waters of the South and West. The results of each of these investigations were made public in detailed reports during the years 1898-99.

As is well known, surface waters of the South and West ordinarily contain so very much more mud than do the waters of New England and most of the European rivers, where large filter plants have been established, that officials in charge of waterworks plants in the South and West were in former years exceedingly skeptical as to the practicability of filtration, not only on the ground of cost, but also of efficiency. The three investigations mentioned, covering a period of four years, and representing an expenditure of upward of $200,000, furnished information sufficient to place the subject of purification of ordinary muddy waters on a reasonably satisfactory basis.

Without going too much in detail into results of the investigations in question, it may be said briefly that they showed the limitations of sand filters in the treatment of muddy waters; the urgent necessity of preparing very muddy waters for filtration by the removal of mud by means of settling reservoirs and by coagulation prior to filtration by any method; the probable limitation to which plain subsidence could be advantageously carried with the types of water in question; the best available means of coagulation; and the suitability of filters, both of mechanical and sand bed types, in treating these muddy waters after the removal therefrom of excessive quantities of mud.

Following the investigations made on the Allegheny and Ohio rivers there were several other investigations, among which are those made in Washington, Philadelphia, New Orleans and Harrisburg. The Washington investigations have been published in detail, and were largely confirmatory of the results obtained at earlier dates. Those made at Philadelphia and Harrisburg have not yet been published in detail. At New Orleans there is just issuing from the press a detailed account of the investigations made under the direction of Mr. Geo. G.

Earl, who has described to you the general conditions in this city regarding the installation of a new system of sanitary works, including an improved water supply.

These investigations at New Orleans were conducted for about one year, beginning in the autumn of 1900, and were under the immediate charge of Mr. R. S. Weston. A brief summary of the results of these investigations is next given.

To appreciate the conditions of water purification of the Mississippi river at New Orleans it is necessary to bear in mind that the drainage area of this river comprises about 1,240,000 square miles, extending from the Canada line to the Gulf of Mexico, and from the Appalachian to the Rocky Mountains, the aggregate area representing more than one-half of this country. On this area is an urban population of over nine million people resident in towns having a population of more than 4,000.

Regarding the physical condition of the Mississippi river water at New Orleans, it may be said that it is turbid at all times. Records of the amount of suspended matter are available for seventeen complete years, fifteen of which are based on results of observations made by the Mississippi River Commission. The average amount of suspended matter as compared with that in waters elsewhere is shown by the following table:

		Suspended Matter.	
		Parts per mil.	Tons per mil.
City.	River.	River Water.	Gallons.
Lawrence	Merrimac	10	0.042
Albany	Hudson	15	0.062
Pittsburg	Allegheny	50	0.208
Washington	Potomac	80	0.333
Cincinnati	Ohio	230	0.957
Louisville	Ohio	350	1.480
New Orleans	Mississippi	650	2.70
St. Louis	Mississippi	1,000	4.16

While it is seen from the above table that the total amount of mud in the Mississippi water here is less than at St. Louis, it is a fact that the water at New Orleans contains a far greater proportion of submicroscopic clay particles. At St. Louis from 80 per cent. to 90 per cent. of the mud is so coarse that on an average it is deposited in settling basins holding twenty-four hours' flow. At New Orleans a basin of similar size would show a deposit of only about 45 per cent. of suspended matter, leaving in the settled water about three times as much very fine clay as would be the case in the settled water from below the mouth of the Missouri river.

The difficulty in treating the New Orleans water from the Mississippi river is apparent when it is stated that purification works for this city must remove on an average each day some fifty to sixty tons of submicroscopic clay particles, nearly all of which are smaller than bacteria, and many of which are not more than one-tenth the size of the latter. This is the most difficult feature to be contended with in the local purification works, as it can be stated that with the removal of the clay particles on a satisfactory basis the bacteria will take care of themselves, because, owing to their size, their removal is generally easier than are the last traces of these clay particles.

Another factor in this connection is that the hygienic condition of the raw Mississippi river water at New Orleans is better than one might suppose at first thought, after reflecting on the large population which drains into this river. As a result of more than 100 examinations of the water in volumes varying from one to three hundred cubic centimeters, the presence of the colon bacillus, the leading microörganism of the intestines, was detected only in three instances. These conditions are not so surprising when one stops to consider carefully that there are only about 45,000 people resident in cities which discharge all or part of their sewage into the Mississippi river within 600 miles of New Orleans and none within 130 miles. The remaining population of the Mississippi delta does not drain into the Mississippi, as the slope of the ground is away from the river.

Stating briefly the results of the New Orleans investigations, it may be said, first, that plain sedimentation for a period of three days, followed by slow filtration through sand beds, according to European practice, proved to be impracticable, because of excessive cost of cleaning the beds, and also of the fact that for many months at a time the filtered water would contain so much clay that it would be unsatisfactory for municipal use. Indeed, it may be said that if all the money available for the construction of the new system of waterworks in this city, including pumping stations and distributing pipes, were expended in the construction of settling reservoirs they could not sufficiently clarify the river water in order to prepare it adequately for filtration.

A procedure which was found to be successful is that involving the use of a coagulant to mass together the tiny clay particles into bunches of sufficient size so that they can be handled efficiently by sedimentation. Water so treated was studied in connection with both types of filter; that is, sand beds and mechanical filters.

One of the most important features studied in New Orleans was the economical and advantageous limits to which plain sedimentation could be carried; that is to say, the most practical division of work under local conditions between plain subsidence and coagulation followed by supplemental subsidence; and, further, the degree of clarification which it is advisable to provide for the water prior to its application to the filters. It was found that where sand beds are used the best arrangement consists of a plain settling basin holding twelve hours' flow on an average, followed by coagulating basins holding twenty-four hours' flow, from which the treated water, containing about thirty parts per million of clay would pass through sand beds at a rate of about 5,000,000 gallons per acre daily, or double the German standard rate. Where water is applied to mechanical filters, the best method consists of plain settling basins holding twelve hours flow on an average, followed by coagulating basins holding another twelve hours' flow, thus bringing the turbidity of the water as low as fifty to seventy-five parts per million, and so that it could be satisfactorily treated by mechanical filters at rates of from two to three gallons per square foot of filtering surface per minute.

Comparing the relative merits of these two types or systems of water purification it is found that the one involving the use of mechanical filters would be about $500,000 cheaper than the one involving sand beds; that the former would also be distinctly cheaper in total cost, involving both fixed charges and operating expenses; and that it would give a quality of water as to both clearness and hygienic conditions equal to that furnished by the other type of filter. Hence it was concluded to recommend the adoption of the so-called American system, involving the use of plain subsidence, coagulation and mechanical filters.

Regarding the question of coagulation, the New Orleans investigations were made with the use of sulphate of alumina, which it is proposed to use in practice unless it is found that a more advantageous chemical should

become available. In this connection it may be stated that the Mississippi river water always contains an adequate quantity of carbonates of lime and magnesia in order to decompose the coagulating chemical so that with a reasonable grade of supervision there is no likelihood whatsoever of undecomposed chemical entering the filtered water.

Another feature to be mentioned in this connection is the fact that the Mississippi river water does not vary with extreme rapidity in its composition, and hence the application of coagulant solution would be on a much more regular and uniform basis than in many places where the process has been considered.

It is possible to use compounds of iron for purposes of coagulation of waters like that of the Mississippi, but at the present time there is no information to indicate that they would be better or cheaper than sulphate of alumina. In the course of the Louisville investigations much study was given to the practicability of coagulating waters by electrolytic treatment in which there is obtained the hydrate of the metal used, that is, of iron or aluminum. These hydrates mass together the clay, bacteria and other particles suspended in the water in a manner similar to that effected by means of aluminum hydrate formed from the decomposition of sulphate of alumina. This electrolytic process, as the evidence now stands, is not only more expensive, but can be controlled much less readily than in the case of sulphate of alumina. Electrolytic processes, if they could be utilized in a practicable manner, would have two advantages: One is that they do not convert lime and magnesia from carbonate to sulphate, the latter of which is less desirable in water used for steam-raising purposes. The second is that such processes would overcome sentimental objections which appear to prevail in some communities against the use of sulphate of alumina in water purification. It is not definitely proven that some electrolytic process may not some day assume practical form, but there is no evidence now available to indicate such an outcome.

As to the question of the use of sulphate of alumina in water purification, the present feeling in this branch of municipal work is that it is not judicious to use it if equally efficient results can be accomplished at equal cost without it. There is, however, no evidence on record to indicate that harmful results follow its intelligent use, as is testified to by the actual experience of over 200 cities and towns in this country, with an aggregate population of about 2,000,000 persons.

The New Orleans investigations are undoubtedly entitled to a prominent place in the history of water purification, in that they show conclusively that works can be constructed successfully to clarify and purify waters charged to the highest known limits with submicroscopic clay particles, and at reasonable cost, coming within the financial limits of the average municipality.

Referring to developments in the general field of water purification, it may be said that recent practice points clearly to the advantage of much more thorough preparatory treatment of waters prior to filtration than was formerly the case, and to the use of higher rates of filtration than were previously considered advisable. This applies not only to the rapid method of the mechanical type of filter, but also to the sand bed type. In connection with the latter the use of preliminary or roughing filters has unquestionably much merit in the treatment of certain types of water, as shown by developments at Philadelphia and at Zurich. The future will undoubtedly show still further advancement in the successful use of double filtration, not only in the case of certain turbid waters, but also of waters highly polluted with sewage.

The use of ozone has received attention for many years in connection with water purification, especially concerning the endeavor absolutely to sterilize water as it is supplied to the consumer. Whether or not this is necessary or even desirable is very doubtful according to present evidence, and it is not likely that it will become a prominent feature in large municipal works for some time to come, owing to the cost of producing ozone or ozonized air in sufficiently concentrated form to effect sterilization. This is due partly to the expense of electric generating devices, and partly to the fact that ozone treatment, according to present indications, can be regarded only as a supplemental step following filtration, and not a substitute therefor. The reason why the application of ozone has to follow filtration is that it is essential first to remove the organic matter as far as possible from the water, thus reducing the quantity of the ozone required for sterilization purposes, to say nothing about needs for clarification.

Such application of ozone would prevent or destroy those growths of bacteria which, as well known, occur to a greater or less extent in the underdrains of sand filters, and occasionally in mechanical filters. As such growths refer without exception to harmless kinds of bacteria and not to disease-producing germs, there is no reason to believe that the cost for applying ozone for this purpose would be justifiable.

Regarding the treatment of surface waters stored in large ponds or reservoirs, and such as at times contain very objectionable odors or taste, investigations conducted at Springfield, Mass., in 1901, on the famous Ludlow Pond water indicate that it is practicable to make such waters satisfactory by double filtration through sand beds in conjunction with aëration.

As to the decolorization of swamp or marsh waters, experience has indicated that this can be accomplished by means of coagulating treatment, as is shown by the purification works in the city of Norfolk, Va. Without coagulant, such swamp or marsh waters can not be successfully freed from vegetable stain.

As a general proposition, it may be stated that in the light of present knowledge practically any water may be successfully purified by some combination of the various processes which have up to this time been studied with care, and at a cost ordinarily ranging from one-half to one and one-half cents per thousand gallons, depending much on local conditions.

In regard to the construction of purification works, material progress has been made in recent years, and many works recently designed are not only of a much more permanent and durable nature than in earlier designs, but they are especially improved as regards convenience and facility of operation. This particularly applies to mechanical filters, as is perhaps best shown by the plant recently put in operation at Little Falls, N. J., by the East Jersey Water Company. This plant, occupying about one acre in area and capable of producing 40,000,000 gallons of filtered water daily, is the largest completed plant in the country, although larger ones are in process of construction. The structures are entirely of concrete, and all devices, so far as practicable, are made automatic, or arranged to sound automatically a gong to call the attention of the operator to what is required. Hydraulic cylinders are attached to all valves and are operated by levers conveniently placed. Water and compressed air for washing the sand layers are

turned on and off by pressing a button, thus stopping and starting the motors operating the machinery.

Concerning sand filters, the improvements in design are not so striking, yet they are important, and should eliminate many of the complications encountered in the old-fashioned filters abroad where unsatisfactory results were occasionally obtained.

To gentlemen especially interested in the field of hygiene there is probably no question so important as that of the results accomplished by filtration in the reduction of water-borne disease among people using filtered water. In this connection the well-known experience with the Lawrence filter is very gratifying in that it has shown year after year, while in its normal operation, a typhoid fever death rate as low as that in the neighboring city of Lowell, which now derives its supply from pure underground sources. Similar experience has been gained at Albany since the completion of the very well-built sand filter at that place. As to mechanical filters very little experience has been gained with plants fully equipped with devices in accordance with the results of the investigations herein reviewed. The results of many thousands of analyses show that with both types of filters built and operated under favorable conditions there is practically no choice as to hygienic efficiency on an average. In winter mechanical filters are slightly superior, and in summer the reverse may be true.

At the beginning of the second decade of developments in this field it may be said that matters appear very bright indeed. The doubts and uncertainties of ten years ago have very largely disappeared. In Europe it has been learned that many of the former arguments against filtration were based on exceptional conditions caused by the arrangement of filters built fifty years ago. Progress there has been substantial, and we hear but little now of ground water or the mountain spring, except where such waters are obviously the most feasible. We have learned in this country that no such thing exists as a "cure-all," that is, a single type of purification works adapted to treat satisfactorily all types of waters; but we have also learned that purification works can be built to purify practically all types of water, and that satisfactory results can be predicted with confidence. That this confidence is shared by municipalities and citizens is shown by the great amount of construction work now going on and in early contemplation in this field, especially in the larger cities.

DISCUSSION.

Dr. G. T. Swarts, Providence, R. I.—The subject is one of the most important of those which come up for consideration before any health board, whether it be of a small township or of a large municipality. Sooner or later, almost every inland city is called on, through its health department, to make provision for a water supply of some sort, and the available sources are never what they should be. Filtration in a majority of cases, perhaps, will be required in order to put the water in good condition. This paper, dealing with the general drift of results, and giving a historical retrospect of all the different methods in a condensed form, makes it a valuable document, which will be eagerly read by sanitarians in general; and even those who are thoroughly familiar with all the details of the subject will be glad to find them given here in so condensed a shape.

It was very interesting to me personally, having visited the experimental plants in Louisville, Cincinnati and Pittsburg, to see the difference in the character of the waters and the facility, after a great deal of experimentation, with which these experts have handled a water which, as described by the previous paper, carries with it a material which makes a clay so fine that it admits of the introduction of a spade with facility, and yet is elevated with a good deal of difficulty. It is a matter that comes up here differently than it does in the northern cities. There is here a fine silt which it is difficult to dispose of, and which will quickly clog any known form of filter. It is a point of interest to us and to the layman, looking on the Mississippi River water, watching it as it flows into the tubs of the hotels, to think that the time will come when it will be possible to dispose of that silt and raw material, and to get a white, clear water, as pure as that of any artesian well in the country.

I am glad to hear Mr. Fuller emphasize the fact that the introduction of sulphate of aluminum is not such a bugbear as was thought in the matter of the introduction of mechanical filters. That is one of the greatest setbacks we have had in the north, where it was impossible to show the people the necessity or desirability of using a coagulant. Of course, it is not always necessary to do so; yet it is possible, as I understand it, to thus remove a greater amount of the color from waters which are discolored by decaying vegetable and animal matter, stumps, etc., than without a coagulant.

In the city of Providence, where we want to get fifteen to twenty million gallons of water per day, we endeavored to introduce the mechanical method, but failed in the effort from the simple fact that the city took a sentimental view of the matter, and also, unfortunately, of the attack made on it by physicians themselves, bringing up this objection to the sulphate of alum. They wanted the water filtered in the natural way, as Nature filters it, not stopping to think that the water from artesian wells has been exposed to all kinds of chemical changes for years. Their idea was that the water had to pass through sand, as that was Nature's method; and therefore sand filtration was adopted.

It was a surprise to me to learn from this paper (if I have correctly understood it) that the manipulation of the water supply of New Orleans would cost less if mechanical filters were used. Of course, that was a great pleasure to me, being interested in mechanical filters. Another point that struck me was the simplicity of the operation. It can be handled by fewer individuals. It is not dependent so much on detailed work, such as is necessary in sand filtration, where a large number of operatives are required, who may not be familiar with all the branches of the subject, and are liable to contaminate the beds while they are being scraped.

I would like to inquire, with reference to the possible or probable time within which this filtration can be established. I want to know this in order to be posted when I am quoting the grand advancement made in the water and sewerage system of New Orleans.

Mr. George G. Earl, New Orleans—Three and a half to four years.

Dr. W. C. Chapman, Toledo, Ohio—The advance in this science has been so great that the people have not been able to keep up with it. For several years I have been interested in the water supply of Toledo. I find great ignorance regarding filtration. One of our principal endeavors should be to enlighten the people on the subject.

Dr. Swarts speaks of coagulation by alum, which is strongly opposed by many in our cities because it is ignorantly supposed the chemical remains in the filtered water. We are about to take steps in Toledo to filter our river water, and we have had Messrs. Hazen and Benzenberg investigate as to the possibility of getting good water and from whence the supply should be taken. We have two sources of supply: the Maumee River and Lake Erie. The difficulty we have had to overcome is that many think Lake Erie water is pure; that it only has to be drawn into the houses by pipes. Investigation shows this is not true, and that to get good water filtration must be employed. Lake water is impure; the lake, being very shallow, is merely a large catch basin for the surrounding country.

We must instruct the people on the subject of water purification. We have overcome prejudice to a great degree in Toledo, so that a plant will be installed which will be large enough to supply water for 350,000 people. The water has

been tested by the State Board of Health. The state bacteriologist finds Maumee water can be purified so as to be potable and therefore healthful.

In my opinion, the mechanical filter is best for rivers with much sediment. Our river is different from the Mississippi. It becomes very muddy after a storm or a freeze and thaw, but it usually clears itself in from forty-eight hours to three days, and we then have clear water until after another storm. Subsidence takes place easily and therefore the necessary coagulant will be small in quantity.

Dr. E. B. Borland, Pittsburg, Pa.—We know from examinations made in the last two decades that almost any contaminated water can be purified to a reasonable degree. Mr. Fuller alluded to the real filtration material, of which I expected to hear more; I refer to the albuminous gelatinous material and bodies of bacteria which form the real filter medium. No doubt he took it for granted that we were all acquainted with it and therefore merely alluded to it. I find the public, the laity in general, have no idea of the principal or real factor in sand filtration; when the material which gathers on the upper layers of sand becomes too thick and dense the upper inch can be removed and cleaned. I don't recall that Mr. Fuller referred to the cleaning of the upper layer of the sand filter, but I have no doubt that he expected us to know and understand that such cleaning is necessary.

I have been considerably interested in the subject of sand filtration, though not as much so as in mechanical filtration. In our experiments in Pittsburg in 1897 and 1898 three mechanical filters were tested alongside of two sand filter beds. The summary of the bacteriologic test was as follows:

> The average bacterial efficiencies of filters on the respective systems, as developed by our tests, were an average of 99 per cent. for the sand filters, and from 97 to 98 per cent. for the mechanical filters. With the sand filters the efficiencies for the summer months and particularly those months when the number of bacteria in the raw water were highest, were very much above this average, reaching, during October, 1897, the remarkable efficiency of 99.96 per cent.

These experiments were carried on by the Pittsburg Filtration Commission, and an exhaustive report of 350 pages was made. The bacteriologist of the commission found as many as 57,000 bacteria to the cubic centimeter; and when there were 30,000 bacteria, 98 per cent, of them could be removed in the sand filters without a coagulant. The mechanical filters, as I have stated, with the coagulant made results of 2 per cent. less in efficiency, in the removal of suspended matter and bacteria.

Now, it has been said that the waters west and north have much less of this fine submicroscopic clayey material which Mr. Fuller and the gentleman who preceded him have emphasized. I can see why this factor demands attention in New Orleans and other cities in the south which are considering filtration. In Pittsburg, we have ordered the construction of sand filter beds, without the use of a coagulant, in accordance with the recommendation of the filtration commission.

Dr. Seneca Egbert, Philadelphia—I feel that this kind of work, represented by the papers we have heard to-day, is most highly educational, and that we ought to do all we can to disseminate such information. Much of the danger lies not in the cities but in what is being done in the country. There are many small towns whose water supplies can be very much improved by the adoption of modern methods of sewage disposal, as well as by improvements in the purification of the water. Almost every one of these communities would throw aside any suggestion of filtration, as being too expensive; but what we have to do, and the task that is specially incumbent on us, is to educate the profession throughout the country so they can make the local authorities realize that it is the highest economy possible to take these measures—not in ten years hence, but now—looking to the purification of the general water supply. Every town of five, six or eight thousand inhabitants ought to have clean water, and the cost is exceedingly small compared with the cost of sickness and mortality that result from typhoid fever and other diseases due to bad water. There is not a town in the country that could not improve its health status by attention to, and local application of, the teaching of just such papers as we have heard to-day.

Dr. F. J. Mayer, Lafayette, La.—So far as Louisiana is concerned, I can assure this body that from the Arkansas line to the Gulf the average drinking water is hardly fit for human consumption; the principal source of supply in the country districts is from rivers and branches, shallow wells and cisterns. The water from the last named source, when caught in seasoned cypress cisterns during the winter season, the spring and summer supply being shut off by automatic cut-offs, is really the most potable water we have. Outside of the Mississippi River, our river waters are not wholesome, though palatable. The Mississippi River is the largest body of potable water in the world, and wholesome and palatable when properly treated. The proof of this is that ship captains find that it keeps better in the tanks of their vessels when precipitated with an ordinary coagulant than any other water; and in antebellum days the creoles of this city kept Mississippi water in urn-shaped jars holding about fifty gallons. They in this way secured a very potable water supply by adding about 5 grains of alum to the gallon as a precipitant.

In our larger inland towns, like Monroe, which is supplied by the Ouachita and an artesian well, it is difficult to determine which is worse for drinking purposes. Some years ago, when the Ouachita was very low, I found that the intake pipe was within a few hundred feet of a private sewer that emptied into the river. A bacteriologic and chemical analysis of the two waters by Professor Metz, expressed in parts per one hundred thousand, exhibited 94,876 bacteria per cubic centimeter. On plating some of the cultures evidences of the presence of the *Bacilli coli communis* were found; also organic and volatile matter, 3.6000; nitrite 0.0040; nitrates. 0.0669; mineral matter, 8.4500; total solids at 240 F., 11.8000. The artesian water, though brackish and containing volatile and organic matter: 5.7000 parts, and 72.1000 parts mineral matter at 240 F. was the least dangerous, owing to the absence of nitrates and nitrites, and of the *B. coli communis*.

The shallow wells, which really constitute the largest supply to the farming population, are absolutely unpotable, in many cases reeking with microbian filth, sometimes sparkling with nitrates and nitrites, the result of animal decomposition; and yet the poor, deluded farmer imagines that he not only has a healthful water supply, but thinks it has medicinal properties on account of the gas sparkling in it, and on account of the odor resulting from decaying vegetable and animal matter, which he attributes to the presence of sulphur. There is no excuse for this, for at a depth of from 60 to 270 feet an abundance of potable water is to be found all over the state. So I think, as the last speaker said, it is absolutely requisite and necessary to educate the general public on these facts with which we are familiar, but of which they know nothing.

Dr. W. G. Owen, Whitecastle, La.—Dr. Mayer mentioned the fact that one of our chief sources of supply, all through the southern portion of the state, is cisterns, the water coming from the roofs of houses, bringing with it all the dust and dirt accumulated through a long drought. I have found this a very potent factor in the dissemination of typhoid fever. In fact, I have seen one instance where three or four members of the family were attacked with the disease, which continued to spread until they began to boil the water. That ended all extension of the fever.

Dr. E. B. Borland, Pittsburg, Pa.—In the experiments in Pittsburg, the mechanical filters were operated with a coagulant, and the sand filters without it. I have no prejudice against mechanical filters, notwithstanding that we have had political corruption, as have other communities. I think almost any Pittsburg citizen will say that ours was a representative commission. There were on it scientists as well as politicians, and men of a high degree of culture and integrity; and while we are inclined in Pittsburg, as elsewhere, to criticise public officials, it is the consensus of opinion that the commission was unbiased in its report recommending the

use of sand filters. I agree with the proposition that different treatment is required for different water supplies.

Mr. George W. Fuller, New York City—Replying to the discussion of Dr. Borland, in which he mentions the gelatinous materials around the sand grains, it is true that this is characteristic of sand filtration as ordinarily practiced with the waters of Europe and the northern portions of this country. Around the sand grains there are formed gelatinous films, and at the slow rate at which the water passes through the pores of the sand, the bacteria and other matters suspended in the raw water are detained by them until, in the instance of the bacteria, many of them die. Of course, a large number of bacteria are removed when the upper portion of this sand layer is removed by scraping. These scrapings are from time to time necessitated by the surface of the sand layer becoming clogged to such a degree that the regular volume of water can no longer pass through the sand layers.

With the waters of the south and central west the conditions are somewhat different, in that the organic matter capable of forming gelatinous films around sand grains in the sand filter is absorbed to a large degree by the sand, silt and clay in the water itself as it flows in the stream. Consequently, this material, so important in the behavior of the sand filter, is lacking for the performance of the work in filters where it is needed more than in the case of European waters.

Removal of the silt and clay in the muddy southern and central western waters by means of sedimentation in large basins, in order to allow filters to operate economically, of course, eliminates this organic matter still further; and the influence which it might produce on a sand layer if the water were applied directly is therefore lessened. Combining all of these influences and conditions, it is found that it is an essentially different proposition to clarify and purify successfully a water which is highly charged with silt and clay and lacking in organic matter, from what it is to purify a fairly clear water which is capable of supplying organic material capable of producing gelatinous films by natural means around the sand grains in a sand filter. This, perhaps, may make it somewhat clearer why it is that in certain waters it is so essential to produce artificially the gelatinous materials for the detention and removal of bacteria, and such as is provided by aluminum hydrate resulting from the decomposition of sulphate of ammonia.

As to the question of the mechanical filters during the Pittsburg tests having shown somewhat lower efficiency in the removal of bacteria than in the case of the sand filters, it is to be borne in mind that the degree of bacterial removal by mechanical filters is largely a function of the quantity of coagulant applied. Had there been applied during the Pittsburg tests a somewhat greater quantity of coagulant, there is no reason whatever to believe that the removal of bacteria by the bacterial filters would not have equaled that obtained from the sand filters. During the development of our practical knowledge of mechanical filtration during the past few years, there is no feature the importance of which has grown on us so much as the imperativeness of providing at all times an adequate quantity of coagulant. In the early days of mechanical filtration on a practical scale this was not done, and to-day this criticism can be made of many plants. It also may be said very frankly that occasionally throughout the elaborate tests conducted both at Pittsburg and Cincinnati, the quantities of coagulant were not sufficiently high to place mechanical filtration in its best light.

Different waters unquestionably require different methods of treatment. For some waters sand filters are best, and for others mechanical filters are best, in each instance making due allowance not only for equal efficiency from a hygienic standpoint, but also for cost of installation and operation.

To Remove Perspiration Odor.—A dram of formaldehyd to a pint of water sponged about the genitals and axilla will remove the odor of perspiration. A stronger solution will check excessive perspiration and fetor of the feet.—*Medical World.*

MEATOTOMY PLUS MEATORRHAPHY.

JOHN PRENTISS LORD, M.D.
Professor Surgery, Creighton Medical College; Attending Surgeon, St. Joseph's Hospital, and Consulting Surgeon, South Omaha Hospital.
OMAHA.

The incision of the urethral meatus in the male often becomes necessary to allow of the passage of urethral instruments, especially for sounds and catheters of large size, for urethroscopes and cystoscopes, the segregator, etc. In the days when meatotomy was required for the passage of sounds principally this operation seemed to satisfy. But now that the surgeon must wait until healing of a meatotomy wound takes place before proceeding with his refined methods of diagnosis, the slow process of healing by granulation and the necessary daily separation of these divided surfaces which lie in contact and which reunite immediately unless torn apart by force, is tedious, usually bloody, and daily inflicts an amount of pain poorly borne by the patient, and the result is apt to be imperfect for obvious reasons.

The writer recognized these objections several years ago and began suturing meati whenever a meatotomy was done. Four or five 00 catgut interrupted sutures were used. The hemorrhage, which may be rather free

Figure 1.

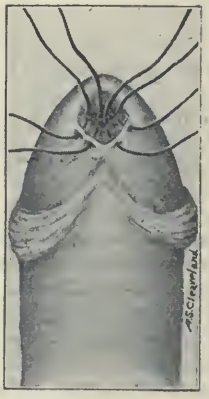


Figure 2.

Figure 3.

or even serious in some cases, is immediately arrested. Healing has always been primary. The case requires no after-care, the patient is saved much suffering, the surgeon unpleasant and unnecessary responsibility, and it is unnecessary to divide the tissues so deeply to get the same results. If it is done to enable the surgeon to use the cystoscope, this instrument can be used in a day or two without blood smearing the lamp, which would interfere with the examination.

Works on surgery describe the operation of meatotomy and recommend the daily introduction of a sound to prevent union of the apposed wound surfaces; and recent works on genito-urinary surgery follow in the same rut.

An extended search by the writer fails to disclose any suggestion of meatorrhaphy. A considerable inquiry among the writer's friends also fails to find any use or recommendation of this simple measure, and the writer is surprised that he is obliged at this writing to consider himself its author. It has been practiced by him for several years, and not until his curiosity was excited by failures to find it done by others has he deemed the matter of enough importance to present it to the profession. It is herewith presented as a small contribution to surgical advancement, and even though in prior use it is desirable that attention be directed to so simple and

valuable an operation, evidently now unused by the profession, which is ever ready to avail itself of even the slightest detail of surgical technic that will add aught to the sum total in the refinement of its art.

Since writing the above, a renewed search has disclosed the following in Tillmann's work on surgery: "Stenosis of the external meatus with a corresponding difficulty in urination is comparatively common. This can be easily remedied by incising the meatus toward the frenum and suturing the edges of the glands to the mucous membrane of the urethra. In the more marked cases one may dissect up the urethral mucous membrane and then suture it to the skin."

Notwithstanding that this last paragraph destroys all claim of priority, which is after all but a small matter and one too much coveted, the writer feels constrained to bring this to the attention of the profession, believing that a service will be done thereby.

New Instrument.

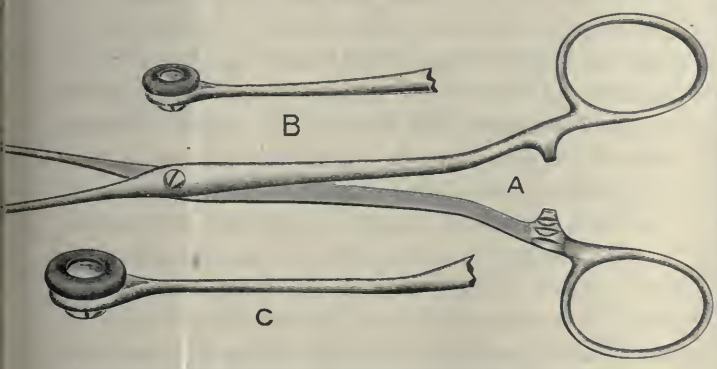
A RUBBER-JAWED INSTRUMENT FOR ABDOMINAL SURGERY.

CHANNING W. BARRETT, M.D.

Professor of Gynecology, Chicago Clinical School; Adjunct Professor of Gynecology, College of Physicians and Surgeons (Medical Department, University of Illinois); Assistant Surgeon Marion Sims Hospital.

CHICAGO.

Surgeons feeling the need of an instrument that would handle without injury the delicate abdominal organs and hold them firmly yet gently, have made efforts to produce such an



A. The smaller forceps, two-thirds actual size. B. The jaw of the smaller forceps, actual size. C. The jaw of the larger forceps, actual size.

instrument temporarily by wrapping the jaws of the forceps with gauze. This is troublesome and bungling. Rubber sheaths have been prepared, but these fit the forceps loosely, do not sufficiently protect the tissues from the serrations on the jaws, are insecure in their hold, etc. Instruments with flat, smooth surfaced jaws have been made, but they crush tissue or take an insecure hold.

The accompanying illustration shows a forceps devised by the writer and used with great satisfaction. The shanks are constructed to give the proper spring, allowing the sensitiveness of touch to be used to the fullest extent. Two sizes are being made, for lighter and heavier work. The jaw consists of three parts: 1. The steel cup at the distal end of the forceps, its concavity looking toward the opposite jaw. 2. A moderately firm rubber disk, cupped on the opposing surface. 3. A screw and nut which fastens the rubber disk to the jaw. The nut is tightened on the external surface of the jaw so that the screw head on the internal surface is imbedded in the rubber disk, leaving a circular ridge of rubber to meet a like circular ridge on the opposing jaw, each with a cupped center. The forceps are so constructed that with the first catch on the handles the jaws just fail of meeting each other, coming together with the second catch and compressing each other with the third.

This, then, with elastic rubber jaws and light steel shanks, makes a forceps with which the delicate organs may be securely picked up without injury to the peritoneum or deeper structure. The rubbers will stand a number of boilings and when past their usefulness may be easily removed and replaced by another set. The construction of the forceps is such that the rubbers can not come off at an inopportune moment. It is surprisingly tenacious in its hold, even with the lightest bite, on wet, slippery tissues.

By the aid of these forceps one is enabled to do much of the abdominal surgery through a smaller opening or through the same opening with greater ease. The appendix, tube, bowel or ovary may be grasped and brought to the opening, using one finger as a guide. Should one bring up the wrong organ or tissue the grasp has done no harm; it may be released and another trial made. It is an efficient aid in suprapubic, double inguinal or vaginal celiotomy. It makes a useful instrument for holding the tube or ovary for resection, or the uterus for removal of fibroid. It may be used for picking up an injured ureter or a surgical gall duct or gall bladder. In pus tube it may be set on the broad ligament, leaving the pus tube between its shanks. A bowel may be held in the same way, setting the forceps on its mesentery. It lessens the amount of intra-abdominal manipulations, the instrument being used when otherwise the hand would be. I recall vividly the characteristically emphatic remark of the late Dr. Fenger to his assistant: "Don't I tell you a thousand times never to use your fingers when an instrument can be used?" This instrument does away with some of the necessity for rubber gloves and makes manipulation easier, providing they are worn.

It suggests itself as being useful for surgery in many other regions, if made in proper sizes and special shapes.

100 State Street.

The Contract Doctor.—The editorial in THE JOURNAL of the American Medical Association for April 11, 1903, entitled "The Battle of Clubs," should be read before every medical society throughout America, and serve as a clarion note of warning to the profession in this country, against the insidious but sure approach of an evil which, unless stopped, will sap the life blood of the profession, as it has done and is doing in Europe, where physicians are reduced to the degradation of making visits to well-to-do members of clubs for the beggarly fee of "8, 6, or even 4 pfennig" per visit. These clubs are organized with "the obvious object of reducing physicians' fees to the poor. Instead of being the recourse of the really poor, to whom a reduction of medical fees would be really justifiable, these societies are utilized by the well-to-do, thus defrauding the profession of its legitimate earnings." Now, in this country, as far as it has gone, it is even worse. Scores of societies, lodges and so-called protective and benefit associations have been and are being organized, not among the poor, but among well-to-do laboring classes and even including in their organization a class of more than well-to-do merchants and office employes. The principal aim of all these organizations is cheap medical service, with some benefits of secondary importance, while in many of them the object, pure and simple, is cheap medical service. In no other profession would such a condition of affairs be possible, and the cry of "commercialism" will not much longer be sufficient to quiet the protests that will come before our various societies, against the growth of this shameless, open underbidding of one alleged reputable physician against another, for the privilege of serving well-to-do people for a pittance. We, as a profession, all stand ready and willing to aid the suffering poor, and will always do more true charitable work than any other profession in the world, but charity does not demand that we make professional visits to people who are earning from forty to two hundred dollars a month for fifteen or even less than fifteen cents a visit and perform serious surgical operations for the same price.—*Northwest Medicine.*

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THE ROLE OF SODIUM CHLORID IN THE PRODUCTION AND TREATMENT OF EDEMA.

Always a puzzling problem to pathologists, the processes involved in the production of edema seem to have been in part clarified by progress in the application of physical chemistry both to theory and practice, and the results have been made to yield much of practical value in the hands of French and Italian clinicians. Several years ago Loeb urged the importance of osmotic disturbances in accounting for edema, as of more significance than the merely mechanical factors of increased vascular pressure. According to him, the chemical changes occurring in tissues with oxygen supply decreased through venous stagnation, accounted for far more of the extravasation of fluid into the tissues than did the increased filtration that might result from the heightened vascular pressure present in the capillaries in any passive congestion, no matter how severe. Under conditions of decreased oxidation the normal steps of metabolism are so interfered with that there results an accumulation of soluble substances. On account of their concentration in the fluids of the cells and the tissue spaces there develops a rise in osmotic pressure in the tissues which leads to diffusion of fluids from the vessels to bring the osmotic pressure of the tissues into correspondence with that within the vessels, and a condition of edema is produced. The importance of this osmotic pressure was shown strikingly by Loeb in the observation that osmotic changes could readily be brought about in the muscles, causing a pressure more than 200 times as great as the maximum rise in pressure that can be produced in the pulmonic circulation by completely occluding the aorta. Such a comparison serves well to give the person unacquainted with the enormous forces of osmosis an inkling as to their great power.

Edema of nephritis has been perhaps most commonly ascribed to an inability of the kidneys to eliminate fluids, which, retained in the body, waterlog it into a condition of edema. The high blood pressure of the renal disease might also have been considered as leading to increased filtration into the tissues, as is supposed to be the case in obstructive edemas, were it not that interstitial nephritis with its high blood pressure usually has less edema than the parenchymatous form with a lower pressure. Injury to capillary endothelium by retained toxic substances has been considered to cause abnormal permeability with accumulation of plasma in the tissues. But none of these explanations has been altogether satisfactory. Determination of the molecular concentration of the urine by means of ascertaining its freezing point or its electrical conductivity has added not a little to an understanding of osmotic conditions in various renal diseases and their importance. Rather unexpectedly, perhaps, it has been found that sodium chlorid excretion and retention has possibly more to do with the disturbances of osmotic pressure in the tissues than any other ingredient of the urine.

If sodium chlorid is administered by mouth to a healthy individual the elimination of the salt is found to correspond pretty closely to the ingestion. In nephritics, however, this is far from the case. With interstitial nephritis the reaction is quite variable—in some cases the elimination increases and in some it does not, just as we have interstitial nephritis with and without edema. In parenchymatous nephritis, however, in which the predominating changes are in the secreting cells, the sodium chlorid output, generally much below normal, is not increased nearly in proportion to the amount taken in, and often there is no response at all. That the edema of nephritis bears a direct relation to this sodium chlorid retention is shown by the effect of administration or withdrawal of the chlorid from the diet of patients with edema. Deprivation of salt nearly always leads to a marked decrease in the edema while administration of salt is as promptly followed by increase in the swelling. Widal experimented with one patient, and by dietetic measures alone was able to alternately increase and decrease the amount of edema no less than nine times in a period of 62 days.

From these observations it would seem that in parenchymatous or epithelial nephritis the cells are less than usually permeable to sodium chlorid, as well as to other substances to perhaps a different degree. The sodium chlorid, accumulating in the blood, prevents elimination of water which is retained to keep the molecular concentration as nearly normal as possible. In other words, the water is retained not so much because the kidneys are at all impermeable to it as because they are impermeable to the salt. And, conversely, it is incorrect to assume that in parenchymatous nephritis the small excretion of solids is due to an insufficient elimination of water to carry them out. As the edematous fluids of the tissues have been found to contain more chlorid than the blood serum, it may be that the tissues have a greater affinity for the salt than has the blood, and as it accumulates in the tissue the water will accumulate there likewise.

Application of these facts to the treatment of edema has been most profitable. A diet poor in salt has been found very effective in the treatment of the dropsy of parenchymatous nephritis, and perhaps the best of such diets is milk. The success attained by the empirical use of milk is thus found to be due principally to its low

content of salt. It is not a matter of quantity or quality of albumin in the diet, for a meat diet without salt will decrease edema as quickly as a milk diet, while the addition of salt to the milk will cause the edema to recur rapidly. The French physicians who have given this matter its most complete test advocate the selection of certain cows for the milk supply and depriving them of salt, although this is not by any means essential for good results. Since the salt and not the albumin is the important factor in the diet, it is possible by judicious choice and preparation to secure quite a wide range of diet for the nephritic. Nor is parenchymatous nephritis alone to be benefited in this way. In cardiac dropsy, which was formerly supposed to be entirely a matter of increased blood pressure effects, the elimination of sodium chlorid is greatly impaired, apparently because of alterations in the renal epithelium resulting from the vascular stasis. Interstitial nephritis accompanied by dropsy is, of course, also to be considered in the same category, and in both of these good results have been obtained by the process of "dechloridation." In typhoid, pneumonia, and some other febrile diseases, there is also a retention of chlorids, whether from renal alterations or some other cause is not known. On this account it occurred to Chantemesse that the phlegmasia alba dolens of typhoid might be to a large extent the result of this hypochloruria, and he treated several patients on this basis with excellent results. The thrombosis itself, which he considers as rather a predisposing than an actual cause of the edema, seemed to disappear with great rapidity under this treatment. Again, the determination of the power to eliminate sodium chlorid, particularly the reaction of the elimination to changes of diet, is of much prognostic value. Courmont considers it of more value than the methylene blue test as an indicator of renal condition. Although so far this method of treatment has been chiefly utilized by the French and Italians, it promises so much relief, and is so entirely in accord with the facts already obtained both empirically and experimentally, that we may hope for more extensive application and reports as to its limitations.[1]

THE ANTITUBERCULOSIS CRUSADE.

The first lecture under the auspices of the Phipps Institute, Philadelphia, was delivered by Dr. E. L. Trudeau of the Adirondack Sanatorium. It was a happy idea to open the public campaign against tuberculosis with such an utterance[2] by a man to whom we owe more than to any one else—we think we can safely say—the movement for the sanatorium treatment of consumption in this country. Within only a few years have most of the institutions of this sort come into view, but the Adirondack Sanatorium under Dr Trudeau began as early as thirty years ago, when he, himself a seeker for health, sought the salutary climate of the Adirondack wilderness. The history of his efforts and the building up of the institution over which he now presides from its small beginning to its present development and international reputation is intensely interesting. It is a record of persistent effort and we may say of heroic philanthropy. The amount of self-sacrifice involved can be conceived best when we understand that the support of the institution from the beginning has depended on Dr. Trudeau's efforts, aided, as he says, by the able and often disinterested and self-sacrificing friends and assistants that from time to time he has had to call to his aid as the institution enlarged. He has kept the expenses to the patient within the limits of moderation notwithstanding the cost, and an annual yearly deficit has been made up to him by subscriptions from grateful ex-patients and whole-souled wellwishers of their race in the eastern cities. The therapeutic success of the institution has far outweighed its financial success. He shows that at least one-third of his patients have practically recovered and still a larger proportion have had their disease arrested or been materially improved. It is only a few years since the popular and even the medical idea of tuberculosis was that recovery from the disease was at best a happy accident and that therapeutic means, aside from certain climatic influences, were practically unavailing. If any one has helped to show the falsity of this idea in this country it is Dr. Trudeau.

Not the least interesting part of his lecture is the history he gives of his scientific work in the study of tuberculosis, in which he was practically a pioneer in this country as well as in the sanatorium treatment of the disorder. It is unnecessary to say that his work has been fruitful and that he anticipated in many respects the later work for which so much credit is now being given to Behring. That this work was done with the small facilities at his command is another instance of the often-demonstrated fact that the born investigator is to a certain extent independent of the highly-organized and elaborate facilities which modern research now seems to demand. Now, however, that Dr. Trudeau and his assistants have a well-appointed laboratory, we shall look for still better and more complete work in the future. Not the least important feature of the sanatorium work for which the Adirondack institution is largely responsible is the education of the public that it affords. It has been a sanitary missionary agency of the very highest rank and the lessons it has taught have not been confined to its immediate neighborhood or to this country alone, for wherever the treatment of tuberculosis is discussed the Adirondack Sanatorium results are quoted.

Whether or not we agree with some sanguine workers that our efforts are toward the complete eradication of tuberculosis as a scourge of humanity, there is no ques-

1. Original papers, several of which have already been abstracted in THE JOURNAL, can be found in the Bull. Soc. Méd. des Hôp. de Paris, June 12 to 26; the Lyon Médical, July 12 and 19; Semaine Médicale, June 24 and July 29, and others later, all of this year.

2. Medical News, October 24.

tion that the intelligent efforts now being made have already robbed this disease of many of its terrors and promise to still more reduce its mortality and render it, possibly in the not too distant future, a comparatively negligible factor in the death rate in civilized communities. Dr. Trudeau's lecture stands, therefore, as a sort of landmark showing what has been done and giving promise of what is yet to be done. A series of lectures of which it is the opening one will be continued, we understand, monthly, by such men as Drs. Osler and Gibbs of this country, and Pannwitz and Maragliano from abroad, with possibly Drs. Calmette of Lille, or Dr. William H. Welch, in addition.

It is not simply the outdoor life at the sanatorium, as Dr. Trudeau has in his practice and teaching all along pointed out, but also the close medical care and supervision, guided by thoroughly scientific study of the disease, that is required to rescue the victims of consumption and make the disorder itself less harmful. The publication of these lectures will go far, we think, to instill correct ideas in regard to the disease; there is need of this, for even in the profession itself there are many exaggerated and irrational notions extant in regard to its dangers and its avoidance. A crusade against tuberculosis, to be effective, must be thoroughly rational and must not be vitiated in any degree by the exaggerated and panicky fears that are encouraged by some of the writers on the subject. Dr. Trudeau has long pointed out by his Saranac experience that the dangers of communication of tuberculosis are easily avoidable, and he has also demonstrated that the established disorder itself is to a large extent amenable to therapeutic means at our command.

MEDICAL ASPECTS OF THE CHILD LABOR QUESTION.

At the recent annual meeting of the National Conference of Charities, Mr. Frederick L. Hoffman made some statements which are of interest to physicians. Mr. Hoffman is the statistician of a well-known life insurance company which makes a specialty of what is called industrial business, i. e., insuring working people and children for small amounts. His paper was entitled, "Medical and Social Aspects of the Child Labor Question." His first point is the lack of definite, trustworthy statistical evidence as to the effect of early labor on the physical and mental development of children, yet, as he reminds us, it is entirely practicable to obtain such evidence, and he urges that the whole matter be made the subject of a governmental inquiry. He says:

> The available statistical evidence, while not as complete as would be desirable, seems to prove conclusively that occupations with a trade life commencing very early, such as the textile industries, potteries, etc., experience an excessive death-rate at ages 15 to 24, and in many instances throughout life. . . . The laws of growth and the relation of health to growth are now so well understood that it would not be at all difficult to ascertain whether children employed at different trades are really physically injured, or stunted in their growth, or hindered in their development, physically as well as mentally, by such employment. It certainly would appear to me a paramount duty not to legislate along radical lines unless the basis of such legislation is all-convincing and established beyond the question of a possible doubt.

He also points out the fact that certain injuries and defects at least accompany the early school attendance of children, and in this connection he quotes Dr. Johnston of Washington, D. C., who believes that school instruction is commenced at too early an age, and who sums up the evidence thus far gathered as to the effect of school life in causing eye troubles, headache, sleeplessness and minor nervous disorders, and suggests that the beginning of formal school instruction should be at the age of 8 years, with the hope of avoiding overstrain of immature organisms.

On this subject, as well as on the subject of early child labor, there is much popular discussion of a very earnest sort which, however, entirely lacks a basis of carefully ascertained and analyzed facts. Mr. Hoffman is certainly right when he says that we need a body of reliable statistical evidence as to the effect of mental and physical labor of various kinds on the development of children. It is understood that a request for the appointment of a commission to obtain such evidence has been submitted to President Roosevelt. It is comparatively easy to secure the appointment of a federal commission, but not so easy, as experience has shown, to obtain from it the results its promoters desired. In this case if a commission were secured it would be especially the duty of the medical profession to urge the necessity for employing in such work the best scientific methods. A well-selected commission with adequate powers could certainly make a valuable contribution on which for a long time to come all efforts for reform in the legal protection of children should be based.

EUTHANASIA.

Every little while some misguided philanthropist comes out with a proposition to shorten the period of suffering of hopeless invalids, by gently putting them out of the way. The latest is from a New York clergyman in an address before a medical body. It is said that about one-third of the audience applauded him, but the applause, we take it, was not shown for this particular sentiment, but for the orator or the oratory. There is only one point of view the medical man can take on this subject, viz., that he has no right to trifle with a human life or shorten it by a second. Surely no thinking person can take any other stand. If it should be considered right to assist people out of the world on the pretense of saving them from suffering, the possibilities of using this plea by unscrupulous persons would become appalling. There are enough ways to relieve suffering without compromising life, and only such are legitimate. It is true that some people seem to live too long and that, on a purely utilitarian basis, old people past their productive period could be easily disposed of, but this is not the tendency of modern civilization. Any civilization that adopted such a course would be taking a long step backward toward savagery.

BRITISH AND AMERICAN ENGLISH.

There is a certain formula in use by the British reviewer of American books that reads something like this: "The English reader will, of course, be offended by the eccentricities of spelling affected by our transatlantic confrères," or something to that effect. It is interesting, therefore, in this connection to note a comment by the editor of one of our British contemporaries[1] which in a way criticises the spirit of conservatism in regard to all suggestions toward a simplification of the orthography of the language. It has its little fling, saying that "our American cousins, having no history and possessing no proprietary right to the language, being, in fact, only lodgers, so to speak, display no sort of reluctance to tamper with the ridiculous redundancies which our forefathers have bequeathed to us, and which our schoolmasters persist in maintaining to the discomfiture of the scholars and the curtailment of more useful studies." Aside from the little inaccuracies as to our proprietorship in the language, etc., the sentiment of the above quotation is good and "ridiculous redundancies" especially so. English as it is written in England, as well as "English as she is spoke" in that island, has its defects, and in neither case is it always and in all respects the best type of the common language of the Anglo-Saxon race. The British editor suggests that whether his countrymen like it or not, they will ultimately have to adopt the abbreviated transatlantic orthography. We hope that the change will be an earlier one than he seems to anticipate. It will not require any serious alteration of the mother tongue to make it a little less cumbrous in its spelling than is the prevalent insular British practice.

PLAGUE TREATMENT BY CARBOLIC ACID.

The ordinary dose of carbolic acid is usually given as from 1 to 3 drops, and 6 or 7 drops have been reported as producing very unfortunate symptoms, while half a dram is said to be almost inevitably fatal unless met by immediate adequate treatment. Nevertheless, we occasionally hear of what seems to be excessive dosage of this powerful agent. The Baccelli treatment of tetanus is an instance of rather heroic dosing, but the most remarkable usage of the remedy is reported from China in the treatment of plague. In a communication which is editorially noticed in the *Journal of Tropical Medicine,* October 1, Dr. J. C. Thompson reports treating cases of plague in Hong Kong with carbolic acid and in quantities of 144 gr. daily, divided into bi-hourly doses of 12 grains each. With these enormous doses he said he expected to see evidences of carbolic acid poisoning frequently appear, but it was practically unknown in his cases. In a few cases carboluria appeared, but the remission of one or two doses caused the symptoms to cease. Given well diluted, dyspeptic symptoms did not appear. As the result of his observations in 143 cases he believes this is the most hopeful method of treating plague thus far tried in Hong Kong and that carbolic acid is of undoubted value when given in doses sufficient to allow its concentration in the blood to exert its antiseptic action on the bacilli. It is not considered by him, however, as a specific remedy, but as an important aid in the treatment of this so generally fatal disorder. It is a matter worthy of investigation to determine, as the editor of the *Journal of Tropical Medicine* says, whether the toleration of these heroic doses by plague patients is a peculiarity of the disease or whether we must revise our ideas of the toxic character of the drug. We know that in many conditions a remarkable tolerance to certain agents is obtained and there is probably no reason for us to alter our ideas as to the dangers of carbolic acid under ordinary circumstances. If, however, the drug proves to be of as great value as these experiences indicate, the discovery is an important one.

1. Med. News and Circular, October 7.

Medical News.

ALABAMA.

Did Not Report Smallpox.—A negro employe of the Mobile postoffice was fined $10 for failing to report to the board of health the presence of smallpox in his family.

College Loses Appropriation.—The governor failed to sign the bill appropriating $20,000 to aid Mobile Medical College. He declared that he did not believe the bill received the constitutional majority, and that, further, he did not see that the source of the money had been provided.

Quarantine Ends November 1.—At a meeting of the Quarantine Board of Mobile Bay, the action of the Louisiana Quarantine Board was agreed to, which lessens, after October 15, quarantine regulations applying to Central American ports, and practically abolishes quarantine after November 1.

Personal.—Dr. Frank A. Lupton, Birmingham, has been elected a member of the board of censors of the Jefferson County Medical Society, vice Dr. Edward P. Riggs, resigned. ——Drs. Emmet K. Moon, Anniston, has been appointed county physician and Dr. William B. Arbery, Jacksonville, has been made physician to the county poor house of Calhoun County.

Colleges Open.—The Medical College of Alabama, Mobile, opened for its thirty-eighth annual session, October 8. Dr. George A. Ketchum, dean, delivered the address.——Birmingham Medical College opened for its tenth annual session, October 1. Dr. Benjamin L. Wyman, dean, Dr. Russell McW. Cunningham, lieutenant governor of the state, and Dr. John C. Le Grande, were among the speakers.

CALIFORNIA.

Anti-Expectoration Ordinances.—Ordinances prohibiting expectoration on sidewalks in San Rafael, under penalty of $25 fine, and on public conveyances in Sacramento under penalty of $50 fine, have been introduced.

Physician Exonerated.—Dr. R. E. Freeman, San Jose, against whom a complaint for performing a criminal operation had been made, has been discharged from custody, the preliminary examination having failed to sustain the charge.

Hospital on Wheels.—The San Pedro, Los Angeles and Salt Lake Railroad has added a hospital car to its equipment, fully equipped with medical and surgical supplies, and provided with an operating room, dispensary, private rooms and a ward.

Damage Suit Collapses.—In the suit brought by Martin Lathrop against Dr. Samuel J. Hunkin, San Francisco, in which the plaintiff claimed $50,000 damages for alleged malpractice, the plaintiff failed to appear, and the judge ordered a verdict for costs for the defendant.

Santa Ana Hospital Association.—At the annual meeting held October 9, the board of managers was re-elected, and Dr. John L. Dyer was elected president; Dr. Howard S. Gordon, vice-president; Dr. James P. Boyd, treasurer, and Dr. Charles D. Ball, secretary. The capital stock of the association was increased from $10,000 to $25,000.

San Joaquin Valley Medical Society Meets.—At the sixteenth semi-annual meeting held in Fresno October 13, the following officers were elected: President, Dr. James A. Moore, Hanford; vice-presidents, Drs. Robert E. Bering, Tulare, Harry W. Taggart, Stockton, and R. O. P. Phillips, Kingsburg, and treasurer, Dr. Thomas M. Hayden, Fresno. The secretary and assistant

secretary held over. After the meeting the society was banqueted by the Fresno Medical Society.

College Year Begins.—The College of Medicine of the University of Southern California, Los Angeles, opened for the fall term, October 8. The following changes in the faculty are announced: Dr. Walter Lindley, professor emeritus of gynecology; Dr. Carl Kurtz, professor of, and Dr. Wesley W. Beckett assistant in gynecology: Drs. David C. Barber, George L. Cole and W. Jarvis Barlow, professors of clinical medicine; Dr. Joseph Kurtz, professor of therapeutics; Dr. Randall Hutchinson, assistant professor of physical diagnosis; Dr. Stanley P. Black, professor of histology and pathology, and Miss E. L. Leonard, lecturer on histology and pathology.

Personal.—Dr. John R. Haynes, Los Angeles, has returned from England.——Dr. Andrew W. Hoisholt of the state hospital staff, Stockton, has returned from Germany.——Dr. Titian J. Coffey, Los Angeles, has returned after six months in the east.——Dr. Oscar W. Steinwand has been appointed city health officer of Selma.——Dr. and Mrs. Peter Jauss, Los Angeles, have returned from a six months' tour of northern Europe.——Dr. William J. Young, Stockton, has returned from Germany.——Dr. Joseph W. Jauch has returned after a four months' sojourn abroad.——Dr. and Mrs. F. R. Orella, San Francisco, have returned from Europe.——Dr. Albert S. J. Smith, San Jose, has gone to Europe to study for a year.

CONNECTICUT.

Personal.—Dr. Charles S. Stern, Hartford, chief medical inspector of the board of health, has resigned, and will go to Europe.

Forfeits Bail.—Dr. Edmund I. Thomson, New Haven, charged with performing a criminal operation, was not present when his case was called, and his bond of $1,500 was declared forfeited.

Connecticut Members of the Association.—At the second annual meeting of Connecticut members of the American Medical Association held at Savin Rock, October 13, Dr. Charles J. Fox, Willimantic, was elected president; Dr. Gustavus Eliot, New Haven, vice-president, and Dr. James M. Keniston, Middletown, secretary.

Gives Hospital to Greenwich.—Robert E. Bruce and his sister Sarah E. Bruce of Greenwich, have given a plot of land for a contagious disease and emergency hospital to the town. On the land are four buildings, one for smallpox, two for other contagious diseases and one to be used as an emergency hospital. The property is valued at $75,000.

DISTRICT OF COLUMBIA.

Barnes Hospital Addition.—An addition to Barnes Hospital at the United States Soldiers' Home has been contracted for at a price of $190,131.

Army War College Building Recommended.—The Secretary of War will recommend to congress an appropriation of $300,000 for the erection at Washington of a general military hospital and a similar amount for the Army War College.

Medical Supervisors Want Pay.—The board of medical supervisors and the various medical examining boards do not wish to serve longer without pay and they have asked for an appropriation of $2,500 from congress in order that the supervisors and examiners may each be paid at the rate of $10 for every meeting attended.

Health of District.—The report of the health officer for the past week shows the total number of deaths to have been 102, of which 65 were white and 27 were colored. There were 68 deaths, of which 38 were white and 30 were colored. There were 16 cases of diphtheria, 19 of scarlet fever and 210 of typhoid fever under treatment at the close of the week.

GEORGIA.

Offers to Take Father's Place.—Dr. Walter P. Rushin, Albany, has written the governor offering to serve out the life sentence for murder for which his father is now imprisoned in the state penitentiary.

College Opens.—Georgia Medical College, Augusta, opened for its seventy-second annual session, October 1. Dr. James B. Morgan delivered the address on "Higher Medical Education and the Prevention of Disease."

Smallpox in Middle Georgia.—Dr. H. F. Harris, secretary of the State Board of Health, reports that he found smallpox in every town he visited during a two weeks' tour of southern middle Georgia. He urges compulsory vaccination.

Fatal Hospital Fire.—A fire in the Grady Hospital, Atlanta, destroyed the male and female wards for colored people early on the morning of October 17, and only prompt and heroic action on the part of the hospital staff and employes, firemen, police and citizens prevented great loss of life. One negro woman, who was very sick, died after her removal from the hospital.

ILLINOIS.

Wabash Hospital Open.—The Wabash Middle Division Hospital, Decatur, was opened to receive patients October 5.

Hospital Dedicated.—The new addition to St. Elizabeth's Hospital, Danville, was dedicated, October 13, with appropriate ceremonies, following which a banquet was served to the staff and the visiting clergy by the Sisters of St. Francis.

Personal.—Drs. Henry W. Kendall, Quincy, and Albert G. Pickett, Chicago, were elected medical advisers of the Fiftieth Illinois Infantry, at its recent reunion.——Dr. Walter J. Brown, Danville, has been commissioned first lieutenant and assistant surgeon in the Illinois National Guard, and assigned to the artillery battalion.——Dr. Thomas N. Miller, Rockford, fell from a tree, October 8, and injured his spine.

Smallpox Thriving.—Dr. Joseph E. Kunkler, Bloomington, reports 23 cases in two public schools, the schools were ordered closed and an ordinance providing for compulsory vaccination was introduced in the city council, October 23.——Westfield has 17 cases in the isolation hospital, and a number quarantined at home. Public meetings have been prohibited and the public schools closed.——Dr. Heman Spalding of the Chicago Department of Health, after inspection of the situation at Lemont, reports that there are at least 25 cases there. Schools are closed and public meetings forbidden.——Belleville is reported as having 25 cases, with 4 deaths, and Freeburg, 3 or 4 cases.

Chicago.

An Award of Twenty Per Cent.—In a suit for $5,000 brought by Dr. Alexander Hugh Ferguson against Frank L. Loring and wife, for services rendered, the jury awarded the plaintiff $1,000.

Increase in Diphtheria.—Diphtheria continues to increase—106 cases being reported, as against 89 during the previous week. Reports come from all parts of the city, but the northwest section is most affected. Measles, scarlet fever and whooping cough are at a minimum.

The Week's Mortality.—For the week ended October 24, 442 deaths were reported, an annual mortality rate of 12.21 per 1,000, which compares favorably with 12.68, the rate of the previous week and 13.83, the rate for the corresponding week of 1902. Consumption, as usual, leads with 52 deaths; pneumonia follows with 49. Other principal causes were violence, 40; Bright's disease, 38, and heart disease, 32.

"Murderous Pneumonia."—In the current issue of the bulletin of the Chicago Department of Health is the following:

> The community is again facing the beginning of the murderous pneumonia season. Between the last of this month and the close of next May upward of 2,100 persons will die of pneumonia in Chicago, while from consumption—the "great white plague," which is practically monopolizing the attention and the efforts of the laborers in the field of preventive medicine—there will hardly be more than 1,300 deaths during the same period.
>
> Since the beginning of the last great pandemic of influenza, in 1889, there have been 33,861 deaths from pneumonia in this city and 29,980 from consumption—an excess of 11.4 per cent. of pneumonia mortality. During this period, that is, the last thirteen years, 1890-1902, the deaths from pneumonia have increased from an average of 117 in the 100,000 of population during the previous thirteen years, 1877-1889, to 179—an increase of nearly 53 per cent. Corresponding figures for consumption are 171 per 100,000 in the first period and 160 in the second—a decrease of a little more than 6 per cent.

MARYLAND.

Personal.—Dr. William L. Lewis, Kensington, has been appointed health officer for Montgomery County and secretary of the board of health in place of the late Dr. E. E. Stonestreet.

Baltimore.

Historical Club Election.—At the Johns Hopkins Hospital Historical Club Dr. Eugene F. Cordell was elected president and Dr. Thomas B. Futcher, secretary.

Deaths for the Week.—There were 171 deaths last week in the city, an annual rate of 16 per 1,000. There were 4 deaths from typhoid fever, and 9 from diphtheria.

Physician Wins Suit.—A suit against Dr. Edward J. Bernstein for $10,000 damages, for the alleged loss of the life of a child from meningitis following the enucleation of an eyeball, has been decided in favor of the defendant.

Personal.—Dr. Charles E. Simon has returned from Nova Scotia.——Dr. Charles W. McElfresh has been elected associate professor of clinical medicine in the University of Maryland, vice Dr. Morris C. Robins, resigned.——Among the visitors to Baltimore last week were the members of the Moseley Commission (referred to in these columns last week), sent from England to study American universities.

MASSACHUSETTS.

Milk for Sick Babies.—A total of $4,530 was contributed in Boston this summer for the fund which supplies modified milk to the sick babies of the poor.

Hospital for Melrose.—A new private hospital in which any physician may care for his patients, is to be established in Melrose by two graduate nurses of the Melrose Hospital Training School.

Personal.—Dr. Walter S. Carr, who for 19 years has practiced in North Adams, has gone to Colorado on account of ill health. ——Dr. Arthur K. Drake, assistant superintendent of the state Hospital, Tewkesbury, has been elected superintendent of the Lowell General Hospital.

Registration at Harvard Medical.—The registration of Harvard Medical School shows a total of 374 students, a decrease, accounted for by the graduation of a class admitted under the low standard. Harvard now requires an A.B., or its equivalent, for admission to the medical school.

Ether Anniversary.—The fifty-seventh anniversary of the first administration of ether for a serious surgical operation was celebrated by the trustees of the Massachusetts General Hospital by an open-air lunch and an inspection of the new out-patient department. Several thousand people were present.

Limit Authority of Staff.—The managing board of Milford Hospital has notified each member of the staff officially that "no operation of a dangerous character shall be performed without the consent of at least two members of the staff other than those on duty at the time of the performance of such operation."

No Diphtheria Epidemic.—There has been considerable newspaper excitement in Boston over the supposed existence of an epidemic of diphtheria among the school children. The City Board of Health has had cultures made by school inspectors in the districts mentioned and finds remarkable freedom from the presence of the germs in healthy throats. Several towns in the state, however, not far from Boston, are having many cases of diphtheria.

Bequests.—Dickenson Hospital, Northampton, received $1,000 by the will of Elizabeth D. Clapp of that city.——By the will of Dr. George Haven, Boston, Harvard Medical School receives $25,000, and a share in the residue, and the Boston Lying-in Hospital, with which Dr. Haven was long connected, receives $20,000, and an equal share in the residue.——In the will of Miss Mary P. Ropes of Salem, filed for probate, October 23, Salem Public Hospital is given $2,500.

MISSOURI.

Personal.—Dr. John G. Parrish, Sr., is critically ill at his home in St. Louis. Dr. Theodore Ilg, St. Louis, fainted in the street, October 12, and fractured his skull.

Charged with Illegal Practice.—J. A. Parker, J. C. Hoyt and F. A. Starback, Kansas City, were arrested October 12 on complaint made by the State Board of Health, charging them with practicing medicine without license. They gave bonds of $500 each, and trial is set for November 27.

New Surgical Society.—On September 21 the St. Joseph Surgical Society was formed with the following officers: Dr. Jacob Geiger, president; Dr. O. Beverly Campbell, vice-president; Dr. L. A. Todd, secretary; Dr. Thompson E. Potter, treasurer, and Drs. Charles H. Wallace and James W. Heddens, censors.

PENNSYLVANIA.

Quarantine of Allegheny Threatened.—The State Board of Health has notified the authorities of Allegheny that, unless they at once take active measures to stamp out smallpox, the board will probably quarantine that city.

Smallpox and Typhoid.—For the week ended October 24, 9 new cases of smallpox were reported in contrast to 54 for the previous week. Of typhoid fever 80 new cases occurred as compared with 103 for the previous week.

Work for the Insane.—The inmates of the insane department of the Philadelphia Hospital have little to occupy their time, except to help care for their apartments and to prepare and serve their food, so that they spend much of their time in idleness. Director Martin proposes to introduce horticulture, and to that end asks for the contribution of plants.

Experimental Inspection of Schools.—The committee on hygiene of the board of education has authorized the director of the department of health to assign a medical inspector to one of the public schools who shall inspect the pupils daily. This is to serve as an experiment as to the value of such work, and will go far in determining whether a system of inspection for all the schools will later be inaugurated.

Prosecutions for Adulterations.—Dairy and Food Commissioner Warren has ordered prosecutions against 365 liquor dealers in the state for adulteration. Of samples taken 85 per cent. are said to have contained salicylic acid. He has also ordered ten prosecutions in Philadelphia against violators of the lard and oleomargarin laws. Several manufacturers of compound lard have subscribed a large amount to defend the packers and dealers.

New Hospital for Consumptives.—The board of trustees of the Rush Hospital for the Treatment of Consumptives has approved plans for a new hospital building as an annex to the present hospital. The new building will accommodate 40 patients, doubling the capacity of the institution. One-fourth of the amount necessary for the addition, $20,000, has been appropriated by the state, and it is necessary for the friends of the institution to raise the balance.

WISCONSIN.

The New Year.—Milwaukee Medical College opened October 1 with a lecture by Dr. William J. Cronyn on "Medical Jurisprudence."

Superior's Deaths for the Year.—The report of the secretary of the local board of health for the year ended October 1 shows that 46 deaths were due to pneumonia, 40 to scarlet fever, and 30 to consumption during the year. The total of deaths for the year was 453.

Smallpox Closes School.—The German school at Weyauwega has been closed because of smallpox among the pupils. As no physician has been employed, it spread considerably before it came to the attention of the local authorities. A strict quarantine has been instituted and no further spread of the disease is anticipated.

Personal.—Dr. William C. Bennett, for seven years registrar of vital statistics of Milwaukee, has resigned, and Dr. F. E. Darling has been chosen to succeed him.——Dr. Albert F. Heising, Menominie, has returned from Europe.——Dr. F. C. Kovats, senior interne at the Emergency Hospital, Milwaukee, has resigned, and Dr. George K. Koeppel has been promoted.

GENERAL.

Assistant Surgeons U. S. Navy Appointed.—Five new assistant surgeons have been appointed in the Navy. There are still eleven vacancies in the medical corps.

Personal.—Dr. T. Storie Dixson, a member of the medical board of New South Wales, Australia, was in Chicago last week, and will visit Europe before his return to Sydney.

Assistant Surgeons U. S. Army Appointed.—At the recent examination of candidates for commissions as assistant surgeons in the Army, held in Washington, D. C., only 5 out of over 20 candidates who reported for the examination qualified. There are now eighteen vacancies remaining in the medical department of the Army. Another examination will be held in Washington next May.

Yellow Fever Refugees.—An interesting feature of the yellow fever outbreak in Monterey, Mexico, is the migration of a hundred or more people to groves near that city, where they live in tents. They thus are away from the crowded centers of infection. They prefer not to go further because of business or family ties. Many others have gone to adjoining towns. Only a few cases of yellow fever have occurred. There are other diseases reported there, including malaria, which have been confused with yellow fever.

The Enno Sander Prize.—All persons eligible to active or associate membership in the Association of Military Surgeons of the United States may compete for the prizes (first prize, a gold medal, value $100; second prize, a life membership in the association, value $50) offered by that association for the best essays on "The Relation of the Medical Department to the Health of Armies." In fixing the precedence of the essays submitted, the board will take into consideration—primarily—

originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character. Essays will consist of not less than ten thousand, nor more than twelve thousand words, exclusive of tables. Three typewritten copies of the essay must be sent marked with a nom de plume, and with the author's name in a separate envelope, as is usual in prize competitions. All essays must be received by Sept. 10, 1904, by Secretary James Evelyn Pilcher, Carlisle, Pa.

FOREIGN.

For spitting in a street car a man in London was fined $30. This is said to be the first prosecution there. The offense was accompanied with the use of foul language.

Sentence for Fatal Quack Practices.—The German charlatan, Runge, has been condemned to three months' imprisonment at Lauenburg on account of the death of a young woman whom he treated by extensive venesection and application of 22 leeches. She had a gastric ulcer and succumbed within a few days to debility from the loss of so much blood. Another charlatan, Scheibler, has been fined $75 at Berlin for fraudulent practices and the use of the title, professor.

Compulsory Accident Insurance of German Students.—The German universities are introducing the plan of compelling the medical students to insure themselves against accidents. At Greifswald it is obligatory for all the students in the departments of medicine and physics, but at Heidelberg it is obligatory only for those in the institutes of anatomy, pathology, hygiene, etc., in which there is possible danger of accidents, and also for the students working on the cadaver. The students must bear the expense of the insurance themselves, without aid from the university or state.

Fined for Insulting the Medical Profession.—A teacher and a capitalist of Elberfeld, Germany, have been fined $18 each for "insulting the medical profession." The first mentioned is president of the local association of "nature healers," and with the coöperation of the other advertised in the local papers a free course of lectures for the benefit of physicians on the diagnosis of eye affections. The physicians of the place regarded the advertisement as a deliberate insult and sued for damages. The court took the same view and fined the defendants as stated.

The Psychologic Aspect of the Humbert Frauds.—Dr. Fay comments in the *France Médicale* on the Humbert case as an example of what is possible to depravity plus hysteria. He says that as an illiterate country girl, Thérèse Humbert invented stories of concealed treasures while still a child, and as a young woman, a pronounced hysteric, she became convinced of the truth of what she was continually asserting in regard to the imaginary Crawford millions. This obsession persisted to the end, and still in prison where she is serving a five-year sentence. He adds: "Hysteria produces its saints and its sinners. Psychologists have always been interested in the record of the holy nun known as Sainte Thérèse who was affected with the gravest organic form of hysteria, hysteric paralysis with contractions. History now gives us in the life of the Humbert woman an amazing example of criminal human nature complicated by hysteria."

The Nuremberg Historical Medical Museum.—The last number of the *Deutsche Med. Wochenschrift* brings the report of the progress realized in this new institution which aims to preserve everything relating to the history of medicine in Germany. The report is from the hand of Dr. R. Landau, whose untimely death we recently chronicled. He describes with enthusiasm the many donations received during the year since its inception, and points out the great value to such a museum of original prescriptions from the hands of the dead masters, and urges their collection, also diplomas and other documents. One of the gems of the museum is a diploma given to an obstetrician in 1731, which is ornamented with designs introducing the surgical instruments used at that date. Another interesting historical feature is a collection of the first local pamphlets from the watering places. The success of this historical museum is now assured, if only as a memorial to Landau.

European Decorations for the Profession.—Two Spanish physicians were decorated by the King of Spain on the occasion of the International Medical Congress at Madrid. The order of the Cross of Alphonso XII was conferred on Dr. Larra y Cerezo and the Grand Cross on Dr. Cortezo, who is co-editor of the *Siglo Medico* and president of the International Medical Press Association. The *Siglo Medico* at once opened a subscription list to raise funds to present the insignia of the orders to the recipients, and now announces that sufficient contributions have been received for the purpose—about $170 and $213. These decorations are not always accompanied by the gift of the insignia, and in certain orders when they are presented it is with the understanding that they are to be returned to the sovereign presenting them on the death of the one thus honored. The Order of the Golden Fleece is one of this thrifty kind, and the badge thus acquires great historical value as it is passed from one holder to another. The Standard dictionary contains cuts of the most noted insignia, and our readers will remember that the order of the Dannebrog, founded in 1219, was conferred by the King of Denmark on Dr. Christian Fenger of Chicago, not long before his death. Several other members of the American Medical Association have also been thus distinguished by foreign potentates.

International Sanitary Conference.—Twenty-five powers are represented at this conference now in session at Paris. There are 69 delegates, 39 of whom are members of the medical profession. The invitation to the conference was issued by Italy, and the French ambassador to Italy, Mr. Barrère, presides over the meetings. France is represented besides by Brouardel, Proust, general inspector of the sanitary service in France, Roux of the Pasteur Institute, Calmette of Lille and three other physicians from the French colonies in Africa, with G. Louis, director of consulates. Great Britain is represented by de Bunsen of the British embassy, and two physicians, T. Thomson and F. G. Clemow, with Colonel Richardson of the Indian Medical Service and Mr. Alban. There are 4 official delegates from Germany, including Gaffky of Giessen and Nocht of Hamburg. The delegates from the United States include Surgeon Anderson, medical inspector of the European station, and Col. Gorgas, assistant surgeon-general, U. S. A., late of Havana, both members of the American Medical Association, with Dr. Giddings. The part played by the rats in the dissemination of the plague has been brought to light since the last international conference of the kind, and uniform measures to prevent infection from this source are under discussion. Another theme is the quarantine for the ships passing through the Suez canal. The wishes of Great Britain conflict with those of the other powers on this point.

A Warning to Wealthy Parents.—A very important lesson is drawn by the *Deutsche Med. Wochenschrift* from a recent sensational affair in Germany, urging the necessity for medical oversight of the children of wealthy parents. The two sons of a prominent Berlin banker were entrusted to a private tutor, who lived on a country estate or in the little town of Bayreuth with them while the parents were traveling or at home in Berlin. No one except the tutor was responsible for the lads, and their mental training seemed to be the only care of the parents. The tutor proved to be a typical case of extreme sadism, and during the months that the boys were under his charge maltreated them to such an extent that one has since died. If some local physician in the country town had been written to and requested to look after the children at brief intervals this terrible catastrophe might have been averted. Our exchange adds a warning to all parents, and especially to those of the upper ten thousand, to regard the health of their children as their most precious treasure, and not to leave the care for their physical welfare entirely in the hands of outside persons—no matter how "ideally" they may seem fitted for the task. In the case mentioned a number of extraordinary circumstances combined to keep the boys in their slavery and prevent its reaching the ears of the parents, who apparently regarded the boys' health and happiness as "neglectable quantities." The tutor has been sent to the penitentiary for eight years.

Decisions of the Prussian Medical Court of Honor.—In a recent decision the court stated that misdemeanors, etc., on the part of physicians, outside of their professional work, come within the jurisdiction of the court of honor, as such proceedings conflict with the honor of the profession. In another case a local court of honor had fined a physician for selling his practice to his successor. Appealing to the central court of honor the physician showed that the price received, $750, was in payment for the vehicles, etc., valued at $800, and that the practice had not been included in the bargain, and the sentence of the lower court was reversed. In another case a physician was fined for associating himself in business with a charlatan. He offered testimony to prove that the charlatan had contracted with him to refrain altogether from any connection with medical affairs, and, hence, he considered that the man had ceased to be a charlatan. The decision of the court was to the effect that any business association with a charlatan is *per se* an offense against professional ethics, but as the physician had severed at once his connection with the charlatan as

soon as he learned of the disapproval of the court, this was accepted as a mitigating circumstance and the lightest penalty imposed. Another physician had examined a deaf and dumb workingman, but in making out the certificate later did not think of this defect and testified that he was sound. The local court of honor censured the physician but did not fine him, stating that a single act of negligence is not sufficient to justify the assumption that a physician is habitually negligent. The higher court of honor took up the case and proclaimed that neglect of proper carefulness, even in a single instance, is sufficient to show that the physician does not exercise his profession in a conscientious manner. The failure to specify the deafmutism of the subject when taking the notes for an official certificate, is sufficient grounds for the assumption of negligence, and a penalty was therefore imposed.

PARIS LETTER.

Radical Treatment of Eclampsia.

Dr. Maury, former interne of the Paris hospitals, has written a thesis recently on the treatment of eclampsia, in which he strongly advocates Bounaire's treatment, consisting in removing the child as soon as possible. If labor comes on during eclampsia, it should be hastened, whatever may be the date of the pregnancy. When such is not the case, it should still be carried out when the attack of eclampsia is severe. In some cases the condition of the mother is such that the only means of saving the child is to perform the "accouchement forcé." After the beginning of the eighth month it is well to do this if eclampsia does not respond quickly to the treatment.

Microbes Necessary to Nutrition.

A German physician, Schottelius, has been carrying out some experiments on some chickens which are highly interesting as tending to show that some bacteria are necessary to life. Five new-born chickens were given sterilized food, and though they ate much more than other chickens, none was able to live more than eleven to twenty-nine days. The digestion seemed to take place normally, but there was no increase in size. Schottelius made another experiment, which consisted in giving some of these chickens a culture of *Bacillus coli gallinarum*. The chickens began to grow larger immediately and no anomaly was noticed.

Destruction of Rats by Carbonic Acid.

In the French Review of Hygiene a method of destroying rats on board ship has been recently described by Dr. Jacques of Marseilles. Carbonic acid was used, and for a space of 120 cubic meters 40 cubic meters were employed. The carbonic acid was brought to the hold of the vessel by means of a long pipe, which divided off into four smaller pipes passing into the merchandise. The hold was kept closed three hours, and then thoroughly ventilated by means of the same apparatus. Fifty-two rats which had been placed in the hold were found dead. One advantage of this operation is its absence of odor, and the fact that it can hurt no merchandise.

Radiography of Gallstones.

At a meeting of the Academy of Sciences held last month Drs. Mauclaire and Infroit described how they had obtained a radiograph of gallstones. This is, it seems, the first time that such a result has been obtained. A small tube, which was "osmo regulateur," and charged by a static machine with eight places, was placed at 75 centimeters from the radioplate, on which the patient was placed directly. A bandage of linen, 30 centimeters large, served to compress the abdomen. The tube was but slightly penetrating and the pose only lasted 10 minutes.

Novel Treatment of Gastro-enteritis.

At a meeting held by the Academy of Medicine October 13, Dr. H. de Rothschild, one of the members of the well-known family of that name, described the results of his treatment of infantile gastro-enteritis. It seems that six thousand infants under a year of age die on an average every year in Paris from this disease. Dr. de Rothschild has milk centrifuged so as to remove the butter, then acidified by using pure cultures of lactic acid; 30 to 60 cubic centimeters are then given to a child. After this treatment the temperature dropped in a short space of time, and the condition of the patients improved, the most noticeable fact being that they increased in weight. Out of 14 cases treated in this manner, a complete cure was obtained in 13 cases, and in one case only was there a relapse, which ultimately was followed by a cure.

The Relations of Cancer and Ulceration of the Stomach.

Duplant of Lyons, a pupil of Professor Tripier of Lyons, published in 1898 a work in which he declared that it was not proven that cancer ever succeeded ulcer of the stomach, and went so far as to say that such an event never took place. Dr. Andistere has just published a thesis in which he proves that such a transformation may take place, and is not rare. This is most frequently seen in ulcers situated in the prepyloric region and begins by the borders of the ulcer. A diagnosis can be made out by the persistence of the morbid symptoms after prolonged treatment, especially the pain. The prognosis is much more grave than that of ordinary cancer, as complications of both diseases may supervene.

Marriages.

John D. Cantwell, M.D., Davenport, Iowa, at Ackley, Iowa, October 8.

Edwin W. Poinier, M.D., to Miss Lela M. Peet, both of Chicago, October 27.

Lewellys F. Barker, M.D., Chicago, to Miss Lilian Halsey, at Baltimore, October 29.

Frederick H. Baetjer, M.D., to Miss Mary Y. Carey, both of Baltimore, October 14.

Richard C. Norris, M.D., Philadelphia, to Miss Grace Thompson-Vogt, October 14.

W. W. Coleman, M.D., Lawndale, Ill., to Miss Bida Dunham, near Lincoln, Ill., October 14.

Harry G. Watson, M.D., to Miss Adelaide Marie Erichs, both of New York City, October 14.

Joseph Marshall Flint, M.D., to Miss Anne Apperson, at Pleasanton, Cal., in September.

Edward Homer Gee, M.D., to Miss Lavinia Logan Gant, both of Zanesville, Ohio, October 14.

Louis H. Cisler, M.D., Marietta, Ohio, to Miss Carol S. Nye, at Brookline, Mass., October 12.

Wallace W. Robinson, M.D, Portland, Me., to Miss Addie E. Bowden of Chicago, October 28.

Glasgow Armstrong, M.D., to Miss Jessie May Bowling, both of Staunton, Va., October 14.

Julian F. Chisholm, M.D., Savannah, Ga., to Miss Nannie E. Levering, at Baltimore, October 15.

J. A. Johnson, M.D., Bottineau, N. Dak., to Miss Emma Babler of Humboid, Wis., October 7.

Homer Samuel Warren, M.D., to Miss Charlotte A. Van Housen, both of Chicago, October 15.

Herman Carl Merker, M.D., Chicago, to Miss Nina A. Williams of Rochester, N. Y., October 14.

Edward Sanborn Smith, M.D., Macon, Mo., to Miss Emily Frey, at Washington, D. C., October 14.

Victor L. Zimmerman, M.D., Brooklyn, N. Y., to Miss Margaret King of New York City, October 14.

Charles P. Aling, M.D., Marine Mills, Minn., to Miss Genevieve McCool, at Hillsboro, Ill., October 23.

Harry Clemm Hyde, M.D., Baltimore, to Miss Mary Catherine Duncan, at Norfolk, Va., October 14.

Travis Scott, M.D., Pleasant Plains, Ill., to Miss Witty, at her home near Newmanville, Ill., October 14.

Leonidas A. Koontz, M.D., to Miss Rachel J. Corley, both of Sutton, W. Va., at Baltimore, October 11.

Charles H. Spencer Williamson, M.D., to Mrs. Josephine Gillette Stillwell, both of Chicago, October 15.

Joseph Francis Ward, M.D., Brooklyn, N. Y., to Miss Elizabeth R. Hawkins, at Baltimore, October 15.

Deaths.

Jean Fresne Chauveau, M.D. Geneva (N. Y.) Medical College, 1853, a member of the American Medical Association, New York State Medical Association, New York Academy of Medicin, New York County Medical Society, and New York Neurological Society, attending physician at the French Hospital for twenty years, and for fifty years a practitioner of New York City, died at his home, October 17, aged 72.

Maurice Fieschor Pilgrim, M.D. Howard University, Washington, D. C., 1884, once vice-president, and at the time of his death chairman of the executive council of the American

Electro-Therapeutic Association, died at his home in New York City, October 18, from pneumonia, after a brief illness, aged 45.

Sidney S. Willis, M.D. College of Physicians and Surgeons, New York, 1890, a member of the American Medical Association, and one of the staff of St. Elizabeth's Hospital, Appleton, Wis., died at that institution, October 14, from typhoid fever, after an illness of ten days, aged 35.

John L. Waldie, M.D. Long Island College Hospital, Brooklyn, N. Y., 1896, died at his home in Brooklyn, N. Y., October 18, from kidney disease, after an illness of two weeks, aged 31. He was a member of the staff of St. Mary's Hospital and of the Kings County Medical Society.

Albert Nott, M.D. University of Vermont, Burlington, 1869, some-time dean of the Boston College of Physicians and Surgeons, and of the Tufts College Medical School, died suddenly at his home in West Newton, Mass., October 10, from rheumatism of the heart, aged 53.

J. W. Carleton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1869, of Sisseton, S. Dak., a member of the American Medical Association, was found dead in Dry Wood Lake, October 14. He is supposed to have died from heart disease.

Robert Aberdein, M.D. Bellevue Hospital Medical College, New York City, 1867, of Syracuse, N. Y., who had retired from practice three years ago on account of ill health, died at the Hospital of the Good Shepherd, Syracuse, October 18, aged 57.

W. D. Hoyt, M.D. Jefferson Medical College, Philadelphia, 1854, a member of the American Medical Association, and one of the oldest practitioners of Rome, Ga., died at his country home near Farrill, Ala., October 16, from septicemia, aged 75.

James I. McConnell, M.D. Atlanta (Ga.) Medical College, 1884, a member of the International Association of Railway Surgeons, died at his home in Napoleonville, La., October 7, after an illness of one month.

John George Neal, M.D. Kentucky School of Medicine, Louisville, 1890, died in Santa Rosa, Cal., from septicemia, October 11, three days after an operation for abscess in the hip-joint, aged 38.

Hamill M. Alexander, M.D. University of Pennsylvania, Philadelphia, 1876, a member of the American Medical Association, died at his country home at Conewago, Pa., October 13, aged 52.

Albert F. Sawyer, M.D. Harvard University Medical School, Boston, 1852, one of the physicians in attendance on President Garfield, died at his home in San Diego, Cal., September 29, aged 84.

DeWitt Clinton Clark, M.D. New York University, 1878, was stricken with paralysis, September 24, near Orting, Wash., and died at the home of his daughter in Puyallup, September 30, aged 68.

David A. T. Bjorkman, M.D. College of Physicians and Surgeons, Chicago, 1898, of Evanston, Ill., died from tuberculosis at the Glockner Sanitarium, Colorado Springs, Colo., October 14.

Marsh H. Smith, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1875, of Manchester, Ill., died suddenly from heart disease while on a train at Dwight, Ill., October 16.

George C. Baker, M.D. University of Tennessee, Nashville, 1894, of Greenville, Ill., died suddenly from apoplexy, October 9, while making a professional call at Woburn, Ill., aged 42.

Ludwig S. Filbert, M.D. Pennsylvania Medical College, Philadelphia, 1847, died at his home in Philadelphia, October 19, from acute gastritis, after an illness of twelve days, aged 78.

John Ellis Wright, M.D. Marion-Sims College of Medicine, St. Louis, 1899, of Oak Grove, Ark., died from consumption, October 12, at the home of his father in Grandview, Ark.

Hugh P. Smith, M.D. Memphis (Tenn.) Medical College, 1858, died at his home in Goldthwaite, Texas, October 7, aged 73. He became blind and retired from practice in 1900.

Ossian W. Goss, M.D. Harvard University Medical School, Boston, 1882, a member of the American Medical Association, died at his home in Lakeport, N. H., October 8, aged 47.

George P. Kaemmerling, M.D. College of Physicians and Surgeons, Chicago, 1902, was found dead in bed in his office in Port Washington, Wis., from heart disease, October 3.

Richard Carnegie, M.D. Trinity College, Dublin, for ten years medical officer of an Allan liner, died recently in his berth on board the *Bavarian*, at the port of Montreal, aged 38.

Mark J. Morton, M.D. University of Tennessee, Nashville, 1885, died at his home in Fallcreek, Tenn., October 13, aged 40.

Daniel M. Pratt, M.D. Castleton (Vt.) Medical College, 1851, died at his home in Washington, D. C., October 12, from paralysis, after an illness of two weeks, aged 74.

Willam H. Graves, M.D. Southern Medical College, Atlanta, Ga., 1898, died at his home in Webster, Fla., October 2, from typhoid fever, after an illness of two weeks.

Frank C. Le Blond, M.D. Medical College of Ohio, Cincinnati, 1874, was found dead in his office at Celina, Ohio, from neuralgia of the heart, October 7, aged 53.

James Y. Bradfield, M.D. Medical College of Georgia, Augusta, 1858, of Daingerfield, Texas, died at Sulphur Springs, Texas, October 6, suddenly, from heart disease.

A. C. Bourbeau, M.D. Laval University, Quebec, 1902, honor man of his class, died at his home in Ste Agathe, Que., September 30, from typhoid fever, aged 25.

John Dudley Keegan, M.D. Cleveland Medical College, 1869, died at his home in Columbus, Ohio, October 9, from throat disease, after a short illness. aged 78.

William L. Wright, M.D. Memphis (Tenn.) Hospital Medical College, 1894, died at his home in Powder Springs, Ga., from an overdose of morphin, October 14.

Joseph N. McCrary, M.D. Louisville Medical College, 1893, of Whitesburg, Ky., died, October 16, from consumption, after a lingering illness, aged 33.

Jesse C. Rowley, M.D. Rush Medical College, Chicago, 1891, died suddenly from heart disease at his home in Prairie du Chien, Wis., October 21.

B. C. Seaton, M.D. Jefferson Medical College, Philadelphia, 1873, died at his home in Bolivar, Pa., October 9, from paralysis, aged 55.

William Willigman, M.D., of Mineral City, Ohio, died at his home, October 10, after a short illness, aged 58.

Deaths Abroad.

A. Fochier, M.D., professor of obstetrics and an eminent surgeon of Lyons, France, died in October, aged 66, succumbing in the halls of the university to a fulminating attack of angina pectoris. He was president of the local surgical society and had long been a member of the city council. Of all his numerous contributions to science the best known, perhaps, is his method of inducing aseptic abscesses with turpentine as a revulsive measure, the so-called "fixation abscesses."

Sophie Frances Hickman, M.D., a member of the staff of the Royal Free Hospital, Gray's Inn Road, London, disappeared August 15, and, despite all efforts, no trace of her was found until October 18, when a headless body, identified as hers by trinkets, was found in a wood at Richmond. She was about 30 years of age.

Miscellany.

Success of Sodium Bicarbonate for Dressing Wounds.—Levassort applies the bicarbonate directly to the wound, sifting it freely over and packing the cavity with asceptic gauze, sometimes mixing it with the gauze. He leaves this dressing for fifteen to twenty days, merely drawing up a small piece of the gauze and cutting it off every two or three days. When the last of the gauze is removed the depths of the wound are found filled with red, almost erectile, granulations, and healing is soon complete. He does not drain except in abdominal surgery. The bicarbonate does not injure the tissues, but aids in osmosis and stimulates and provides a nourishing fluid for the young cells that develop. Their proliferation is so intense that they crowd out all microbian elements and grow into and transform fibrous cicatricial or degenerated tissues, so that it is not necessary to remove the latter to the extent generally believed. In his communication to the *Jour. de Méd de Paris* he illustrates a typical case out of his five years' experience with this method, and describes a number of others.

A Profession, Not a Trade.—The professional man, like others, must live, and must earn a wage. But he has only one quality of service to sell—his best. No matter whether there be any return for that service or not, the service is his best. The true ideal of a profession is that want will be accepted rather than a fee for the performance of some act that is dishonorable, or *unprofcssional*. The army takes high place in the list

of professions. Ruskin, the great sage, reaches the true reason when he says of the soldier: "He holds his life at the service of the state. Our estimate of him is on this ultimate fact—of which we are well assured—that, put him in a fortress breach, with all the pleasure of the world behind him, and only death and his duty in front of him, he will keep his face to the front." Here, then, we have the real essence that must ever distinguish the professions from the trades—service first, wage second.—*Canada Lancet.*

Hot Saline Solution in Treatment of Scrofulous Glands.—Unterberger has adopted the *douche filiforme salée* of the Biarritz physicians in his treatment of scrofulous glands in the neck, and states that it accomplishes surprisingly favorable results. He applies a stream of a concentrated saline solution, as hot as can be borne, to the gland for one to three minutes and follows this with hot compresses wet with saline solution, a tablespoonful of salt to a glass of water. At Biarritz the natural thermal saline waters are used at a temperature of 104 F. with a pressure representing 7 meters. Afterward the patient is given a warm saline bath and dried with hot towels, and is ordered to lie down for nearly an hour. The osmotic tension throughout the body is increased by the salt and the general metabolism accelerated, while the jet on the glands stimulates retrogressive metamorphosis. He states, in his communication to the *St. Petersb. Med. Woch.*, xxvii, 32, that his success with scrofulous glands has led him to try this method of treatment also for subcutaneous infiltrations and bone and joint affections. The results have been highly satisfactory.

Santonin in Tabes.—In 1901 Negro announced that in 8 out of 11 cases of tabes the fulminating pains were arrested by administration of santonin, while two others were much improved and only one proved refractory. Combemale reports in *Echo Méd.*, vi, 26, his experience with it in 16 cases of various nervous affections. In 7 cases not the slightest effect was appreciable, whether the patients took larger or smaller doses, in shorter or longer courses. These were all cases of neurasthenia or ordinary neuralgia. On the other hand, in the 9 cases of tabes the fulminating pains were unmistakably arrested in 5 by the medication. Negro's dose was 15 cg. of santonin in three doses of 5 cg. each at an hour's interval, given during the attack. Combemale gave smaller amounts, longer continued, but has become convinced that Negro's method is preferable. He found that gastric crises followed the subsidence of the fulminating pains in one case in which the santonin had been given continuously for a maximum period. He remarks that xanthopsia is the first sign of incipient intoxication and requires suspension of the drug, but at this early stage of intoxication there is no danger of serious consequences from it. He is inclined to try a preventive course of 15 cg. in future when fulminating pains are imminent.

After Reorganization, What?—If the reorganization of the medical profession gave no further results than increased harmony and unity in the general profession of medicine it would be well worth all it costs, but as a matter of fact this expected result is one of the very least of probable good benefits. One of the first things to be looked after by the officers, particularly the president and the secretary, of the various new county societies, is the preparation of interesting scientific programs. One of the greatest objects that the committee on reorganization had in mind was the promulgation of scientific spirit in the various county societies. It is expected that in the local society the very best work will be done. The younger men of the profession should do their full share of original research and in correctly recording their observations of cases. The older men in the profession are fitted to draw conclusions from these observations, together with their own from earlier years. The joint results from such work will accomplish a great deal in preventing much of the radicalism that now does our profession so much harm. The university extension system could be very easily applied to the work of a society. Men who are recognized leaders in their chosen fields would gladly give of their time to this work. Considerable time might well be spent on the subject, "Business Methods." Surely no profession needs to give greater consideration to this subject than does the medical profession.—*Iowa Medical Journal.*

The Non-Members of Medical Societies.—Why is it that a large majority of all practitioners are not members of a medical society? In part this is due to apathy of the officers and failure to present an attractive program, but more often the fault is in the men. Perhaps given over wholly to commercialism, a doctor feels it a waste of time to join a society, and so it is if he is in the profession only for the money he can get out of patients, without regard to the sacred obligation to put himself in the best possible position to do the best that is known for them. More frequently, I fear, the "dollar-doctor" is a regular frequenter of the society, knowing full well how suicidal in the long rung is isolation from the general body of the profession. The man who knows it all and gets nothing from the society reminds one of that little dried-up miniature of humanity, the prematurely senile infant, whose tabetic marasmus has added old age to infancy. Why should he go to the society to hear Dr. Jones on the gastric relations of neurasthenia when he can get it all so much better in the works of Einhorn and Ewald? He is weary of seeing appendices, and there are no new pelvic viscera for demonstration. It is a waste of time, he says, and he feels better at home, and perhaps that is the best place for a man who has reached this stage of intellectual stagnation.—*Dr. Osler before the New Haven Medical Association.*

Book Notices.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A Guide to the Application of Water in Disease. For Students and Practitioners of Medicine. By Simon Baruch, M.D., Professor of Hydrotherapeutics in the New York Post-Graduate Medical School and Hospital. Second Edition, Revised and Enlarged. With Numerous Illustrations. Cloth. Pp. 496. Price, $4.00 net. New York: Wm. Wood & Co. 1903.

The appearance of this second edition so soon after the previous one indicates its usefulness and the timeliness of the work. It is the only satisfactory treatise on the subject in our language. The author has cut down the material which he deemed necessary in his first edition to support his beliefs in the general use of hydrotherapeutics and has added a chapter on insanity based on the recorded observations of practical alienists. We believe the present edition will be received with the same favor as was the first, and perhaps even with more, since the first volume has educated the medical public to some extent in the use of water. The book should be read by every general practitioner. While hydrotherapy is overdone in some respects, as in the Brand treatment of typhoid fever in some cases, there are many other ways—beside the full bath—in which the antithermic and tonic effects of water can be obtained; not a few valuable uses of water are too little used. This work of Dr. Baruch will continue to be the standard text-book on its subject in this country.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M.D., President New York State Commission in Lunacy. Fourth Edition, Thoroughly Revised and Enlarged. With 338 Illustrations. Cloth. Pp. 922. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

This edition of this well-known work contains the later additions to our knowledge on the subject. Church has included in the text the data in regard to nerve degeneration furnished by Ballance and others, and has also included herpes zoster as a nervous disease. The subject of intermittent claudication is also considered as well as the myoclonic type of epilepsy and special attention is given to certain points in diagnosis, etc. The department of the book on insanity by Peterson has been enlarged by a review of the problems of psychiatry as shown in the recent work of German investigators; in other words, a review of the more recent work in this line by Ziehen, Wernicke, and Kraepelin, which has been contributed by Dr. Adolph Meyer, director of the New York Pathologic Institute. This forms a valuable addition independent of the rest of the psychiatric part of the book. New

cuts have been added to the work, and it will undoubtedly maintain its place as one of the leading, if not the leading, text-book on its subject in this country.

MODERN BULLET WOUNDS AND MODERN TREATMENT, with Special Regard to Long Bones and Joints, Field Appliances and First Aid. Part of the Alexander Essay for 1903. By Major F. Smith, D.S.O., Royal Army Medical Corps. Cloth. Pp. 99. Price, $1.20 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

This is a part of the Alexander prize essay for 1903. It is but a small book, but will be of practical value to those who are interested in this branch of modern surgery.

SERUM THERAPY, BACTERIAL THERAPEUTICS AND VACCINES. By R. T. Hewlett, M.D., M.R.C.P., D.P.H. Lond., Professor of General Pathology and Bacteriology, King's College, London. Cloth. Pp. 262. Price, $1.75. Philadelphia: P. Blakiston's Son & Co. 1903.

The author has attempted to give a concise account of the preparation of antitoxins and the treatment of diseases therewith and antisera and various other substances, vaccines, etc., obtained from bacterial cultures and the like. With this he gives brief directions as to the making and testing of various preparations, though, as he says, the data are not complete, and only practical experience can make one thoroughly skillful and competent. He has briefly noticed other somewhat allied substances, such as typhoid extract of jez, cancroin, etc. The book will be a convenient one of reference to the physician who wishes to be posted on these substances.

DISEASES OF THE SKIN. An Outline of the Principles and Practice of Dermatology. By Malcolm Morris, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London. With 2 Colored Plates and 58 Plain Figures. New Edition. Flexible Cloth. Pp. 642. Price, $2.50. Chicago: W. T. Keener & Co. 1903.

This third edition of Morris' handbook brought out for American readers is one of the more convenient as well as complete of the smaller handbooks on dermatology and deserves to be widely read. It is especially convenient in its compactness, and, while no work on this subject can be absolutely complete within its compass, it is as nearly so as can probably be demanded. Dr. Morris says that care has been taken not to alter the character of the volume in expanding it from an elementary manual to a treatise, and it will be all the more acceptable to many general practitioners for just this reason.

ANNUAL REPORTS OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE OF THE UNITED STATES. For the Years 1900 and 1901. Paper. Pp. 736 and 652 Respectively. Washington: Government Printing Office.

These are interesting documents. Beside the ordinary matter which such reports contain there are a number of instructive pathologic and clinical reports. A portion of real historical interest is the correspondence and history of the action in regard to bubonic plague at San Francisco in 1901, an instructive episode in public sanitation. It is to be hoped that no other sanitary officer will be subject to the persecution and abuse that Dr. Kinyoun received in San Francisco. Taken altogether the reports of these two years are valuable contributions to sanitary literature.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Examiners of Alabama, Montgomery, Nov. 1-10.

Oklahoma Medical Examining Board, Enid, Nov. 10.

Committee of the Connecticut Medical Society, City Hall, New Haven, Nov. 10.

Board of Registration in Medicine of Massachusetts, State House, Boston, Nov. 10-11.

State Board of Health of West Virginia, Point Pleasant, Nov. 10, 11, 12.

Nebraska State Board of Health, Lincoln, Nov. 11.

Board of Registration of Medicine of Maine, Augusta, Nov. 11.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1.

New Mexico Board of Health, Santa Fe, Dec. 7.

Examining Board of Medical Society of Delaware, Dover, Dec. 8.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10.

Illinois July Report.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination at Chicago, July 22, at which, out of 153 applicants, 149 passed and 4 failed. We have prepared from this a summary by colleges, as follows:

COLLEGE.	No. Passed.	No. Failed.	Max. Grade.	Min. Grade.	Average of Those Who Passed.	Average of Those Who Failed.
Northwestern Univ., Chicago...	26	0	91	81	87.07	.....
Rush Medical College, Chicago..	50	0	93	79	86.68	.....
College of P. and Surgs, Chicago	7	0	91	76	84.42	.....
Harvey Medical College, Chicago	14	0	89	78	83.57	.....
Jenner Medical College, Chicago.	11	2	87	65	81.45	67
Illinois Medical College, Chicago	5	0	83	76	81.20	.....
Amer. Med. Miss. Coll., Chicago.	2	0	83	81	82.00	.....
Hahnemann Med. Coll., Chicago.	2	1	85	67	83.50	67
Chicago Homeo. Medical College.	2	0	87	76	81.50	.....
University of Michigan.....	3	0	90	86	87.66	.....
University of Iowa.....	3	0	85	81	83.66	.....
Eclectic Med. Inst., Cincinnati..	2	0	84	78	81.00	.....
Hosital Med. College, Louisville.	2	0	89	82	85.00	.....
Kentucky School of Medicine...	2	0	84	84	84.00	.....
Bennett Medical College, Chicago	1	1	80	72	76.00	.....
Amer. Coll. of M. and S., Chicago	1	0	75	75	75.00	.....
Coll. of Med. and Surg., Chicago	1	0	82	82	82.00	.....
Baltimore Medical College.....	1	0	87	87	87.00	.....
Woman's Med. College, Chicago.	1	0	76	76	76.00	.....
Milwaukee Medical College.....	1	0	82	82	82.00	.....
M. Sims-Beaumont Med. College.	1	0	87	87	87.00	.....
Jefferson Med. Coll., Philadelphia	1	0	84	84	84.00	.....
Kentucky University	1	0	76	76	76.00	.....
Amer. Medical College, St. Louis	1	0	83	83	83.00	.....
Johns Hopkins University.....	1	0	89	89	89.00	.....
Keokuk Medical College.....	1	0	80	80	80.00	.....
Cornell University	1	0	88	88	88.00	.....
Medical College of Ohio.....	1	0	81	81	81.00	.....
University of Palermo, Italy....	1	0	86	86	86.00	.....
University of Naples, Italy.....	1	0	84	84	84.00	.....
University of Genoa, Italy.....	1	0	84	84	84.00	.....
Cleveland Homeo. Med. College..	1	0	83	83	83.00	.....

The following are the grades in detail attained by the candidates of schools having 3 or more representatives:

Northwestern University: A grade of 91 was attained by 2; 90 by 6; 88 and 87 each by 3; 86 by 4; 85 and 84 each by 2; 89, 83, 82 and 81 each by 1.

Rush Medical College: 93 and 92 each by 1; 91 by 3; 90 and 89 each by 5; 88 by 4; 87 by 11; 86, 83 and 82 each by 3; 85 by 6; 84 and 81 each by 2; 79 by 1.

College of Physicians and Surgeons: 91, 90, 89, 87, 80, 78, 76 each by 1.

Harvey Medical College: 89, 88, 86, 85, 84 and 78 each by 1; 87, 83, 81 and 79 each by 2.

Jenner Medical College: 87, 84, 79, 78, 69 and 65 each by 1; 81 and 80 each by 2; 82 by 3.

Illinois Medical College: 83 by 3; 81 and 76 each by 1.

Hahnemann Medical College: 85, 82, 67.

University of Michigan: 90, 87, 86.

University of Iowa: 85, 85, 81.

Rhode Island Report.—Dr. G. T. Swarts, secretary of the Rhode Island State Board of Health, reports the examination held at Providence, R. I., Oct. 1 and 2, 1903, as follows: Number of subjects, 7; questions, 70; percentage required, 75; examined, 16; passed, 15; failed, 1. The examination was a written one.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
245	R.	Baltimore Medical College.....	1903	82.6
246	R.	Baltimore Medical College.....	1903	79.8
252	R.	College of Phys. and Surgs., Baltimore	1901	82.0
253	R.	College of Phys. and Surgs., Baltimore	1903	79.3
257	R.	College of Phys. and Surgs., New York	1902	81.9
247	R.	Georgetown University	1903	82.1
248	R.	Harvard University	1903	78.4
256	R.	Harvard University	1903	89.1
255	R.	Illinois Medical College.....	1902	75.0
258	R.	McGill University	1902	87.9
250	R.	University of Lisbon.....	1900	76.0
249	R.	University of Michigan.....	1901	84.8
259	H.	Women's Medical College and Hospital, New York Infirmary.....	1898	82.3
254	R.	Medico-Chirurgical Coll., Pennsylvania	1898	76.8
251	R.	University of Naples.....	1899	77.1
260	R.	University of Vermont.....	1862	*75.0

FAILED.

244	R.	University of Naples.....	1899	73.9

* Special oral examination October 15.

The questions asked were as follows:

ANATOMY AND PHYSIOLOGY.

1. Give a brief description of the temporal bone, and state with what bones it articulates. 2. Describe the tarso-metatarsal articulations. 3. Describe the sacrum and give comparative osteology of same. 4. Describe the nerve mechanism of mastication. 5. Give the physical and chemical characters of protoplasm. 6. Describe the (*a*) fixed, and (*b*) ameboid cells of connective tissues. 7. Describe the mode of secretion and discharge of bile and give the average quantity daily secreted by man. 8. Give the chemical composition of human milk. 9. Give the quantity of water in 1000 parts of (*a*) blood, (*b*) gastric juice, (*c*) teeth, (*d*) milk. 10. Name the muscles of the internal femoral region.

CHEMISTRY AND MATERIA MEDICA.

1. What chemical may be used to neutralize the action of hydrochloric acid when taken as a poison? 2. What pathologic changes are found in connection with a highly alkaline urine? 3. Name some of the chemical changes which take place as the result of action of bacteria. 4. What gas is present in a case of death by suffocation? Give its formula and what chemical is its antidote. Give its symbol. 5. What effect does formaldehyd have on the usual action of dirty milk, and what on the human system, or should that chemical be used by the farmer? 6. In what way does aqua pura or oxygen serve as a therapeutic agent? 7. Give uses of calomel at the present day and mention two forms or combinations in which it is used. 8. Give the doses of two of the coal tar products used as a febricide and care to be used in their administration. 9. Give uses, doses and form in which quinin should be administered. 10. Describe the therapeutic value of alcohol in the human system.

PATHOLOGY.

1. Describe the details of incisions at autopsy for the purpose of removing and examining the kidneys. 2. Describe the appearance of the inner walls of the bladder in chronic cystitis. 3. What are the most common pathologic changes found in the aged? 4. What is the causative factor in septicemia following the penetration of a rusty nail in the foot? 5. Describe the appearance of a heart affected with fatty degeneration. 6. Describe the appearance of tuberculosis of the intestines. 7. What pathologic change is a cause of alopecia? 8. What are the pathologic and mechanical changes which produce spinal curvature? 9. What internal or external lesions may be found present as causative of a hemorrhage in the abdominal cavity? 10. In case of death from retention of a foreign body in the lungs what pathologic changes would be found?

SURGERY.

1. Name the several forms of stricture of the esophagus. Give treatment of cicatricial stricture. 2. Give symptoms, prognosis and treatment of acute lymphangitis. 3. Give varieties and complications of hare-lip. Describe Golding-Bird's operation for same. 4. Give diagnosis and treatment of basal fractures of the skull. 5. Give treatment of gunshot wounds of the face. 6. How would you make a diagnosis of paralysis of the muscles below the seat of a fracture? Give prognosis and treatment of same. 7. Give signs and symptoms of fracture of the femur, with treatment of same. 8. Describe operation for ligation of the posterior tibial artery in its middle third. 9. Give symptoms of moist gangrene. 10. How would you treat a case of dermatitis venenata?

THEORY AND PRACTICE.

1. Describe a case of acute laryngitis; cause; treatment. 2. Differential diagnosis between cerebral hemorrhage and embolism. 3. Describe a case of chronic interstitial nephritis. 4. Lobular pneumonia. 5. Delirium tremens; give treatment. 6. Scarlet fever; give treatment. 7. Diagnosis and treatment of endocarditis. 8. Of gastroduodenitis. 9. Of appendicitis. 10. Of hypertrophic cirrhosis of liver.

OBSTETRICS AND GYNECOLOGY.

1. Give period of a normal term of gestation and causes which may shorten that period. 2. Name three of the most common causes of premature birth. 3. What procedures should be employed to resuscitate an infant apparently dead? 4. How diagnose the presence of a ruptured uterus and what treatment is called for? 5. When may anesthetics be used to advantage during labor? 6. Diagnose a case of prolapsus uteri and give cause for and treatment of same. 7. Describe differential diagnosis between ovarian cyst and fibroid of uterus. Give causes for dysmenorrhea. 9. Give treatment for gonorrheal vaginitis. 10. What pathologic conditions may produce a cystitis?

HYGIENE AND MEDICAL JURISPRUDENCE.

1. What judgment should be used in the use of baths in health? 2. How may we prevent the spread of communicable diseases? 3. Suggest a desirable method of ventilating a school room. 4. By what means and through what channels is the plague disseminated? 5. Why does suburban residence and occupations produce longer life, and why is the mortality in typhoid fever greater in the country? 6. Name three of the most common forms of insanity. 7. How may we compare a partly damaged bullet found in the tissues with others found in a revolver? 8. A physician is on trial for the death of a friend. The evidence is only circumstantial, although motive is in evidence. What especial examinations should be made at autopsy of deceased? 9. What stains of the clothing may appear like blood stains, and how may they be distinguished? Give one example. 10. A man dies a short time after being struck on the head with a bottle. What evidence would you require to satisfy a jury that that blow was the cause of death?

Medical Organization.

California.

PASADENA MEDICAL SOCIETY.—The members of this society have decided to affiliate with the Los Angeles County Medical Society in conformity with the standard plan.

MENDOCINO COUNTY MEDICAL SOCIETY.—This society was organized at Ukiah, October 8, with a charter membership of 12. Drs. Curtis G. Kenyon, Andrew W. Morton, and Philip M. Jones, all of San Francisco, a committee from the trustees of the state medical society, were present and aided in the work of organization. Dr. Edward W. King, Ukiah, was elected president; Dr. William N. Moore, Ukiah, vice-president, and Dr. Charles A. Poage, Hopland, secretary-treasurer.

SHASTA COUNTY MEDICAL ASSOCIATION.—On October 11 this society perfected its organization on the standard plan and elected the following officers: Dr. Olin J. Lawry, Redding, president; Dr. John M. Read, Redding, vice-president; Dr. R. F. Wallace, Redding, secretary; Dr. C. W. Harper, Redding, treasurer, and Drs. Adelbert B. Gilliland, Cottonwood, C. W. Bryant, Redding, and John M. Read, Redding, trustees. The membership of the society will include physicians of Trinity County.

Indiana.

MORGAN COUNTY MEDICAL SOCIETY.—Councilor Dr. Myron A. Boor of the Fifth District organized a county branch of the state medical society, on the standard plan, at Martinsville, recently.

PUTNAM COUNTY MEDICAL SOCIETY.—The physicians of the county met at the office of Dr. Clinton T. Zaring, Greencastle, October 13, and with the aid of Dr. Myron A. Boor, Terre Haute, councilor for the Fifth District, reorganized the county society in conformity with the standard plan.

SHELBY COUNTY MEDICAL SOCIETY.—Physicians from various parts of the county met at Shelbyville, October 12, and reorganized the county society, adopting the standard constitution and by-laws, and electing the following officers: President, Dr. Charles C. Cook, Gwynneville; vice-president, Dr. Bayard G. Keeney, Shelbyville; secretary, Dr. Franklin E. Ray, Shelbyville; treasurer, Dr. Frank Campbell, Shelbyville, and censors, Drs. Henry M. Connelly, Flat Rock, Henry E. Phares, Shelbyville, and I. W. Inlow, Blue Ridge.

Iowa.

MAHASKA COUNTY MEDICAL SOCIETY.—At the regular meeting of the society at Oskaloosa, October 9, Dr. David C. Brockman, Ottumwa, councilor for the Sixth District, was present and aided in the reorganization on the standard plan. The following officers will hold over until the annual meeting in January next: Dr. Joseph T. Coveny, president; Dr. Joseph C. Barringer, vice-president; Dr. Herman C. Homer, secretary, and Dr. Samuel W. Clark, treasurer, all of Oskaloosa.

Louisiana.

OUACHITA PARISH MEDICAL SOCIETY.—With the aid of Dr. John M. Barrier, Delhi, president of the state society, the physicians of the county organized a society at Monroe, October 17, on the standard plan. Dr. W. B. Miller, Fouche, was elected president; Dr. W. E. Pugh, vice-president, and Dr. Robert W. O'Donnell, secretary and treasurer.

ASCENSION PARISH MEDICAL SOCIETY.—With the assistance of Dr. John M. Barrier, Delhi, this society was organized at Donaldsonville, October 8, and the standard constitution and by-laws adopted. Dr. William M. McGailliard was elected president; Dr. Tuite H. Hanson, vice-president, and Dr. Paul T. Thibodaux, secretary-treasurer, all of Donaldsonville.

TANGIPAHOA PARISH MEDICAL SOCIETY.—Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, organized this society on the standard plan at Amite City, October 19, with an initial membership of 18. Dr. John H. Ellis, Kentwood, was elected president; Dr. Charles S. Stewart, Amite City, vice-president, and Dr. J. S. LeNoir, Amite City, secretary and treasurer.

North Carolina.

ROWAN COUNTY MEDICAL SOCIETY.—This society met at Salisbury, October 12. Dr. Thomas E. Anderson, Statesville, councilor for the Eighth District, was present and offered for consideration the standard constitution, which was adopted. Drs. J. M. Flippin, Henry T. Trantham and John Whitehead, all of Salisbury, were elected censors.

Oklahoma.

NORTH OKLAHOMA MEDICAL ASSOCIATION.—This association was organized at Blackwell, October 13. Dr. Mark M. Lively, Blackwell, was elected president; Dr. Edward Hooper, Braman, vice-president; Dr. Henry F. Alexander, Blackwell, secretary, and Dr. Allen Lowery, Blackwell, treasurer.

Philippine Islands.

PHILIPPINE ISLANDS MEDICAL ASSOCIATION.—In order to comply with the standard requirements, a number of physicians, both American and native, met at Manila, September 15, and organized this association, adopting the standard constitution and by-laws, and electing the following officers: Dr. John Donelon, president; Drs. Trinidad H. Pardo de Tavera and Jose Albert y Mayoralgo, vice-presidents; Dr. William E. Musgrave, secretary-treasurer, and Drs. P. C. Freer, John R. McDill, Richard P. Strong, John Mage and Herbert W. Yemans, all of Manila. At the meeting a charter was granted to the Manila Medical Society.

Wisconsin.

MARATHON COUNTY MEDICAL SOCIETY.—Physicians of Marathon County met at Wausau, October 10, and organized a county society on the standard plan.

LANGLADE COUNTY MEDICAL SOCIETY.—The physicians of Langlade County met at Antigo, October 9, and organized a county society, with the aid of Dr. John M. Dodd, Ashland, councilor for the Tenth District. The following officers were elected: President, Dr. Ignatius D. Steffen, Antigo; vice-president, Dr. Michael J. Donohue, Antigo; secretary and treasurer, Dr. Frank I. Drake, Antigo; censors, Drs. Michael J. Donohue, Antigo, Flatley, and Fred V. Watson, Antigo, and delegate to the state medical society, Dr. Ignatius D. Steffen, Antigo.

GREEN COUNTY MEDICAL SOCIETY.—Fourteen physicians of the county met at Monroe, October 16, and elected Dr. George W. Roberts, Albany, temporary chairman. After discussion of the plan of organization proposed by the national, and endorsed by the state association, the organization was perfected by the adoption of the standard constitution and by-laws, and the election of the following officers: Dr. Samuel Moyer, Monroe, president; Drs. Thomas W. Nuzum, Brodhead, and Henry B. Gifford, Juda, vice-presidents; Dr. William B. Monroe, Monroe, secretary; Dr. John G. Randall, Monroe, treasurer; Dr. Nathan A. Loofbourow, Monroe, delegate to the state society; Dr. Eli W. Fairman, alternate, and Drs. George W. Roberts, Albany, William B. Gnagi, Monroe, and Elias J. Helgesen, New Glarus, censors.

Society Proceedings.

COMING MEETINGS.

Hawaiian Territorial Medical Society, Honolulu, Nov. 7.
Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.
Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.
Western Surgical and Gynecological Association, Denver, Dec. 28-29.

PENNSYLVANIA STATE MEDICAL SOCIETY.

Fifty-third Annual Meeting, held at York, Sept. 22 to 24, 1903.

(*Concluded from page 1040.*)

Differential Diagnosis Between Friedreich's Disease and Insular Sclerosis.

DR. F. SAVARY PEARCE, Philadelphia, read a paper by this title. Insular sclerosis, as a rule, begins between the ages of 20 and 30. The gait may vary, being spastic, cerebellospastic or cerebellar. In the latter case would occur the confusion. The occurrence, however, of rigidity with nystagmus, staccato speech and intention tremor would aid in diagnosis. Apoplectic attacks, bulbar symptoms and the liability for the disease to completely recede, it is said, would all seem to make diagnosis clear in the majority of cases.

Inflammation of the Middle Ear in Diseases of Children.

DR. THEODORE J. ELTERICH, Allegheny, said that statistics regarding the occurrence of unrecognized middle ear inflammation are so startling that it becomes a duty to examine the ears of young babies suffering from diseases apparently trivial. Of 100 cases examined by Ponfick 35 per cent. of the cases of acute middle ear inflammation occurred in infants dying of acute gastro-enteritis. In all these cases there had been no pain or external ear symptoms. The diagnosis of middle ear inflammation in young infants the writer considers well-nigh impossible in some instances. As soon as aural complication is detected gentle inflation should be made by the Politzer bag. The application externally of dry heat and the instillation of atropin dissolved in glycerin and water are recommended; about 1 grain of atropin to 1 dram each of glycerin and water. In addition 1 or 2 grains of phenacetin or an opiate should be given if required. For the congestion of the tympanic membrane he recommends bromid of sodium in small and repeated doses. These measures failing, paracentesis with the knife under strict antiseptic precautions should be done.

The Result of One Year's Medical Treatment of Gastroptosis.

DRS. J. DUTTON STEELE and ALBERT P. FRANCINE, Philadelphia, described observations on 30 cases and concluded that: 1. In one-fifth of the cases the symptoms were due to downward displacement of the stomach. 2. Long continued mechanical support does not permanently restore the stomach to its normal position. 3. In cases in which the gastric symptoms are caused by uncomplicated downward displacement of the stomach the results of medical treatment have been very gratifying.

DISCUSSION.

DR. THEODORE DILLER, Pittsburg, had observed in two cases of neurasthenic women great benefit from the use of abdominal supports.

DR. R. H. GIBBONS believes that cases which have gone beyond a very slight dilatation should be treated surgically, preferably by Beyea's method, which he considers the best operation invented in modern times.

DR. S. SOLIS-COHEN took exception to the use of the term neurasthenia as a result of gastroptosis or displaced kidney. While there might be a collection of symptoms resembling in some degree neurasthenia, the condition was not neurasthenia, which was a distinct disease or nerve exhaustion.

DR. DILLER said that he regarded his two patients as having a vitality decidedly below par and that he considered the condition of the viscera dependent on the neurasthenia. Neurasthenia he considers a matter, not of the neurons alone, but of the whole organism. In agreement with this he had understood Dr. Steele to say that in four-fifths of the cases he regarded the falling of the viscera a symptom of neurasthenia.

DR. ERNEST LAPLACE agreed with Dr. Diller. Supportive treatment alone, he believes, will not put the patient into the condition in which he will absorb the proper nutrition for his tissues, and only the surgeon can remove the cause of depression. Afterward medical treatment can make them perfectly healthy.

DR. J. D. STEELE agreed with Dr. Diller's statement of the case, but he would consider gastroptosis a complication rather than a symptom in neurasthenia. It is considered that gastroptosis is probably a link in the vicious circle.

Decapsulation of the Kidney for Chronic Bright's Disease.

DR. JAMES TYSON gave a historical summary and reported a case in detail. He regards the operation as at least life prolonging, as curative in some and as applicable to cases other than those of nephritis in its various forms. Dr. Tyson assumes that the operation should not be done until medical measures have been thoroughly applied; yet it should not be deferred until the patient is moribund. He considers parenchymatous nephritis more favorable for operation than interstitial. Further application of the operation is suggested in cases of obstinate so-called idiopathic hematuria.

DISCUSSION.

DR. S. SOLIS-COHEN spoke of a case of hematuria in which there was floating kidney, much enlarged, accompanied with albuminuria, hyaline and granular casts, and which was operated on by Dr. J. Chalmers DaCosta. It being considered unwise to decapsulate the kidney, the capsule was incised in various directions. Improvement was immediately manifest and the woman has gained forty pounds in weight. There is still occasional hematuria, but stone has not been proven to be present.

DR. RICHARD HENRY GIBBONS does not feel that the benefits of the operation come from the relief of tension, for there is but little tension in nearly all cases. He referred to a case of hematuria in which the kidney was opened but no stone found, and which, nevertheless, recovered.

Modern Treatment of Fractures with Special Reference to the Lower End of the Humerus and the Bones of the Leg.

DR. HIRMA S. MCCONNELL, New Brighton, read this paper at the Wednesday afternoon session and suggested the advisability of more thorough instruction in medical schools, and gave in detail the technic to be pursued.

DR. EDWARD MARTIN, Philadelphia, read a paper on "Surgical Treatment of Recent Fracture of the Patella," in which he stated that all fractures of the patella, in which the fragments are separated more than half an inch, or which are

attended by marked immediate joint tension, should be treated by the open method.

Retrodisplacements of the Uterus.

Dr. J. M. Baldy, Philadelphia, in this paper expressed the belief that very few cases of this condition occur as a primary condition. He condemned the free use of pessaries and thought that the intra-abdominal was the preferable operation for shortening the round ligament.

DISCUSSION.

Dr. E. E. Montgomery, Philadelphia, felt that Alexander's operation should never be performed as a matter of choice, and that ventrofixation and ventrosuspension should only be performed when the patient is past the menopause. He believed the intra-abdominal operation devised by Ferguson to be the preferable one.

Dr. Richard H. Gibbons, Scranton, felt that either the operation devised by Webster of Chicago or Edebohls' modification of the Alexander operation were excellent procedures, but the latter was condemned by Dr. Baldy, in closing the discussion, on account of the danger of hernia.

Some Observations on the Pathology and Treatment of Empyema.

Dr. P. Y. Eisenberg, Norristown, advocated: 1. Free evacuation of the pus cavity. *a*. Aspiration. *b*. Free incision. *c*. Resection of a rib or ribs. 2. Irrigation of the pus cavity. 3. Drainage.

DISCUSSION.

Dr. W. W. Keen, Philadelphia, reported a case illustrating the necessity for adequate drainage and the removal of the enormously thickened serous membrane in the chronic cases.

Dr. Lowell M. Gates, Scranton, said that in most of the cases there should be resection of the ribs and drainage by means of drainage tubes.

Dr. Richard H. Gibbons, Scranton, recommended gauze drainage.

Dr. Ernest Laplace, Philadelphia, called attention to the possibility of multiple abscesses and the necessity for accurate diagnosis.

Dr. Herman B. Allyn referred to the difficulty of differentiating cases in which there was bronchial breathing from pneumonia.

Dr. John B. Roberts, Philadelphia, felt that resection of the ribs was in many cases unnecessary and should be determined by the study of the individual case.

Dr. G. Franklin Bell, Newberry, felt that the operation should depend on the bacterial element and the size of the abscess cavity.

Dr. George W. Guthrie, Wilkesbarre, felt that resection of the ribs was necessary in comparatively few cases, and recommended an incision in the most dependent portion of the pleura and the insertion of a double drainage tube.

The Treatment of Suppurating Ulcers of the Cornea.

This paper by Dr. Lewis H. Taylor, Wilkesbarre, was read by Dr. Ernest U. Buckman, Wilkesbarre, in which the author urged the importance of prompt attention to all wounds of the cornea and when they show a tendency to virulent suppuration the application of the galvanic cautery.

DISCUSSION.

Dr. B. Alexander Randall, Philadelphia, spoke with favor of the method employed by Lippincott of cauterizing the cornea with hot water, and preferred eserin to either cocain or atropin.

Dr. W. H. Dudley felt that the method of Lamb of New York of circumscribing the area of the ulcer and thus preventing its extension was more efficient than trying to destroy it.

Papers on Puerperal Sepsis and Appendicitis.

"The Treatment of Puerperal Sepsis" was read by Dr. E. E. Montgomery, Philadelphia, in which he emphasized the importance of differentiating between germicidal infection and the results of putrid intoxication, and outlined the course of treatment appropriate to each.

"Differences in the Management of Appendicitis and Salpingitis" was read by Dr. George E. Shoemaker, Philadelphia, in which he stated that in salpingitis conservation might be justifiable, while in appendicitis radical procedure was the only safeguard.

"One Year's Work in Appendicitis" was read by Dr. John B. Deaver, Philadelphia, in which he reported 566 cases operated on between Sept. 1, 1902, and Sept. 1, 1903, with a mortality of 5 per cent. He divided the cases into three classes: 1. Those suffering from diffuse peritonitis, in which 16 were operated on with five deaths, or 31 per cent. 2. Those in which there was a localized abscess, numbering 183 cases with 22 deaths, or 12 per cent. mortality. 3. Those in which the disease was confined to the appendix, numbering 367, with 3 deaths, or 0.8 per cent. mortality. In conclusion he urged the necessity for early operation.

Other Papers Read.

The following papers were also read:

"Gynecologic Therapy, a Plea for Operative Conservatism," by Dr. Charles F. Spangler, Kan. "Three Unusual Vesical Cases, with Operation," by Dr. Ella B. Everitt, Philadelphia. "The Obstetric Experience of a Country Physician," by Dr. H. C. McKinley, Myersdale. "The Management of the Pus Appendix," by Dr. G. W. Guthrie, Wilkesbarre. "The Value of the Differential and Absolute Leucocyte Count in Cases Simulating Appendicitis," by Dr. A. Snively, Waynesboro. "The Treatment of Suppurative Appendicitis," by Dr. Ernest Laplace, Philadelphia. "Perforated Gastric and Duodenal Ulcers, with Report of Three Cases Operated On," by Dr. John H. Gibbon, Philadelphia. "Extensive Decapsulation Combined with Fixation of Every Movable Kidney to Prevent Bright's Disease; Complete Decapsulation for the Cure of Bright's Disease and for the Relief and Prevention of Puerperal Convulsions," by Dr. R. H. Gibbons, Scranton. "Four Cases of Penetrating Wound of the Orbit," by Dr. A. R. Craig, Columbia. "A Sarcoma of the Maxillary Antrum and Orbit," by Dr. J. F. Klinedinst, York. "Statistics Relating to 1,135 Cases of Refraction Occurring in Private Practice," by Dr. M. V. Ball, Warren. "An Investigation of Certain of the Reflexes and Sensory Phenomena and the Condition of the Eye-grounds, Based on a Study of 103 Healthy Young Men," by Dr. Theodore Diller, Pittsburg. "The Upper Respiratory Tract," by Dr. J. C. McAllister, Ridgeway. "The Syphilitic Nose and Throat," by Dr. Charles P. Grayson, Philadelphia. "Some of the More Unusual Results of Movable Kidney," by Dr. Charles P. Noble, Philadelphia. "Surgical Treatment of Facial Palsy," by Dr. Charles H. Frazier, Philadelphia. "Drugs Useful in Cardiac Affections," by Dr. S. Solis-Cohen. "A Fatal Case of Chorea, Complicated by Endocarditis, Pericarditis and Nephritis," by Dr. Augustus A. Eshner. "Four Cases of Malignant Diseases of the Lungs," by Dr. J. C. Lange, Pittsburg. "Affections of the Eye Associated with Diseases of the Contiguous Sinuses," by Dr. S. D. Risley, Philadelphia. "The Operative Treatment of Strabismus," by Dr. Wendell Reber, Philadelphia. "The Differential Diagnosis of Exophthalmos," by Dr. Joseph E. Willets, Pittsburg. "Danger Signals of Intracranial Infection from the Pneumatic Cavities of the Ear and Nose," by Dr. B. Alex. Randall, Philadelphia. "The Use of Myelocene in Catarrhal Deafness," by Dr. Walter B. Weidler, Lancaster. "Some of the More Infrequent Causes of Obstruction of the Common Bile Duct," by Dr. Levi J. Hammond, Philadelphia. "The Results of the Surgical Treatment of Ascites Occurring in Cirrhosis of the Liver, with Report of a Case," by Dr. Herman B. Allyn, Philadelphia. "Abdominal and Pelvic Surgery without Ligatures; Electro-Thermic Hemostasis," by Dr. Andrew J. Downes, Philadelphia.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, held at Memphis, Oct. 7 to 9, 1903.

(*Concluded from page 1042.*)

In the surgical section a paper on "Technic of Mirror Sight" was read by Dr. Allen De Vilbiss, Toledo, Ohio, who discussed why the general practitioner should understand the subject, and offered a few suggestions how to learn it.

Principles in the Treatment of Chronic Otitis Media Purulenta.

Dr. John F. Barnhill, Indianapolis, stated that all aural discharges, except those due to tubercle or cancer, are curable by the methods used for similar conditions in other parts of the body. Cure would be simple and easy were it not for the concealed and inaccessible situation of the disease. All treatment is likely to be unwisely directed until the cause is ascertained. If, after all parts have been thoroughly treated that are accessible to surgical and medical measures through the route of the external meatus, the disease continues, sound surgical principle dictates that the disease should be followed to its origin and thoroughly eradicated. This necessitates, in most instances, the radical mastoid operation. Wilde's incision or gimlet trephining of the mastoid is not based on sound surgical principles, and should be entirely abandoned.

DISCUSSION.

Dr. J. A. Stucky, Lexington, Ky., said that there are those who still believe in the use of laudanum and sweet oil, yet it

is well known that laudanum had no place as a local application in a chronically discharging ear. Furthermore, any oil except glycerin is positively contraindicated. He emphasized the importance of thoroughly cleansing the ear, saying that while this was apparently a simple procedure, nine times out of ten it was not half done.

Nasopharyngeal Adenoids.

DR. J. A. STUCKY, Lexington, Ky., presented the following deductions: The obstructive and non-obstructive adenoid tissue, when diseased, is a menace to health, hearing, mental and physical development, and should be radically dealt with, as it is far more serious in its effects than disease and enlargement of the faucial tonsils. Frequently, when the pharyngeal tonsil is thoroughly removed, the enlarged faucial tonsils rapidly assume normal size and function.

DISCUSSION.

DR. A. J. OCHSNER, Chicago, emphasized that adenoids are constantly exposed to the absorption of septic material.

DR. J. F. BARNHILL said he believed that affections of the stomach arise from catarrhal discharges caused by adenoids. When it is realized that the greatest per cent. of all ear diseases is due to adenoids alone, from a causal standpoint it is very important to remove the cause.

The Diagnosis and Operation for Gallstones.

DR. W. D. HAGGARD, Nashville, Tenn., in this paper, said that the most valuable local sign is hypersensitiveness under the tip of the ninth costal cartilage. Stones in the gall bladder without inflammatory or other complications are never attended by enlargement, and empyema is also characterized by tumefaction. Stones in the gall bladder without inflammatory or other complications are never attended by enlargement, and an enlarged gall bladder means there is no stone in the common duct, as enunciated by Courvoisier. This is a most valuable differential sign. In biliary obstruction manifested by chronic jaundice, an enlarged gall bladder means that the obstruction is not due to a stone. Gallstones and certain stomach, appendix or kidney lesions may coexist. The technic of various operations was described.

DISCUSSION.

DR. H. H. GRANT said that exploration was justifiable whenever disease of the gall bladder was reasonably probable. It is more prudent to explore than to allow serious complications to arise.

DR. LEWIS S. MCMURTRY narrated a case to illustrate that there might be stones in the common duct without any jaundice, and, also, that in some of these operations there is danger of death from the inflammatory changes that have taken place.

DR. A. H. CORDIER said that where the stones are in the common duct, regardless of whether there was jaundice or not, the pain is very much nearer the median line than when they are in the cystic duct or in the gall bladder.

The Prophylaxis of Tetanus.

DR. S. C. STANTON, Chicago, contributed a valuable statistical paper, calling attention to the investigations of THE JOURNAL of the American Medical Association on this important subject. He recommended prophylaxis under five heads: 1. The enforcement of existing laws regarding the sale of toy pistols and other dangerous toys. 2. The enactment of laws by Congress, state legislatures and municipalities prohibiting the manufacture and sale of toy pistols, blank cartridges, dynamite canes and caps, cannon crackers, etc. 3. The open treatment of all wounds, however insignificant, in which, from the nature or surroundings, there is any risk of tetanus. 4. The immediate use of tetanus antitoxin in all cases of Fourth-of-July wounds, wounds received in barnyards, gardens, or other places where the tetanus bacillus is likely to be present or tetanus infection to occur. 5. The injection of tetanus antitoxin as soon as tetanic symptoms become manifest.

The association took action on the paper, endorsing the above recommendations and instructing the secretary to send the recommendations and the association's action thereon to the medical press, the Associated Press, and the various state medical societies, asking that they take action thereon.

Indications and Technic of Prostatectomy.

DR. G. FRANK LYDSTON, Chicago, pointed out that the senile prostate was an atrophied prostate. Catheter life lasts about five years. In prostatic hypertrophy, he believes the tumor to be purely adenomatous at the outset. He had no hesitation in saying that early operations on the prostate in otherwise healthy subjects are no more dangerous than interval operations for appendicitis. The perineal operation should be performed whenever practicable, but he was aware that there were cases which could not be dealt with sucessfully by this route; therefore, it might become necessary to do a combined perineal and suprapubic operation.

Surgery of Pulmonary Gangrene.

DR. L. L. MCARTHUR, Chicago, after reporting cases, presented these conclusions:

1. Since by medical treatment 80 per cent. of patients die and in those operated on about 29 per cent., efforts should be surgical.
2. While it is anatomically possible to separate the pleura from the chest wall, it is tedious, difficult and often futile (due to puncture), and, therefore, not much valuable time should be lost in such efforts.
3. Circular suture, combined with gauze pressure packing for forty-eight hours, is the best means of inducing adhesions.
4. The *x*-ray may give valuable aid in localization.
5. Great care should be used in the selection of cases for operation, but when localized and single, the most desperate cases should be given a chance, as they frequently recover with drainage.

The Present Status of Stomach Surgery.

DR. A. J. OCHSNER, Chicago, in this valuable paper, discussed the various conditions in detail, and concluded that if severe pathologic conditions of the stomach exist, which can not be relieved medically in a reasonable period of time, and which can neither be traced satisfactorily to a neurosis not secondary to gastric disease, nor to other conditions, it would seem proper to attempt relief by early surgical treatment.

Among the other papers read were the following:

"The Perfected Surgical Treatment of Fibroid Tumors of the Uterus," by Dr. Lewis S. McMurtry, Louisville, Ky. "Changes in the Gullet Wall Following the Destructive Action of Escharotics," by Dr. Joseph Rilus Eastman, Indianapolis. "Extrauterine Pregnancy," by Dr. A. H. Cordier, Kansas City, Mo. "The X-ray in Fractures," by Dr. Duncan Eve, Nashville, Tenn. "Treatment of Compound Fractures, Immediate and Remote," by Dr. Frederic A. Besley, Chicago. "Ectopic Gestation," by Dr. Anderson Watkins, Little Rock, Ark. Dr. A. R. Craig, Columbia, Pa., reported cases of gunshot wounds; Drs. Bransford Lewis, St. Louis, and W. N. Wishard, Indianapolis, showed instruments, and Dr. H. J. Whitacre, Cincinnati, discussed "The Pathology and Treatment of Gangrene of the Lower Extremities."

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Eighteenth Annual Meeting, held in Baltimore, Oct. 23 and 24, 1903.

The vice-president, Dr. John Guiteras, Havana, in the Chair.

A welcome was extended by Dr. Eugene F. Cordell, president of the Medical and Chirurgical Faculty of Maryland and by Dr. William H. Welch, president of the Maryland State Board of Health.

Reports were presented on the following subjects: Rules Governing the Transportation of the Dead; Promotion of Uniformity of Reports on Vital Statistics; Work of the Maryland State Tuberculosis Commission. About 30 attended the conference.

New Officers.

The following were elected officers for the ensuing year: President, John M. Hurty, M.D., Indiana; secretary, Gardner T. Swarts, M.D., Rhode Island; treasurer, J. A. Egan, M.D., Illinois; vice-president, John S. Fulton, M.D., Maryland.

Papers were read as follows: 1, "Etiology and Prevention of Infantile Diarrhea," by Dr. J. H. Mason Knox, Baltimore; 2, "Are the Laboratory Methods of Diagnosis in Infantile Diarrhea Applicable in Public Health Work?" by Mr. Edwin G. Shorer, Baltimore; 3,"Duty of Sanitarians Regarding Venereal Diseases," by Dr. Henry D. Holton, Brattleboro, Vt.; 4, "Another Year's Test of the Mosquito Doctrine of the Transmission of Yellow Fever in Havana," by Dr. John Guiteras, Havana.

Yellow Fever and Mosquitoes.

Dr. Guiteras reported that in over two years there had not been a single indigenous case of yellow fever in Havana. During the last year there were 8 cases admitted to Las Animas Hospital, all coming from Mexico; one of those died on the third day. There were 131 non-immune patients in the same institution during the same period, but the disease was absolutely controlled by isolation, wire screens, mosquito nets and destruction of the mosquitoes by burning pyrethrum powder in the rooms. The fatal case showed the value of these measures very strikingly. A man was over two days in the lower part of the city, the former focus of infection, before he went to the hospital. During this time he was bitten by mosquitoes repeatedly, yet by the destruction of these in the house where he had been and in the houses of the entire square, the spread was entirely prevented. Dr. Guiteras detailed the prophylactic methods, which are familiar to our readers.

The people of Havana have implicit confidence in the measures employed there, which can be readily carried out. The presence of a case of yellow fever creates no alarm. In one of the 9 cases, a patient coming on the steamer from Mexico was forcibly removed from it against the wishes of the captain, because the authorities of Havana knew they could deal effectually with it and feared if it were permitted to remain the vessel might become infected before reaching New York or the disease might get a foothold in that city.

Venereal Prophylaxis by Health Boards.

As a result of Dr. Holton's paper a committee was appointed in accordance with the following resolution, which was proposed by Dr. Probst and adopted by the conference:

Whereas, The great prevalence of venereal diseases, which is indirectly the cause of many deaths, is a matter of much concern to the public health; and,

Whereas, The communication of these diseases to innocent persons must be largely due to ignorance; be it

Resolved, That a committee of three be appointed by the president to prepare a leaflet that would be acceptable to physicians to give to their patients, setting forth the precautions to be taken by one suffering from a venereal disease to prevent its communication to others, and to make such other suggestions as it may deem proper. Such instructions, when adopted by this conference, to be recommended to state and provincial boards of health for dissemination among the medical profession, and said committee shall report at the next meeting.

National rules to govern the transportation of the dead were adopted.

The Etiology and Prevention of Infantile Diarrhea.

Dr. John H. Mason Knox, Baltimore, in the paper mentioned above, said that the pathogenicity of the *Bacillus dysenteriæ* was now well established. In his own investigations no one type of the disease was associated with this organism; but all types of intestinal diseases, common among children in summer, were caused by the same organism. Laboratory investigation had shown two or three types of organism very closely related. Cases also occurred in winter. He emphasized the importance of supplying the children of our large cities with pure milk and uncontaminated water.

Mr. Edwin G. Schorer, Baltimore, in his paper, said that with the establishment of the etiology of infantile diarrhea a great step in advance had been made, yet, under the present conditions, methods of diagnosis are not available for, or applicable to, public health work. This last statement may, however, be limited, inasmuch as a bacteriologic diagnosis will undoubtedly be of value in the limited number of persistent cases of diarrhea and in those in which the antidysenteric serum is to be given.

DISCUSSION.

Dr. William H. Welch, Baltimore, was surprised that Dr. Knox had found the organism, which had been proven to be the cause of a prevalent group of cases of dysentery, to be the cause of summer diarrheas of children. The organism must be found in other localities than Maryland in order to demonstrate that it has any causal relation to summer diarrhea of children.

Dr. Henry M. Bracken, Minneapolis, discussed the milk question, recommending certified milk when an artificial diet is necessary for children. More infants die every year, he said, from impure milk than from tuberculous milk. More attention should be given to the sanitary aspects of the dairy than to the diseased animal. Certified milk and pasteurized milk are as satisfactory articles of diet as can now be obtained.

Dr. Charles O. Probst, Columbus, Ohio, considered it very important to disinfect the stools in infantile diarrhea.

Mr. Frank Wells, Lansing, Mich., said the Michigan State Board of Health had published a leaflet on the subject of infantile diarrhea, which had been given wide circulation and which advised that all cow's milk given to infants should be pasteurized. The leaflet was furnished to all of the teachers of public schools in Michigan. It was the duty of boards of health, he thought, to furnish such information to the people.

Dr. Henry Mitchell, Asbury Park, N. J., urged repeated inspections of cases of diarrhea in both children and adults, as in cases of typhoid fever. The New Jersey legislature had given the State Board of Health authority to make such inspections.

Others discussed the subject and Dr. Knox, in closing the discussion, agreed with Dr. Probst that the disinfection of stools in infantile diarrhea is as essential as in typhoid fever. In answer to one of the questions asked, Dr. Welch said the Shiga organism was not present in normal stools. If it were, it was in such small numbers that it required the most painstaking investigation to find it.

NEW YORK STATE MEDICAL ASSOCIATION.

Twentieth Annual Meeting, held in New York City Oct. 19-22, 1903.

The president, Dr. F. H. Wiggin, New York, in the Chair.

The New Officers.

The following officers were elected: President, Dr. William H. Thornton, Buffalo; vice-president, Dr. Charles S. Payne, Liberty; secretary, Dr. Guy D. Lombard, New York; treasurer, Dr. Frederick A. Baldwin, New York; delegates, Drs. Joseph W. Grosvenor, Buffalo, and E. Eliot Harris, New York.

It was announced that during the past year 14 new county medical associations had been added, and 372 persons added to the list of active members. The present membership is 1,757.

The association adopted the Kyger resolutions (which have been printed in The Journal) which call attention to the lessened birth rate among Americans and urge the prohibition of the publication of abortion advertisements. There were also adopted the American Medical Association resolutions on the examination of the eyes of school children. The association voted to continue the endeavor to have the office of coroner abolished.

Stab Wounds of the Abdomen.

Dr. F. J. Douglas, Utica, read this paper, emphasizing the uncertainty of the symptomatology and the consequent necessity for prompt exploratory laparotomy. Probing was strongly condemned. After suturing any wounds of the viscera, the cavity should be flushed out, and the wound closed, usually without drainage.

The Relation of the Municipal Milk Supply to the Health of Children.

Dr. George W. Goler, Rochester, compared mortality statistics of that city for the two periods, 1891-96 and 1897-1902, i. e., the periods before and after the adoption of a bacterial standard of purity, and a systematic attempt to secure cleaner milk. This showed a reduction in mortality during the latter period of 65 per cent. for infants during the first year of life, and of 58 per cent. for children between one and five years of age. For the past four years the city of Rochester had endeavored to make the city milk conform to a standard of 100,000 bacteria per c.c. Just before this standard was made 27 per cent. of the samples analyzed showed an average of 837,000 bacteria; whereas just after this time 391 samples averaged 796,000 bacteria and 15 per cent. of the samples contained over five million per c.c. In 1901 the average was 275,000 bacteria, with 9 per cent. of the samples showing over five million bacteria. In 1902 the average was 215,000, 74 per

cent. of the samples coming within the standard and only 6 per cent. showing over five million. Since 1897 milk stations had been established during the summer for the purpose of supplying at cost clean milk for infants. Last summer this milk showed only 14,000 bacteria as against 235,000 bacteria per c.c. for the ordinary city milk on the same days.

DR. H. O. MARCY, Boston, described a method of refrigerating and condensing milk that had been in operation in New Hampshire for six years. Milk so treated would keep sweet for two weeks. He confidently expected it would revolutionize the milk business.

The Causes of Failure After Operation for Nephroptosis.

DR. AUGUSTIN H. GOELET, New York, read this paper. Among some of the causes enumerated were the following: (1) Delay in operating until the patient's condition was bad and the kidney disabled; (2) the existence of severe enteroptosis; (3) the neglect to so prepare the patient as to minimize retching and vomiting after operation; (4) incomplete detachment of the colon; (5) penetration of the structure of the kidney by sutures; (6) attachment of the kidney so low down as to expose it to the pressure of the corset; (7) to early removal of the sutures; (8) prolonged retention of the gauze drain; (9) allowing the patient to turn on the opposite side or to assume the erect position too soon; (10) the neglect to apply a proper support to the abdomen afterward or the too early use of the corset.

Ergot in Alcoholism and Morphinism, and the General Class of Drug Habit Cases.

DR. ALFRED T. LIVINGSTON, Jamestown, read this paper. He believed that the nervous disturbances experienced by these patients were the result of a disturbance of the vascular system, and that the restoration of the equilibrium of the circulation should be the object of treatment. This can be brought about in several ways, but the most certain and potent is by the hypodermic administration of ergot. This drug not only contracts the muscular coat of the blood vessels, but the degree of action is proportionate to the relaxation of those muscular fibers. The first step in the treatment of a drug habit is, of course, to wholly stop the use of the drug; the next is to give a purgative and begin the use of ergot. The bowels should be kept relaxed, preferably by giving one or two drams of the fluid extract of *Rhamnus frangula* from one to three times a day. Ordinarily, two or three injections of half a dram each of his 12.5 per cent. solution of ergot will be enough per diem, but occasionally it will be necessary to give it every two hours. (See formula, etc., in THE JOURNAL, March 21, 1903, page 774). He had never had a patient request the drug, or show any desire for it after the first forty-eight hours. In the very severe forms of the morphin or opium habit it was occasionally better to give, with the ergot, a fraction of the former daily dose of the drug, reducing the dose of the narcotic one-half each day until it is wholly stopped by the eighth day. In the treatment of these difficult cases the use of hypnotics should be avoided if possible. If they seemed to be urgently indicated, rather than give them he would resort to the use of galvanism. A current of 10 or 15 milliamperes should be employed, and should be applied to the cervical ganglia and, by stroking motions, to the whole length of the spine, holding the electrodes about five inches apart.

DISCUSSION.

DR. ALEXANDER LAMBERT, New York, spoke of his experience with the ergot treatment in the alcoholic wards of Bellevue Hospital. An experience of a number of years showed that in his service of six weeks there were usually 25 or 30 deaths under all the generally accepted methods of treatment, and that in the cases known as "wet brains" he could not save more than 3 per cent. Since the adoption of the ergot treatment his six weeks' service had yielded, on an average, only 6 or 7 deaths, and, most remarkable of all, he had only lost 2 out of 30 cases of wet brain. His method was to inject 30 minims of the solution of ergot, repeat this in one hour, and then give it at intervals of two hours. When a patient was disposed to be violent or greatly excited the first injection contained, also, a dose of apomorphin, as this produced an almost immediate calming effect.

DR. F. H. WIGGIN also spoke favorably of the use of ergot in delirium tremens and obstinate insomnia, but said he had found it necessary to use doses of 50 or 60 minims.

Results of Operative Treatment of Cancer of the Rectum.

DR. JAMES P. TUTTLE, New York, read this paper and exhibited some patients. He gave the results obtained by him in 43 excisions, and asserted that no other method than extirpation had ever cured a single case of carcinoma of the rectum or sigmoid. Colostomy was the only operation that could be compared with it, and his belief was that colostomy did not prolong life and was only indicated when scirrhous growths completely occluded the gut, or the growth was of the hemorrhagic type. Extirpation gave complete relief and buoyed up the patient with the possibility of a cure. Of the 43 cases, 12 were unsuccessful; 22 are now living and well, after periods of from 2 to 11 years. The speaker said that every case of diarrhea, with or without bloody discharges, lasting over a fortnight should be subjected to an instrumental examination of the rectum or colon. A failure to make an early diagnosis is the greatest cause of death, and next to it came infection, but very often the latter could not be avoided. A carcinoma that was not movable was usually considered inoperable, but he had several seemingly hopeless cases that he had been tempted to operate on by the earnest entreaties of the patient, and the fact that every now and then life could be spared and the person restored to usefulness and comfort should make the surgeon chary about absolutely refusing to operate even though the chances of benefit were slight.

One of the Dangers in the Surgery of the Biliary Passages.

DR. E. D. FERGUSON, Troy, said that the surgeon should endeavor to secure a symptomatic cure rather than to do an ideal operation. The operation which gives the least shock is usually the formation of a temporary biliary fistula after the removal of the gallstones.

Extradural Abscess and Mastoid Disease.

DR. SEYMOUR OPPENHEIMER, New York, said that epidural abscess was the most frequent intracranial complication of mastoid disease, yet the early symptoms afford no basis for proper differentiation. Pain in the head over the affected area is an important symptom, which is apt to be paroxysmal and associated with exquisite tenderness. If rigors are present there is reason to suspect sinus involvement.

DR. FRANK W. HIGGINS, Cortland, suggested that in exploring the brain for pus accumulations it would be helpful to remember that these abscesses were three times more frequent in the middle than in the posterior fossa.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Toxic Actions of Urotropin.

The toxic action of urotropin, as described by Coleman in *Med. News*, is shown in some individuals, even though given in small doses. The symptoms of toxicity shown are irritation of the stomach; diarrhea and abdominal pain; measles-like rash; headache and ringing in the ears; renal irritation sometimes accompanied by albuminuria. The bladder sometimes presents toxic effects, strangury being the most common symptom. Hematuria and hemoglobinuria may occur. The toxic symptoms generally disappear within a few days after the drug is withdrawn. The author concludes that these toxic symptoms are caused either from special susceptibility to the action of the formaldehyd or to interference with its elimination or to an unusual liberation of formaldehyd in the system.

Cystitis.

There is an advantage, according to the *Jour. de Med. de Paris*, in prescribing salol internally in the form of an emulsion instead of powder form in the treatment of cystitis. The following formula is recommended:

℞.	Salol	gr. xxx-3i	2-4 |
	Pulv. tragacanthæ	gr. ii	|12
	Pulv. acaciæ	gr. xxx	2 |
	Tinct. tolutani	3i	4 |
	Syr. simp.	℥ss	15 |
	Aq. destil. q. s. ad	℥ii	60|

M. Sig.: Ft. emulsio. Sig.: One teaspoonful before each meal.

The following combinations are recommended by *Merck's Archives* in the treatment of cystitis:

To relieve the pain:

℞.	Ext. opii	gr. vi	|40
	Ext. hyoscyami	gr. v	|30
	Olei theobrom. q. s.		|

M. Ft. suppos. No. vi. Sig.: One to be introduced into the rectum at night; or:

℞.	Pulv. opii	gr. xii	|75
	Camphoræ	℥ss	2 |
	Ext. belladonnæ	gr. iii	|20
	Olei theobrom. q. s.		|

M. Ft. suppos. No. vi. Sig.: One to be inserted at bedtime.

As an antiseptic and to relieve the irritation the following is of service:

℞.	Ext. belladonnæ flu.	gtt. xx	1|30
	Sodii boratis	3ii	8 |
	Acidi benzoici	gr. xx	1|30
	Tinct. opii camph.	℥iss	45|
	Olei gaultheriæ	gtt. xii	|75
	Syrupi	℥ii	60 |
	Aq. destil.	℥iv	120|

M. Sig.: One dessertspoonful in water four times a day.

Acute Gastro-Enteritis of Nurslings.

There are three therapeutic indications according to Hutinel in *Interstate Med. Jour.*, for the treatment of acute gastro-enteritis occurring in infants:

1. To remove the source of the poisons which form in the intestine.

2. To prevent the pathogenic germs in the intestinal tract from finding a favorable culture medium.

3. To restore to the body the water it has lost.

He states that all the foregoing conditions can best be met by the withdrawal of all food and giving sterile water alone. When there is much tendency to vomit the water should be given cold; if there be algidity, hot water should be used, in either case giving small quantities at a time—a dessertspoonful or a tablespoonful every fifteen or twenty minutes. For infants five or six months old the total quantity should not exceed one and a half pints in the twenty-four hours. This treatment must not continue longer than twelve to fifteen hours, for a young infant, if any improvement is shown; for older children it may be continued twice that long. Gastric lavage is indicated when there is persistent vomiting, and if thrush is present a mild alkali may be added to the lavage water. The writer relies entirely on small and repeated doses of calomel for intestinal antisepsis. Castor oil may be used if the stomach is not too irritable.

Colonic flushings are sometimes valuable, using mucilaginous solutions or the normal saline solutions, never using boric acid on account of its toxic effects on infants. Warm cataplasms should be applied to relieve the tympanites.

Where there is tendency to collapse hypodermoclysis of salt solutions should be given.

Warm baths are of value in reducing the hyperpyrexia. The return to food must be gradual, using diluted milk, buttermilk or koumyss with the addition of flour.

Treatment of Stye.

According to an abstract in *Med. Record* the lash should be removed from the center of the inflammatory area. The swelling should be carefully touched with tincture of iodin or pure carbolic acid. When pus is present it should be released by a small incision. The pain will be relieved by warm fomentations. A weak mercurial ointment will generally cause the disappearance of the remaining thickening of tissue. The diet should be regulated when there is any constitutional disturbance.

To Relieve the Cough in Pneumonia.

The following combinations are recommended by Text-Book of Applied Ther. in the treatment of the cough in pneumonia:

℞.	Codeinæ	gr. i	|06
	Quininæ sulph.		
	Pulv. camphoræ, āā	gr. xvi	1|06

M. Ft. cap. No. viii. Sig.: One every three hours; or:

℞.	Ammon. carb.	3i	4 |
	Syr. pulveris doveri	3iv	15|
	Syr. pruni virg.	℥iss	45|

M. Sig.: One teaspoonful every two or three hours.

Lichen Pilaris.

The following combinations have been recommended by *N. Y. Med. Jour.* in the treatment of lichen pilaris:

℞.	Sulphuris precip.		|
	Fuller's earth		|
	Venetian talci, āā	gr. lxxv	5|

M. Ft. chartula. Sig.: Apply as required.

The following have been successfully used by Saalfelt:

℞.	Sulphuris precip.	3iiiss	14|
	Saponis mollis		|
	Adipis, āā	℥i	30|
	Venetian talci	3iv	15|

M. Sig.: Apply locally; or:

℞.	Saponis mollis	℥iss	45|
	Naphthol	3iiiss	14|
	Cretæ prep.	3iiss	10|
	Lanolini		|
	Adipis, āā	℥iss	45|

M. Sig.: To be used at night.

Brocq recommends the following:

℞.	Amyli glyceriti (neutral)	℥iiiss	105|
	Acidi tartarici	gr. lxxv	5|

M. Ft. lotio. Sig.: Apply locally. For the immediate treatment of these cases Hyde recommends the hot bath with soap followed by inunctions of lanolin pomades, or the fats or oils. In congenital types cod-liver oil should be given internally.

Sweating of the Feet.

The following combinations are recommended by *Merck's Archives* in excessive perspiration of the feet:

℞.	Acidi salicylici	gr. xv	1|
	Tannoformi	℥iss	6|
	Pulv. orris	3i	4|
	Pulv. talci	3iii	12|

M. Ft. pulvis. Sig.: Apply locally; or:

℞.	Formaldehyde	3iv	15|
	Petrolati	3ii	8|
	Lanolini	3iv	15|

M. Ft. unguentum. Sig.: Apply freely at night; or:

℞.	Pulv. acidi borici	3i	4|
	Pulv. amyli	3iii	12|
	Tannoformi	3ii	8|
	Olei caryoph.	gtt. i	|06
	Olei lavendulæ	gtt. iii	|20

M. Sig.: Use as a dusting powder.

In axillary bromidrosis the following is recommended:

℞.	Creolini	3i	4|
	Ext. violet	3iv	15|
	Alcoholis deod.	℥iii	90|

M. Sig.: Wash the armpits with warm water followed by an application of the lotion.

Uranium Nitrate in Diabetes.

There is no disorder of the system in which empyricism has assumed a more important place in therapeutics than in the treatment of diabetes mellitus. W. R. Jones, in *Virginia Semi-Monthly*, states that he derived splendid results from the use of uranium nitrate in the treatment of this disorder of metabolism. In every case in which this preparation has

been used by the author great improvement has resulted. It should be given in doses of gr. 1/6 (.01) to gr. ½ (.03) four times a day, administered in water, alcohol or glycerin. The salts of uranium, while not luminous, are strongly fluorescent, which, according to the writer, lends interest because of the discussion of radium at the present time. But whether the fluorescent property in any way affects metabolism can not be stated. He refers to the action of uranium on the skin producing a fine desquamation of the superficial layers of the epidermis somewhat similar to the effect of the *x*-ray. The degree, however, is very moderate and gradual. The general nutrition and activity of the skin is increased as well as the diaphoretic action, so that it is recommended for its beneficial effects on metabolism.

It is a yellowish-green, crystalline solid, soluble in water, alcohol, ether and glycerin. Some authors give it in 1 to 2 gr. (.06-.12) doses.

[The value of this preparation in diabetes because of its amylolytic and proteolytic action has been discussed by Dr. Samuel West. He employed it in the treatment of diabetes. It relieved the subjective symptoms and reduced the amount of sugar.]

Arsenic is a well-tried remedy in the treatment of diabetes and experiments have proved its value in reducing the formation of glycogen. The bromid of arsenic may be given made up as follows after the formula of Clemens:

℞. Potassii carb.
Acidi arsenosi ..... gr. vi | 40
Aquæ destil. ..... ʒi 30 |

M. Boil until dissolved and when cooled add:

Aquam q. s. ad..... ʒiss 45|
Bromum ..... gr. xii |75

M. Sig.: One to five drops once or twice daily.

The following formulæ are often of value in reducing the quantity of sugar in the urine:

℞. Lithii carb. ..... 3i 4|
Sodii arsenatis ..... gr. i |06
Ext. cascaræ ..... gr. xv 1|

M. Ft. capsulæ No. xxx. Sig.: One after each meal.

Uranium nitrate may be prescribed in solution as follows:

℞. Uranii nitratis ..... gr. xv-xxx 1-2|
Syrupi simplicis ..... ʒi 30|
Aquæ folniculi ..... ʒiii 90|

M. Sig.: One teaspoonful after each meal three times a day.

Codein is another preparation which is used as much, perhaps, in the treatment of diabetes as any other drug. This may be of service not only because it favorably influences the sugar elimination, but it also alleviates, to some extent, the pains which so frequently accompany this condition. It may be given as follows:

℞. Codeinæ sulph. ..... gr. viiss-xv |50-1.
Syr. simplicis ..... ʒss 15|
Aq. aurantii q. s. ad. ..... ʒii 60|

M. Sig.: One teaspoonful three times a day.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Idaho—Physicians to Report and Quarantine.—Section 1152 of the political code of Idaho as set forth in the revised statutes is amended by an act on pages 364 and 365 of the Idaho Session Laws of 1903 so as to read: It is the duty of every practicing physician to report promptly to the county physician of the county in which he resides, all or any dangerous disease of an infectious or contagious nature under treatment by him, and he is also hereby empowered and required to at once establish a strict quarantine against such person or premises by such means as shall seem to him to be sufficient, subject to revision by the county board of health, and said board must at once take the necessary precaution to prevent the spread of such dangerous or infectious disease, and any person violating the provisions of this act, or the regulations of said attending physician, or of the county board of health, is guilty of a misdemeanor.

Indiana—Creation of Anatomical Board.—Chapter XXXI of the Acts of Indiana of 1903 provides for the creation of a board for the control and distribution of the unclaimed bodies of persons dying in public institutions of, or charitable institutions aided by, the state, and which would otherwise be required to be buried at public expense or at the expense of such public institutions. The board is to be known as the state anatomical board and is to consist of the president of the State Board of Health, ex-officio, who shall act as the chairman, and one representative from each of the incorporated medical and dental schools of the state actually engaged in teaching, to be selected by and from the faculty thereof. Exceptions are made as to the bodies of persons dying with smallpox, diphtheria or scarlet fever, and to those of travelers dying suddenly, except those belonging to the class commonly known as tramps. The board or its agent may receive the bodies and shall distribute such as are received among such schools and physicians entitled thereto as request in writing to receive the same, preference being given to the incorporated schools. Each college shall receive annually, as nearly as may be practicable, such proportion of the entire number of bodies distributed as the number of bona fide students enrolled and in regular attendance at such school shall bear to the total number of bona fide students at all such colleges. All bodies shall be delivered in regular order so as to maintain an equitable allotment; and bodies assigned to any school in regular order and refused by it without sufficient cause shall be charged against its quota. No school or physician shall receive any body without first giving to the state a bond for $1,000, conditioned that all such bodies received shall be used only for the promotion of the science and art of medicine and of dentistry, and that the record containing descriptions of deceased bodies shall be preserved from loss. Nothing in this act shall be construed to prevent any duly incorporated medical or dental college, or any duly licensed practitioner from acquiring, by gift or otherwise, from persons having lawful authority to dispose of the same, the dead body of any human being for the purpose of postmortem examinations, dissection or other scientific use. But desecrating graves, trafficking in bodies referred to herein or in bodies known to have been unlawfully taken is made a felony, punishable by imprisonment for not less than three nor more than ten years.

Indiana—To Restrict Dangerous Communicable Diseases.—Chapter LXXXIII of the Acts of Indiana of 1903 provides that any physician called on to attend a sick person and who finds the cause of such sickness to be of a contagious or infectious character, or if the disease is ordered to be reported in the rules of the State Board of Health, such physician shall immediately report the facts to the secretary of the board of health having jurisdiction. Whenever any person knows, or has reason to believe, that any member of his (or her) family or household (boarder, roomer or visitor) has any communicable disease listed in the rules of the State Board of Health, he shall immediately, if no physician is in attendance, give notice to the local health officer. The health officer being notified in any way of the existence of any of said diseases shall immediately quarantine the infected premises so as effectually to isolate the case or cases and the family, if necessary, in such manner and for such time as may be necessary to prevent transmission of the disease; and, whenever a house or room is placed in quarantine, a placard shall be posted in a conspicuous position, giving the name of the disease in letters not less than two inches long, and also containing the following order: "All persons are forbidden to enter or leave these premises without special permit from the health officer having jurisdiction, and all persons are forbidden to remove or mutilate this card, or to in any way interfere with this quarantine without orders from said health officer." When visiting persons afflicted with such infectious disease, all physicians and health officers shall take precautions as directed in said rules. Other provisions make it the duty of the health officer to investigate, etc., whenever he knows or suspects or is informed

of the existence of a communicable disease, dangerous to the public health, and to disinfect the premises, etc., after the recovery or death of infected persons. After examination and determination by two physicians in good standing and practice that a person is sick with a contagious, infectious or pestilential disease, the state or local board of health may cause such person to be removed to a proper place for care, and may cause to be removed or destroyed articles infected or likely to communicate disease, when in their opinion the safety of the public health requires it. Children infected with, or having been exposed to any communicable disease shall not attend any school, or appear in public in any way, and all school teachers shall exclude all such children unless a written permit to attend is given by the health officer. In all cases of death from cholera, bubonic plague, leprosy, typhus fever, yellow fever, smallpox, diphtheria, membranous croup, scarlet fever, and cerebrospinal meningitis, the funeral shall be strictly private, and the burial shall be made within twenty-four hours after death. No public or church funeral shall be held or any person permitted to enter the house containing the remains, except the undertaker and his assistants, unless by permission of the health officer, and buried remains shall not be disinterred or removed without permission from the State Board of Health. All trolley, steam or electric cars or other public conveyances which are known, or which may reasonably be supposed to contain the infection of any disease, shall, on order of the health officer of that jurisdiction, be disinfected according to the rules of the State Board of Health, and the cost of disinfection shall be paid by the owner of said cars or conveyance: provided, that any and all inspections and fumigations of such cars be at such times and places as not to interfere with the general traffic of the road. If at any time any city, town or region is under quarantine, all trolley, electric and steam railroad companies through any such quarantined city, town or region, shall obey the quarantine orders of the State Board of Health, which are issued for the purpose of preventing the spread of infection.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

October 17.

1 *One Year's Work in Appendicitis. John B. Deaver.
2 *On the Influence of Potassium Sodium Tartrate on the Circulation. Felix Kleeberg.
3 *The Interrelations of Diabetes and Other Constitutional States. George F. Butler.
4 *Cardiac Complications of Influenza. E. G. Wood.
5 *Special Aids to the Early Recognition of Pulmonary Tuberculosis. W. L. Dunn.
6 *Antistreptococcic Serum in the Treatment of Inflammatory Rheumatism and Other Diseases, with Report of Cases. G. H. Sherman.
7 Relation of the Medical Profession to Public Education. L. K. Baker.

1.—See Society Proceedings, this issue.

2. **Potassium Sodium Tartrate.**—This paper by Kleeberg gives the results of experimental research on the action and circulation of potassium sodium tartrate. The apparatus employed was the kymograph of Ludwig. Dogs were used for the experiments, in each case the animal receiving an injection of ¼ grain of morphin sulphate half to three-quarters of an hour before the beginning of the administration of ether. The cannula was invariably introduced into the carotid artery and the salt injected into one of the crural veins. The results are summarized as follows:

1. Potassium sodium tartrate when introduced intravenously in small amounts (up to 30.0 mg. per kilogram of dog) causes a fall in blood pressure and an irregularity in the rhythm of the heart's action. This may be accompanied by a primary slowing of the heart's beat, but the dominant action is to cause an increase in the rate of pulsation. The fall in pressure occurs even though the quantity of salt injected contains less than 3 mg. of potassium per kilogram of dog. If the amount introduced is larger and yet insufficient to cause complete paralysis of the heart, the fall in blood pressure is accompanied by a slowing of the heart. If the salt is introduced in comparatively large quantities, the animal quickly expires, owing to paralysis of the heart, respirations continuing for some moments after the heart has been arrested in diastole.

2. Neutral sodium tartrate when introduced intravenously in moderate amounts (about 50 mg. per kilogram) stimulates the heart, causing a rise in blood pressure, with a slight increase in heart rate.

3. The depressing factor is the potassium ion, and the sodium and tartaric acid ions are without influence in causing the depression.

3. **Diabetes.**—The predominant symptom of diabetes, glycosuria, may, Butler says, be the expression of many other diseases; sometimes it is only the result of an excess of carbohydrates. He enumerates a number of conditions in which glycosuria may occur, such as neuroses, insanity, autotoxic types of gout and mental disorder. He reviews the various neurotic manifestations which may attend the diabetes and the motor and sensory lesions in trophic disorders. Among the former are fatigue, lassitude, monoplegias, imperfect coordination, vertigo, etc. The most serious symptom is coma. There are included under this title many conditions varying from mental depression through apathy to stuporous states. In nearly all, the mental features and the concomitants of coma center, like all depressional mental states from acidosis, around the medulla oblongata. Their starting point is central not local. The condition of the arteries also is a factor in the etiology of glycosuria. Hereditary defect may show itself at the periods of stress, the change from infancy to childhood, puberty, adolescence, the climacteric and the period of senility, when the system is undergoing evolution or involution.

4. **Influenza.**—Wood notices the various organic and functional disorders of the heart attending influenza, and says in conclusion that study and observation force him to believe that influenza is a potent and not uncommon factor in the production of serious cardiac disease, and that there are frequently degenerative changes in the heart wall. In weakened subjects or elderly persons these changes may lead to grave symptoms. In view of the dangers of cardiac complications, the routine treatment of the disease with drugs like phenacetin, acetanilid, etc., can not be too strongly condemned, certainly not in patients past middle life.

5. **Tuberculosis.**—Dunn holds that the value of percussion or auscultation findings and of symptoms is dependent on the recognition of the limitation of their significance. The temperature is a guide only with frequent regular observations, and an auscultation chart made while listening to the sounds is an essential aid to accuracy of both observation and record. Negative sputum findings are never sufficient ground for negative diagnosis, and blood examinations aid only in the incipiency of the disease except in excluding the conditions in which the blood findings are characteristic. The significance and reliability of agglutination are not yet fully established. The tuberculin test is a safe, reliable, practical and justifiable diagnostic measure where its use is indicated; that is, in suspected early cases where other means of diagnosis have failed. When a positive diagnosis can be made without its use it should be condemned as a meddlesome procedure. He notices, however, in regard to the use of tuberculin one peculiar reaction he has observed three times: a fall of temperature to subnormal, a feeling of general weariness and depression, aching not marked or absent and local reaction more or less marked. He can not explain the phenomenon. He did not care to give a second larger dose just to see whether a rise of temperature could be produced, but does not believe that these cases should be confused with the unfortunate case reported by Heron at the British Congress on Tuberculosis.

6. **Antistreptococcic Serum in Rheumatism.**—A number of cases are reported by Sherman, showing the therapeutic value of antistreptococcic serum, 2 of erysipelas, 1 of miscarriage and 9 cases of rheumatism. In all his rheumatic cases there was a typical clinical history of inflammatory rheumatism with early evidences of more than usual severity in certain ones. All the patients had good digestion. None developed heart complications, and while the serum treatment was used no other treatment was resorted to. The results varied from marked improvement after the first or second dose to complete recovery in a short time. The local effects of the injections were not serious. He thinks that antistreptococcic serum

might also benefit muscular, sciatic and chronic articular rheumatism. At least a trial would do no harm and might lead to good results.

Medical News, New York.

October 17.

8 *Bronchiectasis in the Tuberculous; an Unusual Case Reported. S. Edwin Solly.
9 *Early Recognition of Impending Obstetric Accidents. Joseph B. De Lee.
10 Thiocol in the Treatment of Croupous Pneumonia. E. Fletcher Ingals.
11 Pathology and Prophylactic Treatment of Puerperal Sepsis. J. Clifton Edgar.
12 The Development of Our Knowledge of Puerperal Infection. Brooks H. Wells.
13 *Sublamine in the Treatment of Parasitic Scalp Diseases. William S. Gottheil.
14 *The Importance of the Surgical Treatment of Chronic Middle Ear Suppuration. Edward B. Dench.

8. Bronchiectasis in Tuberculosis.—Hoffmann's suggestion that bronchiectasis can not occur as a complication of tuberculosis is commented on by Solly, who reports a case which in its way is exceptional. He has found no record of a similar one. The patient was a woman subject to frequent attacks of bronchitis with periods in which there was a great deal of spasmodic coughing without expectoration, depression of health, but no fever and then a continuous fever, not intermittent, cough diminished, still no expectoration, emaciation, general depression, gastro-intestinal indigestion and no relief of the fever from treatment. Then a rapid increase in the temperature with bacilli first appearing. With the administration of iodid of potassium, which seemed to cause an absorption of lymph and the free escape of tuberculous matter, there remained an ordinary mild hectic fever with free expectoration and moderate cough, with occasional exacerbations of the high, continued fever which existed before, again relieved by the iodids. Finally, a period of six weeks of almost steady improvement with free but slightly diminishing cough and expectoration. Locally there was an old inactive tuberculous process at the right apex and solidification around the root of the right lung with slight incomplete atelectasis of the right lower lobe. Following the attack these two conditions were diminished with some return of activity at the extreme right apex. Hoffmann admits that small bronchiectatic areas are not infrequent in cases where there have been circumscribed processes in the apices and a tendency to recovery by subsequent fibrosis. In this latter category Solly places his case.

9. Obstetric Accidents.—De Lee holds that the pregnant woman is neglected in general practice. Patients are not examined to ascertain the size of the pelvis and to see if the heart, lungs, kidneys and liver are normal or if the pregnancy is normal, and he claims that by a moderate amount of intelligent supervision nearly all obstetric accidents might be prevented, or at least mitigated. Careful attention to the study of the patient and watching for symptoms of deficient excretion or toxemia would have much effect in obviating the occurrence of eclampsia. Family and personal histories should be carefully studied, both as to this and hemorrhages. As regards placenta previa, he says, if the woman has endometritis and if it has caused some puerperal anomaly before, look out for placenta previa. If there is even the slightest show of blood after the fifth month keep it in mind. He also advises careful examination to ascertain the presentation before labor, and to study the possibilities that may lead to puerperal infection. Lastly, he mentions the care of the child.

13. Sublamine.—Gottheil has used this remedy in an epidemic of ringworm that occurred in a large orphan asylum, largely due to overcrowding. Other remedies, creosote, formalin, croton oil, mercury bichlorid, iodin, etc., had been employed. About 100 cases were treated with sublamin and, aside from a certain number of chronic and probably incurable ones, they all did well. Its action was more rapid than bichlorid, as might be expected, as since it has equal bactericidal with greater penetrative power and can be employed in stronger solutions. There was no doubt that it was more effective than all the other remedies employed and less irritating. Bacteriologic examination revealed the fact that a parasite indistinguishable from that of ringworm could be obtained from apparently healthy scalps. It was possibly a less virulent type, or the usual form kept in depressed growth by prophylactic measures. They finally came to trust in macroscopic evidences for cure, leaving aside the bacteriologic tests.

14. Middle Ear Suppurations.—Dench's article goes at length into the treatment, etc., He recapitulates as follows:

In all cases of persistent and profuse aural discharge the radical operation is the operation of election. In cases of recurrent aural discharge, associated with lesions of the upper air tract, this tract should first be put in a normal condition.

In case of persistent but slight discharge from the ear, the operator may advise the removal of the carious ossicles, together with thorough curettement of the middle ear through the external auditory meatus. It should always be explained to the patient, however, that this operation is a tentative one, and that the more radical procedure may be necessary later.

Medical Record, New York.

October 17.

15 *Radium; with a Preliminary Note on Radium Rays in the Treatment of Cancer. Margaret A. Cleaves.
16 *Stricture of the Male Urethra. Henry G. Spooner.
17 *The Need of Organized Effort in the Prevention of the Spread of Tuberculosis. F M. Pottenger.
18 Extensive Brain Loss without Impairment of Intellectual Faculties. Walter Keate.
19 Eczema Cured by Measles. G. W. Squires.

15.—See abstract in THE JOURNAL of October 17, p. 879.

16. Urethral Stricture.—Spooner, in his article on urethral stricture, gives its definition, anatomy, symptoms and course, with illustrations explaining the types.

17. Tuberculosis.—Pottenger insists on the importance of educating the public as to the methods of checking tuberculosis. He says its communicability must be impressed on the minds of the people, but these facts must not be exaggerated. There is no danger in associating with tuberculous patients if they are careful and follow the necessary precautions. As regards notification, he thinks it works in favor of the afflicted instead of against him. It would not be for public use, but simply for the information of the health officer.

Boston Medical and Surgical Journal.

October 15.

20 *Parasyphilitic Affections, or Remote Effects of Syphilis. Abner Post.
21 *Some Observations on Blood Pressure in the Insane. William R. Dunton, Jr.
22 *The Formation of Loose Cartilages in the Knee Joint. E. A. Codman.

20. Parasyphilitic Affections.—This paper, the author states, is practically a condensation of Fournier's book with comments and quotations from other sources. He reviews the various post-syphilitic conditions.

21. Blood Pressure in the Insane.—Dunton has experimented with the use of the Riva-Rocci manometer on a considerable number of insane, and concludes:

1. The findings of other writers that (*a*) the blood pressure is increased in depressive states and decreased in excited states, and (*b*) that the motor condition has a greater influence on the blood pressure than does the mental condition, have been confirmed.
2. A moist skin has no especial influence on the blood pressure, although active perspiration may.
3. There was no constant daily variation, as has been noted by Schaeffer and others.

I feel that further conclusions are not justified by the cases presented here and others which are in a too incomplete state to justify publication. This paper will have fulfilled its mission if others are stimulated to observe blood pressure.

Too much importance should not be ascribed to this symptom. Its accurate observation has its value, and will probably have a greater value later when we have a better knowledge of how it is influenced by various bodily conditions. The general clinicians are adding to this, and we should do our part by observing how it is influenced in mental affections.

22. Loose Cartilages.—Codman has skiagraphically investigated the etiology and formation of loose cartilages ("joint mice") in the knee joint, which he says must comprise two injuries: one to depress the cartilage and one to free it. He has observed three stages and illustrates them by skiagrams, and has produced the first stage experimentally on the cadaver. The practical surgical point to be learned from the studies he has made is that in operating the articular surface of the internal condyle should be inspected. Torn or displaced semilunars do not show by the *x*-ray.

New York Medical Journal.

October 17.

23 *Some Aspects of Genitourinary Disease, from a General Practitioner's Point of View. William H. Thomson.

24 *The Value of Albuminuria in Differentiating Pyelitis from Cystitis. Thomas R. Brown.
25 On Determining the Specific Gravity of Small Volumes of Urine; with a Preliminary Note on a Special Hydrometer (Urino-pyknometer) Designed to Work with a Few Cubic Centimeters of Fluid. G. A. De Santos Saxe.
26 Left-Sided Appendicitis. Edmund W. Holmes.
27 *The Treatment of Convergent Strabismus. William G. Craig.
28 *Differences in the Management of Appendicitis and of Salpingitis. George E. Shoemaker.
29 Treatment of Delirium Tremens. (Concluded.) Dudley Fulton and others.

23. **Genito-urinary Diseases.**—The points made by Thompson in this article are especially the high tension pulse of nephritis, which he considers due to an agent similar to adrenalin in the blood, causing kidney shrinkage and diminished urea excretion. Aconite he finds the best vasodilator and restorer of the urea output. He remarks also that in urine examinations we are apt to give our attention too exclusively to discovering what ought not to be found in it. There are many cases that suffer from too little elimination of urea, due to gastro-intestinal disorders, and there is a close relationship between the alimentary canal and urea elimination by the kidneys. The tension of the pulse in these cases of functional renal inefficiency is low instead of high. The patients feel worse in the morning and better in the evening, as if there were some nocturnally generated poison in the blood. In these cases he would give a biweekly dose of mercury alternated with compound licorice powder and the steady administration of intestinal antiseptics, such as sodium or ammonium benzoate or capsules of salol with castor oil. He also alludes to certain emergencies that may occur, such as septic infection of the kidneys in the course of chronic nephritis, and in conclusion describes a perineal pad which he has found beneficial in cases of chronic spermatorrhea.

24. **Pyelitis.**—In the nine cases reported by Brown the demonstration of a considerable quantity of albumin in the urine was of the greatest possible value in making a diagnosis of pyelitis. In a number of these it was the first thing to call attention to infection of the kidneys. He thinks that in any case in which in association with pyuria there is a considerable albuminuria, there is a great probability, if not a certainty, that an infection of the kidney is present except in those cases where the albumin is due to a high grade of hematuria or to nephritis, in which case the presence of casts will demonstrate the cause of the albuminuria.

27. **Convergent Strabismus.**—Craig dwells on the importance of early and systematic efforts in the direction of improving the eye in cases of convergent strabismus and outlines the different procedures. In conclusion he calls attention to the following points which summarize his ideas on the subject:

1. The earlier the child is seen, the better the prospect for a cure.
2. The vision of squinting eyes can, in a majority of cases, be improved and some function restored if treatment is begun early.
3. A small percentage of cases of convergent squint can be cured by mydriatics, glasses and proper exercises alone, without operation.
4. The correction by non-operative methods is much to be preferred, as the motility of the eye is more perfect and the deformity produced by sinking of the caruncle is avoided.
5. Operative procedures should be employed in those cases in which non-operative treatment, after a thorough trial, has failed, and in those cases in adults in which we operate for the cosmetic effect.

28.—See Society Proceedings, this issue.

St. Louis Medical Review.

October 10 and 17.

30 Anomalies and Monstrosities, with Report of a Case. J. N. Nelms.
31 *The Value of Ophthalmic Examinations in the Differential Diagnosis Between Typhoid Fever and Acute Miliary Tuberculosis. Clarence Loeb.

31. **Tuberculosis.**—Loeb describes a case, diagnosed as typhoid, in regard to which ophthalmologists differed as to the eye appearances. He diagnosed them as tubercles of the choroid. The autopsy showed a disseminated miliary sclerosis and tubercles were obtained from the tumors. He calls attention to the value of the ophthalmic findings in such cases.

Cincinnati Lancet-Clinic.

October 17.

32 On the Histo-pathologic Alterations of the Lymph and Blood-vessels in Syphilis. A. Ravogli.
33 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

University of Pennsylvania Medical Bulletin, Philadelphia.

September.

34 *Report of a Case of Decapsulation of the Kidney for Chronic Parenchymatous Nephritis. James Tyson and Charles H. Frazier.
35 A Clinical Chart, with Some Remarks on the Relation of Applied Anatomy to Physical Diagnosis and a Brief Anatomic Description. Albert P. Francine.
36 A Case of Femoral Thrombosis in Chronic Dysentery. Thomas S. Githens.
37 *The Effects of Aspidospermine on the Respiration and Circulation. Horatio C. Wood, Jr., and Daniel M. Hoyt.
38 Some Notes on Artificial Neurotoxic Serum. V. E. Henderson.

34. **Kidney Decapsulation.**—Tyson and Frazier report a case and comment on the procedure. (See Society Proceedings, this issue.)

37. **Aspidospermin.**—This product of the well-known quebracho blanco drug has been experimented on by Wood and Hoyt, who find that it leads to increase in the amount of air moved in the lungs. This seems to be independent of any increased muscular activity or changes in the blood, and is probably due to stimulation of the respiratory center. Further researches, however, on the action of the drug are necessary to determine its precise value in practical medicine.

New York State Journal of Medicine, New York.

October.

39 Foreign Body in a Bronchial Tube; Recovery. Thomas A. McGoldrick.
40 *Some Peculiarities of the Pulse in Typhoid Fever. J. N. Bassett.
41 Sporadic Cretinism, with Report of Three Cases. Hermon C. Gordinier.
42 *Spurious Gastric Symptoms. Allen A. Jones.
43 Ocular Incoördination and Cerebral Reflexes. F. Park Lewis.
44 Smallpox. William A. MacPherson.
45 Intestinal Obstructions. W. C. Phelps.
46 The Cure of Hernia. Gilbert D. Gregor.

40. **The Pulse in Typhoid.**—In two cases here reported with temperature records the course of the pulse was not in accordance with the temperature curve in typhoid fever. Bassett, therefore, concludes that the pulse does not follow the temperature or indicate the severity of the disease. Cases in which the pulse rate has not at any time in the course of the fever risen above 100 have proven fatal. The fact is, however, that slow pulse occurs with high temperature so seldom in typhoid fever that it is not mentioned by some authors.

42. **Spurious Gastric Diseases.**—The difficulty of always recognizing the nature of the apparently gastric symptoms is noticed by Jones, who remarks on the various causes of pain in the epigastrium, and the need in all cases of gastralgia of a differential diagnosis between the rather rare essential gastralgia and cholelithiasis. In the absence of symptoms and physical signs of gallstone colic the diagnosis is not always readily made. Vomiting is not a sure symptom of gastric disease. It may be due to cholecystitis, uremia or other causes. Appendicitis in its various phases and effects needs attention. In a good many cases local evidences are not so advanced that they are definite and easily determined. Reflex hyperchlorhydria may confuse the diagnosis. Pancreatic disease is another condition which, while relatively uncommon, may be confusing. Obscure tubercular peritonitis that causes no tumor may give rise to gastric symptoms. Heart lesions may also simulate gastralgia. He reports a case in which rupture of the heart was thus mistaken. Angina pectoris sometimes simulates gastralgia, and this should be borne in mind if gastralgia yields to nitroglycerin. Arteriosclerosis, arteriospasm and syphilis may also cause confusion, but the use of the iodids in the latter case will show the nature of the condition. There may also be true sclerosis of the arterioles of the stomach, causing ulceration, or diaphragmatic pleurisy may incite reflex pain in the gastric region, and only close study will determine the true nature. In his experience, he says, pain in the stomach is very rarely the result of pelvic disease, while vomiting is a common result. Disease of the pelvic organs is one of the causes of spurious gastric symptoms. We should be on the lookout for pelvic disease that may elude a superficial examination. Lastly, he mentions eyestrain as a cause of various stomach symptoms.

California State Journal of Medicine, San Francisco.

October.

47 Lupus Erythematosus. Alfred B. Grosse.
48 The San Francisco Quarantine Station. Hugh S. Cumming.
49 *A Few Illustrative Cases of Diphtheria. Fred G. Burrows.
50 *Abdominal Drainage. Stanley Stillman.

49. Diphtheria.—Burrows points out that the mortality and morbidity of diphtheria are greater in California than in other parts of the United States, nothwithstanding the fact that the climate of California ought to be less favorable to its extension than those of eastern parts of the country. He reports a number of cases and believes that if proper attention to the antitoxin treatment be given, the death rate and morbidity can be very decidedly lowered. He thinks that 99 per cent. of the cases can be saved in the California climate if properly taken care of and treated early with antitoxin.

50. Abdominal Drainage.—Stillman would limit drainage after intraperitoneal operation to cases where there is a single or multiple walled-off collection of pus or where necrotic tissue must be left behind or those where the intestine is seriously damaged and the suturing is faulty and likely to give way.

Albany Medical Annals.

October.

51 Acute Ulcerative Endocarditis. Samuel B. Ward.
52 *Varicella, with Report of an Unusual Epidemic. Spencer L. Dawes.
53 *The Surgical Treatment of Malignant and Non-Malignant Diseases of the Stomach. Albert Vander Veer.

52. Varicella.—Dawes reviews the symptomatology and etiology of varicella and discusses its relations with variola. He thinks the strongest argument for the duality of the diseases is the age question. Though cases of varicella do occur in adults, to all intents and purposes it is limited to the first fifteen years of life. During these years, if variola occurs it is severe while varicella is almost invariably mild. He remarks on the slight mention which this disorder receives in text-books, while other diseases which can not be more serious and are certainly less important in their etiologic relations are given much more consideration. Four cases are reported.

53. Diseases of the Stomach.—Vanderveer discusses the treatment of malignant and non-malignant diseases of the stomach, describing the operations, and concludes that gastroenterostomy can be applied to all forms and conditions of pyloric stenosis and is preferable to resection of the stomach in many cases, having less mortality and the possibility of good results being fully as great. Next to this he believes that gastrectomy is the best operation, but its utility is very limited. In its performance great attention should be paid to the removal of the lymph glands, as much of the permanent success of the operation depends on this point.

Fort Wayne Medical Journal-Magazine.

September.

54 *Some Things to Be Remembered in Surgery. J. C. Fleming.

54. Things To Be Remembered in Surgery.—The special points emphasized by Fleming are the importance of hot moist dressing in cellulitis, the value of picric acid in burns of the second and third degrees, the bad policy of probing bullet wounds in general, the fact that gunshot wounds of the extremity and chest require simply watchful expectant treatment, while those of the abdomen require immediate laparotomy, and those of the brain require operative interference and removal of the bullet if possible.

Richmond Journal of Practice.

September.

55 Diet and Drugs in Nephritis. William S. Gordon.
56 *Methods to Hasten Epidermization, with Special Reference to Skin Grafting. Stuart McGuire.
57 Chyluria. M. D. Hoge, Jr.

56. Skin Grafting.—The various methods of treatment of raw surfaces in order to hasten epidermization are noted by McGuire, who speaks in favor of the use of oleaginous dressings which have fallen into unmerited disfavor. Dry dressings he does not favor, as he thinks their good effects are only temporary. He finds considerable benefit from the treatment of granulating wounds by the use of dressings that supply food directly to the cells. Such he finds furnished in Valentine's meat juice, diluted in three parts water, and applied on cotton as a moist dressing. It does good for a short time, but then loses its effects. When the pale granulations become pink and healthy it should be discontinued. Alterative dressings have their place as well as the protective. Most of his article is devoted to a description of the methods of skin grafting, and he especially notices his experience with the use of heterographs. He has had occasion to test whether the skin of the negro would lose its pigment on a white person, and has found in a colored man that white skin grafts retained their color. He says for obvious reasons this has deterred him from reversing the experiment and grafting negro skin on a white man. He has had good results with the use of pigskin grafts, showing clearly that pigskin will grow under these circumstances. Dr. William Flegenheimer has reported a case of successful pigskin grafting by Wolfe's method, and Dr. Browning of the University of Virginia has personally reported to him another.

Maryland Medical Journal, Baltimore.

October.

58 A Case of Filariasis Observed in Maryland. William F. Lockwood.
59 *The Care of the Insane. Frederick Peterson.
60 *A New Treatment for Wry-neck. Leonard K. Hirshberg.
61 Maryland's Need of a Mountain Sanatorium for Indigent Consumptives. Henry Barton Jacobs.

59. Care of the Insane.—Peterson describes the advance that has been made in the care of the insane in New York state, the thoroughness and perfections of the state care, improvement in administration, rise of scientific standards in the hospitals and the great increase in the comfort and care of the patients. These all have been brought about with a diminution of the expense of maintenance.

60. Wry-Neck.—In the treatment here described by Hirshberg he advises the use of the faradic current over the sterno-cleido-mastoid and trapezius of the healthy side. Three cases are reported.

Virginia Medical Semi-Monthly, Richmond.

October 9.

62 Relations of the Medical Profession and Public to Each Other; Responsibilities of One and Demands of the Other; Work and Achievements of the Profession, and Benefits and Blessings Received by the Public. William S. Christian.
63 *Treatment of Eclampsia. J. M. H. Rowland.
64 *The Salts of Uranium in Diabetes, with Some Remarks in Regard to Their Physiologic Action. William R. Jones.
65 Urinary Analysis in Chronic Bright's Disease. M. D. Hoge, Jr.
66 The Terminal Symptoms of Chronic Bright's Disease. William S. Gordon.

63. Eclampsia.—The idea of Rowland's paper is to impress on the reader that more care of the pregnant woman is desirable and possible and that the toxemia of pregnancy may easily be prevented, and even the severer toxemias of pregnancy need not in the vast majority of cases cause eclampsia if properly managed. That immediate forcible dilatation of the cervix and delivery in eclampsia is not always justifiable, though the early delivery of the child is desirable when it can be accomplished without serious injury to the mother. The use of chloroform and morphin has probably been overdone, and the use of chloral and normal saline solution, hot packs, nitroglycerin and veratrum viride has been neglected or these measures have been improperly used. Other things being equal, the constant, intelligent attention of the physician during the whole period of the attack will be successful in causing recovery in a very large percentage of cases.

64. Diabetes.—Jones recommends the use of uranium nitrate in diabetes. It has, he says, a powerful effect on metabolism, and the patient's general condition improves while under its administration. The tormenting thirst, extreme weakness, excessive urination and glycosuria are gradually relieved. Dr. E. J. Moseley reports a case of diabetic ulceration which rapidly healed under the internal use of the salt after resisting all other methods. In every case in which Jones has employed the drug he has seen great improvement. He reports a case of advanced diabetes mellitus in which uranium nitrate was given in a dose of one-fourth a grain three times a day,

with occasional intermissions of three days, for about two months. The patient began to improve from the first, and at the end of that period the restrictions on the diet were gradually removed with no return of the glycosuria, and eighteen months later the patient was apparently in perfect health.

Archives of Pediatrics, New York.
September.

67 *Infections of the Newborn. Samuel McC. Hamill and William R. Nicholson.
68 *Injuries and Infections of Newborn Children. Irving N. Snow.
69 *Disturbances of Respiration in the Newborn. W. Reynolds Wilson.

67. **Infections of the New-Born.**—The infections described are mostly hemorrhagic and congestive conditions terminating fatally. A number of cases are reported with autopsies and bacteriologic studies. The staphylococci were present in nearly all; in one there was a bacillus resembling the colon bacillus. Streptococci and other organisms were also present in some of the cases. These infections occur most frequently in the maternity hospitals, and Hamill and Nicholson are inclined to consider them largely due to careless nurses. The greater frequency of air infection is not supported by facts, for in nearly all the cases there was a mixed infection. The symptoms may include profound toxic conditions, emaciation, nervous phenomena, skin eruptions, icterus, fever or diarrhea, etc. As regards diagnosis, the authors remark that any elevation of temperature, notwithstanding the frequency of fever in early infancy, should arouse suspicion. In most cases which they have seen, enteritis has been an early symptom, and next in order, perhaps, the papulovesicular eruption on the skin of the neck, face, shoulders or forearms, hence, if one sees this combination of fever, green mucous stools, skin eruption and rapid emaciation, one is justified in considering the condition an infectious one. Several cases which they studied postmortem had been diagnosed inspiration pneumonia. Differentiation between blood infection and lung involvement on the basis of the symptoms and physical signs is sometimes not possible. The prognosis is bad. For prophylaxis they advise greater care in the handling of the cases by the nurse, especially the proper toilet of the mouth. Every nurse who has handled the bedding of a patient, treated fissured breasts, emptied a bed-pan or changed a napkin, should be most careful in preparing her hands before she does anything to the mouth of these infants. The recognition of fissure or any other pathologic condition should cause an immediate withdrawal of the infant from nursing. The practice of continuing suckling under these conditions should be condemned. A change of environment is sometimes successful in streptococcus infections, and Delestre has claimed good results from the withdrawal of small quantities of blood, 2 or 3 c.c. or more, following it with the injection of a little larger quantity of artificial serum. The authors question the possibility of getting sufficient blood by a single bleeding to have much effect, judging from their difficulty in securing blood for cultures. Medicinal treatment is that of the symptoms, supplemented by vigorous stimulation and good nourishment.

68. **Injuries and Infections of New-Born Children.**—Snow analyzes the death records of Buffalo and compares them with the European statistics of Eröss. He finds that the mortality in Buffalo is greater in the first week. It would appear that more children die there from the accidents of parturition and fewer from infections than in Europe. The occurrence of cerebral and meningeal hemorrhages, etc., is noted. The former may occur in small children that are easily born. The prognosis, of course, of intracranial hemorrhage is bad. Snow reviews a series of cases of diarrheal diseases in new-born children among well-to-do families with good hygienic surroundings, and while the mode of infection is obscure, he is convinced that the mother's milk was the cause in some cases. In one instance the child was probably infected in the parturient canal, possibly by swallowing infected amniotic fluid.

69. **Respiratory Disturbances in the New-Born.**—The first of these conditions which confronts the practitioner is asphyxia; the next congenital atelectasis. Cases have been reported where there has been respiratory failure apparently of bulbar origin. In opposition to these cases are those due to toxic influences or alimentary disturbances of which Wilson gives instances. Dyspnea may arise from congenital conditions, such as cardiac malformations. The dyspnea of pneumonia lacks the paroxysmal attacks, the breathing is frequently irregular and of the Cheyne-Stokes type. The fever and physical signs may be absent in weakly children so that a differential diagnosis between pneumonia and atelectasis is impossible. Congenital stenosis with dyspnea may occur, and dyspnea of the convulsive type arise from enlargement of the thymus gland. When signs of intrathoracic trouble are wanting, the symptoms may point to alimentary disturbance. In these cases dyspnea is not usually the primary manifestation; green stools, fever, anorexia, etc., are likely to precede the attack. Diaphragmatic hernia offers a complexity of symptoms in which dyspnea predominates, though it is rare and probably very seldom causes confusion in the diagnosis. Rapidity in respiration is commonly met with, either paroxysmal and transient or continuous. Dyspepsia and febrile conditions may be the underlying causes. It may be a symptom of the common pulmonary affections. The author reports a case in which respiratory disturbance was associated with gonorrheal ophthalmia, and the septic intoxication of the child was probably the result of a mixed infection. This blennorrhea in itself would hardly account for the condition. The source of infection was obstetric rather than congenital.

Illinois Medical Journal, Springfield.
October.

70 *What Shall We Do in Cases of Severe Spinal Injury. E. Mammen.
71 The Metric System. John A. Koch.
72 A Case of Continued Development of the Fetus in Utero. After Rupture of the Membranes and Escape of the Liquor Amnii. H. W. Chapman.
73 The Curette in Puerperal and Non-puerperal Cases. W. P. Davidson.
74 Lacunar Tonsilitis. James M. Brown.
75 *A Simple Method of Appendectomy. Emil Ries.
76 Surgical Mania or Insanity Following Surgical Operations. William H. Maley.
77 *The Diagnosis and Treatment of Obscure Syphilitic Lesions of the Eye. E. F. Snydacker.
78 Psychotherapeutics. E. A. Edlen.

70. **Spinal Injury.**—Mammen reports several cases of treatment of severe spinal injury, and formulates the following general principles as applicable to this class of injuries: 1. Where no fracture or dislocation has occurred, but a degree of paralysis exists, absolute and physiologic rest is of importance. 2. If fracture and dislocation occur, as in fractures elsewhere, there should be an attempt to restore the parts to their normal condition by manipulation, extension, and if need be, operation. 3. After injury or operation the spinal column should be held in position by a proper immobilizing apparatus, jacket, splint, and jury-mast, or combinations of these. Where pressure exists from depression of the arch or from hemorrhage, laminectomy should be resorted to as early as possible.

75.—This article has appeared elsewhere. See THE JOURNAL of July 18, ¶22, p. 205.

77. **Syphilitic Lesions.**—Snydacker divides syphilitic lesions into two classes: 1. Those due primarily to syphilitic poisoning amenable to specific treatment; 2, those secondary post-syphilitic changes which are not thus amenable. Primary ophthalmic atrophy must be reckoned with the latter as also choroidal changes, retinal lesions, etc., that fail to yield to mercury or iodin. Clinically all specific lesions of the eye are obscure. A history, examination, exclusion and therapeutic tests are requisite. In the treatment of eye lesions of the first class we employ antispecific remedies; in the latter we avoid such remedies, employing rather a tonic and strengthening form of treatment. He reports cases.

Journal of Cutaneous Diseases, New York.
September.

79 *Some Precancerous Affections of the Skin, More Particularly Precancerous Keratoses. M. B. Hartzell.
80 Recent Contributions to Our Knowledge of the Hysterical Neuroses of the Skin. Arthur Van Harlingen.
81 Recurrent, Progressive, Bullous Dermatitis in a Hysterical Subject. Charles J. White.

October.

82 *Dermatitis Venenata; a Supplemental List. James C. White.

83 A Case of Symmetrical Gangrene. Edward B. Bronson.
84 The Presence of Peculiar Calcified Bodies in Lupus-like Tissue. T. Caspar Gilchrist and W. Royal Stokes.
85 *A New Drug Eruption of the Iodoform Type. S. Politzer.
86 Two Peculiar Cases of Fragilitas Crinium. George T. Jackson.
87 Note on a Rapid Method of Diagnosis in Leprosy. Francis J. Shepherd.

79. **Precancerous Affections of the Skin.**—Among these Hartzell notices inflammations peculiar to workers in tar and paraffin, chimney sweeps' dermatites, which are known to undergo malignant change, and also lupus vulgaris, which in a small proportion of cases is followed by epithelioma. Other forms of cutaneous tuberculosis, such as the varicose type, may also thus terminate and erythematous lupus has been observed to thus change. Ulcerating lesions of tertiary syphilis in rare instances become the seat of cancer. New growths of the skin, warts and pigmented nevi show the greatest tendency to such change. Cicatrices arising from any cause; chronic leg ulcer, especially cicatrices from burns, various forms of circumscribed keratosis, such as cutaneous horns, callosities, the palmar and plantar lesions resulting from arsenical poisoning, and senile keratomata form an important group of precancerous affections. He calls attention to the fact that in a considerable proportion of cases marked hyperidrosis precedes the appearance of the keratosis. The most frequent and perhaps the most important form of precancerous keratosis, the one most deserving of the term, is the so-called senile seborrhea of the French authors, or the senile keratoma of Besnier, which is the better title. It occurs as pinhead to dime-sized, more or less elevated, friable and slightly greasy, or dry and hard, yellow brown or black crusts which are firmly adherent to the skin. When forcibly removed the underside of these crusts shows numerous small spines, which have filled the dilated mouths of the follicles, and the skin beneath is moist and red or frequently superficially ulcerated. There are usually no subjective sensations. It occurs most frequently in the forehead, upper parts of the cheeks, the nose, back of the hands and in those engaged in manual labor or exposed to the weather. In its course, the disease is variable. Many of the patches remain unchanged for years; a few are gradually transformed into superficial epitheliomatous ulcers which slowly enlarge, with all the characteristics of a papillomatous epithelioma. Notwithstanding its frequency and tendency to terminate in malignant disease, it is little noticed in works on dermatology. Almost the only adequate account is that given by Dubreuilh, presented at the International Congress of Dermatology in 1896. Within the past year or two Hartzell has studied a number of these cases and gives the pathologic findings with illustrations.

82. **Dermatitis Venenata.**—White offers in this article a supplementary list to that given in his work on dermatitis venenata in 1887. He mentions first the irritants generally recognized, among them certain new hair dyes such as chlorhydrate of paraphenylene-diamin and "aureole," containing metol, amidophenol-chlorhydrate and monoamidophenylamin. Several instances of dermatitis from these have been observed. He also refers to cases reported from phenyl-hydrazin-hydrochlorid, salol, orthoform, resorcin, pyoctanin, creolin, iodvasogen, kerosene and electricity. He remarks that while petroleum is not irritating, kerosene applied for parasites is capable of producing a fine papular dermatitis. He has also seen eruptions follow application of electricity. Dermatitis produced by the *x*-rays does not require mentioning. In his second class are irritants not generally recognized. He mentions "aurantia" (hexa-nitro-phenyl-amin) a dye used to stain leather yellow; green ebony, guiacum, hops, which belong to a dangerous family (the *Urticaceæ*), *Heracleum giganteum, Angelica archangelica,* hyacinth bulbs, *Cotoneaster microphylia,* an ornamental plant belong to the *Rosaceæ* family, *Humea elegans,* the ginkgo tree, etc. Of the suspected plants he mentions the trumpet vine and the woodbine, which are sometimes credited with being poisonous, but are probably confused with the *Rhus toxicodendron.* He also quotes from Dr. Chestnut of the Poisonous Plant Investigation Bureau, who mentions the common radish, the common dogwood, the commercial pawpaw, common dog fennel and the common field daisy as occasionally irritating to the skin; also several species of hypericum and buckwheat, and the laporteas, which are, however, confined to the tropics and only seen in hot-house cultivation.

85. **A New Drug Eruption.**—Politzer reports cases of dermatitis from the use of mesotan which has been considerably used as an anti-rheumatic by local application. He also mentions that some eruptions have followed the use of aspirin, but they were evidently due to idiosyncrasy and not, as in his case of mesotan dermatitis, the effect of the prolonged action of the drug.

Medicine, Detroit.

October.

88 *Notes on the Serum Therapy of Scarlet Fever. Heliodor Schiller.
89 *A Case of Typhoid Cholecystitis with Calculi, but without Any Evidence of Typhoid Fever. Jesse M. Burlew.
90 *The Relation of Appendicitis to Injury. Harold N. Moyer.
91 *A Statistical Study of the Postmortem Findings in 171 Cases of Lobar Pneumonia. Ellis K. Kerr.
92 The Sphygmomanometer. Richard L. Sutton.
93 Anatomy and Physiology of the Urethral Muscles, with Especial Reference to the Diagnosis and Treatment of Gonorrhea. F. Baumann.

88. **Scarlatina.**—The serum therapy of scarlet fever is favored by Schiller, who thinks all streptococci are closely related, and that any antistreptococcic serum ought to have some effect on scarlet fever cases. In his own experience here reported he was unable to get the Moser and Tavel serum, but obtained material made probably somewhat after the Marmorek method which he employed in two cases, both septic. A decided change was noted after the serum injection. The earlier treatment, consisting of the use of Credé's ointment, the care of the mouth, strychnin, dietetic and hydropathic measures, caused no improvement, but a change for the better was seen after the serum injections. In both the cases there was a relapse which he credits to renewed invasion of the system by the streptococci. Reaction from the serum was again prompt.

89. **Typhoid Cholecystitis.**—A case is reported by Burlew and he discusses the literature, tabulating cases which are notable as bearing on the relation of the typhoid bacillus to gallstone formation and as showing the length of time in which the bacillus may persist in the gall bladder after the primary attack of typhoid, producing at remote periods cholecystitis and cholelithiasis. The occurrence also of suppurative cholecystitis of typhoid origin, complicating direct attacks of typhoid fever, is possible. A typhoid cholecystitis may develop without the co-existence of a previous attack of typhoid.

90. **Appendicitis.**—Moyer raises the question as to the medicolegal bearings of traumatism and appendicitis, and quotes authorities. In the case he observed, appendicitis occurred the seventh day after a fall, to which it was attributed. He questions to some extent the probability of the appendiceal lesion being the result of so remote an injury.

91. **Pneumonia.**—From 782 consecutive autopsies in the Cook County Hospital and a discussion of the literature, Kerr summarizes as follows:

1. The maximum frequency of deaths from pneumonia is from 35 to 40 years, while of those due to all causes it is in the next decade. 2. Fatal cases are somewhat more frequent in males. 3. There is a preponderance of unilateral cases, of the right side over the left, and of the lower lobe over the upper lobe. Crossed pneumonia is rare. 4. A majority of the cases are in the stage of gray hepatization. 5. Edema of the lungs and bronchitis are common, while abscess and gangrene of the lungs are rare. 6. Acute parenchymatous changes occur in the parenchymatous organs with a marked frequency. 7. The serous membranes are involved in the following proportions:

Pleuritis	70 per cent.
Pericarditis	12 per cent.
Endocarditis	8 per cent.
Meningitis	6 per cent.
Peritonitis	5 per cent.
Arthritis	very rare.

8. Pericarditis occurred with pneumonia of the lower lobes in all but 2 cases, and of the right middle lobe in these 2 cases. In Steven's series it is found with the upper lobe alone in 4 cases. 9. The preponderance of vegetative endocarditis and the preference for the mitral valves differ from the usual experience. 10. The frequency of meningitis associated with endocarditis is noteworthy. 11. Jaundice does not seem to be accompanied by any uniform change in the liver. 12. The frequency of occurrence of pneumonia as a terminal infection is noteworthy. The presence of chronic pathologic lesions in a large number of cases is also remarkable. These findings are of importance from a standpoint of prognosis chiefly.

Colorado Medical Journal, Denver.

July.

94 A Practical Study of the Maxillary Antrum. A. R. Solenberger.
95 Hemorrhoids and Their Treatment. J. O. Roberts.

August.

96 The Prognosis of Those Diseases Incident to Military Service in the Philippines. George Richardson.
97 Opium Poisoning. J. W. Coleman.

September.

98 Intubation of the Larynx and Intubation Instruments. F. E. Waxham.
99 Surgery of the Prostate. W. W. Grant.
100 The Diagnosis of Cancer of the Stomach. A. E. Engzellus.

Canadian Journal of Medicine and Surgery, Toronto.

October.

101 The Medical Expert as a Witness. W. R. Riddell.
102 The Country Doctor. James S. Sprague.
103 *Some Clinical Indications for the Use of the Electric-light Bath. T. D. Crothers.
104 Gynecologic Surgical Clinic at the Metropolitan Hospital, New York. Augustin H. Goelet.

103.—This article has appeared elsewhere. See THE JOURNAL, vol. xl, ¶95, p. 404.

Kansas City Medical Index-Lancet.

October.

105 Drinking Water from a Hygienic and Sanitary Standpoint. Jean R. Moechel.
106 Psychic Force, a Therapeutic Power. Henry S. Munroe.
107 The Value of Laboratory Methods of Diagnosis. Herman E. Pearse.
108 The Management of Abortion. C. B. Harbin.
109 Cerebral Softening or Encephalomalacia. John Punton.

Medical and Surgical Monitor, Indianapolis, Ind.

September 15.

110 Spirality, Constrictions and Dilatations of the Ureter. Byron Robinson.
111 Etiology of Nephritis—*Bacillus Coli Communis* (?) J. W. Crismond.
112 Alumni Address. Alumni Association of Central College of Physicians and Surgeons. John T. Scott.

Canada Lancet, Toronto.

October.

113 The Surgery of To-day. Alex. Hugh Ferguson.
114 *The Lymph Circulation in Modern Medicine. H. A. McCallum.
115 Eye Strain and the Literary Life. George M. Gould.
116 The Inter-relation of Diabetes and Other Constitutional States. George F. Butler.
117 *The Size of the Pupil as an Aid to Diagnosis. J. T. Duncan.

114.—See abstract in THE JOURNAL of September 5, p. 626.

117.—Ibid., p. 627, also title 125 below.

Indiana Medical Journal, Indianapolis.

October.

118 *How to Close Wounds. Miles F. Porter.
119 Report of a Case of Intestinal Obstruction. J. T. Freeland.
120 Surgery a Specialty. C. B. Stemen.
121 Treatment of Chronic Rheumatism. William F. Bernart.

118.—This article appeared in THE JOURNAL of July 25, p. 219.

Merck's Archives, New York.

October.

122 The Proper Administration of Drugs. J. M. French.
123 Prophylaxis and Treatment of Phthisis Pulmonalis. Louis L. Wagner.
124 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

Canadian Practitioner and Review, Toronto.

October.

125 *The Size of the Pupil as an Aid to Diagnosis. J. T. Duncan.
126 The Country Doctor. James S. Sprague.
127 Sanatoria for Consumptives. E. J. Barrick.
128 Two Cases of Unusual Nervous Disease. W. B. Thistle.
129 *Some Business Aspects of Medical Practice. N. A. Powell.

125.—See abstract in THE JOURNAL of September 5, p. 627, also title 117 above.

129.—This article has appeared elsewhere. See THE JOURNAL of September 19, title 125, p. 750.

Nashville Journal of Medicine and Surgery.

August.

130 Annual Report of Cases, Brigg's Infirmary, Season Beginning Sept. 10, 1902: Ending Aug. 1, 1903. (To be continued.) Samuel S. Briggs.

Atlanta Journal-Record of Medicine.

October.

131 The Etiology and Pathologic Anatomy of Aneurism. W. Lowndes Peple.
132 Concerning the Symptomatology of Thoracic Aneurisms. Truman A. Parker.
133 Gelatin Treatment of Aneurism. Ennion C. Williams.
134 Double Mammary Abscess, with Report of Case. O. L. Holmes.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 10.

1 The Medical Curriculum. E. A. Schäfer.
2 *Discussion on Practical Experience Regarding the Most Satisfactory Methods of Performing Intra-abdominal Anastomosis. G. H. Makins, E. Stanmore Bishop and others.
3 *Discussion on the Treatment of Advanced Tuberculous Disease of the Knee Joint. G. A. Wright, W. F. Haslam and others.
4 *A New Route for Posterior Gastrojejunostomy. J. Basil Hall.
5 *One Danger of Gastroenterostomy. W. McAdam Eccles.
6 Two Cases of Ascites Secondary to Alcoholic Hepatitis Treated Successfully by Operation. Sinclair White.
7 Notes of a Case of Operative Treatment for Cirrhosis of the Liver. William Sheen.
8 *Separation of the Acetabular Epiphysis of the Femur. Henry Betham Robinson.
9 Ultimate Results in a Series of 88 Cases of Fracture of the Tibia and Fibula. (To be continued.) R. W. Murray.
10 On the Protective Effect Achieved by Antityphoid Inoculation as Exhibited in Two New Statistical Reports. A. E. Wright.

2. **Intra-abdominal Anastomosis.**—Makins' paper was abstracted in THE JOURNAL, Aug. 29, 1903, p. 571.

Dr. E. S. Bishop followed Makins. He says in summarizing his points:

The use of decalcified bone bobbins is advisable in operations for union in the gastric region and the upper part of the small intestine, mainly because they act as a protection during the early stages of union and because the intestinal contents in these segments are liquid and possess certain chemical and digestive properties, from which the line of union in these regions needs to be protected. The use of such appliances is doubtful in the lower small intestine and is absolutely contraindicated in the large, mainly because of the solid or semi-solid nature of their contents. . . . In choosing a mode of suture, that one is to be preferred which gives the most perfect security against leakage in consequence of its yielding to the peristaltic strain, exposes itself the least and so minimizes the irritation and consequent adhesion of surrounding peritoneal surfaces, by which later obstruction may be produced, and which removes the inevitable diaphragm formed by the necessary inturning of the bowel ends, so as to leave a smooth internal surface. The use of forceps, . . . or the preliminary crushing of the intestine . . . all of which are based on the idea of producing sphacelation of the inturned edges of the gut, are of very doubtful value, are associated with unnecessary risk of later perforation, and should not be preferred to simple suturing or to suture over some absorbable and protective appliance.

He advises a previous colotomy in removal of neoplasms, etc.

In further discussion Elsworth says he finds the Murphy button a satisfactory method; others say they have supplanted it almost entirely with suture. Mayo Robson thinks the Murphy button a dangerous appliance.

3.—This paper was abstracted in THE JOURNAL, Sept. 12, 1903, p. 678.

4. **Posterior Gastrojejunostomy.**—Hall mentions his method, which he calls the supracolic operation, the posterior wall of the stomach being reached by an opening made in the gastrocolic omentum instead of the transverse mesocolon. The gastrocolic omentum is a thin, practically bloodless membrane, and there is, therefore, no chance of interference with the vascular supply; there is no risk of contraction of the opening causing pressure on the loop of the jejunum and hence no necessity for suturing the margins of the aperture to the stomach wall as recommended in the case of mesocolon:

An incision of 3 in. at once exposes the gastrocolic omentum. The loop of the jejunum is hooked up with the index finger and clamped. A fold of the posterior wall of the stomach is drawn through the aperture in the gastro-colic omentum, and, after shutting off the peritoneal cavity with gauze, the anastomosis is completed outside the abdomen. In making the anastomosis I use a double row of continuous suture, an inner one of catgut to unite the cut edges and including all the layers, so as to control any bleeding points, and an outer serous suture of silk. I have given up all mechanical appliances, because I find I can do better without them. In this, as in the old anterior operation, the loop of the jejunum lies in front of the colon. I do not believe that this is any disadvantage; indeed, I am strongly of the opinion that the objection raised against this arrangement is entirely a false one. I have had the opportunity of examining two subjects postmortem on whom gastrojejunostomy had been performed for malignant disease.

He tabulates a number of cases and reports a trial of this method, which he thinks combines the use of both anterior and posterior operations and avoids their disadvantages.

5. **Gastro-enterostomy.**—Eccles calls attention to the danger of gastro-enterostomy from extensive manipulation necessitated

by delivery of the stomach for the proposed operation. In many cases either of sarcoma or ulcer which is apparently healed but placed under tension it may lead to perforation and peritonitis or hemorrhage. He reports a case of this kind.

8. **Separation of the Acetabular Epiphysis of the Femur.**—Several cases are reported by Robinson which he thinks establish the following points:

1. That we have to deal with genuine cases of separation of the acetabular epiphysis. 2. That injury, although it determines the separation, is aided in its effect by an antecedent change at the epiphyseal line. 3. That this pathologic change is presumably similar to what occurs in the coxa vara cases of adolescence, as suggested by Springel.

The Lancet, London.

October 10.

11 *Syringal Hemorrhage Into the Spinal Cord. William R. Gowers.
12 The Relationship of the Military Medical Service to the Civil Profession. V. Warren Low.
13 A Case of Diabetic Intraocular Lipemia, in Which the Blood Was Examined During Life. W. Hale White.
14 *On the Protective Effect Achieved by Antityphoid Inoculation as Exhibited in Two Further Statistical Records. A. E. Wright.
15 Some Remarks on 50 Cases of Bilharzia Disease, with Special Reference to the Characters of the White Corpuscles Found in the Blood and Urine. S. R. Douglas and F. W. Hardy.
16 *Some Investigations on the Urine of Children. Arthur W. Fuller.
17 *Some Observations and Comparisons on the Dietetic and Drug Treatment in Chronic Pulmonary Tuberculosis. D. Lloyd Smith.

11. **Syringal Hemorrhage of the Spinal Cord.**—Gowers calls attention to the possible presence of cavities in the spinal cord due probably to defective development and the dangers which they incur by hemorrhage into their lumen. He refers to cases in which dissection showed that this has occurred and reports other cases where symptoms pointed, he thinks, to this condition. There was local paralysis and anesthesia without any evidence of disease of the brain and pointing directly to a special local hemorrhage. It is seldom fatal and the diagnostic question is of considerable importance. When the death occurs it seems to be the result of erosion of extravasations into the substance of the cord or to a secondary spreading of the inflammation. He notices the importance of rest in these cases, not always prone on the back which might favor hemorrhage but in any position that would less favor the additional escape of blood. The importance of posture is especially insisted on.

14. **Antityphoid Inoculation.**—Wright gives tables showing the incidence of typhoid and its death rate in India during 1901 and in Lord Methuen's column at Modder River, South Africa, from December, 1899, to March, 1900. In both a certain portion of the troops were inoculated with the antityphoid serum. The incidence rate of typhoid was diminished to less than one-half, and the mortality rate as given in the Indian army was only one-sixth as great among the inoculated as among the uninoculated.

16. **The Urine of Children.**—Fuller has studied the urine of 63 healthy children and finds his results agree very fully with those of Churchill of Chicago, reported in the Archives of Pediatrics for 1898, p. 646. It appears that American (Chicago) and London children excrete a smaller amount of urine than those of Germany, Austria and some other countries.

17. **Tuberculosis.**—Smith publishes the diet chart of the Manchester Sanatorium and gives particulars of a series of cases treated with various drugs. He calls attention to the fact that the diet is of paramount importance. A meat diet supplies a physiologic want, but it should be employed to suit the patient's case, and especially in those with gastric disorders. With an abundant mixed diet cod-liver oil is not necessary. The object is not to make the patient a flabby mass of fat, but to turn out a solid, robust individual. A gain in weight is not everything. It sometimes occurs without improvement of the pulmonary condition. Here comes in the importance of supervision of the diet and vigilance of the medical attendant.

The Practitioner, London.

October.

18 The Diagnosis of Hysteria. Purves Stewart.
19 *The Results of Organotherapy in Addison's Disease. Edward W. Adams.
20 Headache. Guthrie Rankin.
21 *On the Frequency of Alimentary Glycosuria in the Children of Diabetic Persons. Arnold Lorand.
22 The Causation of Cancer. Alex. Theodore Brand.
23 *An Inquiry Into the Relations of Leukemia and Tuberculosis. W. J. Susmann.

19. **Addison's Disease.**—Adams concludes that in a certain number of cases of Addison's disease benefit is derived from the exhibition of some form of suprarenal, but it is impossible to determine just what cases these will be beforehand. Disappointment is likely to follow, though less so, he thinks, than in most alternative methods of treatment. The problem seems to be to get a sufficient and continuous dose of the pure active principle unchanged into the blood stream. Intravenous injection is impracticable.

21. **Diabetes.**—Lorand has experimented with test meals to determine the tendency to alimentary glycosuria in children of diabetics and finds that it is somewhat marked. These cases are often precocious, mature early and have early senile changes. Attention must be paid to the hygiene, the patients should lead a frugal life, avoiding rich foods, especially if meat is taken simultaneously with large quantities of sweet and amylaceous food. They should not follow occupations incurring great mental strain and he would advise against athletics. Slight accidents may produce traumatic diabetes.

23. **Leukemia and Tuberculosis.**—Susmann finds leukemia of either type rarely complicates tuberculosis, but the lymph type occurs two and a half times more frequently than the splenomedullary and as a complication it is six times more frequent in the male than the female. Tuberculosis may be latent and obsolete or occur as a terminal infection, or may be latent and lighted up by the leukemia. The last is the most frequent. When the two diseases are combined there is a tendency for the total number of leucocytes to be diminished and the spleen and glands to decrease in size. This is possibly due to the excess of nucleo-albumin and the increased phagocytic power of the blood, both of which occur in the leukemic patient.

Journal of Tropical Medicine, London.

October 1.

24 Notes on Collecting Mosquitoes. Herbert E. Durham.
25 *Malarial Fevers in West Africa. R. Crofts.
26 Municipal Sewerage. (Continued.) F. Smith.

25. **Malaria in West Africa.**—The peculiarities of West African malaria are described by Crofts, who remarks that remittent fever is the most frequent type. Europeans of mature age are best suited to stand the West African climate; under 26 or over 50 are unsuitable ages to attempt it. The average European on the West African coast thinks little of his diet; he eats too many meat meals daily. The Irish and Scotch are not so likely to do this. Crofts thinks a little alcohol in the evening is better than total abstention. The average attack appears with pains across the loins, frontal headache and vomiting and soreness in the lower extremities. The backache is as constant as in smallpox. Drugs such as bismuth and opium given for the vomiting only aggravate the condition. The two most valuable diaphoretics he has found are antipyrin and antifebrin, especially the latter. He has not seen any ill effects from it; the dose should be 5 grains. A purgative such as calomel should be given, 5 to 10 gr.; no other can compare with it. On the first examination the patient's urine should be examined for albumin and bile and the lungs to be sure there is no pneumonia. He protests against the use of opium. Arsenic is of incalculable value; it is much better than quinin in these cases. The dose should be at first a large one and gradually diminished; the best form is the liquor arsenicalis. As for quinin, all the good that is in it can be obtained from about 15 gr. daily; there is no good in large doses. A high temperature above 105 is serious, and he advises sponging with cold water for these cases, followed, may be, by a wet pack. Albuminuria is common. The most frequent cause of death is cardiac clot, though this is not generally recognized. The heart's action should be supported, Carbonate of ammonium is given to diminish the fibrin in the blood. The patients must be fed, and if we can not feed by the mouth we must feed by the rectum. Most patients require alcohol early.

Intercolonial Medical Journal of Australia, Melbourne.

August 20.

27 Appendicitis from the Physician's Point of View. James Jamieson.
28 The Operative Treatment of Quiescent Appendicitis. C. MacLaurin.
29 A Clinical Lecture on Some Cases of Suppurative Appendicitis. G. A. Syme.
30 Note on an Intradental Splint for Fracture of the Maxillæ and of Use in Operations Where Section of the Lower Jaw Is Required. R. A. Stirling and E. S. Bowen.
31 Notes on Cases of Eye Injuries. James P. Ryan.
32 Vascular Remains in Corneal Disease. James W. Barrett and W. F. Orr.
33 Case of Perforated Gastric Ulcer; Death Fifteen Days After Operation from Pulmonary Thrombosis. W. Moore. Right Knee Joint; Extensive Scalds of Right Leg; Operation; Recovery. W. Moore.
34 Ruptured Extra-uterine Pregnancy; Lacerated Wound Into

Presse Médicale, Paris.

35 (No. 79.) Les streptococcies intestinales. Bactériologie. Pathogénie. P. Nobécourt.
36 *De la valeur de la méthode de Sahli pour l'examen clinique des fonctions de l'estomac. A. Habel and G. Humbert.

36. Sahli's Functional Stomach Test.—Habel and Humbert have given Sahli's "flour-soup" test a thorough trial in their clinical practice at Geneva (the technic was given in THE JOURNAL, xxxviii, p. 1477, '88). They describe the particulars of 23 cases, and state that their experience has fully confirmed the great value of the test. It is much simpler and easier than any others they know of; it shows the amount of food that passes out of the stomach in a given period, and the amount of gastric juice remaining in the stomach when the stomach tube is applied. It allows the proportion of acid in the gastric juice to be determined by itself, not diluted with fluids from a test meal. A further advantage is that one application of the stomach tube is all that is necessary. The dosage of the fat is sufficiently accurate for all practical purposes.

L'Obstétrique, Paris.

Last indexed XL, page 1614.

37 (VIII, No. 3.) *The Kidneys of Eclamptics. P. Bar.—Les reins des éclamptiques.
38 Le fœticide therapeutique devant la Société de Médecine Légale de la France. C. Maygrier.
39 Considérations sur le mécanisme de l'accouchement normal. Demelin.
40 (No. 4.) *Kidneys and Liver in Fetus Born of Eclamptic Mother. P. Bar.—Des lésions du foie et des reins chez les fetus nés de mères éclamptiques.
41 Du patronage des nourrissons (nurslings). M. Rivière.
42 La loi Roussel et les consultations de nourrissons. G. Mocquot.
43 (No. 5.) Early Diagnosis of Pregnancy. E. Bonnaire.—De la valeur de l'exploration du corps de l'utérus dans le diagnostic précoce de la grossesse.
44 4 observations de tumeurs fibreuses de l'utérus compliquant la grossesse et l'accouchement. Etude sur le diagnostic. V. Bué.
45 Dosage of Breast Milk. M. Perret.—Quantités de lait que doivent prendre au sein de leur mère les nouveau-nés à terme.

37. The Kidneys in Eclampsia.—Bar gives illustrations of the aspect and microscopic findings in a number of kidneys examined from women who had succumbed to eclampsia. Pronounced lesions were found in every one, and, in fact, he can not remember a single instance in his experience in which the kidneys of eclamptic subjects did not show gross pathologic lesions. In 4 of his present series of 24 cases the kidneys were profoundly affected; in 9 the lesions were of moderate and in 8 of slight intensity. In the remaining 3 the organs were not markedly pathologic. The lesions were all of the nature of those observed in toxic nephritis in which the action of some powerful poison rapidly destroys the epithelium of the convoluted tubules, diffusely affecting the rest of the organ, but less severely. Even in the mildest cases the lesions included ectasia of the convoluted tubules, and the capsule contained an albuminous fluid, but the intercanalicular tissue was approximately normal. The liver was affected in most of the cases, but not proportionately to the intensity of the kidney lesions, some of the mildest cases of the latter being accompanied by the severest liver lesions. The general impression derived from his research is that the findings indicate the action of some powerful poison suddenly attacking the kidney or liver, the diffuse lesions induced causing such perturbation in the functions of the organs as to be the cause of grave symptoms. It is possible that the liver is most affected in some cases, the kidneys in others.

40. Kidney and Liver in Fetus of Eclamptic Mothers.—In 80 cases of eclampsia in Bar's experience 37 of the children were stillborn. In 16 the fetus was macerated. In 21 cases the fetus succumbed after the first attack of eclampsia. Out of the 43 infants born alive, 27 died within three days. The fetal mortality was thus 80 per cent. in the 80 cases of eclampsia, and the survivors were all weakly children. The liver and kidneys of 17 of the fetuses were examined and marked congestion noted in all, with degenerative processes of rapid evolution similar to those observed in eclamptic women, but much less intense and less constant. They are apparently secondary, and derived by toxic action from the maternal organism. This view is sustained by their localization, frequency and analogy with those exhibited by the mother, although in neither case are the lesions pathognomonic. Even if the child survives, these vital organs are affected to such an extent as to hinder his normal development for a time at least.

Dermatologische Zeitschrift, Berlin.

Last indexed XL, page 1112.

46 (X, No. 2.) Dermatitis follicularis et perifollicularis conglobata. L. Spitzer (Vienna).
47 *Ueber multiple spontane Keloide. M. Tschlenow (Moscow).
48 Ueber die Eigenschaften des phototherapeutischen Apparates von Prof. Lortet und Dr. Genoud in Lyon. S. L. Bogrow (Moscow).
49 Study of an Affection in Hares. T. Mayer.—Ueber sogen. Hasenvenerie.
50 Comparison of Iron and Carbon Arc Light. G. Busck (Copenhagen).—Eisenbogenlicht contra konzentriertes Kohlenbogenlicht.
51 (No. 3.) Study of the Hair System in Man. F. Pinkus.—Zur Kenntnis des Haarsystems des Menschen.
52 Care of Mouth Under Mercurial Treatment and Certain Mouth Affections. J. Müller.—Mundpflege bei Quecksilberkuren und einigen Mundaffektionen.
53 Zur Etiologie und Anatomie der Erosio portionis vaginalis. H. Vörner.
54 (No. 4.) *Syphilis Parasite. M. Schüller (Berlin).—Ueber die protozoenähnlichen Parasiten bei Syphilis.
55 Nail Affection. J. Heller.—Ekzema striatum medianum unguium.
56 Syphilidologische Beiträge. Neuhaus (Berlin).
57 Iron and Carbon Arc Light. Kromayer (Halle).—Eisenbogenlicht contra concentriertes Kohlenbogenlicht.
58 *Ueber Trichohyalin. H. Vörner.

47. Keloid.—Tschlenow reports a case and discusses the litature. He remarks that under the name keloid we understand a special disorder of the skin, which from many points of view recalls a new growth and should be counted as such, of a fibroma type. Keloid may be either primary, corresponding to the designation of the earlier authors as "true" keloid, or secondary or scar keloid. Hypertrophied scar, however, should be distinctly separated from this group. Clinical and histologic studies show that a marked distinction between primary and secondary keloid is not based on facts. Both have the same type of development: histologic alterations or marked increase of the connective tissue with decrease of the elastic tissues along the blood vessels. The cutis is to be regarded as a particular starting point of this growth. Its etiology is obscure. The chief factors seem to be a special, personal, family or racial predisposition, under the influences of which the skin reacts in keloid formations from slight irritation, not, however, to every irritation or in every part. This explains also the remarkable tendency to relapses. As regards the pathology, the vascular system undoubtedly plays a large part, but further investigations are needed. Keloid is neither a scar nor simple hyperplasia of the connective tissue. It is different in its structure from infectious granuloma and fibroma, but its proper classification is still impossible. The cause for its spontaneous cessation of growth is unknown. Its prognosis is generally not very satisfactory and the treatment is usually a thankless task.

54. Syphilis.—Schüller defends his former announcement of the discovery of a protozoön-like parasite in syphilis, made by him in the *Centralblatt für Bakteriologie*, xxxii, Nos. 5 to 9, 1902. He has investigated new cases and illustrates the results of his histologic and cultural studies.

58. Trichohyaline.—This is the name given by Vörner to a new substance found by him in the hair roots which differs from the former elements there discovered, the eleidin and keratohyaline, in chemical, physical and staining qualities. It differs from hyaline by its greater resistance to acids and al-

kalies, as also in its different staining reaction. It colors yellow with the Van Gieson stain, while hyaline becomes red. It is undoubtedly a product of protoplasm and occurs earlier than eleidin and keratohyaline. It can be observed in the earliest hair structure.

Deutsche Medicinische Wochenschrift, Berlin.

59 (XXIX, No. 40.) *Zur Diagnose der Lungen-Tuberkulose. A. Schmidt (Dresden).
60 *Ueber die Pathogenese der gonorrhoischen Epididymitis und Behandlung mit Punktion. G. Baermann.
61 Suture in Operating for Senile Cataract. Bublitz.—Ueber die Naht beim Altersstarschnitt.
62 Discussion of Feasibility of Farm Colonies and Sanatoria for the Tuberculous on the Madeira Islands. J. Goldschmidt. —Ackerbaukolonien und Sanatorien für Tuberkulose auf Madeira.
63 Der XXXI deutsche Aerztetag. S. Alexander.

59. Mistakes in Diagnosis of Pulmonary Phthisis.—Schmidt sounds the alarm that we are getting into the habit of diagnosing tuberculosis when there is really no necessity for so doing. Naegeli has shown that the liabilities are that we are all tuberculous—the practitioner has only to decide whether the tuberculous infection is latent or progressing. Infinitely more harm is done, Schmidt thinks, by needlessly frightening persons with the announcement that they have tuberculosis than would result from the overlooking of a few cases that later proved to be actually progressing tuberculosis. The serum and tuberculin tests are more valuable when they are negative, he asserts, than when they are positive. He has frequently encountered persons who have been rendered morally and physically unfit for any occupation by the needless diagnosis of tuberculosis. They go from one sanatorium and resort to another, sacrifice time and money and never are well because their alarm keeps them ill. Physicians are overzealous in diagnosing tuberculosis, and a halt should be called. The progress of the affection in dubious cases will soon solve the question, and still be in time for appropriate treatment. He calls attention to three sources of error in the diagnosis of clinical tuberculosis: First, the physical signs of dulness and retraction of the apex which are caused by an irregularly-shaped shoulder girdle. The second source of error is in hemorrhages from small foci of bronchiectasia, and the third is the pseudo râles and friction sounds made by the edges of the lungs. He describes 5 cases in detail in which tuberculosis had been diagnosed by several physicians on the ground of dulness and apparent retraction of the apex, but careful, repeated examinations during a long period and the negative tuberculin test demonstrated that this diagnosis had been erroneous. In one case the dulness and apparent retraction of the apex were caused by the effects of atrophy of some of the muscles of the pectoral arch; in 2 others by a slight scoliosis of the upper part of the thorax, and in the others by an extra high scapula. The number would be materially larger if he included those cases in which tuberculosis had been presumptively diagnosed. These anomalies of the shoulder girdle are by no means uncommon. The elevation of the scapula may be congenital or the result of rachitis, inflammatory retraction of the levator scapulæ, ankylosis of the shoulder, or it may be due to some defect in the trapezius. Small bronchiectasic foci may induce repeated hemoptysis and thus simulate a tuberculous affection. In a case he relates a physician of 35 had suffered from severe hemoptysis recurring once or twice a year since his student days. Although he presented no other evidences of tuberculosis he was regarded as a consumptive by competent authorities and treated accordingly. The circumstance that he had pronounced drumstick finger suggested the possibility of bronchiectasia to Schmidt, and careful examination of the minute quantity of sputum which the patient was in the habit of coughing up once every morning, revealed the presence of minute "Dittrich's plugs." Isolated râles could also be heard in the interscapular space. The case was evidently one of circumscribed bronchiectasia, with possibly also an anthracotic gland with a perforation in the vicinity of one of the main bronchi. Pseudo râles and friction sounds are heard at the margins of the lungs, principally at the lower margin in subjects with scoliosis. When encountered they will be found constant, but they have no pathologic significance so far as the lungs are concerned. Repeated examination and the constancy of the sounds always at the same spot and uninfluenced by position, coughing, etc., differentiate them. A young merchant of his acquaintance had been proclaimed to be tuberculous on the basis of these sounds, and for years had spent his days in the vain search for relief from them, living all the time in the shadow of tuberculosis, but not presenting any other signs of the disease. Schmidt examined him year after year, and always noted the same delicate crepitations, as from atelectasia, along the margins of the lungs, but nothing else that could be construed as pathologic. Schmidt assured him that the sounds were accidental, but was unable to convince him that the diagnosis of tuberculosis had been erroneous, and he has not dared to give up his invalid mode of life. Schmidt does not attempt to explain these pseudo râles, although he suggests marginal emphysema as a possible cause. The frequency of the latter, however, is out of proportion to the number of cases in which these sounds are heard. Alterations in the position and mobility of the pleural sinus by changes in the bony skeleton may likewise be suggested as a possible explanation.

60. Treatment of Gonorrheal Epididymitis.—Baermann of Neisser's clinic at Breslau proclaims that every epididymitis which appears during a gonorrheal urethritis, is due to local invasion of gonococci. The latter can always be found in the puncture fluid. In the overwhelming majority of cases of epididymitis an abscess rapidly develops, either from congestion with secondary destruction of the walls of the epididymis or from actual suppuration. In the latter case there is always more or less well-developed hydrocele, which is likewise due to the local invasion of the layers of the tunica vaginalis by the gonococci. In certain circumstances it is possible to find gonococci persisting for years in the relics left of an old epididymitis. Early puncture in epididymitis accompanied by signs of violent inflammation is advisable as a therapeutic measure. This evacuates the abscess before the walls of the epididymis have been injured by it. Puncture is likewise advisable in case of inflammatory hydrocele, as by its evacuation better conditions for circulation and absorption are provided.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed XL, page 1033.

64 (LVII. No. 3.) Laws of Growth. E. v. Lange (Munich). —Die Gesetzmässigkeit im Langenwachsthum des Menschen.
65 Congenital Eye Affections. W. Leitner.—Ueber congenitale Krankheiten des Auges.
66 Grippe und eitrige Meningitis mit dem Befund der Influenza-Bacillus. A. Hecht (Heidelberg).
67 Review of Scandinavian Pediatric Literature. A. Johanessen. —Uebersicht aus der nordischen pädiatrischen Lit.
68 (No. 4.) *Anti-fat Treatment of Children. E. Hellesen (Christiania).—Ueber den Stickstoffwechsel bei einem an Adipositat nimia leidenden Kind mit bes. Rücksicht auf Abmagerungskuren.
69 Zur Kenntnis der Hypertrophia cerebri als Krankheitsbild im Kindesalter. B. Schick (Graz).
70 Elastin of Infant Intestine. R. Fischl (Prague).—Ueber das Elastingewebe des Säuglingsdarmes.
71 Zur Kenntnis der non-traumatischen Esophagus-Perforation im Kindesalter. C. Zuppinger (Vienna).
72 Ueber larvierte Angina diphtheritica und follicularis. Schoen-Ladulevsky.

68. Anti-Fat Treatment of Children.—Hellesen gives the results of study of the metabolism of a child affected with *adipositas nimia*, and discusses the subject of anti-fat treatment of children, commenting on the difficulties encountered. Limiting the intake of fats to one-fifth of the "balance ration" seems to be the best method for reducing corpulence. An albumin-fat dietary is more harmful than albumin and carbohydrate diet when the quantities are restricted. His experience indicates that under no circumstances must the anti-fat dietary be kept up for more than a few days at a time or the development of the child will suffer.

Münchener Med. Wochenschrift, Munich.

73 (L, No. 39.) *Ueber die Müller'sche Operation bei Spina ventosa. O. Ehrhardt.
74 *Oculomotor Paralysis. A. Bielschowsky.—Das klinische Bild der assoziierten Blicklähmung und seine Bedeutung für die topische Diagnostik.
75 *Evacuation of Gallstones by Flushing the Billary Passages. F. Kuhn (Cassel).—Austreibung von Gallensteinen durch Spülung.
76 Beitrag zur Quadriceps-Plastik. S. Stiassny.

77 *Combating Venereal Disease. C. Fraenkel.—Die Bekämpfung der Geschlechtskrankheiten. (Commenced in No. 38.)

73. **Mueller's Operation for Spina Ventosa.**—Mueller operated on a dozen patients by excision of the morbid tissue of the spina ventosa and transplanting into the cavity thus formed a flap of periosteum taken from the neighboring long bone. The functional result years afterward has been excellent. Ehrhardt reports seven such transplantations undertaken on 6 patients. He found the procedure extremely simple, not requiring hospital care, and healing in at least three weeks. A complicating fistula proved no contraindication to operation. The patients were from 18 months to 15 years of age. Nine months have elapsed since the first case was operated on, and all of the children have movable fingers of normal shape and size. The method is not applicable when the joint is involved, but in all other circumstances seems to be by far the best method known to date.

74. **Significance of Oculomotor Paralysis for Topical Diagnosis.**—Bielschowsky reviews the publications on this subject which have proceeded almost exclusively from internists and neurologists, and gives cuts and a detailed description of a typical case. He mentions that no one to date has realized the importance of the information to be derived from passive movements of the head, turning it to one side with the eyes fixed on some special object. It is important in this and other tests of the movements of the eyes to note the behavior of the second eye. From the symptoms he describes he draws the deduction that the focus causing the disturbance must be to the front of the nucleus of the abducens, and have injured both dorsal longitudinal bundles, but probably only in certain sections. The fibers passing upward in each longitudinal bundle, which are the media of reflex stimulation of the muscles that turn the eye to the side during passive movements of the head, must have been still functionally active. The tract transmitting the impulse from the cortex to the nucleus region must also have been partially intact.

75. **Evacuation of Gallstones by Flushing the Biliary Passages.**—Kuhn flushes the biliary passages through a tube inserted in the fistula or during an operation, using physiologic salt solution under a pressure of 200 to 1,000 mm. water. It is possible to rinse the biliary passages in this way, obstruction to the flow indicating some obstacle in the way. Medicinal treatment can be applied directly to the lesion and the permeability of the passages can be ensured. He has never noted any inconveniences from this procedure, even when considerable force was applied, which caused a condition resembling that of a mild gallstone colic, fever, pains and slight icterus afterward. He commences with a pressure of 200 mm. of the water column and gradually increases to 500 mm. He has established certain formulæ for the behavior of the current, showing that it is possible by the flow of the water to determine whether there is an obstacle to the flow, whether the passages are normally permeable or whether they have been dilated by the frequent passage of stones. The washing away of gallstones by the mechanical force of the current is a valuable adjuvant to operation when there are innumerable small ones, but, of course, is not feasible with large impacted stones. In case of numerous small calculi he thinks it is impossible to remove them all during one operation unless the biliary passages are flushed again and again. In one case after every stone had been supposedly removed during the intervention which included ablation of the gall bladder, 40 small stones were brought away by rinsing out the upper biliary passages. Gallstone colic is merely the expression of increased pressure in the biliary passages caused by some obstruction to the escape of the biliary secretions. By inserting a tube and flushing these passages we create artificially the same conditions as in gallstone colic, distending the passages and forcing the contents along, but with the advantage that the physician is master of the situation and can control the condition, increasing the pressure at will and arresting the "attack" at any moment.

77. **To Combat Venereal Disease.**—Fraenkel argues at length to prove the superior advantages over the present systems of "controlled streets" for prostitution, that is, certain limited quarters set apart for prostitutes to live in, abolishing the brothels. These preventive regulations to be supplemented by personal prophylaxis. He remarks that the conditions at present in Berlin are more unbearable than in any other large European city, and that a respectable woman, even accompanied by gentlemen, can scarcely venture on the streets after dark without danger of seeing or hearing the most offensive things. All this is done away with in the cities that have introduced a system of "controlled streets."

Wiener klinische Wochenschrift.

Last indexed page 757.

78 (XVI, No. 33.) Physikalischer Untersuchung der Gasteiner Thermen. C. v. Than (Budapest).
79 *Tetanie und Autointoxikation. H. Loebl.
80 Polemic on Syphilis Bacillus. Joseph, Piorkowski and Pfeiffer.
81 (No. 34.) *Pains and Herpes in Pubic Region in Cases of Flat Foot. S. Ehrmann.—Ueber Herpes progenitalis und Schmerzen in der Regio pubica bei Plattfusz.
82 *Etiology of Baldness. M. Schein.—Zur Frage der Entstehung der Glatze.
83 *Ueber den Diabetes in der Chirurgie. O. O. Fellner.
84 (No. 35.) Ueber die agglutinierende Eigenschaft der Galle und des Serums beim Ikterus. R. Königstein.
85 Ueber Antihemolysine normaler Organe. R. Kraus and B. Lipschutz.
86 Zur Frage der Variabilität der Diphtherie-Bazillen. B. Schick and H. Ersettig.
87 (No. 36.) *Zur Pathologie der Tuberkulose der Gaumen-Tonsillen. E. Glas.
88 Tuberculosis of Thyroid Gland. D. Pupovac.—Zur Kenntnis der Tuberkulose der Schilddrüse.
89 Defect in Trapezius as Cause of Elevated Scapula. H. Neumann.—Zur Frage einer etiologischen Bedeutung des Cucullarisdefektes für den Schulterblattbochstand.
90 (No. 37.) *Der osmotische Druck und der Organismus. J. Kiss.
91 *Elimination of Bacteria. W. Noetzel.—Experimentelle Studien zur Frage der Ausscheidung von Bakterien aus dem Körper.
92 (No. 38.) Inhibiting Function of Acoustic Speech Center. A. Pick (Prague).—Zur Frage von den Hemmungsfunktionen des akustischen Sprach-Centrums im linken Schläfelappen.
93 Zur path. Histologie der Plexus chorioidei. C. Tsiminakis.
94 Paralysis of Larynx. A. Schüller.—Zur Kasuistik der Kehlkopflähmung.
95 Bilateral Deafness with Bilateral Cramps in Facialis Region. von Fragstein.—Ueber doppelseitige Gehörstörungen kombiniert mit bilateralem Krämpfe im Gebiete des Facialis nebst Bemerkungen über das Versorgungsgebiet der letzteren.

79. **Tetany and Autointoxication.**—Loebl states that one or more of the cardinal symptoms of tetany accompany typical cases of autointoxication. In two-thirds of the cases of autointoxication in his experience he noted spasmodic contraction of some of the muscles, while examination of the urine in case of manifest tetany invariably disclosed evidences of disturbed metabolism, transient acetonuria, albuminuria and casts in the urine. Permanent injury of the kidney was not encountered in any case. He defines tetany, therefore, as an affection due to autointoxication affecting particularly the peripheral neuromuscular apparatus.

81. **Disturbances in Pubic Region in Case of Flat-Foot.**—Ehrmann gives several cuts to illustrate his contention that the altered static conditions in flat-foot cause disturbances in the pelvis with resulting injury of the pudendus communis, liable to be manifested by herpes and pains in the pubic region.

82. **Etiology of Baldness.**—Schein suggests as a possible explanation for baldness the excessive stretching of the skin of the scalp as the galea and epicranius develop as habitual in men advancing in years. This stretching of the skin entails nutritional disturbances rendering the hairs less resistant. Pohl suggested years ago that this stretching might be counteracted by local application of diluted acids and alkalies. He did not appreciate, however, the importance of the development of the epicranius and galea as the cause of the stretching.

83. **Surgery and Diabetes.**—Fellner operated on a woman of 40 on account of bilateral pyosalpinx. Symptoms of progressive diabetes had been noticed for fifteen years, with four abortions during this time after two normal deliveries. He is inclined to believe that the diabetes had contributed to these abortions, and suggests that diabetes may be a factor in septic affections of the internal genitalia more often than is generally supposed. After the salpingectomy all symptoms of the diabetes vanished, but the patient succumbed after a few months to extension of the septic peritonitis. He discusses whether it is possible that

the iodoform used after the operation may have contributed to the cure of the diabetic symptoms, or whether it was due to evacuation of the septic foci or to the progressive cachexia. He accepts the latter surmise as most probable, and advises that the possibility of advancing cachexia should be borne in mind when diabetic symptoms vanish after long persistence.

87. **Tuberculosis of Tonsils.**—Among the 3 cases described by Glas were 2 of primary tuberculosis of the tonsils and one of miliary tuberculosis of the tonsils with consecutive general infection by the lymph and blood routes. In all these cases the tonsil was hypertrophied. In one case with a unilateral tonsillar affection, the corresponding vocal cord was involved. Tuberculosis in the tonsils seems to assume the form of a chronic, non-ulcerating sclerosis or to appear as miliary nodules.

90. **Osmotic Pressure and the Organism.**—Kiss emphasizes that the study of osmosis under physical conditions is not applicable to the osmosis under physiologic conditions. He points out that osmotic interchanges occur much more rapidly in the latter than in the former. It is not possible to explain the vital functions on the basis of osmosis, and it is more than probable that as the living cell works with molecules and ions, it utilizes the osmotic forces, guides and transforms them for its purposes in a way beyond the ken of physical chemistry.

91. **Elimination of Bacteria from Organism.**—Noetzel's experiments confirmed the results of others to the effect that in health there is no elimination of bacteria through the kidneys or glands. The bacterial toxins, however, are thus eliminated.

Medizinskoe Obozryenie, Moscow.

Last indexed page 997.

96 (LIX, No. 6.) *Surgical Treatment of Wandering Spleen. A. N. Sakharoff.—K chirurgii bluzhdayushtchei selezenki.
97 Removal of Prolapsed Spleen After Abdominal Trauma. P. Zhegalkin.—Slutchai udaleniya vypavshei selezenki pri ranenii zhevota.
98 Case of Traumatic Stenosis of Small Intestine. A. Kablukoff. —K kazuistik traum. stenoza tonkikh kishik.
99 *Pathogenesis of Pseudo-chylous Ascites. V. Polyakoff.—K patogenezu psevdokhiliznykh. ascitov.
100 *Gastric Digestion in Chronic Enteritis. V. P. Bazhenoff.— Zheludotchnoe pishtchevarenie pri khronitcheskom enteritye.
101 (No. 7.) Congenital Dilatation of Colon. V. P. Zhukovsky. —O vrozhdennom rasshirenii tolstykh kishek s hypertrophyei vsego kishetchnika, stenozom duodeni i vnutrennei gryzhei.
102 *Treatment of Congenital Phimosis. V. M. Rozhansky.—K lyetcheniu vrozhdennago phimoza.
103 *Epidemic Rubeola. N. N. Pismenny.—Epidemitcheskaya krasnukha i eya raznovidnosti.
104 *Quinin Subcutaneously in Malaria. P. M. Nevyadomsky.— O lyetchenii malarii podkozhnymi vpryskivaniyami khinina.
105 Migration of Lymphocytes. G. V. Vlasoff and E. K. Seppa.— K voprosu o dvizhenii i emigratzii limphocytov krovi.
106 (No. 8.) *Ob apoplektitcheskikh bulbarnykh paralytchakh. V. A. Muratoff.
107 *Case of Bulbar Paralysis with Amyotrophic Lateral Sclerosis. P. P. Tutyshkin.
108 *Influence of Alkalies on Experimental Infections. D. K. Auerbach.—O vliianii nyekotorykh shtcheiotchei na tetchenie opredyelennykh infektzionnykh bolyeznei, exp. vyzyvaemykh.
109 Modification of Circulation in Case of Fat and Parenchyma Cell Embolism. M. N. Nikiphoroff.—Ob izmyeneniakh krovoobrashtcheniya pri zhirovoi i parenchymklyetotchnoi embolii.
110 *Initial Changes in Pulmonary Phthisis. A. Abrikosoff.—K voprosu o sushtchnosti samykh natchalnykh ezmyenenii pri legotchnoi tchakhotkye.

96. **Surgery of Wandering Spleen.**—Sakharoff thinks that if the spleen is more than two or three times its original size, it had better be removed instead of trying to merely fasten it in normal position. He describes a case in which he removed a malarial spleen from a woman of 28, a multipara. The spleen after its removal weighed 960 gm. The hemoglobin gradually increased from 60 per cent. after two weeks to 78 per cent. three weeks later, and the proportion of reds to whites from 115 to 1 at the first examination to 180 to 1 at the second. Her health has continued good to date. He mentions that her appetite became exorbitant for a time after the splenectomy, which phenomenon has been noted by other surgeons in such cases. Typical attacks of malaria also developed eleven days after the operation, but subsided under quinin. This has also been observed by others.

99. **Pseudo-Chylous Ascites.**—Polyakoff describes a case in which the chylous appearance of the ascitic fluid was due to the products of decay of the albuminoids and nuclein, not to admixture of fat.

100. **Gastric Digestion in Chronic Intestinal Inflammation.**—Bazhenoff relates the particulars of 5 cases of chronic enteritis in which special study was made of the gastric digestion. The findings indicate that the subjective sensations of such patients are mainly due to atrophic catarrh of the stomach. It is highly probable that this gastric affection is merely a propagation of the inflammatory process in the intestines. The subjective sensations do not always parallel the anatomic conditions. There may be no symptoms of dyspepsia and yet the wall of the stomach may be completely atrophied. When the gastritis develops secondarily, the prognosis of the intestinal affection may be formulated on the basis of the gastric disturbances, the severer the latter the less chances for recovery of the former. Examination of the stomach digestive functions is also necessary as a guide to diet.

102. **Treatment of Congenital Phimosis.**—Rozhansky recommends local injection of a 2 per cent. warm solution of boric acid twice a day, injecting enough of the fluid to dilate the preputial sac and thus mechanically restore conditions to normal while keeping the parts disinfected.

103. **Study of Epidemic Rubeola.**—Pismenny had occasion to observe an epidemic of 21 cases of rubeola and noticed that it developed in five different ways. In some subjects the eruption was typical, in others it resembled that of scarlet fever; in 8 cases the eruption was *sui generis*, the single patches much larger than usual, deeper colored, isolated, the intervening skin being normal. In 4 the exanthem resembled that of scarlet fever, but the catarrh was that of measles, and in 2 there was no catarrh. He often noticed that contagion from a subject with one form frequently induced the disease in another form. He therefore defines rubeola as an independent contagious disease which runs a course similar to that of mild measles, but occasionally resembles more that of an abortive scarlet fever, and most frequently presents a combination of these two forms. The incubation in his experience was about sixteen days.

104. **Treatment of Malaria with Subcutaneous Injections of Quinin.**—Nevyadomsky advocates the subcutaneous use of quinin when rapid action is desired. He has found this mode of administration peculiarly advantageous for children. In ten to fifteen minutes after the injection of .8 gm. quinin the ears begin to hum. He prefers for these injections a mixture of 10 gm. quinin hydrochlorate and .1 gm. morphin hydrochlorate to 20 gm. distilled water. The deltoid and pectoralis major regions are the best points for the injections, which should be made in the subcutaneous cellular tissue. His experience with thousands of these injections has been extremely favorable, but it has demonstrated that to be effectual the quinin must be injected at the close of the chill or at the commencement of the fever. This rapidly aborts the attack, while injections later, during the sweat or intermissions, do not influence future attacks. He has found that even long-established cases of malaria yielded temporarily or permanently to two or three injections, the cure completed by removal from the malarial region if possible..

106 and 107. **Bulbar Paralysis.**—Muratoff describes in detail a number of cases of what he calls apoplectic bulbar paralysis, with the anatomic findings. Tutyshkin also gives the details of a case of progressive bulbar paralysis with amyotrophic lateral sclerosis.

108. **Influence of Alkalies on Experimental Infections.**—Auerbach was impressed by the fact observed that an alkaline culture medium which was eminently favorable to the growth of bacterial cultures became bactericidal when heated to 108 F. The bacteria died when the temperature was raised to this point. Observation of this phenomenon suggested to him that the high temperature in fever may be a beneficent phenomenon, rendering the alkaline blood more bactericidal. He instituted experiments on animals to establish the correctness of this view, and announces that he found that the blood became less and less alkaline, the more intense the infection.

Endeavoring to restore the alkalinity of the organic fluids by injection of alkalies he found that the animals were able to withstand the inroads of the experimental infection much better than the controls. He concludes from his research that the fever in infections is an important aid in the defensive processes as it confers increased bactericidal power on the alkaline blood and probably also enhances the bactericidal power of other antibodies in the organism.

110. **Initial Lesions in Tuberculosis of Lungs.**—Abrikosoff examined 52 cadavers with circumscribed pulmonary tuberculous lesions and in 8 found the initial modifications caused by the infection. He reproduced them in rabbits by intravenous injection of cultures as well as by direct injection into the bronchi. His research also has established that the tubercle bacilli can penetrate from the bronchial glands into the bronchi even in the absence of lesions in the bronchial walls.

Hospitalstidende, Copenhagen.

Last indexed page 584.

111 (XLVI. No. 26.) *Urethral-Injektionernes Teknik. En ny Gonorrespröjte. C. Engelbreth.
112 (No. 27.) *Et Tilfaelde af Adiposis dolorosa hos en Dreng. T. S. Gudjohnsen.
113 (No. 28.) *Trials of Organ Therapy in Deficient Mammary Secretion. H. Prip.—Forsög med Organoterapi ved Hypogalaktl.
114 4 Tilfaelde af Ileus. V. Harslof.
115 (No. 29.) *Om Xerophthalmi hos Smaaborn (in infants). E. Jensen.
116 (No. 31.) *Introduction to Discussion on Puerperal Fever. J. Kaarsberg.—Om Behandlung af Barselfeber.
117 Et Tilfaelde af Atresia intestini. C. E. Eldali.
118 (No. 32.) Introduction to Discussion at Madrid Congress on Causes of Deaf-Mutism. E. Schmiegelow.—Dövstumhedens Aarsager.
119 Dipsomani, Pseudodipsomani. P. D. Koch.
120 (No. 33.) *Behandlung af Lupus vulgaris ved Frysning med Chlor-ethyl. C. T. Hansen.
121 (No. 34.) Hospitalsbehandlung af Lungetuberkulose. J. Veje.

111. **Improved Technic of Urethral Injections.**—Engelbreth's article was reviewed in The Journal, page 890, abstracts 109 and 114.

112. **Adiposis Dolorosa in a Boy.**—Gudjohnsen's case was distinguished by the fact that the patient was a young man, and that the symmetrical lipomata were some of them painful and others not. The affection had commenced in childhood and none of the typical symptoms was lacking. In discussing the relations of this affection to myxedema he mentions the entire absence of the lunula unguis in his experience in both affections. He had successfully treated another case of painful lipomatosis by means of six weeks of massage and then two weeks of thyroid treatment, which banished the pains completely. In the present case the fat deposits were so large that the breast measure was 142 cm., almost 52 inches. When the weather was hot the patient did not suffer from pains or hyperesthesia, and consequently felt better in the summer. He was intelligent and slept well, but as his weight was constantly increasing he pleaded for thyroid treatment, which was accordingly instituted. He took two pills a day of 2 cg. of thyroidin with a milk-vegetable diet. After taking fourteen pills symptoms of thyroidin intoxication developed and the patient died eleven days after commencing this treatment. The writer reviews 21 articles that have been published on the subject, including a number by American as well as European authors, besides those of Dercum.

113. **Udder Extract in Treatment of Deficient Mammary Secretion.**—Prip describes 5 cases in which he was able to promote the breast secretion and procure ample nourishment for the child by having the mothers eat cows' udders thoroughly cooked in an appetizing manner. He now makes a soluble powder from the glycerin extract of udders which he proposes to use in future; a single udder, weighing about 4 pounds, makes 13 gm. of the powder. He thinks there is a promising future for this form of organotherapy.

115. **Xerophthalmia in Infants.**—Jensen thinks that a more correct name for this condition would be *ophthalmia ex inanitione*, and that prophylaxis consists in more rational feeding. The prognsis depends on the time when treatment is instituted, and treatment should be dietetic. Local treatment plays but a subordinate rôle.

116. **Puerperal Fever.**—Kaarsberg advocates banishing the curette and using the fingers for removal of the retained afterbirth, etc. He thinks that with appropriate local treatment, applied early, the number of cases of puerperal fever will be materially reduced. He is convinced that the use of the curette instead of the fingers is responsible for many mishaps. In one instance he relates, a septic polyp filling the entire corpus was found postmortem after the uterus had been supposedly throroughly evacuated by the curette in skilled hands.

120. **Ethyl Chlorid Refrigeration Treatment of Lupus.**—Hansen has treated 13 patients with lupus vulgaris by refrigeration with ethyl chlorid. In 8 the affection had commenced within 5 years and in the others had lasted 5 to 9 years and more. The results were a complete cure in 2; apparent cure in 2, and gradual improvement in 2, with improvement but recurrence later in 4. To decide the merits of this method of treating lupus (mentioned in The Journal, page 584) he enquired of Finsen if any lupus subjects previously treated by this means had applied for treatment later to him. He found a record of 62. In 36 of these the refrigeration treatment had been briefly tried and abandoned, as no effect had been apparent. In the remaining 36 it had been energetically applied for three to eighteen months. In only 4 of this number had any actual gain been realized, and it was dubious in 2 of these. In 11 per cent. the treatment had been entirely ineffectual and in 78 per cent. the results had been actually unfavorable. The injurious action was the more marked the lesser the extent of the lesions and the duration of the affection. Hansen warns, therefore, that this treatment must be applied with great caution, as it is liable to do ultimately more harm than good.

Hygiea, Stockholm.

Last indexed page 528.

122 (LXV. No. 8.) Disposition of Sewage at Berlin. K. Wahlstedt.—Studier öfver renandet af kloakvatten.
123 Alkoholismen bland arbets-klassen i Stockholm. C. T. Scholander.
124 *The Gastric Juice in the Presence of Tapeworm. G. Törnell.—Om magsaftens beskaffenhet vid nagra fall af bandmask.
125 *Om prognosen vid retinitis albuminurica gravidarum. G. Ahlström.
126 Artificial Feeding of Weakly Children. K. O. af Klercker.—Principer för artificiell uppfödning af späda barn.
127 (No. 9.) *Typhoid Infection of Gall Bladder. I. Jundell.—Ett bidrag till kännedomen om den tyfösa infektionen i gallblasan.
128 Fall af perineal prostatektomi. G. Bäärnhielm.
129 Nagra ord om Ureter-Katetrisationen och des praktiska betydelse för diagnosen af kirurgiska njursjukdomar. N. Hellström.
130 Om balantidium coli och dess betydelse vid kroniska diarreer. N. Akesson. One case.

124. **Gastric Juice in Tapeworm Cases.**—In 12 out of the 17 cases examined there was no free hydrochloric acid to be found in the stomach and in 5 the acid reaction was very weak. No lactic acid was found, and it was noticed that the stomach emptied itself unusually promptly. In 24 cases of tapeworm in which the gastric juice had been examined, reported by Schaumans and others, free hydrochloric acid was entirely absent in 17. This brings the total proportion to 29 out of 41 cases, that is, 71 per cent. of the entire number of cases in which the gastric juice was examined in persons harboring tapeworms.

125. **Prognosis of Retinitis Albuminurica Gravidarum.**—Ahlstrom describes in detail 7 cases of this affection. In one there were severe symptoms of retinitis in both eyes with detachment of the retina in one eye. A few days later spontaneous abortion occurred at the seventh month, followed by complete restoration of vision. In 2 cases of retinitis vision was much improved after premature delivery the seventh to eighth month. In another patient severe symptoms of retinitis appeared at the second or third month. After premature delivery at the eighth month there was marked atrophy of the optic nerve with almost complete loss of sight. In still another the retinitic symptoms had been of moderate intensity, but vision had been impaired after the sixth month. The pregnancy was terminated by normal delivery. The optic nerve is completely atrophied with amaurosis in both eyes. These cases show that delivery soon after the appearance of the first symptoms of retinitis may be followed by restitution,

while delay may be fatal for vision. The symptoms most important for the prognosis are hemorrhage into the retina and the reflex anomalies in the arteries described by Silex. Whenever one or both of these symptoms are noted in the early stages of a pregnancy it must be interrupted at once, but when not observed until a late stage, expectant treatment is justifiable until there is a prospect of a viable child from a premature delivery. If the patient can not be kept under constant surveillance delivery must be immediate, as also when severe symptoms develop. Further pregnancies must be prevented in women who have once exhibited symptoms of the affection. He describes the particulars of all his cases, including one in which the patient succumbed to eclampsia soon after the symptoms of retinitis had been observed. Another case was lost sight of.

127. **Typhoid Infection of Gall Bladder.**—Jundell gives a careful review of what has been published on this subject, and describes a case personally observed. The patient was a woman of 31, who stated that she had had typhoid fever at the age of 16. She occupied a room with a person who was found to have typhoid, and, herself, exhibited symptoms that suggested typhoid infection on which those of cholecystitis were soon superposed. Operative intervention became necessary toward the end of the fourth week of the typhoid infection and a stone of cholestearin about the size of a hazel nut was found in the cystic duct and typhoid bacilli were cultivated from the gall-bladder secretions. The stone could not have developed in consequence of typhoid infection of the gall bladder, as such a stone is of slow, gradual formation. The stone had probably been pre-existent and had been the predisposing cause for the typhoid infection of the gall bladder.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICE OF MEDICINE. A Text-book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania. Third Edition, Thoroughly Revised and in Parts Rewritten. With 134 Illustrations, Including Colored Plates. Cloth. Pp. 1,240. Price, $5.50. Philadelphia: P. Blakiston's Son & Co. 1903.

MANUAL OF PRACTICAL ANATOMY. By D. J. Cunningham, M.D. Edin. et Dubl., D.Sc., LL.D., D.C.L. Oxon., F.R.S., Professor of Anatomy in the University of Edinburgh. Volume I: Upper Limb, Lower Limb, Abdomen. Volume II: Thorax, Head and Neck. Third Edition. Illustrated. Cloth. Pp. 605 and 607 Respectively. Price, $5.00. Philadelphia: J. B. Lippincott Company. 1903.

THE DECENNIAL PUBLICATIONS. The Structure of the Glands of Brunner. By Robert Russell Bensley, Assistant Professor of Anatomy. Printed from Volume X. Paper. Price, $1.00. Chicago: University of Chicago Press. 1903.

THE MEDICAL ANNALS OF MARYLAND. 1799-1899. Prepared for the Centennial of the Medical and Chirurgical Faculty. By Eugene Fauntleroy Cordell, M.D. Cloth. Pp. 888. Baltimore: Williams & Wilkins Co. 1903.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY, at the One Hundred and Twelfth Anniversary. Held at Concord, May 21 and 22, 1903. Cloth. Pp. 256. Concord, N. H.: Ira C. Evans Co. 1903.

REPORT OF THE SURGEON-GENERAL OF THE ARMY TO THE SECRETARY OF WAR. For the Fiscal Year Ending June 30, 1903. Paper. Pp. 156. Washington: Government Printing Office. 1903.

New Patents.

Patents relating to medical devices, etc., September 15 to 29:

738887. Ophthalmoscope. Henry L. De Zeng, Philadelphia.
738897. Hydro-electrotherapeutic apparatus. Daniel C. Fisher, Boston.
738995. Orthopedic corset. Franz Haas, Prague, Austria-Hungary.
739083. Massage instrument. John W. Hyatt, Newark, N. J.
739182. Binocular microscope. Frederic E. Ives, Philadelphia.
739098. Combined head gear and ear trumpet. Thomas W. Messenger, Quorn, South Australia.
739200. Splint. John R. Moore, Ironwood, Mich.
738842. Truss. Solomon H. Phillis, Pana, Ill.
739267. Machine for making bandages. Frederick L. Pohlmann, St. Louis.
738848. Atomizing device. Walter Sams, Chicago.
738960. Clinical thermometer shield. Harry Vaughan and J. W. Arrowsmith, Morristown, N. J.
739471. Tray support and closet for physician's tables. William D. Allison, Indianapolis.
739297. Disinfecting device. William H. Dayton, Cleveland.
739670. Vision testing apparatus. Robert K. Grove, Buffalo.
739419. Scarifier tongs. James M. Hyde, San Francisco.
739317. Disinfectant block. Clarence C. Jenkins, Brooklyn.
739336. Invalid bed. William McLennan, Ogdensburgh, N. Y.
739844. Means for promoting the growth of hair. Frederick W. Evans, Columbia, Tenn.
740002. Collapsible stretcher. Kaspar Freuler, Zurich, Switzerland.
740152. Serum container and injector. Thomas J. Lynch, Marietta, Pa.
739941. Manufacturing disinfectants. Carl Spengler, Davos-Platz, Switzerland.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, week of Oct. 17, 1903:

Asst.-Surgeon C. H. DeLancy, detached from the *Hancock* and ordered to the *Petrel*.

Asst.-Surgeon R. K. McClanahan, detached from treatment at the Naval Hospital, Mare Island, Cal., ordered home, with three months' sick leave.

Pharmacist S. W. Douglass, detached from the Navy Yard, Portsmouth, N. H., and ordered to the Naval Magazine, Iona Island, N. Y.

Surgeon W. F. Arnold, detached from treatment at Naval Hospital, Mare Island, ordered home, with three months' sick leave.

Medical Inspector W. R. DuBose, commissioned medical inspector, with the rank of commander, from June 20, 1903.

P. A. Surgeon C. H. DeLancy, commissioned passed assistant surgeon, with rank of lieutenant, from June 7, 1903.

P. A. Surgeon D. H. Morgan, when discharged from Naval Hospital, Mare Island, granted sick leave for three months.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 16, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Oct. 4-10, 4 cases.
California: Los Angeles, Sept. 27-Oct. 3, 6 cases; San Francisco, Sept. 28-Oct. 4, 1 case.
Illinois: Chicago, Oct. 4-10, 3 cases; Danville, Oct. 4-10, 2 cases.
Maryland: Baltimore, Oct. 4-10, 1 death.
Michigan: Detroit, Oct. 4-10, 1 case.
New York: New York City, Oct. 4-10, 4 cases; Niagara Falls, Oct. 4-10, 2 cases.
Ohio: Cincinnati, Oct. 3-9, 1 case.
Pennsylvania: Altoona, Oct. 4-10, 1 case; Carbondale, Oct. 8-14, 2 cases; Philadelphia, Oct. 4-10, 11 cases, 3 deaths.
Tennessee: Memphis, Oct. 4-10, 2 cases.
Texas: San Antonio, Sept. 1-30, 12 cases, 1 death.
Utah: Salt Lake City, Sept. 27-Oct. 10, 8 cases.
Wisconsin: Milwaukee, Oct. 4-10, 7 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 3 cases, 1 death.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Sept. 20-26, 4 cases.
France: Paris, Sept. 20-26, 1 death.
Great Britain: Bradford, Sept. 20-26, 8 cases; Newcastle-on-Tyne, Sept. 20-26, 5 cases.
Italy: Catania, Sept. 25-Oct. 1, 1 death.
Russia: Moscow, Sept. 13-19, 1 case, 1 death; Odessa, Sept. 20-26, 1 case; St. Petersburg, Sept. 13-19, 42 cases.
Spain: Barcelona, Sept. 13-26, 4 cases.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Oct. 7-15, 180 cases, 10 deaths; Minera, Oct. 3-12, 50 cases.

YELLOW FEVER—FOREIGN.

Costa Rica: Limon, Sept. 25-Oct. 1, 2 cases, 1 death.
Mexico: Linares, Sept. 6-26, 446 cases, 202 deaths; Merida, Sept. 6-26, 18 cases, 4 deaths; Nuevo Laredo, Oct. 5-13, 18 cases, 2 deaths; Quintana Roo, Sept. 20-26, 1 case, 1 death; Tampico, Sept. 27-Oct. 3, 5 deaths; Tehuantepec, Sept. 6-26, 6 deaths; Salina Cruz, Sept. 6-26, 4 cases, 2 deaths; Valladolid, Sept. 13-26, 1 case; Vera Cruz, Sept. 27-Oct. 3, 45 cases, 9 deaths.
Venezuela: Caracas, Sept. 15, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 19 cases, 19 deaths; provinces, Aug. 22-29, 1,593 cases, 1,262 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Aug. 22-29, 9 cases.
India: Calcutta, Sept. 6-12, 4 deaths; Madras, Sept. 5-11, 2 deaths.
Turkey: Syria, Sept. 1-14, 473 cases, 317 deaths.
Straits Settlements: Singapore, Aug. 23-29, 7 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 2 cases, 1 death.

PLAGUE—FOREIGN.

Egypt: Alexandria, Sept. 5-11, 10 cases, 5 deaths; Damiette, Sept. 5-11, 1 case, 1 death.
France: Marseilles, to Sept. 15, 9 cases, 1 death.
India: Bombay, Sept. 2-15, 142 deaths; Calcutta, Sept. 6-12, 13 deaths.
Japan: Yokohama, Aug. 22-Sept. 12, 4 cases, 3 deaths.

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Original Articles.

LEPROSY IN THE HAWAIIAN ISLANDS.*

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PHILADELPHIA.

Leprosy has existed in all the islands of Hawaii for many years and was first officially recognized in 1840, and there is general belief that it was imparted from China. As the disease spread rapidly, a board of health was organized in December, 1850, with power to insist on segregation of all persons suffering from this affection, in consequence of which act the malady is gradually disappearing. All leprosy suspects are sent to Kalihi, a receiving hospital near Honolulu, where they are examined by a medical board and all lepers are transferred to Molokai.

Despite the earnest efforts of the board of health, an unknown number of lepers exist in the different islands of Hawaii, which number, however, is steadily decreasing, and is now smaller than at any time in the past. Many of the suspects present conditions rendering diagnosis extremely difficult. This is especially true in certain of the early cases complicated by disease of the skin, such as psoriasis, chloasma, scabies and erythema. Reliance is placed not only on the characteristic changes that are observed in the skin, mucous membrane and nerves, but special importance is attached to the discovery of the bacillus of lepra in discharges from the skin or mucous membrane and also in small portions of excised skin. The bacilli are discovered, usually with great ease, in the skin from the external auricle when this portion of the body is invaded. The recent observations of Boston[1] would suggest the advisability of more frequent and thorough examinations of the blood for the lepra bacillus in suspected cases.

Dr. Jonathan T. McDonald[2] of Honolulu summarizes the diagnostic signs of leprosy in Hawaii as follows:

1. The microscope is the supreme agent of the final diagnosis of leprosy. No patient should be committed to a segregated colony without a bacteriologic demonstration of the disease.
2. Of clinical symptoms, maculæ, chiefly leucodermic spots, are found in 89 per cent. of all cases.
3. The lepra nodule found in 74 per cent. is the one chief distinguishing lesion of skin leprosy.
4. Thinning or complete loss of eyebrows and lashes is present in 63 per cent.
5. Atrophic changes in hands and forearms with retraction and contraction of fingers and enlarged ulnar nerve in 32 per cent., a leading feature of nerve leprosy.
6. The plantar ulcer found in 26 per cent., usually on the ball of the foot.
7. Absorption of phalanges in 16 per cent. with occasional spontaneous amputation.
8. Elephantiasis of hands and feet in 16 per cent.
9. Facial paralysis in 11 per cent.
10. The entire body should be carefully tested for anesthetic areas.
11. Several of the above symptoms can be found in some slight degree at least in every leprous subject.

The Hawaiian possesses a peculiar susceptibility to leprosy. The number of whites that are afflicted are few, and, strangely enough, but few Chinese have been affected with the disease. The census at Molokai from 1866 to 1885 shows 2,997 Hawaiians, 37 mixed Hawaiians, 16 whites, 22 Chinese and 4 other nationalities. It is somewhat difficult to accurately determine the result of segregation by a study of the statistics of the past 37 years because of the great variation in the population in different years, and the extraordinary influx of Chinese and Japanese coolies; further, no accurate census existed as to the number of lepers in the islands in 1865, when segregation was first introduced, and in like manner, despite the earnest efforts of those in authority, the statistics of to-day are only approximate, as many lepers are concealed by relatives or friends so as to avoid being sent to Molokai. The number of commitments during the past ten years shows a gradual decrease. During the year 1900 the number of commitments was 85, whereas in 1891 there were[3] 132. It is the belief of those who have to do with leprosy in Hawaii that segregation has reduced the number of lepers on the island.

I desire to express my thanks to the president of the board of health at Honolulu and to Dr. L. E. Cofer of the U. S. Public Health and Marine-Hospital Service through whose kindness I was permitted to visit the leper settlement Sept. 4, 1902.

The island of Molokai is southeast of Oahu and northeast of Maui. The surface is mountainous; its length is 35 miles and its area 270 square miles. A small peninsula, projecting into the ocean from about the center of the northern coast of the island, was set aside for the lepers by King Kamehameha in 1865 and has an area of 8 square miles. The breadth at the base of the peninsula, where it joins the cliff, is 2¾ miles, at the center 2½ miles, and it measures one mile in length. It is shut off from the remainder of the island by a bold rugged mountain range, extending from the east to the west, having an altitude of from two to three thousand

* Read, with lantern slide illustrations, before the American Climatological Association at Washington.

1. "Lepra Bacilli in the Circulating Blood," Medical Bulletin, vol. xxv, 2, February, 1903.
2. "A Diagnostic Examination of 150 Cases of Leprosy," THE JOURNAL A. M. A., June 6, 1903.
3. Public Health Report, U. S. Marine-Hospital Service, Oct. 11, 1901.

feet. With the exception of a rough steep trail which is almost impassable, no land communication is possible between the leper settlement and the rest of the island. Communication with the outside world is maintained by a small steamboat, the *Lahua,* which during pleasant

Fig. 1.—Characteristic physiognomy of leprosy.

weather calls at this port semi-weekly. In bad weather it is impossible to make a landing, so that frequently isolation is complete for several weeks. The shore is lined with large rocks, making a rather dangerous approach, and the landing of passengers and cargoes is

Fig. 2.—Leprosy in a girl aged 8 years, showing the characteristic physiognomy of leprosy.

effected by means of small boats. The soil is composed of disintegrated lava and sand, and is made to yield tropical fruits and vegetation by irrigation. An abundance of water is supplied by reservoirs fed by streams from the mountains. As the boat approaches the settlement the appearances of the villages differ in nowise from that of similar villages in other parts of the island. The combination of bright sunshine, cloudless sky, mountainous scenery in close relation with the ocean in which are numerous rocky islands of all sizes, together with luxuriant tropical vegetation and fruits, presents a scene difficult to surpass anywhere in the world.

The census of leprosy in Molokai in 1901 was 1,073. Of the 164 non-lepers, 78 were children of leprous parents, 67 helpers, i. e., those permitted to live and care for the lepers, and the remaining 19 included the superintendent, the physician, the priests, lay brothers, sisters and teachers. The total population is 1,237. Superintendent J. V. McVeigh informed me that there were 861 lepers Sept. 4, 1902, a decrease of 212, of whom about 750 were native Hawaiians. About 600 of the lepers live in Kalaupapa, which is the residence of the medical officer, Dr. W. A. Goodhue; of the superintendent; of the priest of the chapel of St. Francis; of Father Wendelin, the successor to Father Damien, who is in his sixteenth year of service, and of Mother Marieanne, who

Fig. 3.—Tubercular leprosy of the face and ear.

has been in charge of the Bishop Home for Girls with Leprosy for fifteen years and who is assisted by three sisters. At Kalawao, the original settlement, there are about 200 lepers, in which place lives Mr. Dutton, who has been in charge of the Baldwin Home for Boys for seventeen years. The chapel is in charge of Father Joseph, assisted by four lay brothers.

The unselfish labors of these men and women are of the greatest value to the lepers, and I take this opportunity of expressing my appreciation of the excellence of their work and my profound admiration for each of them individually.

It is difficult to imagine a more ideal spot for a leper settlement than that of Molokai, isolated by Nature's barriers, the mountains and the sea; situated within the tropical circle, and possessing a climate admirably suited to those suffering from this disease, and standing in strong contrast to the climatic conditions under which lepers exist in Iceland, Norway and India.

The life led by this community is similar to that of the villagers in non-leprous regions, and they possess

churches, schools, courts and jails. Three baseball teams testify to the popularity of our national game; ping-

Fig. 4.—Tubercular leprosy.

pong is played with enthusiasm, and many devote themselves to fishing, rowing, hunting, horseback riding and driving. Most of the members of the community seem happy and contented, and their love of music is shown by the existence of a village band and singing societies. Although the lepers are cared for at the expense of the government, more than $17,000 was expended in the general store for additional supplies during twelve months. Many of the lepers or their relatives are in possession of moderate fortunes.

The customs of the Hawaiians are such as to facilitate the spread of leprosy, as for example: The use of the family pipe, which is passed from one member to another; the carrying of food to the mouth by means of the fingers, and the general want of cleanliness. I believe that heredity plays a very unimportant rôle in the spread of the disease, as many children born of leprous parents remain free from the disease, more especially if they are removed from their parents at an

Fig. 5.—Macular leprosy.

early age. In 1884 there were 26 children born in the settlement, one or both of whose parents were lepers before each birth. But two developed leprosy, despite the fact that they had lived in the houses of lepers all their lives. This view is supported by Dr. Carleton, who has had 20 years of experience with leprosy in India and has seen 92 children of leprous parents, only two of whom developed leprosy. The majority of observers in Hawaii believe that leprosy is contagious, which view is supported by the observations of Arning, who inoculated Kenan, the condemned criminal, who 2½ years later showed leprous changes in the skin and in various parts of the body, and died of the disease at Molokai. Unfortunately, this experiment is vitiated by the occurence of leprosy in his mother-in-law, his son and his nephew. The historical case of Father Damien, a Belgian, who died of the disease seven years after its first

appearance, and the occurrence of ten cases of leprosy in ten years among non-leprous individuals at the settlement demonstrates the contagiousness of this disease. At the time of this visit no example of a case of this disease contracted in the settlement existed, despite the fact that a number of individuals living in the settlement have been exposed to the disease for periods of 15, 16 and 17 years. The non-infection of a woman who was successively married to three leprous husbands tends to prove that this disease is but feebly contagious. There is a widespread belief among the physicians in Hawaii that syphilis greatly increases the susceptibility to leprosy, and this is believed to be a part of the explanation of the Hawaiian's susceptibility to the disease. The white race enjoys a remarkable immunity and when proper hygiene and good food is secured the Hawaiian's susceptibility decreases.

Fig. 6.—Macular leprosy, with palmar ulceration and absorption of the terminal phalanges.

Leprosy became widespread during the smallpox epidemic in 1852 owing to careless vaccination. It is believed that the disease may be transmitted by the secretions, by cohabitation and by insects, more especially mosquitoes and flies, and that the portal of entry of the bacillus may be the nares, the mucous membrane of which may have become accidentally abraided by the fingernail, or through the skin, which may have been injured; but, in truth, the exact method of entry and transmission of the poison is, in most cases, unknown. Recent observations show that an enormous number of bacilli are found in the nasal secretions when these parts are affected, suggesting that this is an unsuspected source of great danger. Dr. McDonald has examined the mucus from the cartilaginous portion of the nasal septum in a number of cases of leprosy, but he has rarely found the *Bacillus leprœ*. As in other leper settlements the varieties of the disease are the tubercular, anesthetic and mixed; the tubercular variety is most common. Since the establishment of this settlement, from time to time, many forms of treatment have been tried,

Fig. 7.—Leprosy, showing the characteristic plantar ulceration and changes in the fingers.

Fig. 8.—Leprosy, showing the leonine expression, loss of the eyebrows and deformed hands.

but without success. At present the patients are bathed two or three times daily in warm water, and internally

the Goto treatment is employed, the composition of which is a secret. This treatment is apparently beneficial, but is not curative. The tubercular ulcerations are treated antiseptically. There is a widespread belief, however, that the Kausatsu baths in Japan are of decided benefit. Certain cases of leprosy appear to be self-limited, and it is believed that this explains some of the cures that have been reported. The majority of observers believe that segregation prevents the spread of this disease. The following conclusions are deduced from this study of leprosy at Molokai and represent the prevailing opinion in Hawaii:

1. The *Bacillus lepra* is the cause of this disease.
2. This disease is feebly contagious.
3. The Hawaiian is peculiarly susceptible to leprosy.
4. The Caucasian possesses a high degree of immunity.
5. Syphilis predisposes to leprosy.
6. Heredity is a factor of but little importance in the causation of this disease.
7. Segregation prevents the spread of leprosy.
8. The precise manner in which this disease is ordinarily transmitted from the sick to the well has not been proven.
9. There is no cure for leprosy.
10. Benefit may be derived from good hygiene, good food, climate, hot baths and the antiseptic treatment of ulcerative surfaces.

LEPROSY FROM A SANITARY STANDPOINT.*

ISADORE DYER, PH.B., M.D.

Professor on Diseases of the Skin, New Orleans Polyclinic; Editor, *New Orleans Medical and Surgical Journal;* Collaborator, *Lepra Bibliotheca Internationalis;* Honorary Consulting Leprologist to the Louisiana Leper Home.

NEW ORLEANS.

SOME ANCIENT METHODS.

Almost the first knowledge of leprosy carried with it methods for its control. No doubt many diseases were called lepra which did not deserve the name.

The Hebrews, Arabs, Greeks and Egyptians recognized the disease and named it. With each of these peoples treatment was made subservient, while the sanitary measures were often radical.

The Bible (*Leviticus, Numbers* and *Deuteronomy*) quite extensively refers to the lepers among the Hebrews. So true is this that the popular conception of leprosy to-day has been derived from the scriptural relation of it. "And the leper in whom the plague is, his clothes shall be rent, and his head bare, and he shall put a covering upon his upper lip and shall cry 'Unclean, Unclean.' All the days wherein the plague shall be in him, he shall be defiled; he is unclean. He shall dwell alone; without the camp shall his habitation be." (*Leviticus* xiii: 44.)

We read in the same chapter (verse 52) instructions to the priests, "He shall therefore burn that garment, whether warp or woof, in woollen or linen or anything of skin wherein the plague is, for it is a fretting leprosy; it shall be burned in the fire."

"And he shall cause the house to be scraped within round about (chap. xiv: 41-45), and they shall pour out the dust that they scrape off without the city into an unclean place." Clean stones are then ordered and fresh plaster, and if still the disease lurks, "Now he shall break down the house, the stones of it and the timber thereof, and all the mortar of the house; and he shall carry them forth out of the city into an unclean place.

The children of Israel are commanded to cast every leper out of the camp. (*Numbers,* v. 2.) Here and there we find in the Bible archaic methods of cleansing those who may be afflicted, but these are religious rites rather than practical ones, dealing with exhortations, sprinkling with water made sacrificial with the blood of birds or of the proverbial lamb.

The Koran likewise regulates the life of the leper.

These facts are related here with the idea of calling attention to the fact that the problems of sanitary measures in leprosy are not new; that even among primitive people the character of the disease was such as to create a popular fear of it which demanded remedies of prevention.

Historians of leprosy have traced the disease from Syria into Persia, Hindoostan, China, Japan, Australia, New Zealand, Africa, Turkey, Greece, France, Spain, Britain, Germany, Russia, Scandinavia and the Americas.

We find it rising and declining at different periods in different parts of the world, moving gradually from the East to the West and from the South to the North.

Probably limited in the early period of the world to the Orient and to Egypt—

> "High up the Nile mid Egypt's central plane,
> Springs the dread Leprosy and there alone."
>
> —*Lucretius de Natura Rerum.*[1]

The disease spread rapidly through the south of Europe from the second to the seventh century, reaching its acme from the eleventh to the twelfth.

The earliest record of leprosy in Great Britain is found in the year 950; in 1585, by act of Elizabeth, the leper hospital at Sherburn, in Durham, was assigned to other use; during the reign of Edward VI, 1547-1553, most of the lazarettos were empty.

In Scotland the disease was still traceable in the seventeenth century, a leprous woman being condemned in Aberdeen; in 1652, the Lazar House at Greenside, in Edinburgh, was dismantled; in 1742, a public thanksgiving was held in the Shetland Islands to celebrate the disappearance of the disease; in 1798, a native of the Shetlands was confined in Edinburgh.

No particular or extraordinary care was displayed with these victims of an unfortunate disease. From the twelfth to the eighteenth century, each of the countries of Europe was afflicted, France notably having placed on record as many as 15,000 in leprosariums, some traces of which remain to-day in Brittany.

SOME METHODS PRACTICED TO-DAY.

In every country in which leprosy has been found certain methods have obtained for their relief or for the protection of the community. In comparatively recent years the attention of the public has been attracted through the conditions in India, Norway and the Sandwich Islands, in each of which countries systematic methods have been followed and direct results obtained.

As with every revolution of ideas, the natural recognition of the fact that leprosy was increasing through the world created an investigation of the fact. First of all, the extensive report of the British Leprosy Commission in India caused a public apprehension because of the knowledge related that there were some 200,000 victims of the disease in that country.

The Berlin Leprosy Conference, in 1897, followed as a natural consequence, and the results of that meet-

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

1. Wilson's Text-Book on Diseases of the Skin, 1868.

ing, summed up by a resolution recognizing the disease as contagious, pointing to its undoubted spread and urging the action of governments in the matter, all created an interest which up to the present day is steadily growing. Now, most every government is in line and methods of isolation and prophylaxis have been evolved; Russia has several colonies; France and Germany, Spain and Italy, Greece and Turkey, have all acted on the resolutions of the conference. Japan had already established leprosariums and accounted for 20,000 lepers. The Sandwich Islands have the island of Molokai, and have reduced their lepers to a few hundred in number. Norway, by a radical method of isolation and supervision, has practically eradicated the disease and ameliorated its types. In the Americas, the only hospitals of long standing are those at Tracadie, in New Brunswick, and in Havana. In the former there are about twenty inmates, with only a rare and occasional addition. Havana has 114, most of them among Spaniards, natives and Chinese and almost all of the effete nerve type of the disease. The hospital is excellently managed.

The history of the Louisiana home and of the disease in this state has already been written. Here the types are of the acute forms, undoubtedly endemic and active in character.

The accretion of inhabitants from the Philippines, the increasing intercourse with the western countries, urge a better knowledge of the disease and an appreciation of methods. The United States government has already established points for the isolation of lepers in the Philippines and on the island of Guam.

THE COMMUNICABILITY OF LEPROSY.

Notwithstanding the fact that the lepra bacillus is found in all cases of leprosy in which there are evident lesions of the disease, that the bacillus is frequently in the nasal secretions, that it has been found in the earth from the graves of lepers, that it has been found in the rooms where lepers lived, that it has been found on utensils used by them, there are those who contend that the disease is not contagious. Their argument is based on the fact that Koch's law is not fulfilled, i. e., that the disease is not propagated in animals nor in other subjects, who, inoculated in turn, transfer it to others. I believe we can dismiss these antagonists because of their purely technical position in the face of other circumstantial and positive evidences. To wit: Leprosy spreads in any community in which it is introduced; it spares neither old nor young; it may be selective of race, but it occurs almost directly in close community life; it occurs in families, and has not been proven hereditary; it frequently attacks the children before the parents; there is almost always a history of exposure either direct or indirect and, if sought for, communication of the disease from person to person may be traced.

The shortness of this paper prevents the detailed relation of cases, but enough have been recorded elsewhere to bear out the argument.

Opinion to-day classifies the degree of contagiousness in leprosy. Formerly it was believed that contact with the unbroken skin of a leper would produce the disease. Popular fear created the impression that looking at a leper, being in his presence, was sufficient; to-day, the consensus of opinion carries the belief that the nasal and buccal secretions, together with those of the generative apparatus, are the most frequent sources of the spread of the disease. This is borne out by the fact that the tubercular types of leprosy nearly always show the first signs on the exposed parts of the body, face and hands, and that early in the disease the nasopharynx presents tubercles.

As a protagonist for the non-contagiousness of the nerve type of the disease, Dr. Ashburton Thompson suggests that these cases present no lesion in which the bacillus may be found, and that they are rather the types of the effects of the bacillus than of an acute disease. He has repeatedly examined the macules and nerve sheaths, together with the nasal passages, with negative results so far as the bacilli are concerned. Dr. Thompson has many followers. The writer is in line up to a certain point, but experience has shown that in these cases, when neglected, the course is the same as with other types of the disease.

Within the last five years no less than six cases of nerve leprosy have been treated in the clinic for nervous diseases at Charity Hospital, in New Orleans, as syringomyelia, subsequently being referred to me when eruptions appeared. Of these cases, three presented tubercle lesions, the others being seen in time to prevent the granulation changes.

METHODS OF PROPHYLAXIS FOR INDIVIDUAL AND COMMUNITY PROTECTION.

The writer is comparatively a young man, and in his relation to the disease of leprosy his experience has been just a decade. In that time, however, the opportunity has been afforded of the observation of the disease among all classes of people: The beggar, the indigent and careless negro, the workman crippled by the disease, the butcher, the baker, the cook, the clerk, the tradesman, the merchant, the housewife and the well-to-do.

Within these ten years have been noted instances of the disease spreading from father to child, from daughter to mother, from sister to sister, and many others occurring with no evident family relation accounting for the disease.

The evidence has been sufficient to thoroughly impress the fact that the disease does spread and that it occurs in individuals in Louisiana who have either lived in affected communities for periods of not less than ten years or else they were born, reared and have always lived in the state.

Cases have been noted which have lived in comparative intimacy in the family life with no evidence of the spread of the disease—as yet.

The subject of prevention in leprosy has been thoroughly discussed both from the standpoint of the individual and from that of the public, and whatever opinion the writer may have must, of course, repeat in large measure the views of those who have gone before. This may be stated briefly under two heads:

The Individual.—Either the victim of leprosy should be segregated with those of like condition or else, if he lives in his own family, he should be given a separate room; should have his meals alone; should wash his own utensils and should have his laundry boiled separately. I believe that this is difficult, because, even when the family are aware of the disease, they become careless in the family relations.

The Public.—The public care of lepers provides: (*a*) segregation under systematic methods which should consider (1) the segregation of the sexes; (2) some arrangement by which the trophic or nerve type should be entirely separate from the tubercle type or skin leprosy, because it is my belief that there is no reason why a leper with nerve leprosy should not acquire fresh lesions from

infection by a new contagium carrying the leper bacilli, found so freely in the tubercle type. Heretofore leprosy has been held as incurable and the simple diagnosis of leprosy has been sufficient to condemn a victim, irrespective of the type and he is doubly condemned if he is exposed to fresh infection while he is trying to get well. (*b*) Particular methods of sanitation should obtain. No institution pretending to care for lepers should be without the fullest equipment for bathing facilities, both medical and plain. Water in leprosy is as potent in its prophylaxis as it is for remedial use.

One word in conclusion. Educate the profession and the public regarding the disease. Let them know what leprosy is, not a colored impressionist's picture, but the truth of its physical and moral characters.

Unfavored of God's kind,
And set apart, a curse;
A living death for men to pity,
As they shudder at the worse
Than sin, or pain, or shame
Of *It;* for can a name
Be borne by one of these?

Not spotted white, nor snowy clean,
As Bible tales remark it;
But, bursting through a boiling skin
Of lumps and bumps, a thickened mass
Of bronzed and blackened human kin,
With here and there a spot of brown
Or lighter hue, while over all a tint of red
By Nature's thrown, as if to hide the frown
Which masks the soul of those
Who bear the burden of the blight.

Nor king nor serf the scourge hath spared,
And as the ages into æons run,
These sightless, voiceless human parodies
Will breathe the tones of the Unblest;
Accursed by all, marked by Fate,
As victims of the great Unrest,
The Morbid in the True, too late
To save their souls for better things.
And so the fell decree makes members
One by one to fall, until at last
The end finds semblance only of a past.
A trace alone of kinship to the race
Which bore it, in this, a mass
Of tissues, human once, but now
Distorted, framed and bound in shapes
Fantastic in their frightful symmetry,
And shorn of everything but form.

124 Baronne Street.

DISCUSSION.

Dr. G. T. Swarts, Providence, R. I.—The subject of leprosy is a matter that does not come very prominently before our health boards, and yet our experience in Rhode Island leads me to believe that it would be well for all our state health officers to familiarize themselves with the customs in vogue in the states where lepers are found in respect to isolation of the patient. In our principal hospital in Providence there appeared a case of what we called skin disease, ulcers on the foot and a mottled appearance of the skin. There being anesthesia in the lower limbs and the arms we thought that our neurologist should have the case in his department. However, the interne, becoming suspicious at the mottled skin, and thinking possibly it might be a case of leprosy, referred to the books and discovered that anesthesia is a common condition of leprosy, and considering the ulcers at the base of the big toe, he jumped at the conclusion that it was leprosy. To make sure about it he obtained the nasal secretions and there found the bacilli of leprosy. That, of course, made the diagnosis complete. That man had been living in the city for five years without our suspecting that he was a leper. He had abnormal thickening of the face, but you could find the same condition in any sailor on our coast. The question with us was what to do with the man. Should we isolate him as we do in smallpox cases, or should we give him the freedom of the city? We wrote to Dr. Dyer and others familiar with the subject, and obtained valuable advice. In the meantime, unfortunately, the man, finding out what the disease was, asked for his clothes and disappeared. We have not been able to trace his whereabouts since. Had he remained with us we would have been worried to know what to do with him. We, of course, wanted to protect ourselves, and yet not impose on the individual. That is the reason this paper was requested of Dr. Dyer, so as to put the various health officers in position to know what to do in cases of this kind. You know that the public, immediately on hearing of a case of leprosy, imagine there is a scourge of the disease, and demand extreme precaution from the health officers for it.

Dr. W. H. Sanders, Montgomery, Ala.—Could you trace the infection?

Dr. Swarts—He had resided in South America for twelve years before he came to us. He had lived for years with his wife, who was not affected, so far as we know. She has since died, of some other disease. A daughter, aged about 12 years, did not seem to be affected. Therefore, the question arises as to whether there is any danger of infection. The nasal secretions were found to be saturated with these organisms, which, it seems to me, could have been communicated to any susceptible soil.

Dr. H. M. Bracken, Minneapolis—The conditions in Louisiana and those in Minnesota are supposed to be quite different. As I understand it, all, or nearly all, of the lepers in Louisiana are American born or residents of the United States for some time. Is not that so?

Dr. Dyer, New Orleans—The list of cases which I submitted to the Berlin Leprosy Conference have either lived in Louisiana for at least ten years or were born here; and the same statement is true of all cases coming to my knowledge since I made up that list. I never saw a Chinese leper in my life, and only one Scandinavian; he was sent back by the same ship on which he came.

Dr. Bracken—There were some Norwegians who came to our state with the idea that change of climate would give them an opportunity to recover. There were a considerable number of lepers in Minnesota fifteen or twenty years ago, but only a few now, and the position was taken that in Minnesota there is no danger of the disease being transmitted. There was no record of any American-born leper in Minnesota until within the past two years. I know of three now, but they are all of Scandinavian parentage. Two of them were brothers. There were no lepers in the family, and it is thought that the first brother became infected from a nurse girl. The third case I have in mind is the son of a leper. Under the conditions prevailing in Minnesota we have thought it only necessary to give the family advice as to how to care for the leper, in the shape of food, clothing, etc., without separating the subject from his family entirely. So far as I know, there has been no spread of the infection, except in the cases mentioned above. Minnesota is watching to see what the nation will do, because we feel that the disease can be better dealt with by the federal government than by the state. Of course, lepers who are poor are taken care of by the counties and are isolated.

Dr. Sanders—How many lepers are there in Minnesota?

Dr. Bracken—I know of thirteen or fourteen. They keep dying off and new ones coming up. So far as I know there were never more than twenty-eight or thirty in the state at one time. When I became secretary of the State Board of Health there were twenty-two, but some of these have died. Wisconsin used to have some lepers, but the state is getting older now, and they only have two or three. Iowa also has a few. There are also some isolated cases in North Dakota.

Dr. J. M. Lindsay, Havana, Cuba—Do you know the history of the American soldier that got the disease in the Philippines?

Dr. Bracken—I do not.

Dr. T. T. French, Honolulu—The history of leprosy in Hawaii is interesting from a sanitary standpoint. The popu-

lation there has always been small and compact. There are no densely settled places, nor are there any sparsely settled ones. The country is so remote that commerce and intercourse with other countries have been very much restricted. There are a large number of Americans living in close proximity to the natives, and the country has a larger proportion of physicians than such small countries usually have—and a good many very able ones, too. Fifty years ago there were no lepers there. Thirty years ago one in each thirty Hawaiians was a leper. There is no absolute record with regard to the first case among them, but there were a number of Chinese imported, and they undoubtedly brought the disease. There was no word in the native language for leprosy until the disease appeared, and it is now called "mai pake," meaning "Chinese sickness." There is some dispute as to the time and place when that name was first given to it, but it is universally used by the natives, and I judge that the disease comes by the name honestly, because, as I say, a lot of Chinese were imported to work on the sugar plantations, and, of course, they brought the leprosy with them. About thirty-five years ago, fifteen years after these Chinese came with their disease, lepers were isolated on the island of Molokai, and a colony established there. We noticed that the disease kept on spreading after the establishment of that colony, until it reached its maximum, about thirty years ago. Since that time it is claimed that the disease has diminished, but my opinion is that it has probably remained about the same, because the population has been reduced, and while there are about 800 lepers in this colony, there are about 400 at large, making an aggregate of 1,200. Therefore, the effect of segregation has evidently been to check any spread. The reason for not isolating cases in the early stage was simply for fear that a correct diagnosis had not been made. When cases were sent to the board of health for examination they were not willing to segregate them, so they were pronounced leper suspects, and sent back to their districts to be kept under surveillance and make periodical reports to the local officers. In that way they were allowed to linger in the district a long time, and conditions got worse. I think that is the way the disease has been allowed to keep on and smolder as it has.

DR. ISADORE DYER—Referring to the point made by Dr. Swarts, I had a case of a girl who had been treated by Dr. Blanc some seven years previous to her calling on me. She bore no evidence of leprosy beyond a true trophic ulcer on the ball of the big toe. I did not examine it bacteriologically. The father of the girl was a typical tubercular leper and a recent case. It was a matter of history that the girl had been infected at least seven years before she came to me. The father was an Irishman who had lived here for years, and the girl was about 22 years old when I saw her.

DR. T. T. FRENCH—As to leprosy being hereditary, there is a home in Honolulu for the non-leprous children of lepers. The parents often object to their children being taken away, but there is generally an average of twenty or twenty-five girls kept there until they are 18 or 20 years of age. Only one case of leprosy has ever developed there, though we have many children of two leprous parents. After they leave the home you can not tell anything about them, but when you consider that they stay there until they are about 20 it seems to me that is a pretty strong argument against leprosy being hereditary.

Hemostatic Action of Ovarian Extract.—The tendency to hemophilia seems to belong exclusively to the male sex. It may be transmitted from grandfather to grandson, remaining latent in the mother. This fact and the frequent observation of severe epistaxis in young girls approaching puberty, when the ovarian functions are not yet fully established, suggested to Dr. S. Zavadier of Fouriesburg, southern Africa, that the ovary might possibly be the organ that inhibits the tendency to hemophilia and thus renders women exempt although able to transmit the tendency to their offspring. In a recent severe case of hemophilia, rebellious to all other known measures, he finally administered ovarian extract and with the most encouraging results. The *Semaine Médicale* mentions in quoting his communication that Dr. E. Fuller of New York recently proposed thyroid treatment for the same purpose.

FIXATION OF THE PROLAPSED KIDNEY.*

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That so many modifications of this operation have been made since it was originally attempted by Hahn in 1881 is the best evidence of the necessity of correcting prolapse of the kidney by permanent fixation, despite the opposition to operative interference in some quarters by those who favor belts and corsets. It suggests also the possible inefficiency of many of these procedures. Almost every well-known surgeon has some special technic of his own, but few of them have many followers. It is my purpose in submitting here a technic of my own, which I have employed now for nearly three years and

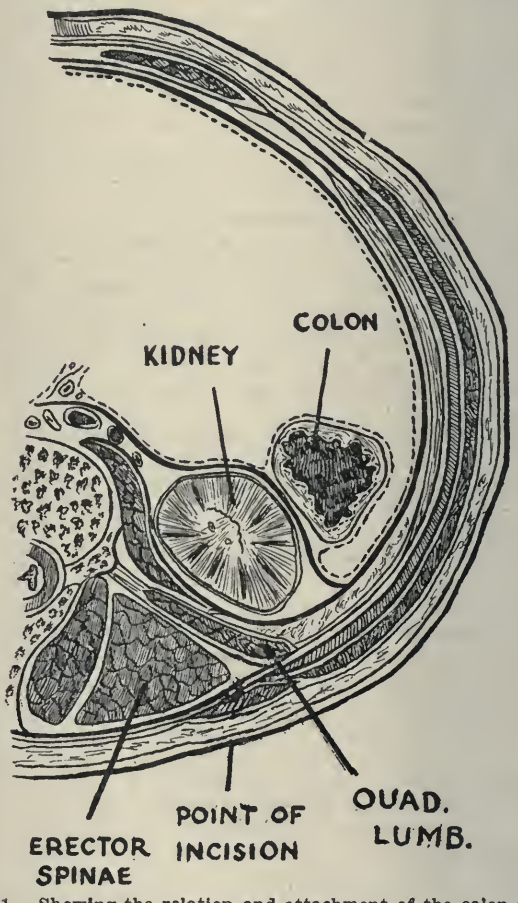

Fig. 1.—Showing the relation and attachment of the colon to the kidney, and the relative location of the muscles encountered in reaching the kidney through the vertical lumbar incision.

have found uniformly successful, to point out some of the causes of failure with this operation and show how it may be made successful and satisfactory.

The inadequacy of belts or corsets or any other form of external support when the kidney has descended below the border of the last rib in front so its upper pole may be palpated, is more readily appreciated if we consider what such support does. It is only a substitute for relaxed abdominal walls and the pendant abdominal organs, but in only a small proportion of these cases is the abdominal wall relaxed. The kidney is normally a movable organ, its normal range of mobility downward being from an inch to an inch and a half on deep in-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

spiration, and it is restrained from further descent only by its surrounding fat and the vessels entering the hilum. To some slight degree additional support is afforded at times by the intestines—the colon in particular, to which it is attached on its anterior surface. This attachment of the colon, however, is one of the chief reasons for its displacement, for when the colon becomes distended it drags on the kidney and the traction is invariably downward when the waist is constricted by corsets or clothing, the distended bowel, as is well known, being crowded below the waist line.

Belts and corsets are not, however, entirely without value, and are useful in the earlier stages of mobility before the kidney has descended below the rib in front, to prevent or retard further descent, and also after operation to support the abdominal organs when necessary and give the patient a feeling of greater security. I believe, however, they are of little or no value in preventing recurrence of the prolapse when the operation for securing fixation of the organ has been properly done. On the other hand, belts and corsets, beside being inadequate, are positively injurious when adjusted to support the kidney after it has descended below the border of the rib because of the irritation to the kidney from the pressure exerted on it. My views on this point correspond with those of Henry Morris of London, who has also had abundant opportunity for careful observation.

The disadvantage, then, of belts or corsets adjusted to support the kidney when it is prolapsed below the ribs in front, is that the pressure necessary to afford effective support will certainly provoke undesirable irritation and eventually lead to serious inflammation in or about the kidney.

INDICATIONS FOR OPERATION.

Prolapse of the kidney to the third degree or beyond, that is, when it has descended below the border of the last rib in front and its upper pole can be palpated when the patient is in the erect position, may be considered sufficient indication for operation because:

1. Prolapse of the organ to that degree permits abnormal mobility and is not conducive to health or comfort though it may not produce intolerable symptoms at first.

2. The position of the kidney when the patient is in a sitting or the erect position interferes with the draining off of the excreted urine, either because of flexure of the ureter or compression of the ureter by the kidney which overlaps it and presses backward on it when the abdomen is constricted by the corsets or clothing.

3. Its circulation and function are seriously impaired by the displacement, and inflammation of its structure frequently results.

4. The kidney when prolapsed to this extent overlaps the ovarian vein as it ascends along the spine, compressing it and retarding the return circulation from the pelvis, thus being a frequent cause of pelvic disease.

If the opposite kidney is sufficiently movable to descend on deep inspiration so that half of the organ can be palpated, it should be fixed at the same time as its fellow to avoid the necessity of subjecting the patient to a second operation, which would be inevitable, because when the kidney is movable to that degree the mobility invariably increases, the degree of descent being progressive. I have several times been obliged to repeat the operation on the left kidney a year or two after fixing the right when either the patient or her physician has opposed a double operation or when the degree of descent of the left kidney at the time of the first operation was not considered by me sufficient to warrant operation.

Nephropexy is justifiable in hysterical and neurasthenic patients because it is an anomalous condition that should not exist; it is a constant source of irritation; it impairs the health of the patient and may operate as a cause of these nervous disorders by acting as an internal traumatism.[1]

PREPARATION OF THE PATIENT FOR OPERATION.

In addition to the usual preparation of the field of operation to secure asepsis, there is some general preparation of the patient that is essential for success. It is useless to delay operation in an attempt to build up a patient whose health is impaired in consequence of this condition, but very much can be accomplished that will be of material aid at the time of operation and during convalescence by correcting digestive disturbances beforehand and securing normal functional activity of the liver, and it is well worth the delay required.

It is very necessary to avoid excessive vomiting following anesthesia because of the strain it puts on the freshly attached kidney, and this can only be obviated by relieving the digestive disturbances beforehand by careful dieting and medication and restoring normal activity of the liver. At least a week should be consumed with such preparation and in cases of long standing from two to three weeks' preparation will insure a smoother convalescence.

Fig. 2.—Showing position of the patient on the table, ready for operation, with the air pillow in position under the abdomen.

OBJECTS TO BE OBTAINED IN NEPHROPEXY.

1. Permanent fixation of the kidney in its normal position.

2. Complete separation of the kidney from its attachment to the colon and duodenum in front to obviate subsequent dragging on it.

3. Avoidance of injury or mutilation of the kidney.

4. Avoidance of mutilation of the patient by a disfiguring scar or injury of the structures penetrated in gaining access to the kidney.

5. Cure of the symptoms or conditions caused by the prolapse.

TECHNIC OF THE OPERATION.

The patient when anesthetized is turned over on the abdomen and a roll or air-pillow eight inches in diameter is placed under the abdomen which flexes the spine, increases the costo-iliac space and forces the kidney up into position. A vertical incision is made through the skin and fat down to the first layer of muscles beginning just below the last rib and extending downward along the outer border of the erector spinæ muscle for about three and a half inches. This will be about three to four fingers' breadth from the spine according to the

1. Albarran, quoted by Henry Morris.

width of the back. The sheath of the erector spinæ should not be opened, but the fibers of the latissimus dorsi are drawn aside with blunt hooks and the lumbar aponeurosis is divided with scissors to the limit of the wound above and below, exposing the quadratus lumborum muscle beneath. Bleeding points should be caught with hemostatic forceps and tied before proceeding.

Fig. 3.—Showing location of the vertical lumbar incision on both sides.

Broad retractors are now inserted and the quadratus lumborum muscle is drawn to one side toward the spine, exposing beneath the transversalis fascia. This fascia is divided with scissors to the extent of the wound above and below, exposing the fatty capsule immediately beneath it. In dividing this fascia it is important to avoid the iliohypogastric nerve, which crosses obliquely in

Fig. 4.—Author's blunt hooks (reduced in size) employed for separating muscles in the direction of their fibers in gaining access to the kidney after incision through the integument and fat.

front of the quadratus lumborum muscle and to include it in the retractor on the spinal side of the incision.

The kidney is now located by inserting the finger and sweeping it around over the surface of its fatty investment. The fatty capsule is then opened with scissors well up toward the upper angle of the incision and well over toward the spine to avoid opening into the peri-

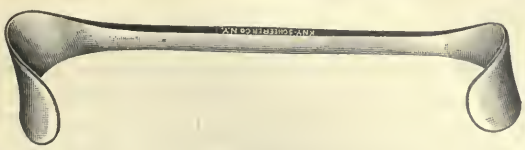

Fig. 5.—Author's broad universal retractors (reduced in size).

toneal cavity or wounding the intestine which bulges up at the lower angle of the wound, and the incision is extended in a vertical direction downward on the finger as a guide. The margin of the fatty capsule on each side is seized with T forceps and traction is made on them to bring the kidney up into the wound and the work of detaching the fatty capsule from the kidney is begun. In adjusting the T forceps to the outer margin of the fatty capsule care must be taken not to include the intestine or peritoneum.

If the peritoneum is inadvertently opened in exposing the kidney no harm will result if it is immediately closed by a running suture of fine catgut. The incision then to expose the kidney is to be made further over toward the spine. This accident should not occur if the kidney is in position and is properly located before the incision into the capsule is made.

In detaching the fatty capsule from the kidney the finger should be used, aided by blunt scissors where particularly resisting bands of adhesion are encountered. The lower pole of the kidney is to be freed first, then traction on the detached fatty capsule will bring it up into the wound. If the kidney can not be delivered through the incision by traction on the capsule the patient is rolled downward on the air-pillow under the abdomen, which brings its pressure more directly on the border of the ribs and forces the kidney up into the wound.

Traction now downward on the kidney grasped with a gauze pad held between the fingers and traction on the fatty capsule at the same time will succeed in delivering the kidney through the incision on the surface of the back.

The fatty capsule is then completely detached from the kidney around both poles and on each side back to

Fig. 6.—Author's kidney needle (actual size) for inserting the sustaining sutures under the fibrous capsule.

the hilum. Complete detachment of the colon and duodenum in front is thus secured, and behind the kidney is left bare of its fatty investment for subsequent adhesion to the solid structures of the back.

It is not always necessary to deliver the kidney through the incision in order to detach the fatty capsule and insert the sustaining sutures, and it consumes more time. When, therefore, complete detachment can be accomplished without doing so this part of the technic may be omitted.

The pelvis and ureter are now carefully explored with the finger for stone, which should be removed if found before proceeding with the operation.

The fibrous capsule is not detached from the kidney nor is its surface scarified. Firm adhesion of the kidney with its fibrous capsule intact can be secured invariably if the kidney is held immovably in contact with the opposing structures for a sufficient length of time. To accomplish this, however, the suture material employed should be one that does not stretch or become absorbed, and it must be inserted and tied so that the suture loop does not become loosened by cutting into the tissues. We have in silkworm gut a material that will meet these requirements, and to render it pliable it is boiled and preserved in a 3 per cent. solution of lysol. My record of 159 nephropexies by this method without a failure to secure permanent fixation shows conclusively that stripping off the fibrous capsule or further mutilation of the kidney as by sutures which transfix the parenchyma is quite unnecessary.

The sustaining sutures, two in number, are inserted on the posterior aspect of the free border of the kidney. One, the lower, is inserted at about the junction of the middle and lower thirds of the organ and the other at about its center or midway between the poles. The

suture is threaded into small, full-curved needles one inch long, and is bent sharply at the eye of the needle and twisted tightly to avoid tearing the capsule as it is drawn through.

The needle is inserted first from above downward in a direction somewhat obliquely inward to the long axis of the kidney, and penetrates only beneath the fibrous capsule for about half an inch in length and the suture is drawn through; then it is inserted transversely a little below the point of exit of the first insertion, penetrates beneath the fibrous capsule only for a distance of about half an inch and the suture is drawn through, and then again inserted obliquely from below upward at a point opposite the first insertion about an inch from it and the suture is carefully drawn through. The needle is removed and the two ends are clasped temporarily with a hemostatic forceps. The second suture is inserted in a similar manner just above the first. (See Fig. 7.)

Inserted in this manner the suture will resist very considerable strain on it without cutting out—very many

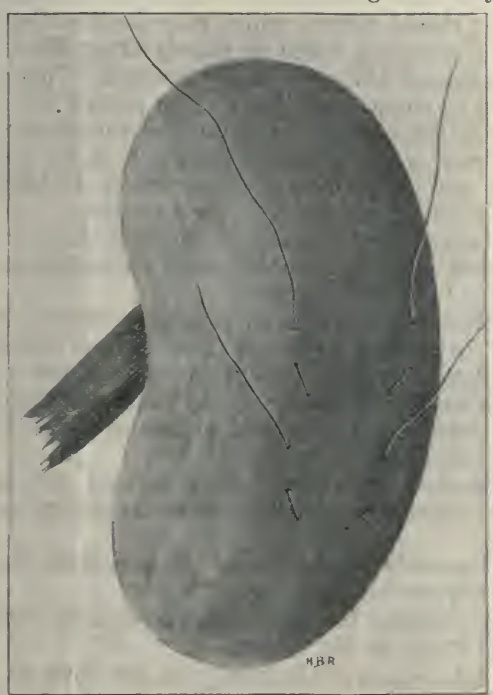

Fig. 7.—Author's sutures for fixing the kidney. Showing their location and method of insertion under the fibrous capsule, which is left intact.

times more strain than the transverse suture, which penetrates the parenchyma, or any suture inserted through the detached fibrous capsule, and it does not mutilate. The stability of this suture seems to be due partly to the exposed portion of the loop left on the outer surface of the capsule and partly to the direction of the traction which is borne mainly by the transverse insertion of the loop and which is in a direction parallel to the capsule or surface of the kidney and not at right angle to it, as is the case with all other sutures employed for fixing the kidney.

Before returning the kidney into its normal position the redundant fatty capsule behind is trimmed off with scissors or torn off, and that in front also, but here care is necessary to avoid encroaching on the peritoneum or bowel. The fat about the lower pole is not removed.

If the kidney has been delivered through the incision it is now replaced and the ends of the sutures are carried through all the structures of the back and brought out on the surface at the upper angle of the incision—a long, curved perineal needle with eye near the point being utilized for this purpose. The sutures are tied over a fold of several layers of gauze placed lengthwise to the incision. This prevents the suture from cutting through the skin and loosening of the loop. When tied these sutures bring the kidney up into its normal position with its upper pole under the ribs.

A gauze drain is now packed around and under the lower pole of the kidney, forcing back the fat that has not been removed and the bowel which bulges up below the kidney, and the end is brought out at the lower angle of the wound.

The wound is closed by uniting the divided superficial fascia with a running catgut suture and the skin with the subcuticular suture. A bountiful supply of loose aseptic gauze is applied next the wound and over this is placed a thick pad of absorbent cotton covered with gauze, and this is held in place by adhesive strips and a binder encircling the body.

AFTER-CARE OF THE WOUND AND OF THE PATIENT.

Twenty-four hours after the operation the dressing which will be found soaked with drainage from the wound should be removed and renewed, but the wound is

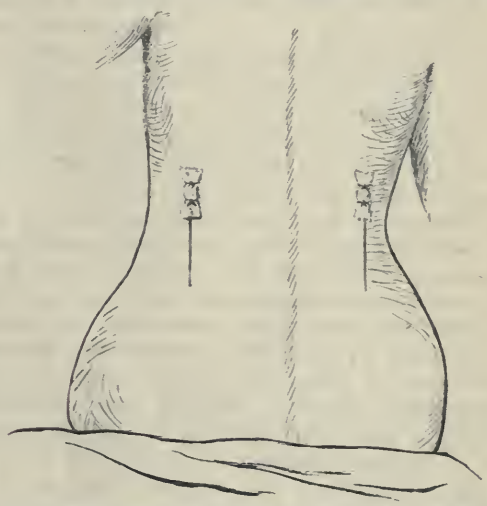

Fig. 8.—Showing position of the gauze pads at the upper angle of the incision, with the sustaining sutures tied over them.

not otherwise disturbed. At the end of forty-eight hours the gauze drain is removed and the dressing renewed. After this the dressing is removed whenever necessary.

The sustaining sutures are not removed until the twentieth day, the day before the patient gets out of bed. The exposed portion of the loop of each suture on one side of the gauze cushion is cut with sterile scissors and the suture pulls out readily, adhering to the gauze when it is lifted off. A simple dressing of gauze is applied afterward.

When renewing the dressings the patient should be turned on the side operated on, and if both kidneys have been fixed at the same time she should be turned on the side that the displacement was greatest.

During the first twenty-four or forty-eight hours the patient will complain of considerable pain in the back and the temperature may rise to 101 or 102 degrees, but both pain and temperature will subside when the drain is removed. An eighth of a grain of morphin may be given hypodermically during the first twelve hours if the pain is sufficiently severe to require it, but it should be avoided when possible. In those cases where drain-

age has not been employed the pain has been quite as severe, so it does not seem to be due altogether to the presence of the gauze, but rather to the manipulation of the structures of the back at the time of the operation.

Vomiting should be avoided if possible, and for this purpose nothing acts so well as oxalate of cerium, in doses of from seven to ten grains, repeated in three to four hours. The stomach should be kept empty for the first twenty-four hours, nothing being given during this time but hot water in small quantity at a time. If thirst is annoying, an enema of normal saline solution should be given. The bowels should be moved on the second day after operation and every day thereafter. Careful dieting will be necessary in some of these cases to keep in abeyance digestive disturbances which may continue after operation, and functional activity of the liver should be preserved throughout convalescence.

During the period of confinement to bed, which is three weeks, the patient should be kept strictly on her back if both kidneys have been operated on. But if only one has been fixed she may turn on the side of the affected kidney. The reason for this is obvious, as it prevents the kidney from dragging on the sutures.

When the patient gets up she should wear an elastic abdominal belt which reaches from the pubes to the level of the lower border of the ribs. This should be worn for at least six months and she should avoid exertion of any kind that would put unusual strain on the kidney. If she has worn corsets before they may be resumed after a month, but the belt must be worn as well, and they must be adjusted so they will be snug over the lower abdomen and hips and loose at the waist and above.

One thing that must not be lost sight of is the digestive disturbances or other disordered conditions that the displaced kidney may have caused. These may not subside unaided after fixation of the kidney, and the patient should be kept under observation and treatment until a fair state of health has been restored. Removal of the cause does not always cure immediately disturbances that have become chronic. Some of these patients show improvement from the beginning of convalescence and require no further attention after they are able to get about again, but others may require attention for some time after.

THE CAUSES OF FAILURE AFTER NEPHROPEXY.

There are many reasons why this operation may prove either a failure or may fail to afford anticipated relief, and to make them more comprehensive they are arranged as follows under separate heads, viz.:

1. Delay in operating until the kidney has become seriously disabled or an incurable nephritis has developed.

2. Delay in operating until the health of the patient and digestive apparatus are seriously impaired or incurable.

3. Unusual and irreparable ptosis of the abdominal organs as a complication of nephroptosis. In these cases, however, since the kidney is many times the most important element of the enteroptosis, fixation of this organ and support of the others by belt places the patient in a comparatively comfortable condition.

4. Failure to prepare the patient properly for the operation.

5. Failure to detach completely the fatty capsule from the kidney—that on the posterior surface to permit the kidney to come into contact with the structures to which it must become adherent, and that on the anterior surface so as to separate the attachment of the colon and duodenum on the right side and colon and pancreas on the left. Unless this detachment of the bowel from the kidney is complete there will still be dragging on the kidney, which, if it does not pull the kidney away from its attachment, will give rise to annoying pain and other symptoms.

6. Improper insertion of the sustaining sutures whereby they either tear out completely or cut through the fibrous capsule and permit mobility of the kidney before it can become permanently attached.

7. Failure to immobilize the kidney until it can become permanently attached by adhesive inflammation, either by improper tying of the sutures or the use of suture material that stretches when it becomes softened after being buried in the deep tissues of the back or absorbs too quickly, or by fastening the retention sutures to the soft structure only which yields to the constriction of the suture allowing the loop to loosen.

8. Too early removal of the retention sutures.

9. If the remaining fatty capsule is permitted to become interposed between the kidney and the structure to which it should adhere, which may occur either at the time the wound is closed or shortly after, the stability of the attached kidney is greatly lessened. This may be obviated by employing a gauze drain packed around and under the lower pole. An additional advantage of this gauze drain is that it lessens the strain on the retention sutures and prevents the accumulation of blood and serum about the kidney after the operation.

10. Delaying the removal of the gauze drain too long after operation, which would permit accumulation of the discharge back of the gauze.

11. Excessive vomiting or coughing shortly after operation may loosen the kidney from its fresh attachment.

12. Permitting the patient to turn on the opposite side too soon after operation may cause detachment.

13. Permitting the patient to assume the erect position too soon after operation.

14. Neglect to adjust proper support for lax abdominal walls after operation when the patient gets out of bed.

15. Too early resumption of the corsets or their improper adjustment.

16. Permitting too early such exertions as would put unusual strain on the kidney.

17. Attachment of the kidney too low down in an abnormal position whereby it would be constricted and irritated by the pressure of the clothing at the waist or by the corsets.

18. Neglect to correct by remedial measures after operation derangement of the digestive apparatus and other conditions caused by the prolapse.

RESULTS.

When the kidney is properly and permanently fixed in its normal position and the conditions caused by the displacement have been corrected, the result of the operation will be satisfactory. We must not, however, lose sight of the many possible contingencies that may interfere with a final successful issue and lay undue stress on the correction of the displacement alone.

Objection to the operation on the score of its mortality does not hold, for I have done 159 nephropexies on 126 patients, in 33 of these fixing both kidneys at the same time, without a death and without a failure to secure permanent fixation. Cure has resulted in all cases that I have been able to trace in from two to twelve months after operation. In one case only was the operation followed by an unpleasant complication—iodoform pois-

oning resulting from the use of 10 per cent. gauze freshly prepared with ether and alcohol. The patient, however, made a good recovery and was out of bed at the usual time.

It has been objected that the risk of an operation is not warranted in these cases when the symptoms may be relieved by a properly adjusted belt or corset. Estimated from the above report the operation has no mortality, hence there is no risk entailed, and temporary relief of symptoms does not mean a cure. Neither the corset nor the most perfectly adjusted belt will replace the kidney or hold it in its normal position. Nor will it cure the prolapse. But they may and do often provoke serious irritation of the kidney by the pressure they exert which will eventually lead to inflammation in or about the organ.

2030 Broadway.

DISCUSSION.

Dr. Carl Wagner, Chicago—In every operation on so delicate an organ as the kidney cryoscopic examination is a most important preliminary step. This most scientific means of diagnosis of disease of the kidney has been greatly perfected and used extensively with great advantage and satisfaction by the eminent workers, Von Koranyi, Leopold Casper, Friedrich Richter, Kummel, Beckman and others. It is in use all over Europe, while we hear little of it in America as yet. By the author's new suture, which places the kidney in an absolutely physiologic position, is secured a more perfect result than we have ever achieved before. I have used a similar method[1] on the stumps of ablated uteri. I called the suture a guy-rope, and it is intended to hold the stump in position against the parietal wall of the peritoneum. It is fastened over a Maydl bridge and keeps the stump of the uterus in that position until the external wound is closed. The guy-rope is a silk suture carried through the stump and knotted at its end, so that it can easily be removed when the granulating wound is almost healed shut. I have done the same thing on the kidney by putting two lateral sutures through the capsule and fastening over a Maydl's bridge, left *in situ* for twelve days with great satisfaction. The strip of gauze which Dr. Goelet inserts under the lower pole of the kidney for drainage corresponds to some extent to Dr. Senn's method, with the only difference that the gauze strip is used by the latter in larger size and serves as a rest and means of suspension for the lower part of the kidney. I would leave this strip in about six days, so that it not only drains but also favors the development of granulations, as another reliable means for fixation of this organ.

Dr. L. H. Dunning, Indianapolis—I believe we have not yet found the ideal method of operating on the kidney, although 159 successes ought to commend any method. Dr. Goelet's success, however, I think, is due quite as much to the gauze as to the method of placing the stitches. I long ago gave up the idea of attempting to retain the kidney with stitches without opening the fibrous capsule, which, if allowed to remain intact, serves as an obstacle to the formation of firm adhesions unless you get them from the perinephritic fat. I believe that if Dr. Goelet would leave out his gauze and use only his method of suturing he would have an occasional failure. I can not see the advantage of leaving the fibrous capsule intact. I have never observed any ill effects from opening it; I have opened it at least 40 times. The objection that he advanced, that the kidney has been anchored too low by former methods, is true. If the kidney is anchored as indicated in the drawing, through a vertical incision, even this method will leave the kidney lower than normal. We often find that we can palpate only the lower pole of the kidney even when we incise close to the twelfth rib. We must pull the kidney down into the wound. The kidney is about two-thirds of an inch above the twelfth rib in many cases, if not in the average case, so that even in these cases we anchor it lower than normal. But I do not believe that that cuts any figure whatever in the results. I do believe that the opening of the capsule is very beneficial in overcoming the attendant pain and in helping to establish stronger adhesions to the contiguous parts. The after-treatment is very essential. Constipation and vomiting being among the most frequent causes of poor success in the anchoring of the kidney, I look very carefully after the bowels. I do not give any food that is likely to cause fermentation, and whenever there is a tendency toward, or a desire for, a bowel movement the patient should be assisted in every possible way. This is so important that it is advisable for the operator to look after it himself.

Dr. Edwin Ricketts, Cincinnati—A record of 159 operations in three years with no failures is the best record in this country or Europe. I want to commend the silkworm gut suggested, and also the practice of bringing the kidney higher up without splitting the capsule; and yet, possibly, there might be one thing to take into consideration, and that is, if in the future that kidney might be affected with Bright's disease, such a splitting of the capsule, if that is a cure of Bright's disease, could have prevented the occurrence of that disease. I agree with Dr. Dunning that without the use of the gauze Dr. Goelet would have had some failures. The gauze must of necessity bring the kidney higher up than any other operation that has been devised. I do not think that it is wise to slit the capsule, because this is a healthy kidney and the slitting opens the door for infection. The operation is to be commended from that standpoint and also because of its simplicity.

Dr. John G. Clark, Philadelphia—What constitutes a movable kidney? In every abdominal section during the last two years where the incision was of sufficient size, I have introduced my hand, passed it backwards into the loin and, with the patient in the Trendelenburg posture, letting the tips of the fingers lightly rest on the ventral aspect of the kidney, gently drawn it downward to its lowest possible point. During this maneuver an assistant measures the distance traversed by the arm to estimate the range of the kidney. I am certain that too little stress has been laid on the fact that under normal conditions the right kidney may be a very movable organ. I have always looked with considerable scepticism on a simple movable kidney as a factor in the exaggerated symptoms which are sometimes attributed to it. If the mobility is slight and the symptoms are markedly of the gastro-intestinal type, a general enteroptosis is usually the principal factor. In the measurements of the range of mobility of the right kidney I have found that it was seldom under 2 cm., and many times from 3 to 4 cm., and yet the history of the case showed no symptom whatever that could be ascribed to this apparently undue excursus of the kidney. The left kidney seldom has a mobility of more than 2 cm. With these definite anatomic facts before us, it would be well to study a case very closely before we determine that a kidney, the lower pole of which may be distinctly felt below the borders of the floating rib, is a distinct pathologic entity. We are frequently told that movable kidneys are not relieved by abdominal binders. This, I believe, is in a large measure true, but in many instances of so-called movable kidneys, where binders or properly fitted corsets are applied, the patient experiences a considerable if not total relief. This is an apparent paradox, but apparent only, for such cases come under the classification of enteroptosis rather than of true movable kidney. I believe that the classical symptoms of marked gastric indigestion more or less dull or acute pain on the right side, marked respiratory mobility of the kidney, which may be so exaggerated under bimanual palpation as to force the kidney well down toward the pelvic brim or Dietel's crises, must be looked on as coming directly from the undue range of mobility, and that such cases may be considered as favorable for symptomatic relief in the event of a successful suspension or fixation of the kidney. In my opinion there are but three methods of fixation which should be considered: 1. By suture, very much as Dr. Goelet has described. 2. By splitting the capsule, turning it back and using it as a suspensory medium. 3. The use of a rubber tube or gauze as a sling to lightly

1. Chicago Med. Recorder and Jour. of Obstet.

draw the kidney up into the wound and hold it there until adhesion has taken place sufficient to retain it in an unmovable position. For more than a year I employed the stitch suggested by Brödel from his anatomic studies, which is similar to that described in Dr. Goelet's paper. The principle of this suture is that by its triangular introduction it snares, as it were, the connective tissue stroma of the kidney and thus bears more strain than does the simple suture passed directly into the cortex of this organ. I do not believe this suture can be improved on. The only question is the serious one, is it advisable to introduce directly into the pulp of the kidney any suture? I know well that, as a rule, no serious complication follows this procedure, but I believe it would be better and more rational to employ the method suggested by Edebohls. For the last year I have constantly employed the latter, and am so far entirely satisfied, although I have not had sufficient experience to justify me in fully commending this method. The third method has not appealed to me as a satisfactory surgical procedure, although Beyea, Penrose and others have had success with this method. Until I have further evidence my choice of method will be that described by Edebohls.

DR. C. S. BACON, Chicago—Does Dr. Goelet use the subcuticular suture and also drainage?

DR. GOELET—I use the subcuticular suture for closing the skin only.

DR. C. L. BONIFIELD, Cincinnati—Many movable kidneys do not really require an operation. A movable kidney is somewhat like a hernia. The vast majority of hernias in the adult require operation, but I have known cases of inguinal and femoral hernia to disappear when the patient became robust and took on additional flesh, and to recur during or after a long spell of illness. I think the amount of mobility of a kidney depends largely on the amount of perirenal fat. Many of the cases operated on for movable kidney do not require surgical treatment at all, although I do not mean to question Dr. Goelet's cases. I would advise the general practitioner to treat the neurasthenia, the indigestion and the general health of the patient.

DR. D. H. CRAIG, Boston—I have seen a number of cases of movable kidney associated with splanchnoptosis that have suffered materially through the perfectly honest and conscientious efforts of general practitioners who, in trying hard to keep abreast of the times, have prescribed abdominal belts. The belt supports temporarily and possibly benefits the patient for the time being, but only in a certain degree. After the belt has served this purpose the patient is left in a worse condition for operative procedure than before.

DR. A. H. GOELET, New York—One reason why this suture is as strong as it is, and why it will pull the kidney up into its normal position under the rib without tearing out, is that no matter which way you pull on it the traction is in an upward direction parallel to the surface of the kidney and its fibrous capsule and not at a right angle to it. There is one objection to leaving the drain in for more than twenty-four hours. I find that when I remove the drain there is a great deal of accumulated discharge behind it, and if this discharge is allowed to remain there it will get in between the kidney and the structures of the back to which the kidney has been attached and thus interfere with the formation of adhesions. That is, the gauze ceases to be a drain after that time. I laid particular stress on the importance of stripping the colon from the kidney. I believe that is one of the most important points in making a success of the operation, and one of the most frequent causes of failure when it is neglected. Where it is left attached to the kidney, if it does not pull the kidney loose it will drag on it and cause pain and other disagreeable symptoms. I have left the gauze drain out in a number of cases and have had success in every instance. Sometimes I think it is not necessary. When there is very little fatty capsule to get out of the way I frequently leave out the gauze drain and my results have been just as good. As to stripping the fibrous capsule from the kidney, I see no reason for mutilating the kidney in this manner when we can secure fixation just as well and better without doing so. If the detached fibrous capsule is utilized for fixing the kidney it is invariably fixed too low down. I have had a number of patients come to me after operation by that method by other operators, and they were still suffering, though the kidney was fixed, even worse than before the operation. I therefore oppose that method of securing fixation of the kidney. I see no reason for considering this a serious operation, as Dr. Clark contends it is. If I can do 159 nephropexies without a death—and others may have the same results if they adopt the same method—it can not be a very serious operation. My sutures do not penetrate the parenchyma. The needle may wound it in penetrating beneath the fibrous capsule, but that is insignificant and does no harm. Formerly, when a patient would not consent to an operation I yielded and ordered a belt. But now I never prescribe a belt before operation if I can avoid it. In the first place it delays the operation because the patient gets temporary relief, but she invariably comes back worse than before, and the operation becomes a necessity sooner or later. Two years ago I was consulted by a lady with a prolapsed kidney that was causing symptoms. She felt obliged to postpone operation and I prescribed a belt. She returned a little latter saying that she felt so well that she would not have an operation done. Two years afterward she came back to me for another trouble. I asked her to let me examine the kidney, which she said was giving her no inconvenience. I found it fixed in an abnormal position as the result of perinephritic inflammation caused by irritation from the belt, and examination of the urine showed a pyelonephritis, which did not exist at the time of her first visit. This is an illustration of what the belt will do, and emphasizes the necessity of early operation to correct the malposition. The corset, or any other form of external support, is to be placed in the same category with belts and is open to the same objection.

INHIBITED TUBAL PERISTALSIS: A CAUSE OF ECTOPIC GESTATION.*

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In submitting this contribution for your consideration, its brevity may be urged as a virtue. A great deal has been written concerning the etiology of ectopic gestation, some of which has approached demonstration, more has been speculative, but certainly much has been done toward the solution of many of the attending phenomena.

The function of the ciliated epithelium of the oviducts has been made much of as the chief, if not the sole, motive force in the transportation of the ovum into the uterine cavity. Building on this assumption Tait and others have attempted to show that in the destruction of the cilia by the inflammatory diseases of the oviducts, the function of the tubes is destroyed and the resulting inertia is to be regarded as the prime factor in the production of tubal pregnancy.

According to Lilienthal, Williams and others, the most frequent site of the chorionic attachment is at the isthmus, near the uterine horn, which would make it appear that if the cilia are really the essential factors of the transportation apparatus the destructive force of the inflammation must have spent itself uniformly in the uterine end of the tube, which is not in accordance with the observed facts in the history of salpingitis. There are many instances of tubal pregnancy in which the cilia appear to be present in normal condition and abundance. In some cases anatomic peculiarities, such as sacculation

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

and diverticula, have been demonstrated and are apparently the determining cause of the abnormal location of the embryo. Aside from these purely mechanical and obstructive causes there are other pathologic conditions of the tubes resulting from inflammation which are entirely overlooked by the followers of Tait, and which are of a quality to be justly accredited as being direct causative agents in the production of extrauterine pregnancy.

Again, it is well known that a great many cases occur in tubes giving no history of disease and in which no local pathology can be demonstrated, so that the conclusion is that ectopic pregnancies occur in some instances in perfectly healthy tubes. From these considerations which might be presented in a more elaborate manner, I think we may justly question the accepted position of the ciliary motion as the force which paddles the ovum down the tubal canal into the uterine cavity, and that we are compelled to seek some other explanation of the performance of this function.

The fallopian tube is in a certain sense an excretory canal and is similar in its anatomy to the ureter, the vermiform appendix, gall ducts and the intestine. Like them, it is provided with longitudinal and circular muscles. In all of these organs we have long since assigned an important rôle to these ingeniously arranged muscular fibers. The intestine, the appendix, the gall duct and the ureter are known to engage in an active peristalsis when sufficiently stimulated by the presence of materials within the canal, which it is their function to excrete. There is apparently every reason to suppose that the similar function of the oviducts is performed in identically the same manner, although the peristalsis of the tube when admitted at all has been referred to as a very minor and insignificant attribute.

I believe that for the performance of their function, that is, the physiologic emptying of all mucomuscular tubes, Nature has provided a general method, viz., peristalsis. This action when not interfered with by pathologic conditions or untoward influences operating through the nervous system, is at all times efficient and does not depend on an auxiliary force for the successful performance of its function. That ciliated epithelium does not invariably possess the function of a propelling force is evident by its presence in the lateral ventricles of the brain. There is a ciliary wave toward the body outlet in all mucous surfaces which have this peculiar epithelium, but it seems to be for defensive purposes.

In the fallopian tube I believe the cilia are provided for another essential and an entirely different purpose. The ovum is a most perishable structure, one whose delicate walls could not withstand the pressure of contracting mucous surfaces brought into apposition through the agency of peristaltic force. Therefore, in order that this force may not prove fatal to the ovum, it is necessary that some provision be made by which it shall be protected from this peristaltic pressure in its journey to the uterine cavity. Now, the arrangement of the cilia provides a bed of velvet on the pile of which the hope of the race safely rests in passage. The pressure of the visitor through the delicate ciliary bed conveys the signal to the presiding nerve center and the rhythmical muscular contractions are at once inaugurated and the ovum is gently rolled along into the uterine cavity. If we admit that peristalsis does play a very important part in the transportation of the ovum, then certainly the numerous factors which occasionally operate to produce paralysis of function in similar structures may fairly be regarded as causes of tubal gestation.

We are familiar with the serious results of inflammatory adhesions affecting the intestines and the appendix, not only in the mechanical constrictions, but also the interference with peristalsis from the abnormal fixation, and it is extremely probable that similar affections of the tubes are equally potent to work disastrous interference of function. The reflexes must not be ignored in this consideration. When an impacted calculus in the urethra causes such evidence of bowel obstruction that operation is determined on, it is not unreasonable to suppose that the function of the tubes may be likewise affected in a similar manner and degree.

Psychical effects are also of noteworthy importance. We are familiar with the cases in which the menstrual function has been immediately and permanently abolished through the mysterious influence of some profound and sudden revulsion of feeling, some horrible experience or great shock, etc. The hope or fear of pregnancy not infrequently generates the subjective symptoms and many of the physical signs of that condition. Evidence is not lacking to sustain the belief that similar agencies produce in the tubes results of a like quality to those observed in similar structures which offer more abundant opportunities for demonstration.

A very suggestive case, recently referred to me by Dr. Patten of Morristown, Ind., is worthy of notice:

Mrs. B., aged 32, the mother of one child, 4 years of age; no history of pelvic disease could be ascertained; during her pregnancy no unusual symptoms had been noted other than some slight intestinal disturbances; since her confinement, however, she had experienced rather frequent attacks of a colicky pain in the umbilical region.

Feb. 19, 1903, I was called to operate on her for a painful, elongated tumor of the left lower abdomen. Her last menstruation had occurred one month previously in a normal manner. The only symptom complained of was the rather sharp and persistent pain in the left side. A laparotomy proved the tumor to be the pregnant left fallopian tube distended to the size of a sausage roll and firmly attached at the fimbriated extremity to the transverse colon. The uterus was apparently suspended in this manner, the fundus inclined toward the right side, the left horn occupying the highest point near the median line.

I can see but one explanation of this peculiar malposition of the tube. It could not possibly have been the result of the ordinary chance occurrences, but was undoubtedly carried upward with the development of the pregnant uterus (possibly a pregnant left horn) becoming firmly adherent to the colon through the agency of an unrecognized inflammation, and, as the uterus receded following delivery, this rare relationship was maintained. The attachment to the gut was of a very firm and intimate character, requiring the most careful dissection in its separation. As a result of this firm attachment the tube was constantly stretched between two practically fixed points, the weight of the uterus continually taking up whatever slack the colon was disposed to grant. Under these circumstances there could scarcely be any possibility of tubal peristalsis, and when pregnancy occurred within the inert tube there was no force present capable of propelling the ovum down into the uterine cavity, and the chorionic attachment near the fimbriated extremity of the tube was the result.

As the tubes both appeared to be anatomically normal, it seems to me that the logical conclusion is that the abnormal location of the gestation sac was due to the inhibition of tubal peristalsis. I will also suggest that the inflammatory thickening of tube walls, and also the splint-like action of adhesions, may so interfere with

peristalsis that tubal pregnancy may result, regardless of the condition of the cilia.

There is undoubtedly a lack of positive knowledge concerning the pathology of ectopic gestation, and this presentation of an unusual phase of the subject is made with the hope that it may in some slight degree stimulate further investigation relative to this important matter.

DISCUSSION.

DR. L. H. DUNNING, Indianapolis—We can not dismiss the subject on the ground that we know nothing about it, for the reason that we know that there are conditions which are at least conducive to the development of an ectopic gestation, such as crippled and diseased tubes, malposition, loss of cilia and thickening of the tube by endometrial deposits, etc. Dr. Pfaff is very logical, but I do not believe he has settled the question.

DR. HUGO EHRENFEST, St. Louis—The theory advanced by the essayist is very interesting and very similar to the hypothesis advanced some time ago by Oliver, an English gynecologist. He also contends that the lack of peristalsis in the tube has much to do with an abnormal lodgement of the ovum in the tube. He suggests a connection between absence of sexual feeling and lack of peristalsis in the tube. During the sexual orgasm the uterus and, in all probability, the tubes contrast. Oliver believes that in women who lack sexual feeling entirely there may be a lack of peristalsis in the tubes. I think, however, that a paper published about a year ago by Opitz solves the question of the etiology of ectopic pregnancy satisfactorily. Almost all the investigators made the place of implantation of the ovum the object of microscopic examination. Opitz limited his investigations to that part of the tube lying between the site of implantation and the uterus itself. He examined 23 pregnant tubes, cutting the desired portion of the tube into serial sections, and in every one he found changes due to inflammatory processes. Of course, the changes were different in degree, but he found common to almost all the tubes a thickening of the mucous membrane, a partial destruction of the epithelium, and that very many of the adjoining folds were agglutinated at their edges forming blind hollows or sacs. That would give us a very plausible idea for the occurrence of tubal pregnancy. There are cases on record where the abnormal implantation of the ovum was explained by the fact that there was a congenital diverticulum of the lumen of the tube. Such a malformation of the tube, however, is very rare. If the formation of such blind alleys really is an almost typical result of inflammatory processes in the tubes, as suggested by Opitz, it would seem natural that ova should often be caught in these sacs on their way from the ovary to the uterus.

DR. G. BETTON MASSEY, Philadelphia—Several years ago, by inquiry in a number of these cases, I learned that a large proportion of women suffering from ectopic pregnancy had some time previously been subjected to forcible dilatation of the cervix. I do not mean to say that the dilatation caused the subsequent extrauterine pregnancy, although it might have done so. But a more probable explanation is that the dilatation was done for a condition which did not prevent the consequence of that condition. The dysmenorrhea being really due to a mucopurulent catarrh the dilatation was not a success. This subject of forcible dilatation as a cause of extrauterine pregnancy deserves further investigation. Abnormalities of pelvic functions should be considered more as a physiologic deviation, and not as though the pelvic organs were a non-vital mechanism which could be patched up every time the mechanism was out of order.

DR. J. H. CARSTENS, Detroit—In nearly all cases of ectopic gestation one of Nature's methods is to cause adhesion of the tube somewhere to prevent a so-called tubal abortion; thus the fetus is held in the tube and hemorrhage prevented, and if the tube distends it does not cause the passage of the fetus and the placenta out of the end of the tube, but in the direction of least resistance, that is, in the broad ligament. With hemorrhage in the broad ligament there is less danger. That generally subsides on account of the dense peritoneum covering which is one of Nature's methods of preventing death. We find adhesions in every case, but nearly all are recent. The tube is adherent to the rectum, sides of the pelvis or bladder or anywhere, showing that there has been an old adhesion; some old lesion that has not been absorbed and has probably caused a twisting of the tube, preventing its physiologic action and thus inducing the ectopic gestation. This contribution adds one point to the complex and diversified etiologic factors that produce extrauterine pregnancy.

DR. F. F. LAWRENCE, Columbus, Ohio—Interstitial extrauterine pregnancies occur in the uterine portion of the tube, and also in the fimbriæ ovarica. What effect can peristalsis have on these parts? Again, nearly all have noticed, in operations for salpingitis, constricting bands all along the tube at irregular points which practically occlude the tube, so as to prevent the passage of spermatozoa or the unfructified ovum. Several of these bands frequently occur on a tube that otherwise has no evidence of serious inflammation. Are not these partial or almost complete bands an exciting factor? Has any one had a case of ectopic gestation in which there was not found on close questioning a history of tubal trouble prior to the pregnancy? I have yet to find a case in which there was not a distinct history of tubal trouble, especially premenstrual pain or irregular menstruation. Every woman who is or has been the subject of tubal inflammation, no matter of what variety, is in danger of tubal pregnancy.

DR. C. O. THIENHAUS, Milwaukee—I believe there are many causes for this malformation. The idea has been advanced that all cases of extrauterine pregnancy show previous gonorrheic infection of the appendages. It is true that careful examination of many cases will reveal that a previous inflammation existed in the lower abdomen. In other cases we find that the patient has one child and after a period of three to five years, during which she showed at one time symptoms of tubal inflammation, she becomes pregnant in the tube. But there are other cases. I found in one case a cyst in the broad ligament as large as a man's fist, the tube on the right side was hanging over the cyst containing on its fimbriated end, which was adherent in the depth of Douglas' pouch, the extrauterine gestation. In another case I found a dermoid cyst of the ovary as large as a man's fist, which was probably the cause of the extrauterine pregnancy. The appendix in this case was found in a state of chronic inflammation and adherent to the gestation sac. Diverticula in the tube may be another cause. It is essential not to forget that in all cases of tubal pregnancy that part of the mucous membrane of the tube on which the ovulum is implanted must have been normal at the time of nidation.

DR. A. PALMER DUDLEY, New York—Many women become pregnant who have appendages very much adherent. It is not a question of imperfection of the tube. In my judgment the cilia play a larger rôle than has been accredited to them. But we must not lose sight of the fact that the dynamics of the abdominal cavity enter in here in the matter of the conduction of the ovum into the uterine cavity, as will be better illustrated by the records of cases where a hydrosalpinx is drained through the uterus. The constant diaphragmatic action of the pelvic floor; the action of the diaphragm and intestines plays an important rôle in the passage of the ovum from the ovary to the uterus. The most important question, I think, is the patency of the tube, no matter whether the lining is ciliated or not; it is a vent. As an illustration that the tube may be occluded and pregnancy take place is a case recorded by Bandl, where a vaginal hysterectomy was made and the uterine extremity of the tubes brought down into the vaginal vault. This woman became impregnated and had a tubal pregnancy of two and a half months, which aborted into the vagina. In my judgment the question of patency of the tubes is the all-important one, and then the dynamics that assist in carrying the ovum to the uterus.

DR. T. J. BEATTIE, Kansas City—I believe that every case of ectopic pregnancy would show a history of preceding trouble in the tube in some portion of the pelvis. About a

year ago, in a ruptured tubal pregnancy, I found a small cyst in the broad ligament.

Dr. O. G. Pfaff, Indianapolis—As we all seem to think, there is in most of these cases a pre-existing tubal disease, but I have found pregnancies in tubes that were absolutely normal, although this is probably rare. In reply to Dr. Lawrence, the uterine end of the tube is just the point where we get most of our tubal pregnancies. The object of the paper was to get away from the purely mechanic causes of tubal gestation and to consider whether there is not some explanation to be found in the interruption of tubal peristalsis.

CONSERVATIVE SURGERY OF THE SCLEROTIC OVARY.*

HUGO O. PANTZER, M.D.
INDIANAPOLIS.

The real risk to life appertaining to the early peritoneal surgery, in the past, incurred and justified very radical measures. The comparative safety of the modern methods of operating no longer sanction special indications and rules for this field of surgery. Utmost conservatism is the essential characteristic of the principles and practices of general surgery. To-day these must apply to, and, fortunately, quite generally prevail in, gynecic surgery. Efforts along this line show eminent successes, albeit many disappointments as yet attend such a course. Its limitations require as yet greater definition. The notable gratifying result obtained in the following case has offset, in the writer's experience, many less satisfactory and even disappointing results from conservative operative work persisted in through many years. Its narration here, it is hoped, may have it exert its stimulating effect on the efforts of those likewise engaged.

Cirrhotic ovaries at this time, I believe, are quite generally accepted to afford the indication for their immediate removal. My experience is not ample enough to draw deductions from. The case about to be recited pertains to cirrhosis without decrease in size of the ovaries. Pertaining to sclerotic ovaries with shrinkage of the organs, the writer has no case of resection that was followed by pregnancy. However, it seems warranted from the subjective relief afforded in some instances and from the unmistakable evidences in some cases of an attempt on the part of Nature to restore the already lost function, that even in the shrunken ovary the morbid process can be arrested by timely conservative surgical effort. The writer hopes soon to report his experiences with such efforts.

The extensive and exhaustive consideration of this subject on this occasion by our worthy president relieves the writer from entering into a detailed consideration of the mooted points in connection with the following case:

History.—Mrs. C. L. F., Kidley, Ill., aged 25. Married four years, desirous of having offspring, no conception. First menstruation at 13. Menstruation irregular, commonly retarded, is always painful before and during flow. Following a heavy lift at 18 patient suffered constantly with pain in left inguinal region. At periods she bloats, and has sacral, pelvic, occipital and frontal pain. Poor appetite, depression and growing emaciation, weakness and suffering mark her complaints. She has occasional transient attacks of bladder irritability and suffers from constipation.

Status præsens.—Patient is a small, lean, weakly woman. Floating tenth ribs, both kidneys movable. Thin, relaxed abdominal walls, flat miserable thorax. Uterus in retroflexion, somewhat fixed by contracted left broad ligament. Left ovary imprisoned by adhesions, tender, enlarged. Right ovary normal size. Slight contraction of internal os uteri.

Diagnosis.—Retroflexed uterus. Prolapsed and enlarged adherent left ovary.

Operation.—Deaconness Hospital, Jan. 16, 1902. Internal os was dilated. No curettage. Median celiotomy. Tube and ovary on left side were massed by inflammatory adhesions. No pus was found. Left ovary had cyst the size of filbert at one pole. Both ovaries were densely and thickly sclerotic, rather larger than normal size. Left ovary was removed entirely. A narrow wedge was cut from the entire length of the convex border of the right ovary. This displayed a ledge of sclerotic tissue one-eighth of an inch and more in thickness, revealing no evidence of normal ovarian stroma in this area. The ovary in its deeper parts, like in the superficial parts, bled very slightly, but in contrast with the latter revealed small islets of what seemed normal stroma. Indeed, this was so little apparent as to, in my estimate, include very little promise. However, there had been menstrual flow which could not be discountenanced. The surface of the ovary was pared in wedge form, the base of the wedge being at the border. The central slit was sewed with interrupted catgut sutures. It was striking that there was practically no bleeding. The uterus was ventrosuspended by its anterior surface near the fundus.

Patient made an uneventful surgical recovery, though her strength was slow to grow. Her feebleness preceding her operation seemed accentuated at this time.

Results.—Patient reported for examination two months later. There was some general improvement all along the line, though general conditions were still very unsatisfactory. Menstruation had occurred regularly, with lessened local and reflex suffering. Hygiene, iron, ergotin, strychnia and aloes were prescribed.

Patient reported again July 17, 1902. There was great general improvement, physical and psychical. She walked like an entirely different woman. She had missed her flow and was anxious about this. She complains of some pain through the sacral and lumbar region. Bladder had continued occasionally irritable, more so latterly.

Examination.—Uterus is found in good position, enlarged, softened, not tender. Vaginal mucosa softened and edematous, of bluish color. Right ovary to touch feels quite normal as to consistency, though obviously small. There are no evidences of ovarian adhesions.

Diagnosis.—Pregnancy.

March 17, 1903, patient writes me of her happy confinement with a fine nine-pound boy two weeks previously, and expresses her and her husband's unbounded happiness over the event.

DISCUSSION.

Dr. L. H. Dunning, Indianapolis—Dr. Pantzer's innovation worked well in this case. But he himself raises the question whether this method is commendable, viz., to leave such a large raw surface on the ovary. I have always felt it safer to cover all raw surfaces of the ovary. I think Dr. Pantzer's experience was unique in that he had no hemorrhage. I have never been able to do so much cutting on the ovary as he did without experiencing considerable difficulty in arresting hemorrhage.

Dr. A. Palmer Dudley, New York—I do not question that Dr. Pantzer left the ovary an open wound. He said he closed the wound by a circular suture. If he did that there was no necessity of covering it with peritoneum to get good results. Cirrhosis of the ovary is due to obstruction of the circulation. His case was complicated by adhesions and dislocations, and one ovary contained a cyst. I have operated on very many of these cases and have seldom found a true cirrhotic ovary fruitful after any form of treatment. I think the relief the ovary obtains from this method of treatment was not due solely to the ovary itself, but to the repair of pathologic conditions that accompanied the cirrhosis and the ovary also

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

derives benefit from the development of a new circulation. It is wise not to cut the ovary crosswise. I never operate on an ovary to save any portion by incising it crosswise, as we in that way section the nerve supply of the ovary and do material injury. If it is necessary to remove portions of the ovary it should be done along the upper horizontal surface of the ovary; one can take out almost any quantity of tissue and still have the remaining portion act because the ova are on the outer surface of the ovary although some follicles are found as low as the hilum. Unless operated on in the manner described by Dr. Pantzer the circulation is renewed through different channels, the uterus is restored to its position, and the ovary after a time receives new life. The thickened tissue will undergo fatty degeneration and in that way the ovary is restored to a normal condition. I am so situated in the Harlem Hospital that I can do anything I please without question. During the past winter I have been experimenting on tuberculosis of the testicle. I find that I can split the testicle in half and unite the wound with fine silk suture, sweep out the tubercular deposit, touch it with formalin and carbolic acid, and have a distinct recovery without rise of temperature. So the work described by Dr. Pantzer is only another evidence of how much work can be done on the uterine appendages of women.

DR. H. O. PANTZER—The method of operating in this case is open to the objection that raw surfaces were left involving the possibility of intestinal adhesions. This risk is unavoidable here. A close search subsequently for evidence of adhesions in this case failed to detect any. Perhaps the risk from a raw surface is magnified in our minds. In days past when adhesions were frequent, non-absorbable sutures were generally used, and undoubtedly often were the cause of adhesions. Permanent adhesions giving trouble nowadays are certainly rare. In the class of cases to which this belongs the family interest at stake is great and seems to warrant taking an unusual risk. In the light of the result obtained in the case reported the procedure may be justified. I have done conservative work on the ovary many years. Nine of my cases were followed by one or more pregnancies. I have attempted conservatism where sclerosis is associated with shrinkage of the ovary, so far with no more result than to produce the evidence of menstrual molimen in cases which had been without this and without any flow for months, and even several years. This result would seem to indicate the possibility of obtaining definite results if operation is early undertaken. Waldeyer confines the area in which ova are found to a small rim one-eighth of an inch in thickness adjacent to the greater part of the outer surface of the ovary. This does not tally with microscopic evidence often found where the internal tissues about the hilus disclose ova. Clinically I have had the opposite evidence in two cases, where all but the parts of the ovaries about the hilus were removed and yet pregnancy followed.

AN OLD-TIME QUACK EYE DOCTOR,

THE CHEVALIER JOHN TAYLOR.

BROWN PUSEY, M.D.
CHICAGO.

Indexed under the heading "Charlatans," in the magnificent library of ophthalmologic literature of Dr. Casey Wood, there is to be found "The Life and Etraordinary History of the Chevalier, John Taylor, Ophthalmiator, Pontificial, Imperial and Royal; in two volumes; written from authentic materials and published by his son, John Taylor, Oculist; London, 1761." In looking this book over, I happened on Chapter V of the second volume, which is an oration said to have been delivered in the streets of Oxford. I quote this chapter extensively, and when one has read it, I think no apology from me will be necessary for calling attention to it; and when one realizes that this oration is said to have been delivered in the public streets, and after Taylor had sent "his harbingers before him" to deliver his hand bills, I believe the desire is natural to inquire as to what manner of man this ancient quack was.

"The Eye," says the Chevalier Taylor, "that most amazing, that stupendous, that comprehending, that incomprehensible, that miraculous Organ, the Eye, is the Proteus of the Passions, the Herald of the Mind, the Interpreter of the Heart, and the Window of the Soul. The Eye has Dominion over all Things. The World was made for the Eye and the Eye for the World.

"*Let there be Light*, that first Fiat of the Almighty, and there was Light. For whose Use, I pray? For the Use of Man, for the Use of the Eye. The Angels wanted it not. The Sun was kindled, the Stars were lighted up; the grey Dawn and the Milky way, the Constellations, the Morning Planets, and all the bright Chandeliers over Head, were all hung out, rank and file, to minister to this little Speck, this Peep-hole of the Mind, this Inlet of the Soul, this Surveyor of the Universe, this Lord of all Things, the Eye.

"The Eye is the Husband of the Soul; through it she conceives, becomes pregnant, and brings forth Knowledge.

"Amazing how such large Objects find a Passage through so small an Aperture.

"The Eye is indefatigable. The Eye is an angelic Faculty. The Eye, in this Respect, is a Female. The Eye is never tired of feeling; that is, of taking in, assimilating, and enjoying all Nature's Vigor.

"All Nature is but one great Act of Love. The material and immaterial World conceive and bring forth together. The other Senses are the Soul's Gallants, such as Hearing, Feeling, Smelling, and so forth, with which she intrigues a Moment or two, and then returns to her lawful Husband, the Eye.

"The Children got between the Soul and the Eye, are legitimate Nature's genuine Issue; some of which can only with herself expire; the Brats of the other Senses die as soon as born.

"In corporal Generation too, how powerful is the Eye! It is the Signal of the Affections; and with a single Glance can proclaim the Pulsations of the Heart. It is the Lightning of Desire, and the Loadstone of the Soul; whose magic Effluviums inchant the Imagination, attract the Coalitions, irritate the Muscles, stimulate the Nerves, and brace up the whole Apparatus of Propagation.

"The green Mantle of the Earth, the azure Night-gown of the Sky studded so thick with Gold, the Trees, the Flowers, and the Gardens, the Gems, the Carbuncles, and even the Diamonds themselves, begot by Nature in the secret Womb of the Earth, are all brought forth by the Midwife Industry, are all polished to the purest Ray, to entertain, to regale the Ravished Eye.

"We owe the Ladies to the Eye, those Transcripts of the Angels, those Specimens of future Bliss, those Fountains of Joy, those Dainties of Desire, those Cordials of all human Care, who people the Earth with their Energy, and the Sky with Inhabitants; these Patterns of Purity and Love, these Master Pieces, these lucky Hits of Heaven, are the finest Regale for the Eye of Man, where it feasts on the Ruby of the Lips, the Vermillion of the Cheek, the Snow of the Forehead, and the Cherub in the Eye; and yet even these are but the Signs, the Invitations held out of that extatic, that soul absorbing—But Language is too weak.

"This is the greatest Good the Eye can give us. Without the Eye what were all this amazing World of Charms? a mere Mouthful of Moon-shine, a Sheet of blank Paper, a Candle in the Desert; for my Lady is no more than Joan in the dark.

"What an Orator is the Eye! that Short-Hand, that Cypher of the Soul, whose single Glance conveys a Volume.

"The Tongue is an Upstart, a tedious Intruder, a limited Prate-roast; who speaks the Language of a single Kingdom or County perhaps, and that but poorly too. Words are an artificial, tedious, contracted, obscure and imperfect Commerce, a Kind of *Hocus Pocus*, a juggling Compact, agreed upon by a few and understood by fewer still; a Messenger sent a round-about Way to the Understanding through a certain, dirty, winding Canal; where a little Wax can stop its Career, or a paltry Fiber unbraced, destroy the whole Business.

"As far as the bungling Productions of human hands are inferior to the exquisite Works of Nature, so far is the Faculty of the Eye above that of the Tongue. How many Ages old was the Creation before that Babel, that Jargon of Sounds called Language, was sent among Men as a Curse?

"The Eye is the Orator of Nature, and talks the Language of the Universe, of all beneath the Moon, of all above it: It talks the Language of Heaven too; it renders useless all Sounds except the tender Moanings of Lovers, those turtle Cooings of Desire, those nameless Throbbings of Fruition; these, these are the genuine Dictates of the broken Raptures

of the Soul, which she scorns to shape into Words; nor can she lose Time in so base a Labor.

"The Eye is the quick Flash, the instant Lightning of the Piece. Language is the Shot that loiters after with much Noise, indeed, but seldom hits the Mark.

"O ye Sons and Daughters of Minerva, ye Children of Wisdom, ye Offspring of Oxford, how precious is the Eye! . . Of what importance is its Office? How deserving is the Art that keeps its Springs in Order, and preserves the Interchange of Office betwixt the Works of Nature and the Soul! Mind and Matter are kept in constant Traffic by the Eye.

"The three mortal Foes to Sight (my learned Sons of Wisdom) are the Glaucoma, the Cataract, and the Gutta Serena; with these I wage eternal War. These Auxiliaries of ancient Night, that would restore her gloomy Reign, and bring back Chaos to the World once more.

"My Art, O ye Sons of Oxford, my Art is the Ally of Heaven itself, and aids even the Almighty, obeying still, and still performing the omnipotent Behest, *Let there be Light.*"

Fortunately, it is possible to learn something of the Chevalier Taylor and his family—a family which becomes more interesting when it is known that the Chevalier's father, as well as his son and two grandsons, were physicians. Indeed, the son and two grandsons, probably influenced by the worldly success of the Chevalier, followed in his footsteps and waged war against the "Auxiliaries of ancient Night."

Our authentic information of the Taylors comes from the writings of the Chevalier and his grandson, John Taylor, the third. We have from the pen of the Chevalier, "The History of the Travels and Adventures of the Chevalier John Taylor," London, 1761, and from the grandson, "Records of My Life," by John Taylor, Esquire, in two volumes, London, 1832.

Mentally the Taylor stock evidently was good stock. The sire of our oculists was a man of ability, and was a surgeon of prominence in Norwich, England. We are told by one of his colleagues that he was highly respected in his private as well as in his professional character. In the light of the history of the son, the Chevalier, a statement of one of the senior Taylor's friends becomes interesting. This statement was to the effect that the old gentleman had so grave and dignified an aspect and demeanor that the superstitious among his neighbors imputed supernatural knowledge to him, and on any disasters or losses consulted him as a conjuror. It is a well-recognized fact that the latent energy in a lie is enormous, and here we have the intimation that the same is the case in other forms of imposition. Maybe the tricks of the sire as a conjuror was the beginning of the quackish proclivities that later were so highly developed in his descendent.

The Chevalier Taylor was born in Norwich, England. In his own memoirs he does not give the date of his birth, nor does he say much of his early life; in another history of him we are told that he was born in 1703. He does, however, suggest the idea that the place of his birth may one day be judged worthy of the notice of posterity. Of his birth and early days the comments to be found in another place are interesting. One finds the statement: "He no sooner began to distinguish objects than he expressed the greatest aversion to all spots, either on the garments or countenances of those to whom he came near. Patches worn on the face being then in fashion, he often scratched them off and sometimes brought the blood along with them; nay, even then he put some eyes in danger!" Certain it is that in the birth of this man there was the beginning of the life of one of the master quacks.

The methods now in vogue among quack eye doctors seem to be used by all of them. In their advertisements they speak of "new system," "cross-eyes cured without the knife," "dissolvement treatment," or "absorption method," "optic nerve diseases." They advertise that they have written books on "Eye Diseases Cured Without Surgery," "Cross-Eyes," "Cataracts." "Eye Tests," etc. These books are usually described as a "Brief Treatise on the Application of His Remarkable Discoveries." In their advertising pamphlets—their "books"—they tell of their extensive travels and of the great opportunities they have had for the study of the conditions they want to treat; they publish the names of people whom they claim to have cured of awful complaints (particularly names of people in public positions, e. g., a United States Senator), and they publish pictures of conditions which they claim to have cured (these pictures frequently are taken from some standard work, but, of course, are claimed as original). The great standby of the modern quack, as we all know, is the "new system of curing cataract by absorption" and "cross-eyes without the knife."

Our great quack's methods were the same as those in vogue now. He had the new system of curing cross-eyes and cataracts, he published books describing his great opportunities, and giving the names of his patrons and giving pictures of the conditions that he cured. But his was a master's hand. In comparison the quacks of the present day are a cheap lot and they are not to be mentioned in the same class with this old faker.

Taylor's advertisement on settling in England after he became an old man is the book we before spoke of, "The History of the Travels and Adventures of the Chevalier John Taylor, Ophthalmiator, Pontificial, Imperial and Royal." Even the binding of these books—the history is published in three volumes—shows the superiority of his methods over those of the present-day quacks. The volumes are bound in handsome leather with gilt edges. The modern quack puts out his books with paper bindings and his picture on the back. (By the way, these pictures usually show a bald-headed, elderly man, with whiskers and a general expression which may be taken as indicating kindliness and knowledge and offer a terrible proof of that truism that appearances may be deceptive.)

The modern quack's pamphlet opens with interviews taken from the daily papers. Not so the Chevalier's history. The three volumes are dedicated respectively to his son, to David Garrick, and to the Merchants of London. The very first paragraph of his preface is interesting and shows his shrewdness. "Notwithstanding, by the title of this work my readers are prepared to be chiefly acquainted with numberless extraordinary adventures of my life, I flatter myself that it will not be displeasing if I here observe that I have not forgot the object most worthy of my attention, I mean the profession in which I have so long labored to be distinguished." The key-note of his book is found here; the book is for the purpose of impressing the reader with the author's professional greatness, while he is led to believe that it is a record of travel and adventure. The second volume of the history at my command has an interesting bit of evidence of the Chevalier's success in this particular in the book plate of some collector, which may be taken as indicating that the volumes at some time were considered worthy of such a mark. No bibliophile of the present would so mark the book of a modern quack.

It would not be profitable to follow far the adventures of the Chevalier. According to his statement he traveled through England, Ireland and Scotland from 1727 to March, 1734; from that time to November, 1735, he was in Paris and the towns of France, then to England for a few months, but back to Paris in 1736 and 1737; during 1738 and 1739 he spent the time in Spain; then to Lisbon and the towns of Portugal until 1742; then to England, Ireland and Scotland, where he remained until February, 1747; then to Germany during 1748, '49, '50, '51; then to Sweden, Russia and Germany until 1755, when in January he went to Italy, where he remained until January, 1757; then to Austria, Germany and Holland; then in January, 1759, to Scotland and through the towns of that country and Ireland and back to London in 1761, where, according to his book, he was ready for business.

In the journey, of course, he had experiences worthy of relating, but with few exceptions his stories are unentertaining and tiresome. In these travels he learned the various languages, and he calls attention to the necessity for one like himself to know the languages of the different peoples.

As was said, it was evidently his method of advertising to publish books written in the different languages of the various countries that he visited, and his travels may be traced by these books. In his list of books written by himself he claims to have published forty-five. One of his favorite titles is "Mechanism of the Eye," which he published in English in 1727, in French in 1737, and in Spanish in 1738.

The year 1743 found him again in England, where he published a "Dissertation on a very Extraordinary Case Under the Care of the Chevalier Taylor." Among his publications was "An Accurate Description of 243 Different Diseases to Which the Eye and Eyelids are Exposed," which first appeared in 1747. He announces this same title in his list of publications as a new book in High Dutch, in 1751, and again the same title in 1771. A copy of this work fortunately is in the possession of Dr. Wood. One of the striking features about it is the handsome binding—just as we would expect from the "Chevalier." The drawings are crude and, at least from our point of view, are worthless, but certainly even now would attract the attention of the untrained observer. We have in the particular volume at my command a singular bit of testimony bearing out this latter suggestion. This volume, in which, by the way, the text is in both German and Latin, in its career has been in the hands of a layman—as was no doubt according to the original plans of the author—who presented it to a relation, an ophthalmologist, with the letter from which the following is copied:

"If it has intrinsic value, so much the better; if not, keep it lying around where your patients can see it. It looks so learned you can without hesitation charge them in two languages."

It has been intimated that Taylor was a successful quack in a worldly way. If his book may be believed he was very successful. Good evidence of this is shown in the letters warrant from the potentates of the countries that he visited. These letters are published as foot notes in the first volume of his "History"—evidently so placed that he who runs may read. The first one of these letters published is from Pope Benedict XIV, who appointed Taylor Ophthalmiator Pontificial. He was appointed oculist to George II, King of England, and he received similar appointments from Augustus III, King of Poland, Frederick V, King of Denmark and Norway, Adolphus Frederick, King of Sweden, and many other lesser lights. In the list of famous people whom he treated are princes and princesses, dukes and duchesses. He announces that in the thirty years of travel he had treated over 80,000 patients. He speaks of one of his important cases in the person of a man who seems nearer to us than the princes and dukes and the like—of Handel, of whom he says: "I once thought to have had the same success, having all circumstances in his favor, motions of the pupil, light, etc., but on drawing the curtain we found the bottom defective."

It is hardly necessary for us to call attention to the fact that the Chevalier was a knave. This is abundantly shown in all of his career. In a few places he is honest enough to point this fact out clearly, as, for example, where he relates the story of his preparing to marry a dying old woman for her money, and how the plan failed when the fact was exposed that he already had a wife.

The Chevalier, always thrifty, pursued one plan when he finally located in England, which the modern quacks do not use, and which appears to have advantages. This plan is brought out in a notice to the reader in the back of the third volume of his "History." He calls attention to the great suffering of the poor in England from eye diseases, and he suggests to the prosperous of the nation that each subscribe two guineas yearly, and that all who do this are entitled to send during the whole year the poor thus afflicted to the Chevalier's son's house in Hatton Garden, where the Chevalier himself will gladly assist.

And now we come to the winter of this charlatan's discontent. The old man evidently planned to finish his days in London, where he proposed practicing with his son, who had become an oculist and a successful one, as is indicated by the fact that he was oculist to the king. Probably the old man had become fond of his grandchildren, as we hear of him playing in particularly high spirits with John Taylor, third, when he was an infant. But his plans miscarried, and he did not die at home at last. Rather a note in the autobiography of his grandson—the one who became oculist to George III—tells us that he died abroad.

And we have to relate that his grandson, in his "Records of My Life," deals this master quack a great blow, for he says that the "Life and Extraordinary History of the Chevalier John Taylor" was not written by his son, but was really written by Mr. Henry Jones, a literary hack of the olden days, partly from the recollection of notes once in the possession of the Chevalier's son, but "almost wholly of his own invention." In this case, the great oration at Oxford was probably not made at all by the "Chevalier," and taking this honor away, little is left of him except of unsavory memory.

New Instrument.

A NEW AND SIMPLE DEMONSTRATION OPHTHALMOSCOPE.*

GEORGE F. SUKER, M.D.
CHICAGO.

This little device which I have constructed, and which is to be attached to the indirect ophthalmoscope as made by the

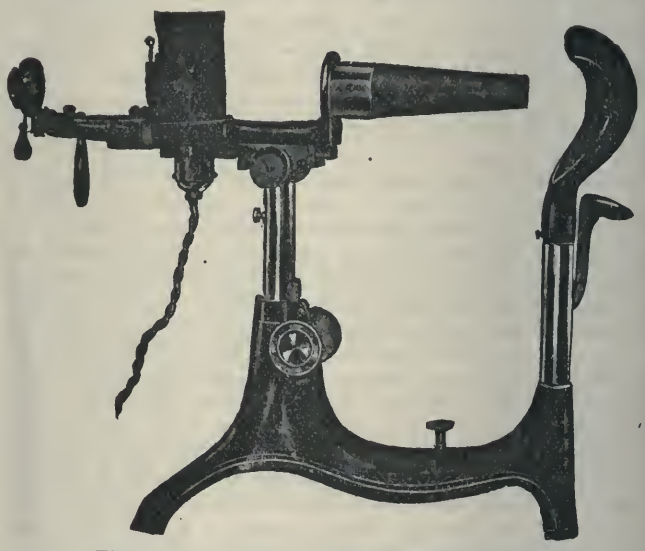

Fig. 1.—The original Geneva ophthalmoscope.

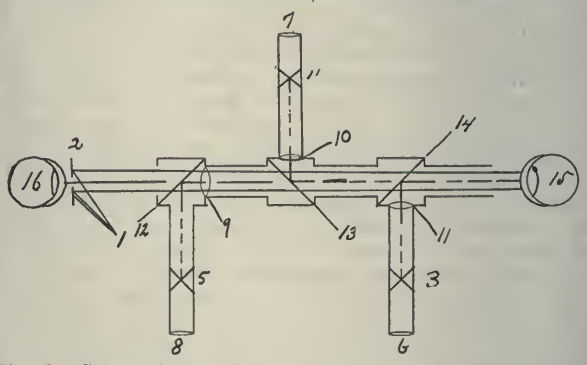

Fig. 2.—Schematic drawing of tubes. 1. Source of light. 2. Mirror (tilting). 3, 4, 5. Indirect images of fundus. 6, 7, 8. Convex lenses to suit observer. 9, 10, 11. Convex lenses, stationary. 12, 13, 14. Plain lenses placed at an angle of 45 degrees to axis of tubes. This gives a reflection of 90 degrees. 15. Patient's eye. 16. Observer's eye.

Geneva Optical Company of Chicago (Fig. 1), is solely intended to simplify the teaching of ophthalmoscopy in the schools. With it, two or three students in addition to the demonstrator can see the same fundus at the same time. The patient's eye is under the direct control of the demonstrator at all times, in that it can follow the movements of the latter's finger.

The chief value of the instrument consists of these points: It is simple; a number of students are able to see the same

* Exhibited before the Section on Ophthalmology of the American Medical Association at the Fifty-fourth Annual Session.

fundus; it can be detached from the original instrument. This allows one to use the original ophthalmoscope without the demonstration attachment.

The accompanying cuts will clearly show the construction of the instrument. The drawing (Fig. 2) plainly shows how the light, which is reflected from the mirror, reaches the fundus

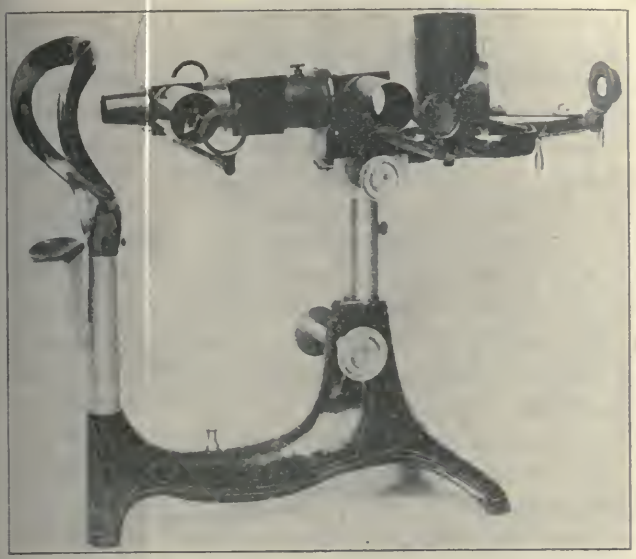

Fig. 3.—This shows the demonstration tubes in their proper position.

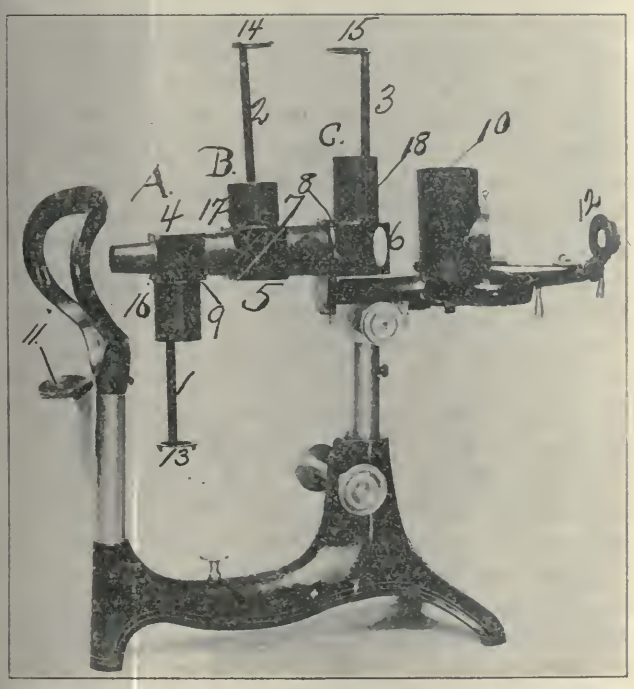

Fig. 4.—Photograph of the original model as shown at the meeting. It simply demonstrates the correctness of the principles involved in a demonstration ophthalmoscope. 1, 2, 3. Telescopic rods. 4, 5, 6. Small square boxes in which are placed slides at an angle of 45 degrees to the axis of the tubes. 7, 8, 9. Strong convex lenses at entrance of tubes. 10. Source of light. 11. Patient's chin rest. 12. Rotating mirror which reflects light into patient's eye. 13, 14, 15. Lens holders. 16, 17, 18. Tubes which open into boxes. A, B, C. The three separate attachments. C is inverted, as can be seen from the other illustration.

of the patient and how the student gets a view of this fundus.

The principles involved are those of indirect ophthalmoscopy and the total reflection of light from a highly polished and thin transparent media acting as a prism in a "camera obscura."

The loss of light intensity due to the numerous reflections is very trivial and does not detract from the clearness of the fundus picture. One gets a very large, as well as a magnified, field of the fundus at each position. There are no interfering corneal or light reflexes at any of the attachments. The examined eye must have a dilated iris, and the student must adjust the telescopic tube with a proper convex lens in the holder to suit his own eye. The instrument is best manipulated in the dark room. Either gas or electric light may be employed.

The instrument is a modification of the principles involved in the original Helmholtz's ophthalmoscope and clearly shows how simple it is to get a multiple image of the fundus.

The instrument which I show you is the original crude model. It is intended to show that the principles involved are correct and that a multiple demonstration ophthalmoscope can be made which is truly serviceable. It will be altered in minor details and more neatly constructed so that it can be more accurately adjusted. At the next session of the Section, I purpose to show a perfectly constructed instrument. This one is shown simply as a matter of record and priority.

103 State Street.

Clinical Report.

REPORT OF A CASE OF COMBINED DIAPHRAGMATIC OR "BIMANUAL MASSAGE OF THE HEART,"

DURING COLLAPSE FOLLOWING CHLOROFORM NARCOSIS.

H. M. COHEN, M.D.
VICTOR, COLO.

A woman, aged 32, perfectly healthy, with the exception of an adherent left ovarian cyst; no lesion of the heart, lungs or kidneys. The operation was for the relief of ovarian pain. The usual central, abdominal incision was made, with the patient in the Trendelenburg position. Chloroform was used because it is the choice of anesthetics at this altitude, 10,000 feet above sea level.

Fifteen minutes after the commencement of the operation the patient, without any previous respiratory, circulatory or pupillary danger signal, suddenly became cyanotic and pulseless, cessation of respiration in this case following and not preceding that of the heart. Artificial respiration was immediately resorted to and continued, and the usual hypodermics administered. After two minutes had elapsed and no reaction had been established, I introduced my left hand into the abdominal cavity, pushed along the anterior abdominal wall until the diaphragm was reached, and, placing the hand, palm upward, in about the position the heart would normally be; that organ was easily grasped through the relaxed and intervening diaphragm. There was an entire absence of heart action. Placing the right hand over the precordial region, externally, I now plainly palpated the heart, as it lay between my two hands. In other words, with the heart grasped between the two hands I was in the novel position for what I shall term "bimanual palpation of the heart." I then began rhythmical compression of the heart, using both hands, at a rate of about sixty times a minute. After about thirty seconds a slight beat was felt by the left hand.

The heart now began slowly to beat, gradually increasing both in strength and rapidity of beat, until at the end of one minute after massage began the beats registered about eighty per minute, and respiration began to be partially re-established. About two minutes after this respiration was normal, pulse eighty and, shock being apparently recovered from, the anesthetic was changed to ether, and the operation finished in about thirty minutes.

At the completion of the operation the patient was in good condition, there being no cyanosis or coldness of the extremities, pulse eighty-six and respiration about normal; consciousness returned in about the usual length of time.

Man's Enemies.—Humanity has but three great enemies, fever, famine, and war, of which by far the greatest, and by far the most terrible, is fever.—Osler.

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MENDEL'S PRINCIPLES OF HEREDITY.

Although it is admitted that a clear understanding of the phenomena of heredity would be of great value in solving many of the perplexing problems of evolution, yet our knowledge of these phenomena has increased but little during the last century. The processes of fertilization and development have been studied in great detail, but we have as yet no idea as to what is the essential agent in the transmission of the parental characters to the offspring. Scientists have, however, begun to study the outward facts of this transmission, and we are gradually beginning to see at least how we ought to go to work at these problems. Among the workers who have contributed most toward the establishment of definite laws of heredity Galton stands perhaps foremost; but there is one other worker of equal prominence whose papers, however, remained unknown to scientists for 35 years after their publication. This investigator is Gregor Mendel, Abbot of Brünn, who carried on experiments in the garden of his cloister over a period of 8 years before any of his conclusions were put in print. His most important papers were published[1] in 1865 and in 1869, but nothing was known about them until 1900, when de Vries drew attention to them in a paper on experiments along similar lines. Mendel's very remarkable memoirs dealt with hybridization of peas, and he laid down in them what is now known as Mendel's principles, or laws, of heredity.

In cross-fertilizing peas having a distinct differentiating character he found that the hybrid character always resembles that of one of the parental forms so closely that the other either escapes observation completely or can not be detected with certainty. Crossing, for instance, peas having round seeds with a variety having angular seeds he got hybrids having only round seeds. Those characters which are transmitted to the offspring in the hybridization he termed the dominant, while those which became latent in the process he designated the recessive characters. The dominant character may come from either the seed-bearing parent, or from the one that furnished the pollen. In the first generation bred from the hybrids not only the dominant characters appear, but the recessive ones also appear with their full peculiarities, and this in the definitely expressed proportion of three to one. Among each four plants of this generation we have, therefore, three with the dominant characters and one with the recessive. No transitional forms were observed in any experiment. In the second generation bred from the hybrids those forms in which the recessive characters reappeared in the first generation remain constant. That is, all the offspring coming from forms having the recessive character in the first generation maintain this character in the second and subsequent generation. It is different, however, with those forms which possess the dominant character in the first generation bred from the hybrids. Of these plants two-thirds yield offspring which display the dominant and recessive characters in the proportion of 3 to 1, while only one-third remain with the dominant characters constant. Of 30 plants, for example, which came from round seeds of the first generation, 10 yielded round seeds (dominants), and 20 yielded round and angular seeds, in the proportion of 3 to 1. Both varieties may appear in the same pod.

It is seen from these experiments that the hybrids form seeds having one or the other of the two differentiating characters, and of these one-half develop again the hybrid form, while the other half yield plants which remain constant and receive the dominant or recessive characters, respectively, in the same proportion. There is no blending of the two differentiating characters. If new plants are used which differ in two essential characters instead of one, the results are still more complicated. The hybrid partakes of the dominant characters of each of the parental types, but if one of the latter possesses only dominant characters, then the hybrid is scarcely or not at all distinguishable from it. In crossing round yellow peas with angular green peas the offspring yields only round yellow seeds, because these are the dominant characters. The plants raised from these hybrids yielded seeds of four sorts, which frequently were found in one pod. Here again the recessive characters reappear in the first generation bred from the hybrids. Of these four sorts of seeds one variety, the angular green (recessive) remained constant in the second and subsequent generations. The others yielded both constant and hybrid forms, and this in a definite proportion of the individuals. The constant forms finally represent every possible combination of the associated characters, and hence the law may be stated briefly as follows: In the second and later generations of a hybrid, every possible combination of the parent characters occurs, and each combination appears in a definite proportion of the individuals.

The fact that constant forms appear in all combinations of the associated characters is very significant. Mendel found by experience that constant progeny is produced only when the egg cells and the fertilizing pollen are of like characters, so that both are provided with material for creating quite similar individuals, as in the case with the normal fertilization of pure species. But since the various constants are produced in one

1. Verh. d. Naturf. Ver. Brünn, 1865, Iv. See "Mendel's Principles of Heredity," by Bateson, for translation.

plant, or in one flower of a plant, he concludes that in the ovaries of the hybrids there are formed as many sorts of egg cells, and in the anthers as many sorts of pollen cells as there are possible constant combination forms, and that these egg cells and pollen cells agree in their internal composition with those of the separate forms. And he assumes further that the various kinds of egg and pollen cells are formed in the hybrids, on the average, in equal numbers. The last two statements are, of course, purely theoretical, but Mendel has produced very strong evidence in their favor by means of a complicated experiment in cross-fertilization.

The experiments outlined above have been confirmed with other plants, such as wheat and some species of beans, but contradictions are also encountered. It will now be interesting to see how far these laws are found true in hybridization of animals, a subject which we will consider in a future issue.

INTRACRANIAL TUMORS.

An interesting evidence of the encouragement scientific work in public institutions is receiving is afforded by the anatomic study of intracranial tumors by I. W. Blackburn,[1] pathologist to the Government Hospital for the Insane, Washington, D. C. In the profuse illustrations of this work there is a resemblance to certain famous old atlases of morbid anatomy which have long served as landmarks in medicine; a similar rôle undoubtedly awaits this contribution; it will be valuable for purposes of reference. The large number of black and white, unembellished drawings by Blackburn of microscopic preparations indicate an earnest zeal for this manner of recording observations worthy of hearty commendation. Seventeen of the tumors showed the structure of spindle-celled sarcomas and are designated as "endothelial." They arise from the dura as circumscribed, warty growths, compressing but not infiltrating the substance of the brain. Their slight attachment to the dura has frequently led to the erroneous supposition that their origin was within or from the cerebral tissue. Their location was more commonly the base of the brain, and the ease with which they could be "shelled out" from the surrounding tissues invites surgical intervention for accessible growths of this character with focal symptoms.

Some objections exist to classifying these tumors with sarcomas, and these are recognized in the rather naïve statement that they "can not be classed with any other division of morbid growths, consequently must be placed with the sarcomata or in a class by themselves." The absence of metastatic growths or regional extension, the thickened and hyaline blood vessels they contain and the disposition to undergo fibrous transformation and degenerative changes, especially calcification, are all in marked contrast to the characteristics of malignant tumors; they would denote instead the healing and cicatrizing inflammatory processes associated with large amounts of granulation tissue, or perhaps more closely ally these neoplasms to benign mesoblastic tumors. In two cases their origin from the endothelium of the arachnoid villi was demonstrated. It might not be out of place to suggest the name of "meningeal endotheliomа" for this class of growths. The tumor of this sort described by Brower and Wells[2] in 1901 was termed peri-endothelioma after the classification of endotheliomas by Borrmann. In addition to these tumors from the dura, 5 gliomas are described, a "gliosarcoma" and a small round-celled sarcoma. Of 3 tumors in the pituitary fossa, 2 arose from the hypophysis; the third, a cystic growth containing considerable cholesterin, was so altered by retrogressive processes that its origin could not be determined; the hypophysis, however, was not involved in the growth. In none of these cases were there any evidences of acromegaly. In view of the prevalent belief of a connection between this disease and tumors of the hypophysis, these 3 cases form a valuable addition to the few similar observations of growths from this structure without acromegaly. The structure of the tumors in the two cases of true pituitary adenoma does not differ materially from that usually described for tumors of the hypophysis; in one the proliferation had assumed a papillary character. The absence or presence of chromatophilic affinities of the cells in these growths was not determined.

It is possible to conclude from a review of this work that the equipment and facilities for research have not reached, in the Asylum for the Insane in Washington, a stage beyond that attained in some of our state institutions of a similar character. It would have added to the value of the report if the newer methods of technic had been employed in studying these intracranial tumors; their relation to the insanity and the secondary changes in the nervous system are phases connected with their examination on which we may hope to obtain information in the future.

There are scattered throughout this country hospitals for the insane with laboratories either under the charge of a single individual or with forces greatly overwhelmed by the wealth of material, whose efforts and enthusiasm are undirected and handicapped by traditions and financial policy. Notwithstanding these conditions, improvement is occurring slowly in the character of the work done, although greatly delayed by the necessity of educating "boards of control" and politicians to the humanitarian need of assisting scientific investigation in medicine. In some instances this improvement is denoted by lavish expenditures for apparatus and buildings with no provisions for the workers they were designed to accommodate.

The benefits of the thorough organization the profession is now undergoing will be apparent when, through the education of public sentiment, greater improvements

1. A Study of 29 Intracranial Tumors Found in 1,642 Autopsies in Cases of Mental Disease, 1903.

2. Am. Jour. Med. Sc., 1901, cxxii, 32.

are introduced into these laboratories and, through improved direction and co-ordination, more efficient use made of the opportunities they possess for research.

PARAGUAY TEA.

Some months ago a request was made in the *Journal of Tropical Medicine* that some reader in South America give information in regard to maté or Paraguay tea. In response to this it publishes in its October number a communication from a South American resident who points out certain special advantages of this as a stimulant.

It seems to be a fact that the ordinary South American or hybrid South American is not naturally an energetic individual, but under the influence of this physical and mental stimulant the amount of hard work that he can do is hardly limited. The woodmen in the quebracho industry go to the woods between 3 and 4 o'clock in the morning and work steadily for hours on an occasional swallow of maté, only stopping at their noon meal. The correspondent asserts that maté is far superior in its invigorating powers to tea, coffee or cocoa and that it fits one as well for mental as for physical work. It is prepared, as is tea, by pouring boiling water on the leaves, and it should be drunk immediately or sucked through a metal tube, the latter being the preferable way. The stimulating effect of three or four ounces will last for as many hours. The bitter taste is soon tolerated and even relished. The small amount of caffein as compared with tea or coffee is rather notable; less than one-half the amount in tea, and the lack of volatile oils which often disagree with digestion is another point in its favor. The correspondent thinks that from a hygienic point of view maté ought to be preferred to other beverages that contain caffein, as its stimulation is not at all debilitating. In only very rare instances has he ever seen it produce any untoward symptoms. Some very neurotic and neurasthenic individuals bear it badly and have their symptoms aggravated if they take it in excess. He admits that a maté habit may be acquired and may become persistent, though no very evil effects, he says, seem to follow. Taken cold, as is the habit with some of the laborers in South America, it seems to have a bad effect, but since they subsist almost entirely on it for days at a time it is not remarkable that they should be anemic and emaciated. They are, moreover, usually subjects of malaria, and it is claimed that taking cold maté in excess makes them more subject to the malarial infection.

There is some responsibility in suggesting a new stimulant to those who are already suffering from excess of such, but it may be that if Paraguay tea were introduced into this country it would help displace some more harmful drinks. The correspondent concludes his article with a quotation in which he says that "when the old world discovers its error in not utilizing the leaf of the ilex, and shall have found out that yerba maté is the cheapest, most wholesome and tone-giving of beverages, then the ports of Europe will be thrown open to the trade, and its population swell the demand for an article of diet that ranks among the very best." This opinion may be a little too favorable. We doubt whether maté will displace the daily beverage to which we are now accustomed, but it is nevertheless a possible addition to our luxuries.

CONSUMPTION NOT THE ONLY PROBLEM.

In its latest weekly bulletin the Chicago Health Department calls attention to the exaggerated statements that are sometimes made in regard to the prevalence of consumption, quoting one authority whose estimate would require 35 per cent. increase over the figures shown in the last U. S. Census reports, notwithstanding the fact that there has been a steady decrease all these years in the mortality from phthisis. This is only one instance of the exaggeration in which good men allow themselves occasionally to indulge when speaking of a subject in which they are strongly interested. Consumption is a scourge, but it does not follow that its evils should be overstated. A review of the consumption mortality in Chicago during the last half of the nineteenth century shows a decrease of over 40 per cent. in the ratio of mortality, at the same time that there is a 53 per cent. increase in the mortality from pneumonia since the beginning of the last decade of the nineteenth century. During the past few years the pneumonia mortality—though its excess is largely confined to about seven months of the year—has annually exceeded the total of deaths from consumption and there is a continued increased percentage of deaths from this cause. We can not credit the whole of this, as The Journal has long ago pointed out, to influenzal infection which has been rampant during the past ten or eleven years. We have other problems, therefore, beside that of consumption and which at present seem even more serious.

DANGER FROM SLEEPING CARS.

Apropos to the question of consumption we may refer to some statements made at the recent meeting of the American Public Health Association[1] in regard to the hygiene of railroad traveling, and especially of sleeping cars. One speaker said that the official investigation of a state board of health disclosed the fact that the blankets used in these conveyances were only cleaned once in every six months. Considering this in connection with the additional fact that was pointed out by another speaker that consumptives are constantly traveling on these cars, the matter becomes a serious one. There is no question that the chances for acquiring consumption are increased by modern luxuries of travel. The only consolation we have is that we have been taking these chances for many years without any appreciable harm, since consumption is apparently on the steady decrease, at least as regards its mortality, if not its incidence. This is no reason, however, for neglecting sanitary precautions, and we trust that railroad organizations, the Pullman Company and others that are re-

1. See Society Proceedings, page 1157.

sponsible for the present condition of things will bring about the changes that are needed to insure the safety of the traveling public.

POLITICAL CONTROL OF PUBLIC INSTITUTIONS.

We have troubles of our own, but there is sometimes, perhaps, a little disreputable satisfaction in knowing that others have them, too. The political management of public institutions in this country has become so patent an evil that we have almost reached the point where we accept it as inevitable. In some states the political patronage theory most seriously affects the usefulness of public charitable institutions and yet politicians can not be induced to give up what they consider their perquisites. This evil, however, exists elsewhere, and it is evidence of company in our misery to read in the *Intercolonial Medical Journal of Australasia* that the authorities there are practically the same in their methods and ideas as here. Our confrère says: "Whenever anyone attempts to overturn the belief that political patronage is the beneficial system of administration the commotion is sure to be active and immediate," and this is in reference to the stand taken by the chief secretary of the Colony of Victoria. Even in Great Britain influence may vitiate the choice of officers as in the case of one asylum a few years ago in the southern portion of the island. Nevertheless, we believe that we have been, and are, more afflicted with political control of charitable institutions than almost any other people—perhaps excepting some of the British colonies. The medical press and the medical profession have been too quiet about the matter, and it is time we used our influence as a profession to help bring the needed reform.

THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

This is one of the largest medical libraries in the world, and in many respects the best. The collection at the present time consists of about a quarter of a million medical books and pamphlets, of which 149,000 are bound volumes. One of the most important functions of the library is the preparation of its "Index Catalogue," of which one volume appears yearly. The first series of sixteen volumes, covering the entire alphabet, was completed in 1895, and the latest volume of the second series, recently published, completes all entries under the letter K. Although based on the Library of the Surgeon-General's Office, this unique work is practically an index of the medical literature of the world as published in book form and in journals. Both authors and subject-matter being indexed, it is available as a working catalogue in any large library, general or medical, and is so used in all civilized countries. This work is unique in the domain of medicine, of which it includes all branches, and in no other science or profession is the special literature indexed on the same large scale and in the same comprehensive way. The Index Catalogue is issued to public libraries and to important medical schools and societies. It is thus made as generally available to the medical profession of the country as the limited number of copies furnished will allow. Books are lent to individuals on the application of recognized libraries, assuming responsibility for their return, or if no library is available the loan is made subject to a money deposit to cover possible loss. In all cases express charges must be paid by the borrower. Rare volumes which could not be replaced in case of loss are not lent, but the great mass of literature in the library is thus put within the reach of the medical profession, to whom this excellent collection should be a source of legitimate national pride.

PRELIMINARY QUARANTINE.

Elsewhere in this issue is a communication from a correspondent containing a suggestion that, simple as it appears to be, seems worthy of attention. We all know the difficulties of diagnosis in the beginning of many infectious diseases. Diphtheria and scarlet fever are often hardly distinguishable from other conditions that are comparatively innocuous and that do not require any notification. The difficulty of diagnosing smallpox in its early stages is well known. Typhoid fever is often difficult to recognize in its incipiency. Nevertheless, it is not always possible to say when the danger of infection from these diseases begins, and the earliest warnings that can be given are advisable. The inconvenience, to say the least, of quarantining a house is such that it is advisable, where practicable, to be sure it is necessary before inflicting a home with a quarantine card. Our correspondent suggests, in cases in which there is a reasonable suspicion of a contagious disease, but in which the exact type is not yet ascertainable, that simply a notice of an infectious disease without any specification as to its nature be posted. While the idea is not a new one, having been carried out in some places, it is worth wider attention than it has received. We would amend our correspondent's suggestion by advising a card reading, "Quarantine, Probably Infectious Disease Here," to avoid the absolute declaration of infection until the diagnosis is sure. When the true nature of the disease is ascertained the attending physician could remove the card, and replace it with the one called for by the disease, or remove all quarantine if the disease proved to be non-infectious. Probably more hard feelings arise among physicians over the diagnosis of suspected cases of contagious and infectious diseases than over any other cause. If a preliminary quarantine notice would materially lessen this—and it seems that it would—here is one strong argument in favor of the measure. In some cities a card is used reading: "Quarantine"—in large letters—"Contagious Disease Here"—in smaller letters—thus suggesting that quarantine is the principal fact for notice and that it is not necessary to publish abroad details as to which particular type of contagion is represented. This would exclude the trespasser who boldly approaches a house labeled with a disease from which he has already suffered and of which he consequently has little fear, regardless of the danger of his example or of carrying the germs elsewhere. Such a card might be used for all quarantine and the exact diagnosis left to the attending physician. If a preliminary quarantine card is used, the public will be further educated on the important fact that certain diseases can not be distinguished in their incipiency.

Medical News.

ILLINOIS.

County Aids Sufferers.—The public service committee of the county board has set aside $2,000 to be used as an emergency fund for the relief of smallpox sufferers at Lemont.

Charged with Murder.—Two guards at the Illinois Hospital for the Incurable Insane, Bartonville, who are charged with having brutally beaten and abused an insane patient so that he died, have been held without bail to the grand jury, which convenes November 9.

Corrosive Sublimate for Calomel.—It is reported in the daily press that a baby in Mattoon recently died from poison. The mother took the child to the office of a physician, who, intending to give her calomel, gave her tablets of bichlorid of mercury. At the inquest the physician confessed his mistake and was exonerated by the jury.

Smallpox in Will and Cook Counties.—Dr. Elvin F. Baker, Jacksonville, inspector of the State Board of Health, after careful investigation, reports that there are 250 cases of smallpox in Dupage Township, Will County, and in Lemont Township, Cook County. The supervisors of both townships have agreed to establish a strict quarantine.

National Guard Medical Officers Meet.—The Illinois Association of Military Surgeons met, October 31, at Rush Medical College. The morning session was devoted to reports and papers; in the afternoon Professor Senn gave a clinic, and in the evening the members of the association were his guests at a dinner at the Chicago Athletic Club. Col. N. Senn, surgeon-general, was re-elected president; Major Thomas J. Sullivan, surgeon Seventh Infantry, vice-president, and Major Charles Adams, surgeon First Infantry, secretary-treasurer.

Chicago.

Personal.—Dr. and Mrs. Llewellys F. Barker sail, November 7, for Europe, on the *Lahn*.——Dr. and Mrs. Andrew M. Harvey are spending a few weeks in the south.

Increase in Infectious Diseases.—Diphtheria continues to increase—23 per cent. in the last fortnight—and scarlet fever fully 60 per cent. comparing the last half with the first half of the month. Three cases of smallpox were removed to the Isolation Hospital—all from Lemont and none vaccinated.

For New Laboratory Superintendent.—An original entrance examination will be held by the civil service commission, November 17, for superintendent of the city laboratory to succeed Dr. William K. Jaques, instead of filling the office from the eligible list of medical inspectors. Dr. Wynekoop will be in charge temporarily.

Mortality for the Week.—Of the total 473 deaths reported for last week, 63 were due to pneumonia, 52 to consumption, 48 to heart disease, 37 to Bright's disease, and 36 to violence. The death-rate for the week was at the rate of 13.07 per 1,000. This is higher than during either the previous week or the corresponding week of last year.

Dr. Frank Billings' Illness.—The many friends of Dr. Billings will be sorry to learn that it became necessary for him to submit to a second operation. He was doing well until a slight hemorrhage developed about 15 days after the operation, which finally became so severe that it was necessary to reopen the wound. Since the operation, which occurred October 31, there have been no more hemorrhages and the patient is doing well.

October's Deaths.—The total 1,962 deaths from all causes reported during October furnish an annual rate of 12.25 per 1,000. This is 13.6 per cent. less than the average October rate of the previous ten years, which was 14.19. With one exception it is the lowest October rate on record. There were 282 more deaths of males than females—an excess of 25 per cent. The 195 pneumonia deaths—almost 10 per cent. of the total—is unusual for October, and is ominous for the future, says the department of health.

Dr. Stevenson Critically Ill.—Dr. Sarah Hackett Stevenson, one of the most eminent medical women of America, and prominent not only in medical circles, but in all work for women, suffered a cerebral hemorrhage while in her office, October 30. She was taken to Augustana Hospital, and thence, on November 3, to St. Joseph's Hospital. She is completely paralyzed, and it is feared that the paralysis may be permanent. The Medical Woman's Club announces that the banquet which was to have been given in the honor of Dr. Stevenson, November 14, is indefinitely postponed.

INDIANA.

Infectious Diseases.—Typhoid fever is said to be raging at Goshen.——Lafayette has 18 cases of smallpox, all of mild type.——Dr. Seth B. Melton, Fontanet, reports 75 cases of smallpox in that town and its vicinity.

September Deaths.—The total number of deaths reported was 2,766, an annual rate of 13.4 per 1,000. In the corresponding month last year 2,812 deaths were reported, a rate of 13.6. In the preceding month there were 2,933 deaths, rate 13.7. By important ages the deaths were: Under 1 year, 519; from 1 to 5 years, 245; from 5 to 10 years, 65; from 10 to 15 years, 66; 65 years and over, 557. Some important causes of death were as follows: Tuberculosis, 347; typhoid fever, 166; diphtheria, 35; croup, 3; scarlet fever, 15; measles, 6; whooping cough, 5; pneumonia, 110; diarrheal diseases, 265; cerebrospinal meningitis, 35; influenza, 3; puerperal fever, 12; cancer, 92; violence, 184; smallpox, 2. The city death rate was 16.4 and the country death rate 11.8 per 1,000. The death rates of the cities having over 25,000 were: Indianapolis, 17; Evansville, 14.8; Fort Wayne, 14; South Bend, 17.2, and Terre Haute, 17.6 per 1,000.

Disease Prevalence in September.—Typhoid fever stood first in area of prevalence, as was also the case in the preceding month. Deaths occurred in 66 counties, there being a total of 166. Diarrhea was second in area of prevalence, as was also the case last month. Tonsillitis and bronchitis were more prevalent than they were in the preceding month. There were 68 cases and 2 deaths from smallpox in 16 counties. This is a decided drop as compared with the preceding month, also compared with the corresponding month last year. It is likely that all the cases were not reported, for it has appeared in the last few days in Clay County, among children, and was diagnosed as chicken-pox. The order of prevalence of diseases was as follows: Typhoid fever, diarrhea, tonsillitis, rheumatism, bronchitis, intermittent fever, dysentery, cholera morbus, scarlet fever, cholera infantum, pneumonia, inflammation of bowels, diphtheria, measles, pleuritis, influenza, erysipelas, whooping cough, puerperal fever, meningitis.

Personal.—Dr. and Mrs. Hamilton Wolfe, New Albany, recently celebrated the sixty-fourth anniversary of their marriage.——Dr. John Z. Powell, Logansport, has been placed in charge of the National Home for Disabled United States Volunteer Soldiers at Johnson City, Tenn.——Dr. Seymour C. Wilcox, New Albany, recently celebrated his eighty-fifth birthday.——Dr. Marshall Varble, Jeffersonville, has been operated on for appendicitis at Norton Infirmary, Louisville.——Dr. James W. Estes, Arlington, suffered a loss of $600 by a fire in which his instruments, office furniture and medicines were destroyed.——Dr. Walter R. Francis has resigned as treasurer of the Marion Hospital.——Dr. and Mrs. John M. Kitchen recently celebrated their golden wedding in Chicago.——Dr. Kent K. Wheelock, Fort Wayne, has sailed for Europe.——Drs. Ernest C. Reyer, Albert C. Kimberlin, and Thomas E. Courtney have been appointed members of the Indianapolis Board of Health.——Dr. Mavity J. Spencer, Indianapolis, has been appointed secretary of the board of health and city sanitarian.——Dr. Joseph D. Cain has been appointed superintendent of the city dispensary, Indianapolis.

IOWA.

Smallpox.—At Quincy 30 cases are reported, at Corning three cases have occurred, and at Runnells there have been 20 cases in the last month.

Personal.—Dr. John C. Rockafellow, Des Moines, has gone to Arizona on account of impaired health.——Drs. Hornibrook have constructed and opened a hospital at Cherokee.

Hospital Association Organized.—The Atlantic Hospital Association has been incorporated with a capital stock of $10,000 by Drs. Carlton V. Wilder, Thomas B. Morris, and others to operate a hospital in Atlantic.

Physician Enjoined from Practice.—In the case of Dr. Horace W. Barnard, Emmetsburg, who invoked the aid of the law to prevent Dr. J. C. Davies, whose practice, property and residence he had bought, from practicing again in Emmetsburg, the court has decided that the temporary injunction shall be made permanent, and that Dr. Davies shall not practice in Emmetsburg nor in Palo Alto County.

Lamoni Murder Decision Reversed.—The Supreme Court has reversed the decision of the lower court, by which Dr. J. W. Crofford, Lamoni, was sentenced to twenty years in the penitentiary for the murder of Miss Maude Stone by a criminal operation, on the ground that one of the jurors had expressed an opinion on the case and because of errors in the trial. Dr.

Crofford will accordingly have a new trial. Despite the refusal of the State Board of Medical Examiners to restore his certificate he has continued to practice since his release on bail.

KANSAS.

Typhoid Fever in Kansas City.—An epidemic of typhoid fever is prevailing in a small neighborhood in the central part of Kansas City, where 27 cases are reported.

Personal.—Dr. Claude Mayfield, Hutchinson, has been appointed health officer of Reno County, vice Dr. George R. Gage, resigned.——Dr. George M. Minney, Wichita, has been appointed captain and assistant surgeon, K. N. G., and assigned to Battery B.

Physician Found Not Guilty.—In the case of Dr. Jacob L. Hausman, Marysville, charged with having caused the death of Kate Strohm by a criminal operation, the state failed to produce any testimony against the accused, and the judge instructed the jury to find him not guilty.

License to Stay Revoked.—Dr. Robert E. Gray, Garden City, who was tried in Chicago for the murder of a girl whom he is said to have taken to that city to have a criminal operation performed, and whose license was revoked several months ago by the State Board of Medical Registration and Examination on the ground of his immoral character, has been refused a rehearing by the board.

MARYLAND.

Bequests.—Dr. William J. Todd, Mount Washington, receives $500 and Dr. Josiah S. Bowen $6,500, by the will of Mrs. Adeline P. Bowen.

Personal.—Dr. Alexander D. McConachie, Baltimore, has been elected professor of materia medica and therapeutics in the Maryland Medical College.

Hospital Society Election.—The first meeting of the Johns Hopkins Hospital Medical Society for 1903-4 was held October 12. Dr. Thomas B. Futcher was elected president and Dr. Charles P. Emerson, secretary.

Compromise Verdict.—The suit for $10,000 for alleged malpractice in an operation for tumor brought against Dr. Edwin B. Claybrook, Cumberland, was decided October 25, by a compromise verdict of one cent for the plaintiff. Dr. Claybrook is a B. & O. R. R. surgeon.

Deaths of the Week.—There were 184 deaths in Baltimore last week, an annual death rate for the colored of 30.43 per 1,000, and of the white of 13.12 per 1,000. There were 6 deaths from typhoid fever, and 20 each from consumption and pneumonia. Diphtheria is on the increase.

New Clinical Society.—The American Society of Clinical Surgery, a new national organization devoted purely to clinical demonstrations, will be organized at the Johns Hopkins Hospital, Baltimore, November 13. The committee in charge consists of Drs. Harvey Cushing, Joseph C. Bloodgood, and John M. T. Finney of the Johns Hopkins Medical School. The society will adjourn in the evening and go to Philadelphia, where several sessions will be held at the University of Pennsylvania and at the University of Pennsylvania hospitals. Dr. George E. Brewer, New York, is provisional president, and Dr. James G. Mumford, Boston, secretary. The aim of the society is to stimulate its members in original thought and research, to develop and improve methods of surgical teaching and to promote good fellowship among its members. A small membership and semi-annual meetings are proposed.

NEW YORK.

Personal.—Dr. Henry D. Didama, Syracuse, who underwent an operation October 25, is reported to be improving.

Cornerstone Laid.—The cornerstone of the new St. Luke's Hospital, Utica, was laid on October 17. Mr. and Mrs. Frederick T. Proctor, Utica, have given the site for the hospital and will build and equip it, and the whole will represent, when finished, an outlay of nearly $200,000.

Notice of Examinations.—The State Civil Service Commission will hold examinations for the positions of superintendent and resident physician in the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis, Nov. 28, 1903, in various cities throughout the state. Intending competitors must fill out application blanks and file them in the office of the commission before noon of November 23. Applicants will be duly notified of the time and place of examination. Non-residents of the state will be admitted. The requirements and conditions of examination are as follows:

Medical Superintendent.—Probable salary, $3,500 a year, with quarters and maintenance for the superintendent and his family. The duties of the position are defined by Chapter 416 of the Laws of 1900, which further provides that such medical superintendent shall be a well-educated physician, a graduate of a legally chartered medical college, who has had at least six years' actual experience in the practice of medicine, including at least one year's experience in a general hospital.

Resident Physician.—Probable salary, from $900 to $1,500 a year, with quarters and maintenance. Duties to be prescribed by the medical superintendent, under the direction of the board of trustees. Candidates must be regularly graduated physicians and have had at least two years' experience in the practice of medicine, including one year's actual experience in a general hospital.

For full particulars, application blanks, etc., address Chief Examiner, State Civil Service Commission, Albany.

New York City.

Another Convalescent Hospital.—It is announced that a hospital for convalescents will soon be opened in connection with Lebanon Hospital.

Personal.—Dr. Louis Stern and wife were badly hurt by being pinned down by their automobile which was thrown into an unguarded excavation.

Resolutions on Dr. Pilgrim's Death.—The faculty of the New York School of Physical Therapeutics has adopted resolutions eulogistic of its departed associate, Dr. Maurice Fischer Pilgrim.

St. Luke's Hospital Report.—The managers of the hospital report that during the past year, ending with St. Luke's Day, there were treated in that hospital 2,642 persons, and that the expenditures exceeded the receipts by $32,166.81.

Lectures on Skin Diseases.—Dr. L. Duncan Bulkley will give a course of clinical lectures on diseases of the skin to the medical profession at the New York Skin and Cancer Hospital, on Wednesday afternoons at 4:15, commencing November 4.

Larceny of Hospital Supplies.—On complaint of the charities commissioner an attendant in the King's Park Insane Hospital, formerly employed in Bellevue Hospital, was arrested on the charge of having stolen from the hospitals of the department, bandages and other surgical supplies worth $4,000.

Druggist Not Responsible in Counter Prescribing.—The appellate division of the New York Supreme Court handed down October 30 an important decision regarding the legal liability of druggists for injuries received by patients whom they see fit to treat. The plaintiff alleged that he had received a slight cut on his thumb and that a drug clerk bandaged the wound and instructed him to keep the dressing wet with a carbolic lotion; that he had put five or six drops of the acid on the bandage, with the result that blood poisoning set in, necessitating the amputation of the thumb. The defense was that druggists were not permitted, under the law, to practice medicine or surgery, and that the plaintiff was guilty of contributory negligence. This contention was upheld both by the trial court and the appellate court.

OHIO.

Hospital Incorporated.—Mercy Hospital, Columbus, has been incorporated with a capital stock of $60,000.

Colored Hospital.—The Peter Fosset Memorial Hospital for colored people took corporate form October 8, when its board of trustees took formal charge. The hospital contains about twenty beds. Such a hospital has been much needed inasmuch as very few of the hospitals of Cincinnati accept colored people. The active staff is as follows: Drs. E. Duval Colley, Norval C. Vaughan, W. A. B. Kerr, Louis A. Cornish, and James C. Erwin.

Personal.—Dr. Benjamin F. Lyle, Cincinnati, has been made director of the bureau for the free examination of consumptives.——Dr. Herbert Bacon, Bloomville, has suddenly become totally blind.——Dr. Theodore W. Rankin, Columbus, has returned from abroad.——Dr. Carl Hiller has been appointed bacteriologist of the Cincinnati City Hospital, vice Dr. Albert B. Devers, resigned.——Dr. James Donnelly and family, Toledo, have returned from Europe.

New Sanitary Code Proposed.—A new sanitary code largely extending the powers of the Columbus Board of Health has been proposed by Dr. W. T. Howard, Jr. Under this code the board will be given enlarged power to control communicable diseases, the sanitary conditions of schools, factories, dwellings, offices, public buildings and vehicles, the protection of foods and the abatement of nuisances. Residences will be more strictly placarded and disinfected. District physicians will report on the cleanliness of school buildings. Teachers will be instructed in the symptoms of children's diseases. The New York rules have been adopted for controlling tuberculosis. The sale of rubber tubes for nursing bottles will be prohibited.

The Colleges.—The medical colleges of Cincinnati open this fall under slightly changed conditions. The medical department of the University of Cincinnati (Medical College of Ohio) opens with conditions unchanged except for additional equipment, and has registered about the same number of students as last year. The Miami Medical College has absorbed two minor colleges during the past year. One year ago the Cincinnati College of Medicine and Surgery closed its doors and a large part of the faculty went to Miami. During the past summer the Laura Memorial College, a woman's school, has been directly transferred to the Miami. The laboratories of the Laura Memorial College were well equipped and will be used by the Miami for teaching. The teaching privileges at the Presbyterian Hospital are transferred with the college. The attendance at the Miami will probably equal that of last year.

PENNSYLVANIA.

New School Book Committee.—As a committee for the examination of school text-books for the Pennsylvania State Medical Society the following have been appointed: Drs. Andrew B. Brumbaugh, Huntingdon; John W. Ellenberger, Harrisburg; Edgar M. Green, Easton; Edward Stieren, Pittsburg; and S. Solis-Cohen, Philadelphia.

The Allegheny Quarantine Matter.—The friction between the State Board of Health and the health officials of Allegheny in regard to dealing with the smallpox situation, has probably ended by the local authorities adopting the measures insisted on by the state board. There will likely be no general quarantine of the city, but quarantine will be vigorously carried out where found necessary, and reports of the condition will be made regularly to the state board.

Philadelphia.

Diphtheria is Prevalent.—There were 94 new cases of diphtheria for the week ended October 31 and 22 new cases of smallpox. Typhoid fever has materially decreased, there being 69 new cases for the week.

College and Hospital Personal Mention.—Dr. John H. Gibbon has been made one of the surgeons to the Pennsylvania Hospital to fill the vacancy made by the death of Dr. Thomas G. Morton.——Dr. Judson Daland, for 21 years a member of the faculty of the University of Pennsylvania, has been elected professor of clinical medicine of the Medico-Chirurgical College, to succeed Dr. William E. Hughes, resigned.

GENERAL.

The National Association for the Study of Epilepsy and the Care and Treatment of Epileptics held its third annual meeting at Philadelphia November 5.

Writers on hematologic topics, according to a letter we have received, are asked to send two reprints of their articles or two numbers of the corresponding journals to Charles E. Simon, M.D., American editor of the *Folia Hæmatologica*, 1302 Madison Avenue, Baltimore, for the purpose of review in that journal. In the place of reprints, authors' abstracts will also be received, and can be published immediately after, or coincidently with, the appearance of the original.

New Naval Titles Asked.—Surgeon-General P. M. Rixey, U. S. Navy, in his annual report calls attention to the lack of military rank in the titles now given the medical officers of the Navy and to the lack of dignity when the titles are compared with those of civil life or of other military services. He recommends titles which show both the rank and the grade, as follows:

> In place of surgeon general, surgeon admiral, and in the other grades, medical director to become surgeon captain; medical inspector, surgeon commander; surgeon, surgeon lieutenant commander; passed assistant surgeon, surgeon lieutenant, and assistant surgeon, surgeon lieutenant, junior grade.

Surgeon-General Rixey declares there is necessity for the thorough upbuilding of the Naval Medical School. He advocates the complete renovation of all naval hospitals in need of it. He recommends the building of a new hospital on Seavey's Island, Portsmouth, N. H., at least remodeling of the hospital at Chelsea, Mass.; and the enlargement of the hospital at Pensacola sufficiently to accommodate the sick of the fleets which maneuver in the Caribbean each winter. He asks that two hospital ships be authorized on plans evolved from the experience with the *Solace*, each to cost $1,630,000, and recommends a naval sanitarium for the cure of tuberculosis.

The Craig Colony Prize of $200 is offered by Dr. Frederick Peterson for the best original essay on the etiology, pathology and treatment of epilepsy. The conditions to be complied with are that the paper must show original research work; the subject-matter must be original; the paper must be accompanied by a sealed envelope containing the name and address of the author and bearing on the inside a motto or device, which is also to be inscribed on the essay; the manuscript must be in English and be sent to Dr. Peterson at 4 West 50th Street, New York, before Sept. 30, 1904. The successful manuscript becomes the exclusive property of the Craig Colony.

The Alvarenga Prize for 1903 has been awarded to Dr. William S. Carter, Galveston, Texas, for his essay entitled: "The Relation of the Parathyroids to the Thyroid Glands." Dr. Thomas R. Neilson, secretary, informs us that the College of Physicians of Philadelphia will make the next award of the Alvarenga Prize (being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about $180) on July 14, 1904. Essays may be on any subject in medicine, but can not have been published, and must be received by the secretary of the college by May 1, 1904. Each essay must be sent without signature, but marked with a motto and be accompanied by a sealed envelope having on its outside the motto and within the name and address of the author.

CANADA.

St. Boniface Hospital Addition.—A four-story addition to this hospital at Winnipeg, to cost $100,000, will be built.

Jubilee at Queen's University.—The medical faculty of Queen's University, Kingston, Ont., celebrated its jubilee, October 16, by the opening of a new physiologic and geologic building.

Tuberculosis Sanatorium for British Columbia.—The Ministerial Association of Vancouver desires a sanatorium in British Columbia, and a provincial association for the handling of tuberculosis will be formed.

Toronto Dispensary.—Last year about 13,000 of the sick poor of Toronto were here treated. The dispensary has quite outgrown the accommodation and equipment of the present building, and an appeal has been made for funds for the erection and equipment of a new building next spring.

Infectious Disease Circular in British Columbia.—The Health Department of British Columbia will distribute leaflets containing information on common infectious diseases among the school children. The object is to make the parents more familiar with these diseases. A daily report from the teachers regarding pupils absent through illness will be required whenever disease is prevalent or on the increase.

Personal.—Dr. J. C. Connell has been appointed dean of the medical faculty of Queen's University, Kingston, Ont., in succession to the late Dr. Fife Fowler.——Dr. William Bayard, St. John, N. B., has resigned from the chairmanship of the New Brunswick Board of Health. Dr. Bayard has for more than 40 years been active in board of health matters in that province, and is one of the oldest practitioners in Canada.——Dr. R. Tait McKenzie of the anatomy department of McGill University, Montreal, has been appointed chairman of the Canadian Committee for the St. Louis World's Fair Olympic Games.

A New Western Hospital for Montreal.—At the quarterly meeting of the board of governors of the Western Hospital, Montreal, held last week, it was stated that a new hospital would probably be erected in the spring and that it would provide good accommodation for at least 100 patients. The building would cost in the neighborhood of $100,000. The report of the medical secretary showed that 146 patients had been received into the ward during the past quarter while 1,941 consultations had been given in the outdoor department. The treasurer's report showed the finances to be in a satisfactory condition.

FOREIGN.

The Picture Postal Card in the Hospitals.—The Paris authorities have originated the idea of allowing each hospital to print a set of ten picture postal cards illustrating the various services and scenes in the hospitals. They are to be sold by the doorkeeper for the benefit of the sick.

Official Endorsement of the Biologic Blood Test.—Austria formally adopted, some time ago, this biologic method for forensic cases, and made arrangements for the production of the prepared serum for the purpose. Prussia has followed this example and recommends that this test should be used in forensic cases to supplement and complete others. Four stations have been appointed for the production of the serum and the carrying out of the tests, including the Institute of Hygiene at Greifswald, the Institute of Experimental Therapy at Frankfurt, and the Institute for Infectious Diseases at Berlin.

Some Statistics of Fatal Illnesses.—The physicians in Bavaria have been instituting an inquiry as to the number of persons without medical attendance in their last illness. They find that in a large part of the country a physician was summoned in less than half of the cases of illness that terminated fatally and in certain districts only 10.5 per cent. of the fatal cases had any medical attendance. The proportion is larger in the cities. In Baden 71.3 per cent. had had medical attendance and in Mosbach 62.1 per cent. Only 51.7 per cent. of the children under one year had had medical attendance during their last illness, but the proportion rises to 91.9 per cent. in cases of children more than a year old.

Novel Application of Drunkards as Object Lessons.—The cable states that the friends of temperance in the Russian city of Kieff have installed warm, comfortably-equipped halls in three different quarters of the town to which the police have orders to carry persons found intoxicated in the streets. Each hall is divided into two sections, one for men, the other for women. They are under the control of a physician, who sees that the "guests" are properly attended to until they become sober, when they are liberated. These halls are open to the public at all hours, the theory being that nobody but a confirmed drunkard will risk being seen by his townsmen lying drunk in a public hall. The halls have been in use a month and have sheltered intoxicated persons. The average time required for becoming sober was ten hours.

Vital Statistics in Germany.—The German government has recently published the statistics of the causes of death during the last twenty-five years in the empire. All diseases show a remarkably reduced death rate except certain gastro-intestinal affections. The general mortality has been reduced from 26.73 per 100,000 to 20.46. The average per five years of the deaths from tuberculosis has been reduced from 357.7 to 218.7; acute respiratory affections, from 308.6 to 258.5; typhoid and gastric fevers, from 43.6 to 10.4; diphtheria and croup, from 99.8 to 31.1; puerperal fever, from 14.4 to 5.1. On the other hand, the mortality of the acute intestinal affections, dysentery, etc., has increased from 264.1 to 287.8. The number of viable children born has also diminished. This higher mortality from gastro-intestinal affections is an actual retrogression, the report concludes, and attributes it to the increased participation of women in wage-earning occupations. The more women who enter industrial life the larger the number of infants who are deprived of breast milk. The above statistics apply only to towns of 15,000 inhabitants or over. Fuller details are quoted in the *Allg. Med. Ct.-Ztg.*, October 17.

A Warning to Wealthy Parents.—Under this heading reference was made last week to a sensational case of sadism in which the victims were the two sons of a wealthy Berlin banker entrusted to a private tutor. It seems that a Berlin neurologist had been briefly consulted by the mother, who commissioned him to go and visit her sons in the country to see if a course of suggestive treatment would be advisable to supplement the corporal punishment which the tutor applied in moderation with her consent to break them of long-established habits of masturbation and untruthfulness. He had asked for consultation with a specialist. The neurologist, therefore, visited them once and saw nothing suspicious—physical examination was not allowed by the tutor, who feared it might detract from his authority, and the neurologist had been particularly cautioned not to do or say anything to offend the highly prized and very sensitive tutor. The boys complained only of sleeplessness. The neurologist advised abandonment of corporal for psychic measures, and that a specialist should be sent down every month to inspect their progress. Even when the tutor was under observation for weeks in an asylum after his arrest, his appearance and behavior suggested nothing abnormal.

Battle of the Clubs in Germany.—The physicians connected with the medical aid insurance societies in Germany have resigned in a body at so many places that the advertisements warning outside physicians not to negotiate with the societies without consulting the undersigned, have become so numerous that they are now condensed into a single display ad in our German exchanges. Twenty-five towns are specified, and the name of the local representative of the *Leipziger Verband* is signed to each. The *Verband* announces that it will impart information at any time free of charge in regard to vacancies, medical assistants wanted and other matters of practical interest, with advice as to desirable points to locate in, etc. Our exchanges also comment with pleasure on the successful outcome of the negotiations between the medical officers and the societies at many points, thanks to the united stand taken by the profession. We note that the names of Gera and Mühlhausen are still advertised as points where the strike is still on, the particulars of which have been mentioned in these columns from time to time. The societies resort to numerous tricks to contract with outside physicians, the latest being to conceal both name and place in advertising, and have the mail addressed to the office of the advertising journal, sending a man to confer with the applicant at his home. Our exchanges no longer accept unsigned ads of this kind unless the writer is personally known to them.

LONDON LETTER.

The Sanitation of India.

An elaborate report on the sanitation of India in 1901 has been issued. The population amounted to 293 millions, showing an increase of 1.3 per cent. on 1891, but in several districts there was a considerable decrease. A marked relation was found between decreased population and diminished rainfall. The decennium included 2 famine years and cholera and plague were exceptionally prevalent. The decennial birth rates and death rates showed great variations; the highest provincial birth rate was 50.5, the lowest 14.67; the highest death rate was 119.9, the lowest 15.9. Cholera caused 4½ million deaths during the decennium. In 1901 the birth rate for the whole of India was 34.7, against 36.6 in 1900. The fever mortality was low, being 18.7 against 22.8 in 1900. The cholera death rate was low, 1.20, against 3.70 in 1900. The smallpox death rate was 0.40. It is estimated that about 33 per cent. of the children born are vaccinated. There was a large increase of plague mortality, the deaths amounting to 283,988, against 92,807 in 1900.

Correspondence.

Preliminary Quarantine.

ELMHURST, ILL., Oct. 26, 1903.

To the Editor:—I wish to suggest a plan that I believe, if carried out, would be of great value to the public and at the same time would relieve the physician of a great load of responsibility. It is difficult in the incipiency of many infectious diseases to establish a positive diagnosis. Measles, rötheln and scarlet fever are at times confused, as are tonsillitis and diphtheria, chicken-pox and smallpox. It is often difficult to establish a strict quarantine in these doubtful cases. The public, in general, has a wholesome dread of placarded houses, and the strict isolation of the patient would be fostered if in every infectious disease the house be placarded with a sign like the following: "Contagious disease here," or "Infectious disease here." This sign could be put up in the beginning of every infectious disease, and in this manner we could quarantine measles, rötheln, chicken-pox, parotitis and tonsillitis. This sign could be supplemented by the other placards of scarlet fever, diphtheria, etc., but this would not be necessary.

HENRY F. LANGHORST, M.D.

Marriages.

WESLEY G. BAILEY, M.D., to Mrs. Walter Elrod, both of Chicago.

ROY E. BROWN, M.D., to Miss Carolyn Hutt, both of Chicago, October 6.

EDWIN ELLIOTT ARMSTRONG, M.D., to Myrtle Demuth, both of Sylvania, Ohio, October 14.

CHARLES M. NODLER, M.D., to Miss Josephine Schnens, both of Denver, Colo., October 5.

JOHN J. MULDOON, M.D., to Miss Johanna Isabella, Dwyer, both of Chicago, October 19.

ARTHUR EMORY SUDLER, M.D., to Miss Louise Painter Gilpin, both of Baltimore, October 21.

EDWIN K. DINGES, M.D., Pekin, Ill., to Miss Margaret Alice Wood of Decatur, Ill., October 22.

FRANK W. LOCKWOOD, M.D., South Bend, Ind., to Miss Florence E. Jenkins of Tecumseh, Neb.

GEORGE H. VERNON, M.D., East St. Louis, Ill., to Miss Maud Cooper of Bradfordton, October 21.

CHARLES W. BURT, M.D., to Miss Jennie Margaret Barr, both of Valley Junction, Iowa, October 28.

FINN. KOREN, M.D., Appleton, Minn., to Miss Benedicta Solberg of Minneapolis, Minn., October 20.

EDWARD EUGENE GILLECK, M.D., to Miss Charlotte Irene Thompson, both of Niagara Falls, N. Y.

HERBERT POLLOCK CRAWFORD, M.D., Crafton, Pa., to Miss Florence Barr of Philadelphia, October 20.

CLAYTON C. PATCHEN, M.D., to Miss Arminta M. Reed, both of Mount Sterling, Ill., at Jacksonville, Ill., October 14.

RUPERT L. TURRELL, M.D., Conneaut, Ohio, to Miss Minnie Wheeler of Windsor, N. Y., at Cleveland, Ohio, October 20.

JAMES CLINTON BALLARD, M.D., U. S. P. H. and M.-H. S., to Miss Luda B. Bowman, both of Natchez, Miss., September 17.

LEE M. FRANCIS, M.D., Pueblo, Colo., to Miss Ethel Mary Waldron of Colorado Springs, Colo., in London, England, October 28.

Deaths.

John K. Lineaweaver, M.D. Jefferson Medical College, Philadelphia, 1861, a member of the American Medical Association, Medical Society of the State of Pennsylvania, and Lancaster County Medical Society, and president of the Columbia Board of Health for many years, died at his home in Columbia, October 18.

George C. Hays, M.D. Medical College of Indiana, Indianapolis, 1876, one of the founders of the Fountain County Medical Society, died at his home in Hillsboro, Ind., October 26, from tuberculosis, after a lingering illness, aged 67.

William R. McMahon, M.D. Rush Medical College, Chicago, 1868, chief surgeon of the Southern Railroad, Louisville Division, for several years, died at his home in Huntingburg, Ind., October 23, from apoplexy, aged 67.

Joseph N. Guerard, M.D. University of Maryland, Baltimore, 1899, a member of the Georgia Medical Society of Savannah, died at his home in that city, October 23, from Bright's disease, after a long illness, aged 28.

Sarah F. Mackintosh, M.D. Woman's Medical College of the New York Infirmary, 1872, died at her home in Asbury Park, N. J., October 19, aged 67. She was a member of the Monmouth County Medical Society.

Jonathan Taft, M.D. University of Michigan, Ann Arbor, 1881, founder and dean of the dental department of the University of Michigan, died at his home in Ann Arbor, October 15, after a short illness, aged 83.

Quincy E. Andrews, M.D. Jefferson Medical College, Philadelphia, 1865, an early settler of the Red River Valley, died at his home, eight miles north of Fargo, N. D., suddenly, from apoplexy, October 22, aged 69.

Benjamin Atkins Harding, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1870, died at his home in Blackstone, Ill., October 21, after an illness of ten days, from influenza, aged 61.

Daniel M. Schaeffer, M.D. College of Physicians and Surgeons, Baltimore, 1890, died from septicemia, after an illness of three weeks, October 21, at his home in Harper's Ferry, W. Va., aged 36.

Robert H. O'Hara, M.D. Jefferson Medical College, Philadelphia, 1865, died at his home in Williamstown, Ky., October 20, from kidney disease, aged 65. He retired from active practice in 1878.

Philip Roberts, M.D. Eclectic Medical Institute, Cincinnati, 1866, died at his home in Richmond, Ky., October 22, from paralysis, aged 70. He was twice state senator from his district.

William E. Waters, M.D., lieutenant colonel and deputy surgeon-general, U. S. Army, retired, died at his home in Washington, D. C., October 27, from acute gastritis, aged 69.

Laban C. Winsor, M.D. Bellevue Hospital Medical College, New York, 1885, died from consumption at his home in Livermore, Cal., October 21, after a long illness, aged 41.

Charles E. Decker, M.D., assistant surgeon U. S. P. H. and M.-H. Service, University of Michigan, Ann Arbor, 1891, died at his station in San Diego, Cal., October 22.

Asa Hopkins Churchill, M.D. Yale University, New Haven, 1867, a member of the Connecticut Medical Society, died at his home in Meriden, October 24, aged 72.

George W. Carpenter, M.D. University of Michigan, Ann Arbor, 1853, formerly of Chicago, died at his home in San Francisco, Cal., October 3, aged 87.

Zaremba W. Waldron, M.D. University of Pennsylvania, Philadelphia, 1871, of Jackson, Mich., died at Ann Arbor, Mich., October 1, from apoplexy, aged 60.

William B. Coyle, M.D. Queen's College, Belfast, Ireland, 1868, an early practitioner of Nelson County, N. Dak., died recently at his home in Lakota.

Benjamin Franklin Payne, M.D. Eclectic Medical Institute, Cincinnati, 1857, died at his home in Steubenville, Ohio, from paralysis, October 22, aged 76.

John W. Brown, M.D. Miami Medical College, Cincinnati, 1873, died at his home in Bailey, Texas, October 7, after a surgical operation.

Rose F. Monnish, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882, died at her home in Atlanta, October 16.

Edwin Ashton, M.D. Cleveland Medical College, died at his home in Lima, Ohio, October 21, after an illness of four days, aged 77.

Lafayette Z. Coman, M.D. University of Michigan, Ann Arbor, 1879, died at his home in Boulder, Colo., October 18, from pneumonia.

Henry O. Hearn, M.D. Louisville Medical College, 1894, died at his home in Lexington, Ind., October 23, aged 35.

Emanuel Ridgeway, M.D. Chicago Medical College, 1878, died at his home in Morris, Ill., October 17, aged 71.

Deaths Abroad.

William Johnson Walsham, M.B., C.M., Aberdeen, 1871; F.R.C.S. England, 1875, successively assistant demonstrator of anatomy, demonstrator of anatomy, demonstrator of practical surgery, lecturer on anatomy and lecturer on surgery at St. Bartholomew's Hospital Medical School, London, one of the most eminent teachers of anatomy and surgery in Great Britain, died at his home in London, October 5, aged 56. His work on theory and practice of surgery reached an eighth edition before his death.

George Lawson, F.R.C.S. England, 1857, staff assistant surgeon throughout the Crimean War; surgeon to Middlesex Hospital, London, for 33 years; eminent as a specialist on the eye, and surgeon-oculist to the late queen, died at his home in London, October 12, after an illness of three years, aged 72.

James Robert Wallace, M.D., F.R.C.S., secretary of the Indian Medical Association; editor of the *Indian Medical Record*, died in Calcutta, September 27, after an illness of several months, following a severe attack of pleurisy.

Thomas James Pickburn, M.D. Aberdeen, 1874; M.R.C.S. England, 1876, one of the founders of the Hospital for Sick Children, Sydney, died from angina pectoris, at his home in that city, August 18, aged 57.

Osman F. Hall, M.D. Northwestern University Medical School, Chicago, 1896, a medical missionary in West China, died recently at his post of duty at Chung King, aged 37.

Book Notices.

TEXT-BOOK OF DISEASES OF THE EYE. For Students and Practitioners of Medicine. By Howard F. Hansell, A.M., M.D., Clinical Professor of Ophthalmology, Jefferson Medical College, and William M. Sweet, M.D., Demonstrator of Ophthalmology, Jefferson Medical College. With Chapters by Christian R. Holmes, M.D.; Casey A. Wood, M.D., D.C.L., and Wendell Reber, M.D. With 256 Illustrations, Including Colored Plates. Cloth. Pp. 532. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

This book is one that will be received with favor by the student and practitioner. It is a plain, clear statement of the principal facts of ophthalmology throughout, with a definition of terms that is clear, a description of conditions and methods that is at once concise and readily intelligible, and is a most satisfactory treatment of its very comprehensive subject. We find some matters here more easily explained with the aid of the illustrations and text than we have found them in some of the other text-books on the subject, and yet there is very little superfluous material. The illustrations are admirable and numerous. We notice certain additions, one of which seems to us a little novel in a work of this kind, though we presume that it has also been included elsewhere, that is, the chapter by Dr. Casey Wood on ocular symptoms in general diseases. The other two contributed chapters by Dr. Wendell Reber and Dr. Christian R. Holmes are also valuable. We

think, however, that perhaps a little more fulness in Dr. Reber's contribution might have been of some advantage; the brevity of the treatment is notable, though the subjects appear to be generally covered. Taken altogether the book is an excellent one and ought to be a success as an aid to teachers and as a ready reference book for general practitioners.

LESSONS ON THE EYE. For the Use of Undergraduate Students. Frank L. Henderson, M.D., Ophthalmic Surgeon to St. Mary's Infirmary. Third Edition. Cloth. Pp. 205. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1903.

Henderson has given us a valuable work. It is unique, as it teaches nothing but what the student and the general practitioner should know. No claim is made as to the correction to a fraction which can only be done by a trained specialist. The diseases described are such as do not require the use of the ophthalmoscope. Every teacher of ophthalmology will be pleased to place this work in the hands of his students. The illustrations are finely demonstrated and the work is presented in a very attractive form.

THE AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, M.D., Assistant Obstetrician to the Hospital of the University of Pennsylvania. Containing the Pronunciation and Definition of the Principal Words Used in Medicine and Kindred Sciences. Pp. 566. With 64 Extensive Tables. Price, Flexible Leather, with Gold Edges, $1.00 net; with Thumb Index, $1.25 net. Philadelphia, New York and London: W. B. Saunders & Co. 1903.

This is a compact, handy and practical dictionary for the physician's office desk, or to place under the buggy seat. It contains practically every term used in medicine with concise definitions.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Examiners of Alabama, Montgomery, Nov. 1-10.

Oklahoma Medical Examining Board, Enid, Nov. 10.

Committee of the Connecticut Medical Society, City Hall, New Haven, Nov. 10.

Board of Registration in Medicine of Massachusetts, State House, Boston, Nov. 10-11.

State Board of Health of West Virginia, Point Pleasant, Nov. 10, 11, 12.

Nebraska State Board of Health, Lincoln, Nov. 11.

Board of Registration of Medicine of Maine, Augusta, Nov. 11.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1.

New Mexico Board of Health, Santa Fe, Dec. 7.

Examining Board of Medical Society of Delaware, Dover, Dec. 8.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10.

Kansas Report.—Dr. O. F. Lewis, Hepler, reports the written examination conducted by the Kansas State Board of Examination and Registration at Topeka, Oct. 13 to 15, 1903; the subjects examined in were 9; questions, 90; percentage, 75; candidates, 32; passed, 28; failed, 4.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
260	R.	University Medical College, Kansas City	1899	84
261	R.	University of Iowa	1903	87
262	R.	Northwestern University, Chicago	1903	83
278	R.	Northwestern University, Chicago	1901	85
275	R.	Northwestern University, Chicago	1903	87
263	R.	Kentucky University, Louisville	1903	80
264	R.	Marion-Sims-Beaumont M. C., St. Louis.	1902	85
280	R.	Marion-Sims-Beaumont M. C., St. Louis.	1899	82
265	R.	"Medical College of Chicago" (?)	1903	85
266	H.	Hahnemann Med. College, Kansas City.	1901	82
267	R.	University of Nebraska, Omaha	1903	87
268	R.	University of Medicine, Kansas City	1884	76
269	R.	McGill University, Montreal	1899	77
270	R.	Keokuk Medical College, Iowa	1903	85
271	R.	College of Phys. and Surgeons, Chicago.	1895	82
272	R.	University of Tennessee, Nashville	1892	87
273	R.	Jefferson Medical College, Philadelphia.	1903	83
274	R.	Bellevue Hospital Med. Coll., New York	1880	83
276	R.	Baltimore Medical College	1903	83
277	H.	Hering Medical College, Chicago	1900	83
281	H.	Hering Medical College, Chicago	1903	85
279	R.	Chattanooga Medical College, Tennessee	1902	75
282	R.	College of Phys. and Surgs., St. Louis.	1892	77
283	R.	Hospital College of Medicine, Louisville	1903	84
284	R.	Rush Medical College, Chicago	1903	81
285	R.	Yale University	1876	75
286	R.	College of Phys. and Surgs., Kansas City	1903	81
287	R.	Illinois Medical College, Chicago	1903	81

FAILED.

288	E.	University of Nebraska, Omaha	1903	62
289	R.	Ensworth Med. College, St. Joseph, Mo.	1898	67
290	R.	Keokuk Medical College, Iowa	1902	71
291	H.	Hahnemann Medical College, Chicago	1889	41

The questions asked were as follows:

ANATOMY.

1. Give origin and insertion of the pectoralis major muscle. 2. Name all the muscles attached to the scapulæ. 3. What structures are severed in amputation of the thigh at the middle third? 4. Give origin and distribution of the pneumogastric nerve. 5. Give the coverings of an oblique inguinal hernia. 6. Give origin and insertion of the deltoid muscle. 7. Give the anatomy of the heart. 8. Give the number and names of the carpal and tarsal bones, respectively. 9. Give origin and distribution of the phrenic nerve. 10. Describe the structures within the eyeball.

CHEMISTRY.

1. What are molecules? 2. Is chlorin combustible or a supporter of combustion, and what occurs when a burning candle is immersed in chlorin? 3. What is nitrogen monoxid? 4. What is the chemical antidote for arsenical poisoning? 5. What is carbon dioxid, and what else is it called? 6. Where and how does sodium occur? 7. Does uric acid occur free in the urine normally. 8. What is the clinical significance of the presence of free uric acid in the urine? 9. Why do urates form deposits in joints and cartilages? 10. What is the reaction of blood during gout?

OBSTETRICS AND GYNECOLOGY.

1. What are the indications for the use of forceps? 2. Conditions requisite for the application of the forceps. 3. Under what conditions would you induce premature labor? 4. What is version? How many kinds are there? Name them. 5. How would you perform each kind of version? 6. How would you treat tumors of the mammary glands in a general way? 7. Give diagnosis, prognosis and treatment of fibroids of the uterus. 8. Give the use of the curette. 9. Give the use of the tampon. 10. How would you treat a case of puerperal eclampsia?

PATHOLOGY.

1. Define gangrene. 2. What is a sarcomatous tumor? Give its pathology. 3. Define chronic gastritis and give its pathology. 4. Give symptoms, etiology, pathology, diagnosis and prognosis of herpes zoster. 5. Give symptoms, etiology and prognosis of erysipelas. 6. Give etiology, symptoms, diagnosis and prognosis of neuritis (multiple). 7. Define lithemia. 8. Define purpura hemorrhagica. 9. Give differential diagnosis of septicemia and pyemia. 10. Describe the pathology of rachitis.

BACTERIOLOGY.

1. Define bacteria. 2. Name one cause of many fermentations. 3. Define germicides. 4. Name four germicides. 5. What does the presence of tubercle bacilli signify? 6. The presence of the Klebs-Loeffler bacilli in an exudate is positive evidence of what disease? 7. What are spores? 8. Name principal cause of poisoning from canned meats, milk and cheese. 9. In what disease do you find the streptococci? 10. Name the bacillus of diphtheria.

PHYSIOLOGY.

1. Give the history of the corpuscles. 2. Give the composition of the blood. 3. Give the phenomena of a simple muscular contraction. 4. Write a page on reflex action. 5. Give the main general facts of the circulation. 6. Describe the mechanism of the valves of the heart. 7. Describe the movements of the esophagus and stomach. 8. What change does the food undergo in the alimentary canal? 9. Give the source and distribution of heat in the body. 10. Write a page on the influence of the nervous system on nutrition.

SURGERY.

1. Give the etiology, diagnosis and treatment in traumatic gangrene. 2. What circumstances would lead you to expect erysipelas to become a factor in your surgical cases? What measure would you use to avoid it? and, if occurring, how would you combat it? 3. What symptoms would lead you to guard against tetanus, and how would you treat the case? 4. What would be your treatment in a severe case of chilblains? 5. Differentiate chancre from chancroid. 6. Describe the operation of hare-lip. 7. A boy, aged 8, fell onto his elbow and injured it severely and has no use of the joint. What is the most profitable pathologic condition, and how will you treat it? 8. Describe an amputation of the third finger at the metacarpo-phalangeal articulation. 9. What is whitlow, and how should it be treated? 10. Differentiate between talipes equinus and talipes valgus and give surgical treatment.

MATERIA MEDICA—REGULAR.

1. What are the regular preparations and doses of hydrastis? 2. What medicines are incompatible with the iron preparations? 3. What is the source from which phosphorus is obtained? 4. What is hyoscyamus? 5. What precautions should be observed in administering ether? 6. What are the physiologic effects of valerian? 7. What are the medicinal uses of veratrum viride? 8. What are antheimintics? 9. What is ammonium chlorid? 10. Name the sedative expectorants.

THEORY AND PRACTICE—REGULAR.

1. Diphtheria diagnosis, prognosis and treatment. 2. Purpura diagnosis and treatment. 3. Give diagnosis, prognosis and treatment of acute bronchial catarrh. 4. Write a page on the sounds of the heart. 5. Tell what abnormal sounds of the heart indicate. 6. Give diagnosis and treatment of acute peritonitis. 7. Name the chronic diseases of the liver. 8. Give the different steps in the examination of urine. 9. Write a page on epilepsy. 10. Chorea diagnosis and treatment.

THEORY AND PRACTICE—HOMEOPATHIC.

1. Describe a typical case of tabes dorsalis and name best treatment. 2. Name five leading remedies for pneumonia and give indications calling for each. 3. Give technical name, course and treatment of a typical case of spotted fever. 4. Differentiate between acute bronchitis and whooping cough in its early stages. 5. Locate and describe a typical case of appendicitis, naming best

treatment. 6. Give diagnosis and treatment of Bright's disease; also give technical name. 7. Differentiate between pleurisy and pleurodynica. 8. Describe a typical case of cholelithiasis, giving treatment. 9. Give diagnosis, prognosis and treatment of glycosuria. 10. Give the fundamental principles of the homeopathic practice, including scientific reason for giving infinitesimal doses.

MATERIA MEDICA—ECLECTIC.

1. Define the terms tonics, alteratives, sedatives and diaphoretics. Name five remedies in each class. 2. Define the terms antispasmodics, anthelmintics, diuretics, cholagogues, oxytoxics, and name five in each class. 3. What is the composition of stillingia liniment? (Scudder.) 4. Make a belladonna plaster. State where plant grows, when gathered, part used, how manipulated till in the plaster ready for use. 5. What drug plants are indigenous to the state of Kansas? 6. What is the composition and therapeutic property of King's diaphoretic powder, syrup mitchella compound, libradol, antibilious physic, and Mayer's ointment? 7. State the indications for the administering of bryonia, rhus, tox, macrotys, apis, viburnum, aconite, ipecac, echafolta, cactus, drosera, collinsonia, apocynum, nux vomica, podophyllum, hydrastis, sanguinaria, subnitrate of bismuth, sodium sulphite, muriatic acid and nitric acid. 8. What is the origin and therapeutic property of carbolic acid? 9. Name the different finished products of Peruvian bark; also of the Chinese poppy. 10. Name six common poisons and give their antidotes.

Minnesota Report.—Dr. C. J. Ringnell, Minneapolis, secretary of the Minnesota State Board of Medical Examiners, reports that some medical schools are unfamiliar with the rules of the board. All applicants must present evidence of having attended four full courses, extending over four years, at a medical college recognized by the Minnesota board. Candidates having been granted advanced standing for work done at non-medical colleges are not eligible. During the last year a considerable number have made application who have taken only a three years' course in the medical departments. At the examination in St. Paul October 6 to 8, 95 written questions were asked on 12 subjects and a percentage of 75 was required; out of 35 applicants, 23 passed and 13 failed. We have prepared a summary below of the schools having 2 or more representatives. All applicants are recent graduates (1900, 1901, 1902 or 1903) unless otherwise specified.

COLLEGE.	No. Passed.	No. Failed.	Max. Grade.	Min. Grade.	Average of Those Who Passed.	Average of Those Who Failed.
Hamline Univ., Minneapolis..	3	0	77.2	76.1	76.4	.....
University of Minnesota.....	3	2	84.7	71.1	80.5	72.2
Rush Medical College, Chicago	6	0	88.7	78.3	82.5	.....
Northwestern Univ., Chicago..	3	0	87.6	77.1	82.3	.....
Coll. Phys. and Surgs., Chicago	2	5	80.0	68.5	78.1	69.8
University of Iowa.....	1	1	77.4	*70.2	77.4	70.2
Hahnemann Med. Coll., Chicago	0	2	†70.5	65.5	.....	68.0
Chicago Homeo. Med. College.	2	0	‡80.1	77.8	78.9	.....

* Graduate 1891, second examination. † Graduate 1897, fourth examination. ‡ Graduate Chicago Homeopathic Medical College, 1896, and Rush Medical College, 1898.

Following are the grades in detail of the candidates from schools having three or more representatives:

Hamline University: 76.1, 77.2 (third examination), 76.1 (second examination).
Rush Medical College: 82, 82.8, 88.7, 78.3, 85, 78.4.
Northwestern University: 82.4, 87.6, 77.1.
University of Minnesota: 76.9 (second examination), 84.7, 80.1 (second examination), 71.1 (graduate 1899), 73.4 (second examination).
College of Physicians and Surgeons, Chicago: 80, 76.3, 68.5, 68.7, 68.6, 72.9, 70.4.

In addition there were the following applicants:

PASSED.

College.	Date Grad.	Per Cent.
McGill University, Montreal.....	1903	77.6
University of Michigan.....	1903	83.5
Omaha Medical College.....	1902	86.9

FAILED.

University of Vermont.....	1903	68.3
University of King Frederick, Norway.....	1902	55.6

The board's grades average as follows: Passing 81.0, failing 63.3, average of all 76.7.

The American Confederation of Reciprocating, Examining and Licensing Medical Boards.—A meeting of this board was held at the Southern Hotel, St. Louis, October 27. The meeting was well attended, representatives being present from Michigan, Wisconsin, Indiana, Illinois, Kentucky, Iowa, Nebraska and Missouri. The conference was called to consider "reciprocity from the standpoint of experience in the interchange of state licenses." This subject was discussed in all its bearings by the members of the confederation, as well as by a large number of visitors; among others, Dr. Carl Black, president of the Illlinois State Medical Society. It was the consensus of opinion of those present that interstate reciprocity in licensing physicians is urgently demanded by the medical profession, but that there are many obstacles in the way of a practical solution of the question. Among these are: A want of uniformity in the standards now and at the time licenses were issued; the fact that in many states licenses were formerly issued merely on presentation of a diploma, and are now issued only after a satisfactory examination before the state board of health or licensing board of the state; also that in many states, the laws strictly prohibit reciprocity; in others like Illinois, the law is silent on the subject, and in many states in which reciprocity is permitted by law, it is refused by the licensing body of the state. Most of the discussion of the afternoon was centered on qualification No. 2, which provided that "A certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state, provided that the holder thereof at the time of such registration was the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date thereof was prior to the legal requirement of the examination test in such state." This qualification was stricken out and a committee appointed to draft a new paragraph in its place. The provisions of qualification No. 2 as rewritten, do not differ essentially from those stated above, except that the word "thereof" was made to read "of such registration," in order that it might apply to the date of registration rather than the date of the diploma. Beyond the fact that the question was discussed from all sides and that a better understanding was had of the difficulties in the way of securing reciprocity, little of a substantial nature was accomplished. The following officers were elected: President, Dr. William A. Spurgeon, Muncie, Ind.; vice-presidents, Drs. Harris H. Baxter, Cleveland, Ohio, and John A. McKlveen, Chariton, Iowa; secretary and treasurer, Dr. Beverly D. Harison, Sault Ste. Marie, Mich.

The Public Service.

[For the benefit of the members of the medical departments of the Army, Navy, etc., this department is transferred from the last page, to allow the publication of each report one week earlier. The first and last pages of "The Journal" go to press before those in the center.]

Army Changes.

Changes in the Medical Department, U. S. Army, during the week ending Oct. 31, 1903:

Halliday, Francis A., contract surgeon, relieved from duty at Fort Moultrie, S. C., and ordered to Fort McPherson, Ga., for duty.

Wall, Francis M., contract surgeon, relieved from duty at Columbus Barracks, Ohio, and ordered to Camp George H. Thomas, Ga., for duty.

Harris, Herbert I., contract surgeon, relieved from duty at Camp George H. Thomas, Ga., and ordered to Columbus Barracks, Ohio, to accompany the Twentieth Infantry to the Philippines for duty.

Hart, James W., contract surgeon, relieved from duty at Fort Washington, Md., and ordered to Fort Hunt, Va., for duty.

Richards, Alfred, contract surgeon, relieved from duty at Fort Hunt, Va., and ordered to Fort Sheridan, Ill., to accompany the Twentieth Infantry to the Philippines for duty.

Hodson, Frederick A., contract surgeon, relieved from duty at Fort Mackenzie, Wyo., and ordered to San Francisco, to accompany the Twentieth Infantry to the Philippines for duty.

Ashburn, James K., contract surgeon, relieved from duty at Fort Crook, Neb., and ordered to Fort Lincoln, N. D., to relieve Contract Surgeon Samuel S. Turner, who will proceed to his home at Chicago for annulment of contract.

Hogan, David D., contract surgeon, has arrived at Mazomanie, Wis., on two months' leave of absence from the Division of the Philippines.

Jones, John F., contract surgeon, has been relieved from duty at Fort Schuyler, N. Y., and assigned to duty at Fort Totten, N. Y.

Mason, George L., contract dental surgeon, has been granted one month's leave of absence from the Division of the Philippines, with permission to travel in China.

The following named assistant surgeons, recently appointed, are ordered to report, on Nov. 3, 1903, at 9 o'clock a. m., at the Army Medical Museum Building, Washington, D. C., to Col. C. L. Heizmann, assistant surgeon general, president of the faculty of the Army Medical School, for a course of instruction at that school: First Lieuts. Craig R. Snyder, Ernest G. Bingham, James D. Heysinger, John B. Huggins, Edgar W. Miller, William H. Tafft, Lloyd L. Smith.

The following named assistant surgeons are relieved from duty at the post designated after their respective names and ordered to report at the Army Medical Museum, Washington, D. C., at 9 o'clock a. m., Nov. 3, 1903, to Col. C. L. Heizmann, assistant surgeon general, president of the faculty of the Army Medical School, for a course of instruction at that school: First Lieuts. Henry S. Klersted, Fort Miley, Cal.; Jay R. Shook, Fort Myer, Va.; Robert E. Noble, Fort Sheridan, Ill.; J. W. Van Dusen, Columbus Barracks, Ohio; Park Howell, Eagle Pass, Texas; R. B. Miller, San Francisco, Cal.; J. I. Mabee, Post of San Francisco, Cal.; P. L. Jones, Fort Rodman, Mass.; F. L. Palmer, Jefferson Barracks, Mo.; E. B. Vedder, Fort Columbus, N. Y.; Henry F. Pipes, Fort

Totten, N. Y.; C. L. Foster, Fort Myer, Va.; J. R. Bosley, Fort McPherson, Ga.; R. C. Loving, Fort Leavenworth; C. J. Sledman, Fort Adams, Miss.; O. G. Brown, Fort Monroe, Va.; G. F. Juenemann, Fort Columbus, Ohio; Joseph F. Siler, Fort McPherson, Ga.; Arthur Whaley, Fort Sheridan, Ill.

Thornburgh, R. M., first lieut. and asst.-surgeon, is relieved from duty at Fort Slocum, N. Y., and ordered to Fort Warren, Mass.

Mathews, George W., first lieut. and asst.-surgeon, is relieved from duty at Fort Warren, Mass., and ordered to proceed to Fort Dupont, Del.

Collins, George L., first lieut. and asst.-surgeon, resigned his commission as an officer, to take effect Oct. 23, 1903.

Webb, W. D., first lieut. and asst.-surgeon, reported for duty at West Point, N. Y., on Oct. 23, 1903.

Truby, W. F., first lieut. and asst.-surgeon, reported for duty at Fort Preble, Me., Oct. 24, 1903.

Ewing, Charles B., major and surgeon, relieved from duty at Fort Preble, Me., and ordered to Columbus Barracks, Ohio, reports his departure for new station Oct. 28, 1903.

McAndrews, P. H., first lieut. and asst.-surgeon, left Jefferson Barracks, Mo., for temporary duty at Fort Des Moines, Iowa, on Oct. 28, 1903.

Bevans, James L., first lieut. and asst.-surgeon, reported for duty at Morro Castle, Santiago, Cuba, Oct. 18, 1903, from Rowell Barracks, Cuba.

Wakeman, William J., major and surgeon, is granted thirty days' leave of absence.

Wales, P. G., major and surgeon, returned to station at Fort Assiniboine, Mont., from leave of absence.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Oct. 31, 1903:

P. A. Surgeon C. N. Fiske, commissioned passed assistant surgeon, with rank of lieutenant, from May 15, 1903.

Pharmacist E. T. Morse, detached from Navy Yard, Boston, and ordered to the Navy Yard, Portsmouth, N. H.

Medical Inspector D. N. Bertolette, detached from duty at Naval Dispensary, Washington, D. C., and ordered to continue other duty.

Surgeon F. L. Pleadwell, detached from the *Kearsarge* and ordered to duty at the Naval Dispensary, Washington, D. C.

Surgeon C. H. T. Lowndes, detached from Naval Hospital, Boston, and ordered to the Naval Academy, Annapolis, Md.

P. A. Surgeon J. J. Snyder, ordered to the *Kearsarge*.

Asst.-Surgeon Karl Ohnesorg, detached from the Naval Academy and ordered to the Naval Hospital, Boston.

Asst.-Surgeon H. A. Dunn, ordered to the Naval Proving Ground, Indian Head, Md.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 30, 1903:

SMALLPOX—UNITED STATES.

Illinois: Belleville, Oct. 10-23, 4 cases, 2 deaths; Chicago, Oct. 18-24, 1 case.

Maine: Bangor, Oct. 10-19, 50 cases; Brewer, Oct. 10-19, 10 cases.

Massachusetts: New Bedford, Oct. 18-24, 1 case.

Michigan: Detroit, Oct. 18-24, 1 case.

New Hampshire: Manchester, Oct. 18-24, 6 cases.

New Jersey: Jersey City, Oct. 19-25, 1 case.

New York: New York City, 18-24, 2 cases.

Ohio: Cincinnati, Oct. 17-23, 4 cases; Cleveland, Oct. 18-24, 1 death; Dayton, Oct. 18-24, 1 case.

Pennsylvania: Altoona, Oct. 18-24, 4 cases, 1 case imported; Johnstown, Oct. 18-24, 14 cases, 3 deaths; Philadelphia, Oct. 18-24, 9 cases, 8 deaths.

Utah: Salt Lake City, Oct. 18-24, 1 case.

Wisconsin: Milwaukee, Oct. 22-28, 2 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Oct. 4-10, 9 cases.

Colombia: Barranquilla, Oct. 5-11, 1 death.

Great Britain: Birmingham, Oct. 4-10, 6 cases; Bradford, Sept. 26-Oct. 10, 5 cases; Glasgow, Oct. 10-16, 5 cases; Leith, Oct. 4-10, 1 case; Liverpool, Oct. 4-10, 3 cases; London, Oct. 4-10, 2 cases; Manchester, Oct. 4-10, 2 cases; Newcastle-on-Tyne, Oct. 4-10, 4 cases.

India: Bombay, Sept. 16-29, 3 deaths.

Italy: Catania, Oct. 9-15, 1 death.

Netherlands: Amsterdam, Oct. 11-17, 3 cases, 1 death.

Russia: Moscow, Sept. 20-Oct. 3, 4 new cases, 7 deaths; Odessa, Oct. 4-10, 2 cases; St. Petersburg, Sept. 27-Oct. 3, 1 death.

Spain: Barcelona, Oct. 4-10, 5 deaths.

Venezuela: Bolivar, Oct. 4, present; San Felipo, Oct. 14, epidemic; Tucuyo, Oct. 3, prevailing.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Oct. 22-28, 95 cases, 10 deaths; Minera, Oct. 21-23, 3 cases, 1 death; San Antonio, Oct. 21-26, 7 cases, 1 case at Fort Sam Houston; Dewitt County, Oct. 26, 3 cases, 1 death.

YELLOW FEVER—FOREIGN.

Costa Rica: Limon, Oct. 1-15, 1 case.

Cuba: Habana, Oct. 6-9, 1 case on American S.S. Monterey from Progreso; 2 cases on German S.S. Prinz Adalbert from Vera Cruz and Tampico.

Mexico: Citas, Sept. 27-Oct. 3, 16 cases, 5 deaths; Linares, Sept. 27-Oct. 3, 555 cases, 46 deaths; Merida, Sept. 27-Oct. 3, 13 cases, 4 deaths; Nuevo Laredo, Oct. 22-27, 12 cases, 4 deaths; Tampico, Sept. 27-Oct. 3, 5 cases, 4 deaths; Vera Cruz, Oct. 10-17, 58 cases, 18 deaths.

CHOLERA—FOREIGN.

India: Madras, Sept. 19-25, 3 deaths.

Japan: Kobe, Sept. 26-Oct. 3, 2 cases, 1 death.

Turkey: Hama, Oct. 3, prevailing; Homs, Oct. 3, prevailing; Nabeck, Oct. 3, prevailing; Tripoli, Sept. 15, 15 to 20 cases daily.

PLAGUE—FOREIGN.

Australia: Queensland, Brisbane, Sept. 12, 2 cases, 2 deaths; Townsville, Sept. 4, 1 case, 1 death.

Chili: Iquique, May 15-Aug. 17, 170 cases, 101 deaths; Valparaiso, to Aug. 24, 9 cases, 2 deaths.

Japan: Yokohama, Sept. 13-26, 2 cases, 1 death.

Medical Organization.

Indiana.

LAKE COUNTY MEDICAL SOCIETY.—This society has been reorganized at Hammond with the aid of Dr. George F. Keiper, Lafayette, councilor for the Tenth District, with Dr. Frederick Howat, Hammond, president.

Iowa.

POWESHIEK COUNTY MEDICAL SOCIETY.—Physicians of the county met in Grinnell, October 9, and formed a county society on the standard plan with the aid of Drs. Edward E. Dorr, Des Moines, and David C. Brockman, Ottumwa, councilors for the Seventh and Sixth districts, respectively. The following officers were elected: President, Dr. Elbert W. Clark, Grinnell; vice-president, Dr. Edward B. Williams, Montezuma; secretary and treasurer, Dr. Pearl E. Somers, Grinnell, and censors, Drs. Samuel C. Buck, Grinnell, Charles D. Busby, Brooklyn, and Vinton S. Wilcox, Malcom.

Louisiana.

VERNON PARISH MEDICAL SOCIETY.—This society was recently organized in affiliation with the state and national organizations and elected the following officers: Dr. Mark R. McAlpin, Leesville, president; Dr. C. C. Self, Hornbeck, vice-president; Dr. Frederick W. Dortch, De Ridder, secretary, and Dr. James H. Word, Leesville, treasurer.

LAFOURCHE PARISH MEDICAL SOCIETY.—Physicians of the parish met at Thibodaux, October 24, and organized a parish society with an initial membership of 14. Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, was present and aided in the organization, which was effected on the standard plan. Dr. Albert J. Meyer, Thibodaux, was elected president; Dr. Abel J. Price, Lockport, vice-president, and Dr. Sampson A. Ayo, secretary and treasurer.

Wisconsin.

MARQUETTE COUNTY MEDICAL SOCIETY.—Physicians of the county met at Packwaukee, September 8, and organized a county society on the standard plan, with the following officers: Dr. William J. Thomson Briggsville, president; Dr. Edward A. Bass, Montello, vice-president; Dr. William O. Dyer, Westfield, secretary and treasurer, and Drs. Thomas Lucast, Endeavor, William O. Dyer, Westfield, and Edward A. Bass, Montello, censors.

Society Proceedings.

COMING MEETINGS.

Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-first Annual Meeting, held at Washington, D. C., Oct. 26 to 30, 1903.

The association met in the assembly hall of the New Willard Hotel under the presidency of Dr. Walter Wyman, Surgeon-General of the U. S. Public Health and Marine-Hospital Service, Washington, D. C. The session was well attended and great interest was shown in the various subjects discussed.

Opening Address.

GEN. GEO. M. STERNBERG, in the opening address, referred to the association as an important factor in promoting the welfare of the people of the United States, not only from a sanitary point of view, but also in the way of national prosperity. After speaking of the present status of yellow fever, he discussed the incomplete sewage and water systems of the

city of Washington. The high death rate from typhoid fever, tuberculosis and diphtheria and the excessive infant mortality among the lower classes give to the Nation's capital a mortality rate which does not compare favorably with that of many other cities in this country or in Europe. A law for the condemnation of unsanitary houses is urgently needed. The sewer system should be pushed to completion and the health department should have the authority and the money necessary for the sanitary reclamation of the plague spots which disgrace an otherwise beautiful and healthful city.

Address of Welcome.

This was delivered by Hon. H. B. F. Macfarland, president of the Board of Commissioners of the District of Columbia. He referred to the work of improving the water supply and sewer systems of Washington which is in progress, and also the effort being made to secure legislation to enable the city to end the unsanitary conditions in its slums. It is fully realized that the health of the people is the first duty of the statesman, and that all else that can be done for this or any capital goes for nothing if its health is not protected and promoted.

President's Address.

Following Mr. Macfarland's welcome, Surgeon-General Wyman delivered his annual address, which will be printed in THE JOURNAL.

Report of the Committe on Car Sanitation.

This report was read by the Chairman, Dr. Granville P. Conn, Concord, N. H. The committee had no reforms to suggest that would at once settle the much-vexed question, but progress was being made, the opinions of the railroad managers were being molded and the problem was gradually being solved. The travelers have but little or no thought of the sanitation or well-being of those who may be the next passengers to occupy the same seats. The more permanent the means and methods adopted by health authorities, the more satisfactory they will prove to the commercial world and to the general manager.

Transportation of Persons Sick with Transmissible Diseases.

DR. J. N. HURTY, Indianapolis, read a paper with this title. Public opinion will not tolerate the transportation in railway trains of cases of smallpox, yellow fever, bubonic plague, diphtheria, scarlet fever and leprosy. An understanding of the dangers from pulmonary tuberculosis, influenza and typhoid fever would develop a public opinion demanding of patients having these diseases that rational regulations intended to prevent transmission must be rigidly enforced. Special compartments for persons sick with communicable diseases are impracticable.

Car Sanitation in the Republic of Mexico.

DR. JUAN BREÑA, Zacatecas, Mexico, said that since infectious germs float in the air and are deposited on moldings and ornaments and are thence again taken up by the air and inhaled, simplicity of ornamentation and smooth polished surfaces have been again and again recommended. He discussed the fittings of railway coaches and urged that, in spite of the lack of attention paid to these suggestions, sanitarians should continue to work for the proper hygienic equipment of railway coaches.

Immigration and Public Health.

DR. A. J. MCLAUGHLIN, Washington, D. C., said that in considering the danger to the public health from immigration three factors must be taken into account. 1. The physique of the immigrant. 2. His destination. 3. The presence or absence of communicable disease. The physique of the immigrant is by far the most important factor. Aliens of a race having a low physical standard almost invariably herd together in the overcrowded, unsanitary tenement districts of the great cities; while the sturdy races of unskilled laborers are scattered over a wide territory and tend to establish homes in the country or in the suburbs of manufacturing towns.

Certain loathsome and dangerous contagious diseases exist among immigrants, and constant vigilance and considerable skill are necessary to detect them. The most important, because of its frequency, is trachoma. Of the total number of cases of loathsome or dangerous diseases found in immigrants, 87 per cent. are due to trachoma, and 10 per cent. to favus.

The writer concluded that if the thousands of recruits for the sweat-shop army who arrive each year could be checked for ten years the present existing tenement-house problem would solve itself. The terrible congestion of the tenements would be relieved; the scale of wages for the sweat-shop worker would be elevated, and the general sanitary conditions of life in such districts as in the lower east side, New York City, improved sufficiently to reduce the menace to the public health from this cause to a minimum.

New Officers.

The following officers were elected: President, Dr. Charles J. Finley, Havana, Cuba; vice-presidents, Drs. J. R. Monjaras, Mexico, and W. W. Woodward, Washington, D. C.; secretary, Dr. Charles O. Probst, Columbus, Ohio; treasurer, Dr. Frank W. Wright, New Haven, Conn. The next annual meeting will be held at Havana, Cuba.

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.

Twentieth Annual Meeting, held in New York City, Oct. 19-22, 1903.

(Continued from page 1108.)

School Hygiene and the Great Need of Regular Medical Supervision.

DR. H. ERNST SCHMID, White Plains, presented a paper urging all physicians to do their full duty as enlightened citizens and showing how much they might accomplish. He said that the classroom should have a seating capacity of forty pupils with light entering at the side or the side and back, with glass space equal to one-fourth or one-third of the floor space, and with shades working from the bottoms of the windows. The walls should be greenish-gray. He hoped the medical profession would use its influence to secure the passage of a law requiring all schools of the state to be under constant medical supervision.

Sea Bathing.

DR. R. ABRAHAMS, New York, advised sea bathing for pityriasis versicolor, chronic eczema and senile pruritus, and claimed that the results were good, and totally different from those obtained by using salt water in a bathing establishment.

Bacteriology and Pathology of Dysentery in Children.

DR. WILLIAM H. PARK, New York, discussed this subject. He said that the investigations of the past summer showed that there were several types of cases in that locality, and that cultures from these ordinarily showed a bacillus known as the acid type. The Shiga bacillus was only found occasionally. About 50 cases had been observed, and the serum treatment used in one-half. No very striking results had been obtained, and such improvement as was observed was mainly in the severe cases; nevertheless he thought increasing experience and knowledge would show that the method was worthy of trial. Hitherto it had been assumed that there was but little difference between the two types of bacilli, and that one serum would do for both. By the production of a serum of a wider range of usefulness it was hoped for a corresponding improvement in the results.

Some Less Usual Causes of Post-Operative Elevations of Temperature.

DR. MARTIN B. TINKER, Clifton Springs, in this paper mentioned among other causes small pulmonary emboli, pericarditis, cerebral embolus, phlebitis and thrombosis affecting the saphenous veins and last, but not least, malaria. The last mentioned should not, however, be diagnosticated unless supported by the detection of the plasmodium in the blood.

Laboratory Aids to Diagnosis for the General Practitioner.

DR. V. A. ROBERTSON, Brooklyn, said that, aside from the cost of the microscope, the expense of fitting up a laboratory

for the physician was slight, and one would be well repaid for the moderate outlay. Examination of sputa for tubercle bacilli and pneumococci, of the blood for leucocytosis and for the malarial organism, and of the feces in dysentery were examples of the many ways in which the laboratory could aid the practitioner.

Treatment of Puerperal Sepsis.

Dr. James Hawley Burtenshaw, New York, in a paper on this subject, opposed sharp curettage. Lacerations should be cauterized and the uterus irrigated, after which a packing of 10 per cent. iodoform gauze should be inserted. Ergot, strychnin, quinin and alcoholic stimulants are indicated, with nutritious diet.

DISCUSSION.

Dr. Joseph B. Cooke, New York, called attention to the value of holding the fundus of the uterus after confinement as a prophylactic measure.

Dr. E. V. Delphey, New York, favored using a postpartum douche of hot iodin water as a preventive, and in septic cases, the administration of digitalis.

Dr. DeLancey Rochester of Buffalo spoke of the value of iodin locally before labor, and of iodin water after delivery in cases of known gonorreal infection.

When and How to Operate for Gallstones.

Dr. Irving S. Haynes, New York, read a paper with this title. He said that whereas late operations usually had a death rate of 40 per cent., early operations were almost always successful. In endeavoring to make an early diagnosis it should be borne in mind that biliary colic and jaundice were commonly absent, and that the patient would probably complain of digestive disturbance, with a dull pain and perhaps some tenderness in the vicinity of the gall bladder. Ochsner found jaundice absent in 75 per cent. of his cases. The pain is usually referred to the epigastrium and there is often a point of tenderness an inch and a half to the right and above the umbilicus. Severe colicky attacks are absent in about half of the cases. As ideal conditions are rarely present the surgeon is often called on to simply incise and drain the gall bladder.

The Past and Present Needs of the Medical Profession.

Dr. Frederick Holme Wiggin, in his presidential address, thought it would be very useful if our medical schools would teach their students something of the history of medicine. The profession sadly needs organization, but if this is to be done properly, physicians must have a better understanding of the fundamental principles of organization and possess a deeper sense of individual responsibility. The organization of the future must be powerful enough to check the further demoralization of the public by a continuance or extension of the abuse of medical charity; it must discountenance contract practice at ruinous rates and must defend its members against unjust attacks on their professional honor and standing. The American Medical Association should be incorporated by the national government in order not only to give the necessary dignity but to facilitate the transaction of business in any state. The American Medical Association should at stated intervals publish a national medical directory from data furnished by the component societies. A great step ahead had already been taken by the agreement of the two state medical organizations of New York to combine into a society worthy of the Empire State.

Sewage Disposal as a Means of Purifying the Water Supply of the Cities and Towns of the State.

Dr. Charles B. Tefft, Utica, showed how easy and inexpensive it is for even the farmer to protect himself and his neighbors by means of an apparatus for intermittent sand filtration.

The Treatment of Pneumonia.

Dr. DeLancey Rochester, Buffalo, in this paper, laid down the following indications for treatment: (1) To relieve toxemia; (2) to prevent failure of the heart, and (3) to meet complications as they arose. The first indication was met by the use of foot baths or other means of securing free sweating without disturbing the patient, and by giving a daily dose of a saturated solution of sulphate of magnesium. A careful physical examination of the chest should be made at every visit in order that the physician may have early warning of the occurrence of pulmonary congestion. Should this occur, it could often be checked by prompt and vigorous use of wet or dry cups or by venesection. The cups should be left on for half an hour and should be reapplied at intervals of four or six hours. The poultice jacket should be relegated to the dark ages. When the heart threatened to fail, saline infusion or hypodermoclysis should be resorted to, and this might be reinforced by the hypodermic use of strychnin, or the administration of alcohol by the mouth. If the alcohol caused excitement, ammonia should be substituted. If the bowels and skin were kept active, hypnotics would rarely be required. As an evidence of the value of the treatment thus outlined, Dr. Rochester said that there had only been 23 deaths in 210 cases.

DISCUSSION.

Dr. A. Alexander Smith, New York, preferred venesection to cupping because less disturbing to the patient. He had given both the salicylate and the creosote treatment of pneumonia a fair trial, and had obtained only negative results from the former, while the latter had only proved of benefit in cases associated with general bronchitis. He did not like to give the plunge bath to pneumonia patients, but did favor the use of a wet pack at 80 F. or higher. He believed oxygen to be a valuable therapeutic agent in pneumonia, and nitroglycerin and other vasodilators of value when cyanosis was present.

Dr. W. P. Northrup, New York, spoke strongly against the still common custom of applying a jacket poultice. Such an application was particularly unsuitable in the case of weak and feverish children. The plunge bath had proved useful in his hands in the treatment of alcoholic pneumonia.

Dysmenorrhea.

Dr. Charles Bonifield, Cincinnati, after enumerating the causes, said that if the pain is in the hypogastric region, it points to a uterine origin; if the suffering is greater during the flow there is probably a constitutional cause. If the pain is in the iliac region, disease of the adnexa may be inferred. The coal-tar products are useful in these cases, and a combination of atropin and sodium bromid had been very successful in his hands. When there is defective development, dilatation of the cervix, curettement and packing of the uterus are indicated.

(To be continued.)

MANILA MEDICAL SOCIETY.

Regular Monthly Meeting, held at the Government Biological Laboratory, Sept. 7, 1903.

The meeting was a very enthusiastic one and was largely attended. There were 46 physicians present, probably the largest body ever gotten together in the Philippine Islands for scientific deliberation. The following papers were read:

Protective Inoculation Against Cholera.

Dr. R. P. Strong considered this subject under several headings, briefly summarized as follows: The work previously done on artificial immunity by Ferran, Haffkine, Kolle, Buchner, Metchnikoff, Roux and others was considered. While it is admitted that Haffkine's method, when properly applied, gives rise to good immunity in the inoculated, the local reaction is too great for the method ever to come into general use. Subcutaneous injection of either living or dead cholera vibrios produces more marked general symptoms and local reaction than does the injection of either killed plague or typhoid bacilli. The location of the specific toxin was next considered and evidence brought forward to show that the substance existed as an integral part of the living organism, and was set free only by the death of the same. In the author's form of inoculation, the cholera "receptors" were obtained from bodies of the bacteria by means of autolytic digestion. The proteolytic ferment produced by this organism brings about this result in a very satisfactory manner. This ferment is not destroyed at 60 C., and, therefore, the bacteria may be killed by careful heating from one to two hours and digested from two to five

days by this ferment, and then passed through a Reichel filter. Such a filtrate when injected into animals gives rise to autotoxic, bactericidal and agglutinative substances in their blood serum, and, moreover, protects them from the injection of fatal doses of living cholera spirilla. As the local reaction produced is very mild, such a filtrate offers itself as a practical form of protective inoculation in man. This filtrate may be evaporated and used in powdered form.

Tropical Influence on Diseases of the Oral and Dental Tissues.

Louis Ottofy, D.D.S., brought out the following points in his paper: In natives the diseases of the soft tissues of the mouth show no marked variation from diseases of the same tissues in other climates. The teeth of native children, as shown by statistical comparison with the teeth of Americans, Germans, English, etc., show the same proportion of caries as exists in the latter. In adults, the condition is said to be better, partly due to smoking, a habit acquired early and indulged in by both sexes. Their teeth are subject to betel erosion, due to chewing betel nut. Unacclimated foreigners are subject to considerable derangement of the system and likewise of the soft tissues of the mouth, among them a form of ulcerative stomatitis termed stomatitis ulcerativa tropica. The soft tissues, as a rule, yield more slowly to treatment, which is also true of diseases of the dental pulp, alveolar abscess, etc. The influence on the teeth themselves is only slight, and becomes almost *nil* with complete acclimatization. In the case of acclimated foreigners, aside from liability to diseases and their slower termination, no special differentiating features are noticeable.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Treatment of Gonorrhea.

W. H. Whitehead, in *Ther. Gazette*, states, when a patient comes to him with an acute case of gonorrhea, that he instills into the urethra a salve rather than an astringent wash. He instructs the patient to instill one-half a dram of the following after urinating:

℞.	Hydrarg. ovidi flavi	gr. xx	1 | 30
	Acidi oleici	ʒi	30 |
	Argenti oxidi	ʒii	8 |
	Pulv. pepsini		|
	Pulv. caroid, āā	ʒiv	15 |
	Albolini		|
	Lanolini		|
	Aquæ, āā	ʒii	60 |

M. Sig.: One-half a dram to be introduced into the urethra night and morning.

Absorbent cotton is then placed over the penis to catch the salve that returns; tie it loosely and instruct the patient to keep it on until he is compelled to urinate.

Internally he gives the following:

℞.	Olei santali	ʒiv	15 |
	Pulv. cubebæ		|
	Acidi benzoici, āā	ʒi	30 |
	Pulv. pepsini	ʒiv	15 |

M. Ft. cachets No. xxx. Sig.: One before meals and at late bedtime.

In preparing the salve the oxid of mercury and silver must be rubbed up together and then dissolved in the oleic acid and later adding the liquid albolene; then add the lanolin, and finally dissolve the pepsin and caroid in the water and filter through absorbent cotton and add to the salve and triturate until a creamy mass is obtained. Care must be observed in the mixing in order to obtain a smooth salve.

The salve, according to the author, is penetrating because of the presence of the liquid albolene, and germicidal owing to the mercury and silver. It digests the fibrous exudates out of the follicles and permeates the inaccessible germ-infected recesses. He claims, by this method of treatment, that he seldom has a backward extension as so frequently occurs under irrigation and injection treatment. The salve is painless and all discharge is arrested by a two or three days' use of it. When the discharge ceases and the urine becomes clear the local treatment is suspended, but the interval treatment is continued for ten days. If the discharge returns the salve will soon check it. In treating a female use the salve in larger quantities, but only once a day, putting a plug of cotton saturated with the salve well up in the vagina, if it alone is involved, and allow it to remain for twenty-four hours. Instruct the patient to remove it and take a hot salt-water douche just previous to her taking another application. If her urethra is involved the internal treatment should be given also, and also deposit the salve into the urethra once a day. The results of the treatment in the female is even more satisfactory than in the male.

Lead Colic.

The medicinal treatment, according to Yeo, consists in: 1. Relieving the constipation and pain. 2. In promoting elimination of the lead from the body. To relieve the pain the following is recommended:

℞.	Linimenti opii		|
	Linimenti belladon., āā	ʒss	15 |

M. Sig.: To be rubbed in freely around the navel.

An enema of soap and water, one or two pints, to which has been added an ounce (30.00) of castor oil, one half ounce (15.00) of turpentine and twenty minims (1.30) of laudanum, should be given in some cases to relieve the pain and increase the elimination. The following is recommended by the author as an aperient:

℞.	Mag. sulph.		|
	Sodii sulph., āā	ʒiss	45 |
	Acidi sulphurici arom.	3i	4 |
	Syr. zingiberis	ʒss	15 |
	Aq. cinnamomi q. s. ad	ʒxii	360 |

M. Ft. mistura. Sig.: Four teaspoonfuls every hour until bowels have moved thoroughly.

To procure elimination potassium iodid must be given combined as follows:

℞.	Pot. iodidi	gr. xl	2 | 65
	Mag. sulph.	ʒi	30 |
	Tinct. nucis vom.	3ii	8 |
	Aq. cinnamomi q. s. ad	ʒviii	240 |

M. Ft. mistura. Sig.: Two tablespoonfuls night and morning.

The following mixture containing alum is recommended by Bartholow in the treatment of lead colic:

℞.	Alumenis	3ii	8 |
	Acidi sulphurici	3i	4 |
	Syr. limonis	ʒi	30 |
	Aquæ q. s. ad	ʒiv	120 |

M. Sig.: One tablespoonful every two hours.

The following treatment has also been recommended for the treatment of lead colic:

℞.	Pulv. opii	gr. 1/4	| 015
	Ext. belladonnæ	gr. 1/12	| 005

M. Sig.: One such pill every two hours for twenty-four hours.

And the following purgative:

℞.	Sodii sulph.	3ii	8 |
	Mag. sulph.		|
	Syr. rubi idaei, āā	ʒss	15 |
	Aquæ	ʒiii	90 |

M. Sig.: At one dose, to be repeated as necessary.

Puerperal Insanity.

The *Amer. Jour. Med. Sciences* gives an abstract of the treatment of puerperal insanity as recommended by E. W. White in *British. Med. Jour.* As soon as the premonitory symptoms are observed, according to this author, such as change in manner and feelings, quiet surroundings must be obtained and skillful supervision enforced to guard against infanticide or suicide. Enemata and milk aperients should

be given for the bowels and the following combination given at night for the insomnia:

℞. Pot. brom.
Chloralis hydratis, āā.....gr. xxx 2
Elix. simplicis .....ʒss 15
M. Sig.: At one dose.

The foregoing may be repeated twice or three times daily if acute maniacal symptoms are present, guarding against overdosing. Later on the following mixture may be substituted as a hypnotic:

℞. Trional .....gr. xx-xxx 1.30-2
Paraldehyde .....ʒiss-ii 6-8
M. Sig.: At one dose for sleep.

Opium preparations should be avoided, unless the mental symptoms, when well established, are of a maniacal character, when opium preparations are given along with proper stimulants. He recommends in such conditions the following combination:

℞. Liq. morph. acetatis (1 per cent.)....m. xx 1|30
Spts. etheris .....m. xv 1
Aquæ camphoræ .....ʒi 4
M. Sig.: One such dose three times a day.

Every effort should be made to re-establish the suppressed menstrual flow, such as the administration of iron, hot baths, aloes and ergot. Olive oil will aid in preventing loss of weight, as will alcohol.

Migraine.

Ratchvord, in *Medicine*, recommends the following combination in the treatment of migraine:

℞. Sodii sulph. .....ʒss 2
Sodii salicylatis .....gr. x |65
Mag. sulph. .....gr. l 3|30
Lithii benzoatis .....gr. v |30
Tinct. nucis vom. .....m. iii |20
Aquæ destil. .....ʒiv 120
M. Sig.: To be placed in a siphon bottle and carbonated, and a small amount, sufficient to produce a laxative effect, taken daily before breakfast.

Erysipelas.

As a local antiseptic dressing in the treatment of erysipelas the following is recommended by Stroell in *Amer. Med.:*

℞. Acidi carbol.
Tinct. iodi, āā.....gr. xv 1
Mucil. acaciæ .....ʒi 4
Alcoholis (pure) .....ʒv 20
M. Sig.: Shake and paint over the affected area every two hours until the swelling and shiny redness have disappeared.

Acute Rheumatism.

The following combination, according to Peabody, is of value in the treatment of acute rheumatism:

℞. Acidi salicylici .....ʒss 15
Ferri pyrophos. .....ʒi 4
Sodii phosphatis .....ʒx 40
Aquæ .....ʒvi 180
M. Sig.: One tablespoonful every two hours well diluted in water.

Eye Bruises.

The following combinations are recommended by *Merck's Archives* in the treatment of "black eye":

℞. Ammon. chloridi
Alcoholis, āā.....ʒi 30
Aquæ .....ʒx 300
M. Ft. lotio. Sig.: Apply locally; or:
℞. Acidi acetici dil. .....ʒv 150
Tinct. arnicæ .....ʒi 30
Ammon. chloridi .....ʒi 30
Aquæ .....ʒv 150
M. Ft. lotio. Sig.: Apply locally; or:
℞. Pot. nitratis .....gr. xv 1
Ammon. chloridi .....ʒss 2
Acidi acetici dil. .....ʒiv 15
Aquæ q. s. ad.....ʒviii 240
M. Sig.: To be locally applied.

In burns the following combinations are recommended by the same periodical:

FOR BURNS OF THE FIRST DEGREE.

℞. Thymol .....gr. x |65
Olei lini .....ʒiv 120
Sodii bicarb. .....ʒii 60
Aquæ calcis .....ʒiv 120
M. Sig.: Shake, cover the affected areas liberally with this preparation and cover with borated cotton; or:
℞. Ext. opii .....gr. v |30
Ichthyol
Liq. petrolati
Lanolini, āā.....ʒiii 12
M. Sig.: Apply on lint.

If the burns are extensive the amount of opium should be diminished.

FOR BURNS OF THE SECOND DEGREE.

℞. Airol .....ʒi 4
Lanolini (anhydrous)
Vaselini, āā.....ʒiv 15
M. Sig.: Apply locally.

[Airol is bismuth oxyiodogallate. It is an odorless, grayish-green powder, tasteless insoluble in water or alcohol. It is a valuable local antiseptic.]

℞. Xeroform .....ʒi 4
Olei lini .....ʒiiss 10
Solutionis plumbi subacet. .....ʒiss 6
M. Sig.: Apply freely on gauze.

FOR BURNS OF THE THIRD DEGREE.

℞. Ichthyol .....gr. xlv 3
Olei olivæ .....ʒiiss 10
Liq. petrolati
Lanolini, āā .....ʒix 270
M. Sig.: Apply locally.

Lactic Acid in Pruritus.

M. de Castle, according to an abstract in *Med. Rev. of Reviews*, has found that general pruritus in children rapidly disappears on the administration of lactic acid internally. He recommends it in doses of minims fifteen (1.00) daily, and for small children minims ten to fifteen (.65-1.00) of a 1 per cent. solution in divided doses during the twenty-four hours.

Chorea in Children.

The following outline of treatment is recommended by *Jour. des Pract.* in the treatment of chorea:

℞. Antipyrini .....ʒiiss 10
Syr. aurantii corticis.....ʒviii 240
M. Sig.: One dessertspoonful every two hours.

In addition the following should be given in the form of a suppository:

℞. Quin. hydrobrom. .....gr. ivss |27
Ol. theobromæ q. s.
M. Ft. suppos. No. i. Sig.: One such to be introduced at night in cases of children 6 years of age or older.

The substitution of arsenic for antipyrin is recommended at the end of a week or ten days:

℞. Sodii arsenatis.....gr. 1/3 |02
Aq. destil. .....ʒviii 240
M. Sig.: One dessertspoonful, well diluted, twice daily after meals.

The use of the cold pack and tepid baths are also recommended in the treatment of chorea.

Malbec, in *La Med. Moderna*, advises the following combinations in the treatment of chorea:

℞. Salipyrini .....ʒiiss 10
Strontii brom. .....ʒv 20
Syr. aurantii corticis .....ʒiii 90
Aq. calcis .....ʒvi 180
M. Sig.: One teaspoonful in water after each meal.

The following may alternate with the above or substitute it:

℞. Ferri glycerophos. .....gr. lxxv 5
Syr. aurantii corticis .....ʒiii 90
Vini quininæ
Vini kolæ, āā.....ʒvi 180
M. Sig.: One wineglassful after each meal.

[The wine of kola and of quinin are not standard preparations.]

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Kansas—Prohibition as to Exhibitions of Hypnotism.—Chapter 219 of the Laws of Kansas of 1903 provides that any person who shall induce or permit any child under 18 years of age to practice or assist or become a subject in giving public exhibitions of hypnotism, mesmerism, animal magnetism or so-called psychical forces shall be guilty of a misdemeanor, and on conviction be fined or imprisoned, or both.

Kansas—Prohibition of Marriage in Certain Cases.—The bill to prevent marriage of defectives, given in full on pages 788 and 789 of THE JOURNAL, March 21, 1903, is made Chapter 220 of the Laws of Kansas of 1903, entitled "An act regulating marriage and prohibiting marriage by or with persons afflicted with imbecility, feeble-mindedness, epilepsy or insanity, and prescribing penalties . . ." for violation of the act.

Kansas—Authorizes Temporary Permits to Practice.—Chapter 358 of the Laws of Kansas of 1903 provides that the secretary of the State Board of Medical Registration and Examination may in his discretion issue a temporary permit to practice medicine or surgery to any person who shall have made application in writing to said board for license to practice, accompanied by the prescribed fee, and proof as required by Section 3 of Chapter 254 of the session laws of 1901, and who shall be a graduate of any legally chartered medical institution of the United States or any foreign country; or such permit may be so issued to any such applicant for license, complying with said conditions, who is shown to have been licensed by the board of registration and examination in any other state or territory of the United States or any foreign country whose standards of qualification for practice are equivalent to those of Kansas. Any such temporary permit so issued shall, when recorded in the office of the county clerk of the county in which he resides, authorize the person receiving the same to practice in the same manner as a permanent license up to the next regular meeting of the board; provided, that not more than one temporary permit shall be issued to any one person, nor shall any permit be extended beyond the time herein limited.

Nebraska—Control of Contagious Diseases.—Chapter 59 of the Laws of Nebraska of 1903 provides that the State Board of Health shall have supervision and control of all matters relating to the protection of the people of the state from contagious, infectious and epidemic diseases. It shall make careful inquiry into the cause of the various contagious, infectious, epidemic and endemic diseases, and shall take prompt action to suppress and control the same. The reports of births and deaths, the sanitary conditions of localities and of employments, the personal and business habits of the people and the relation of the diseases of beast and man shall be the subject of careful study by the board, and it shall make and enforce orders necessary to protect the people against diseases of lower animals. It shall collect and preserve such information as may be useful in the discharge of its duties, and for dissemination among the people. It shall be the duty of all boards of health, and of physicians in localities where there are no health authorities, or where such health authorities fail to act, to report to it promptly on the discovery thereof, the existence of Asiatic cholera, yellow fever, smallpox, scarlet fever, diphtheria, typhus and typhoid fever, and such other diseases as it may from time to time specify.

Nebraska—Grounds for Revocation of License.—Chapter 61 of the Laws of Nebraska of 1903 amending Section 14 of Article I of Chapter 55 of the compiled statutes, title "Medicine," provides that the board may refuse to issue a certificate or may revoke one already issued for any of the following causes: The employment of fraud or deception in applying for license on diploma or in passing the examination provided for in this act; conviction of crime involving moral turpitude; habitual intemperance in the use of ardent spirits, narcotics or stimulants; unprofessional or dishonorable conduct. The words "unprofessional or dishonorable conduct," as used herein, are declared to mean: First, the procuring or aiding in procuring a criminal abortion; second, the obtaining of a fee on the assurance that a manifestly incurable disease can be permanently cured; third, betrayal of a professional secret to the detriment of a patient; fourth, causing the publication and circulation of advertisements of any medicine or means whereby the monthly periods of women can be regulated or the menses can be established, if suppressed; fifth, causing the publication and circulation of advertisements of any kind relative to diseases of the sexual organs tending to injure the morals of the public.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

October 24.

1 *President's Address, Tri-state Medical Society of Iowa, Illinois and Missouri. Alexander Hugh Ferguson.
2 *Cancer of the Prostate. Robert H. Greene.
3 *The Differential Diagnosis Between Friedreich's Disease and Insular Sclerosis. F. Savary Pearce.
4 Radium in Medicine. Samuel G. Tracy.
5 Tubal Pregnancy; Report of Cases. Mary D. Rushmore.

1. **Conservatism of Ovaries and Tubes.**—After discussing the reproduction of defectives and advocating legislative restriction of marriage of defectives, Ferguson describes the operation of hysterosalpingostomy and salpingostomy. The indication for the former is an obstruction of the proximal end of the fallopian tube due to chronic inflammation or myoma. Age must be considered. Only patients in the reproductive periods of life should be operated on, and even if near the menopause the power to become pregnant should be retained. There would be no object in performing the operation where both ovaries are destroyed. The first thing is to determine whether the tube is obstructed at its proximal end by inability to pass a probe or force air through it, and remove the obstructing portion including the horn of the uterus down to the uterine mucous membrane, taking care not to involve the vessels immediately below the fallopian tube. Split the proximal end of the remaining portion of the tube about half an inch. Pass a mattress suture through the uterine wall from the serous to the edge of the mucous surface, continue it through the one-half of the split proximal end of the tube from serous to mucous surface and then back from mucous to serous surface of the uterine wall. Deal in a similar way with the other half of the split end from the opposite surface of the uterine wall. Traction is now to be made on these two mattress sutures and the fallopian tube is thus drawn into the wound in the uterus, its mucous membrane becoming continuous with that of the uterus, and its serous surface coming in contact with the raw tissue on each side. The sutures are then tied. Pass two or three interrupted sutures above and internal to the tube to close the uterine wall, taking care not to constrict the tube. The stitch next the tube must grasp its outer coats, so as to secure more firmly its position. All the sutures are made with chromicized catgut No. 0. This insures patency and fixation of the tube. For salpingostomy determine if the tube is obstructed by inability to pass a probe or force air. Remove the obstruction together with the distal end of the tube diagonally across the tube from above downward and outward leaving a projecting mucous membrane and as large an opening as possible. On the superior surface of the tube pass a suture through the serosa a short distance from its free edge and continue it through the mucous coat close to the edge. Pass a similar suture on the inferior and lateral surfaces sufficient to ensure a perfect union of the mucous surface. A probe can now be passed through the opening into the tube and uterine cavity. Thorough asepsis, of course, must be secured. Vaginal section is not suitable for this method; it is necessary to enter the abdominal cavity suprapubically. Several cases are reported.

2. **Cancer of the Prostate.**—Green has thoroughly studied the literature of this subject and is inclined to think it probable

that cancer occurs in as high as from 5 to 10 per cent. of old men suffering from prostatic disease. The frequency and rapidity of the glandular infection have been generally noticed by others. The average age is over 50 years and in one series as high as 68 years. In the majority of cases symptoms pointing toward trouble with the prostate existed for some time before the cancer developed. Cachexia is of similar value; often it appears comparatively suddenly in old prostatics without reason to account for it. Pain is almost an invariable accompaniment. It may be referred to the prostate, rectum, back or other parts. Hemorrhage is frequent, but not so much so as pain. It occurs perhaps in 50 per cent. of cases. The amount of residual urine is of no particular diagnostic value. The prognosis is always grave, though cases have occurred where operation has caused great improvement. He reports cases in which there has been no recurrence for over a year. He says as regards preventive treatment that if gonorrhea can be avoided, the chances for cancer will become much less frequent. In the majority of cases metastasis has already taken place and the system become infected before cancer is diagnosed. The operative treatment can then be only palliative. The chances of recognizing the condition early enough to operate before metastasis gives the only hope for cure. Quite a complete bibliography is attached.

3.—This article was abstracted in THE JOURNAL of October 31, p. 1104.

Medical Record, New York.

October 24.

6 *Prostatectomy and Galvanocaustic Prostatotomy (Bottini's operation); Their Present Status in the Radical Treatment of the Hypertrophied Prostate Gland. Willy Meyer.
7 *The Roentgen and Finsen Rays; Electrolysis; Galvanism; Faradism; High-tension Discharges, and Diagnostic Illumination. Sinclair Tousey.
8 *The Choice of Method for the Relief of Retroversion and Retroflexion. John Van Doren Young.
9 *The Non-medicinal Treatment of Constipation. Samuel G. Gant.
10 *The Frequency Wave of Epileptic Seizures. William P. Spratling.

6.—See abstract in THE JOURNAL, xl, p. 1670.

7. **The X-Rays.**—Tousey gives a description of the apparatus and technic in use for the *x*-rays and Finsen rays in ordinary office practice using the commercial current. The cost of such a current is very small, not more than five to ten cents an hour for the *x*-rays and vacuum tube work, and next to nothing for galvanic and faradic work. The apparatus is alawys in working order and has great advantages over the static machine.

8. **Retroversion and Retroflexion of the Uterus.**—The anatomic conditions and cause of these abnormalities are described by Young as also the treatment. The deductions from his study of the subject are given as follows:

1. Retroversion and retroflexion are never simply malpositions of the fundus, but complex changes in the relation of the whole uterus to the other structures in the pelvis and to the pelvic wall.
2. The uterosacral ligaments are the only suspensory ligaments of the uterus when the patient stands, and are the only ligaments not affected by gestation or parturition.
3. The uterosacral ligaments suspend the uterus by their attachment to the lower segment and act as a swing in supporting the rectum. Factors causing the yielding of these ligaments are: Injuries to pelvic diaphragm; increased intra-abdominal pressure; constipation; straining at stool; injuries to the rectovaginal septum, causing retraction of anus, with rectocele.
4. Any method for the relief of these conditions must consider and relieve all the complicating lesions, not the least of these the pathologic condition of the endometrium.
5. All methods for holding the fundus forward must rely on the integrity of the uterosacral ligaments, together with the fibrous connective tissue of the broad ligaments to suspend the uterus.
6. Non-operative measures are applicable to acute traumatic and replaceable non-complicated cases and depend for their value on relief of pelvic engorgement, the restoration of normal circulation and the return of normal elasticity and tone to the ligaments and muscular structures.
7. The Alexander operation has a limited field of usefulness, and is of value only when there is retroflexion and the other ligaments are strong enough to support the uterus, with proper relief of other complications. It must never be forgotten that traction on the round ligaments tends to lower the plane of the uterus.
8. Ventral suspension, when performed in combination with other procedures, does relieve the malposition and prevents a recurrence of the same. Its dangers, when properly performed, are small if any, in subsequent pregnancies. The advantages of the operation are the ease and rapidity of its performance.
9. Ventral fixation is applicable only when the patient has passed the child-bearing period.
10. The ideal procedure is as follows: Curettage; repair of injuries to the cervix, retrovaginal septum and anterior wall of the vagina. Laparotomy. Sacrosuspension. Bissell operation. The disadvantages are the length of time necessary for the operation and its difficulty of performance in fat subjects.
11. In place of the Bissell operation, a ventral suspension may be substituted. This, I believe, is wise when many adhesions have been broken up and the posterior surface of the uterus is denuded of peritoneal covering or the patient's condition demands haste.
12. In nulliparæ a pessary should be worn for six months to prevent traction on the uterosacral ligaments until they have regained their tone. The action of the pessary is due to the fact that, resting on the superior surface of the symphysis, the lower segment of the uterus is held upward and the strain taken off the uterosacral ligaments. The rectocele, when no lacerations exist, is in this manner lessened.
13. The uterus should be curetted as the first step in any of these operations.
14. The adhesions so frequently found in these cases are of the greatest value to the patient, in that they fulfill a munificent purpose of nature in preventing the condition of complete prolapse during the existence of the malposition.

9. **The Non-Medicinal Treatment of Constipation.**—Gant favors the non-medicinal treatment of constipation, advocates the proper education of the patient, drinking of plenty of water, regularity of habits, condemns enemata, and says that massage intelligently practiced is essential. Electricity has been highly spoken of, but he is not prepared to say that it alone is efficacious. Divulsion of the sphincter may be required in either adults or children when the muscle has become hypertrophied or irritable and there is obstruction. Valvotomy by the method of Martin is occasionally indicated, but requires too many manipulations and instruments, too much time involves considerable danger of hemorrhage, infection and peritonitis besides causing serious confinement and discomfort of the patient. He favors for most cases the technic of the clamp operation; thus inserting his clamp which divides the valves from the fourth to sixth day and is discharged with the feces carrying the section of tissue within its grasp. It has the advantage that it can be painlessly applied in one to five minutes. There is no danger of hemorrhage, infection or complications. No dressings are required. The patient is not subjected to discomfort, need not be restricted as to diet, and in his experience it has been more effective than other procedures as it removes a section of tissue nearly half an inch wide and about an inch long. He illustrates the method showing the insertion of the clamps through the proctoscope, and their application to the Houston valves. In his experience non-medicinal treatment has been far more effective than the medicinal.

10. **Epileptic Seizures.**—Spratling finds that in 1,374 cases at the Craig Colony the approximate frequency of the attacks was weekly or oftener in 775 cases, every two weeks in 173, every three weeks in 61, and every four weeks in 244, every eight weeks in about 42, and every twelve weeks in about 49. It is safe to say, he says, that fully 50 per cent. of all confirmed epileptics have an attack weekly or oftener. A notable decline begins after the first-week period and continues up to the eighth-week period. This increase at the fourth week is due to the fact that serial attacks in many female epileptics group themselves about the time of the menstrual flow. Those in the six months' period, and there are a few that go longer, are classed as occasional epileptics; they scarcely ever show the mental impairment of the ordinary idiopathic cases. He suggests that this wave of epileptic frequency can perhaps be found to have a relationship with more or less rhythmic intoxication of the central nervous system.

Boston Medical and Surgical Journal.

October 22.

11 *Further Observations on Cervical Dislocation and Its Reduction. G. L. Walton
12 *Lesions that Augment the Development of Tetanus and Other Infections in Gunshot Wounds. Louis A. LaGarde.
13 The Plague of Athens. Charles Greene Cumston.
14 *The Condition of the Vasomotor Neurone in "Shock." W. T. Porter and W. C. Quinby.
15 *A Hitherto Undescribed Membrane of the Eye and Its Significance. Frederick H. Verhoeff.

11. **Cervical Dislocation.**—Walton refers to his former papers (*Boston Med. and Surg. Jour.*, March 21, 1889, and *Jour. Nerv. and Mental Dis.*, 1889). He remarks that the frequency of the accident is shown by the fact that in addition to the eight cases previously published he has observed at least as many others not deserving of special mention from their peculiarities.

He has made a careful study of the vertebræ which leads him to the conclusion that dorsolateral flexion, combined if necessary with slight rotation (to enable the upper articular process to pass the brim of the lower articular process), would fulfill the requirements of replacing the dislocation, the vertebra being afterward rotated into place as by the old methods. This was first suggested by Dr. Richardson. Of the 7 cases which have come to his knowledge since proposing this method 2 have been replaced in sleep, 3 during etherization and 2 by the operation itself. He reviews the mechanism of the dislocation, calling attention to the fact that the articular processes in the cervical vertebræ are so nearly horizontal that one can readily slip forward over that of the vertebra below and fall into the intervertebral notch without necessarily compressing the cord so as to produce paralytic symptoms. If the left articular process has slipped down into the notch, the head will be tilted to the left, the face being still rotated to the right in case of left dislocation. If the articular process has become caught on the crest of the process below, the head will be tilted to the right as well as rotated to the right. The side on which dislocation has occurred can always be determined by the direction of the rotation; the question whether the articular process has slipped into the notch, which is of secondary importance, can be determined by the tilting of the head. In case bilateral dislocation has occurred, the head will be carried forward and tilted directly backward. The only conditions which are likely to be confused with this cervical dislocation are torticollis and vertebral disease. The former may be determined by contraction of the sternomastoid. In cervical caries the history is the important diagnostic factor. He gives an illustration showing the method of reduction. The patient should be in a sitting posture for the operation. The head should be rocked, but without traction, for traction only lessens the effectiveness of the fulcrum necessary to reduction.

12. **Gunshot Wounds.**—LaGarde describes the conditions which seem to affect the infection in gunshot wounds and shows the result of experimentation made by firing bullets at varying velocities into animals in which the skin had been well rubbed with finely powdered charcoal. The lodgment of the bullet seems to add but little to the susceptibility to infection, and the special lesions from a ball with a certain degree of velocity as it passes through tissues are necessary to augment the susceptibility to infection. These lesions partake of the nature of hematomata. The extent of the hematomata increases with the velocity of the projectile to a marked degree, and the caliber of the ball also has a decided effect. The fissuring extending laterally from the channel track is another important factor, aside from hematomata. Burned areas are much more susceptible to tetanus infection than simple incisions. It is hopeless to disinfect a channel made by a bullet and the wounds treated by simple dressings did best of all, in Müller and Köller's experimental research, while those treated by radical measures, thermocautery, etc., gave evidences of suppuration in every instance.

14. **Shock.**—Porter has experimented as to the production of shock after stimulation of the depressor nerve, and concludes that exhaustion in the vasoconstrictor neurons can not be the essential cause of the symptoms.

15. **A New Membrane of the Eye.**—Verhoeff announces as a result of his studies:

In the pigment layer of the retina there is a fenestrated membrane, identical in structure and staining reactions with the membrana limitans externa.

The rods and cones are not nervous elements, but modified ependymal cells, and are analogous to sensory epithelium.

The limiting membrane of the rosettes of glioma retinæ is a fenestrated membrane, similar in every way to the membrana limitans externa, and the rosettes correspond to the neuro-epithelium of the normal retina.

The structure of the limiting membrane of rosettes explains why they assume their characteristic spherical and spiral-like forms.

"Neuro-epithelioma retinæ" is no more suitable than "glioma retinæ" for the class of tumors to which these terms have been applied.

Medical News, New York.

October 24.

16 *The History of the Tuberculosis Work at Saranac Lake. E. L. Trudeau.
17 *Congenital Hypertrophic Stenosis of the Pylorus. B. G. A. Moynihan.
18 *Timely Operation in Primary Appendicitis. William H. Wathen.
19 The Hypodermatic Use of Adrenalin Chlorid in the Treatment of Asthmatic Attacks. Jesse G. M. Bullowa and David M. Kaplan.

16. **Tuberculosis.**—Trudeau's lecture is the first of a series to be given by the Henry Phipps Institute and describes the history and development of the Adirondack Sanatorium. See editorial last week.

17. **Pyloric Stenosis.**—Moynihan describes the symptoms and morbid anatomy of pyloric stenosis, the child being at birth usually well nourished and of normal weight, but soon after, sometimes the first day and sometimes several weeks later, the patient begins to vomit and no measures such as change of food, etc., suffice to relieve this condition. The vomited matters are very slightly altered from their condition when swallowed and bile is never present. As soon as milk is taken it is ejected with considerable force. The temperature is subnormal, constipation invariable, abdomen collapsed, and the condition rapidly changes for the worse. The morbid anatomy always shows the same condition: an enlarged and thickened stomach, pyloric region altered with funnel-shaped circular thickening. The stomach curiously resembles the dissected-out bladder and prostate. The causation of the condition is obscure. In some cases the use of a nasal tube and washing the stomach relieves, but in a large proportion surgical measures alone will succeed. The operations are Loreta's operation of dilatation, pyloroplasty as advocated by Dent, and gastro-enterostomy. Which of these will be the generally accepted procedure it is impossible to say, but the statistical results up to the end of 1902 show that pyloroplasty had been performed three times, successfully, and in a fourth case, supplemented by gastro-enterostomy, with good results. Gastro-enterostomy, always anterior, was performed 9 times; 5 recoveries, 4 deaths. In one case the death was due to acute obstruction caused by a Murphy button used in anastomosis. Loreta's operation had been performed 9 times with 7 recoveries.

18. **Appendicitis.**—Wathen pleads for early operation. When the diagnosis is made the case should be operated on before further involvement. When the case has gone beyond the primary and timely stage he thinks it would be best to wait until the abscess is walled off in many cases, but not to let the patient go on to another attack. In many cases of inflammatory or purulent condition in the pelvis, he has found appendiceal involvement, but usually no necrosis. He thinks in such cases the appendix should be removed as it adds but little to the danger of any operation and does away with a condition that may cause future trouble.

American Medicine, Philadelphia.

October 24.

20 *Treatment of Abscess of the Liver. Thomas L. Rhoads.
21 *Injection of Paraffin for the Correction of Deformities. A. W. Morton.
22 *The Susceptibility of the Negro to Tuberculosis. Thomas D. Coleman.
23 Hernia of the Vermiform Appendix and the Removal of the Appendix During Operations for Right Inguinal Hernia. John G. Sheldon.
24 *Funic Pulsations; When to Ligate the Cord. William H. Good.
25 Hay Fever: A Discussion of Our Present Knowledge of the Disease, with Special Reference to Etiology and Therapy. Raymond Wallace.
26 Medical Advancement. William M. Welch.

20. **Liver Abscess.**—Rhoads criticises the use of aspiration in liver abscess on account of its uncertainty, and the danger of withdrawal of the infected end of the needle through the liver tissue. He prefers to diagnose by careful percussion and observation for tender spots, followed by exploratory incision, if required. After the location of the pus he would open and clear out the cavities and use rubber and gauze drainage. The most serious cases are where the thorax has to be opened and one or two ribs resected which is necessary for good drainage. The technic employed is described in full detail and can not well be reproduced. He gives morphin and atropin to relieve pain after the operation, and if much blood has been lost saline transfusion, with the application of dry heat and an enema of hot coffee for shock. Free discharge will necessitate change

of dressings about eight hours after operation. On the following five days the dressing is changed twice a day, the patient being removed on a litter into another room so that the bedding and mattress can be aired. During the first six days, while the fibrous adhesions are forming, the patient is kept mildly under the influence of an opiate; the effects on the nervous system will determine the dosage. On the sixth day adhesions will have formed and the gauze drainage and rubber tube will be surrounded by a fibrous exudate which will have established a pathway for the pus, and they can be removed, therefore, with safety. The cavity is irrigated with warm sterile water until the flow returns clear, and a new rubber tube is carried into the cavity with strips of sterile gauze packed around it down to the abscess cavity. This practice is continued on each successive day until there is no further evidence of pus, and the sinus is allowed to close after the second week. The patient may then be about in a rolling chair in a reclining position and during the last days of local treatment will be walking about if the systemic conditions are favorable. In the convalescent stage, about ten days after operation, the patient is given thrice daily, on an empty stomach, 30 c.c. of pure olive oil in a wine glass into the bottom of which has been squeezed 10 c.c. of lemon juice. The patient soon acquires a taste for it and improves under the treatment. The effect on the intestinal dejection is marked. The oil acts by stimulating the portal circulation, increases the flow of bile, restores a natural digestive agent and antiseptic to the intestinal canal, and heals the ulcers. The dietary must be generous in quantity, but not overwhelm the digestion. He prohibits milk foods, broths, etc., but gives a solid diet in conjunction with the olive oil, administration of minced meats, well-cooked vegetables, salads and shellfish. Whatever foods are ordered, the end in view must be to give the large bowel rest.

21. **Paraffin Prothesis.**—Morton reports a number of cases and illustrates his article with microscopic drawings showing that the paraffin disappears and is replaced by connective tissue and embryonic tissue within four months. The dangers of sepsis, emboli and sloughing are mentioned. Sepsis can be prevented by asepsis; emboli by using the paraffin at the proper temperature though experiments seem to show that paraffin, the melting point of which is below the temperature of the body, gives rise to thrombosis. He doubts whether this is as dangerous as the experiments would lead one to believe. He uses paraffin of a melting point of 109 F., brought to this point by adding sperm oil, and sterilized by placing in a water bath, and exposed to heat sufficient to boil the paraffin.

22. **Tuberculosis in the Negro.**—Coleman analyzes the mortality statistics of Charleston, S.C., Augusta, and Atlanta, Ga., and New Orleans, La., as typical of the South, showing that the ratio of deaths from tuberculosis in the negro is much greater than in the whites, and gives as the reasons their immorality, irregular habits, general lack of hygiene, etc. He thinks with proper measures thoroughly carried out, this mortality could be wonderfully reduced.

24. **Funic Pulsations.**—Good holds that pulsation in the umbilical cord is of fetal and not of maternal origin. To illustrate this he reports an instance where pulsation persisted for some time after the placenta had been expelled from the uterus. The time to ligate the cord, he says, is when there is firm contraction of the uterus.

St. Louis Medical Review.

October 24.

27 *Personal Experience in the Treatment of Typhoid Fever. J. Franklin Welch.

27. **Typhoid.**—The treatment of typhoid advocated by Welch is proper nursing, plenty of sterile drinking water, a bland, liquid, digestible diet, the use of the Brand method if possible, but sponging in other cases. He thinks medicines have their share in the treatment. It is highly important that the bowels be freely evacuated in the beginning, and for this he would give mild hydrargyrum chlorid and sodium bicarbonate in grain doses every hour followed by carbonate of guaiacol in 3-gr. doses, alternating with the following prescription: Liquor potassi arsenitis, 1 dram; nitrate ammonia, 2 drams; distilled water, 3 ounces, given in teaspoonful doses. These have been very satisfactory in his hands. Guaiacol is a splendid antiseptic, Fowler's solution, an antidote to malaria as well as a good nerve tonic, and the nitrate of ammonia, a mild cardiac stimulant, all of which are indicated in the treatment of typhoid fever in the Mississippi Valley.

Cincinnati Lancet-Clinic.

October 24.

28 Suggestion and Therapeutics. R. H. Grube.
29 Constipation Cured by Massage, Together with Faradic Electricity. George J. Monroe.
30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merril Ricketts.

Journal of Nervous and Mental Disease, New York.

October.

31 *The Sign of the Orbicularis in Peripheral Facial Paralysis. George W. Jacoby.
32 *Gigantism and Leontiasis Ossea, with Report of the Case of the Giant Wilkins. (Continued.) Peter Bassoe.
33 *Studies on the Cerebral Cortex in the Normal Human Brain and in Dementia Paralytica. (Continued.) G. Alfred Lawrence.

31. **The Orbicularis Sign.**—This sign, which consists in inability of a hemiplegic to voluntarily close the eye on the the generally accepted one of Broadbent, that it is due cussed by Jacoby with reference to its significance in facial paralysis. The theory for the reason why the upper facial is free or less involved in central paralysis accepted by him is the generally accepted one of Broadbent, that it is due to bilateral representation of this innervation in the brain. As regards facial paralysis, the question of decussation arises. He reviews the literature of the subject and reports cases which seem to bear out his ideas, giving his conclusions as follows:

1. The statement of Bard, that the sign is invariably lacking in peripheral facial paralysis and is, therefore, a distinguishing mark of central affection, is incorrect. 2. The presence of the sign in peripheral paralysis is further proof of the existence of commissural fibers between the nuclei of the seventh nerves. 3. The sign is of clinical value, in so far as its presence in peripheral paralysis shows that complete recovery has not yet occurred. 4. The secondary over-action in the orbicularis palpebrarum, which is late in appearance and always coincides with some recovery in power, does not occur in those cases in which the sign, having been present, has passed away.

32. **Gigantism and Leontiasis Ossea.**—Bassoe tabulates the literature of 42 cases. He finds that heredity seems to play no part in the production of this condition, and that the association of sarcoma must be more than a coincidence. The symptoms are explainable by pressure. The diagnosis discussed is between the conditions described and osteitis deformans, acromegaly, sarcoma, etc. There is little to be expected from treatment.

33. **Paresis.**—This installment of Lawrence's article is mainly devoted to technic and an examination of the cortical changes.

Archives of Pediatrics, New York.

October.

34 A Case of Pulmonary Osteoarthropathy. Thomas Morgan Rotch.
35 A Case of Chondrodystrophy Fetalis. J. Park West and W. O. S. Piper.
36 *Prophylactic Measures to Prevent the spread of Vulvovaginitis in Hospital Services. Henry Koplik.
37 A Study of Two Cases of Intussusception. Francis Huber.
38 The Prophylactic Use of Diphtheria Antitoxin in School Children. Augustus Caille.
39 Congenital Gastric Spasm. J. Park West.

36. **Vulvovaginitis in Hospital Service.**—Koplik notices the tendency of this disorder to spread under hospital conditions and gives illustrations from epidemics sometimes started among the children. It is conveyed, he thinks, in many ways. The utensils may be the first source of infection or the linen and rubber sheets, diapers, underclothing, wash rags and basins and last, but not least, the bath tubs. Every child on admission to his service is thoroughly examined first of all for any rectal, urethral, or vaginal discharge and cultures taken. No child is bathed in the common bathtub until pronounced free from vaginal, rectal or urethral discharge by the house physician. Each child is given an individual basin, comb and bedpan kept at the head of each bed. No bar soap is used; the liquid soap alone. Each bed is fitted permanently with a small brass thermometer case and every patient supplied with his own thermometer, which, with its case, is carefully cleansed

and disinfected after discharging the patient. A bedpan once having been used on a patient suffering from discharge is never again used on a well one. The diapers are made of cheesecloth and thrown away when soiled. In case of patients with an infectious discharge the bed is surrounded by a red bandage to warn the nurses, and the bedding, rubber sheets, draw sheets, and all the linen are marked V. D. (vaginal discharge) and never used again except in a similar case. He has thus instituted a most complete system of isolation protecting each little patient from the others. Should a case be received it can not spread. It is not a simple matter as he has seen deaths occur from infection of the peritoneum resulting from this condition, and many cases of subsequent trouble and sterility in later life can be traced to this infection in early childhood.

Chicago Medical Recorder.

October 15.

40 The Management of Acute Anterior Urethritis of Gonorrheal Origin. F. Kriessl.
41 *Radical Cure for Blennorrhea of the Lachrymal Sac. E. F. Snydacker.
42 Compound Fractures. I. C. Gary.

41. **Lachrymal Blennorrhea.**—Snydacker prefers the subperiosteal operation for this condition, starting the incision above the internal canthal ligament, extending downward 2 or 3 mm. anterior to the crest of the lachrymal bone for a distance of 2½ to 3 cm. The incision extends through the periosteum, which is raised with an elevator down into the lachrymal fossa. In this way the nasal and posterior surface of the lachrymal sac can be lifted up with the periosteum as far as the beginning of the lachrymal canal. The superior portion of the sac can then be separated from its attachment to the surrounding tissue by carefully cutting with small scissors. Then the sac and periosteum are seized with forceps and pulled up so as to cut the sac off as low down and as near the beginning of the canal as possible. The beginning of the canal should be thoroughly curetted so as to make good drainage into the nose. The wound is sutured and a pressure bandage applied. He considers this the easiest and quickest method of performing an operation; better than dissecting out the sac without the periosteum. There is no question in this method of removing the sac entire.

International Journal of Surgery, New York.

October.

43 *Treatment of Cancer by the X-Ray, with Remarks on the Use of Radium. William James Morton.
44 *On the Cure of Lupus Erythematosus by Actinic Light. William S. Gottheil.
45 *Some Observations in X-Ray Work. G. P. Edwards.
46 Personal Observations of the Therapeutic Value of the X-Ray. William F. Campbell.
47 How to Secure the Best Skiagrams; Some Practical Points in the Manipulation of Vacuum Tubes in Radiography and Radiotherapy. Walter M. Brickner.
48 Observations in the X-Ray Treatment of Malignant Disease. Finley R. Cook.
49 New Treatment of Cicatrices. Henry R. Varney.
50 *Radiotherapy, with Report of Eleven Cases. Charles D. Center.

43. **X-Ray and Radium for Cancer.**—Morton holds that the earlier the malignant disease is discovered and treated by the *x*-ray the better, and that in its earlier stages radiation treatment is preferable to operation. When cancer has become more advanced operation is required. After operation the *x*-ray treatment is always advisable, and for non-operative cases there can be no question but that it offers the only chance for relief. He points out certain considerations: 1. That treatment should be begun early before the involvement of the lymphatic system to any extent. 2. The type of cancerous diseases is an important consideration. Squamous-celled carcinoma or the rodent ulcer type may claim the possibility of 100 percentage of cures. 3. If the cancer, however, has broken down and become a large open ulcer the chances are less than if the skin remains unbroken. 4. Open ulcers, moreover, offer a chance for secondary septic infection. For this reason he invariably covers the open ulcer during treatment with a layer of absorbent cotton. The intensity of the ray is a matter which severely tests the judgment of the operator. In deep-seated carcinoma of the breast or other internal tumors there is no doubt that treatment can be carried to the point of exciting severe dermatitis to the advantage of the patient. On the other hand, in superficial growths or one directly beneath and involving the skin, there is great danger in producing dermatitis. In such cases the operator may either kill or cure the patient. Gentle *x*-ray treatment given three times weekly to the point where reddening of the skin is not pronounced, will often cause these tumors to shrink and wither away, while severe *x*-ray treatment would produce rapid extension of the disease. Morton alludes to the publication of Edison in regard to cancers and the notion that the system may become saturated with the *x*-ray and subject to a multitude of ills. He says it is hardly fair to compare the intelligent use of the agent to the protracted exposures of the hands and arms of exhibitors, and the bugaboo of over-saturation by the *x*-ray does not exist in scientific medicine. His method is to give treatments three or four times a week, of fifteen to twenty minutes' exposure at a distance of 9 in., with *x*-ray radiation intensity affording a given picture of the lower end of the radius and ulna at 2 feet; thus producing a fair dermatitis in two to four weeks. By following this plan he has never been surprised with an unexpected burn of any severity. In cases where the treatment must be general, as in Hodgkin's disease, the patient may be exposed to the rays at the distance named and the intensity referred to daily for three-quarters to an hour without suffering harm. He does not believe in shields for the local treatment of cancer. The greater the area treated the greater the chances of safety to the patient. His theory of artificial fluorescence of living tissues is mentioned and he remarks on the use of radium, which he says has much the same effects as the *x*-rays. He describes his technic.

44. **Lupus Erythematosus.**—Gottheil believes in the treatment of lupus erythematosus by the Finsen light rather than by the *x*-rays, and remarks that it differs markedly from the latter. In the latter the reaction is uncertain and may appear late and be deep-seated. In the light treatment the reaction is superficial and appears quickly, lasting only a short time and never does any harm. His results he claims are brilliant, though one of the cases he reports was a failure. It was a case of long standing and very extensive disease.

45. **X-Ray Work.**—From his experience with the *x*-rays Edwards concludes that there is no place in the work for empiricism and no one should undertake it without being reasonably familiar with the physical, physiologic and therapeutic properties of the agent. It is a comprehensive and difficult branch of therapeutics and should be taught in medical schools. While in competent hands it is safe and reliable and capable of great good, in incompetent ones it is an agent fraught with great mischief. In the hands of the experienced operator with improved apparatus and technic he holds that 100 per cent. of skin cancers may be cured. Lesions involving the mucous surfaces about the head are more difficult to control and until improved methods are devised for working the rays on unexposed regions in the mouth and throat, not over 50 per cent. of cures can be expected. Lesions involving the cervix uteri and other accessible parts should be controlled by an intelligent, persevering fight. Deep-seated subcutaneous growths, adenomas, etc., should be controlled before dissemination. In all cases relief from pain and other sensory disturbances, retardation of the progress of the disease and general improvement may be expected. In accessible lupus vulgaris a cure may be anticipated in every case. Lupus erythematosus is difficult and requires more radical and severe treatment than is ordinarily demanded.

50.—This article has appeared elsewhere. See The Journal of September 12, ¶53, p. 686.

Bulletin of the Johns Hopkins Hospital, Baltimore.

October.

51 Dr. Samuel Fuller, of the Mayflower (1620), the Pioneer Physician. Thomas F. Harrington.
52 *The Relation of the Status Lymphaticus to Sudden Death. Death Under Anesthesia and Infection. George Blumer.
53 A Case of Syphilis of the Peripheral Nerves and Lungs. Charles M. Remsen.
54 The Medicine and Doctors of Juvenal. Eugene F. Cordell.

52. **Status Lymphaticus.**—The following are the conclusions of Blumer's article:

1. The condition known as the status lymphaticus is a definite pathologic entity. 2. It is probably associated with, if not due to, a condition of intermittent lymphotoxemia. 3. It may be associated with sudden death, probably as a result of lymphotoxemia alone in some cases, or as a result of the action of toxic, physical or psychic injuries, which are rendered much more powerful than usual by the predisposing action of the lymphotoxemia. 4. In some cases the sudden death is undoubtedly mechanical and due to asphyxia from pressure of the enlarged thymus on the trachea. 5. The subjects of the status lymphaticus can be recognized clinically in some instances.

Bulletin of the Kentucky State Medical Association, Louisville.

October.

55 Cerebral Syphilis. George P. Sprague.
56 *But One Profession of Medicine. Dudley S. Reynolds.
57 *Pertussis. Philip F. Barbour.
58 *A Plea for More Accurate Diagnosis in Diseases of the Upper Abdomen. Louis Frank.

56.—This article appeared in THE JOURNAL, xl, p. 1781.

57. **Pertussis.**—The dangers of pertussis are pointed out by Barbour. The treatment which he considers most useful is that by calcium sulphid. It has proved more efficient than any other agent in his experience. It is not always possible, however, to obtain it in an effective condition, as most calcium sulphid on the market is inert, he says, because it is not sufficiently protected from oxidation during its manufacture, or it deteriorates from imperfect protection afterward. The chocolate-coated pills, he thinks, retain the salt in a purer condition than the gelatin coated. The dosage is approximately ½ gr. every two hours for a child 1 year old, but it may be used in larger or smaller doses according to the results. The object is to saturate the system so that the breath smells of hydrogen sulphid. At the orphan asylum of which he is in charge 15 cases occurred rather consecutively during 1902. In two months after the beginning of the epidemic the last child affected was entirely well of the cough which follows the convulsive stage. When we consider that the average case of whooping cough lasts three months under the most favorable conditions this result would seem to be remarkable.

58. **Abdominal Diseases.**—Frank holds that chronic indigestion and dyspepsia *per se* do not exist in nearly the number of cases so diagnosed, and that disorders which give rise to the symptoms are generally those of the gall bladder or due to stomach ulcer. Only careful examination and gastric analysis can reveal the true state of things, and early diagnosis is better as giving the patient more chance. If a strong presumptive diagnosis can not be made from the symptoms by exclusion an exploratory operation is advised.

Detroit Medical Journal.

October.

59 *Operation of Total Extirpation of the Prostate in Its Capsule. J. B. Kennedy.
60 *Conclusions from Fifty-one Intubated Fatal Cases of Laryngeal Diphtheria. B. R. Shurly.
61 A Case of Gunshot Wound of the Brain. Hal C. Wyman.

59. **Prostatectomy.**—Freyer's operation of perineal prostatectomy is advocated by Kennedy, who describes the method which, as is well known, is preceded by suprapubic cystotomy. He has himself employed it in a number of cases similar to those in which he has seen Freyer operate and with the best results. Five of them are reported.

60. **Laryngeal Diphtheria.**—The 51 cases here analyzed by Shurly point out the importance of the early administration of large doses of antitoxin and immunization of those exposed. He calls attention to the fact that there is a misunderstanding among physicians as to the meaning of double x and single x serum, which are simply measures of quantity and not of strength of units. In other words, 2,000 units single x are identical in curative value with 2,000 double x, and a mistake may lead to fatal results. The chief reasons why the cases analyzed were fatal he gives as follows: 1. Delay in giving the large initial dose of antitoxin, either by delay in calling the physician or by delay by the physician. 2. Insufficient dosage at later intervals. 3. Delay in intubation. 4. The presence of hypertrophied tonsils and adenoids. 5. Lack of proper nursing. With proper attention to dosage he thinks the mortality will be reduced to at least 5 per cent. and intubation be given its proper place among the rarer methods of operative interference.

Therapeutic Gazette, Detroit.

October 15.

62 *Hyoscin in the Treatment of Morphinism. George E. Pettey.
63 A Note on the Internal Administration of Adrenalin for Control of Hemorrhage. Homer Dupuy.
64 *Symptoms and Diagnosis of Gastric Ulcer, with Remarks on the Treatment with Large Doses of Subnitrate of Bismuth. John B. Woodville.
65 *Directions for the Use of the Vaginal Douche. Byron Robinson.
66 *Some Reasons Why We Should Use Antiseptics in the Treatment of Typhoid Fever. J. M. Peck.
67 Treatment of Menière's Disease, with Report of Case. J. M. Bradley.

62. **Morphinism.**—Pettey answers Crothers' criticism as to the use of hyoscin in the treatment of morphinism, claiming that while it does not cure morphinism, and any one who expects it so to do will be disappointed, it fills a most important place in the treatment. It controls suffering from the withdrawal of morphin, and when used in the quantity and for the length of time it is required for that purpose may be used with absolute safety. Although it is a narcotic, it differs so greatly from morphin in its effects that its use for the length of time required does not perpetuate the desire or necessity for the use of morphin. It overcomes both of these and keeps the patient comfortable while he is abstaining. He does not see what more can be expected.

64. **Gastric Ulcer.**—Woodville treats gastric ulcer by diet restricted to sweet milk with the white of one or two eggs beaten up in half a glass of water at intervals of two to three hours, and the use of subnitrate of bismuth in doses of 45 to 120 grains, suspended in half a glass of milk, three times a day, continued without intermission for three weeks. Used in this way bismuth relieves the vomiting and forms a protecting coat over the ulcer under which the process of repair may go on without interruption. Usually at the end of the time mentioned the diet can be increased by the addition of broths, soft-boiled eggs and crackers. He reports cases. He has never seen any cases of poisoning by these large doses of bismuth. He keeps the bowels open by daily rectal injections and never gives cathartics to the patients by the mouth.

65. **The Vaginal Douche.**—Robinson uses for this purpose a fountain syringe with a four-foot head. He begins with four quarts to those accustomed to it, and two quarts to those who are unaccustomed, at a temperature of 105 F., increasing both the amount and the temperature until the water is as hot as it can be borne, and until a maximum of fourteen quarts is used. He gives the douches in the morning and in the evening just before retiring. The duration required to take each gallon of douche is eight to ten minutes, though less if the full amount is given. The patient should be on the back with thighs and legs flexed. A handful of salt or a teaspoonful of alum can be added to each gallon to dissolve the mucus and pus, acting also as an astringent and antiseptic and for hardening the tissues. Other astringents are less valuable. Sodium sulphate is the best general solvent for the discharges. The tube should be sterilized, boiled and each patient should have her own. The utility of the douche is that it contracts the tissues and vessels, absorbs exudates, checks secretions, stimulates, relieves pain, cleanses, checks hemorrhage, curtails inflammation and drains the genital tract. The best disinfectants for the douches are carbolic acid, permanganate of potassium and biniodid of mercury. Disinfectants, however, are secondary in value to solvents of mucus, pus and leucocytes. The douche should be non-irritating, should be clear, economical and to be of curative effect in pelvic disease should be continued for months.

66. **Typhoid Fever.**—The wisest course in typhoid, according to Peck, is to treat the cases under the assumption that there is sepsis in the intestines. Of the numerous antiseptic agents which may be administered there are none, he thinks, so good as chlorin and acetozone. His first experience with chlorin was in 1895. Since then he has never attempted to treat a case without its use. As yet he has had no experience with acetozone, but numerous testimonies lead him to class it with chlorin. Neither of these drugs are injurious to the human organism, but promptly kill typhoid bacilli in the presence of moisture outside of the body, and when given early in liberal

quantities to persons infected with typhoid bacilli the majority of the characteristics of severe typhoid do not appear. He mentions also urotropin for clearing the urine as another valuable antiseptic; also sulphocarbolate of zinc, guaiacol, mercury and salol, but all as secondary to chlorin and acetozone.

Woman's Medical Journal, Toledo.

September.

68 Acute Plastic or Fibrinous Pericarditis. Mary Wilson.
69 *The Fatality of Whooping Cough. Eliza H. Root.

69. **Whooping Cough.**—The fatality of whooping cough which is popularly considered to be almost *nil* is pointed out by Root as a decidedly serious matter. She says that statistics prove that it is more fatal in many localities and at certain times than scarlet fever. In the United States Census Report for 1900, for example, we find that 663 died in New York of whooping cough and 549 from scarlet fever. Death usually occurs from the complication of pneumonia, but asphyxia or marasmus, cerebral apoplexy and emphysema after rupture of the larynx are occasionally reported as the cause of death. Severe disturbance of the nervous system or intelligence, visual defects or even deaf-mutism may remain after apparent recovery. While whooping cough is not carried by individuals not ill of the disease, it is actively contagious from one person to another. Its control need not be so complicated and far-reaching as that of scarlet fever. It is advisable, however, that it should be isolated. To make it a notifiable disease would add in gathering statistics and give us better data as to its true serious import.

Medical Fortnightly, St. Louis.

October 10.

70 Fighting Cholera in Manila. Charles M. Blackford, Jr.
71 A Few Facts Concerning Cirrhosis of the Liver. O. E. Lademann.
72 Puerperal Infection in Private Practice. John A. Hale.
72½ Presentation of a Case of Abdominal Pulsation for Diagnosis. Walter C. G. Kirchner.

Medical Age, Detroit.

October 10.

73 Management of Pregnancy. W. S. Philips.
74 Second Summer Complaint of Infants. William R. Moss.
75 A Method of Dealing with Fractures. J. B. Taulbee.

The Northwestern Lancet, Minneapolis.

October 15.

76 The Early Symptoms of Neurasthenia, Hysteria and Melancholy. Dwight S. Moore.
77 Some Observations on Paretics Admitted to the South Dakota Hospital for the Insane During the Past Thirteen Years. L. C. Mead.
78 What Is Necessary to the Early Treatment of Insanity? H. A. Tomlinson.

Annals of Gynecology and Pediatry, Boston.

October.

79 The Treatment of Infantile Spastic Paralysis. E. H. Bradford.
80 Spinal Analgesia. James T. Greeley.
81 Maternal Impressions. William S. Birge.
82 A Case of Obstruction of the Sigmoid. T. W. Luce.
83 Hand Disinfection. The Surgical Aes Triplex. W. A. Briggs.

Physician and Surgeon, Detroit and Ann Arbor.

August.

84 Light and Invisible Rays Employed in Medical Practice Considered from a Physical Standpoint. Vernon J. Willey.
85 A Case of Fecal Accumulation. James B. Wallace.
86 A Daily Study of Foods Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. Ephraim Cutter.

Pediatrics, New York.

September.

87 Rheumatism in Childhood. Alfred Friedlander.
88 The Control of Fever and Convulsions of Infancy and Childhood. Thomas J. Long.
89 A Case of Popliteal Aneurism in a Young Boy. J. F. Black.
90 Artificial Feeding of Infants. G. E. Decker.
91 Recent Studies Regarding the Morphology of the Diphtheria Bacillus. Arthur T. Laird.
92 Report of Fracture in the Shaft of the Femur. I. B. Perkins.
93 X-Ray Report of Above Cases. S. B. Childs.

Journal of the Kansas Medical Society, Topeka.

October.

94 Popular Dose Measures. L. E. Sayre.
95 An Interesting Case (Fecal Impaction in Premature Labor). C. K. Vaughn.
96 Vital Statistics. Arthur W. Clark.
97 A Plea for Early Operation in Appendicitis. M. C. Porter.
98 The Rational Treatment of Pulmonary Phthisis. J. Hobert Egbert.

Occidental Medical Times, San Francisco.

October.

99 Mosquitoes and Malaria. J. J. Kinyoun.
100 What Does a University Do for a Medical School? Douglass W. Montgomery.
101 Asthma Produced by Urethral Irritation and Stricture. G. L. Eaton.
102 Infant Feeding. R. C. MacDonald.
103 Illuminating Gas. E. V. Lamorce.
104 Epithelioma of the Penis. Douglass W. Montgomery.
105 Acute Radiating Parenchymatous Keratitis. Robert D. Cohn.

Medical Summary, Philadelphia.

October.

106 Primula Sinensis (Daisy Primrose) Poisoning Mistaken for Eczema. J. C. Densten.
107 Are Hemorrhoids Ever Beneficial? George J. Monroe.
108 Oxychlorid of Copper. W. Ashton Kennedy.
109 Gems from Practice. A. V. Banes.
110 Natural Diagnosis. William H. Burgess.
111 Leucorrhea. J. A. Burnett.
112 Some Notes on Spiritualism. T. K. Galloway.
113 An Interesting Case: Proprietary Remedies, etc. J. S. Leachman.
114 A Usually Unrecognized Cause of Amenorrhea. W. H. Bently.

New England Medical Monthly, Danbury, Conn.

October.

115 Puerperal Sepsis. Dr. Reidhaar.

Western Medical Review, Lincoln, Neb.

October 15.

116 Pauperization of the Medical Profession. Chester A. Brink.
117 General Paresis. J. M. Aikin.
118 Hysterical Blindness (Binocular). D. C. Bryant.
119 Sudden Death. Edwards Bates.
120 Toxins and the Adrenals. W. L. Welsh.
121 The Atypical in Medicine. J. Lue Sutherland.
122 Aphonia. J. A. Haggard.
123 Operations on the Tonsil; Technic and Indications. Henry B. Lemere.

Medical Standard, Chicago.

October.

124 The History of Nephritis. Arthur R. Elliott.
125 A Surgical Clinic (Adenoma of Thyroid). N. Senn.
126 The Evolution of Massage in Traumatic Affections of the Joints. Hugo A. Oldenborg.
127 A Gunshot Wound. Orville W. Mackellar.
128 Business Methods for a Physician. C. U. Collins.
129 Richard Bright. Alfred S. Burdick.

Iowa Medical Journal, Des Moines.

October 15.

130 Functional Albuminuria. Edward L. Rohlf.
131 Observations and Impressions of Medicine and Medical Men Abroad. G. E. Crawford.
132 The Status of the Health Department in Municipal Affairs. L. A. Thomas.
133 Diarrheal Diseases of Children. Jennie Ghrist.

Memphis Medical Monthly.

October.

134 Health, Heat and Ventilation. James B. Cook.
135 Traumatic Lesions of the Spinal Cord. B. F. Turner.
136 First Aid in Railroad Injuries. G. B. Thornton.

Oklahoma Medical News-Journal, Oklahoma City.

October.

137 The Value of the Study of the Blood in the Diagnosis of Surgical Affections. John T. Moore.
138 The Local Treatment of Ulcers. L. W. Palmer.

Medical Bulletin, Philadelphia.

October.

139 Address Delivered at the Opening Exercises of the Medico-Chirurgical College. George H. Meeker.
140 Neurasthenia. J. V. Shoemaker.
141 Uremic Hemiplegia. José Valdés Anciano.

The Post-Graduate, New York.

October.

142 Work of the Sanitary Department of Havana. W. C. Gorgas.
143 Tumors of the Bladder. Henry G. Spooner.
144 Hare-lip and Its Treatment. Charles R. L. Putnam.
145 Carcinoma of the Pancreas and Its Diagnosis. Stephen S. Burt.
146 Progress in the Treatment of Congenital Hip Dislocation. Henry L. Taylor.
147 Acute Tuberculous Meningitis in an Adult. Stephen S. Burt.
148 Gynecologic Operations at the Post-Graduate Hospital During the Summer Months. Abram Brothers.
149 Notes from the Clinics. Henry L. Taylor and Wendell C. Phillips.

Medical Times, New York.

October.

150 The Kinesipathic Treatment of Rectal Diseases. G. H. Patchen.
151 The Outlying Provinces of the Digestive Specialty. A. L. Benedict.
152 The Etiologic Factors in Cholelithiasis. Marshall O. Terry.
153 Practical Points to Be Emphasized. William Wormley.
154 Eczema and Erythema as Seen by the General Practitioner. M. McCrory.
155 Gastric Neurasthenia. John H. Blackburn.

Journal of Medicine and Science, Portland, Me.

October.

156 "The Great English Discovery," Lemon Juice in Typhoid. F. A. Hanson.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 17.

1 The Purpose and Maintenance of Our Universities. Victor Horsley.
2 Medical Legislation and Education. William S. Church.
3 *Discussion on the Pathology and Treatment of Tuberculosis of the Uterus and Adnexa. James H. Targett, J. A. C. Kynoch, Arnold W. W. Lea, Herbert Snow and others.
4 Diagnosis and Treatment of Uterine Fibroids. Murdoch Cameron.
5 *A Further Series of 32 Cases of Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.
6 *On a Method of Treating by Operation Paralysis of the Upper Root of the Brachial Plexus (Erb-Duchenne Type). A. H. Tubby.
7 The Pathology and Treatment of Hallux Rigidus, Hallux Flexus and Hallux Extensus. A. H. Tubby.
8 *Phelp's Operation of Club-Foot. E. Muirhead Little.
9 *Cystic Tumors of the Mammæ: Their Removal by "Forcible Massage" without Incision. Herbert Snow.
10 The Substitution of Temporary and Absorbable for Permanent and Unabsorbable Sutures in the Operations on Bone. R. H. Anglin Whitelocke.
11 *The Surgical Treatment of Chronic Gastric Ulcer. C. Mansell Moullin.
12 *The Open-air Treatment of Surgical Tuberculosis. Edward Deanesly.

3. **Tuberculosis of the Uterus and Adnexa.**—Targett shows the frequency of this complication in the statistics of the Brompton Hospital, Johns Hopkins Hospital and elsewhere. In many cases tuberculosis is not diagnosed and the naked eye changes are often so slight as to be overlooked. The fallopian tubes are the points of attack in nearly 90 per cent. of cases; and in them it may take on one of three forms: diffuse miliary tuberculous salpingitis, caseous tuberculous salpingitis and tuberculous pyosalpinx. The peculiar features of tuberculous pyosalpinx are its elongated banana-like shape, the persistence of the fimbriated extremity, the absence of adhesions on its serous surface, and the comparative thinness of the sac wall. The contents are usually free from pyogenic organisms and often do not contain tubercle bacilli. The uterine extremity will, however, be found thickened and have the characteristic structure of tuberculous growths. Tuberculosis of the body of the uterus he finds remarkably similar to the condition in the tube. We have thus a caseous tuberculous perimetritis, a diffuse miliary form, less frequent, and the true pyometrium, comparable to the pyosalpinx above described. In the majority of cases the uterus is infected by extension of the disease from the tubes, rarely from the cervix. He considers primary corporeal tuberculosis dubious, though it has been attributed to placental infection. As regards diagnosis he insists on the importance of previous history and the absence of other causes. Pregnancy seems to favor the development of tuberculous peritonitis. There is comparatively little disturbance in the menstrual function; menorrhagia is not so common as in other forms of chronic salpingitis. Dysmenorrhea is certainly a common symptom in tuberculous salpingitis, but the absence of pelvic pain is considered worthy of note. Some writers have laid great stress on the nodular feel of the diseased tubes, such nodules often being in close relation to the uterus and may justify the suspicion of tubercle, though we would have to exclude malignant disease. Lastly, when the disease is affecting the uterine cavity it may be possible to detect the tubercle bacilli in the discharges or discover the structure of tubercle on microscopic examination of the uterine curettings. Whether or not it is wise to attempt removal of caseous tubes when surrounded by dense adhesions further experience must decide, but there is no doubt that tuberculous pyosalpinx can be best treated by abdominal resection. The dangers of laparotomy are adhesions of the bowel to the abdominal wall, the density of the fibrous adhesions around the appendages, the rottenness of the bowel and tissues generally and the risk of fecal fistula. When the uterus is affected its tissues are easily torn and dilating and curetting may cause serious ruptures.

Kynoch describes primary tuberculosis of the cervix, recognizing the ulcerative form of miliary tuberculosis representing the early stage of ulceration and the papillar form involving the cervix endometrium and extending into the vaginal process, red and bleeding, soft and non-friable, and in these respects differing from epithelioma. He reports a case and remarks that such localized tuberculosis is more frequent than is generally supposed. The symptoms are not satisfactory for diagnosis. In the absence of tuberculosis elsewhere with the surrounding parts apparently healthy, hysterectomy is the best treatment. Palliative treatment should be reserved for cases that are obviously secondary to active tuberculous lesions elsewhere.

5. **Prostatectomy.**—Freyer continues his article, reporting additional cases. Of the 51 completed cases, 46 have been perfect successes, the patients continuing to be well. There has been no permanent fistula, contraction at the site of operation, stricture or dangerous hemorrhage during or after operation and no case of septicemia, which is remarkable, considering that the bladder was septic before operation. He suggests that persons that survive to a condition in which these cases are when operated on, become more or less immune by the gradual absorption of toxins and thus do not become septic. There were 5 deaths out of the 51 cases; 2 from mania after the wound had healed and the urine was being passed naturally; 1 from heat stroke during convalescence, 1 from coma from retention of morbid products which had set in before the operation and 1 from pneumonia seven days after operating. In only one of the cases could the fatal results be attributed to the operation. In his last 19 completed cases there has been no such accident. He remarks on the frequency of mental disorder among persons suffering from prostatic disease and says that more than ordinary risk is attached to an operation of any kind in such cases from its being likely to accentuate the mental symptoms.

6. **Erb-Duchenne Paralysis.**—Tubby has attempted to relieve this condition by splicing the muscles, attaching the triceps to the biceps and thus enabling flexion of the arm to be secured. The replacement of the paralyzed deltoid is more difficult, but he has used for this purpose the clavicular portion of the pectoralis major and that part of the trapezius attached to the clavicle. These cases promise better results. An important point after muscle-grafting operations of any kind is that the grafted muscle must never be put on the stretch for at least a month, and then it must still be kept under control, and very gradually be allowed to attempt to perform its full function.

8. **Club-Foot.**—Phelps' operation for club-foot, which was severely criticised when presented before the British Medical Association in 1900, is strongly advocated by Little. He varies it slightly by dividing the tendo Achilles last and using a skin flap which has also been employed for this purpose by Jonas of Omaha. He does not put the foot in gypsum immediately after operation as oozing occurs and a bulky dressing is required which prevents a good hold on the foot being obtained, and also because blood-stained dressings are likely to be irritating. He illustrates his paper, showing his results. He has never had serious trouble from scar and if the skin flap is employed this is avoided. He is convinced that there is no ground for fearing recontraction or relapses. The chief danger, he thinks, is in the production of flat-foot. To secure good results it is absolutely necessary to keep the fore part of the foot fully abducted and the inner border stretched from the time of operation until the wounds are soundly healed. His conclusions are:

1. In selected cases Phelps' operation is of great value. A skin flap should always be made. 2. Osteotomy as a part of the operation is rarely necessary. 3. The operation is contraindicated in young children because of the difficulty of predicting what the ultimate result of growth and pressure may be and the danger of severe flat-foot following. 4. If, for reasons of expediency, cases must be operated on young, and flat-foot result, the patient is far better off than if he had a relapsed or partly curved varus.

9. **Cystic Tumors of the Mammae.**—Snow holds that many of these cystic tumors are simply milk engorgements which

can be milked out by forcible massage and thus do away with the necessity of operation.

11. **Gastric Ulcer.**—Moullin advocates operation in chronic gastric ulcer and in every possible case he favors dealing with the ulcer directly in preference to gastrojejunostomy. Posterior gastrojejunostomy, especially with lateral anastomosis between the two sides of the intestinal loop, is, however, an excellent operation. If the ulcer is multiple; near the pylorus or cardia or if it is too large or deep, or if it has contracted such dense adhesions that removal is impracticable, gastrojejunostomy may be the only resource. The ideal method is excision. The success depends on whether the operation is a preventive against future trouble or used as a last resort. Of the former class he has had 23 cases, with but 1 death, and of the latter, 15 with 5 deaths. Two of these fatal cases were almost moribund at the time of operating, and the others were more or less hopeless.

12. **Surgical Tuberculosis.**—Deanesly advocates the open-air treatment for surgical tuberculosis and claims that every hospital should be provided with facilities for treating patients in the open air.

The Lancet, London.

October 17.

13 The Importance of Post-Graduate Study. William S. Church.
13½ Charles White, F.R.S.: A Great Provincial Surgeon and Obstetrician of the Eighteenth Century. Charles J. Cullingworth.
14 The Quantitative and Qualitative Relations of Toxin and Antitoxin. E. F. Bashford.
15 A Case of Upward Dislocation of the Foot. Percy W. G. Sargent.
16 Note on a Case of Renal Calculus. H. E. Bruce Porter.
17 *The Treatment of Sciatica. J. Mitchell Clarke.
18 A Case of Infantile Acute Eczema; Hematemesis; Duodenal Ulcer; Death. Hugh H. Borland.
19 Three Cases of Perforated Gastric Ulcer; Recovery After Operation. Frederick C. Wallis.
20 A New Ethyl Chlorid Apparatus and Method. G. W. B. Daniel.
21 *On the Etiology of Bubonic Plague: An Epidemiologic Contribution. J. Ashburton Thompson.

17. **Sciatica.**—The Weir Mitchell treatment by rest and a long splint is advocated by Clarke, who has found it successful in the severer cases of sciatica that have come under his care. Out of the last 12 consecutive cases of severe sciatica 10 patients were cured, 1 had a relapse but was cured by a second course of treatment. One could have been relieved, but he was restless and impatient and it was impossible to keep the splint on. The restraint of the splint is rather inconvenient for the first day or two, but later is more endurable. Gastric affections must be looked after by careful feeding and a light diet is better in all cases at first. Care must be taken that the bed is flat and even and that there is a firm basis of support under a flat mattress. The limb must be absolutely at rest; this is essential to treatment. A short course of massage, tonics and cod-liver oil is an aid to complete cure.

21. **Bubonic Plague.**—Thompson finds from experience with plague at Sydney, Brisbane and Port Elizabeth that the transmission of plague must be through the skin and that the best carrier that meets all the requirements is the flea. The objections to this theory are reviewed and answered. He admits that infection by occasional contact is possible, but says that the chances against it are so many that it can not be relied on as a cause of an epidemic.

Australasian Medical Gazette, Sydney.

September 21.

22 Mechanism of the Paroxysmal Neuroses. Francis Hare.
23 A Case of Recurrent Paralysis of the Third Nerve. Sinclair Gillies.
24 Diabetes. (Continued.) C. Reissmann.
25 *Two Hundred Cases of Appendicitis. H. Critchley Hinder.
26 The Protean Methods of Hydatids. A. S. Joske.
27 The Surgical Treatment of Senile Enlargement of the Prostate. W. Anstey Giles.
28 Notes on Three Cases of Scirrhus of the Breast. Robert Scott.
29 *Short Notes on the Radical Cure of Umbilical Hernia. C. E. Todd.

25. **Appendicitis.**—Hinder advocates operation and thinks recovery from general peritonitis depends on the rapidity with which patients are submitted to operation. He agrees with the theory that appendicitis is usually caused by interruption of the outflow of the mucous secretion of the organ and that this interruption is caused primarily by a congenital narrowing near the cecal end of the appendix. This becomes a complete blockage from causes arising within or without the organ, for example, a concretion thus produced causes inflammation which effectually closes the already narrow outlet.

29. **Umbilical Hernia.**—Todd emphasizes the importance of not opening the hernial sac from the outside if it can be avoided; also that an abdominal incision should be made well away from the bulging; whether above it or to one side matters very little. The first incision should be long to give room to examine the structures. He says that operation in the early stages would save many fat and elderly women much trouble.

Intercolonial Medical Journal of Australasia, Melbourne.

September 20.

30 A Retrospect of Personal Experience of the Treatment of Post-Nasal Growths. T. K. Hamilton.
31 Same title. A. J. Brady.
32 Same title. J. Lockart Gibson.
33 Personal Experience of Post-nasal Adenoids and Their Treatment. James W. Barrett.
34 The Medical and Surgical Treatment of Spasmodic Torticollis, with an Illustrative Case. Robert B. Duncan.
35 The Determination of the Arterial Blood Pressure in Clinical Practice. C. J. Martin.
36 A Case of Anorexia Nervosa, which Later Developed Myxedema, Followed by Safe Parturition. J. W. Dunbar Hooper.

Annales de Dermatologie et de Syph., Paris.

Last indexed page 992.

37 (IV, Nos. 8-9.) *L'histo-pathogénie du psoriasis. G. Verrotti (Naples).
38 *Histologie du lichen chronique circonscrit (neurodermite circonscrite). E. Dalous (Toulouse).
39 *Abcès sous-cutanés multiples d'origine mycosique. de Beurmann and Ramond.
40 Gangrene of Nose in Tertiary Syphilis. F. Balzer and C. Fouquet.—Sphacèle de l'extrémité du nez dans un cas de syphilis tertiaire accompagné de la maladie de Raynaud.
41 Phlycténose récidivante des extrémités. E. Bodin. One case.

37. **Histopathogenesis of Psoriasis.**—Verrotti's article is a presentation of arguments in favor of the conception that psoriasis commences primarily as a congestion, involving the entire derma. It assumes later the character of an inflammation in the papillary and subpapillary layers, causing a series of changes in the rete mucosum by the degeneration of the vacuoles and reactive proliferation, the resulting product of which is parakeratosis. He proclaims that the conception of a toxemia as presiding over the production of the cutaneous lesions in psoriasis is justified by the nature and the evolution of the histologic changes.

38. **Histology of Chronic Circumscribed Lichen.**—Dalous describes 2 cases very carefully studied and announces his opinion that this affection may be defined as a peripheral neuritis of central origin.

39. **Subcutaneous Abscesses of Mycotic Origin.**—The patient was a man of 37 who exhibited thirty-five small tumors irregularly distributed over his body and head, the face exempt. The tumors were only slightly painful under palpation and in appearance suggested hydatid cysts, but each contained pus resembling that of tubercular lesions. A mould fungus was derived from the abscesses, which did not prove pathogenic for animals, but autoinoculation from the abscesses reproduced them on the subject. Energetic treatment with potassium iodid was followed by the complete retrogression of all the tumors in about six weeks.

Bulletin de l'Académie de Médecine, Paris.

42 (LXVII, No. 31,) Sur l'organisation et le fonctionnement de l'assistance medicale indigène à Madagascar, 1902.
43 *De la tuberculose articulaire et abarticulaire et des séries morbides parallèles. C. Fernet.

43. **Tuberculosis of the Joints.**—Fernet's experience has confirmed that of others in regard to the manifestations of tuberculosis in the joints. They may assume an acute or chronic form, and they resemble in many respects those of articular rheumatism. They have been called, therefore, tuberculous rheumatism, tuberculous-pseudo-rheumatism, etc., but he protests against these appellations as indicating a relationship to rheumatism which does not exist. It is more correct to say articular tuberculosis just as we say pulmonary tuberculosis. In other words, the tuberculosis may manifest itself in morbid

series which parallel those of acute or chronic rheumatism in their localization in the joints or elsewhere. But the lesions have nothing in common except their site. They differ in causation, pathologic anatomy and in their symptoms. They should, therefore, be differentiated and entitled differently.

Presse Médicale, Paris.

44 (No. 80.) *La chlorurémie et la cure de déchloruration dans le mal de Bright. F. Widal and A. Javal.
45 *Les syndromes solaires expérimentaux. L. Lavastine.
46 (No. 81.) *Etude clinique sur l'ictère syphilitique. F. Simionescu (Bucharest).
47 La diazo-réaction d'Ehrlich dans la tuberculose pulmonaire chronique. H. Hamant and A. Goris.
48 (No. 82.) Les sanatoriums de Leysin, 1902-3. M. Morin.
49 Appendicocèle extra-péritonéale et appendicite herniaire extra-péritonéale. F. Guibal and E. Roland. One case and review of 7 in the literature.

44. Chloridemia and Treatment of Bright's Disease by Dechloridation.—The details of careful study of 6 patients treated by dechloridation are given and one case is tabulated with all the particulars. Widal's announcements in regard to the importance of a salt-free diet in nephritis have been reviewed in these columns as published with editorial comment last week. He proclaims that it is absolutely necessary to know the variations in the "salt equilibrium" in a nephritic patient before treatment can be intelligently instituted. He measured the amount of salt ingested and eliminated, keeping close watch of the weight of the patient. By this means it is possible to note the onset of what he calls the pre-edema period. When the results of these tests showed that the kidney was impermeable for salt, then he administered various diuretics, allowing several days to each period and to the intervals. He found digitalis incapable of inducing diuresis when the renal lesion is not complicated by cardio-vascular troubles. The edema in Bright's disease is not produced, like cardiac edema, by insufficiency of the vascular apparatus, but merely by the lack of permeability on the part of the kidney to sodium chlorid. Theobromin is the heroic remedy for this condition; it opens the sluices of the kidney and by re-establishing the outward flow of the chlorids frees the organism of the chlorids which have been retained in it, and eliminates with them the retained water in the saving polyuria. No other diuretic can be compared with it, and its efficacy in pure Bright's disease confirms the assumption that the cause of the retention of fluids causing the edema lies in the kidneys. Sodium chlorid is probably not the only substance arrested by the diseased kidney, but it is the one whose retention is the cause of the chief troubles. As it accumulates in the tissues it raises the index of the concentration of their juices, and this in turn attracts the water to restore the balance. As salt is thus responsible for the disturbances its intake must be restricted. Many persons with Bright's disease improve and thrive on a mixed diet containing meat, bread, sugar, potato and butter so long as no salt is given with them. Milk contains too much salt for large quantities to be advisable in severe cases. Clinical experience is confirming more and more the value of this method of dechloridation when the impermeability of the kidney for salt has been determined by the alimentary salt test or otherwise. It is usually sufficient alone to free the patients from edema, but may be supplemented by use of theobromin or theocin when more rapid action is desired. They owe their efficacy to their power of rendering the kidney permeable to salt. As the salt is eliminated the water retained to hold it in solution escapes with it.

45. Experimental Solar Syndrome.—Lavastine remarks that we can detect a "solar note" in certain perturbations of the visceral functions. He has reproduced them experimentally and shows that an organic lesion is not necessary—a mere perversion in the solar regulating mechanism is sufficient to throw one or more of the viscera out of gear. Insufficiency of the liver may be due to this cause, as well as some of the symptoms noted in lead poisoning, peritonitis, etc. A number of affections hitherto classified by their pathologic anatomy are in reality merely manifestations of derangement of the solar plexus. The syndrome of acute solar paralysis is realized in peritonitis; the syndrome of acute solar irritation is seen in lead poisoning; the subacute and chronic forms of irritation are seen in lead poisoning entailing paralysis of the solar plexus, and also in muco-membranous colitis in nervously irritable subjects. The fourth form of solar pathology he calls the syndrome due to irradiation: death may follow a blow on the abdomen, or ingestion of ice affecting the stomach like a traumatism, and arrest of the heart in diastole observed in liver or kidney colic is due to this cause. Potain witnessed a case in which the pulse was slowed by the influence of the solar plexus. The possibility of a solar factor should, therefore, be thought of in certain syndromes involving the viscera.

46. Syphilitic Icterus.—Simionescu ascribes to syphilis every case of icterus observed in a syphilitic subject presenting secondary manifestations—unless there is proof to the contrary. All syphilitics do not present the symptoms of icterus, as individual predispositions differ. He describes 4 cases. The icterus subsided under specific treatment.

Semaine Médicale, Paris.

50 (No. 40.) Contribution à l'étude du mécanisme des mouvements volontaires et des fonctions du faisceau pyramidal. G. Marinesco.
51 *Diagnostic Sign of Twin Pregnancy. I. Levinovitch.—Un signe susceptible de faciliter le diagnostic de la grossesse gémellaire.
52 Letters from America. F. Munch.—Sur la désinfection chirurgicale, and La chloroformisation et l'éthérisation aux Etats-Unis.

51. Sign of Twin Pregnancy.—In a normal pregnancy the uterus develops retaining its spherical outline, but in case of twin gestation the tendency is to develop more laterally. The fetuses are usually arranged side by side and the distension in the transverse diameter reduces the traction on the round ligaments until they become much shorter and looser. These ligaments share in the general hypertrophy of the uterus during a pregnancy and they can be readily palpated in a normal gestation. The determination of these ligaments by palpation as a round, prominent ligament under considerable tension, excludes the idea of a twin gestation.

Revue de Gynécologie, Paris.

Last indexed page 898.

53 (VII, No. 4.) *The Blood in Case of Ovarian Cysts. X. Bender.—Recherches sur l'etat du sang dans les kystes de l'ovaire.
54 Recherches sur les altérations séniles des vaisseaux sanguins et sur le tissu de l'utérus. H. Szasz-Schwarz.
55 Actinomycose de l'appendice vermiforme. M. Letulle.

53. The Blood in Case of Ovarian Cysts.—Bender gives the blood findings in 23 cases of various kinds of ovarian cysts and proclaims that it is possible to determine the benign or malignant character of the cyst by examination of the blood. The neoplasm is certainly non-malignant if the whites do not number more than 6,000 to 8,000. When the proportion of reds is normal, the presumption is against malignancy even in case of considerable leucocytosis. Only when the reds are below normal and the whites materially increased, are we justified in assuming malignant cancerous degeneration.

Revue de Medecine, Paris.

Last indexed page 212.

56 (XXIII, No. 6.) L'hygiène du baiser (of the kiss). C. Féré.
57 *The Tonsils and Uvula in the Tuberculous. E. E. Escomel.—Les amygdales palatines et la luette chez les tuberculeux.
58 Sur la lésion dite sténose congénitale de l'aorte dans la region de l'isthme. L. M. Bonnet. (Commenced in No. 2.)

57. The Tonsils and Tuberculosis.—Escomel regards the tonsils as "the most tuberculizable organs in the entire digestive tract." He found them the seat of tuberculous lesions in 21 out of 25 cadavers of consumptives examined. In 11 non-tuberculous cadavers the tonsils were intact. In the tuberculous cases the follicles almost always contained other parasites, which may have favored the lodgment and growth of the tubercle bacilli.

Archiv f. Gynäkologie, Berlin.

Last indexed page 1053.

59 (LXIX, No. 3.) *Regeneration of Uterine Mucosa After Childbirth. E. Wormser (Basle).—Die Regeneration der Uterusschleimhaut nach der Geburt.
60 Non-formation of Decidua in Phosphorus Poisoning Outside of Pregnancy. F. Hitschmann and O. T. Lindenthal.—Zur Frage der Deziduabildung bei Phosphorvergiftung.

61 *Der weisse Infarkt der Plazenta. J. Hitschmann and O. T. Lindenthal.
62 *Beitrag zur Kenntnis des Corpus-Carcinoms. F. Hitschmann.
63 Das Vorkommen von Decidua in der Cervix. R. Volk (Schauta's clinic, Vienna).
64 Secondary Abdominal Gestation in a Rabbit. A. Sittner (Brandenburg).—Abdominal Bauchschwangerschaft beim Kaninchen.
65 Study of 1,000 Neonatorum in the First Days of Life. H. Hirschl (Prague).—Ueber die Gesundheitsverhältnisse bei 1,000 Neugeborenen in den ersten Lebenstagen.
66 The New Gynecologic Clinic at Dresden. G. Leopold.—Zur Eröffnung der neuen k. Frauenklinik in Dresden.
67 *Correction. L. Bossi.—Berichtigung.

59. **Regeneration of Uterine Mucosa After Childbirth.**—Wormser gives a number of illustrations to show the various processes of regeneration. By the end of the third week he found all the elements of the mucosa approximately normal. His monograph of 126 pages reviews 53 other published communications on the subject.

61. **White Infarct in the Placenta.**—These writers argue that the so-called white infarct is rather of the nature of a thrombosis.

62. **Study of Corpus Carcinoma.**—Hitschmann warns that every manifestation of epidermis formation in the mucosa of the uterus deserves attention, even if there is no evidence of tumor formation. He thinks there are no grounds for the assumption of a psoriasis or ichthyosis uterina, but metaplasia of the columnar into pavement epithelium is a frequent accompaniment of adenocarcinoma of the fundus. He reviews his findings in 7 typical cases and in 3 of pure epithelioma, all of the fundus.

67. **Instrumental Dilatation.**—Bossi proclaims that experience is demonstrating that instrumental dilatation is especially indicated for primiparæ and in case of entirely unshortened cervix, when rapid delivery is required in eclampsia, etc.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 1054.

68 (XXXIX, No. 1.) Ueber das Rhinophyma. P. von Bruns (Tübingen). Eleven cases.
69 Enlargement of Bony Nose by Mucous Polypl. Burck.—Verbreiterung der knochernen Nase durch Schleimpolypen.
70 *Zur operativen Behandlung der Darm-Invagination über dem Prolapsus intestini invaginati. E. Hofmeister.
71 Zur Kasuistik der Bauchblasengenitalspalte (exstrophy of bladder). C. Blauel. One case.
72 *Pneumokokken-Peritonitis als ein typisches Krankheits-Bild. M. v. Brunn.
73 *Experiences with Posterior Gastroenterostomy. Trendel.—Ueber die mit der Gast. post. in der Tübinger Klinik gemachten Erfahrungen.
74 *Zur Anatomie und Pathologie des Pankreas und der Gallenwege (billary passages). O. v. Büngner (Hanau).
75 Inkarzeration des Wurmfortsatzes (of appendix). Schöne.
76 Cure of Case of Rhinoskleroma with X-Rays. O. Fittig (Breslau).—Ueber einen mit Röntgenstrahlen behandelten Fall von Rhinosklerom.
77 *Operative Treatment of Cancer of Stomach at Krönlein's Clinic, Zurich, Schönholzer.—Chirurgie des Magenkrebses an der K.'schen Klinik von 1881 bis 1902.

70. **Operative Treatment of Invagination of Intestines.**—Hofmeister relates a number of interesting cases from von Bruns' clinic. He advocates resection of the invaginated portion as the standard procedure, and recommends a modification of von Frey's technic. The operation is certain and rapidly done. The afferent intestine is drawn out and divided. The proximal stump is closed with a suture. The peripheral stump is allowed to slide down into the invagination funnel; then follows a lengthwise incision in the invaginatum a few inches below the turned-over part. A ligature is applied as high up as possible, and the inner cylinder is resected, after which the stumps are united by side anastomosis, utilizing the lengthwise incision mentioned above. He gives diagrams to illustrate the technic.

72. **Pneumococcus Peritonitis.**—Brunn analyzes 2 cases personally observed and 56 in children that have been reported in the literature with 15 in adults, and a number of others that lack bacteriologic confirmation. The prognosis is favorable. Spontaneous healing is possible but rare; treatment should consist in evacuation of the abscess by a broad opening with drainage. The diagnosis is based on the fibrinous plastic exudate, which is promptly walled in by adhesions, causing symptoms of acute peritonitis followed soon by a chronic stage with comparatively mild peritonitic symptoms. The pus is a greenish yellow, abounding in fibrin.

73. **Experiences with Posterior Gastroenterostomy.**—Trendel states that only 21.4 per cent. of 28 patients operated on at Tübingen succumbed within four weeks, and only 18.2 per cent. in the 269 cases of the united statistics of Czerny (215), Steinthal (26), and von Bruns (28). No instance of pure stomach ileus was observed. He uses a short loop and the Murphy button. The button was successfully applied in all but 3 cases, but in a fourth it dropped into the stomach and was the cause of fatal after-hemorrhage.

74. **Anatomy and Pathology of Biliary Passages.**—Büngner found that the common bile duct passed through the head of the pancreas in nearly every one of the 58 cadavers examined. In only 5 per cent. did it pass to one side. He also found that this duct and the pancreatic duct open with separate orifices in the floor of the diverticulum of the papilla. All affections which entail enlargement or shriveling of the head of the pancreas must cause constriction not only of the pancreatic duct but also of the common bile duct. An affection of one duct does not necessarily entail involvement of the other.

77. **Surgery of Gastric Cancer at Zurich.**—Of the 264 cases observed, 67 were not operated on; in 73 an exploratory laparotomy was alone attempted; 74 were treated by gastroenterostomy and 50 by resection. Of the inoperable cases 51 lived on an average 73 days afterward. The 14 patients declared operable but who refused surgical intervention, lived an average of 200 days. Heredity was noted in 13 per cent. The mortality of exploratory laparotomy proved to be 9.5 per cent. The mortality in the 74 cases in which gastro-enterostomy was done was 24.3 per cent. It is indicated, Krönlein believes, in cases of inoperable carcinoma of the pylorus with actual stenosis. The retrocolic method shows a mortality of only 16 per cent., and hence seems to be preferable to the Wölfler operation. He uses brief ether narcosis for the cutaneous incision, completing the operation without further anesthesia. The gastro-enterostomy prolonged life on an average for 100 days. In 17 cases the patients were relieved to such an extent that life was prolonged for an average of 410 days. In 17 others the average survival was for 141 days, and in 21 for 64 days. The details of the 74 cases of gastro-enterostomy are related, filling 112 pages. In 56 of the 74 cases the stomach had never given trouble. In 3 there had been a preceding ulcer, and in 7 there had been no vomiting. The first symptoms appeared on an average nine months before the operation; in 9 cases only three or four months had elapsed. The most important diagnostic sign is the emaciation. It was constant, and frequently the first symptom that brought the subjects to the physician, when no other symptoms were apparent except possibly loss of appetite and eructations after meals. The patients in many instances had never thought of their stomach in connection with the emaciation and neither did the physician, but instituted treatment of the assumed anemia, etc. The facts observed emphasize the importance of systematic weighings, and the loss of much important information by the usual neglect of this. Symptoms of any stomach trouble, no matter how apparently benign, if accompanied by emaciation, should suggest the possibility of cancer, and exploratory laparotomy is indicated. The progress of the emaciation is also an important sign. If the subject with a stomach affection loses thirty pounds in a few days the trouble is probably a benign stenosis of the pylorus, while the same loss of weight occurring in the course of six months is presumptive of cancer. In 60 of the 74 cases the gastric secretions were tested and no free hydrochloric acid could be detected in 54, while it was present in the rest, and all exhibited motor insufficiency. In one a cherry stone was found in rinsing the stomach that must have sojourned there for two months. Krönlein's experience confirms the view that cases of carcinoma of the pylorus in which extirpation is impossible, are the most satisfactory subjects for gastro-enterostomy.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed page 1120.

78 (LVII, No. 5.) Ueber Pemphigus contagiosus. E. Hagenbach-Burckhardt (Basle).

79 *Das Diphtherie-Heil-Serum, seine Wirkungsweise und Leistungsgrenze bei Larynx-Stenose. Wieland (ibid.).
80 *Ueber paroxysmale Hemoglobinurie. E. Burckhardt (ibid.).
81 Treatment of Club-Foot at Basle. W. Armann.—Die Behandlung des kongenitalen Klumpfusses an der Poliklinik des Baseler Kinderspitales.

79. **Antidiphtheria Serum.**—Weiland's article was prepared as a thesis. He ranks the local inhibiting influence of the serum far above its antitoxic action. His experience confirms that of others that serum treatment has more chances of success in the more gradual, protracted cases than in those with tempestuous rapid course.

80. **Paroxysmal Hemoglobinuria.**—Burckhardt had occasion to study a case of this affection in a six-year-old boy, and became convinced that the attacks were brought on by congestion or chilling in every instance. The blood serum did not seem to possess a hemolytic action outside of these attacks.

Monatsschrift f. Geb. und Gyn., Berlin.

Last indexed XL, page 1405.

82 (XVII, No. 6.) *Incision of Fascia Above Symphysis. Menge (Leipsic).—Ueber den suprasymphysären Faszienschnitt nach Pfannenstiel.
83 *Rupture of Uterus and Its Mechanism. E. Knauer (Graz).—Einige seltene Fälle von Gebärmutterzerreissung mit bes. Berücksichtigung der Mechanik der Zerreissung.
84 *Dilatation of Cervix According to Bonnaire. R. J. T. Meurer (Amsterdam).—Ueber schnelle Erweiterung des Muttermundes nach Bonnaire.
85 *Functional Capacity of Mammary Glands and Indications and Contraindications for Breast Nursing. A. Schlossmann (Dresden).—Ueber die Leistungsfähigkeit der weiblichen Milchdrüsen und über Indikationen und Kontraindikationen zum Stillen.

82. **Advantages of the Oblique Arc Incision.**—Menge has opened the abdomen by Pfannensteil's technic in 62 operations and ascribes certain advantages to it over the ordinary vertical incision. If the wound heals by primary intention there is no danger of hernia, but it is liable in case of suppuration. His patients made a smooth recovery in all but 4 cases. The scar is almost imperceptible or is hidden by the hair, and the elastic strain of the abdominal muscles keeps it linear. There does not seem to be the slightest tendency to callus formation or pigmentation at this point. He uses dry asepsis and cumolized catgut, and thinks this incision is preferable for many operations on the internal genitalia in which the uterus is to be retained.

83. **Mechanism of Rupture of Uterus.**—Knauer has recently observed a case in which a bunch of caseous lymph glands prevented the passage of the fetal head into the pelvis. This entailed such distension of the lower segment of the uterus that it ruptured. A hematoma developed, causing in turn such distension of the peritoneum that this also ruptured. The patient succumbed to subsequent peritonitis. In 3 other cases in which the placenta was prematurely detached, the internal hemorrhage caused distension which finally ruptured the uterus wall and peritoneum, the latter in several places. He does not know whether the tissues were previously weakened, but he points out that every case of sudden distension of the uterus with progressive anemia and no external escape of the hemorrhage should suggest the possibility of impending rupture and these fissures in the peritoneum.

84. **Dilatation of Uterus According to Bonnaire.**—Meurer has been well satisfied with the results in 29 cases in which dilatation was accomplished by Bonnaire's technic.

85. **Indications and Counterindications for Breast Nursing.**—Tuberculosis in the mother can scarcely be regarded as a contraindication to nursing her child. The danger of infecting the infant by other means than the milk is far more probable than the danger of transmitting infection in the milk. The tuberculous mother does not seem to suffer from exercise of the mammary function, but a tuberculous wet nurse is out of the question. When tuberculosis is suspected in a wet nurse and the response to tuberculin is negative, several weeks of observation are necessary to fully decide the question. An injection of tuberculin does not affect the mammary secretion nor the nursling. Schlossmann advises leaving the child at the breast during a mastitis if no pus cocci are found in the milk. If the milk contains pus cells the breast should be treated, but the infant can still nurse the sound side. He adds that there are no absolute contraindications to breast nursing, but in individual cases it may sometimes be necessary to decide whether it is best for the mother to nurse her child or not.

Therapeutische Monatshefte, Berlin.

Last indexed page 69.

86 (XVI, No. 6.) Ueber Veronal. W. Berent.
87 Dress Reform. Schaeche.—Zur Frage der Reformkleidung.
88 Study of Certain Oils. K. Herxheimer.—Ueber die dermatotherapeutische Verwendung einiger Oele.
89 Zur Kenntnis einiger Morphin-Derivate. A. Mayor.
90 *Industrial Inhalation of Fumes of Phosphoric Acid. Böttrich. Ueber die gesundheitliche Bedeutung des Aufenthaltes in den Formierräumen von Akkumulatoren-Fabriken.
91 Electro-magnetic Treatment of Sciatica. P. Krefft.—Zur Ischias-Behandlung.
92 Zur aseptischen Tamponade der Nase, etc. E. Fink.
93 Ueber ein ex tempore bereitetes Eisenwasser (iron solution). W. Jaworski.

90. **Benefit to Health from Fumes of Phosphoric Acid.**—When a person unaccustomed to the fumes of phosphoric acid enters the room in which storage batteries are made, he is almost suffocated. Böttrich has been engaged for fifteen years in supervising the health of the employes in a large factory of this kind at Hagen, examining the men every week. In the making of the storage batteries the employes are apparently exposed to severe irritation of the respiratory organs from the fumes of the acid, and also to the danger of lead poisoning. In all his experience, however, he has never encountered a typical case of lead poisoning among the 45 to 60 men constantly employed at this work, some for as long as ten years. He has also been impressed by the fact that the mucosa of the upper-air passages is unusually sound and resistant. Not a single case of tuberculosis is known among the men and catarrhal affections seem to subside in a remarkably brief time. Several of the men who entered on the work with pulmonary tubercular lesions have regained their health while employed in the storage battery rooms. The general health of the men averages twice as high as that of a similar body of men engaged in a neighboring iron works where railroad supplies are made. He has been so impressed with the salutary effects observed that he suggests the therapeutic application of the fumes of acids used in the preparation of storage batteries. The same conditions could easily be produced elsewhere than in a factory, and he thinks the facts observed justify attempts in this line.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed page 217.

94 (L, Nos. 1-2.) *Pathologisch-anatomische Studien für die klinische Diagnostik des hemorrhagischen Lungen-Infarktes. E. Tiedemann (Berlin).
95 *Klinische und experimentelle Beiträge zur Leukemie-Frage. P. Reckzeh.
96 *Lead Colic. M. Mosse.—Zur Kenntnis der experimentellen Bleikolik.
97 Zur Histogenese der lymphatischen Leukemie. Ibid.
98 Schwere Knochenerkrankung im Kindesalter. Osteomalacie? Rhachitis? E. Roos (Freiburg).
99 *Subcutaneous Feeding with Fat. H. Winternitz (Halle).—Zur Frage der subkut. Fetternahrung.
100 Beiträge zur Lehre vom muskularen Kardiaverschluss. F. Sinnhuber.
101 Ueber das Distomum Ringeri (Cobbold). Z. Inouye (Chiba, Japan).
102 Urate Deposits in Tissues. K. A. Krause.—Zur Kenntnis der Uratablagerungen.
103 *Ueber Antistreptokokken-Serum. F. Meyer (von Leyden's clinic, Berlin).
104 *Urobilin in Stomach. A. Braunstein (Ibid.).—Ueber Vorkommen und Entstehung von Urobilin im menschlichen Magen.

94. **Diagnosis of Infarct in Lungs.**—Tiedemann remarks that the pathologic anatomy of infarct in the lungs indicates that if the hemorrhagic infarct is situated near the surface the resonance will be deadened over the spot. Sometimes there is a tympanitic resonance, owing to the vibrations of the air in the bronchi and the relaxation of the adjacent lung tissue. The vocal fremitus is increased except when the infarct is so large as to exert pressure on the chest wall. The infarct was found in the right lower lobe in 15 cases; in the right upper in 7; in left lower lobe in 5; left upper in 4, right median lobe in 2, and once in the left apex. The presence of a cardiac defect or other trouble entailing disturbances in the circulation is an important aid in the diagnosis. Râles may be audible as long as the alveoles are not entirely filled with coagulated blood, but after the infarct has developed, the sounds heard can pro-

ceed only from the pleura above it, from the bronchi or from the surrounding alveolar tissue. While it may be impossible to hear vesicular breathing over the infarct, yet the air-free tissue proves a good conductor for sounds originating in the adjacent bronchi. Circumscribed bronchial-tube breathing may, therefore, be regarded as characteristic. The infarct is usually shaped like a wedge, the broad end toward the pleura, about as large as a walnut or cherry.

95. **Leukemia.**—In one of the 7 cases of leukemia described there were malarial antecedents, in 3 trauma. Four were of the chronic lymphatic type and 2 of the mixed form. In one there was a combination of pernicious anemia with mixed-cell leukemia. In a case of almost pure lymphemia the proportion of lymphocytes to the polynuclear neutrophiles was 99/1. In a case of pseudo-leukemia the lymphocytes were somewhat increased with indicanuria and obstinate profuse sweats, but there were no neutrophiles. Reckzeh also mentions 2 cases of tuberculosis of the lymphatic glands in which the blood was almost normal.

96. **Experimental Lead Colic.**—Mosse found that it was possible to induce cellular alterations in the celiac ganglion similar to what are found in lead colic, by administering drugs which cause violent contraction of the intestines. These lesions in the ganglion are evidently the result of the violent muscular spasms in the intestine caused by the lead.

99. **Subcutaneous Oil Feeding.**—Winternitz administered fats in combination with iodin in subcutaneous injections. The fat thus taken was entirely absorbed and assimilated, but the organism is not capable of taking up more than 20 to 25 calories a day in this way, and months may elapse before a deposit of 500 gm. is entirely absorbed. Not more than 2 to 3 gm. is absorbed during the twenty-four hours even under the most favorable circumstances.

103. **Antistreptococcus Serum.**—Meyer has been testing the various serums of this kind and finds that Aronson's is the only one that absolutely protects animals against several times the otherwise fatal dose, and cures after infection. The intravenous route was found far superior to the subcutaneous and intraperitoneal. The serum from 2 patients who had passed through severe streptococcus infection likewise proved to have protecting power to a certain extent, although very large amounts were necessary. Aronson's serum does not check the growth of streptococci *in vitro* nor attenuate their virulence, but they became very much less virulent when grown in the peritoneum of a protected rabbit. The streptococci probably become attenuated in the body of a protected animal, and thus fall an easy prey to the cells. All the tests showed that the earlier the injection is made after infection the better the results.

104. **Urobilin in Stomach.**—Braunstein's experiments demonstrated that urobilin is not found in the stomach except when the bile entering it already contains urobilinogen. The transformation of the latter into urobilin is promoted by hydrochloric acid. The urobilin in the stomach is thus of enterogenic origin, the same as that in the intestines.

Brazil Medico, Rio de Janeiro.

Last indexed XL, page 66.

105 (XVI, No. 43.) Observaçoes sobre a peste. Borel. (Concluded.)
106 (No. 44.) Nova contribucion ao estudo dos reflexos tendinosos na phase post-paroxystica da epilepsia. J. Moreira. (Concluded.)
107 (No. 45.) Xipho-thoracopago operado; o estado actual de Rosalina. Chapot Prévost (Rio).
108 (XVII, No. 1.) Cirurgia dos monstros duplos. Ibid. (Concluded.)
109 *Tratamento da erysipela. Brant Paes Leme.
110 *Tratamento das contusoes. Ibid.
111 (No. 3.) Notas acerca do impaludismo e da febre amarella. F. Fajardo. (Concluded.)
112 (No. 4.) *A sorotherapia na peste bubonica. A. Ferrari.
113 (No. 6.) *A estrychnina na physiologia experimental e no tratamento da febre amarella. A. Ferrari. (Concluded.)
114 (No. 9.) *Propagaçao da febre amarella pelos mosquitos. Jorge Pinto and others. (Concluded.)
115 (No. 10.) 2 casos de septicemia cryptogenetica. O. de Oliveira.
116 (No. 11.) Nervoses e psychoses ligadas a intoxicaçoes. Notas clinicas. M. Guimaraes.
117 (No. 12.) Notas clinicas sobre a grippe infantil. Ibid.
118 (No. 13.) O ozena na primeira infancia. N. da Rocha.
119 (No. 14.) *Therapeutica da febre amarella. O serum glycosado. M. Guimaraes.
120 (No. 17.) Etiologia infecciosa da hysteria. Um caso de astasia-abasia. H. Roxo. (Concluded.)
121 (No. 21.) Disposiçao segmentaria de certos signaes cutaneos na febre amarella (in yellow fever). A. Austregesilo.
122 (No. 22.) Antituberculosis Circular Issued By Board of Health.—Conselhos contra a tuberculose.
123 (No. 23.) Interpretaçao da integridade da musculatura intrinseca ocular na ophthalmoplegia nuclear. V. de Britto.
124 (No. 24.) *Experiments with Transmission of Yellow Fever by Mosquitoes. I. Bandi.—Sobre o valor das experiencias realisadas no Hospital de S. Paulo para demonstrar a veracidade da theoria da trasmissao da febre amarella pelos pernilongos do genero "Stegomyia fasciata."
125 (No. 25.) O chlorureto de ethyla na cirurgia infantil. A. de P. Guimaraes.
126 Discussion of Prophylaxis of Yellow Fever at Fifth Brazilian Medical Congress.

109. **Treatment of Erysipelas.**—Paes Leme supplements the ordinary internal measures with a local spray of a concentrated ether solution of camphor and a spray of 1 per 1,000 solution of sublimate. The wound which is the starting point for the infection is treated antiseptically and sometimes the patch and the surrounding region are painted with iodin, which he also gives internally.

110. **Treatment of Contusions.**—The same writer applies 15 per cent. mentholized collodion to the contused region to reduce the superficial pain, and dry cupping in contusions of the thorax and shoulders.

112. **Serum Treatment of Plague.**—Ferrari's experience with serum treatment has been extremely favorable. He found that it acted rapidly, without local reaction, and the general reaction was transient and insignificant in most cases. The duration of the disease was much reduced and the reabsorption of the exudate in the infected ganglia was facilitated and hastened. His 56 cases had a mortality of 15.3 per cent., but 2 of the patients were moribund when first seen. The mortality of the severe cases was 22 per cent. and in 6 cases of the most serious form of secondary plague pneumonia only 33 per cent.

113. **Strychnin in Yellow Fever.**—Ferrari has found strychnin very useful in infectious diseases, especially in yellow fever.

114 and 124. **Transmission of Yellow Fever by Mosquitoes.**—The committee appointed to study this subject make a formal report of 3 cases in which men voluntarily allowed themselves to be bitten by mosquitoes previously infected for the tests. Each one of the 3 developed yellow fever after the due period of incubation, and in one it was very severe, in the others light. They regard the tests as completely verifying the experiences of the United States physicians at Havana. Bandi denies the typical character of the disease produced and claims that the tests were inconclusive.

119. **Glucosed Artificial Serum in Treatment of Yellow Fever.**—Guimaraes has only a single case to report but the benefit derived from the injections was so remarkable that he does not wait for further confirmation. The fluid used was a mixture of 200 c.c. of a 1 per 1,000 solution of sodium chlorid and 10 gm. of chemically pure glucose. He injected 10 c.c. at a time and the pulse dropped almost at once from 140 to 116, declining to 100, 96 and 84, while all the other symptoms rapidly subsided. He has treated in the same way a patient with toxemia from gin liver and the benefit was equally marked.

Medizinskoe Obozryenie, Moscow.

127 (LIX, No. 9.) Primary Echinococcus Cyst in Ovary. A. Kablukoff.—Pervitchno-odinotchnii ekhinokokk yaitchnika.
128 *Atropin in Intestinal Obstruction. V. V. Stavsky.—O primyenenii atropina pri neprokhodimosti kishek.
129 (No. 10.) Pseudoleukemia of the Skin. T. Gershun.—O psevdolevkemii kozhi.
130 *Esophagotomy for Foreign Body. P. I. Kuzmin.—K Kazuistik naruzhnago syetchenlya pishtchevoda pri enorodnykh tyelakh v nem.

128. **Atropin in Intestinal Obstruction.**—Stavsky concludes from the study of the literature and from the remarkable results obtained in 4 cases in his own experience, that atropin is a most valuable drug in certain cases of acute ileus. He injected subcutaneously .003 gm. atropin, followed two hours later by half the dose. The record has been favorable in 49 cases and in 9 the ileus terminated fatally. Atropin certainly deserves a trial, he states, in every case in which operation is contraindicated for any reason.

130. **Esophagotomy for Foreign Body.**—Kuzmin advises immediate recourse to external esophagotomy when a large fish bone or other foreign body with jagged edges has lodged in the esophagus. The operation is very simple and can be done by even the country practitioner without difficulty. When the wall of the esophagus is not injured by attempts at extraction, the wound heals rapidly and fluid food can be taken in two days after the operation.

New Patents.

Patents of interest to physicians, etc., October 6 and 13:

740385. Electrotherapeutic appliance. William B. Bassell, Columbus, Ohio.
740519. Producing beverages. Frida Brandner, Brooklyn.
740801. Pill counting machine. William Brough, Baltimore.
740811. Chocolate dipping machine. Patrick J. Costello, Chicago.
740424. Producing compounds for disinfecting purposes. Robert G. Groppler, Berlin, Germany.
740855. Mercurous chlorid. Carl H. von Hoessle, near Dresden, Saxony, Germany.
740867. Invalid bed. Richard L. Johnson, Rolla, Mo.
740873. Apparatus for treating skin diseases, etc. Jakob Kjeldsen, Copenhagen, Denmark.
740910. Suppository. Alexander H. Peloubet, Newark.
740702. Acetylsalicylate of sodium. Bruno R. Seifert and F. R. Engelhardt, Radebeul, Germany.
740476. Artificial limb. John K. Shanaman, Annville, Pa.
740714. Apparatus for the medication of air. John Titus, Oyster Bay, and W. Titus, Old Westbury, N. Y.
741461. Pill machine. Ernest C. Clark, Detroit.
741243. Making acetate of soda. William M. Grosvenor, Edgewater Heights, N. J.
741345. Pessary. Leo Knopf, Burstadt, Germany.
741585. Producing glycerin and acidylated derivatives of aromatic bases and the product thereof. Oscar Liebreich, Berlin, Germany.
741521. Body support. William U. G. Martin, Indianapolis.
741411. Artificial leg. Ole P. R. Pold, Copenhagen, Denmark.
741371. Apparatus for the treatment of defective hearing. Guy C. Powell and A. D. Smith, Peoria, Ill.
741173. Sanitary urinal. John Seidel, Milwaukee.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U. S. A. With the Collaboration of William Osler, M.D., Baltimore; John H. Musser, M.D., Philadelphia; James Stewart, M.D., Montreal; J. B. Murphy, M.D., Chicago; A. McPhedran, M.D., Toronto; Thomas M. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballentyne, M.D., Edinburgh; John Harold, M.D., London; E. Landolt, M.D., Paris; Richard Kretz, M.D., Vienna. With Regular Correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume III. Thirteenth Series, 1903. Cloth. Pp. 305. Price, $2. Philadelphia: J. B. Lippincott Co. 1903.

GENERAL PATHOLOGY, or the Science of the Causes, Nature and Course of the Processes of Disease. By Dr. Ernest Ziegler, Professor of Pathological Anatomy and of General Pathology in the University of Freiburg, Greisgau. Translated from the Tenth Revised German Edition (Gustav Fischer, Jena, 1901) and Edited by Alfred Scott Warthin, Ph.D., M.D., Professor of Pathology and Director of the Pathological Laboratory in the University of Michigan, Ann Arbor, Mich. Profusely Illustrated. Cloth. Pp. 760. Price, $5. New York: Wm. Wood & Co. 1903.

TEXT-BOOK OF DISEASES OF THE EYE. For Students and Practitioners of Medicine. By Howard F. Hansell, A.M., M.D., Clinical Professor of Ophthalmology, Jefferson Medical College, and William M. Sweet, M.D., Demonstrator of Ophthalmology, Jefferson Medical College. With Chapters by Drs. Christian R. Holmes, Casey A. Wood and Wendell Reber. With 256 Illustrations, Including Colored Plates. Cloth. Pp. 532. Price, $4 net. Philadelphia: P. Blakiston's Son & Co. 1903.

AROMATICI E NERVINI. Nell'Alimentazione. I Condimenti, L'alcool (Vino, Birra, Liquori, Rosolli, ecc.); Il Caffè; Il Thè; Il Guarana; La Noce Di Kola, ecc. Sull'Uso Del Tabacco da Fuma e da Fiuto. By Dott. Adriano Valenti, Dell'Instituto Farmacologia Della R. Universita di Pavia. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1904.

INTRODUCTION TO THE STUDY OF MALARIAL DISEASES. By Dr. Reinhold Ruge of the Imperial German Navy. Translated by P. Edgar, M.B., C. M. Edin., District Surgeon; Teluk Anson, F.M.S., and M. Eden Paul, M.D. Brux., M.R.C.S., L.R.C.P. Cloth. Pp. 137. Price, $2.75. London and New York: Rebman, Ltd. 1903.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. Designed for the Use of Students. By James Magoffin French, M.D., Lecturer on the Theory and Practice of Medicine, Medical College of Ohio. Illustrated by 10 Full-page Plates and 50 Wood Engravings. Cloth. Pp. 780. Price, $4 net. New York: Wm. Wood & Co. 1903.

THE PRACTICE OF OBSTETRICS. Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in Cornell University Medical College. With 1,221 Illustrations, Many in Colors. Cloth. Pp. 111. Price, $6. Philadelphia: P. Blakiston's Son & Co. 1903.

LA NEVRASTENIA, Con proemio del Prof. Clodomiro Bonfigli, Direttore del Manicomio di Roma. By Dott. Luigi Cappelletti, Vice-Direttore del Manicomio Provinciale di Ferrara. Milano: Ulrico Hoepli. 1904.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the two weeks ending Saturday, Oct. 24, 1903:

Brown, Orville G., first lieut. and asst.-surgeon, is relieved from duty at Fort Monroe and directed to proceed to Washington, D. C., and report at the Army General Hospital, Washington Barracks, for assignment to duty until November 3, on which date he will be relieved, to enable him to report at the Army Medical School.

Crabtree, George H., first lieut. and asst.-surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines, and will proceed to Fort Columbus for duty.

Crampton, Louis W., lieut.-colonel and D. S. G., is granted leave of absence for thirteen days from about November 1.

Ewing, Charles B., major and surgeon, will proceed to Columbus Barracks for duty, relieving Major Guy L. Edie, surgeon. Major Edie will proceed to San Francisco and report for transportation to Manila, P. I., for assignment to duty.

Edie, Guy L., major and surgeon, is granted leave of absence for three months.

Gandy, Charles M., major, is granted leave of absence for one month.

Gilchrist, Harry L., first lieut. and asst.-surgeon, now on duty with maneuver division at West Point, Ky., will proceed to Fort Riley and report to Major-General John C. Bates for duty during the maneuvers in the vicinity of that post, and, on the conclusion of the maneuvers, will return to Fort Screven.

Gaudy, Charles M., major and surgeon, now in San Francisco, is relieved from further duty in the Division of the Philippines, and will proceed to Fort Wayne for duty.

Harris, Jesse R., first lieut. and asst.-surgeon, is relieved from duty at Fort Myer, to take effect about November 20, and will report to the commanding officer of Second Cavalry for duty to accompany that regiment to Manila, P. I., for duty.

Hartsock, Frederick M., first lieut. and asst.-surgeon, will report to Lieut.-Col. Henry S. Kilbourne, D. S. G., president of the examining board at the Presidio, for examination for advancement.

Jones, John F., contract surgeon, is relieved from further duty at Fort Schuyler, and will proceed to Fort Totten for duty.

Lamson, Theodore, first lieut. and asst.-surgeon (recently appointed), will proceed from Auburndale, Mass., to Fort Myer for duty until November 3, on which date he will be relieved from duty at that station and will report at the Army Medical School for a course of instruction.

Ludington, Paul H., contract surgeon, is relieved from further duty at Omaha, and will proceed to Eagle Pass, Texas, for duty, relieving First Lieut. Park Howell.

Mansfield, Elmer E., contract surgeon, is granted an extension of leave to include November 30.

Murray, Alexander, first lieut. and asst.-surgeon, now in Washington, D. C., on leave of absence, will proceed to Fort Crook and report, not later than October 16, to the commanding officer Twenty-second Infantry for temporary duty, to accompany that regiment to Manila, P. I.

Niedman, William F. de, contract surgeon, is granted an extension of twenty days' leave.

Polhemus, Adrian S., major and surgeon, having reported his arrival at San Francisco, will proceed to Fort Crook for duty, relieving First Lieut. Charles E. Marrow, asst.-surgeon. Lieut. Marrow will proceed to Fort Sheridan for duty.

Rafferty, Ogden, major and surgeon, is relieved from duty as medical superintendent of the Army Transport Service at San Francisco and as attending surgeon in that city, and will proceed to Fort Monroe for duty, to relieve Major Richard W. Johnson, surgeon. Major Johnson will proceed to Washington, D. C., and report to the surgeon-general of the Army for instructions and assignment to duty in connection with the Medical Department exhibit at the Louisiana Purchase Exposition. The chief surgeon, Department of California, will, in addition to his present duties, perform the duty of medical superintendent of the Army Transport Service in San Francisco.

Richardson, George H., first lieut. and asst.-surgeon, is granted leave of absence for one month and ten days. The resignation of the above has been accepted, to take effect Jan. 1, 1904.

Shepherd, John M., contract surgeon, is granted an extension of leave of absence for twenty-five days.

Shaw, Henry A., major and surgeon, is relieved from duty at the U. S. General Hospital, Washington Barracks, November 1, and will proceed to Fort Adams for duty.

Truby, Willard F., first lieut. and asst.-surgeon, is relieved from duty at Fort Ethan Allen, and will proceed to Fort Preble for duty, relieving Major Charles B. Ewing.

Watkins, Victor E., contract surgeon, is relieved from duty in the Department of the Colorado and will proceed from Fort Huachuca to Eagle Pass, Texas, for duty, to relieve First Lieut. Park Howell, asst.-surgeon.

The board of officers appointed by orders of May 4 to consider certain matters pertaining to the Hospital Corps of thee Army will, as early as practicable after the termination of the maneuvers at Fort Riley, reassemble at Fort Sam Houston to complete its work, under instructions to be communicated to it by the surgeon-general of the Army. Captains Francis A. Winter and Frederick P. Reynolds, asst.-surgeons, will, on the conclusion of the maneuvers

at Fort Riley, proceed to Fort Sam Houston for this purpose, and, on the completion of the work of the board, will return to their respective stations.

The following named assistant surgeons are relieved from duty at the posts designated, and will repair to Washington, D. C., and report, November 3, at the Army Medical Museum Building, to Col. Charles L. Heizman, A. S. G., president of the faculty of the Army Medical School, for a course of instruction at that school: First Lieuts. Henry S. Klersted, Fort Miley; Jay R. Shook, Fort Myer; Henry E. Noble, Fort Sheridan; James W. Van Dusen, Columbus Barracks; Park Howell, Eagle Pass; Reuben B. Miller, San Francisco; James I. Mabee, Presidio; Percy L. Jones, Fort Rodman; Fred W. Palmer, Jefferson Barracks; Edward B. Vedder, Fort Columbus; Henry F. Pipes, Fort Totten; Charles L. Foster, Fort Myer; John R. Besley, Fort McPherson; Robert C. Loving, Fort Leavenworth; Chester J. Stedman, Fort Adams; Orville G. Brown, Fort Monroe; George F. Jueneneano, Fort Columbus; Joseph F. Siler, Fort McPherson; Arthur M. Whaley, Fort Sheridan.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Oct. 24, 1903:

P. A. Surgeon B. L. Wright, commissioned a passed assistant surgeon from March 3, 1903.

Asst.-Surgeons F. M. Bogan, J. H. Payne, Jr., and J. J. Snyder, commissioned passed assistant surgeons from June 7, 1903.

Drs. J. Miller, Jr., E. C. Taylor, F. E. Campbell, J. E. Gill and I. S. K. Reeves, appointed assistant surgeons from Oct. 12, 1903.

Asst.-Surgeon W. S. Pugh, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Pharmacist J. Cowan, retired from active service, Oct. 19, 1903, under the provision of Section 1453, R. S.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the twenty-one days ended Oct. 22, 1903:

Surgeon Preston H. Bailhache, detailed to represent the service at the meeting of the American Public Health Association at Washington, D. C., October 26.

Surgeon D. A. Carmichael, granted leave of absence for thirty days from October 16.

Surgeon F. C. Kalloch, granted leave of absence for three days.

Surgeon J. H. White, to proceed to Gulf Quarantine Station and assume temporary charge.

Surgeon P. M. Carrington, granted two days' leave of absence from October 15, under paragraph 189 of the Regulations.

Surgeon G. M. Magruder, granted extension of leave of absence, on account of sickness, for two weeks from October 7.

P. A. Surgeon C. P. Wertenbaker, to proceed to Beaumont and Houston, Texas, for special temporary duty, October 2. To proceed to El Paso, Texas, for special temporary duty.

P. A. Surgeon J. C. Perry, to proceed to Charlestown, W. Va., for special temporary duty.

P. A. Surgeon B. C. Brown, granted leave of absence for one day, October 18.

P. A. Surgeon J. A. Nydegger, Bureau letter of September 4, granting him leave of absence for one month from September 13, amended so that said leave shall be for one month from September 23. Granted leave of absence for ten days, on account of sickness, from September 13.

P. A. Surgeon H. S. Mathewson, department letter of September 23, granting him leave of absence for forty-five days from September 22, amended so that said leave shall be for forty-five days from October 3.

P. A. Surgeon S. B. Grubbs, granted leave of absence for five days.

P. A. Surgeon L. L. Lumsden, to proceed to Beaumont, Texas, for special temporary duty, October 2. To proceed to Eagle Pass, Texas, for special temporary duty, October 5. To proceed to El Paso, Texas, and assume temporary charge of the station, October 13.

P. A. Surgeon J. F. Anderson, to proceed to Baltimore for special temporary duty, October 1.

P. A. Surgeon L. D. Fricks, granted leave of absence for one month from November 1.

Asst.-Surgeon T. F. Richardson, to proceed to San Antonio, Texas, for special temporary duty, October 21.

Asst.-Surgeon F. W. King, detailed as inspector of unserviceable property at Ponce, P. R.

Asst.-Surgeon Edward Francis, to proceed to the City of Mexico, Mexico, for special temporary duty, October 6.

Asst.-Surgeon L. P. H. Bahrenburg, granted leave of absence for seven days from October 14 under paragraph 191 of the Regulations. Granted extension of leave of absence for seven days from October 22.

A. A. Surgeon C. B. Ford, granted leave of absence for three days from October 24.

A. A. Surgeon B. W. Goldsborough, Department letter of September 10 granting him leave of absence for three weeks from September 10, amended so that said leave shall be for three weeks from September 22.

A. A. Surgeon J. M. Jackson, granted leave of absence for thirty days from October 5.

A. A. Surgeon H. C. Sibree, granted leave of absence for six days from October 6.

A. A. Surgeon J. G. Stanton, granted leave of absence for thirty days from October 10.

Pharmacist F. L. Brown, to proceed to St. Louis and report to medical officer in command for temporary duty, October 10.

Pharmacist F. S. Goodman, to proceed to Laredo, Texas, and report to Surgeon G. M. Guiteras for special temporary duty as special disbursing agent, October 2.

Pharmacist S. W. Richardson, Department letter of September 15, granting him leave of absence for ten days, revoked. To proceed to New York City and Providence, R. I., for special temporary duty, October 14.

Pharmacist C. H. Woods, to rejoin station at Chicago, October 10.

Pharmacist M. R. Mason, relieved from duty at Nome, Alaska, and directed to proceed to San Francisco and report to medical officer in command for duty, October 8.

PROMOTION.

G. A. Morris, pharmacist of the third class, promoted to be pharmacist of the second class, effective September 3.

Charles Maples Steger, recommissioned as assistant surgeon in the Public Health and Marine-Hospital Service to correct original commission, effective September 16.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 23, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Oct. 4-10, 1 case.
Colorado: Denver, Aug. 29-Sept. 26, 4 cases.
Florida: Jacksonville, Oct. 11-17, 1 case.
Illinois: Chicago, Oct. 11-17, 3 cases; Danville, Oct. 11-17, 1 case.
Louisiana: New Orleans, Oct. 11-17, 2 cases, imported.
Maryland: Baltimore, Oct. 11-17, 1 case.
Mississippi: Natchez, Oct. 12-19, 1 case.
Missouri: St. Louis, Oct. 3-10, 2 cases.
New Hampshire: Manchester, Oct. 11-17, 3 cases.
New Jersey: Camden, Oct. 11-17, 1 case.
Ohio: Cincinnati, Oct. 9-16, 2 cases; Cleveland, Oct. 11-17, 1 case.
Pennsylvania: Altoona, Oct. 11-17, 1 case; Johnstown, Oct. 11-17, 14 cases; Philadelphia, Oct. 11-17, 54 cases, 4 deaths; Pittsburg, Sept. 12-Oct. 17, 279 cases, 60 deaths, 7 cases imported.
South Carolina: Charleston, Oct. 11-17, 1 case, 1 death.
West Virginia: Jefferson County, Oct. 1-15, 14 cases; Wheeling, July 1-Sept. 30, 4 cases, 2 deaths.
Wisconsin: Milwaukee, Oct. 11-17, 9 cases.

SMALLPOX—INSULAR.

Philippine Islands: Cebu, Aug. 1-31, 8 cases, 4 deaths; Manila, Aug. 30-Sept. 12, 3 deaths.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Aug. 16-Sept. 15, 23 deaths; Rio de Janeiro, Sept. 14-27, 109 cases, 40 deaths.
Chile: Antofogasta, Aug. 25-31, 9 deaths.
Colombia: Barranquilla, Sept. 28-Oct. 4, 2 deaths.
Formosa: Aug. 1-31, 1 case.
Great Britain: Birmingham, Sept. 27-Oct. 3, 9 cases; Bristol, Sept. 27-Oct. 3, 1 case; Glasgow, Oct. 2-9, 1 case; Leeds, Oct. 4-10, 4 cases; Liverpool, Sept. 27-Oct. 3, 8 cases; London, Sept. 27-Oct. 3, 1 case; Manchester, Sept. 27-Oct. 3, 2 cases; Newcastle-on-Tyne, Sept. 27-Oct. 3, 5 cases, 1 death.
Malta: Sept. 20-26, 6 cases.
Mexico: City of Mexico, Sept. 28-Oct. 11, 5 cases, 4 deaths; Merida, Oct. 11, 1 case.
Russia: Odessa, Sept. 27-Oct. 3, 1 death; St. Petersburg, Sept. 20-26, 19 cases, 2 deaths; Warsaw, Aug. 28-Sept. 12, 7 deaths.
Spain: Barcelona, Sept. 27-Oct. 3, 4 deaths.
Turkey: Constantinople, Sept. 28-Oct. 4, 3 deaths; Smyrna, Sept. 28-Oct. 4, 77 deaths.
Venezuela: Yaritagua, Sept. 23, prevalent.

YELLOW FEVER—UNITED STATES.

Texas: Connell, Oct. 20, 1 case; Castroville, Oct. 21, 1 case; Hondo, Oct. 19, 1 case; Laredo, Oct. 14-21, 98 cases, 7 deaths; San Antonio, to Oct. 21, 13 cases, 3 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Sept. 14-27, 5 cases, 3 deaths.
Mexico: City of Mexico, Sept. 28-Oct. 4, 1 case, 1 death; Merida, Oct. 4, 14 cases; Nuevo Laredo, Oct. 13-21, 14 cases, 2 deaths; Progreso, Oct. 4-11, 2 cases; Tampico, Sept. 30-Oct. 10, 6 deaths; Vera Cruz, Oct. 3-10, 38 cases, 11 deaths.
Venezuela: Puerto Cabello, Sept. 20-26, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 30-Sept. 12, 94 cases, 76 deaths; provinces, Aug. 30-Sept. 12, 1,614 cases, 1,394 deaths.

CHOLERA—FOREIGN.

China: Hankow, Sept. 12-19, 1 case, 1 death; Hongkong, Sept. 5, 1 death; Shanghai, Oct. 12-19, 21 deaths; Tientsin, Sept. 12-19, 3 cases, 1 death.
India: Calcutta, Sept. 6-12, 4 deaths; Madras, Sept. 6-12, 3 deaths.
Straits Settlements: Singapore, Aug. 29-Sept. 5, 11 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 7, 1 case, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Cebu, Aug. 19-Sept. 12, 6 cases, 3 deaths; Manila, Aug. 30-Sept. 12, 3 cases, 3 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Sept. 14-27, 62 cases, 24 deaths.
Chile: Iquique, Aug. 28-Sept. 11, 9 cases, 5 deaths.
China: Newchwang, Sept. 12-19, 73 cases, 62 deaths.
Egypt: Alexandria, Sept. 12-18, 8 cases, 4 deaths; Damiette, Sept. 12-19, 1 case, 1 death.
Formosa: June 1-Aug. 31, 164 cases, 142 deaths.
India: Calcutta, Sept. 6-12, 13 deaths.
Italy: Licata, Sept. 13-20, 1 case, 1 death.

In the report to the journals for September 19, 11 cases of smallpox were accredited to Ogden, Utah, when there should have been only 1.

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Original Articles.

RELATION OF THE PUBLIC SCHOOL TO THE SEMINARY AND COLLEGE AS TO PSYCHOSES.*

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Professor of Nervous and Mental Diseases in the Medico-Chirurgical College.

PHILADELPHIA.

This topic is an important one to the educator and to the parent or guardian of the growing youth of our fair land, America, which claims so justly to be a leader in earthly pursuits. That we are going a little too rapidly toward progression of the mind in these almost too strenuous days of advancement is pretty clear to the thinker or man of larger experience. The result of "wear and tear" on the nervous system must be remembered to be much greater in youths from 14 to 18 years, i. e., during the development of adolescence with its wonderful attendant physiologic, physical and psychic readjustment of the organization. The paper written on this subject must not include as a fundamental basis for study the hardy westerners' children of the plains, nor the country school boy who is forced to healthy physical exercise in his trudging along the country roads, perhaps knee deep in mud or snow; but the overwrought child of the cities. These latter are the object of our attack in the endeavor to retain for them a full component of nervous health—"For with health departing all else flows." The vast majority of youths are educated in the cities where the comforts of home become almost too seductive in many instances, and the precocious boy may entirely eschew physical exertion in his early endeavor toward mental culture. We shall try to speak, therefore, for this vast majority, purposely leaving out of the consideration study of the extremes, i. e., the robust individual under more normal mental and physical surroundings and the extremely delicate child, on the other hand; also the more distinctly neurotic type. It would not be fair in such a discussion to-day to include any of these classes. It is after all a most difficult subject you have selected for discussion.

It has been my experience in observing the average American boy or girl who passes from the city grammar school to high school and finally to the academy or college that there is a wide variance in the methods of instruction, brought about largely in many instances by the idiosyncrasy, say, of a school board or board of trustees, no doubt due to their peculiar ideas of and efforts to teach the student by some special method which seems to the said bodies recited to be the most productive of best results in educatory lines. Of course, this *modus operandi* is carried out in detail by the many teachers who are instructed in the same methods. Thus the widespread good or ill that may result! In these days of rapid advance, we repeat, there is apt to be too much stress laid on particular methods of instruction, which is the old story of specialism becoming lopsided and too pedantic. Of course, the greatest trouble lies in the fact that growing youths are often put to tasks which their brains can never compass; and a great many times psychoses in children and early adult life can be laid at the feet of the general practitioner who did not prove the wise guard he should be through advisory measures to parents, where a child is becoming nervous from misdirected instruction and overwork of the nervous system. The medical profession must, therefore, be awakened more keenly to its ultimate duties to the civic throng if highest common-sense methods of instruction are ever to prevail toward training the individual to be the most useful member of society.

The average child, I am sure, is forced too much at his work even in grammar schools among public institutions; and, from the neurologist's standpoint, I am convinced that such children in the cities would do better to have one session in school than be compelled to rush to a midday meal often of indifferent quality, then to go back again within an hour to recitation, which necessarily requires the freest circulation in that important organ, the brain, to the great detriment of digestion which is, of course, ill carried on under such abnormal circumstances. One-half of the general aches and pains, including headaches, are due to disturbance of metabolism from these various causes in which correction of the eyes by refraction can only in part relieve. Better be that the child have superabundance of fresh air and physical exercise than a doubtful mental advancement, as it is when associated with a nervous, disabled constitution. As remedial measures, I could especially hope that in the high schools of the country at least this régime might be carried out; or a second session, if held, be devoted to classes in natural history, or probably to modified physical gymnastics. As to this latter, I wish to sound a word of caution, since the zealous physical instructors in all educational institutions have, in my experience, been led through too narrow specialism into the error again of overwork of muscles, which the physiologist knows will weaken or finally exhaust the central nervous system; if it does not, indeed, as in some instances I know very well of, produce physical disability such as a dilated or irritable heart that is much worse than asthenia, the result of primary mental exhaustion, and more difficult to rightly interpret or cure.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

We believe that there is less of overwork (and, therefore, less hysteria, neurasthenia, accompanying melancholias, delusional insanities, particularly in the class of which we speak) in academies and preparatory schools than there is in the high schools, or even in the college, the place of advanced training, to which we have referred above; although the danger is patent enough in all educational institutions. This disproportion of wear and tear is due to the fact that the academy and preparatory school are ministered over by those who have not so much at heart competition in class work for their institutions; and that many of them are in suburban districts, where the youth from the cities are inspired by the open air and pastoral surroundings, as well as invigorated by the same natural exercises thus invitingly placed before them. It is much more difficult, as I can cite cases to support, for the average student to pass from the high school to college than for the academically trained boy or girl to take up lines of instruction in the college. And this is the result of overwrought nervous systems by the greater urging to work with too little play, which will frequently "make Jack a dull boy" indeed; and sometimes a neuropathic product, a hysteric, or a case of hebephrenia, or some other form of mental alienation.

The object of writing this paper has been not to give you intricate details of what subjects are pushed too rapidly on the growing youth, who has so many demands on his time, but the endeavor has been made to enforce what I feel to be a certain truth from observation through practicing neurology; i. e., that students of the United States generally (particularly those who are slightly below par physically and, in consequence, of lower nerve tone) are much overwrought. The essential point of this contribution, therefore, that I wish to impress is that we, as practitioners of medicine, desiring to keep the community well of all ailments, must assume greater responsibility in civic affairs if for no other reason than to conserve the public health—the excuse and reason for our existence. If the physician will (knowing as he does well enough these facts of overwork of children, the cause of hysteria, melancholia and the more frank insanities at times) deign to become a missionary to the good cause, in the only way that can be of avail for right methods, he will join with the intelligent educators and interested people in the community in which he resides, volunteering his opinion through public lectures before civic clubs and the like, which are doing so much universal good and for which credit must be given to intelligent womanhood. As long as the physician withholds his active influence in these matters, believing he has no legitimate place outside of prescribing, so long will a large burden of the blame for existing conditions be laid at his feet.

I will not detain you with more than these remarks, feeling that in them, from my standpoint at least, the germ of the matter has been recognized. We shall hope that in the discussion ways and means will be suggested by those more competent; and that the result of the symposium will make for proper correction of present-day methods of education of youth.

Habitual Epistaxis.—In habitual epistaxis, without regard to the cause, the frequency of the attacks, or their severity, Woodward says ammonium carbonate is an absolute specific. Two grains every ten minutes will stop the flow quickly during the attack. To correct the tendency and overcome the habit, 2 grains should be given from three to six times each day.—*Medical Summary.*

BEST METHODS OF COUNTERACTING PSYCHOSES DUE TO THE STRAIN AND STRESS INCIDENT TO OUR PUBLIC SCHOOL METHODS.*

WILLIAM JAMES HERDMAN, M.D., LL.D.
ANN ARBOR, MICH.

A matter so important as the education and development of children calls for the highest intelligence and wisdom of mankind. It is so vital to the welfare of the race that no one profession can arrogate to itself the right of exclusive control or dictation as to the methods to be employed. The object sought should have the benefit of the combined wisdom and experience of all professions which have anything of value to contribute from their discoveries that has a bearing on the subject.

The members of the medical profession justly and rightly consider that on them rests the responsibility of searching out the causes of diseases of whatever sort, mental as well as physical, and of directing the attention of the public to the appropriate means for their prevention, and it is a healthful sign of vigorous activity and normal advancement of the work of that profession when its members are found interesting themselves in tracing causes to their fountain head, where effective healing or preventive measures are alone possible, and not waiting until such time as the damage is done and curative means are unavailing, and energy and enthusiasm are expended hopelessly. This is commendable zeal on the part of the members of the medical profession and unselfish devotion to duty, and the thoughtful person can not fail to recognize in it the exercise of the highest function of the healing art—the prevention of all abnormality.

But in bringing our medical experience and methods of observation to bear on questions which do not lie directly or wholly within their sphere, but rightly belong to a profession whose members must be credited with equal intelligence and quite as earnest devotion to their peculiar work, we must guard against overstepping the bounds of legitimate criticism and keep strictly within the limits where our training and experience justify us in speaking with authority. The very importance of the subject of education and its methods demands that we apply to it our most exact methods of research and see to it that our conclusions are drawn from unassailable premises. In considering, therefore, the special subject at present under discussion it is for us to determine first what, if any, are "the psychoses which result from the strain and stress of public school methods."

As far as I have been able to discover from the sources of information accessible by me, and in the time at my disposal since this topic was assigned to me, no reliable data are extant bearing directly on the subject. Eight years ago Dr. Alfred Spitzner of Leipsic declared in a carefully prepared and learned article: "As far as I know, there is no such thing as a comprehensive, officially organized investigation and compilation of facts referring to the existence and cause of nervousness among school children." And still more recently (Dec. 16, 1901) Dr. Edward M. Hartwell, secretary of the Boston Statistics Department, said in a paper read before the Boston Society for Medical Improvement: "So far as I can learn, the only states in which thorough-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

going, scientific investigations of the effects of school life on the school population have been made are Sweden and Denmark." In these countries commissioners were appointed ten or twelve years ago who made investigations and reports abounding in most instructive statistical tables and valuable information as to the results of certain educational methods, but these reports contained little that had any bearing on the subject of this discussion.

Within the past year a special committee has been appointed by the British Association for the Advancement of Science "to consider the condition of health essential to carry on the work of instruction in schools," and this committee has undertaken to collect information as follows:

1. Records of original observations on the periods of day appropriate for different studies, the length of lessons, and the period of study suitable for children of different ages.

2. On anthropometric forms in use in various schools with a view to preparing a typical form for general use.

3. On anthropometric and physiologic observations recorded in different schools for a series of years on the same children.

4. Recorded investigations into the causes of defective eyesight in school children, and a definition of the conditions necessary for preserving the sight.

5. An inquiry into the practical knowledge of hygiene possessed by school teachers.

It would seem from the statements of these persons who are in a position to know what has been done in this line of investigation, and from what is being attempted, but not yet accomplished, in the way of gathering facts by one of the ablest bodies of scientific men in existence, that while the need of exact information on this subject is beginning to be very generally felt, yet it is an acknowledgment that, so far, no exact information is at hand such as is necessary to locate causes and serve as a basis to institute reforms, if any are needed.

Public school methods can not be justly charged with either the development or aggravation of psychoses in the children subjected to them until we can eliminate as causative factors: 1, Conditions that antedated the school period and its influences on the child, and, 2, such causes as may be operating on the child outside of school hours and school environment.

Assuming that psychoses can be demonstrated to exist among school children and that nervous affections increase in proportion to the time spent under school conditions, as is claimed by many, obviously the school methods can not justly be held responsible for the entire result when the causative factors entering into the problem are so many and so various. We must here, as in all attempts at exact analysis, devise some method by which each causative factor can be discovered and its relative value in effecting the result be properly estimated.

As to the fact of the existence of psychoses among school children sufficient reliable testimony is furnished us. While no systematic and authoritatively organized effort has been made to determine this in any quarter, sporadic attempts by medical men of unquestioned integrity and ability have been made in many places in recent years which have furnished evidence sufficient to show beyond all question that both physical and mental abnormalities exist among school children.

Among the physical defects to which attention has been more especially directed and careful investigations made by physicians are the abnormalities of the special senses, chiefly those of sight and hearing, since these are the main avenues by which the world of sense finds entrance to the world of mind. "All the raw material of thought comes through the senses. All the raw material acted on by memory, imagination, judgment, comparison and reasoning is gained through sense experiences." It is of primary importance, therefore, to a correct and symmetrical development of all the mental faculties that the sense mechanism furnished for the transmission of this raw material be in perfect working order, so that it may honestly deliver to the mind for its use every attribute which the world of things possesses which can through sense perception be apprehended.

Tests for the detection of defects in vision have reached such a degree of accuracy and are so convenient in application that they have afforded the most ready means of examining school children as to the integrity of sense perception. The relatively greater importance of this special sense as compared with others in the acquirement of accurate knowledge of external things likewise renders it well fitted to demonstrate the need of attention to these physical channels which furnish the pabulum for educational development. For while to none of the other senses has the same amount of attention been directed in these investigations, it is safe to assume that when the searchlight of scientific observation is brought to bear on them their integrity will be of no higher order than that which has been shown for the sense of sight. Dr. Wright,[1] health officer of New Haven, Conn., makes the statement that "it has been found by the examination of the eyes of many thousand children in the high schools of Europe that over 40 per cent. were nearsighted to a greater or less extent. It was also found that the defect increased from the primary to the higher grades not only in frequency but in degree."

Dr. Jane Kelly Sabine[2] of Boston gives as a result of observations made on 2,000 girls in schools and colleges of New England, among whom 30 per cent. were either wearing glasses or were ordered to have their eyes examined by a specialist, that there were 6 per cent. with defective hearing, 5 per cent. with weak lungs, 4 per cent. with heart trouble, 75 per cent. with menstrual troubles and 90 per cent. with leucorrhea.

Dr. G. B. Saunders of New Zealand,[3] in an elaborate report of investigations made by him and others on the vision of school children, concludes: "It has been clearly established by the evidence set forth from these statistics that defective vision is induced during the whole period of school life and that children entering school with healthy eyes have developed faulty vision, and that the proportionate number of the scholars affected increases as we ascend in the classes and also in the grade of the school."

While I am disposed to question the assertion of Dr. Saunders that these children, or any number of them, had "healthy" eyes at the time they entered school, since no evidence was given that examination of these children on beginning school was made, yet the fact remains—and abundant testimony other than this I have

1. Boston Med. and Surg. Jour., March 27, 1902.
2. Paper before the Society for Medical Improvement, Dec. 16, 1901.
3. London Lancet, Jan. 11, 1902.

offered can be furnished in support of it—that the eyesight of from one-fourth to one-third of all school children is defective, and, moreover, such defect has in many instances been brought to the knowledge of both teacher and parent for the first time by these inspections instituted by physicians.

Whether or not the production of this large percentage of cases of impaired vision can in any measure be charged to school methods or defective school hygiene must, I think, for the present, be left an open question. It is for the present sufficient, perhaps, for us to know that such a large share of school children at an early age are handicapped by serious deficiencies in the mechanism of one of the most important senses through which knowledge is acquired, and that often such deficiencies remain unrecognized and uncorrected, as far as such correction is possible, by both parent and teacher.

Now, it is needless for me to recall the fact that eyestrain is one of the quickest and surest means for bringing about brain exhaustion and mental fatigue and that out of the fruitful soil of mental fatigue all manner of psychoneuroses spring up. What would appear, and in reality be, a very simple task to a child healthy in every organ, might in one with defective vision produce a strain and stress that would cause an unhealthful drain on the entire store of nerve energy and so result in disorder of normal function in certain of the more susceptible parts. It is not surprising, therefore, to find many children who are victims of visual defects unable to bear the strain of ordinary school requirements, without manifesting signs of neurasthenia, hysteria, or some form of mental or motor instability, or both, the fault lying in the vulnerability of the child and not in the school method. But investigation seems to show also that the constant demand made on the sense of sight by the confinement of school methods of instruction to the printed page as a source of information has resulted in a still further deterioration of this sense organ, as is seen from the greater degree of myopia, as well as the increase in relative frequency of this as of other visual defects, among pupils in the higher grades. If it can be shown that the healthy and normal eye is caused to deteriorate by excessive use or strain due to school requirements, and, further, that the same educational results could be attained by informing the mind through some other avenue of approach, as the ear, the touch or the muscular sense, we would then be justified in finding fault with the method which throws undue labor on an important organ, not only to its injury but to the injury of the organism as a whole. Therefore, no matter what the outcome is in the way of nervous or mental manifestations of an abnormal kind in school children with demonstrable physical defects, unless it can be shown that such physical defects and their consequent nervous disorders are either caused, or are unnecessarily aggravated, by the school methods employed, it must be assumed that the neuroses and psychoses accompanying them would have developed in spite of school methods or under any circumstance where the same demands would have been made on the organism with a view of securing the educational result desired.

There are conditions existing in many school rooms which are injurious to the eyesight aside from the prolonged and, perhaps, unnecessary confinement to the printed page. Dim or misdirected light, the distance of the pupil from the visual demonstration on the blackboard, defective ventilation and temperature of the room are causes which may contribute very considerably to the strain produced not only on this sense alone but on the nervous system as a whole. But these are matters of school hygiene which, although they have an important bearing in causing the effects we are considering, do not properly enter into the plan of this discussion. It has been seen that the special sense strain is very generally recognized as a fruitful source of mental fatigue and consequently of the various pyschoneuroses that accompany this state or stand as the evidences of it.

Next to this as a causative physical factor in bringing about a reduction of nerve energy in girls must be placed the disorders of menstruation and an unhealthful state of the generative organs. The very large percentage of menstrual troubles and of leucorrhea reported by Dr. Sabine as present in the 2,000 girls from whom her statistics were gathered, directs attention to a most significant fact. My experience for more than a quarter of a century in caring for and observing the health of a large number of college girls gives emphasis to this as a causative factor in the development of psychoneuroses among school girls. While the inflexibility of school requirements must act as one of the factors in maintaining and, perhaps, in creating this unhealthful physical state among our girls in some instances, yet we are well aware that there are many more potent causes such as unsuitable dress, social excesses, indiscretions in diet, neglect of sleep and of the bodily needs, contributing to the result to a much greater degree.

Could the teacher understand the nature and signs of the extra physical strain to which so large a per cent. of the female pupils are periodically subjected, and was she free to temper the demands of the curriculum to meet the condition, much injury would be avoided. But here again, as in the case of defective eyesight, the responsibility for the result produced on the nervous system must be shared by the parents, the guardians and the pupils themselves, and not charged wholly to the teacher's account or assumed to be due to a faulty school method.

There is another phase of this problem which is deserving of much more serious and systematic attention, both from the teacher and the physician, than it has hitherto received, and that is the natural evolution of the child mind and the stages at which certain capacities are most active and vigorous and capable of performing their function with the least friction and expenditure of nerve force.

It is here, in my opinion, that our pedagogic methods in this country are most open to just criticism, since the proper adjustment of studies, the proper period of the day for each and the length of time they should occupy, are questions which a scientific pedagogy should have long since settled beyond all controversy.

It ought not to require the physician to call the attention of the teacher to the fact that nature study, which engages sense perception, creates interest, attention and enthusiasm, naturally precedes, in a well-arranged curriculum, the relation of numbers and comparison of abstract attributes. In other words, that the acquisitions by the senses must lay a broad and deep foundation before the moral and reasoning faculties can properly evolve, and, moreover, that a child possesses avenues for sense perception other than those of sight and hearing, mainly those of touch and muscle sense, which have a value quite equal to either of the former in creating mental stability, though that value is supplementary, and not substitutive.

It should long since have been established beyond all question by teachers that the acquisition of language is an early capacity of the child mind, the naming of things being only secondary to their apprehension by the senses, and that thoughts concerning things must have the language symbols as a necessary foundation for the expression of those thoughts or even of clear conceptions concerning them. When we look abroad from this point of view—of the natural evolution of the child mind—over the school methods that are in operation we find them still in a chaotic state, "without form and void." No settled principles appear to have been evolved as to the natural order of studies after centuries of our best thought have been devoted to the solution of the problems of education.

And yet every observing teacher has had the evidence daily before her that a course of study must be in harmony with these processes of development in order to be successful.

More depends on the order of studies assigned than on the contents of the studies themselves. You have heard of the experiment made some years ago by four teachers in the city of Paris, in a school for boys (the Lycée). They asked permission of the Minister of Education that each of them might give to his 25 pupils the same studies prescribed in the required course, but in a different order, an order believed by them to accord with the natural development of a boy's mind rather than in the arbitrary order hitherto demanded. "These boys completed all the required studies in this natural order in three and a half years, instead of seven years, the time assigned for the completion of the course as regularly given. On examination, they were found to be equally proficient mentally, and above the average in physical development, as compared with those who had spent seven years in going over the same ground."

This one striking illustration furnishes convincing proof that the study of the natural history of the child, the manner and order of its physical and mental unfolding, is an indispensable prerequisite to the right exercise of a teacher's functions.

Periods of study too prolonged and a disregard of the vital waves of alertness and acquisitive capacity, which are likewise faults that can now be justly charged to the account of the school methods in many places, and which operate in no small degree as mental irritants and mental worries would, by a better understanding of the immature stages of childhood, be corrected.

I can but sum up the thought I have attempted to present to you on this phase of my subject by quoting the words of Herbert Spencer: "What with perceptions unnaturally dulled by early thwartings and a coerced attention to books; what with the mental confusion produced by teaching subjects before they can be understood, and in each of them giving generalizations before the facts of which these are the generalizations; what with making the pupil a mere passive recipient of other's ideas and not leading him to be an active inquirer; and what with taxing the mind to excess, there are few minds so efficient as they might be."

In the light of these considerations, it is evident that the end, which we, as physicians, seek—the arrest of such causes as lead to the mental and nerve irritability and physical weakness which we observe in school children—must have a plan of correction sufficiently comprehensive.

We need to know more of the child before it is subjected to public school conditions and more of the influences that attend it outside of school hours. Only by having such knowledge can we properly estimate the effects of school conditions for good or evil.

In attempting to formulate a plan for the removal of the physical and mental defects we have observed, I would suggest:

1. A careful medical inspection of school children at the beginning of their school life and at stated intervals thereafter, covering both their physical and mental capacities.

2. All teachers should be well instructed in the physiology and psychology of the child and in the principles of school hygiene..

3. School buildings and their environments should be made to comply with all the requirements of modern school hygiene, as to light, pure air, temperature, seating, decorations, play ground facilities, etc.

4. The curriculum should be so flexible as to allow more opportunity for the exercise of the individual judgment of the teacher, as to the best method to adopt for each child in order to secure for it the greatest educational value, and the curriculum should include facilities for appealing to the mental faculties along every sensory pathway, among which facilities I would mention nature study, rational kindergarten, manual training and physical exercise.

5. The number of pupils assigned to any one teacher should be only such as she can care for to the best advantage. Time should be allowed the teacher for a careful study of the physical and mental needs of each pupil.

6. A closer relationship between the parent and teacher, with a view of securing the end sought—the highest and most useful development of the child.

7. The removal, as far as possible, of all conditions within or without the school room that interfere with the accomplishment of this purpose.

DISCUSSION

ON THE PAPERS OF DRS. PEARCE AND HERDMAN.

Dr. Harold N. Moyer, Chicago—Before this Section, three years ago, I presented a paper on the psychoses of chorea. In 8 out of 10 cases there was a psychosis—not that the children were demented or incoherent, but there was a distinct alteration in the mental condition of the child during the continuance of the chorea. What is true of chorea is true of many children's diseases, both of the nervous system and of the nutritional disorders which are so common in infancy. The psychoses of children is a much-neglected subject, meaning by this the minor, less accentuated deviations from the normal, and not what is commonly termed insanity. The psychoses of childhood are not incidental to any great extent to school strain or to any strain, but they are due to the developmental period, *per se*, primary defects in the nutritional processes in early life and a bad heredity.

Is strain a bad thing? Is the use of an organ, whether it be the brain, or the heart, or the lungs, or the stomach, a bad thing for that organ? I am distinctly of the opinion that it is not. I believe that the use of organs strengthens them, and that the only way organs are strengthened is by use; but we must stop short of strain. Is the early breakdown of the athlete due to strain? Is it not due to the fact that there is a maladjustment of certain organs? He has developed organs which are no longer needed, and when he passes the age of youth, those organs tend to atrophy and decay when the strain is no longer put on them. After all, we get down to the nutritional factor, which teaches that we should put such an amount of work on an organ as it will stand, and lead to its development, and that will not carry it beyond a point that will be needed afterward. That is an underlying

principle of pedagogy. The supplemental factors—the defects in the nose, throat, eyes, etc, with which the child may be handicapped—are the individual peculiarities of cases and must be eliminated. The common factor is nutrition, the strengthening of the organs by proper use, to secure a symmetrical development. The development of the nervous system at the expense of the muscular and vegetative systems is a fault of modern methods of education, but it is being rapidly corrected. We must not fall into the opposite extreme and neglect the nervous system, remembering that the use of an organ strengthens and develops it.

DR. JOHN PUNTON, Kansas City—The medical profession should take a more active part in the regulation of the methods of public school education. There is great need of a consensus of medical opinion, but nothing of a tangible character has been done. About ten years ago I suggested that every large city should maintain a board of medical inspectors. A year or two later the first board of this kind was appointed in Boston, and later other cities followed suit. In spite of that there are many cities that have failed to give even so much recognition to the subject. Three or four years ago I read a paper before the American Neurological Association, desiring to get them interested, but unfortunately nothing was done. It has been proved by the medical school inspectors that anthropometric measurements show a physical basis for precocity on one hand and for mental dulness on the other. If we could introduce this system in all schools it seems to me that hysteria and other neuroses could, in many cases, be prevented. Along those lines the present system of medical inspection is lame. Certain definite standards of weights and measures would be of vast importance. It is now usually taken for granted that like age implies like mental capacity, which is a wrong criterion, because mental development occurs in different degrees at different ages in different individuals, and as the public schools deal with all classes of children this standard is very misleading. I do not think, however, that the public school methods are altogether to blame for the nervous diseases. The child's home life has much to do with it, and very often the parents are more to blame than the teachers. Very often the teachers are to blame independent of the methods which are enforced by the educational system of the city; for instance, when children have fallen behind in their studies the teacher will sometimes give private instruction, and parents are often very anxious to have her do so, because they do not wish their children to be put back or to fail of promotion. I think such a teacher deserves severe criticism. I also find that some teachers, to stimulate the best efforts, will offer prizes for those who stand highest in examinations. That is a wrong method; it puts a severe mental strain on all the children, whether they win the coveted prize or not. The defects among public school children can be classified into physical and mental. The former may give rise to very serious misunderstanding. Some physical defects pertain to the bony structure and sometimes militate against nutritional growth. We must set a definite standard by which we can separate the normal child from the abnormal. There are differences of degree and kind from the normal child up to the precocious and down to the worst dullard, and physically we also have all types. All such defects have some influence on the development of the child, and it seems to me that the medical aspect of school education must be worked out along this line by the medical profession. Now that this Section has taken up the subject, I hope that something will be done in a tangible way, so that the public can get a consensus of medical opinion.

DR. J. H. MCBRIDE, Pasadena, Cal.—Some years ago Dr. Porter, now professor of physiology in Harvard, made some very interesting investigations into the health of 35,000, I think, school children of St. Louis. He discussed one element of the problem under "The Physical Basis of Precocity and Dulness in Relation to Sex and Age." He found that the children who were taller and heavier were the brighter children; that the dull children were shorter and weighed less. Dr. Byers, a surgeon in the Navy and formerly at the Annapolis Academy, found that by special training he could make students grow taller than the average. He claimed to be able to add an inch to the height of a person between the years of 16 and 20. It is an important fact in the economy of child life that the physical development is directly related to the mental development. Other things being equal, the man who has well-drilled muscles and a thoroughly developed body will be a smarter man because of it. Much of the so-called overstudy of school children and the overwork of men is not properly overwork or overstudy. It is due to unhygienic living. If people would live as they ought, eat, sleep and exercise wisely, there is little danger of harm from any amount of work they can do. The worst fault of our public schools is the lack of gymnasiums and manual training. We need both badly. We have forgotten the body in our fussy anxiety about the mind. President Jordan of Stanford University has informed me that the students there improve in health during their stay in college. The physical life of the students is carefully attended to.

DR. R. C. MOORE, Omaha—Little children of 5 years and even younger are sent to the kindergarten, where for hours they are confined to the house, placed under restraint and curbed in their childish plays. This is all wrong. We can go to the dumb animals and learn a good lesson in this regard. The cat in her spare time plays with her kittens; not so much to amuse as to develop them. The same is true of birds. Let the children spend their time out of doors; let them play in the mud until they reach the age of 7 or 8. Then they will become better scholars and make more rapid progress than those who enter the race at an earlier age. I think the municipality owes to every child a good, common school education, and there the responsibility ceases. The high-school system is top-heavy, and it is there, I believe, that the greatest injury is done to the students. They pass through the earlier grades, even through the seventh and eighth, without much trouble, but when it comes to the high school the forcing process begins, and the constant effort to keep up in their studies proves detrimental to many students.

DR. ALBERT E. STERNE, Indianapolis—One important factor that has been overlooked is that of overcrowding, both in our cities and in our schools. It has been claimed that myopia is a cause of mental strain, and *vice versa*, that mental strain causes the myopia. We are losing sight of the fact that the school period is the growing period, or the evolutionary period, both physical and mental, and to my mind certain psychologic or neurotic manifestations are associated with that period. Even the healthy child has certain fancies. The out-and-out psychoses are not common in childhood. None of us see many cases of adolescent insanity; but during this peculiar period erratic or even erotic manifestations are not uncommon.

DR. DANIEL R. BROWER, Chicago—I trust we will go from here prepared to work along the lines specified. I am sure that I have, during the past few years, seen twice as many cases of insanity among adolescents as I formerly saw. A few years ago this matter was brought forcibly to my attention. I had on my clientele the president of the Chicago Board of Education, who was himself an athlete; we had numerous conversations on this subject, and he and I evolved this system, which for a time was put in practice with considerable success: Between each recitation, ten minutes were allowed for rest and exercise, which consisted of light gymnastics or play. Subsequently, objection was made to the plan, and with political changes it was discontinued entirely.

DR. D. L. WILKINSON, Montevallo, Ala.—I will report briefly the results of my investigation during six years of more than 2,000 cases. A necessity for this work arose in my observation in 1898 that at least one girl in every twenty-five in the Alabama Girls' Industrial School was compelled to abandon her work on account of ill health—I may say here that the number of girls who are compelled to abandon college work varies from 4 to at least 50 per cent. I began work along original lines, devising a ledger for the purpose, in which I kept a complete family and personal history of every matriculate. In Ledger 2 I recorded the physical condition at the beginning and close of each session. The former

information was ascertained by my assistant, a young lady, and the latter by the physical culture instructress. The trouble with our educators is that they demand the work of maturity where maturity does not exist. The curriculum is inflexible; pupils are considered as massed entities, no longer as individuals. The teacher endeavors to accomplish a definite amount of work in a limited amount of time, and strives that each succeeding class shall accomplish more than the preceding. My investigations corroborate findings elsewhere, especially those of Dr. Jane Kelley Sabine, Boston. The average age of the girls I examined was 17; the average weight, 113 pounds; the average height, 5 feet 2.1 inches; 75 per cent. suffered from amenorrhea, menorrhea or dysmenorrhea; including leucorrhea and ovarian neuralgia, 90 per cent. were sufferers; 75 per cent. suffered from tonsillitis; 20 per cent. from myopia, hypermetropia or astigmatism; 30 per cent. from constipation; 40 per cent. from headaches. One point Dr. Sabine brought out that the essayists have not touched on: Sixty per cent. of her 2,000 young ladies had to give up work from one to two days each month. My observations did not cover this point. Ten per cent. of our girls come to us with a direct consumptive heredity, i. e., one or both parents died from tuberculosis, or two or more near relatives; 33 1/3 per cent. come with a poor heredity, where one or both parents or two or more near relatives died from diseases which might be regarded as hereditary; five-sixths come with the history of one or more attacks of some severe acute trouble, such as lobar pneumonia, scarlet fever, diphtheria, chronic malarial poisoning, typhoid fever, etc. These points show the origin of troubles prior to college matriculation. I have fixed the average age of puberty in Alabama at the thirteenth to the fourteenth year, 102 girls more menstruating first at 13 than at 14. This would indicate most trouble in the educational system at or about the time when the girls are prepared for college. In the East, I believe that the severest strain is placed on young women before menstruation begins; in the South it is subsequent and therefore at a time when the bodily growth demands the blood of the body. The brain is approximately one-forty-fifth of the body weight, and demands practically one-seventh of the blood of the body. Forced education, therefore, at or subsequent to the time of puberty withdraws blood which is demanded by the growing uterus and adnexa, and results in an undeveloped uterus and an imperfect discharge of the uterine functions. This forced education, too, leads to flabby muscular development, nervous irritation and an increase in neurasthenia, chorea, hysteria, anemia, cardiopathies, and a total breakdown. Pupils in the school referred to work on an average, mentally, of twelve hours, but our school is better than many others, because every pupil is required to carry at least two industrial branches. Now, as to the remedy, educate the teachers to seeing the necessity of the pupils for more rest, interspersed with suitable exercise. Educate the pupils as to the importance of the subject, and in a few generations you will have the parents educated to the point that they will demand a rational plan of education for their children. In Alabama we hope soon to forward to all superintendents of schools and teachers in the state, through the State Board of Health, a circular calling attention to such defects as exist, and requesting the co-operation of the teaching profession in the removal of these difficulties. We are preparing to give special gymnastics in our school to those with developmental defects, and to limit their studies and regulate their habits. I propose to put a circular in each girl's hand, telling her what she may do to develop herself while in school, and what she should do if there is a tendency to any particular trouble. I call your attention to the work now being done in Boston, Chicago, Washington and elsewhere under many able men. I have a third article on this subject now in press, and will be glad to furnish a copy on application.

Dr. Wharton Sinkler, Philadelphia—In the majority of cases very little care is taken of children outside of school hours. The parents are usually occupied with their own affairs, and most of them are untrained in the proper bringing up of children, and so the latter have their own way most of the time. In our large northern cities, during the winter months, the days are so short that the children can not spend many hours out of doors, and must remain in badly lighted, badly ventilated rooms. Any one who sees many of these children at the neurology clinics will find that their home life is anything but what it should be. They are permitted to drink tea and coffee, even to excess; they are overfed with sweets and their time is not profitably employed. We should bear in mind that fault rests not only with teachers but with parents.

Dr. D. I. Wolfstein, Cincinnati—There is no particular danger to the growing child as the result of overwork. We need no better illustration of that than the methods of training children in Germany. A graduate of the ordinary German gymnasium course at 16 has received as complete and strenuous an education as a student in his first or second year at Harvard. To enable a German student to complete his service in the army in one year he must pass an exceedingly difficult examination, and when he presents himself for this examination he can not be regarded as a victim of nervous debility. The reason for this is that the Germans are firm believers in combining intellectual work with physical training. In their numerous *Turn-Vereins* the education of the muscles keeps pace with the education of the mind in the schools. The average country boy learns quicker than the city boy and makes more rapid progress in his studies because he has had the advantage of muscular training and plenty of outdoor exercise.

Dr. A. J. Pressey, Cleveland, Ohio—There is one individual who has not been censured by any of the speakers, and who I believe is responsible for a great many of the drawbacks of our public school system: He is the superintendent. He has usually obtained his position through political preferment, and feels that he must do something for the school, which usually consists in making some addition to the curriculum. Instead of making the work of the children lighter, he usually adds to it with the idea that this will add to his popularity. Another objection to the public school system is that the rules are too inflexible and ironclad. Both of my children were deprived of the benefits of graduating from our high school because they were not strong enough to endure the required amount of work in the prescribed time. If they could have taken a year or two longer to have performed the same labor they could have accomplished it without harm to themselves.

I do not think eyestrain is as much the fault of the school room as it is of the environment. In the city the eye does not get the freedom that it does in the country; there are too many brick walls in the way, which prevent us from using our eyes as God intended them to be used. I do not know whether that theory is correct, but I believe it has much to do with the fact that wearing glasses is very common among city children and comparatively infrequent among children in the country. I do not know how a remedy could be offered for this.

Dr. C. C. Hersman, Pittsburg, Pa.—If we all lived in the country the subject would probably not have arisen. Among savage races the survival of the fittest was the rule of life, but in civilized countries the weakling is taken care of and brought up. The appointment of medical school inspectors is a step in the right direction, but they usually owe their position to political influence and serve their masters rather than the public. The average kindergarten I regard as an abomination. Very young children are sent there to get them out of their parents' way, and the mental condition of the child is developed far ahead of the physical, if the child is inclined to be top-heavy. Such a method of training can only do injury. If I were the father of as many children as old Priam I would not send any of them to school before they were 7 or 8 years old. I have seen children who were not sent to school until they were 8 years old, and within three years they were up to and sometimes far in advance of those who had started at the age of 5 or 6.

Dr. E. T. Shelley, Atchison, Kan.—A great deal of harm that is attributed to school life should rightly be laid to

faulty home life. Parents need education as much as teachers. One element of harm, especially in our smaller cities, is the music lesson fad. After returning from school, worn out and nervous, the girl must take her music lesson. After she has attained a certain degree of proficiency the ambitious music teacher has a public recital where the younger pupils, in a fright and nervous strain, fumble over the keyboard of a piano to the evident delight of foolish and fatuous parents. Another real evil is, I believe, the system of inelastic grading prevalent in nearly all city schools, where young children of greatly varying mental capacity and development are forced into that unyielding mold called a school grade. Country schools are much less prone to this evil, and the result is that it is the usual thing, in my very limited observation, to find country children, from 8 to 12 years of age, from a half year to a year ahead of town children in their school work, notwithstanding the shorter school term of the country school. At all events, on moving to town they are admitted into relatively higher grades than town children of the same age occupy. Is this due to the fact that they have escaped the stunting effects of an inelastic school curriculum?

DR. J. H. MCBRIDE, Pasadena, Cal.—One of the worst features of our public schools is the forced inactivity of the pupils. It is not only injurious to health, but is absolutely deadening to the mind. There are two very interesting books on education that every physician and teacher should read. One is by Prof. William James, "Talks to Teachers on Psychology and Life Ideals." The other is by Prof. Hanford Henderson on "Education and the Larger Life." I wish a committee might be appointed to investigate the subject of the health of school children.

DR. H. T. PATRICK, Chicago—The average physician is shamefully neglectful of his duty in the instruction of parents and the guidance of children. He treats measles and other infantile ailments with enthusiasm and patience, or at least with submission, and has an insatiable appetite for fractures and operations, but when it comes to getting the child's parents into a corner and telling them what they must do and must not do, he puts on his hat instead and walks out of the house. He is not willing to risk the disfavor of his patients by telling them frankly what he thinks. The German system of mental and physical training is in some respects far superior to ours, but conditions of the two countries are not the same. I am convinced that in Germany they do not begin to live the strenuous life that we do, particularly as regards children and young people. The opportunities for advancement and attainment in this country are so great as to place a very tempting bait before every individual, and this has its influence on the education of children. Every young man who starts in business looks forward to becoming a Napoleon of finance, and every girl who gets into long dresses looks forward to being a brilliant figure in society or in whatever direction her ambition leads her. There is too little of the placid content that we see in Germany, and this has a great influence on the effects of our education. Charcot long ago said that children do not have neurasthenia, and this is true if the child is left to follow his or her inclinations. But children are not left alone; they are given a stiff curriculum in school and music lessons outside; they must take part in recitals; they must know something of French, German and Italian, paint a little and decorate china. They must do everything that their friends do, and do it all a little better. These accomplishments are not only tolerated, but even encouraged by the parents, and the teacher naturally tries to turn out the highest possible product. The greatest sin is committed by the medical man who neglects or purposely avoids his full duty in this matter.

DR. WILLIAM S. LINDSAY, Topeka—We should not attempt to correct all this by changing the present methods of the management of children. The overwork of the parents is shown in the condition of the children. I feel that we have something to do in looking after our own habits and method of living, in order that the coming generation may be better prepared for the strenuous conditions with which they will have to contend.

DR. F. W. LANGDON, Cincinnati—We once had in Cincinnati an old physician, somewhat eccentric, but very successful in his profession, and possessing good, sound common sense. His two daughters, at least one of whom was inclined to be neurotic, on returning from their select private school one day, informed their father that they were to have several new studies added to their curriculum. As they were already overburdened in this respect, the physician called on the preceptress and told her rather forcibly what he thought about it. "Well," she said, "you desire your daughter to have an education?" "Yes, Madame," he responded. "But I also desire her to have some legs and lungs and stomach." Every psychosis is preceded by a neurosis, and we should not wait for a psychosis to develop or threaten before we adopt our preventive measures. The average new school superintendent, who is brought to the city or town to take charge of the schools, thinks he must add something to the curriculum. He never thinks of taking anything off. The ordinary school curriculum is top-heavy and too extensive and as a consequence the hours of study are too long. There is too much memorizing and not enough teaching. The student is not taught to think, but to cram, and that is the fault of the teacher. The remedies I have to suggest are these: 1. Reduce the curriculum in regard to the special, abstract studies. 2. Shorten the hours. 3. Increase the number of teachers in proportion to the number of pupils. A teacher can not take care of 50, 75 or 100 pupils and do justice to them all. We must adapt the curriculum and hours to the ability of the average pupil, and not to that of the highest examples of intellectual development. No one is so quick to listen to the views of public opinion as the politician, and if he does not act as we think he should in this matter, it is because we have been a little tardy in expressing our opinions.

DR. F. SAVARY PEARCE, Philadelphia—The physician too often limits himself to actual medical treatment, and rarely takes the time to give any instructions to parents regarding the value of preventive or hygienic measures. He does not feel called on to take any active part in the discussion of these subjects at public meetings; a very important matter. The consensus of opinion of those who have taken part in this discussion has been clearly enough that the educational methods in this country are open to great improvement, and I trust that some effective measures will be taken by this Section so that the views held can be placed before the public in a brief and succinct form. We hope to be students to our dying day, but the bud must not be neglected.

DR. WILLIAM J. HERDMAN, Ann Arbor, Mich.—This is a topic that has been in the heart of every earnest physician in this country. This is the age of preventive medicine. Our duty is not alone to those who are here, but to those who are to be here in the future. We as neurologists, more than any other class of physicians, fully recognize that a large percentage of the abnormalities with which we have to deal can not be helped by to-day's methods. In many of these cases we can simply give temporary relief, but we know that if we do our full duty to-day we must strive to stem this constant current of disease. The other day we listened to Dr. Crother's excellent paper on the pathologic effects of alcohol. Each one of us, in his daily work, sees the injurious effects of alcoholic stimulants. The neurologist recognizes the utter hopelessness of dealing with chronic alcoholism. We know that it is one of the most fertile causes of disease; that it is filling our almshouses, insane asylums and prisons, and daily increasing the number of feeble-minded, and still, what have we done, as physicians, to declare that fact to the public? We as physicians also know that the prevalence of syphilis is responsible for a very large percentage of diseases that come before us every day. How can you help a case of tabes in its third stage? We must go further back and try to reach the root of the evil. Have we performed our full duty to the public or to posterity if we fail to make ourselves heard on these subjects? I believe we do not sufficiently recognize the fact that we are fulfilling a very small share of our duties in connection with preventive medicine. We all recognize the

fact that education is an important factor in the future welfare of mankind, and we also recognize that neuroses and psychoses may result from faulty school methods, but we are not yet in a position to take definite action regarding the matter. We have not collated the knowledge we have on the subject, and we are not in a position to say that this or that is the best method to adopt. That is something that must be done deliberately and scientifically, and our conclusions must rest on a broad, sound foundation.

THE VOLUNTARY AND INVOLUNTARY BRAIN CENTERS CONTROLLING THE OCULAR MUSCLES.*

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There are two groups of brain centers for controlling the movements of the eyes. One group is found in the cortex, and consists of nine distinct centers. In this group are two more centers, making eleven in all, but these two are connected with muscles within the eye, viz.: the Müller muscle in the ciliary body and the sphincter of the iris, and will not be specifically studied in this paper. The second group is located at the base of the brain, and consists of twelve distinct centers. In this group are four more centers, making sixteen in all, but these four are connected with the muscles within the globe already mentioned, hence they will be passed without further mention.

THE CORTICAL GROUP.

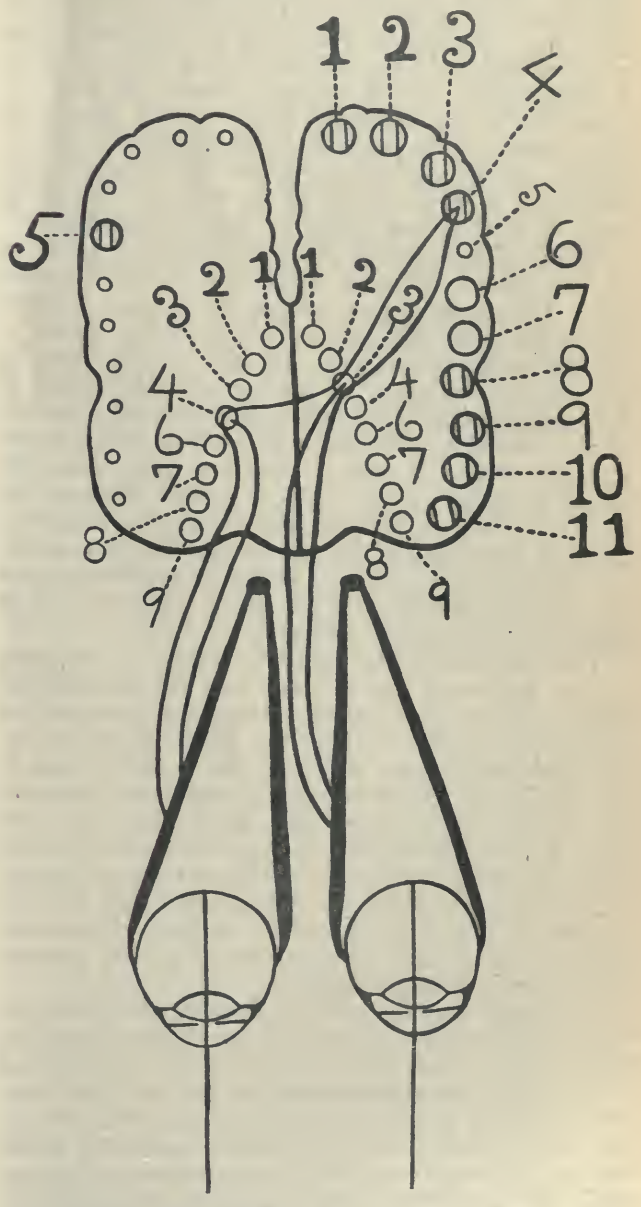
Experimentation and pathology both have given evidence of the existence of the cortical centers. Experimenters on the lower animals have not yet found all the cortical centers to be studied in this paper; nor have any of these centers been very definitely located. These experiments teach us that some of these centers are in the anterior part of the motor area, not far from the outer extremity of the crucial sulcus.[1] Future experimenters, doubtless, will be able to find them all and give to each an exact location.

An irritative disease of the cortex, in the motor area, has caused the two eyes to turn spasmodically toward the opposite side; and destructive disease in the same part has caused a paralytic turning of the two eyes toward the corresponding side. Thus has pathology located both the fourth and fifth conjugate centers in the cortex.

Our chief evidence as to the existence of the cortical centers is physiology—the action of the muscles in moving the eyes. Each of the nine cortical centers is connected with two muscles, one belonging to each eye, thus showing that some of the fibers of each of the motor nerves cross over to the opposite side of the brain. This decussation, it must be confessed, has not yet been fully demonstrated anatomically; but this demonstration will come soon. Cunningham, in his anatomy, teaches more about the decussation of fibers of the motor nerves of the eyes than any one else whom I have consulted, but his interpretation of the crossing is erroneous.

Since the arrangement and exact location of the cortical centers controlling the ocular muscles are unknown, nothing but a schematic representation of them can be made in a cut. The schematic plan is also followed in the cut, in the attempt to show the basal centers, notwithstanding the arrangement and location of these are fairly well understood.

The centers controlling the ocular muscles, whether cortical or basal, are under the mastery of the mind. Volition presides over all the cortical centers that are connected with the recti muscles and over two of the centers connected with the obliques, while the other two centers connected with the obliques are presided over by the fusion faculty of the mind. The basal centers



are all under the mastery of the fusion faculty. Those centers under the control of volition are represented in the cut by circles crossed with parallel lines, while those under the control of the fusion faculty are represented by circles only. All these centers are numbered arbitrarily, but in such a way as to lead to as little confusion as possible. The cortical centers are numbered from 1 to 9 on each side of the brain; but, since only half of these centers are needed for effecting the conjugate movements of the eyes, the other half are supposed to be inactive. The active nine, eight on one side and one on the other, are represented by large circles, while

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. See Stewart's Physiology, 4th ed., p. 473.

the inactive nine are represented by small circles. The basal centers on each side of the median plane are all represented as equal in size, for the reason that each must stand ready for action whenever an emergency arises.

The first cortical center is connected with two superior recti by means of two bundles of fibers, both bundles passing through the first basal center on the same side, the one to be distributed to the superior rectus of the corresponding eye, while the other bundle of fibers crosses to the first basal center on the opposite side, thence on to be distributed to the superior rectus of the other eye. Throughout their entire course these fibers are insulated, even in that part which passes through a basal center. When volition unlocks the first conjugate center the discharged neuricity goes only to the two superior recti, and in equal quantities. If the tonicity of the one muscle equals the tonicity of the other, the upward rotation of the one eye will be the same in rapidity and extent as that of the other.

The second conjugate center is connected by means of two bundles of nerve fibers with the two inferior recti. Both bundles pass through the second basal center on the same side, the one to the inferior rectus of the corresponding eye, while the other bundle crosses to the second basal center on the opposite side, thence to the inferior rectus of the other eye. What has been said of the insulation of the nerve fibers going from the first conjugate center is true of the fibers going from the second conjugate center. When volition liberates the neuricity in the second conjugate center, it is conducted in equal quantities, by the two bundles of fibers, to the two inferior recti. If the tonicity of these muscles is the same, the two eyes will be rotated downward equally rapidly and to the same extent.

The third conjugate center is connected by means of two bundles of nerve fibers with the two internal recti, both bundles of fibers passing through the third basal center on the same side, the one to the internus of the corresponding eye, while the other bundle crosses to the third basal center on the opposite side, thence to the internus of the other eye. These fibers are, likewise, perfectly insulated. To the liberated and transmitted neuricity the two interni always respond equally in time and extent, for the tonicity of the one internus is practically always equal to the tonicity of the other internus. The third conjugate center is very properly called the convergence center.

The fourth conjugate center directs and controls the right sweep of the eyes, and is therefore connected by means of two bundles of nerve fibers with the externus of the right eye and internus of the left eye. Both bundles of fibers from the fourth conjugate center pass through the third basal center on the same side, thence one bundle goes to the internus of the corresponding eye, while the other bundle crosses to the fourth basal center on the opposite side, thence to the externus of the other eye. This arrangement of the connecting fibers is shown in the cut, and will be referred to again. When volition liberates the neuricity in this center, it is conducted by the two bundles of fibers, in equal quantities, to the two muscles, and if the tonicity of one muscle is equal to the tonicity of the other, the two eyes will move to the right in perfect harmony.

The fifth conjugate center is connected by two bundles of nerve fibers with the externus of the left eye and internus of the right. As shown in the cut, the active fifth center is probably not on the same side of the brain as the other active centers. The two bundles of fibers from the fifth conjugate center pass through the third basal center on the same side, thence the one bundle goes to the internus of the corresponding eye, while the other bundle crosses to the fourth basal center on the opposite side, thence to the externus of the other eye. In effecting the left sweep of the eyes, these muscles, under normal conditions, will respond in perfect harmony to the neuricity set free by the fifth conjugate center.

The five conjugate centers thus far studied are alike in several respects: (1) They are each under the control of volition; (2) each is connected with two muscles, the one belonging to the one eye and the other belonging to the other eye, and the connecting fibers are insulated everywhere; (3) the neuricity liberated by any one center goes in equal quantities to each of the two muscles; (4) they are all connected with the recti muscles; (5) they act in the same way whether there is orthophoria or heterophoria; in other words, these conjugate centers under the control of volition never concern themselves with the correction of heterophoria in any of its forms.

The sixth and seventh conjugate centers are under the control of the fusion faculty of the mind, hence these centers in the cut are not crossed by parallel lines as are the volitional centers.

The sixth conjugate center is connected by two bundles of nerve fibers with the two superior obliques, both bundles going through the sixth basal center of the same side, the one to the superior oblique of the corresponding eye, while the other bundle crosses to the sixth basal center on the opposite side, thence to the superior oblique of the other eye. This center acts in association with the second conjugate center. When the eyes are rotated downward by the second conjugate center, the vertical axes would be made to diverge above, a condition that would cause diplopia. The fusion faculty prevents this diplopia by exciting the sixth conjugate center, the neuricity from which is conducted in equal quantities to the superior obliques. These muscles responding prevent the divergence of the vertical axes, thus maintaining binocular vision; and they also help the inferior recti to rotate the eyes downward.

The seventh conjugate center is connected by two bundles of nerve fibers with the two inferior obliques. The two bundles of fibers pass through the seventh basal center on the same side, the one bundle to the inferior oblique of the corresponding eye, while the other bundle of fibers crosses to the seventh basal center on the opposite side, thence to the inferior oblique of the other eye. This center acts in association with the first conjugate center. When the eyes are rotated upward by the first conjugate center sending its neuricity to the two superior recti, the vertical axes would be made to converge above, a condition that would cause diplopia. To prevent this torsioning and its consequent diplopia, the fusion faculty causes the seventh conjugate center to discharge its neuricity, which is conducted in equal quantities to the two inferior obliques. These muscles responding prevent the torsioning of the eyes, thus maintaining binocular single vision; and they also help the superior recti to elevate the eyes.

The sixth and seventh conjugate centers not only act in association with the second and first conjugate centers, respectively, but, being under the mastery of the fusion faculty, they must also correct a cyclophoria which is equal in the two eyes, and must produce compensating cyclotropia in cases of oblique astigmatism

with equal, but opposite, distortion of the images in the two eyes.

Oblique rotations of the eyes can not be accomplished without creating a tendency on the part of both eyes to tort, but always to the same extent and in the same direction. If this torsioning occurred there would be no diplopia, for the vertical axes of the eyes would still be parallel, but there would be an apparent wheel-like motion of all objects in space, in the direction opposite to the torsioning. To prevent this torsioning in oblique rotations, there are two more conjugate centers, the eighth and ninth, certainly not under the control of the fusion faculty, but probably under the control of volition in the interest of visual judgments.

The eighth conjugate center is connected by means of two bundles of nerve fibers with the superior oblique of the right eye, and the inferior oblique of the left eye. The two bundles pass through the seventh basal center on the same side, thence one bundle goes to the inferior oblique of the corresponding eye, while the other bundle crosses to the sixth basal center on the opposite side, thence to the right superior oblique. This center is excited into action only when the rotation is obliquely up and to the right, which is accomplished by the associated action of the first and fourth conjugate centers, or down and to the left, which is effected by the associated action of the second and fifth conjugate centers. In either case the torsioning tendency of both eyes would be to the right. In these rotations the eighth conjugate center sends neuricity in equal quantities to the right superior oblique and the left inferior oblique, the contractions of which maintain the parallelism between the vertical axes and the median plane of the head, thus preventing the wheel-like motion that objects otherwise would have.

The ninth conjugate center is connected by means of two bundles of nerve fibers with the superior oblique of the left eye and the inferior oblique of the right eye. These two bundles from the ninth center pass through the sixth basal center on the same side, the one bundle to the left superior oblique, while the other bundle crosses to the seventh basal center on the opposite side to the right inferior oblique. This center is excited into action only when the two eyes are rotated obliquely up and to the left, which is accomplished by the associated action of the first and fifth conjugate centers, or down and to the right, which is effected by the associated action of the second and fourth conjugate centers. In either case the torsioning tendency would be to the left. To prevent the torsioning, and consequent wheel-like motion of objects, the ninth conjugate center calls into action the left superior oblique and the right inferior oblique, so as to keep the vertical axes parallel with the median plane of the head.

Like the five centers connected with the recti muscles, these two centers connected with the obliques perform the same kind of work whether there is orthophoria or heterophoria. No attempt is ever made by these two centers to correct any form of heterophoria.

In lateral rotation of the eyes only one conjugate center is excited; in vertical rotations there is associated action of two conjugate centers; in all oblique rotations there is associated action of three conjugate centers. During waking hours, consciously or unconsciously the point of view is changed frequently, and thus brief periods of rest come to all conjugate centers. It is doubtful if these centers ever excite nervous symptoms, whether the eyes be orthophoric or heterophoric. It is true, however, that fixedness of gaze for a prolonged period will cause trouble.

BASAL CENTERS.

The basal centers differ in many respects from the cortical centers. There is one basal center for each ocular muscle, and each center can act only on one muscle. The basal centers are all under the control of the fusion faculty of the mind, and none of them are ever called on to discharge neuricity unless a condition exists that would cause diplopia. In emmetropia and orthophoria the basal centers never have any work to do, and, therefore, could never cause symptoms. In ametropia there is always an associated pseudoheterophoria for the correction of which there would be unremitting excitation of one or more of the basal centers. In many of these cases the pseudoheterophoria is more serious than the causative ametropia, but the correction of the latter means the cure of the former, provided there is no underlying intrinsic heterophoria. When ametropia is complicated with intrinsic heterophoria, what to do for the former becomes a question not to be answered in this paper.

Badly adjusted spheres or cylinders always give a tendency toward diplopia, for the correction of which one or more centers under the control of the fusion faculty must be continuously active, symptoms more or less severe always resulting. Prisms excite the basal centers only.

The final object of this paper is the study of the basal centers in their relationship to intrinsic heterophoria. In intrinsic heterophoria, the two muscles of a pair have not the same tonicity, and diplopia would always result if it were not for the existence of the basal centers; for, as already shown, at least seven of the nine cortical centers have nothing to do with the correcting of any form of heterophoria.

The basal centers connected with the ocular muscles are twelve in number, and all are found in the back part of the floor of the third vertical, in the floor of the aqueduct of Sylvius, and in the anterior part of the floor of the fourth vertical, six lying on either side of the median plane. Cunningham has shown that the fibers cross from the nucleus of the sixth nerve on one side to the nucleus of the third nerve connected with the internus, on the other side (from the fourth basal center to the opposite third basal center). His interpretation of this crossing was that it associated these basal centers in the right and left sweep of the eyes. It is probable that the partial decussation of the fibers of all the motor nerves takes place between the basal centers, but not to unite them in action. The fibers conducting neuricity from a basal center do not cross. These fibers begin in a basal center and end in a muscle on the same side. The crossing fibers simply pass through the basal centers on their way to the cortical or conjugate centers, and doubtless are insulated everywhere.

The basal centers will be spoken of as right and left, and are numbered as follows: The two connected with the two superior recti are right first and left first; the two for the inferior recti are right second and left second; the two for the interni are right third and left third; the two for the externi are the right fourth and the left fourth; the two for the superior obliques are the right sixth and the left sixth, and the two for the inferior obliques are the right seventh and the left seventh. As will be seen, these basal centers are numbered in harmony with the cortical or conjugate centers.

In vertical orthophoria the right and left first centers and the right and left second centers are never called into action for the reason that, in this condition, there is never any tendency to vertical diplopia. In right hyperphoria and left cataphoria, the quantity being small or great, with the object in the horizontal plane, the right second center and the left first center are constantly supplying neuricity to their respective muscles, under the guiding influence of the fusion faculty, so as to prevent diplopia.

In lateral orthophoria, the right and left third centers and the right and left fourth centers are in repose at all times, for in such a condition there is no tendency to lateral diplopia. In esophoria, when the object is in the vertical plane, the right and left fourth centers are in a constant state of activity to prevent diplopia that would result if the visual axes were allowed to cross between the object and observer. In exophoria, when the object is in the vertical plane, the right and left third centers are continually supplying neuricity to their respective interni so as to prevent the diplopia that would result if the visual axes were allowed to intersect beyond the object.

In orthophoria of the obliques, and when there is no oblique astigmatism, the right and left sixth and seventh basal centers never have anything to do. Plus cyclophoria equal in the two eyes is doubtless corrected by the sixth conjugate center, but when the right superior oblique is weaker than the left, the work of the sixth conjugate center is supplemented by excitation of the right sixth basal center, the weaker muscle needing a greater quantity of neuricity than is supplied by the conjugate center. Minus cyclophoria equal in the two eyes is doubtless corrected by the seventh conjugate center, but if the left inferior oblique is weaker than the right, the left seventh basal center must furnish additional neuricity to this weaker muscle.

The study of the verting of heterophoric eyes is not without interest. If there is right hyperphoria, and the eyes are to be rotated upward, the second conjugate center and the right and left second basal centers withhold all nerve influence from the two inferior recti; but the first conjugate center calls into action the two superior recti, and there is associated action of the seventh conjugate center. The tonicity of the superior rectus of the right eye being greater than that of the left, the former, under the influence of a given quantity of neuricity, would rotate its eye more rapidly than the left would be rotated. To prevent the diplopia that would result the fusion faculty causes the left first basal center to send additional neuricity to the left (the weaker) superior rectus, and thus the two eyes are made to rotate upward in perfect harmony. If the same eyes are to be rotated downward, the first conjugate and the right and left first basal centers become inactive, while the second conjugate center, and, in association, the sixth conjugate center, send neuricity to their respective muscles and both eyes are rotated downward; but since the tonicity of the left inferior rectus is greater than that of the right, the left eye would rotate more rapidly. To prevent the diplopia that would result, the fusion faculty causes the right second basal center to send additional neuricity to the right (weaker) inferior rectus, so that the two eyes may rotate in harmony.

The nerve fiber connections between the cortical and basal centers and the muscles that effect the right sweep of the eyes, are shown in the cut. All neuricity is withheld from the left externus and right internus, when the right rotation is to be effected. In exophoria, the fourth conjugate center, under the guidance of volition, will send neuricity down the two bundles of nerve fibers, in equal quantities, to the right externus and the left internus; but since the tonicity of the former is greater than the tonicity of the latter, the right eye would rotate more rapidly than the left, and there would be diplopia. The fusion faculty being on its guard, calls into action the left third basal center, the neuricity from which supplements the neuricity sent from the fourth conjugate center to the left internus, and thus the left eye is made to move in perfect harmony with the right, and there is no diplopia. If these eyes were esophoric, the right eye would move more slowly than the left, under the stimulus of the fourth conjugate center, and there would be diplopia. To prevent this the right fourth basal center must send supplemental neuricity to the weak right externus so as to make it act in harmony with the strong left internus.

In the same manner as above, every possible rotation of heterophoric eyes could be studied, showing exactly the basal centers that would be called into action to prevent diplopia. But the further study would only do what has already been done; that is, establish the fact that the brain centers under the control of volition have nothing to do with the correction of heterophoria, but that this work is accomplished by those centers under the control of the fusion faculty of the mind.

From the foregoing study of the voluntary and involuntary brain centers controlling the ocular muscles, the logical conclusion concerning heterophoric conditions is as follows: These errors should be corrected by non-surgical or surgical means, so as to give to those brain centers which are under the control of the fusion faculty that rest from all excitation which they have in orthophoria. This can be done only by making the tonicity of the one muscle equal to the tonicity of the other muscle of any pair.

DISCUSSION.

DR. EDWARD JACKSON, Denver—Is not the scheme rendered more elaborate than is necessary by supposing a series of centers that are to act only in emergencies? Would not a single center, able to vary its action, be sufficient?

DR. G. C. SAVAGE—I do not want any one to overlook the experiments that have been done on animals, and what the pathology has shown. Experimenters and observers have much to do yet. I would recommend the purchase of Cunningham's work on anatomy, in which the results of careful dissections have been recorded. It is possible to study every possible sweep of the eye and every possible form of heterophoria in the line of my paper.

The Unselfishness of Physicians.—There is a disposition often to scoff at the code of ethics by which doctors of medicine are governed—at the rule which brands as a quack any practitioner who keeps for his own exclusive use and profit any discovery he may make of a curative agent. Yet there is no other profession which gives more for nothing to the public, and whose giving in that respect is absolutely without selfish motive. This is illustrated by a recent statement to the effect that the revenues of the medical profession in recent years have practically been cut in two by the hygienic reforms which have been brought about by the efforts of the doctors alone. That statement is well within the realm of truth. Medical science is constantly striving to make it possible for the human race to get along with less medical treatment. Not only are the efforts of investigators directed to the discovery of new and more effective remedies for disease, but to discover means of preventing the spread and even the inception of disease. Broadly speaking, the doctors are working continually to deprive themselves of occupation and revenue.—*Cleveland Leader.*

RETROVERSION OF THE UTERUS.

A CLINICAL STUDY OF THE COMPLICATIONS, SYMPTOMS AND TREATMENT.*

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The writer has found 112 recorded cases of retroversion of the uterus examined by him in his office practice from June 10, 1900, to Jan. 9, 1903. An accurate and fairly comprehensive record of these cases has been kept in his case book. Such essential points as were omitted in the original entry have been looked up and duly entered.

A clinical study of these records was begun with the hope that the findings might be helpful in furnishing the writer with some positive indications for treatment of future cases. He has found the study profitable and herewith submits his findings, together with such remarks and conclusions as present themselves to him.

Unfortunately, forty-three of the 112 cases whose histories are recorded were seen by the writer but once or twice, so he can say nothing regarding their subsequent course. Fifty-six cases in all were treated by the writer. A brief outline of the histories of these cases is included in this paper. The whole number (112) were tabulated and each case studied in detail. But eight cases were found in which retroversion alone existed and in six cases only in which a single complication was endometritis; in other words, in 85 per cent. of cases retroversion was but one of the three or more pathologic conditions present in each case. In many instances other lesions present were of more grave import than was the retroversion, yet, inasmuch as retroversion was present in every instance, viz., in 112 cases, while the other most frequent lesion was present only forty-eight times, it is fair to treat other lesions as complications of retroversion. The following complications were found to be present, viz.:

Prolapsus of one or both ovaries	48 cases.
Endometritis	32 cases.
Laceration of the cervix uteri	27 cases.
Prolapsus of the uterus	17 cases.
Adhesions of the uterus or ovaries	15 cases.
Laceration of the perineum	8 cases.
Movable kidney	8 cases.
Chronic inflammation of the ovaries without displacement	9 cases.

There were a few cases in which the following pathologic lesions were present: Retroflexion, chronic appendicitis, hyperplasia, salpingitis, cystitis, colitis, rectocele and cystocele. Relaxation of the abdominal walls was frequently encountered, but not accurately recorded.

We believe our records do not show truly the frequency of retroflexion as a complication. I hope to be able at some future time to say something more definite on this subject. I believe, too, the records should have been more explicit in stating other morbid conditions found in the displaced ovaries.

We all know the chronically prolapsed ovary is frequently also a chronically inflamed ovary, and this fact must be taken into the reckoning in the treatment of all cases of retroversion of the uterus with prolapsed ovary.

Regarding prolapsus of the ovary, the following findings were noted, viz.:

There was prolapsus in the right ovary in	17 cases.
Prolapsus of the left ovary in	12 cases.
Prolapsus of both ovaries in	9 cases.
Prolapsus of one ovary, side not stated, in	10 cases.

In 42.7 per cent. of cases of retroversion of the uterus there is prolapsus of one or both ovaries. In the list sixty-six women had borne children. Of these, thirty-four, or 51 per cent., had prolapsus of one or both ovaries, while of the forty-six women who had not borne children there were 14, or 30 per cent., who had prolapsus of one or both ovaries. It is thus seen that child-bearing predisposes to retroversion with prolapsus of the ovary.

The next most frequent complication was laceration of the cervix uteri, which occurred in twenty-seven cases (24.1 per cent.) and which, when present, was frequently associated with endometritis and subinvolution of the uterus. In every case but one of laceration of the cervix there are other lesions also complicating the retroversion.

There was prolapsus of the right kidney in seven cases and of both kidneys in one, the eighth case. Not infrequently a pendulous abdomen and general enteroptosis were also found associated here. It is surprising to find so few cases of laceration of the perineum recorded, yet I am convinced that my observations were accurate on this point.

There are recorded seventeen cases of prolapsus of the uterus. In most instances the prolapsus of the uterus was of the first degree only, and none of extreme prolapsus. This displacement seemed to exercise very little influence in modifying the symptoms produced by the other complications.

Adhesions of the uterus were noted in fifteen cases. For the most part these adhesions were slight, but when present, except in the three acute cases, they were considered as indications for operative intervention. Gentle massage and manipulation of the uterus followed by tampons was found beneficial in two cases. It must be remembered in this connection that these cases occurred in private practice and among well-to-do and wealthy people, so there were few cases of previous gonorrheal infection. The writer's experience in free dispensary and charity hospital practice is quite different. There he finds a much larger per cent. of inflammatory cases, both acute and chronic, due to gonorrheal infection or infection following miscarriage or abortion.

A most interesting study is that of the symptoms present. Backache and bearing down in pelvis is the chief complaint in uncomplicated retroversion, being found present in seven cases, while painful menstruation occurred in three cases only.

A somewhat different train of symptoms appears when the retroversion is accompanied by endometritis. In this class it is found that profuse and painful menstruation, burning through the uterus, marked nervousness and soreness through the uterus and general weakness are the chief symptoms. There was also backache in the majority of cases.

If we study the cases collectively we find pain as the one symptom which is almost universally present in this disease with such a variety of complications. It is recorded as being present in 83, or 74 per cent., of cases. This statement of pain includes painful menstruation in forty-one (36 per cent.) cases; backache, forty (45 per cent.) cases; pain in the inguinal regions and head, and in inflamed and prolapsed ovary, and often pain extending down the limb. In the long and varied train of symptoms recorded appear profuse menstruation, gastric disorders, headache, distressing nervousness, wake-

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fulness and general weakness. All the women in the complicated cases were invalids in a greater or less degree.

TREATMENT OF CASES.

Of these 112 cases, 56 were under observation and treatment sufficiently long to enable me to speak with positiveness regarding results. A brief history of each case is presented, excepting the five cases in which there were neoplasms causing the displacements. There were two of ovarian tumors and three uterine fibroma. These were operated on, the tumors removed and the displacements cured. The uterus was removed by the supravaginal method in the fibroid tumor cases and in the ovarian tumor cases the retroversion and prolapsus were found cured on the patient's recovery from the operation.

Thirty-five cases were treated by non-operative methods. By "non-operative methods," as employed here, we mean posture, tampons, pessary, topical applications and internal medicines. In a few of the cases a curettage was done for the cure of endometritis, as, for instance, in Group 1, Case 12, in which there was marked endometritis and erosion, a curettage was done and a pessary employed for one and a half years. The patient was cured.

In some instances topical applications were made to the interior of the uterus for the cure of the endometritis, with successful results, as in Case 61, Group 1.

In one instance curettage, trachelorrhaphy and perineorrhaphy were done as in Case 64, Group 1. Here rest in bed and postures following the operation resulted in a cure of the patient. This case is included among non-operative cases.

The internal medicines employed were of more than incidental value in assisting in bringing about cure and relief. They consisted of laxatives when needed, cascara and rhubarb being preferred in cases of obstinate constipation. Occasional doses of salines were used in all recent cases and when there were evidences of chronic pelvic congestion. Hydrochloric acid and nux vomica and a carefully regulated diet were chiefly relied on in gastric disorders; bitter tonics and iron in suitable cases were prescribed.

Sometimes, when there was a large, tender uterus and prolapsed ovary, rest in bed with hot douches, an occasional saline, bitter tonics, general massage, passive movements and the knee-chest position were all employed, and brought to the patient great benefits. These cases are listed in the group as being benefited. They were not cured, but the patients were rescued from invalidism and were enabled to again take up and enjoy the duties of life.

The cases treated are divided into groups, a very brief outline history of each case given, with results and with brief remarks under each group. For the purpose of aiding those who care to study these cases, this will be found a convenient arrangement. It has been a laborious task for the writer to gather these histories and results, and to properly arrange and group them; but he has in the study incident to the work found himself abundantly rewarded.

The word cure here is applied in a positive sense in relation to the retroversion, but in a somewhat relative sense in reference to the complications; for instance, a case reported cured was well of the displacement at the end of the treatment and at the time of subsequent examination, and so were the complications immediately associated with or dependent on the displacement; whereas complications not so immediately associated with the displacement were not cured, as, for instance, if the patient was well of all diseases except cystitis, or colitis, she was reported as cured.

When benefits result from the treatment, the extent of the benefit is indicated. It must be evident to any one familiar with the numerous abnormal conditions we are considering under the head of retroversion of the uterus that the various morbid manifestations we call symptoms have developed gradually and have made, if they have existed long, a deep and more or less lasting impression on the system and life of the patient. I have already stated that pain is the most constant symptom, and my experience in treating these and many other cases has taught me that it is the most persistent. The three symptoms most prone to persist are painful menstruation, pain in the inguinal region and nervousness. So frequently do these symptoms remain after all other evidences of disease of the structures under consideration have disappeared that we are compelled to acknowledge that the term cure must be employed in a restricted sense. A woman who is found an invalid, and so far restored to health that she is able to again take up the duties of her position and discharge them with alacrity without suffering more than an occasional attack of pain, discomfort or nervousness, may deem herself cured. Such good results are often effected in treating retroversion of the uterus with its complications both by operative and non-operative treatment.

GROUP I.—TREATED WITH TAMPONS OR PESSARY, INTERNAL MEDICINES AND POSTURE. CURED.

Case 7.—Miss A., aged 21. Retroversion. No complications. Overworked schoolgirl. Backache. Painful menstruation. Displacement of two or three years' standing. Rest. Internal medication. Pessary. Cure of displacement in one year. The symptoms disappeared much earlier.

Case 14.—Miss B., aged 21. Retroversion. No complications. Backache. Painful menstruation. Pessary one year. Displacement cured. Symptoms but slight.

Case 54.—Mrs. C. Married two months. Retroversion. No complications. Displacement of some months' standing. Slight cystitis. Tampons, then pessary four months. Cured.

Case 12.—Miss D., aged 28. Retroversion. Slight prolapsus, endometritis and erosion. Curettement and pessary one and a half years. Cured.

Case 61.—Miss E., aged 24. Retroversion. Endometritis, erosion of cervix. Gradual dilatation of cervical canal. Topical applications. Cured endometritis. Pessary worn one year. Displacement cured.

Case 73.—Mrs. F., aged 30. No children. Retroversion, slight. Pelvic congestion. Recent case. Cathartics, restricted diet, internal medicines. Tampons. Cure.

Case 100.—Mrs. G., aged 30. One child seven months old. Retroversion. Subinvolution. Ovarian congestion. Cathartics, internal medicines. Tampons. Cure.

Case 64.—Mrs. H., aged 48. Seven children. Retroversion, first degree. Endometritis, laceration of the cervix and perineum. Curettement, trachelorrhaphy, perineorrhaphy. Rest in bed, posture. Cured.

SUMMARY—EIGHT CASES.

Pessary	5 cases.
Tampons	2 cases.
Plastic operation and rest and posture	1 case.

Of the number cured, it will be observed that they were all, except one (Case 64), young women, and none of the complications relates to injuries to the uterus or disease of the ovaries, except that one of them suffered ovarian congestion and one of laceration of the cervix. This is a most instructive series. It will be observed, too, that an effort was made to cure the endometritis by topical applications and two by curettage, and that the benefit of the knee-chest position was secured.

The pessaries employed were the Albert Smith retroversion, the Thomas-Smith retroversion or the Hodges closed bar retroversion pessary. The patient was placed in the knee-chest position or the exaggerated Sims position, with the head low and the body on the inclined plane. The uterus was then placed in its normal position by finger pressure or by a cotton probang carried behind the uterus and pressed forward and upward. In some instances these manipulations were not efficient, and then recourse was had to the Elliott or Sims repositor. If we were still unsuccessful, we knew we had to deal with adhesions and desisted from further efforts at replacement. Such cases are best treated by operative measures.

The fitting of the pessary is of great importance. The instrument should be neither too long or too short, too narrow or too wide. As a rule, a digital examination will enable one to make a close estimate of the size of the instrument required. After the introduction of the pessary its efficiency should be tested in many ways, as, for instance, by allowing the patient to walk up and down a flight of stairs or step on a chair and down again and then be examined to determine if it is in proper position and is yielding the proper support. If it does not meet all the requirements it should be replaced by one that does. In some instances no pessary will be retained or give the proper support. In such cases, as a rule, tampons, no matter how long employed, will be of little permanent value.

GROUP II.—RETROVERSION TREATED BY TAMPONS. BENEFITED.

CASE 23.—Mrs. A., aged 35. No children. Retroversion, endometritis and slight adhesions. Had pus tube removed some months ago. Tampons and treatment of the erosion. Markedly improved.

CASE 37.—Mrs. B., aged 46. Three children. Recent pelvic inflammation. Retroversion, first degree. Rest, internal treatment and tampons. Marked improvement.

CASE 49.—Mrs. C., aged 56. Three children. Retroversion, senile vaginitis, laceration of cervix. Past menopause. General and local treatment, tampons. Symptomatic cure.

CASE 53.—Mrs. D., aged 35. Two children. Retroversion, laceration of the cervix uteri and laceration of the perineum, slight. Left ovary congested. Tonics, rest, tampons. Improved.

CASE 71.—Mrs. E., aged 24. No children. Retroversion, endometritis and prolapsus of one ovary. Not many symptoms. Rest, posture and internal medication. Improved.

CASE 80.—Mrs. F., aged 39. Four children. Retroversion. little endometritis, prolapsus of both ovaries, dilated colon. Replaced uterus, applied tampons, colonic irrigation. Much improved after one month's treatment.

CASE 93.—Mrs. F., aged 22. No children. Retroversion, prolapsus of uterus and both ovaries. Has had pelvic inflammation. Tonics, alteratives, laxatives and tampons. After three months' treatment much improved. (Recent case.)

CASE 96.—Mrs. G., aged 34. Two children. Extreme retroversion, prolapsus of right ovary, a chronic invalid. Rejected operation. Rest, posture, internal medicines. Tampons. Greatly benefited after three months' treatment.

Three cases treated by this means (Cases 37, 53 and 93) were recent. The benefit of the treatment in these cases was most marked, and was in all probability quite as much due to the rest and internal medication as to the use of the tampons. This plan of treatment is certainly highly beneficial in recent cases, where there is subinvolution.

In a number of these there was so much sensitiveness of the pelvic tissues the pessary could not be tolerated. In other cases the presence of endometritis required topical applications, so that in these cases tampons were chosen instead of the pessary.

In Case 49 the senile vaginitis prohibited the use of the pessary, and in Case 23 the presence of adhesions prohibited the pessary. In this last case, gentle massage either stretched or loosened the adhesions.

The technic of the application of tampons is so well known it need not be described here further than to say that little benefit may be expected in their use unless the uterus is first replaced while the patient is in the knee-chest or in the exaggerated Sims position.

GROUP III.—TREATED BY PESSARY. RELIEVED.

CASE 16.—Miss A., aged 36. Retroversion. No complications. Backache. Profuse menstruation. Pessary gave great relief. Passed from sight after a few months.

CASE 21.—Mrs. B., aged 24. No children. Retroversion. Stenosis of internal os. Vicarious hemorrhage. Declined dilatation and Alexander's operation. Pessary gave marked relief. Passed from view in a month.

CASE 24.—Mrs. C., aged 40. No children. Retroversion only. Pessary. Marked relief.

CASE 32.—Mrs. D., aged 30. Retroversion only. One miscarriage. Pessary. Marked relief. Became pregnant.

CASE 42.—Mrs. E., aged 51. Four children. Retroversion, bilateral laceration of the cervix slight, dyspepsia, cystitis, internal medication, topical applications, tampons, then pessary. Marked improvement.

CASE 43.—Mrs. F., aged 34. Widow, no children. Retroversion, endometritis. Topical applications, internal medication, tampons, the pessary. Marked improvement.

CASE 45.—Miss G., aged 25. Retroversion and prolapsus of right ovary. Pessary and posture. Marked improvement. Not cured.

CASE 48.—Mrs. H., aged 33. Two children. Retroversion, endometritis, prolapsus second degree, chronic inflammation of ovaries. Curettement, rest in bed, general massage, tampons, then pessary. Should have been operated on. Much improved.

CASE 58.—Mrs. L., aged 32. Two children. Retroversion, prolapsus of uterus and right ovary. Slight laceration of the cervix and perineum. Rejected operation. Results unknown except that the pessary gave comfort.

CASE 69.—Miss J., aged 20. Retroversion, erosion, pelvic congestion. A few topical applications, internal medication. Pessary. Marked improvement.

CASE 70.—Miss K., aged 30. Retroversion, endometritis, ovarian hyperemia. Pessary and internal medication. Improved while at rest. Should have been curetted and had Alexander's operation.

CASE 77.—Mrs. L., aged 29. Retroversion, prolapsus of right ovary, not much pain, some bearing down. Pessary. Marked relief.

These twelve cases were treated by internal medicines, topical treatments and with pessary. These patients were all markedly benefited, and none of them have returned for operation. It is not to be denied that many such cases have relapses after a time and must patiently endure another course of treatment. In three of these cases there was prolapsus of one ovary. The ovary could be replaced, and the pessary made no pressure on it. In several cases it was found at first that the pessary could not be borne, but after using the tampons for a time the pessary was worn with comfort. It will be noted that four of these cases were unmarried women. Former experience has taught me that young unmarried women do not well bear the tampon treatment. I am convinced that such cases are best treated by the pessary or operative measures.

GROUP IV.—NOT BENEFITED BY TAMPONS AND PESSARY TREATMENT. COMPLICATIONS PRESENT IN EACH CASE.

CASE 50.—Miss A., aged 24. Retroversion, prolapsus of uterus, both ovaries, endometritis. Knee-chest position, applications to endometrium, tampons. Not benefited.

CASE 57.—Miss B., aged 24. Retroversion, retroflexion, left ovary prolapsed. Supposed to have gallstones. Tampons, pessary and posture used faithfully. No benefit.

CASE 82.—Mrs. C., aged 40. One child. Retroversion, prolapsus, some adhesions. Massage, posture and tampons. Patient refused operation. No benefit from treatment.

CASE 95.—Mrs. D., aged 33. One child, two miscarriages. Retroversion, laceration of the cervix, slight prolapsus, endometritis and both ovaries prolapsed. An invalid. Rejected an operation. Internal medicines, applications to endometrium. Tampons. No benefit.

CASE 102.—Mrs. E., aged 42. Two children. Retroversion, enteroptosis, movable right kidney, hyperplasia of the uterus. Exercise and tampon. Not much of any benefit.

CASE 104.—Mrs. F., aged 40. Two children. Retroversion, prolapsus of right ovary, laceration of cervix uteri, hyperplasia. Refused operation. Pessary a failure. Not benefited by tampons and exercise.

CASE 108.—Mrs. G., aged 33. One child. Retroversion, prolapsus, diastasis of recti muscles, prolapsus of right ovary. Internal medication, exercise and tampon treatment. No benefit.

These seven cases were not benefited. They declined operative interference. I predicted in most of them a failure, but promised to do the best for the patients aside from operation.

SUMMARY—THIRTY-FIVE CASES.

Thus we have cured by tampons or pessary	8 cases.
Relieved by tampons, etc.	8 cases.
Benefited by pessary	12 cases.
No relief	7 cases.

There were also many cases in which operation was advised and refused, so the tampon or pessary treatment was advised. They passed from view after first examination, so that it is impossible for me to state the results of the treatment.

It will be seen by this (Group 4) table that five cases were treated by exercise, tampons, etc., one by pessary alone and one by both pessary and tampons. Of the five cases treated by tampons alone there were two cases in which there was general enteroptosis, three of prolapsus of the ovaries and one in which there were adhesions.

One will ask why this form of treatment when the cases seemed so hopeless at the onset. We yielded to the importunities of the patients to do what we could for them aside from operative intervention. Doubtless the majority will in the end be operated on.

GROUP V.—TREATED BY MAJOR OPERATIVE MEASURES. CURED OR BENEFITED.

CASE 3.—Miss A., aged 25. Retroversion, slight endometritis, movable kidney. Ventrosuspension. Nephrorrhaphy. Cured.

CASE 6.—Mrs. B., aged 21. One child. Retroversion, prolapsus of ovary, endometritis, chronic ovaritis. Pessary failed. salpingo-oöphorectomy, ventrosuspension. Cured.

CASE 9.—Mrs. C., aged 25. One child. Retroversion, endometritis, slight bilateral laceration of cervix, prolapsed and enlarged left ovary. Curettage, ventrosuspension, removal of left ovary, resection of right ovary. Cured for a year, then right ovary became painful, enlarged and tender. Asks its removal.

CASE 17.—Miss D., aged 30. Retroversion, endometritis, prolapsus of ovaries. Curettage, salpingo-oöphorectomy, ventrosuspension. Cured.

CASE 29.—Mrs. E., aged 30. One child. Retroversion, prolapsed cystic and adherent ovaries. Salpingo-oöphorectomy, ventrosuspension. Cured.

CASE 31.—Miss F., aged 22. Retroversion, prolapsus of left tube and ovary, adherent right ovary. Salpingo-oöphorectomy, ventrosuspension. Cured.

CASE 40.—Mrs. G., aged 55. Seven children. Retroversion, prolapsus, rectocele and cystocele, senile endometritis. Curettage, anterior and posterior colporrhaphy, ventrofixation. Cured.

CASE 64.—Mrs. H., aged 28. One child. Retroversion, cystitis, prolapsus of one ovary, ovary cystic, perineal fistula. Operated for fistula, did salpingo-oöphorectomy and ventrofixation. Cured except the cystitis.

CASE 68.—Miss I., aged 34. Retroversion, prolapsus of right ovary, endometritis, gastro-intestinal disorder. Curettage, removal of right, resection of left, ovary. Ventrosuspension. Cured of pain and menstrual disorders. Dyspepsia much benefited. Cured.

CASE 75.—Mrs. J., aged 34. Four children. Retroversion, prolapsed and inflamed ovary, endometritis, patient an invalid. Curettage, extirpation of ovary and ventrosuspension. Patient regained her health.

CASE 97.—Mrs. K., aged 41. No children. Retroversion, prolapsus, cystic ovaries, endometritis. Treated with tampons and pessary. No relief. Curettage, salpingo-oöphorectomy, round ligaments, shortened by Tait's method. Health much improved.

CASE 105.—Mrs. L., aged 40. Two children. Retroversion, prolapsed and cystic ovary, hyperplasia of the uterus, ventrosuspension. Marked benefit.

CASE 112.—Miss M., aged 28. Retroversion, elongation of cervix, hypertrophied corpus uteri, endometritis. Curettage, Alexander's operation, later amputation cervix. Benefited.

Nine cured and four markedly benefited. Thirteen cases operated on in which benefit was experienced. In twelve cases an abdominal section was done and one or both ovaries were removed. In all of these cases the ovary removed had been inflamed for a considerable time and was thought to be incurably diseased, and hence was removed. A few of the cases had been previously treated by tampons and pessaries without benefit, but either cured or greatly relieved by curettage, suspension of the uterus and removal of one or both ovaries.

My experience with these and other cases leads me to the conclusions that where there is marked chronic inflammation of the ovaries as evidenced by severe, persistent pain in the ovarian region, painful defecation and many reflex symptoms, little short of resection or extirpation of the ovary will be of service in restoring the patient to health.

A word should be said regarding resection. In a previous paper,[1] based on a study of more than one hundred cases, the author shows that in his hands resection of the ovary is beneficial where the evidence of disease is limited to a single large retention and a few small retention cysts superficially situated, or in case of a single hematoma in which only part of the ovary was involved, and that even in such selected cases, fully 20 per cent. of cases were failures demanding a subsequent extirpation of the ovary.

This group shows the severe cases, those having so many and serious complications that any other treatment than operative was considered ineffective.

The method of ventrosuspension employed by the writer should be described. He did not follow the technic of Kelly. That method was abandoned by him some years ago because of the unfortunate reports of cases of difficult labor and of obstruction of the bowels. So far the writer has been quite well satisfied with the results in cases in which the following technic has been employed, viz.: The stitches were passed through the anterior surface of the body of the uterus just below the superior border. Two catgut stitches were carried one-fourth to one-third of an inch in depth into the

1. Amer. Gyn., December, 1902.

muscular coat of the uterus, the point of insertion into and exit from the uterus being about one-half inch apart and the stitches being separated by one-fourth of an inch. The ends of these threads were then carried through the peritoneum, deep fascia, muscular tissue and superficial fascia on either side. A third stitch, this one of silkworm gut, is placed in the tissues of the uterus more superficially and between the deeper catgut stitches. This stitch also passes through all the tissues of the abdominal wall on either side of the incision so that when tied it serves as a through-and-through stitch. The peritoneal surface of the uterus immediately over the three stitches imbedded in the uterine wall is scarified. The catgut stitches are tied first and then the silkworm-gut stitch.

From my description this would appear to be a ventrofixation, but it is not; it is a ventrosuspension. I have done a secondary operation for the removal of an inflamed ovary in two cases, and in both cases have found a single band of adhesion, in one instance one-third inch long and in the other one-half inch long, suspending the uterus as by a ligament from the anterior abdominal wall. The single superficial silkworm-gut stitch is important in preventing the formation of two bands. It is allowed to remain two weeks before removal. Several of my patients on whom this suspension has been done have become pregnant and passed through the period of gestation and labor without untoward symptoms. I do not put this forward as the only reliable means of suspension. It is, however, an efficient one and the one I prefer if neither or but one ovary is removed.

GROUP VI.—OPERATED ON WITHOUT MUCH, OR ANY, BENEFIT.

CASE 33.—Miss A., aged 18. Retroversion, marked endometritis, erosion, membranous dysmenorrhea. Curettage and Alexander's operation. Displacement rectified, membranous dysmenorrhea continues. Endometritis seemingly well for a time, then reappeared.

CASE 47.—Mrs. B. Widow. Two children. Retroversion, laceration of the cervix uteri and inflammation of left ovary. Curettage, trachelorrhaphy, extirpation of one ovary and resection of the other, ventrosuspension. Only partially relieved. After a time the remaining ovary became painful and enlarged. Patient begged to have it removed.

CASE 57.—Miss C., aged 24. Retroversion and retroflexion, left ovary prolapsed and enlarged, weak and nervous patient. Internal medicines, tampons and pessary did no good. Curettement, removal of one ovary, ventrosuspension. No relief, still an invalid.

In all three of these cases it would have been better treatment to have removed both ovaries. It was not done in the first case because the patient was a young woman, eighteen years of age. It was a very severe case of membranous dysmenorrhea, and was not at all benefited by the operation. In the second case, the woman was a widow, twenty-nine years of age, and wanted to marry again and bear children.

In our list there were two cases in which there were ovarian tumors producing the displacement. In both the retroversion disappeared after removal of the tumors. There were also three cases of small fibroid tumors of the uterus. Hysterectomy was done in these cases.

CONCLUSIONS.

My conclusions are:

1. Simple uncomplicated retroversion of the uterus gives rise to but few symptoms, the chief of which are backache and bearing-down pain. Painful menstruation occurred in 37 per cent. of the cases. Uncomplicated cases constitute but 7.01 per cent. (8 in 112) of the cases we have studied. Five uncomplicated cases were treated by the non-operative plan, three were cured and two greatly relieved.

2. The severity of the symptoms and the prospect of cure depends largely on the number and character of the complications. Prolapsed and chronically inflamed ovaries, endometritis and laceration of the cervix uteri constitute the most common and serious complications.

3. The most common complications are: Prolapsus of one or both ovaries, 42 per cent.; endometritis, 28 per cent.; laceration of the cervix, 24 per cent.; prolapsus of the uterus, 15 per cent.; adhesions, 13 per cent.; laceration of the perineum, 7 per cent.; movable kidney, 7 per cent.; ovaritis without displacement, 8 per cent. of cases. The most common and almost universal symptom is pain, 74 per cent. This includes painful menstruation, 36 per cent.; backache, 35 per cent.; pain in inguinal regions extending down the limbs. In but 21 per cent. of cases did habitual constipation exist. Various degrees of invalidism existed in all complicated cases.

4. In the treatment of the simpler and less complicated cases the non-operative treatment yields satisfactory results. Recent cases, especially those following labor, improve rapidly under this form of treatment.

5. Displacements of long duration, accompanied by the more serious complications, are not cured by this method, and the benefits resulting are scarcely sufficient to justify the effort.

6. Operative methods in the severest forms of displacement and complication are attended by a large per cent. of cures, and should be employed in preference to all other means. So large a percentage of these cases have multiple complications that two or more operations may be required in each case.

7. The danger attending the operative method of treatment is very small. In the twenty-one cases reported there was no mortality.

RETRODISPLACEMENTS OF THE UTERUS.

A FURTHER REPORT ON OPERATIONS ON THE UTERO-SACRAL AND ROUND LIGAMENTS.*

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At the meeting of the American Gynecological Society in 1902,[1] and the following month before this Section,[2] I presented this subject, reporting 8 cases operated on by the vaginal and 3 by the abdominal route. At this time I desire to report 17 cases operated on by each of the two routes, together with some points noted from this experience. There has been no fatality or even notable morbidity in the 41 cases. In every instance of shortening the round ligaments the plan suggested by Webster and Baldy has been practiced. Curettage was done in every one of the 17 vaginal operations. In 3 of them trachelorrhaphy was done in addition, and in 8 perineorrhaphy and trachelorrhaphy. In one of these anterior and posterior colporrhaphy was added; in another posterior colporrhaphy up to the vaginal roof was done. In one the anterior vaginal wall was lengthened and attached at a higher plane to the cervix. In another case hemorrhoids were removed at the same sitting. In one an ovary was resected and in 2 others the peritoneal

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. Bovée: Amer. Gynecol., 1902, I, 35-45.

2. Bovée: THE JOURNAL A. M. A., 1902, xxxix, 12-15.

cavity was entered through the cul-de-sac of Douglas for purposes of exploration. In 9 cases the round ligaments and in 8 the uterosacral ligaments were shortened. In none of these vaginal operations was both sets of ligaments shortened.

In the 17 cases by the abdominal route the round ligaments alone were shortened in 4 cases, the uterosacral ligaments alone in 7, and in 6 both these sets of ligaments were shortened. The vermiform appendix either normal or pathologic was removed 7 times, pelvic adhesions severed 7 times, ovaries resected 3 times and 1 appendage removed in 4 and both in 2 cases. In two instances the anterior vaginal wall was lengthened and in one of them it was detached from the cervix and reattached at a higher plane. In one case the ovarian ligaments were attached to the broad ligaments just posterior to the fallopian tubes by two stitches of fine catgut passed through them near the ovaries.

In 10 cases curettage was done. In one of these trachelorrhaphy and in another perineorrhaphy was added; in another perineorrhaphy and posterior colporrhaphy, and in 5 both trachelorrhaphy and perineorrhaphy were done. In one of these 5 posterior colporrhaphy was added. Thus it will be observed that in none was the reparative work limited to the round and uterosacral ligaments.

In my paper of last year an effort was made to show the very important part played by the uterosacral ligaments and the anterior vaginal wall, or uterovesical ligaments, in maintaining the position of the uterus. Reference was also made to the function of the round ligaments. I have found nothing to modify my views in that respect. I have done no other operation for retrodisplacement of the uterus in more than one year. Ventrosuspension, ventrofixation and Alexander's operation, all of which I formerly practiced without accident, I have abandoned. In my own work I have had but one failure in Alexander's operation, and that was probably due to faulty ligamentation about the cervix, allowing it to move forward too far, and a tendency to retention of urine. In a case of ventrosuspension the same faulty ligamentation led to recurrence of the retroversion and in one of ventrofixation. Edebohls[3] later found the cervix protruding from the vulva and the body firmly fixed to the abdominal wall.

The reasons for abandoning Alexander's operation were the journal reports of large numbers of cases of hernia, suppuration and relapses following that operation and the belief that the plans herein suggested are better. Goldspohn's modification of it was a great improvement, but not sufficient for all cases, as it was practically addressed to no supporting structures of the uterus other than the round ligaments.

Attaching the uterus to the abdominal wall never appealed to me as an ideal procedure, and yet, as a rule, it has maintained a popular position in the list of operations for retrodisplacements of the uterus. If the lower supporting structures of the uterus be faulty from maldevelopment or injury, one must expect failure, as a rule, to follow it. Such a structure[4] as this ligament traversing the peritoneal cavity would seem to be dangerous. If we are to consider the fatal complications that have been recorded we will at once see the force of this suggestion.

R. B. Hall[5] said: "I have had 3 cases of intestinal obstruction containing a coil of ileum around this little ligament left afterward. Two of the cases I have operated on, the other having declined operative measures. The case in which operation was refused died. Autopsy revealed a simple case of intestinal obstruction which could have been relieved by operation and life undoubtedly saved." Williams,[6] Jacobs[7] and Olshausen[8] report 3 cases of fatal intestinal obstruction from this false ligament, and Thomas[9] and Lindtors[10] report successful operations for the same conditions. We have further to consider the many cases of cesarian section positively due to interference with uterine development from these abdominal attachments. Only two weeks ago I saw an example of it. In this case the operation had been done by an expert, but the evidence of its causal relation to impossibility of delivery *per vias naturales* was positive.

The results in these 41 cases are nearly perfect and have determined me to examine very critically every patient in whom surgical treatment of retrodisplacement is contemplated to decide the exact causes of the displacement and to plan the measures to be employed. While a lacerated perineum is not *per se* productive of posterior uterine displacements, yet straining at stool incident to its resulting constipation may produce them. Laceration of the cervix, if deep, very markedly tends to uterine retrodisplacements. Lacerated vaginal walls—particularly its roof—is a strong etiologic factor. All these conditions should be recognized and given their proper positions in etiology that treatment may be scientifically applied. In many cases, particularly in women who have had tedious labor or have been delivered carelessly with forceps, the fascia by the sides of the rectum and which goes toward making up the uterosacral ligaments, will be torn and much relaxed. In such the vaginal route is not indicated. Here abdominal section and the Trendelenburg position are imperative. Intraperitoneal conditions are best mastered by it, and one knows those conditions, which is not the case with the vaginal route. I have not the intrepidity that necessarily accompanies severing intraperitoneal adhesions without the sense of sight. I know it is done, but the inability of the skillful diagnostician to always detect abnormal pelvic conditions leads me to fear this procedure. Therefore, I prefer always to open the abdomen when such work is to be done.

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3. Edebohls: Trans. Am. Gyn. Soc., 1901, xxvi, 159.
4. Bovée: The Journal A. M. A., 1899, xxxiii, 268.
5. Hall, R. B.: The Journal A. M. A., 1899, xxxiii, 186.
6. Williams, D. H.: Am. Gyn. and Obst. Jour., 1900, xvi, 573.
7. Jacobs: Deutsche Med. Woch., 1894, xxii, 489.
8. Olshausen: Westphalen, Monatsschrift f. Geb. u. Gynäk., July 3, 1895.
9. Thomas, C. P.: Am. Gyn. and Obst. Jour., 1901, xviii, 153.
10. Lindtors: Centralbl. f. Gynäk., Bd. xxii, No. 16, 414.

DISCUSSION

ON PAPERS OF DRS. DUNNING AND BOVÉE.

Dr. G. Betton Massey, Philadelphia—I have never failed to get perfect results in these cases of retroversion and retroflexion without ovarian or tubal disease. All the symptoms disappear, although I believe that in actual retroflexion I have never straightened the uterus. It is my belief that the posterior wall of the uterus is sclerosed and atrophied and that nothing will remedy this, though perfect health may be restored. These patients are entitled to the best help, and none of the uncertain operations are necessary. For cases complicated by ovarian disease I presented a method last year at Saratoga which has evoked considerable interest since, and I am sure that it will be very valuable. It is the cataphoresic diffusion of mercury through the abdominal wall into the chronically inflamed parts, thus sterilizing the disease. I have since verified the peculiar experience then related, in which menstruation was suppressed for a month or so after treatment. Such treatment may have to be greatly prolonged, but many patients are also cured of the patulous pus tube

and the adhesions that follow a pelvic inflammation. I think that if Dr. Dunning would substitute this treatment for the method which failed, he would have a higher percentage of successes.

Dr. E. S. Lewis, New Orleans—It is essential to remove the adhesions which are responsible for the displacement by massage, trachelorrhaphy or operations on the vagina or perineum; then, even if the retroversion continues, in many instances the symptoms are relieved. My usual treatment in suitable cases is the use of the pessary; cases in which all inflammatory complications have been subdued entirely. I have derived marked benefit from the pessary and still resort to it, although not as frequently as in former times, as it is an instrument which has and may do a great deal of harm. Of the operative methods I prefer ventrosuspension, not ventrofixation.

Dr. Walter B. Dorsett, St. Louis—I have not abandoned the pessary, and do not expect to. The pessary has a place to-day as it always had. Some inflammatory cases with adhesions can be treated for a considerable length of time with a lamb's wool tampon, and finally the pessary can be worn to good advantage. A great deal of harm has been brought about by Kelly's operation. I do not believe in tipping the uterus upside down and fastening the posterior wall of the uterus to the anterior wall of the abdomen. It is not in accordance with physiology. On account of the leverage it is made to draw out pieces of peritoneum to form long bands. These bands may catch intestinal loops and serious trouble result. But if the anterior part of the body between and below the two attachments of the round ligaments is attached to the anterior abdominal wall I can not see that any harm can come from it. I have had five cases of labor following ventral suspension, and one of the cases has been delivered twice. I do not see how we can have any entanglement of the bowel if the cases are selected properly and the anterior wall of the uterus brought in close apposition to the uterus. There is no leverage on which the uterus can pull back, but it is held firmly against the abdominal wall without any possibility of the intestines dropping in front of it. If turned back the other way we have the entire intra-abdominal pressure bearing down on the uterus and pulling out these adhesions.

Dr. S. E. Milliken, Dallas, Texas—I believe that we all to some extent use the pessary, but it is a question whether a pessary can replace the uterus. The pessary is indicated in cases in which there are no inflammatory adhesions; in other words, in retrodisplacements of a more or less congenital or acquired type without any inflammatory condition.

Dr. C. O. Thienhaus, Milwaukee—The uterus belongs in the pelvis, and there is no logical reason why we should perform abdominal section and abdominal suspension when the same work can be done with more safety to the patient and better immediate and remote results by way of the vagina, and at the same time by vaginal suspension the uterus is left in the place where Nature placed it. All surgeons with a little experience in vaginal celiotomy concede that this operation has great advantages over abdominal section so far as the immediate and remote safety of the patient is concerned. Conceded this, the logical consequence is, that everything ought to be performed by this route, if possible. It is true that vaginal celiotomy and suspension are hardly applicable for the general practitioner, but the specialist ought always to bear in mind that the welfare of the patient is the first law which has to govern our methods of operation, not difficulties of operative procedures, which can be overcome by practice. Whether one prefers vaginal shortening of the round ligament following the methods of Vineberg, Wertheim or Ries, or vaginal suspension in cases of retroflexion of the uterus is merely a matter of personal like or dislike. But it must be conceded that vaginal shortening of the round ligament allows a greater mobility of the uterus. I prefer the following method of vaginal suspension: After an inverted T-shaped incision on the anterior vaginal wall, and thorough freeing of the bladder from the cervical part of the uterus the vesico-uterine fold is opened by a transverse incision, then the uterus is drawn forward by a tenaculum forceps and drawn into the vagina. If it is necessary to perform conservative or radical work on the appendages after this has been done under perfect guidance of the eye, the uterus is pushed back and now fixed by one silkworm-gut suture 1.5 to 2 centimeters above the internal os. This suture, passing through vagina, peritoneal fold and uterus, closes the abdominal cavity and remains for six weeks. What is accomplished by this? The vesico-uterine fold which formerly reached down to the point of the internal os now only reaches to the middle of the body of the uterus, but the fundus of the organ is left free and movable, so that no disturbance can occur during future pregnancies. In chronic inflammation of the appendages with adhesions in Douglas' pouch, parametritis posterior, etc., I usually employ hot douches, massage, etc. (not in pus cases), for two weeks before the operation. I do not by this time make the uterus movable, I open the posterior cul-de-sac first, and after freeing the uterus from the adhesions the anterior celiotomy is performed in a manner as cited above. In such cases a strict diagnosis and selection must be made before operation, as in some of them it is preferable to use the abdominal route because of too dense adhesions. Many women afflicted with retroflexion, who would not submit to abdominal suspension, have, after learning the advantages of the vaginal route, readily consented; it is my opinion that many women, if they knew the difference between abdominal and vaginal celiotomy, would still less allow abdominal operations. I never lost a case of this class operated on by the vaginal route, and I never saw an infection. The operation can be performed in uncomplicated cases in from 5 to 10 minutes, and the patient can leave the hospital on the eighth day, provided no plastic operation has been found necessary. I believe, furthermore, that this operation will do away with many a pessary and its inconveniences. After proposing this method to a patient wearing a pessary I have no difficulty in obtaining her consent for operation.

Dr. J. H. Carstens, Detroit—Dr. Thienhaus does a Mallincrodt operation and a Duehrssen, which is all very good, and yet once in a while there comes a case in which you can not use either. What is to be done? If a uterus that is turned back is turned over there results a general ptosis of the uterus and of the other pelvic organs; there is a dragging on the bladder, and all these organs can not be lifted up by that kind of an operation. In such cases a ventral suspension is required, or a sacral ligament operation, or a shortening of the round ligament. Dr. Dunning covered the whole ground; he simply said that a retroverted uterus was a complicated disease, some cases can be cured by the pessary and local treatment; some cases with an operation, and some can not be cured by either method. I do not see what we can accomplish in some of these cases by insisting on an operation. Some operations are very good in a certain number of cases, but are not worth a continental in others. It is a question of diagnosis, and then apply the treatment indicated in that particular case. Bovée's operation is a splendid one in certain cases, but he does not do that operation in every case. He selects his cases and always does the operation that is applicable in that particular case.

Dr. V. M. Showalter, Point Clear, Ala.—We have to face conditions and not theories. In addition to the ptosis of the pelvic organs, there is a certain amount of hyperplasia which, with the congestion of the organs, makes it necessary to attempt to restore the organs to their normal condition. Allow a certain period for the absorption of exudate which may have accumulated as a result of the passive congestion before any radical steps are taken for fixation of the uterus in the abdominal cavity. When this course is pursued the percentage of failures will be less after a properly selected pessary has been used; and I would like to lay special emphasis on the proper selection of a pessary according to the individual requirements of the case.

Dr. H. O. Marcy, Boston—Fifteen years ago we had reached a great point, we thought, when the Alexander operation gave us the shortening of the round ligaments. After a little while we found that the operation was a failure. It was not physio-

logically correct. But occasionally good results follow the Alexander operation. Opening the abdomen, however, is the most important procedure, because there is almost always some other condition than that described by the last speaker. The uterus in its normal position is freely movable. When it is out of place there is suffering and discomfort and a whole train of pathologic symptoms. Only by opening the abdomen can we determine what these other factors are. Then we are able to shorten the round ligament so as to restore the reproductive organs to their normal condition, and that is by ventral suspension according to physiologic principle. This is so easy and clear and successful in the hands of an aseptic operator that we have little to look for in the way of improvement. The operation is ideal. The shortening through the vagina is not as satisfactory in my hands as is the abdominal route, since by this method it is impossible to determine accurately the condition of the pelvic structures.

Dr. Edwin Ricketts, Cincinnati—I advocate the abdominal route. As Dr. Dunning has said, each case is a case in itself and each man must meet the emergency or let the cases alone. One thing not mentioned is pregnancy after ventrofixation. It has been my misfortune to look after some cases that have had all kinds of shortening of the round ligaments done. One case, a woman of 27, had her right ovary removed and had a ventral fixation. Four years afterward she became pregnant twice, and the general surgeon who saw her thought she should not go on to full term. Abortion was resorted to at two different times. Finally at the third pregnancy she consulted a gynecologist, who stitched the uterus to the abdominal wall and told her to let the pregnancy continue. She was delivered of a child at full term. The anterior wall of the uterus had been brought up tight against the peritoneum and the ligament that had formed was four inches in length by actual measurement. After ventral suspension a woman takes her life into her own hands, but the case should be explained fully to her, and if she ever becomes pregnant she ought to agree to surgical intervention. As to the pessary, I want to caution those who are so sure as to the healthy conditions in round ligaments and ovaries. If the abdomen is opened a diseased ovary is often found with the appendix attached to it. Pessaries have been on the down grade. If pessaries are to hold up the uterus, to allay the uterine congestion and overcome the dragging of the appendix, our friend Massey is correct when he says he will put his patients on their backs and produce contraction of the ligaments. It is a much better and safer operation than to resort to the pessary in cases in which you do not know what is inside.

Dr. F. F. Lawrence, Columbus, Ohio—There is difference of opinion because we approach cases with a clinical rather than with a philosophic eye. Any operation or method based on sound philosophy will and must prove correct; and any operation based on false philosophy will and must prove faulty. Is the replacing of one pathologic condition by another sound philosophy? Do we ever find as a physiologic condition a fixed uterus? Is there ever a physiologic exception, other than the broad ligament, to the rule that the ligaments are merely guy-ropes which keep the uterus from tilting in one direction or another? If that be true, then the one factor to ensure success in removing the conditions which cause the retroversion or flexion is to first restore the tension of the broad ligament, giving the uterus support from above as it should have, and restore the natural support from below, whatever it may be. Many cases, if caught when descending, can be cured by electrical treatment by restoring the tone of the tissues. Put them to bed and keep them quiet. Pelvic massage has its place as much as any operation and should be given in these cases. It is much better than an operation which is finer in theory than in result.

Dr. C. Lester Hall, Kansas City, Mo.—While physiologic processes are referred to, I am surprised that nothing has been said of Nature's way of correcting these displacements. If these patients who come to me for such conditions are married I tell them frankly to become mothers. They become pregnant with the uterus in a good physiologic condition. A week or ten days after the child is born they are put in the genupectoral position several times a day. The uterus is kept in position, the woman kept in bed for three or four weeks until the uterus has returned to its normal size and position, and they are cured women. I have done this repeatedly, and I believe the easiest way is the best, and that is the physiologic or Nature's way.

Dr. A. Palmer Dudley, New York City—In pregnancies after ventral suspensions I have measured the ligament immediately after delivery and a week and two weeks afterward. I have also opened the abdomen and taken exact measurements in cases where an appendicitis or disease of the appendages required a second operation. Of my 269 cases—and in each, bear in mind, treatment was given first—I find that I did 99 ventral suspensions without a death, and following that I am sure I can recall to mind more than eight deliveries that I made myself, and I had no difficulty in having my patients go to full term. I do not denude the fundus, but take the fundus half way between the tubal entrances and pass two silkworm-gut sutures into the uterus, without touching the mucous membrane, and out through the abdominal wall completely through the skin. Then I scarify the top of the uterus, just as in vaccinating, let it come up loosely against the peritoneum of the anterior abdominal wall, first loosening the peritoneum a little on either side with my finger. The uterus remains in that position with the stitches in place for three weeks. Then the sutures are withdrawn and the peritoneum drops down to form a ligament and there is no chance for an intestinal obstruction, but it is a new urachus running from the abdominal wall to the top of the uterus and off to the base of the bladder. The ligament is triangular in shape. Ventral fixation is a pernicious thing and should never be done, from the obstetric standpoint, bear in mind, that the uterus does not rise perpendicularly toward the diaphragm, but it comes forward; the abdominal muscles distend and the fundus of the uterus is not more than two inches above the fixation point when the woman is ready for delivery.

Dr. L. H. Dunning—We should more frequently consider the treatment of disease from all its bearings. We have considered the operative treatment too frequently to the exclusion of all other forms of treatment. I have seldom found any one in any of the meetings I have attended who would consider anything but operative treatment. I would not, in my own family, trust a man who had nothing in his head but operation. I like to operate when it is necessary, but I abhor an operation when it is not necessary. I have done all the various operations, as most of you have, a good many times. My work with ventral suspension has yielded the best results. I have been at a loss to understand how so many cases of obstruction of the bowels occur in the hands of others. I never had a case of obstruction, and I know of a dozen women who were confined without difficulty, although I know that obstruction will occur without any assignable cause. I know of one case of kinking of the bowel from adhesions of the intestine to the anterior wall of the abdomen. There was a little sepsis, the bowel stuck there and obstruction occurred. My method of ventral suspension agrees almost exactly with that of Dr. Dudley. I do not take my stitches out through the skin, however, although I put one silkworm-gut stitch between the other two and bring that one out on the skin. It accomplishes the same result. The middle stitch prevents the formation of two bands, which is important in these cases. I have never seen any unpleasant effects from this operation. There is free movement of the uterus with a band about one and a half to two and a half inches in length. Twice I have reopened the abdomen for other purposes and found a single band. I would put forward ventral suspension as one method for overcoming retroversion of the uterus when all other methods failed. I think Dr. Bovée will come back to ventral suspension after a while. I have been through the same experience from the beginning, only to drop one method after another. Dr. Ricketts condemned the pessary because he does not know what is inside. Does he open the abdomen of every case that comes to him? That is what we must conclude from

what he said. That is a perfect fallacy. What Dr. Hall said, according to my experience, is true. I wish to call your attention again to Dr. Munde's article,[1] in which he went all over this ground and showed that only 5 per cent. of cases were cured when they become chronic by tampons and pessaries, but that a large percentage of cases were cured after confinement by the posture method, by the exercise treatment and the use of tampons and pessaries in suitable cases.

Dr. Wesley Bovée—Some use sutures through the skin in ventral suspension. I never put a suture through the skin in any operation; I am opposed to it. We forget an element here, the uterosacral ligaments. They have a tendency to drag the cervix backward and upward. When abnormally attached they have a tendency to drag the fundus backward. Another element is whether this attachment is abnormally high, or whether the anterior vaginal wall is abnormally low when it draws the cervix forward. What is the use of ventral suspension in such a case? The uterus stands straight up; it is allowed to come forward against the abdominal wall; intraperitoneal pressure pushes it down. I mention one case in my paper where the ovaries had been removed and in which I did a ventral suspension. Dr. Edebohls removed the uterus afterward and found the cervix protruding from the vulva and the fundus still firmly fixed to the anterior abdominal wall. What is the use of a ventral suspension? Suppose after a tedious labor you have torn off these uterine supports and lost the supporting power. The only method of treating that case should be to correct the injury that is done. You must do that work before you will do successful work. If something else is needed do it. Treat everything that must be treated. I did not for one moment expect to be understood as saying that these operations were applicable to all cases. I treat many of these cases by the use of tonics, pessaries and massage. You can tell at the beginning whether you can do anything with such treatment. But you can not expect massage to do any good when the cervix is badly torn, or the perineum ruptured and these ligaments torn all to pieces. I put these women, not on their backs, but on their abdomens, so that the uterine fundi will drop forward. That is the same position I put them in after an operation on the uterosacral or round ligaments. I do not let the weight of the uterus drag on tissues I have sutured. I want the ligaments to be as lax as possible during healing. As to the postural treatment in cases following delivery, I agree in what has been said except that I would never feel it necessary to introduce my fingers into a woman's vagina within a week or ten days after delivery for purposes of reposition of the uterus; nor would I in the first week of labor put a woman in any position, such as the genupectoral, that taxes her already exhausted vitality. I would also fear the occurrence of embolism. These methods which I have suggested are in the line of physiologic repair, and are directly in opposition to the ventral suspension, which is unphysiologic.

EXERCISE AS A MODE OF TREATING DISEASES OF THE HEART.*

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Our knowledge of diseases of the heart is of comparatively recent date. It is true that Vesalius did much to make known the anatomy of the organ and that Harvey demonstrated its purpose or function. This much was learned in the sixteenth century, and during the following centuries contributions were made slowly to a knowledge of its pathology; but methods of physical diagnosis by which its pathologic states could be recognized during life were not discovered until the end of the eighteenth and first quarter of the nineteenth centuries.

The opinions of former generations of medical men have not yet been outgrown by laymen, and many of the latter think that a permanent anatomic defect in the heart means sudden death, death which is especially apt to be caused by physical exertion. The fact that overexertion, either mental or physical, can cause dilatation, and, perhaps, fatal weakness, of the heart when it is defective, led to the prevalent opinion just expressed. Stokes, in the middle of the nineteenth century, was one of the first to register his disbelief in the danger of all exercise, and even faith in the curative effect of suitable kinds, for he wrote: "The symptoms of debility of the heart are often removable by a regulated course of gymnastics or by pedestrian exercise, even in mountainous countries, such as Switzerland or the highlands of Scotland or Ireland." As late as 1876, however, Rosenstein wrote of exercise: "It must be taken cautiously, and all severe exertion, such as mountain climbing, etc., should be strictly avoided; but it is just as injurious to condemn a patient with heart disease to perfect quiet." Between 1862 and 1872 Sutorburg of Stockholm and Zander described their experience in the treatment of cases of heart disease by gymnastics. In 1884 Oertel announced the results of his trials of more vigorous exercise, such as mountain climbing, and elaborated the mode of treatment which bears his name. Later Schott of Nauheim made known his method of treating these cases by "resistance gymnastics" and the carbonated, saline baths, whose curative power in such diseases had been made known earlier by Beneke. During the last thirty years massage has also been used for the treatment of heart diseases.

From this brief and rather fragmentary history of exercise as applied to the treatment of heart disease, it is seen that four forms: 1, Massage; 2, Swedish gymnastics; 3, mountain climbing, and, 4, resistance gymnastics, have been used. As advocated for the treatment of heart diseases, each form of exercise has one important factor in common, which is that exercise must be increased in severity very gradually and breathlessness must be avoided.

Valvular lesions of the heart rarely are corrected by subsequent changes in the valves, but a strong heart commonly will compensate for the valvular defect. Therefore, the prime indication for treatment in valvular disease of the heart is to make, and to maintain, a strong heart muscle. This evidently is also true when we have to do with degenerations or fatty infiltration of the heart or dilatation from any cause. It is well known that voluntary muscles atrophy and degenerate when they are unused or used little, and that they can be made to grow strong only by gradually, day by day, increasing the amount of work which they do. These statements are as applicable to the heart as to voluntary muscles. Moreover, as the latter may be greatly injured, even strained beyond repair by an unusual, sudden and excessive exertion, so may be the heart, and it is much oftener.

These well-known facts afford a logical basis for the employment of exercise in treating heart disease. Drugs, such as digitalis, may temporarily contract the organ when it is dilated, and strengthen it when it is weak. But permanent recovery of strength is only obtained by improving the nutrition of the heart and by relieving

1. Amer. Jour. of Obstet., 1888.

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it of excess of work. Both of these objects can be accomplished by judicious exercise of the voluntary muscles.

When the heart is weak or compensation is broken it beats rapidly, feebly and often irregularly. Each muscle fiber does not do its whole duty, but contracts imperfectly; therefore, the heart does not completely unburden itself. This is partly due to the weakness of the heart, and often also to the accumulation of blood in the viscus and consequent distension of it.

The effect of muscular exercise on a weak or dilated heart has been carefully studied during the last few years. The most striking effect is that often obtained when the heart is dilated, namely, rapid and very noticeable contraction of it. When the heart is weak and beating rapidly, but is not dilated, the effect is less striking, only a slightly slower and stronger beating being produced. Not infrequently the apex beat of a dilated heart will move an inch nearer the sternum during "resistance gymnastics," or a weak heart will beat from 5 to 15 beats less per minute.

These results are undoubtedly effected by the extra amount of blood which is drawn into the muscles when they are used. Consequently the heart is depleted and arterial pressure is lowered, so that it works against less resistance.

Unquestionably, the first or immediate effect of muscular work is to increase blood pressure, but this rise is temporary and is followed by a more persistent fall, which is caused by the dilatation of arterioles in the hard-used muscles, a dilatation necessitated by their demand for food and for more rapid removal of waste by irrigation. The primary increase of pressure is in proportion to the degree of exertion, but the secondary fall is more dependent on the duration of muscular movements, and the number and size of muscles used. It is, therefore, possible by trivial exertion to avoid an increase of pressure, and by using many of the large muscles to ultimately lower pressure very greatly. This is the reason for what may be called the first rule in applying exercise to the relief or cure of heart diseases—that is, *the muscular effort must be slight, but numerous large muscles must be used.*

Mitchell, Brunton and others have shown that massage produces an increased flow of blood through the voluntary muscles, and the effect of athletics on blood pressure has been studied by Ray, Allbutt, Oliver, Moso and others with, among other conclusions, the discovery that the average blood pressure of athletes is habitually lower than of those who lead a sedentary life.

The walls of blood vessels deteriorated by advancing years, syphilis, alcohol or lead, respond less readily when the muscles which they supply demand more blood than they should. But as atheromatous and degenerative changes are often chiefly confined to visceral arteries, massage and resistance exercises prove very helpful in certain cases, and disappointing in those in which the arteries generally are involved.

Although the aorta and left ventricle can be unburdened by exercise, it might be supposed that the veins and the right side of the heart would soon be overdistended. This will take place if movements are made with rapidity and the exertion is considerable, but when the movements are made slowly and the exertion is slight it does not happen. Much of the serum which flows into the moving muscles is diverted into the lymphatics, and the movement of lymph is, therefore, greatly accelerated. The more rapid bathing of the muscle fibers with fresh lymph improves their nutrition, and the more rapid flow of lymph hastens the removal of waste products. Just as in these ways the voluntary muscles are made stronger, so the heart is, because when unburdened it contracts more forcefully, which insures a more generous supply of blood through its own arteries and lymphatics.

Undoubtedly, deep respiratory movements which exercise insures play an important part in improving nutrition, for not only is the blood more thoroughly oxygenated by them, but the fully distended lungs hold more of it, and, therefore, unload the right ventricle. The variations in intrathoracic pressure, produced by deep inhalations and complete exhalations, help greatly the onward flow of venous blood and lymph. They may also aid materially the filling and emptying of the cavities of the heart. Therefore, the second rule for the conduct of exercise for the relief of cardiac disease is naturally that *respiration must be deepened, but not hurried,* for quick, irregular and imperfect respiratory movements will lessen the variations in intrathoracic pressure, impede venous and lymphatic circulations.

The third rule is that *the exercise must be graduated.* At first only the lightest should be used, and very gradually it must be increased in vigor, and it must be adapted to each case. Under no circumstances must breathing or the heart be hurried.

Massage and resistance gymnastics are the gentlest forms of exercise, and should be first used in all cases. The latter require less training than do the former, and can be best directed by a physician. They therefore seem to me most generally useful. They consist in slow flexion and extension of the hands, then of the forearm and later of the whole arm. Similar movements of the feet and legs, of the head and of the body at the hips should follow those of the hands and arms. The arms, legs and body also may be slowly rotated, and the latter may be bent to the right and left, as well as forward and backward. These movements should be repeated for from eight to fifteen minutes. At first no resistance need be made, but after the two or three first seances a trifling resistance to each movement can be interposed by the nurse or physician. This resistance can be gradually increased day by day, but never should be enough to increase the rapidity of the heart or respiration. When a moderate degree of resistance is well tolerated, patients can be taught to resist movements of flexion by the extensor muscles or of extension by the flexors.

Hill climbing is not adapted to cases of very considerable weakness and dilation, such as can be treated by massage and resistance gymnastics. It is, however, a mode of exercise which is particularly adapted to those who have first been trained by the other method, or who are fairly strong at the start. Deep breathing is sure to be caused by hill climbing, and undoubtedly is a most important factor in bringing about improvement. Moreover, a more rapid loss of fluid by evaporation from both lungs and skin is certain to take place. However, the distance walked, the grade climbed, the frequency of the stops for rest, must be carefully adapted to each person. So soon as the heart is felt to thump or the breathing to shorten, a stop should be made, and deep breaths and a rest taken.

Only those who have had personal experience in training people, either with or without heart weakness, can appreciate fully the effect of graduated exercise.

Although resistance gymnastics are only one element of the Schott treatment, the carbonated saline bath being the other, by abundant experience I have learned that the exercise alone will accomplish the desired purpose,

although undoubtedly the baths are useful. So, too, hill climbing is only one element of the Oertel treatment, a restriction of food and drink being the other; both of these last are only applicable to those patients who are obese, or at least are well filled out with fat.

All forms of heart disease, accompanied by muscular weakness, with or without dilatation, can be treated with hopefulness by exercise. The best results are obtained in cases of dilatation which are due to high arterial pressure or physical exertion, and in which there is no, or trifling, degeneration. In the early stage of muscular degeneration recovery can be effected. If, however, there is much degeneration or a cause for its increase, only temporary improvement will be obtained.

For the treatment of obesity and fatty infiltration of the heart, Oertel's treatment is particularly well adapted, although other kinds of graduated gymnastics, with a suitable regulation of diet, will also give good results.

Resistance gymnastics and massage are adapted, I believe, to a group of cases for which I have not seen them advised. I refer to convalescents from acute endocarditis, whether from rheumatism or other infection. All practitioners have observed frequently a break in compensation soon after patients begin to move about. This is because the heart has not had the time or the training necessary to enable it to compensate for the valvular defect, and a small amount of exertion strains and dilates it. Such patients should be kept in bed for at least two weeks after the acute infection which causes the endocarditis is over. During the last half of this time, resistance exercise or the gentlest massage will greatly help promptly to effect compensation. This treatment should, if possible, be continued for some weeks longer, and the amount of walking, stair climbing, etc., should be carefully regulated.

Of chronic valvular diseases the mitral oftenest respond to gymnastics, but numerous cases will be met in which compensation can not be restored by any treatment. Aortic valvular affections are less certain to be improved, for breaks in compensation occur in them frequently after very considerable hypertrophy has taken place, and when a little more can not afford relief.

Although when the heart degenerates or grows weak because of atheromatous arteries a perfect recovery is rarely effected, a temporary improvement often is. Even angina pectoris is not a contraindication. I have seen several cases of the latter disease very greatly improved by resistance gymnastics.

I do not wish, while advocating exercise for the treatment of heart disease, to leave the impression that drugs are not sometimes needed, or that it will certainly effect recovery. But it is a mode of treatment that should not be neglected and one that is essential in many instances.

DISCUSSION.

Dr. W. W. Tompkins, Charleston, W. Va.—I agree substantially with all Dr. Davis has said. I believe we are sometimes a little derelict in our duty in not exercising sufficient care to prevent the patient from taking too much exercise. I will mention two cases which I lost. One patient was 48 years of age with a well-marked organic heart lesion, and I advised against exercise and had him change his office and sleeping quarters from the upstairs to the ground floor. This patient got along very well, and I had cautioned him never to take any severe physical exercise. One day his son called him to assist in turning a skiff, and while doing so he dropped dead. In the other case I had advised against exercise, but one day he asked permission to play baseball. I advised against it, but he played anyway; as he ran around the bases he dropped dead on the third base. Statistics given us by Oertel of Germany and Zivink of Australia certainly show that under certain circumstances great benefit is derived from moderate exercise. In addition to the medical treatment it is probable that most of these cases should take some form of iron. How often do we find cases of heart diseases suffering from anemia? I believe in the majority of instances a certain amount of exercise is advisable, but in some instances I believe that exercise should be only passive, such as riding about in sunlight and air, and when we give this advice we should add a caution against overexertion.

Dr. Solomon Solis-Cohen, Philadelphia—We agree that the indications are largely governed by the condition of function. The endeavor must be to equalize function—to restore the balance of function. When there is depression of a function it may be exalted or other functions may be depressed to its level as seems most wise in the individual case; and similarly overexalted functions may be depressed or normal functions temporarily exalted. In cardiac disease, as a rule, we are compelled to pay more attention to the depression of normal function to the level of the impaired heart than to exaltation of cardiac function, hence we caution against overexertion. In the discussion on diabetes it was thought that physicians had gone too far in restricting the carbohydrate diet and perhaps we have also gone too far in restricting exercise in cases of heart lesions. Of the value of depressing the general function to the level of the impaired function there can be no doubt, but at the same time the endeavor should be made to bring up impaired function to the highest level consistent with maintenance of life.

Dr. N. S. Davis, Jr.—There is no doubt that overexertion, or exertion made suddenly and considerable in amount, will often cause a fatal result in heart disease; and in those without heart disease this may cause a temporary condition which will produce illness for the time being. On the other hand, take the cases of heart lesion referred to by Dr. Tompkins; if those individuals had been taught by suitable exercise to understand just how much they could do and how much they could not do, the one would not have played baseball and the other would not have attempted to lift the skiff. Furthermore, if the heart had been properly exercised the probabilities are it would have been able to withstand a certain amount of extra exertion—I do not mean the amount put on it in these two cases. There is no doubt that a weakened organ must be carefully watched, but it can often be made stronger by suitably arranged exercises. Moreover, by these exercises the patient will learn to know just about how much exercise he can take and how to regulate that exercise. This is a very important result of such treatment.

THE FUTURE OF PREVENTIVE MEDICINE.*

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Among the many subjects claiming the attention of this Association, none can be more important to the welfare of humanity than that of preventive medicine. The term implies an organized effort by the medical profession to protect mankind from attacks of those recognized causes of disease and death that can be avoided or destroyed. To avoid or destroy the cause is not only to escape the disease, but also to prevent the generation of countless germs fraught with danger. The list of pathogenic organisms whose appearance, characteristics and behavior are sufficiently known to enable us to avoid or destroy them, contains the names of the germs whose invasion of the human system re-

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sults in the diseases most widespread and fatal, the scourges to which five deaths out of every ten may be traced.

Think of the results in one decade were the death rate diminished by 50 per cent.; of the families now bereaved that would remain unbroken; of the busy brains and hands now stilled that would be adding their quota to the wealth and comfort of the world. Yet that such a beneficent result is within the reach of organized effort a consideration of the facts below enumerated will demonstrate. Think of pulmonary tuberculosis: About two people out of every hundred are infected with tuberculosis. Out of every seven deaths, one is from consumption. Over one hundred and fifty thousand people die of it every year in the United States. The cause of this "Great White Plague" is well known. Its presence in a sufferer's tissues is readily recognized, and the precautions, which would prevent the escape of a single germ from this source of contagion are few, simple and easily adopted. Yet all over our country the sun shines daily on thousands of perambulating incubators of death, each one of whom, during the hours of daylight, distributes around him germs enough to infect every man, woman and child in the republic. All this can be remedied only by preventive medicine. Think of typhoid fever, of which it might be said that every case is the result of criminal ignorance, or still more criminal carelessness. Think of smallpox, and Jenner, but do not consider that victory complete while thousands yet deny the efficacy of vaccination, or while men like Lord Kelvin, purest gems of intellect, but with one faulty facet, deny its usefulness and support their position with arguments too puerile to be worthy of respect. Think of pneumonia, with a death roll next to that of consumption, with a known pathogenic bacterium, but without, as yet, any general effort to limit the germs to the person of the patient. And remember the most widely distributed of all diseases, malaria, with its recently discovered possibilities of prophylaxis; the equally marvelous facility with which yellow fever can be corralled and its ravages stayed; and the almost incredible triumph of sanitation over bubonic plague in its subterranean stronghold under San Francisco.

Though much has been accomplished, it is only the beginning. It merely points the way to the final goal, which should be nothing less than the absolute eradication of recognizable infectious germs. The causes of most of the diseases above mentioned, and of many others unenumerated, can be, and should be, swept from the face of the earth. Hydrophobia is almost unknown in North Germany. The reason is obvious. All dogs are muzzled; if one runs mad the poison dies with him. For yellow fever and malarial diseases the mosquito bar is analogous to the muzzle for hydrophobia. Infection can be prevented from escaping. Against every germ there can be found a means of protection.

The means necessary to accomplish the desired end are already recognized in many instances. It is a most important element of any enterprise to know what is needed. The writer believes that, in this instance, what is needed is dissemination of knowledge that will enable the people, lay and professional, to understand and apply the principles of sanitation, antisepsis and asepsis, in order to avoid or destroy the germs of disease. No organization, however worthy or sincere, can hope to accomplish any general or national object unless supported by an enlightened public opinion. In this matter, a mere national coöperation would not suffice. To rid the world of consumption and typhoid requires international coöperation, only to be hoped for when founded on international enlightenment. To eradicate the germs of those diseases from our country alone would necessitate a perpetual and almost impossible quarantine against reinfection. Much easier than this would it be to render the movement international from the beginning.

We have before us an object lesson of great value. When the Woman's Christian Temperance Union was organized it was soon realized that the strength of such a movement must reside in an educated public opinion. To meet this indication abundant literature was distributed and able lecturers provided to arouse public interest. The press was utilized to the utmost possible extent. The most effectual and permanent measure, however, was the introduction of text-books on physiology, written with a special view to inculcating the society's peculiar views concerning alcoholic beverages, into the public schools. By exerting an organized influence on school boards, legislatures and public officials, an influence backed by an appreciable number of political votes, they forced these physiologies into the curriculums of a large proportion of our public schools. Few publishers of school books could now afford to risk the boycott on all their publications that might follow their issue of a text-book on physiology which differed in its treatment of the effects of alcohol from the standards prescribed by the W. C. T. U.

What has been accomplished by an organization whose object is almost an impossibility, an object, moreover, that is hotly opposed by perhaps a majority of mankind, may surely be equaled by a similarly organized body whose object will meet with universal sympathy and approval; for every one must approve of an effort to banish disease and suffering.

Assuming, then, that the object is worthy, and within the bounds of possibility, the next question is, what step should be taken for its accomplishment? It seems to the writer that this Association should appoint a special committee to investigate the matter, inquire into all the possibilities, and report at the next session. This committee should be instructed to decide whether it would be better to create a special bureau within the American Medical Association, having international connection with similar bureaus to be created by the national medical organizations of other countries in order to unify the work; or to organize an independent association under some such title as "The International Sanitary Union," to which all sympathizers, male or female, young or old, lay or professional, would be eligible as members, making it a popular movement from the beginning. In case the former plan is preferred, some kind of membership should be provided for the laity. The church, the educational associations, and, above all, the boundless influence of woman, must be enlisted if success is to be assured.

The three indispensable conditions are: (1) International sanitary organization; (2) international sanitary education; (3) international sanitary legislation. Organization, though the first necessity, is merely a means to the great end, enlightenment.

The root of the whole matter is education. Organization can provide lecturers, newspaper articles, essays, pamphlets, societies, badges and all the paraphernalia for rousing public interest in every civilized land; but far more powerful in its effects would be a chapter on

"The Prevention of Disease" in every school text-book on physiology, in every printed language the world over. In every school grade, from the lowest to the highest, the plain, untechnical statement of the facts would instill into the minds of rising generations the principles that would insure intelligent coöperation with all our efforts for the benefit of humanity.

All this literature for text-books, whether in English, French, German, Spanish, Italian, Russian or Japanese, should bear the stamp of their national medical organizations, and would, therefore, be authoritative. Educated thus from early youth in the simpler and fundamental truths of pathology, the coming generations would be armed against fallacious theories of disease, to say nothing of the effect such enlightenment would have on the fads continually springing up to impose on the people. One who is posted concerning the Klebs-Loeffler bacillus and its toxin, will hardly be tempted to rely on prayer alone for the rescue of a child stricken with diphtheria.

Meanwhile there is no necessity to wait for another session before beginning the work. The seed must be cast on the waters with a liberal hand, and the sooner the better. The officers of the committee to be appointed, or at least the secretary, should be provided with sufficient funds to enable them to enter into correspondence with national medical organizations in other lands, and to distribute appropriate literature among the clergy and prominent educators. Sample literature, proposed to be inserted in text-books, for the different school grades, should be submitted to prominent educators for suggestions or approval. Our publishing facilities at Chicago will enable us to do most of the necessary printing at nominal cost. The daily press should be judiciously used to arouse and maintain the interest of the public, and the ground so carefully and thoroughly prepared that when, at our next meeting, the final form and title of the effort is accepted and announced, the people will be ripe for action.

The effort is a noble one, worthy of the grand organization under whose auspices the writer hopes to see it inaugurated. Perhaps there may be opposition, though it is hard to say why there should be; but the right is greater than any man, however exalted, and will surely prevail. Sooner or later, the conditions herein suggested will be put into effective operation. There is not a single reason why the first step should not be taken at this session of the Association. In twenty years from now we will be no more ready for that first step than we are to-day. If we take it now, twenty years will find us far on the road to the goal, with some diseases eradicated, some diminished, and all under control; with a citizenship too enlightened to be duped by the Eddys and Dowies, too wise to allow helpless or careless sufferers to scatter broadcast the seeds of death. When preventive medicine has accomplished this task typhoid will be no more, malaria a curiosity, yellow fever a matter only of history, and the few accidental consumptives will bask in comfort in government sanatoriums among the sheltered valleys of the Rocky Mountains; while mankind at large will no longer look with dread on three-score and ten years, but will hopefully regard the century mark as about the proper thing. Let no thinking man dismiss this matter as visionary and impracticable. The necessary steps are plain and possible, and will inevitably lead to success if we rise to the level of our opportunity, and earnestly, without haste and without rest, pursue this, the true and final goal of preventive medicine.

This paper is brief because it deals only with fundamental principles. Matters of detail are hardly mentioned. The amount of ground to be covered at the beginning, whether the germs of one, two or three diseases; the varieties of appeal required, some for the scientific, others for the uneducated but practical, and still others for the enthusiasts, all these and many more matters are left for the consideration of the men into whose hands the subject may be confided. The field is wide. There is work for a lifetime. But to what loftier, nobler cause could a man consecrate his powers? No other profession or calling can vie with that of medicine in altruistic devotion to the welfare of humanity. This is the summit of our efforts, the *ne plus ultra* beyond which there lies no further possibility. Let us secure to our Association the glory of the attempt.

SPECIAL INFLUENCES OF THE HIGH ALTITUDES ON THE NOSE AND THROAT.*

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The subject has, unfortunately, to be considered largely from the standpoint of hypothesis and theory, as at present the facts do not admit of absolute proof. Personally, as a physician without numerous hospital cases to study or a physiologic laboratory to experiment in, I find it impossible to prove the truth of the theories I may entertain in this matter. Though my opportunities for observing these phenomena have been comparatively few at any one time, they have extended over some twenty-eight years of practice in Colorado, and, therefore, have the value of single spies, though they can not have the weight of battalions.

In rhinologic practice in Colorado one is struck with the fact that patients arriving from sea level often complain of nasal symptoms of which they had not been conscious at home. The reasons for this undoubted fact appear to me as follows: In the first place, the altitude causes a marked reduction of atmospheric pressure on all parts of the body, and consequently a greater fullness of the blood vessels of the skin and of the mucous membranes which are exposed to the air. As a result, there is a physiologic congestion of the blood vessels of the nasal cavities, especially of the erectile tissue of the turbinate bodies. Under these conditions it often happens that when a person is transported from sea level to a high altitude, in whom there exists some narrowing of the nasal passages, due to the presence of a septal deflection or spur, or to an hypertrophied turbinate, or a neoplasm, that the increase of the stenosis caused by this physiologic engorgement of the proximate tissues makes him conscious of a nasal deficiency, of which he may have been previously entirely ignorant. This person then feels his nose stopped up and perhaps suffers also from the induced nasal pressure and so passes under the observation of the rhinologist.

As a consequence of this stenosis there is produced a local suction effect as the air passes in and out. While the entire corporeal surface is placed as it were under a cupping glass, the area of stenosis is under a limited but much more powerful cupping glass.

Thus occur local conditions which establish a catarrh, unless the equalization of the general blood pressure, which takes place in a few weeks, that is, after accli-

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matization is established, causes a sufficient subsidence of the local turgescence, or unless relief is effected by treatment. But if the catarrh is unchecked there will ensue a complete and permanent stenosis from a chronic inflammation and enlargement of the proximate turbinate body.

Thus far we have dealt only with the influence of the rarefaction of the air, but there are other influences. The air at an altitude is not only rarefied, but it is exceedingly dry, so that the nasal mucous membrane is called on to yield up moisture to it much more largely and rapidly than at sea level. Consequently the normal mucoid fluid, which should bathe and lubricate the nasal tract, becomes inspissated, forming crusts on the surface and so giving rise to further obstruction, and culture mediums for germs are established. Thus pus is formed and ulcerations appear.

With the dryness of the air comes dust; not dirty but irritating dust, largely composed of minute sharp particles of granitic detritus, of mica, etc. This increases the local inflammation.

Another climatic factor always present in high climates is the wide range and the rapid changes of temperature between day and night, and between sunshine and shadow. In most localities there is also a constant movement of air and shifting of the wind, and on exposed plateaus or in mountain passes, high winds. Owing to the stenosis of one nostril brought about in this way, there develops a hypertrophic catarrh of the other nostril as a result of its having to work double tides.

Behind the influence of the climate on the circulation and exosmosis of the nasal mucous membrane, there is its direct one on the nervous supply of the nose. In the first place the climate stimulates the energy of the whole nervous system and so makes the nasal nervous mechanism more normal and more active, and also more sensitive in its response to stimuli. The overwork and fatigue brought about by the ineffectual efforts to overcome the physiologic and pathologic conditions described, result in more or less vasomotor paralysis, thus the temporary congestion becomes chronic and is greater than before. As a consequence of the resulting nasal stenosis, mouth breathing and catarrh of the nasopharyngeal and laryngeal membranes usually develop.

We have briefly dwelt on the injurious influences of the climate on certain pathologic conditions. Now, let us consider what can be done to mitigate them. Topical treatment by sprays, ointments or direct applications to modify the local congestions may in slight cases remove them, but generally such remedies are only of temporary benefit. Cauterization of a turbinate may sometimes be effective, but in many cases permanent relief will only come after surgical procedure has removed the structural causes of the stenosis.

When the catarrhal change in the membrane is slight after operation the catarrh will disappear, but when it is extreme, the cases improve much more rapidly and surely in a more moist atmosphere and on a lower level. Such cases after a time may return to the high ground and keep well.

In most cases in which there are local causes for a catarrh, there are also systemic disorders which aggravate it. When these disorders are of a nature which a high climate tends to relieve, there is naturally a more rapid and sure cure of the catarrh after appropriate local measures have been carried out, than would have ensued from similar local treatment at sea level.

Atrophic rhinitis is, in my opinion, usually made worse by a high climate, in which view I have the support of my colleague, Dr. Gildea, but, on the other hand, so high an authority as Dr. Levy takes the opposite view. Undoubtedly, the victims of this disease are often benefited in their general health by the tonic effects of the climate. But it stands to reason that with their wide open noses the dry rarefied air taxes to the utmost their defective capacity for moistening and warming the incoming air and far more than does a moist atmosphere with a high barometric pressure.

I have also observed that those cases which have previously had portions of the turbinates or septum too freely removed, suffer much more discomfort in high than in low climates.

It has been said that Colorado cures those who come with catarrh and induces it in those who come without it. The apparent reason for this statement is that undoubtedly a flabby weeping nasal membrane is much benefited, while a dry, irritable membrane suffers because its secretion which was sufficient at sea level is too scanty in a high climate.

CONCLUSIONS.

To sum up it may be said that:

1. Surgical measures are often demanded at an altitude in cases which had previously gotten along comfortably without it at sea level.

2. The results of such procedure are at least as satisfactory as elsewhere, but more than usual care must be taken to save all secreting tissue.

3. The local symptoms of atrophic rhinitis are aggravated, though the constitutional conditions are often markedly improved.

4. The moist form of hypertrophic rhinitis is much improved.

In disease of the accessory sinuses, if the appropriate relief is given, the affected surfaces dry up and heal more rapidly and surely than at sea level. In this respect the result is the same as is well known to be the case in the healing of other wounds and ulcerations.

With regard to surgical cases treated at an altitude, nasal or otherwise, it is undoubtedly true that they do better and require less postoperative care than at a low level.

There appears also to be an absence of the danger of infection to the wounds inflicted on tuberculous cases, which is usually so much dreaded elsewhere.

Thus far our discussion has been limited to the influence of altitude on the nose. We will now briefly consider its effects on the throat. In the first place it may be said that in most instances what affects the nose also affects the throat. This applies to disorders whether of local or systemic origin. The limits of this paper do not permit a full discussion of the influence of the climate on tubercular laryngitis, but it may be here stated that the experience of the writer and most of his colleagues is that it is decidedly favorable. Of course, it is recognized that tubercular laryngitis is for the most part an expression of a tendency of the tuberculosis to spread, and that the great majority of the cases die from their pulmonary tuberculosis, yet the narrow margin of recoveries is less narrow when the cases are treated in a high altitude, and that local treatment is much more successful than at sea level.

The tonic and stimulating effects of the climate, both direct and indirect, are as markedly beneficial to local

and general anemia as they are irritating to plethoric and hyperemic conditions.

DISCUSSION.

Dr. Melville Black, Denver.—I would be inclined to consider the dryness of the climate the most important in its effects. In the beginning the immediate effect is very largely that of reduced atmospheric pressure, producing temporarily a sort of vasomotor paresis; at least the patient has the symptoms of such in a mild form. This passes off after a few weeks. Our relative humidity is something like 49 per cent. The relative humidity in New York is 75 per cent.; San Francisco, 75 per cent.; Portland, Ore., 80 per cent. So that you see the relative humidity at sea level is about double that of Colorado. When we say the average is 49 per cent., that does not represent the humidity as it usually is. The morning and evening humidity is greater than that during the day, but it brings up the figures of the statistics. At noon it probably would usually run not higher than 20 or 25 per cent. Therefore, in Colorado the nose has to do fully double the work required at sea level in order to bring the inspired air up to a point of saturation. The prevalent complaint of all of our residents is of dryness. When we come down to New Orleans we find that our noses feel unusually comfortable. I think Dr. Solly will bear me out in this. We have hypertrophic conditions as the result of the increased function, followed by a form of mild sclerosis. Septal deviations and other conditions, which would naturally contribute to make it more impossible for the nose to perform its normal functions, require operation more in Colorado than elsewhere. I do not think Dr. Solly or myself would like the impression to go out that we have a climate that is particularly prolific in the production of "catarrh." I have never seen anything serious from it. I do not believe our climate will help dry nose and middle-ear conditions. When patients are to be sent to Colorado for otitis media, catarrhalis chronica these factors should be considered.

Dr. H. W. Loeb, St. Louis—One feature of the paper is of especial moment to me, coming so soon after the rather unequivocal statement made by Levy at Washington last year, that laryngeal tuberculosis is improved in Colorado. The fact that the patient has laryngeal tuberculosis should not militate against sending him to Colorado. Until last year my practice has been to tell such patients that nothing in the way of hope is offered by Colorado or any other climate after the larynx is affected. This coincides with what some of the German authors say on the matter. But since last year it has been my practice to send the cases of laryngeal tuberculosis to Colorado. The Colorado members of our specialty feel that in Colorado there is some hope for these patients.

Dr. Sargent F. Snow, Syracuse, N. Y.—I now find it unnecessary to treat my cases of laryngeal tuberculosis locally if the pulmonary conditions are urgent, but immediately send them where they get dry pure air. If they are in an early stage, so far as the pulmonary condition is concerned, I treat them locally for a while. I have sent to the Adirondacks five cases in which there were marked ulcerations and infiltrations of the larynx, and they have all healed up perfectly and have good restoration of function. In cases with the peculiar hard spasmodic cough, an examination of the vault of the pharynx will show a granulated condition, sometimes an intensely irritated area, on which crusts form, and if this be treated with applications of nitrate of silver, 40 grs. to the ounce, we give them very great relief. But I do not think we are justified in keeping these patients in their home environments for local treatment. Get them as soon as possible into higher and drier climates. I feel sure that 2,000 feet is a better altitude than 500, but I have had only a limited experience with altitudes greater than 2,000 feet.

Dr. S. E. Solly, Colorado Springs—We are very firmly impressed by the remarkable results we get in Colorado, particularly when we have to use operative measures in the larynx and throat, which we find can be carried on there with much less risk and with better results than are usually obtained at sea level. Moreover, there is apparently much less danger of a laryngeal wound becoming infected by tuberculous sputum passing over it.

ARRESTED TUBERCULOSIS.

SUBSEQUENT HISTORIES OF SEVENTY-NINE ARRESTED CASES TREATED AT THE SHARON SANITARIUM FROM 1891 TO 1902.*

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BOSTON.

Four years ago I had the pleasure of giving the subsequent histories of thirty-four "arrested" cases of pulmonary disease treated at the Sharon Sanitarium from 1891 up to 1899.[1] I will not apologize for bringing up the subject again, for all will agree that it is the after-histories of such cases which prove the efficacy or otherwise of methods which are now so prominently before the public.

Let me again cite the fact that these results have been obtained in a climate thought to be most unfavorable for consumptives, not far from the sea-coast and at the insignificant altitude of between 200 and 300 feet only above sea-level. In these latter particulars the Sharon Sanitarium was for several years unique. During recent years, Dr. Millet's sanatorium at East Bridgewater has been built with similar conditions, although it is intended for patients who are of a more well-to-do class than those at Sharon, where only patients of limited means are received. The State Sanatorium at Rutland, opened in 1898, has an elevation of 1,100 feet, and is fifty miles from the sea.

Again let me refer to my use, up to the present time, of the term "arrested," which has included all those cases in which abnormal outward symptoms have disappeared, many of them having justified the more favorable terms used by some authorities, "apparently cured" or "cured," at the time of discharge.

Since my last paper, the institution has been enlarged from the capacity of nine to twenty-one beds.

The total number of cases discharged since the opening of the institution in February, 1891, up to April 1, 1902, is 182. Five of these remained but a few days, and were not under treatment, and 13 were cases of asthma or simple bronchitis; therefore, 18 are not considered in the results.

In tabulating the remaining 164 cases which are considered, I have allowed a year to elapse since the last one of the number was discharged.

Seventy-nine of these 164 cases were recorded as "arrested," a percentage of 48.17+ of all the phthisical cases.

Of these 79 cases, which include those mentioned in my report of four years ago, 12, or 15.2 per cent., have died since leaving the institution, after varying intervals of comparative health.

In my previous report, 6 out of the 34 "arrested" cases had died. In that paper, I gave the probable reasons for the relapse and explained that in one the cause of death was from shock during some uterine operation, no trace of previous pulmonary disease having been noticed by the attending physician previous to the patient's

* Read before the American Climatological Association.

1. Subsequent Histories of Arrested Cases of Phthisis Treated at the Sharon Sanitarium. Boston Med. and Surg. Jour., June 22, 1899. Trans. Amer. Climatological Assn., 1899.

TABLES OF CASES OF

	Case.	Occupation.	Entered.	Stay in San.	Diagnosis.	History.	Hemoptysis
1	1. M. S.	Typewriter	2, 16, 1891	4 months.	Adv. ph.	Run down 5 years; cough; sweats; ph. family history	-
2	3. A. P. E.	Teacher	3, 31, "	5 "	Ph	Ph. history on father's side; cough 8 months; sweats and dyspnea	+
3	4. A. McD.		5, 27, "	2½ "	Incip. ph	"Throat irritation" 4 to 5 years.	?
4	9. J. W	Housework	6, 24, "	3 "	Pulmon'y and laryngeal tbc.	Cough and hoarseness for a year	?
5	10. I. W. S.		7, 7, "	12 "	Incip. ph	Mother died of ph.; cough 9 months; dyspnea	+
6	20. N. M. B.		10, 6, "	6 "	" "	Cough 18 months; pain on r.	0
7	24. G. E. M.	Box factory	11, 28, "	4. "	" "	Mother had (?) ph.; cough 2 years, off and on	+
8	27. J. A. McD.	Tailoress	4, 13, 1892	5½ "	" "	Ph. on mother's side; hemoptysis three weeks before; dyspnea eighteen months.	+
9	28. M. L. L.	Housework	4, 13, "	5½ "	" "	Pain between shoulders 1 year; cough 1 month.	?
10	31. A. R. L.		5, 31, "	12½ "	" "	Ph. marked in family history; cough 1 month	+
11	33. L. A.	Box factory	7, 23, "	23 "	" "	Cough 1 year; dyspnea; sweats	+
12	36. L. H.	Bookkeeper	10, 4, "	32 "	" "	Mother d. of ph.; four of mother's family of ph.: hemoptysis 8 weeks before.	+
13	37. L. McL.	Dressmaker	10, 8, "	4 "	" "	Bronchitis 9 years before; poorly since; cough 1 year	0
14	41. F. A. B.		1, 14, 1893	11 "	Ph	Ph. on mother's side; cough 6 months; dyspnea	+
15	42. S. C.	Domes. ic	1, 25 "	21 "	Incip. ph	Sister d. of ph.; cough 6 months; pain r	-
16	49. H. Q	"	7, 27, "	14 "	" "	Two brothers and two sisters d. of ph.; told 5 years before she would not get well of ph.	+
17	50. M. M. S.	Saleswoman	10, 25, "	5 "	" "	Slight cough over 1 year; hemoptysis	+
18	51. M. W.	Housework	1, 31, 1894	14 "	Ph	Mother d. of ph.; pneumonia 4 years before with pain since; cough 18 months.	+
19	53. R. B.	"	5, 14, "	13 "	Incip. ph	One brother d. of ph.; 11 brothers of father d. of ph.; cough and pain 9 years.	0
20	59. E. V. M.		7, 30, "	21 "	" "	Mother d of ph. and 1 sister; cough 2 years	+
21	63. M. J. T.	Housework	11, 8, "	2½ "	" "	One aunt d. of ph.; cough 2½ months; sweats	0
22	64. L. E. W.	Dressmaker	1, 2, 1895	4 "	Anemia, incip. ph.	Two uncles and 1 aunt d. of ph.; "typhoid" 6 years before with slight cough since.	0
23	65. H. K.		1, 8, "	4 "	Incip. ph	Run down 18 months; occasional cough.	0
24	68. D. S.	Housewife	5, 5, "	17 "	Ph	Cough off and on 3 years.	0
25	79. J. C.		4, 30, 1896	3 "	Incip. ph	Three of father's family d. of ph.; bronchitis 18 months before with occasional cough since.	0
26	80. M. B.	Attendant	5, 8, "	13 "	" "	Cough 4 months.	+
27	81. B. M.	Cashier.	5, 25, "	15½ "	" "	Father, mother and 2 brothers d. of ph.; cough off and on 10 months; — esp. + 3 months.	0
28	82. A. G. C.	Housework	6, 2, "	1½ "	Anemia, ph.?.	One sister d. of ph.; run down 6 months; O cough	0
29	84. N. A. C.	Bookkeeper.	7, 4, "	13 "	Incip. ph	Cough 6 months	0?
30	85. A. K.	Stenographer	8, 6, "	9 "	" "	Cough 5 months	0
31	88. M. E. A.	Librarian	12, 12, "	9 "	Ph. (fibroid?).	Mother and mother's mother d. of ph.; frequent cough 10 years.	0
32	93. S. K. C.	Waitress	3, 15, 1897	8 "	Incip. ph	One sister d. of ph.; hemoptysis 21 years before; cough 1 year	0
33	94. J. E. P.	Seamstress	5, 21, "	3½ "	" "	Two sisters d. of ph.; cough 2 years	0
34	95. M. M. N.	Cook	7, 2, "	2 "	Pleurisy without eff.	Pain in chest 2 years before; O cough	0
35	99. J. A. M.	Housewife	10, 6, "	11½ "	Incip. ph	Two aunts d. of ph.; cough 4 months	0
36	101. C. B. M.	Teacher	10, 30, "	6½ "	" "	One uncle d. of ph.; cough 6 months	+
37	102. A. N.	Maid	12, 1, "	3½ "	" "	Cough 2 months; profound anemia	0
38	104. F. C.	Dressmaker.	1, 27, 1898	21½ "	" "	Slight cough 5 months.	+
39	108. N. L. C.	Clerk	6, 9, "	3 "	" "	Father d. of ph. and all his family; cough several years.	+
40	110. I. W	Housework	6, 20, "	year	" "	One sister d. of ph.; cough 1 year; pain across chest front	+
41	111. A. K.	Teacher	7, 7, "	years and 2 months	Incip. ph. T.B. of bladder.	Cough 15 months	+
42	112. A. N.	Mission	7, 11, "	1 year	Incip. ph	Cough 21 months; sweats; pain on l.	0
43	114. A. B.	Stenographer.	10, 25, "	8½ months.	" "	One brother d. of ph.; cough 9 months; dyspnea	+
44	115. M. G. T.	Teacher	10, 31, "	7½ "	" "	One sister d. of ph.; pain r. 9 months before with cough	0
45	116. L. G.	Maid	11, 22, "	11 "	" "	Cough 6 weeks	0
46	120. S. B. F.		7, 19, 1899	14½ "	" "	Mother and sister d. of ph.; cough 1 year; sweats	0
47	122. A. D	Nursegirl	11, 23, "	11 "	" "	One brother and 1 sister d. of ph.; cough 4 weeks; sweats	+?
48	123. M. M.	Maid	12, 14, "	3½ "	" "	One brother and one sister d. of ph.; pain l. 3 years before; cough 2 months.	0
49	124. M. L		1, 9, 1900	4 "	Pleurisy; incip. ph.	Pain on r. 3 weeks with cough	0
50	125. M. N		1, 30, "	5 "	Incip. ph	Pneumonia(?) 2 years before; glands removed 3 years before; occasional cough.	+
51	126. M. G. D.		5, 29, "	11 "	Well-marked ph.	One sister d. of ph.; cough 10 months before	0
52	127. E. A. McG.	Nursemaid	6, 12, "	7 "	Well-marked ph.	Pneumonia 6 years before; cough 3 months	+
53	129. L. B. W.	Housewife	9, 14, "	7 "	Ph	Father d. of ph.; cough 3 months	+
54	130. M. E. S	Cotton mill	10, 13, "	6 "	"	Father, 2 brothers and 2 sisters d. of ph.; cough 2 months	0
55	136 F. A. L.	Housework	10, 22, "	8 "	"	One sister, 1 aunt and 1 uncle d. of ph.; cough 3 months; sweats	+
56	139. M. T	Dressmaker	10, 24, "	5 weeks.	Incip. ph	Cough 18 months with occasional hemoptysis	+
57	140. M. V	Housewife	10, 24, "	5 "	" "	One uncle d. of ph.; cough 8 months.	0
58	144. M. A	Bookkeeper	11, 5, "	5½ months	" "	Cough 3 years before; O at entrance	0
59	144. E. A. D.	Housewife	12, 5, "	3½ "	" "	Cough 4 years with occasional bloody sputa	+

ARRESTED TUBERCULOSIS.

Physical Signs.	T. B.	Years Since Disch.	Date of Death.	Present Condition.	Present Occupation.	Remarks.
Dul. r. apex; clicks both sides.	+	. . .	1897; 6 years after discharge.	*Dead*.	. . . . .	Had two tapeworms later; swallowed ammonia by mistake; grippe; relapse.
R. front dull to fourth rib and all over r. back; slight crackles after cough.	+	. . .	Dec. 31, 1892; 15 mo. after disch.	*Dead*.	. . . . .	Died of acute illness; sick 2 3 days; resumed teaching, against advice, in badly ventilated building.
Slightly jerky at r. apex..	0	12—	. . . . .	Good Feb. 20, 1903	Hat factory. . . .	
Dul. r. top with tubular resp.; clicks r. lower front.	0	12	. . . . .	"	Housework. . . .	
Slight dul. r. apex with faint râles; also râle on l., esp. in back.	0	11—	. . . . .	" Feb. 20, 1903	" . . .	Married 6 years; 3 children.
Slight dul. r. apex with b. v. resp. and (?) râle.	0	11	. . . . .	" " " "	" . . .	
Nothing abnormal	0	11	. . . . .	" Jan. 1, 1903. .	. . . . .	Married and has 1 child; proved later to be tubercular. but now well.
Slight dul. l. apex with rare râle to third rib; rare râle on r.	0	10½	. . . . .	" Feb. 20, 1903 .	Housework. . . .	Married; has 2 children.
Slight dul. r. apex with faint râle front and back; V. R. +.	0	10½	. . . . .	" " " "	" . . .	Married.
Slight dul. l. apex with râle above l. clavicle and low r. back.	0	9—	. . . . .	" " " "	. . . . .	
Slight dul. r. apex with slight B. V . . .	+	9—	. . . . .	" 1903.	Nurse.	
O dul.; coarse clicks both apices	+	8	. . . . .	" Feb. 20, 1903 .	Housekeeper. . .	
O dul.; faint râle r. apex and lower r. axilla.	0	. . .	1895; 2 years after discharge.	*Dead*.	. . . .	Resumed unhygienic occupation.
Slight dul. lower r. back with faint br. and occ. râle; (?) râle at top.	+	. . .	July 4, 1895; 18 mo. after discharge.	*Dead*	. . . . .	Returned to very damp house; remained well while away.
Slight dul. r. apex with ? râle.	+	. . .	Dec., 1895; 1 year after discharge.	*Dead*	. . . . .	Died from operation; no trace of pulmonary disease found just before death.
Slight dul. mid. r. back with faint râle .	+	8½	. . . . .	Excellent.	Maid	
Sl. dul. in r. apex and in lower r. back; obscure resp. ? crep'n anter. axillary.	+	8	. . . . .	" 1902 . . .	. . . . .	
Dul. r. apex with fine râle V. R. +; also râle on l.	+	. .	Mar. 23, 1900; 5 yr. after discharge.	*Dead*.	. . . . .	Well for 2 years after discharge; overwork brought on relapse.
Slight dul. r. apex without râle	0	8	. . . . .	. . . . .	Housework. . . .	Health good at last report, 3 years ago.
Slight dul. r. apex with faint râle; V. R. + both sides.	+	7	. . . . .	Good, Dec., 1901. .	. " . . .	
Slight dul. both apices; ? râle by sp. l. scap.	0	. . .	Dec., 1897, 1 year after discharge.	*Dead*.	. . . . .	Readmitted June 13, 1895; T. B. found then; unsan. surroundings; hard work.
Slightly harsh both tops back; ? râle sp. both scap.	0	8	. . . . .	Good, 1902. . . .	Dressmaker. . .	
B. V. and V. R. + both tops; râle l. apex	0	8	. . . . .	Good accounts last report.	. . . . .	No report received of late.
Dry râle l. top; faint râle r. top . . .	+	7—	. . . . .	Good, Jan. 14, 1903	Housewife	
B. V. resp. in apices	+	7—	. . . . .	" 1902	Housework. . . .	Discharged improved; arrested later.
Faint moist râle above r. clav. and spine scap. with b. v. resp.	+	6	. . . . .	" Jan. 14, 1903.	Keeps boarding house.	
Slight dul. r. apex; faint râle l. apex . .	+	. . .	1903, 5½ years after discharge.	*Reported dying* Jan., 1902.	. . . . .	Readmitted; remained well 3 or 4 years after discharge; remarkable case.
Resp. prolonged r. apex behind	0	7	. . . . .	Good, Jan. 14, 1903	Housework. . . .	
Resp. + r. apex; V. R. +; râle l. apex . .	0?	6—	. . . . .	" " " "	Bookkeeper. . .	
Slight dul. apices; fine râle in bk. and at l. scap.	+	6	. . . . .	" " " "	Nursing.	
Dul. with b. v. r. apex; fine râle l. front low l. bk.	0	6—	. . . . .	" " " "	Housework. . . .	Readmitted for 7 months; married later.
Dul. apices and l. right bk.; crep. in low r. bk.	0	5+	. . . . .	" " " "	Waitress.	
Clicks above each clav.; b. v. in r. apex bk.	0	6—	. . . . .	" " " "	Dressmaker. . .	
Dul. with rub. lower two-thirds r. chest .	0	6—	. . . . .	" " " "	Housework. . . .	Married; 1 child.
Dul. with râle and ? rub. low l.; ? râle in r.	+	4½	. . . . .	" Feb. 20, 1903 .	Clerk	
Dul. r. apex with V. R. +; faint click above each clavicle.	0	5	. . . . .	Good, Feb. 20, 1903	. . . . .	
Slight + pitch r. apex	0	5	. . . . .	" " " "	Cook.	
Dul. upper half r. back without râle. . .	0	3½	. . . . .	" Jan. 14, 1903	. . . . .	Says grows stronger each year.
Note + over r. bk.; ? crep. below l. scap.	0	4½	. . . . .	" " " "	Housework. . . .	
O dul.; ? râle low r. and l. back . . .	0	4	. . . . .	" " " "	. . . . .	Married; 2 children.
Dul. r. apex; slight b. v. and V. R.; sl. +	+	1½	. . . . .	Fair, " " "	Teacher.	Had urinary tuberculosis also.
Percussion dull both apices; resp. and V. R. + on r.	0	4	. . . . .	Good, Feb. 20, 1903	Mission.	Married; 1 child.
Dul. r. apex and slight on l.; râle r. bk. and on l. at top.	+	4—	. . . . .	" Jan. 14, 1903	Housework. . . .	Married.
Dul. + r. bk. and axilla with dim. resp. and ? râle; ? râle r. top front.	0	4—	. . . . .	" " " "	Teacher.	
Dul. r. apex with râle in front	0	. . .	1900	*Dead*.	. . . . .	Complicated with mitral disease; lived in damp house; relapse.
Slight dul. l. apex without râle; râle r. apex.	0	2½	. . . . .	Good, Jan. 14, 1903	. . . . .	
O dul.; sonorous râle all over l.	+	2½	. . . . .	" " " "	Stitcher.	
Slight dul. l. top with faint râle and b. v. — less degree on r.	+?	3	. . . . .	" Nov., 1901. .	Maid	
Slight dul. r. top and base front and back; faint râle at base.	0	3	. . . . .	" Dec. 26, 1901	Housework. . .	
Jerky low l	+	3—	. . . . .	" Jan. 14, 1903	Student.	
Dul. both tops behind; râles all over l.; ? r. top.	+	. . .	Jan. 4, 1903, 2 years after discharge.	*Dead*.	. . . . .	Arrest of disease unexpected; remained well several months; sudden decline.
Dul. both tops with râles + ...	0	. . .	Jan. 21, 1902, 1 yr. after discharge.	*Dead*	. . . . .	Died of phthisis; had been in sanitarium for some time without cough and for sometime after discharge; died suddenly.
Dul. r. top with clicks, esp. in bk	+	2	. . . . .	Good, Jan. 14, 1903	Factory.	
Slight dul. l. top with râles; also in l. axilla râle.	+	2	. . . . .	" " " "	Clerk	
Slight dul. r. top with râle; faint râle ou l. top.	+	2—	. . . . .	Poor, " " "	. . . . .	
Slight dul. both tops with faint râle l. front and ? l. bk.	0	2½	. . . . .	Fair, " " "	Dressmaker. . . .	Went away much too soon, against advice.
Slight dul. both tops with faint râle above clav.	0	½	. . . . .	" " " "	Housewife	Went away much too soon, against advice.
Slight dul. apices, esp. l.; rare wheeze r. top and low r. bk.	0	2	. . . . .	Good, " " "	Bookkeeper. . . .	
Jerky l. apex; fine râle 3d l. interspace and opp. mid. l. scap.	+	2	. . . . .	" " 16 "	Housework. . . .	

TABLE OF CASES OF

Case.		Occupation.	Entered.	Stay in San.	Diagnosis.	History.	Hemoptysis.
60	149. E. C. C. .	Student.	12, 26, 1900	5⅔ months .	Adv. ph. . . .	Cough 8 months; sweats.	0
61	150. A. R. . . .	Stitcher.	1, 7, 1901	4⅔ " .	" "	Hemoptysis 10 months before; cough 11 months	+
62	152. S. G. P. .	Milliner.	1, 26, "	4 " .	Incip. ph . . .	Subject to cough always, esp. last 2 weeks; sweats.	0
63	153. A. J. F. . .	Housewife .	2, 11, "	3½ " .	" " . .	Hemoptysis 8 months before with cough	+
64	154. S. A. S. . .	" . .	3, 9, "	6 weeks . .	" " . . .	Cough 3 months with bloody sputa & sweats.	+
65	156. M. A. C. .	Machine operator	4, 4, "	6½ months .	" " . . .	Pleurisy 1 year + before, with cough since	0
66	158. E. G. . .	Typewriter	5, 3, "	4½ " .	" " . . .	O cough; slight pain up l. front.	0
67	160. A. M. M .	Teacher.	5, 9, "	5 " .	" " . . .	Cough 1 month; slight dyspnea	0
68	161. K. G. . .	Nurse.	5, 15, "	4 " .	" " . . .	Pneumonia 3 weeks before; sweats	0
69	163. B. B. O. .	Stenographer. . .	5, 17, "	8 " .	Well-marked ph.	Pneumonia 7 months before; sweats	0
70	164. J. M. M. .	Hairdresser . . .	5, 23, "	3⅔ " .	Incip. ph . . .	Running down 2 years; no cough	0
71	171. A. T. M. . .	Housewife	6, 15, "	5½ weeks . .	" " . . .	No esp. chest symptoms	0
72	172. R. J. F. .	Maid	6, 17, "	3 months .	" " . . .	Cough 2 years; sweats 1 year before.	0
73	174. L. E. W. .	Housewife	6, 22, "	1⅓ " .	" " . . .	Occasional slight hemoptysis; O cough.	+
74	176. A. N. G. . .	Nurse.	7, 30, "	7 " .	" " . . .	Run down for 4 years; sweats 2 years before	0
75	179. L. E. K . .	Bookkeeper. . . .	9, 19, "	2½ " .	" " . . .	Cough 12 years	0
76	181. M. A. McK.	Housework. . . .	9, 21, "	5⅔ " .	Well-marked ph.	Pneumonia about 3 years before; cough 3 months; sweats	+
77	182. M. G. M. .	"	9, 23, "	2½ " .	Incip. ph . . .	Cough 2 months; sweats.	0
78	183. G. A. O. .	. . . . .	9, 27, "	2½ " .	Tub. adenitis	Bunches in neck 2 years; O cough.	0
79	188. F. R. G . .	Housework	10, 23, "	4 " .	Incip. ph . . .	Cough 1 month.	+?

death. In the other 5 a return to unhygienic surroundings had brought about a relapse in patients who had on entrance marked symptoms of disease varying in extent and severity, and in whom any arrest of disease was thought on entrance to be improbable.

Since that time two more of those then reported (Nos. 18 and 27 of the following list) have died, both of whom had had well-marked disease in one or both lungs before entrance, and in whom the arrest was a remarkable proof of the efficacy of sanitarium treatment. One of these returned to a life of drudgery with four small children and no servant to assist her. She remained very well for two years at least, but finally broke down and died five years after discharge. The other, all of whose family had died of phthisis, remained in excellent health without any abnormal symptoms, in spite of hard work in Boston and in Florida for three years. After marriage she broke down again. Her cough returned. She again entered the sanitarium, where her cough again ceased completely for several months, but in consequence of a severe cold last autumn she had another relapse, failed rapidly, and died this winter in Florida.

The histories of the remaining 4 of the 12 who have died are significant. Only one (No. 45 of the following list) was what can be called an "incipient" case, with râles at one apex, complicated with severe mitral disease which rendered the treatment more difficult. An arrest of the cough and expectoration was accomplished, but on return to a damp, unhealthy house, the patient relapsed, rapidly failed, and died not long afterward. Two others (Nos. 51 and 52) had well-marked symptoms in both lungs, but remained two or three months in the sanitarium without cough or other abnormal symptom, and for months after discharge were in excellent health. For reasons not fully explained, however, both these cases suddenly developed serious symptoms again, and died one and two years after leaving the sanitarium. The remaining case (No. 61) had far-advanced disease in one lung. After a stay of 4¾ months at Sharon she left without any abnormal outward symptom, looking perfectly well, and remained so for several months; but a return to objectionable methods of life in the city brought on a relapse, and she died in 1902.

Of the remaining 67 "arrested" cases, excellent accounts are received with only one or two exceptions, the former having sent no report at all of recent years. She was known to be feeling well at last accounts. The latter, a case of fairly well-marked disease, has failed in strength, and doubtless will sooner or later succumb to the disease. The majority write enthusiastically of their good health, some of them having left the sanitarium ten years ago. All are employed in their homes or in occupations which, as a rule, allow them to be out of doors more than before.

It would be impossible, of course, to give each case in detail to you here. A tabulation will be made with the published paper whereby one may judge fairly well for himself of the results claimed. For the laborious and careful preparation of these tables I am greatly indebted to Dr. Walter A. Griffin, the resident physician at the sanitarium.

I am aware that some of the cases could be possibly challenged from the fact that the presence of bacilli could not be proved and because the tuberculin test had not been tried. In answer I can only say that only those cases have been taken which experience teaches us usually develop later more definite signs of disease under unfavorable conditions. I wish it were in my power to bring before you some of these patients, now apparently well, who were in the sanitarium formerly. Their presence and aspect would speak more eloquently to you than my mere statements of what can be done. I must content myself, however, by citing a single case as an example.

One woman (H. Q.), a domestic, was sent to Sharon from the Massachusetts General Hospital out-patient department in 1893, with bacilli in her sputa and having evidences of trouble in the right lung. She had previously been told by a physician in Ireland that she had consumption and could not live. After a stay of 14 months, she left the institution, a magnificent specimen of health, her cough having ceased several months before. She has remained perfectly well since (9 years), having been actively employed as a domestic in

ARRESTED TUBERCULOSIS.—*Continued.*

Physical Signs.	T. B.	Years Since Disch.	Date of Death.	Present Condition.	Present Occupation.	Remarks.
+ dul. both apices, esp. r.; bronchial r. apex front; coarse râle over r.	+	2—	. . . . .	Good, Jan. 16, 1903	. . . . .	
+ dul. all over r. with bronchi'l at top and râles except low half bk.; ? râle l. apex	+	. . .	1902, 1 year after discharge.	*Dead*.	. . . . .	Returned to old unhygienic conditions.
+ dul. r. apex; V. R. +; O râle. . . .	+	2	. . . . .	Good, Dec. 20, 1901	. . . . .	
Dul. r. apex with fine râle in ft.; V. R. +	+	2—	. . . . .	. . . . .	. . . . .	
Dul. r. apex with ? râle in bk.; V. R. + .	0	2	. . . . .	Good, Jan. 16, 1903	Housework. . .	
Dul. r. apex with b. v. and ? râle.; râle low r. axil.	0	1½	. . . . .	" " " "	Stenographer. . .	Had pleurisy with effusion.
Dul. r. apex with + T. F.; fine râle third l. interspace.	0	1½	. . . . .	" Feb. 20, "	Singer	
Dul. l. apex back with b. v. and V. R. +.	+	1½	. . . . .	" Jan. 16, "	Teacher. . . .	
Dul. l. apex with moist râle over upper half; ? fine râle r. apex.	+	1½	. . . . .	" " " "	. . . . .	
Dul. both apices, esp. l. and + + at l. base; râles over l. and few on r.	+	1+	. . . . .	" Oct., 1902. .	. . . . .	
Dul. r. apex and slight l.; fugitive râle r. and l. front.	0	1½	. . . . .	" Jan. 16, 1903	. . . . .	
Dul. r. apex — slight; râle r. top back. .	0	2—	. . . . .	. . . . .	. . . . .	Left because of sickness in family.
Slight dul. r. top with râle in bk.	0	1½	. . . . .	Good, Jan., 1903. .	. . . . .	
Dul. r. top with b. v. and ? râle in back; fine râles third l. interspace.	0	2—	. . . . .	Fair, Jan. 16, 1903	. . . . .	Left against advice.
Dul. both tops with slight + resp. and voice.	0	1	. . . . .	. . . . .	. . . . .	Tuberculin pos.
Slight dul. both tops with faint râle on r.	0	1½	. . . . .	Good, Jan. 16, 1903	. . . . .	Tuberculin pos.
Dul. l. esp. in lower front with râle; ? râle on r.	+	1	. . . . .	"	. . . . .	
Slight dul. both tops; fine râle on r.; ? on left.	0	1+	. . . . .	" Feb. 13, 1903	Housework. . . .	
Slight dul. l. apex and r. top in bk.; ? râle r. top; glands l. neck.	0	1+	. . . . .	" Jan. 16, 1903	. . . . .	
Less res. over r.; O rale	0	1	. . . . .	. . . . .	. . . . .	Tuberculin pos.

Boston and the suburbs, and lately wrote that she was never better in her life. I could cite several other cases which differ only in minor details, but this will serve as an example of what can be done not far from home in a changeable, harsh climate, at an altitude not far above sea-level.

In citing these cases I do not wish to be misunderstood. I have never been one of those who believe because of the success of sanatorium treatment in a large percentage of cases in a climate like that of New England, that it is, therefore, unnecessary for any one to seek another climate. I believe, as I have stated elsewhere, that in more salubrious climates better results can be obtained by this method than with us; but for the hundreds and thousands of sufferers who for various reasons can not go far from home, institutions like Sharon, Rutland and that of Dr. Millet at East Bridgewater are of inestimable value. I claim, moreover, after twelve years' observation, that it has been shown that it is not always necessary to send people far away in order to get well.

To keep the subsequent histories of sanitarium patients before use is, therefore, of ever-increasing interest, for by so doing we learn the true value of what may have been of the nature of an experiment at the outset.

What may we learn by studying these cases? Not only that more can be done near our homes by these methods than has been thought possible in former years, but that a large percentage of patients in whom the disease is arrested can remain well under ordinary conditions of life, especially if attention is paid to proper methods of hygiene. On the contrary, we learn that a return to unhealthful conditions is in the majority of cases usually, although not always, followed by relapse and a fatal result.

It is made more evident, too, which has been often said, but it can not be said too often, that in order to obtain the best results, patients should be placed under treatment during the earliest possible manifestations of trouble, notwithstanding the fact that in many cases of well-marked disease success has been attained.

In this paper I have confined myself solely to the histories of "arrested" cases, and have said nothing of the large percentage of those who have so much improved that they have become wage-earners again and a comfort to their families, even though they may not have wholly recovered their health. Neither have I touched on the educational influence which such institutions have on the community, a fact which I believe to be of as great importance as the benefit to the individuals themselves who enter for treatment. These points must be left, however, for other times and places.

As to methods of treatment and details of management at Sharon, they can not be enlarged on here. Suffice it to say they are what are employed in all well-regulated sanatoria of this nature. It may be said, however, that within the past three years the fresh-air treatment has been pushed to its utmost limit, even in the coldest weather, the results being even more satisfactory than in the earlier years of the sanitarium. Elsewhere[2] I have touched on this special point.

In conclusion, let me say that it is my belief that these methods will be found to be efficacious in all forms of tuberculosis, whether of medical or surgical nature. Surgeons are already seriously discussing the wisdom of fresh-air treatment in tubercular joint disease, and if we reason by analogy I see no reasonable ground for doubt that such cases will find it at least an adjunct as powerful for recovery as it is in pulmonary disease.

THE RED-LIGHT TREATMENT OF SMALLPOX.

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In a former issue of THE JOURNAL[1] there appeared an article by Dr. J. F. Schamberg, entitled "An Examination into the Claims of the Red-Light Treatment of Smallpox." He criticises the treatment: 1, Because I called it a new one; 2, because he considers my theoretical views concerning smallpox and light to be wrong, and 3, because he is of the opinion that the red-light method has proved inefficacious, and that the good results in all former experiments may have been due to

2. Origin and Growth of Sanatoria for Tuberculosis in Massachusetts. Jour. of Tuberculosis, vol. v, No. 2, April, 1903.

1. May 2, 1903, page 1183.

other factors; and he further suggests that the cases so treated were probably so mild in type that they would have escaped suppuration without the red-light treatment.

I. "THE RED-LIGHT TREATMENT IS NOT NEW."

I am surprised that Dr. Schamberg should consider the modern red-light treatment to be the same as the one employed in the middle ages by Gaddesden and others. The modern red-light treatment is a negative treatment, its object being to prevent the chemical rays of daylight or light from acting injuriously on the patient. Whether this be obtained by leaving the patient in entire darkness or in red light is in itself quite immaterial. I have recommended red light because it is more agreeable than complete darkness, while it is of the same value in the treatment, but I have no doubt that either dark-yellow or dark-green curtains might be used, provided only that they are so dark as to exclude the chemical rays.

In my papers on the subject I have used the expression "treatment of smallpox by exclusion of the chemical rays of daylight" more frequently than that of "red-light treatment," thus avoiding the danger of mistake as to any similitude with Gaddesden's treatment. The latter term, however, has the advantage of being shorter and more easily understood, especially by those who have some idea of photography and of the photographer's red-room. Gaddesden's treatment was a positive one, and consisted in surrounding the patient with all sorts of red things, red pictures on the walls, red balls in the patient's bed, etc. Dr. Schamberg himself quotes the following description of John of Gaddesden's way of treating the Prince of Wales, who was "treated for smallpox by being put into a bed surrounded with red hangings, covered with red blankets and a red counterpane, gargling his throat with mulberry wine and sucking the red juice of pomegranates." At that time it did not occur to them to shut out the light from the sick-room. Their explanation of this peculiar treatment was that the red articles should irritate the blood just as a bull is irritated by a red cloth, thus producing a more pronounced erythema, that is, forcing all the "bad matter" to get out."[2]

The object of the modern "red-light" treatment is just the opposite, viz., to make the exanthem less pronounced. When, in spite of all this, Dr. Schamberg states that the modern red-light treatment is not new, but the same as that of the middle ages, I do not agree with him.

II. "MY THEORIES ARE NOT CORRECT."

Considering the fact that the author of this criticism has so faulty an understanding of the method that he considers the smallpox treatment of the middle ages as identical with the modern treatment, that of excluding the chemical rays of light, I think that it would be useless to discuss theories with him.

III. "THE RED-LIGHT TREATMENT OF SMALLPOX IS INEFFICACIOUS, AND THE GOOD RESULTS, AS SHOWN BY ALL FORMER EXPERIMENTS, ARE DUE TO OTHER FACTORS."

The above verdict on the results obtained and published by a score of well-known physicians skilled in the treatment of smallpox, is pronounced by Dr. Schamberg, on the basis of an experiment made by himself with two patients. Although this number, as admitted by Dr. Schamberg himself, is small indeed, I might not have taken exception to it had not it clearly appeared that both patients were put under treatment too late, and the treatment did not fulfill the conditions I have fixed as indispensable. I therefore can not help thinking that Dr. Schamberg would have acted more wisely had he deferred the publication of his opinion until he had gone into the matter more thoroughly.

Dr. Schamberg says in his paper that his two patients were placed in the red-light room "about the third day of the eruption"; in other words, on the seventh day of the disease.[3] In my paper in the *British Medical Journal*[4] I say: "When the patients come under treatment early enough, before the fourth or fifth day of the disease, suppuration of the vesicles—even in unvaccinated persons and in cases of confluent smallpox—will be avoided, one exception out of about 70," and, further, in the same paper, "should the patient come under treatment after the fifth day of the disease, it is uncertain whether the suppuration can be avoided. Sometimes this is the case, sometimes not."

Now, as Dr. Schamberg's two patients were unvaccinated, delirious men, furnishing particularly severe cases with confluent pustules, it was particularly unfortunate that they did not come under the treatment until so late, and I am not surprised that suppuration occurred.

Of the many medical men who have tried this treatment and who have written about it, Dr. Schamberg is, so far as I know, the only one who disparages it on the ground of bad results. I have no doubt that he, too, will become a warm sympathizer in time.

THE CONDITIONS INDISPENSABLE TO SUCCESS.

In order to prevent future attacks, based on erroneous experiments with this method, I repeat that two conditions are absolutely indispensable if good results shall be obtained, viz.: 1, As stated above, the patient should be placed under treatment sufficiently early, and 2, the chemical rays of daylight should be absolutely shut out. The efficiency of the method is so certain that in case suppuration should occur in a patient who was placed under the treatment in proper time, the first thing to be thought of is that from want of care either on the part of the patient or of the nurse daylight may have penetrated. Therefore, before the method can justly be declared a failure the thoroughness with which it is carried out should be tested by exposing photographic plates or sensitized paper as a means of control in different places in the sick-room. If these photographic plates show the influence of white light the technic of the treatment has been imperfect. A few of those who have applied the method have at the same time treated the patient by other remedies as well. Such a course is objectionable for scientific purposes, as it is then impossible to decide which agency is responsible for the results. In order to give the experiments decisive scientific value they should be carried out under strict control and the patient placed under the treatment in proper time.

2. See Prof. Jul. Petersen's article in the "Hospitalstidende."

3. See f. inst. W. Th. Corlett: "A Treatise on the Acute Infectious Exanthemata," p. 37, Philadelphia, 1901.

4. Dec. 7, 1895.

Remarkable Case of Contagion of Syphilis.—A pedestrian was accidentally hit on the nose by the tip of the whip of a passing teamster. A typical chancre developed at the point of the slight excoriation and investigation revealed that the teamster had syphilitic lesions in his mouth and was in the habit of nibbling his whiplash. This occurrence was reported by Dr. Melot in a French exchange.

Clinical Report.

A CASE OF EMPYEMA OF THE FRONTAL SINUS.*

C. A. THIGPEN, M.D.
MONTGOMERY, ALA.

J. B. C., aged 38 years, consulted me for headache and vertigo.

History.—Thirteen years ago he had an attack of la grippe which was accompanied by much constitutional disturbance. During the time of his confinement he had fever and suffered much from headache, which was intolerable at times. He also stated that there was a discharge from the left nostril which has persisted since, except at times when he would "take cold" the discharge would cease, and his headache would become more intense, with much vertigo, nausea and mental stupor; these symptoms subsiding "when the cold would break" with a profuse discharge from the nose.

With this incomplete history of thirteen years' suffering I began my examination of the patient. His physical appearance was one of anemia and emaciation. The left frontal region was more prominent than the right, and the left eye was pushed down and out, and there was diplopia.

Examination of Nose.—Right nostril was clear and free from disease. Left nostril, there were several large polyps which occluded the nostril, and these were bathed in pus, which filled the entire cavity. With this condition of things I at once concluded that he had empyema of the ethmoidal, frontal and maxillary sinuses on the left side and advised operation, which he refused at that time. About two weeks later, however, he returned to me in great distress, and requested me to perform the operation. He was accordingly placed in the hospital and the usual preparations made.

Operation.—Preliminary to opening the frontal sinus I removed the polyps with the middle turbinate and curetted and broke up the anterior ethmoidal cells. The frontal sinus was then opened by making a median vertical incision, which was joined by one at right angles just above the brow. I selected the highest point possible in order that I might drill freely downward and backward into the nose. On opening the cavity a great quantity of pus escaped in spurts, with the pulsations of the heart. There were also some small polyps and granulations, and on removing these with my curette I came in contact with a yielding surface, which pulsated. The opening in the bone was enlarged, and I found myself in a large cavity, the anterior wall of which was formed by the frontal bone and the posterior wall by the dura and the brain. Around the border of this cavity there were firm adhesions between the dura and the bone. There was a firm and strong septum which separated this cavity from the opposite side. The dura was much thickened and covered with granulations. These were gently curetted away and the cavity irrigated with saline solution. No difficulty was experienced in making a large opening into the nose, through which was drawn a large piece of gauze. The cavity was loosely packed and the external opening closed, except at the lower inner angle, the head was bandaged and the patient placed in bed. The subsequent course of the case was uneventful, fever and pain disappeared, as well as the vertigo, and the mind became much clearer. After two weeks the patient was allowed to return to his home, with instructions how to look after himself. Reports from time to time were favorable, and three months later, when he returned to see me, I was surprised to find him entirely well, having gained much in weight. He was the picture of health. Careful examination failed to find any cavity which had become obliterated.

I report this case because of the unusual conditions found at the operation, the absence of the posterior wall of the sinus, pressure on frontal lobe, with mental impairment. Whether the absence of the posterior wall of the cavity was an anatomic anomaly or the result of breaking down due to prolonged suppuration, I am not able to say, but I rather incline to the latter opinion. Ingals reports one case somewhat similar in which there was an absence of the septum and posterior walls of both cavities. The same author also cites a case of Gibson's where there was an absence of the posterior wall on right side, the patient dying of septic meningitis.

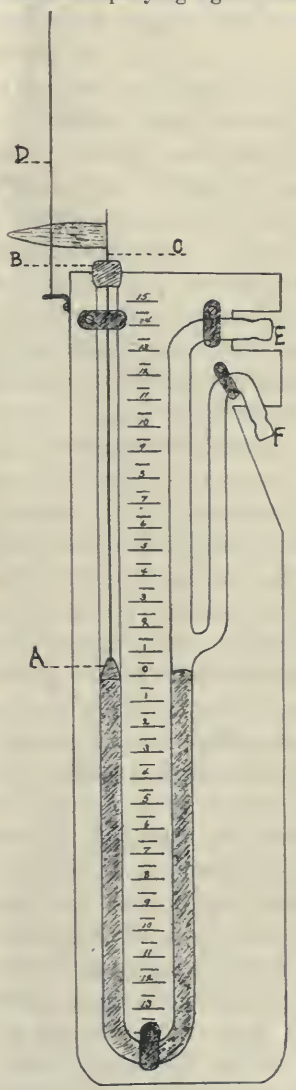
* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

New Instrument.

AN IMPROVED MERCURY MANOMETER.

C. C. GUTHRIE, S.B., M.D.
(From the Hull Physiological Laboratory, University of Chicago.)
CHICAGO.

The accompanying figure illustrates the main features of a mercury manometer which I have found more convenient than the ordinary type for blood-pressure work.



The float A and cap B are made of aluminum and the piston C and the guide rod D of polished or nickel-plated steel. The wood base is cut out in such a manner as to protect the ends of the tubes E and F. E is connected with a three-way canula, which is in communication with the pressure bottle and blood vessel. In filling or washing out the manometer from the pressure bottle with the solution used to prevent clotting (I employ 2 per cent. sodium citrate), F, which is fused into the manometer tube E, about 1 cm. above the level of the mercury at zero pressure, serves as an outflow tube. Of course, when a pressure tracing is being taken, the rubber tube on F is closed by a pinch-cock. The perpendicular guide rod which keeps the writing point against the drum is movable around a horizontal axis and is thus easily adjusted, and as it is attached to the manometer base, it does not interfere with other apparatus on the manometer stand.

Social Functions of the County Society.—The *Iowa Medical Journal* commends the spending of time occasionally in social functions where physicians can meet at least in a semi-leisure way, where they find that each of them is well worth cultivating—for the physician, however scientific he may be, is more than a scientist; he is a man, he is earnest, he is honest, he is broad, he is deep, he has heart interests, he has sympathies. He appreciates all those things that go to make up the best that is in the world and has to consider all those things that go to make up the worst of the world.

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SATURDAY, NOVEMBER 14, 1903.

THE ETIOLOGY OF ACUTE ARTICULAR RHEUMATISM.

It has long been held that acute articular rheumatism is an infectious disease, but no positive proof has been furnished. The basis for this belief includes the following clinical observations: 1, Rheumatic fever occurs in epidemics; 2, there is a great constancy in the seasonal variations; 3, there is a striking similarity of the symptoms of rheumatic fever to those of septic infections. Bacteriologic investigations of this disease have not been wanting, but the results are somewhat confusing. As early as 10 and 12 years ago several investigators reported the finding of staphylococci, streptococci and diplococci in the excrescences in the heart valves and in other organs of patients who succumbed to this disease. Among the earlier investigators we find four who have isolated staphylococci, five who isolated streptococci and six who found diplococci.

In 1897 Achalme found an anaërobic bacillus in the heart's blood and in other organs of patients who died from acute rheumatism. This work was confirmed by several other French investigators, but more recently discredit has been thrown on it by Achalme himself.

In 1899 these investigations received a new impetus through the work of Wassermann. He reported a case of postrheumatic chorea, from the heart's blood of which he isolated a streptococcus. This organism appeared as a diplococcus in the tissues, but formed chains on artificial media. It grows best in alkaline media. When injected into animals it produces fever, arthritis and death. Wassermann believes this organism to be the cause of rheumatism, and differentiates it from other streptococci by the facts that it grows best in alkaline media and that it produces arthritis when injected into animals. Meyer described a similar organism which he isolated from the tonsils of patients suffering from acute rheumatism. His cultures from the blood and joint punctures gave negative results, but nevertheless he concludes that his organism is the cause of rheumatism.

These views were strongly opposed by Singer and by Menzer, both of whom have isolated streptococci from cases of acute rheumatism. Singer, who seems to have done more work on this disease than any other investigator, believes that it may be caused by any of the pyogenic cocci. In over 100 cases that he examined with some 30 positive results he found the *Streptococcus pyogenes* most frequently, and occasionally the *Staphylococcus pyogenes aureus*. Both he and Menzer point out that joint changes have been produced in animals with staphylococci and with streptococci which were isolated from the throats of scarlet fever patients, when these organisms were injected into the circulation. They also call attention to the fact that some of the ordinary streptococci grow best in alkaline media, as was shown by Lingelsheim. It is also well known that streptococci may be isolated from the throats of patients not suffering from rheumatism and of healthy persons. Hence not much stress can be laid on the work of Meyer.

In 1900 Paine and Poynton reported 8 cases from which they isolated a diplococcus. This organism also produces arthritis, pericarditis, endocarditis, wasting and death when injected into animals. It grows best in acid media. These investigators believe their organism to be a cause of acute rheumatism and to be identical with that described by Wassermann. It is interesting to note here that this organism grows best in acid media, while Wassermann attempts to differentiate his organism from other streptococci by the fact that it grows best in alkaline media.

Beaton and Walker[1] have recently taken up the study of acute articular rheumatism and have described a diplococcus which grows in chains in artificial media. It grows best in strongly alkaline bouillon and produces large amounts of formic acid. It grows in the filtered cultures of streptococci and hence, according to Marmorck, is not an ordinary streptococcus. They found this organism in the heart's blood after death from chorea, acute rheumatism and endocarditis, and also in the blood and urine of patients before death. When injected into animals it produces fever, wasting, arthritis, pericarditis and endocarditis. They believe this organism to be identical with the one described by Wassermann and to be specific for acute rheumatism. They have proposed for it the name *"Micrococcus rheumaticus."* Culturally, it can not be differentiated from the pyogenic streptococci, but these investigators attempt to differentiate it on the following points: 1, It grows best in alkaline media; 2, it produces arthritis, endocarditis, etc., when injected into animals; 3, it grows in the filtered cultures; 4, it produces large amounts of formic acid. The first two points have already been dealt with, and in regard to the others the following may be said: Streptococci will grow in the filtered cultures if the filtrate does not contain too high a percentage of acid for the organism which is inoculated. All streptococci are said to produce formic acid, and when we consider that the toxin-producing power of these organisms varies within wide limits we would not be surprised to find that the acid-producing power is different under different conditions.

It seems, therefore, that we are not yet justified in speaking of a specific *Micrococcus rheumaticus*. The pyogenic cocci have been repeatedly isolated from the heart valves and blood of patients who succumbed to

1. British Med. Jour., Jan 31 and Sept. 19, 1903.

acute articular rheumatism, chorea and malignant endocarditis, and it would seem as if these organisms do maintain an intimate relationship to the processes usually spoken of as acute articular rheumatism.

BEHRING'S VIEWS ON TUBERCULOSIS.

Behring, who is a good authority on such questions and whose opinion, therefore, carries weight, accepts the view that everyone is slightly tuberculous, but this by no means implies that everyone is or will be affected with pulmonary phthisis. He thinks two things are necessary to produce phthisis: a tuberculous focus and bodily conditions favoring the development of the disorder. He regards the contagion of consumption in adults with grave doubt, holding that it has not yet been demonstrated. Therefore, the predisposition to pulmonary infection is not in exposure to infection which is shared by all more or less, but in the conditions of life. The more probable cause is the awakening of a latent focus into activity on account of defects of nutrition or from impairment of health.

Leaving out of consideration for the present his opinions as to the early infantile origin of pulmonary phthisis, his views are in a measure somewhat comforting. These views should not encourage us to neglect reasonable precautions for self-protection, but they do oppose the pessimistic views held by some modern alarmists. Behring's opinions also have this in their favor; they harmonize with the great decrease of tuberculosis under better modern conditions of living which implies that the bodily resistance, given a fair chance, will throw off the disease. As we have often said, it seems probable that in time consumption may be a comparatively negligible affair and that tuberculous infection of itself is not so much to be feared under ordinary hygienic conditions of life. It is only when reinforced by other pathologic infections that it develops into the disease so much dreaded. The possible, if not even probable, hope of an immunizing serum against tuberculosis is also to be considered. The results of Behring's experiments on the lower animals, as well as the earlier ones of Trudeau and De Schweinitz, are certainly encouraging, and give us good reason to be hopeful for the future.

While the profession is in a receptive mood for anything scientific and new in regard to tuberculosis, it is not yet prepared to swear by the words of any master, however high he may be in science or in medicine. The result of Behring's utterances, therefore, will be to increase our caution as regards the infant acquirement of tuberculosis and probably not to diminish it as regards its communicability to adults. One thing is certain, however, and that is that bodily resistance to the germ is an important thing. We must build up our defense, while not neglecting active measures to prevent the attacks from the outside. In any case it is well to remember, considering the discrepancies of views held by some authorities whose opinions we can not but respect, that extreme radical opinions in regard to either the dangers or comparative harmlessness of the tubercle germ are out of place. We have to be somewhat selective as regards our views, and it must be with judgment. Another thing is that the evidence shows that the problems of tuberculosis are not to be worked out at once. We are yet in the transition period, and there is much uncertainty before as well as behind us in regard to this particular subject. The report of the British Tuberculosis Commission will be anticipated with interest as probably giving a judicial statement of our present acquisitions, if not more positive data, especially as regards the varying views held as to the dangers of bovine tuberculosis and the liabilities of the human species to its infection.

CHRISTIAN FENGER AS A PATHOLOGIST.

In an address before the Chicago Pathological Society[1] Dr. E. R. Le Count gave an excellent and thorough review of the pathologic work of the late Christian Fenger. It was indeed a happy thought that guided the author in the preparation of this address along the lines indicated in its title; for it was the persistent, laborious study of the fundamental pathologic conditions that gave to Fenger's work as a surgeon and as a teacher of surgery its lasting influence on the development of scientific medicine in this part of the country.

This is hardly the place to review in detail Fenger's remarkable work as pathologist and surgeon. Those who knew him in his lifetime and perchance were fortunate enough to come under his personal influence will find that Dr. Le Count's address in every way gives an adequate and sympathetic presentation of his painstaking methods of work and of the scope of his investigations. To the younger generation of medical men just entering on the scene of professional activity the address is recommended for careful study in order that they may receive stimulus and inspiration from this noble example of untiring work and love of truth that after all were the chief lessons of Fenger's life, for the master-word in medicine is "work." "It is directly responsible for all advances in medicine during the past twenty-five centuries. Laying hold on it, Hippocrates made observation and science the warp and woof of our art. Galen so read its meaning that fifteen centuries stopped thinking and slept until awakened by the *De Fabrica* of Vesalius, which is the very incarnation of the master-word. With its inspiration Harvey gave an impulse to a larger circulation than he wot of, an impulse which we feel to-day. Hunter sounded all its heights and depths, and stands out in our history as one of the great exemplars of its virtues. With it Virchow smote the rock, and the waters of progress gushed out; while in the hands of Pasteur it proved a very talisman to open to

1. Trans. Chicago Path. Society, 1903, vi, 1-20.

us a new heaven in medicine and a new earth in surgery. Not only has it been the touchstone of progress, but it is the measure of success in everyday life."

So writes Osler in one of his helpful and charming addresses. And it was work that made Fenger, at first practically unaided, the leader of scientific medicine in the Northwest for twenty odd years, a period which he himself characterized as a period of uninterrupted progress. It was work that made it possible for him, coming here from a strange country, to say at the close of his career: "It is a satisfaction to me to have done my life-work here, witnessing and taking as best I could a small part in the growth of the West."

GRANTS FOR SCIENTIFIC WORK.

A further result of the small grants given by the American Medical Association to promote scientific research is embodied in the article by Otis and Evans on "The Morphology and Biology of the Parasite from a Case of Systemic Blastomycosis" in The Journal, October 31. Through an unfortunate oversight it was not stated in connection with the title of the article that the work had been promoted by an Association grant. We have referred in the issue of July 4, 1903, to the significance of the case of accidental infection with oidiomycosis from which was recovered the same organism as that described in the exhaustive study of Otis and Evans. It may be recalled that this case, being one of accidental infection from a known source, is to be regarded as an important landmark in the series of observations that have established blastomycosis or oidiomycosis on a firm basis. It was, therefore, doubly desirable that a thorough study of the organism concerned should be made. So far, the small grants offered by the Association have been the means of promoting interesting researches into the nature of streptocolysin[1] and in the field of mold-fungus infections of man. We believe that not the least important result of these grants is the encouragement thus given to young men to develop the spirit of investigation.

OUR PHILIPPINE QUARANTINE SERVICE.

Since we have acquired eastern possessions, with certain responsibilities and risks, it is satisfactory to know that our agents in the Orient are attending to sanitary matters. Plague and cholera have existed in the Philippine Islands for the past year and the latter especially has been a scourge in a large portion of the group. Notwithstanding the fact that we are in almost weekly communication with the islands and that travel back and forth by army transports and otherwise has become very extensive, we do not dread the introduction of cholera into this country because of our confidence that the quarantine authorities in the Philippines are wide-awake. The annual report of the chief quarantine officer for the Philippine Islands for the year ending July 31, 1903, contains some interesting particulars. With the possible exception of the work done at Tor, Egypt, near the southern entrance of the Suez canal, there is probably more disinfection accomplished at Mariveles station, near Manila, than at any other similar one in the world and this, moreover, with labor that speaks a foreign tongue and which has to be educated in every particular. This outlying fortress for public health is certainly doing very creditable work. There have been, it is estimated, about 300,000 cases of cholera in the Philippine Islands during the year covered by the report, and the extent of the disease is attributed largely to the possibilities of easy communication by small native crafts and boats which are hard to oversee throughout so extended a region and under such unfavorable circumstances as exist. A history of some of the epidemics that have entered the island prior to American occupation gives rise to the belief that some of them have entered from the south; therefore, an additional quarantine station has been established at Jolo, in the southern end of the archipelago, which is an important point in the commerce with adjoining Malaysian islands. It is a notable fact that plague has not extended during the year away from the City of Manila; it may be said to be firmly bridled and controlled. There seems to be a cordial co-operation between the public health service and the local boards of health in this matter. Taken altogether, and considering the possibilities of an inefficient or negligent administration of health matters there, we have many reasons to congratulate ourselves. Our commerce with our Oriental possessions is constantly growing, and with more intimate relations the greater will be the need of eternal vigilance as a safeguard for our own communities.

1. The Journal, Oct. 17, 1903.

THE IMPORTANCE OF HEMATOLOGIC INVESTIGATIONS.

The number of those who decry the importance of blood examinations as a diagnostic measure is progressively diminishing, while the number of physicians who include a hematologic investigation among their clinical assets is as progressively increasing. It is not only the enumeration of the erythrocytes and the leukocytes and the estimation of the hemoglobin percentage that are of importance, but also a knowledge of the morphologic characteristics of the dried and stained films is frequently necessary for a satisfactory diagnosis. In some instances, although the blood may show no absolute leukocytosis, stained specimens show a relative leukocytosis of the first importance. In the case recently reported by Kelly[1] of a man who complained of weakness and who presented, on physical examination, slight jaundice, great enlargement of the spleen, moderate enlargement of the liver and leukoderma, a blood examination showed only 9,000 leukocytes. A differential count, however, showed that 98 per cent. of the white cells belonged to the lymphocyte class. Under observation, the leukocytes at different times numbered 6,000, 5,200, 18,200 and 37,600, and always with an increase of lymphocytes (96.5 and 98 per cent.). The patient died in coma. At the necropsy marked enlargement of the lymph nodes, except those of the axillary and the inguinal regions; enlargement of the spleen; gumma and syphilitic cirrhosis of the liver, and lymphadenoid bone marrow were demonstrated. There seems to be a ten-

1. Univ. Pa. Med. Bull., October, 1903. See abst., p. 1230.

dency, among certain observers, to depart from the original division of leukemia into two classes—lymphatic and myelogenous, as made by Ehrlich. To one reading the chapter on leukemia, in the eighth volume of Nothnagel's *Specielle Pathologie und Therapie,* by Ehrlich and Lazarus, the position of these writers is remarkably clear and their logic appears sound. It is possible that in cases such as the one detailed by Kelly an intercurrent syphilitic infection produced the anomalous conditions found in the blood-making organs. Cases of lymphadenoid degeneration of the bone marrow are perplexing; but there is no reason why this should not be a secondary manifestation as well as that secondary deposits of lymphoid tissue should be found in an organ like the liver. Neither does it seem absolutely essential that the lymph nodes shall be enlarged in order that the lymphocytes shall be swept in abnormal proportions into the blood stream.

Medical News.

ARKANSAS.

Hot Springs Visitors' Protective Association.—At the meeting, October 27, the association endorsed the work done by th executive committee and unanimously chose the same committee to carry on the fight. The committee consists of Drs. Algernon S. Garnett, Thomas E. Holland,, Gaston A. Hebert, Paul T. Vaughan and Howard P. Collings. Dr. Oliver H. Barton was elected president and Dr. Frank W. Jelks secretary of the association.

The Grand Jury Indictment.—Drs. C. Travis Drennen and Thomas E. Holland, Hot Springs, were recently indicted by the grand jury for "drumming." That the act of the grand jury does not meet the approval of the profession is apparent from the following resolution passed by the Visitors' Protective Association:

WHEREAS, It has been brought to the knowledge of the Visitors' Protective Association that the grand jury has found true bills against Drs. C. T. Drennen and T. E. Holland, charging them with soliciting or drumming for patronage or patients; and

WHEREAS, We believe that such result was achieved through the unreliable evidence of one unworthy of credence, an enemy to good government, a violator of the law against drumming, and a personal enemy of the aforesaid physicians and the cause they have in the past espoused and are now so vigorously and ably prosecuting; and

WHEREAS, We believe that the effort of said party to procure said indictment, aided and abetted by others, who are alike strangers to the truth, opposed to good government and the enforcement of the law against doctor drumming, was made because of personal ill will to said physicians and to discredit the organized body of ethical physicians who are making a crusade against the methods of procuring patients by unethical and unprofessional doctors in the city of Hot Springs; now, therefore, be it

Resolved, That it is the unanimous belief of the association that the charges against Drs. Holland and Drennen are false and wholly without foundation; that we hereby express our full confidence in their fidelity to the cause they have espoused; in them personally, as men eminent in our profession, and possessing to the fullest degree that sense of professional ethics which characterizes every reputable physician and gentleman; be it further

Resolved, That, in order to show our full confidence in and esteem for said physicians and to emphasize the assertion that we believe said indictments were "conceived in sin and born in iniquity," we hereby request our attorney, Reid Gantt, Esq., to represent said physicians in their defense if they should need any attorney.

ILLINOIS.

Scarlet Fever.—The school at Sharpsburg has been closed on account of scarlet fever.——Springfield has 30 cases and an epidemic is feared.

Accused Guards Out on Bail.—The two guards at the Illinois Hospital for the Incurable Insane, Bartonville, accused of having caused the death of Thomas Hartley, a patient, have been released on bonds of $10,000 each.

Smallpox.—The disease is said to be raging at New Athens, where churches and schools are reported to be closed.——Bloomington is reported to have 25 cases, and Charleston many cases, while in Westfield quarantine and vaccination has reduced the number of cases to 11.

Chicago.

Council Passes Toy-Pistol Ordinance.—On November 9 the city council passed the ordinance prohibiting the sale, loan or furnishing of toy pistols, guns, etc., to minors, and fixing a $100 fine for each offense.

Death-Causes of the Week.—Pneumonia leads with 67; then follow Bright's disease with 41, heart diseases with 40, consumption and violence with 37, and acute intestinal diseases with 31. The total deaths were 476, equivalent to an annual rate of 13.16 per 1,000.

Demands Muzzling of Dogs.—The Chicago Medical Society, October 28, indorsed the ordinance now before the council requiring the muzzling of dogs during the entire year. A committee will be appointed to attend the council and urge the passage of the ordinance.

Personal.—Dr. Frank Billings had so far recovered as to be able to be removed from the hospital to his residence November 11.——Dr. Sarah Hackett Stevenson is still in St. Joseph's Hospital, and her condition has changed little either for better or worse.——Dr. and Mrs. C. M. Briggs celebrated their golden wedding October 25.——Dr. and Mrs. J. Lewis Stettauer have returned after two years' residence in Europe.

The Prevention of Pneumonia.—The weekly Bulletin of the Health Department announces for the week ended November 7, 67 deaths from pneumonia, 14 per cent. of the total deaths, and 81 per cent. in excess of the deaths from consumption. The report says:

It is clearly the duty of the sanitarian and the worker in the field of preventive medicine to do what in him lies toward education in the precepts of healthful living. A simpler housing, with abundant facilities for the access of sunshine and fresh air, and space enough for each individual; a simpler raiment, which shall preserve the natural power of the skin to resist the effects of draughts and chills and "colds"; a simpler dietary, which shall not overtax the digestive system, and less cookery so that the teeth may have sufficient exercise to prevent their premature decay; more exercise in the open air and, in general, a resort to the simpler and more natural modes of life to which each and every one of us was born, and out of which each and every one of us is removed as promptly as civilization can act.

Pure Milk Saves Babies.—Over 190,000 bottles of sterilized milk were distributed as the first season's work of the milk commission of the Children's Hospital Society. From 31 substations supplies have been distributed daily to thousands of poor people all over Chicago. At the social settlements, dispensaries and hospitals the following poster has been displayed:

Fifty per cent. of children die when less than 5 years old, principally because of improper feeding. Pure pasteurized milk for babies of all ages and conditions sold at cost.

Health Commissioner Reynolds' opinion of the value of the work is indicated by the following letter addressed to Mrs. George M. Moulton, chairman of the distributing committee:

I am greatly pleased at the opportunity afforded me—by your request for the mortality figures of children under 5 years of age during the summer of 1903—to express my appreciation of the commission's work.

During the season there were 2,385 deaths of this age, or 12.6 per 10,000 of the total population. In the summer of 1902 the proportion of such deaths was 13.3, and in that of 1901 was 14.3 per 10,000.

The reduction this year is especially significant in view of what was expected as a result of the single daily delivery of milk. Children's physicians and sanitarians were apprehensive of a murderous increase of child mortality through the feeding of milk from 48 to 60 hours old before it reached the young.

Fortunately this apprehension was not realized, chiefly, as I am convinced, through the 190,000 bottles of sterilized milk distributed through your commission.

The community, and especially mothers in the congested districts, owe you and your colleagues a debt of gratitude.

MARYLAND.

Typhoid at Insane Hospital.—There are five cases of typhoid fever at Springfield Hospital for the Insane at Sykesville. Dr. Clark thinks it was introduced by an attendant as the water supply is above suspicion.

Baltimore.

Lectures on History of Medicine.—The course on the history of medicine at the University of Maryland began on October 28 and will continue during the session on the second and fourth Wednesdays of the month.

Public Baths a Success.—Public bathhouse No. 3 will be begun shortly. There were 1,800 more persons using the baths in October, 1903, than in October, 1902. Mr. Henry Walters has given $93,000 for the baths.

Changes at Woman's College.—At the Woman's Medical College the following changes are announced: Dr. H. Warren Buckler has been appointed professor of practice of medicine

and therapeutics, Dr. Henry Lee Smith professor of medicine, and Dr. J. H. Mason Knox professor of diseases of children.

Antitoxin Lowers Diphtheria Mortality.—Dr. W. Royal Stokes, city bacteriologist, in a recent address, said that since the introduction of the public distribution of diphtheria antitoxin, the rate of mortality from this disease in Baltimore has fallen from 50 per cent. in 1894 to 13 per cent. at the present time.

Vital Statistics.—There were 148 deaths last week, a proportion per 1,000 of 13.95, and for the whites alone of only 12.57. Typhoid fever caused three deaths. During October 776 deaths and 731 births were reported. There was 1 death from smallpox. Typhoid fever was much less prevalent than in 1902.

Suing and Sued.—Dr. George A. Strauss has sued the United Railways and Electric Company for $10,000 damages for fracture of an arm and ribs received in the premature starting of a car.——Drs. John W. Chambers and Thomas S. Latimer have been sued for $25,000 damages by a woman who was operated on at the City Hospital.

Personal.—Dr. Charlotte Murdoch has been made superintendent of the Deaconesses' Home recently established by the Presbyterian Church in Baltimore.——Dr. Ernest C. Leonard has been made lecturer on materia medica at Maryland Medical College.——Dr. A. K. Hadel has been elected president of the Society of the War of 1812.——Dr. John T. O'Mara, resident physician of St. Agnes' Sanitarium, sailed for Vienna, November 5.

MASSACHUSETTS.

Cornerstone Laid.—The cornerstone for the new Deaconess Hospital, Longwood, Boston, was laid with appropriate ceremonies, November 5.

Poisoned by Belladonna.—On the night of October 27 eleven patients in the State Hospital at Tewksbury were in some unknown way poisoned by belladonna. There were no serious results and the accident is being investigated by the superintendent.

Music for Hospital Patients.—During November a company of musicians under the direction of Dr. John Dixwell is giving concerts at the hospitals of Cambridge and Somerville, the Massachusetts General Hospital and the Insane Hospital at Forest Hills.

Nursing Taught in Public School.—For the first time in the public schools of America nursing is one of the subjects taught. The school is the Evening High School in Charlestown, and the teacher, Dr. Laura A. C. Hughes, is president of the Boston Society of the Red Cross Association.

Tufts Medical School News.—Tufts Medical School begins the year with 412 students, an increase of 23 over last year. ——Dr. Harold Williams, dean and professor of theory and practice, has a leave of absence for 10 months. His lectures will be given by Dr. Robert W. Hastings.

Typhoid in Springfield.—Typhoid fever has been somewhat prevalent in Springfield, especially in that portion of the city known as the "McKnight District." The source was traced to an infected spring from which many children drank. The disease has hence affected more than ordinarily the children of the well-to-do families in this residence district.

For New Floating Hospital.—Earnest efforts are being made to secure funds for the construction of a new Boston Floating Hospital. The old boat is too small, and will require a large outlay to make her safe for another season. More than $12,000 has already been subscribed. The annual meeting of the hospital corporation on November 2 resulted in the reelection of the old officers.

Death and Disease.—For the four weeks ended November 7 there were 724 deaths in Boston, a decrease from last year's record of 162. There were reported to the board of health, 262 cases of diphtheria, with 20 deaths; 91 of scarlet fever, with 4 deaths; 91 of typhoid fever, with 15 deaths; 246 of measles, with 5 deaths; 137 of tuberculosis, with 71 deaths; 61 deaths were reported from pneumonia, 3 from whooping cough, 67 from heart disease, 16 from bronchitis and 21 from marasmus, and one case of smallpox, imported from Bangor, Maine. The latter is the first case of the disease to occur in the city since last spring.

MICHIGAN.

Conference of Health Officers.—The State Board of Health has decided to hold the annual conference of health officials at Ann Arbor, Jan. 7 and 8, 1904.

Board Elects Officers.—The State Board of Medical Registration has reorganized by the election of Dr. James H. Cowell, Saginaw, as president, and Dr. Beverly D. Harison, Sault Ste. Marie, as secretary.

Sentence Deferred.—In the case of Dr. William W. Phippen, Grand Rapids, who pleaded guilty to the technical charge of practicing medicine without a license, the judge deferred sentence until January to give the defendant time to present proofs that the refusal of the State Board of Registration in Medicine to issue him a license was based on a misapprehension.

Outbreaks of Communicable Diseases for the Quarter.—The secretary has presented to the State Board of Health his report of work done in the office during the quarter ending September 30, 1903. This report includes a statement of the number of outbreaks of dangerous communicable diseases, reported and acted on during the quarter, as follows: Diphtheria, 95; measles, 99; whooping cough, 100; smallpox, 104; meningitis, 116; scarlet fever, 151; typhoid fever, 266; consumption, 369; total for the eight diseases, 1,300 outbreaks. Compared with the average in corresponding quarters in the ten years, 1893-1902, the reports from regular observers indicate that in the third quarter of 1903 diphtheria, pleuritis, scarlet fever and smallpox were more than usually prevalent, and meningitis, cholera infantum, cholera morbus, consumption, dysentery, erysipelas, intermittent fever and remittent fever were less than usually prevalent.

Diseases Which Householders Are Required to Report.—The State Board of Health has prepared a circular in which it is declared that consumption, pneumonia, cerebrospinal meningitis, typhoid fever, diphtheria, whooping cough, measles, scarlet fever, smallpox, glanders, and rabies are dangerous communicable diseases, and therefore "diseases dangerous to the public health," required by law to be reported. Every case of each of these diseases must be reported to the local health officer by the householder, hotel keeper, boarding-house keeper or physician. The law is then quoted showing the duty of such persons to so report. The use to be made of such reports is not the same for all diseases, because the manner of spreading and the measures for the restriction are not the same for all diseases. Houses infected with some diseases are to be placarded, with others not. Persons having some of the diseases are to be isolated. Relative to each of those diseases, such facts are published by the State Board of Health, and a pamphlet on any one of these diseases, or on all of them, will be sent to any person interested, who requests it from the office of the board at Lansing.

MISSISSIPPI.

Personal.—Dr. L. B. Neil, Raymond, has been appointed third assistant physician of the State Insane Hospital, Jackson.

Wants Bureau of Vital Statistics.—Dr. Harris A. Gant, Jackson, president of the State Board of Health, will appeal to the legislature to establish a bureau of vital and mortuary statistics, and also a state bacteriologic laboratory.

Unlicensed Practitioners.—The State Board of Health will hereafter publish the names of unsuccessful applicants in examinations for license to practice. These have heretofore been withheld because of consideration for the feelings of the unsuccessful applicants. The board has found that some of these have entered into practice in defiance of the board and will, therefore, make public the names.

NEBRASKA.

Insane from Drugs and Liquor.—Dr. James C. Dwyer, Valentine, has been adjudged insane and ordered to be committed to the State Insane Hospital. His condition is said to be due to intoxicating liquor and drugs.

Personal.—Dr. John C. F. Bush, Wahoo, has returned from Europe.——Dr. Andrew Johnson, Beatrice, has moved to Wahoo.——Drs. J. F. B. Kalol and Nicholas F. Steiner, Omaha, sailed for Europe, October 17.——Dr. Henry L. Akin, Du Bois, has gone to Vienna.

Society Meets.—The fourth quarterly meeting of the Saunders County Medical Society was recently held at Wahoo. Drs. W. J. Pinkerton, Mead, and J. M. Willis, Colon, read papers, and Drs. Andrew Johnson, Wahoo, J. G. Smith, Weston, and Charles W. Hickey, Ithaca, were admitted to membership.

NEW JERSEY.

Hospital Benefit.—The benefit festival recently held to aid the German Hospital Society of Newark netted $2,188.84 to the hospital fund.

Physician Fined.—In the case of Dr. Robert C. Ribbans, Newark, charged with having failed to report a case of smallpox, the court gave judgment for $50, and the defendant gave notice of appeal.

Orthopedic Dispensary.—A free public orthopedic dispensary has been established in the Orange Valley section of Orange, by charitably disposed citizens. The work will be under the personal direction of Dr. Russel A. Hibbs, New York City, assisted by Dr. Henry A. Pulsford, South Orange.

Threatens Suit.—An Italian lawyer of Newark, whose name was by mistake included in a list of illegal advertisers of medicines, and who was, consequently, reported by the State Board of Medical Examiners as practicing without a license, has declared that a libel suit against the board will be necessary to set him right with his countrymen.

NEW YORK.

Prosecuted by Medical Society.—On the complaint of the Saratoga County Medical Society, Jeremiah Richards of Waterford was arrested, October 21, charged with practicing medicine without a license. He waived examination.

To Investigate Summer Resorts.—Dr. Daniel Lewis, state commissioner of health, will ask the legislature for an appropriation of $10.000 to establish a new bureau in the department, to be known as the Bureau of Water Inspection and Drainage, with especial reference to summer resorts.

The D. W. Harrington Lectureship.—The medical faculty of the University of Buffalo has chosen Dr. Samuel J. Meltzer, New York, to deliver these lectures for 1903. The subject selected by Dr. Meltzer is "Edema, a Consideration of the Physiological and Pathological Factors Concerned in Its Formation." The lectures will be delivered in the medical college, November 30, and December 1, 2 and 3, at 5 p. m. Members of the medical profession are cordially invited to attend.

New York City.

Wanted for Medical Building.—In the "want list" of $3,250,000 in the annual report of the chancellor of the New York University, an item of $750,000 appears for medical college buildings.

Gypsy Illegal Practitioner.—Lottie Karl, a fortune teller and clairvoyant, was convicted, November 7, of practicing medicine without a license, and was sentenced to pay a find of $150 or to be imprisoned 60 days in the city prison. The complaint was made at the instance of the New York County Medical Association.

Endorses Health Commissioner.—A testimonial signed by 35 representative physicians of New York City has been sent to the daily press, expressing the great appreciation of the physicians of the city of the work accomplished by Health Commissioner Ernst J. Lederle and his advisory board in the last two years, and offering their public acknowledgments.

Control of Tuberculosis.—Dr. Hermann M. Biggs delivered a lecture at Columbia University, November 6, on "The Administrative Control of Tuberculosis." He declared that 60 per cent. of the deaths in New York were caused by tuberculosis, and that the mortality from this cause was especially great among tenement children at the age of four or five years.

Pavilion for St. Luke's Hospital.—Mrs. Margaret J. Plant has offered to build for the hospital a new pavilion in which private patients may have modern and even luxurious accommodations and service. It is purposed to provide accommodations for more than one hundred patients, so that, if desired, a patient may have a suite of rooms and may be attended by relatives or friends.

PENNSYLVANIA.

Verdict for Physician.—In the suit of Albert E. Foltz, Edison, for damages for alleged malpractice, against Dr. Allison A. Stamm of Mohnsville, the jury brought in a verdict for the defendant.

Smallpox.—Sharon has about 30 cases.——On November 2 four deaths occurred in Pittsburg, and four new cases were discovered.——Allegheny on the same day had 37 cases under treatment, 21 in the isolation hospital and 16 under quarantine.

Hospitals Completed.—The northern wing of the new Lancaster General Hospital has been completed, and is ready for occupancy.——Uniontown Hospital, erected at a cost of $75,000, has been completed, accepted by the directors, and will soon be ready to receive patients.——Susquehanna City Hospital was formally opened October 10.

Land and Money to Hospitals.—By a decree of the Orphans' Court, the legacy of $20,000 bequeathed by the late C. L. Magee, Pittsburg, to the late George M. von Bonnhorst, reverts to the Elizabeth Steel Magee Hospital fund.——Misses Alice and Mary Mossop have presented to Clearfield Hospital four acres of land and $20,000 in cash, for the building of a model hospital as a memorial to Fred G. Mossop, a deceased brother, who was a director of Clearfield Hospital.

Personal.—Dr. John C. Calhoun, Allegheny, in charge of the isolation hospital, has resigned, and Dr. William H. Gardner has been appointed in his stead.——Dr. Daniel W. Jeffries, Chester, has been appointed state censor by the Delaware County Medical Society.——Dr. Horace F. Taylor, Chester, was seriously cut and burned by a bottle of carbolic acid breaking in his hands.——Dr. Frank C. Knowles, Philadelphia, is taking a three months' tour of Europe and Asia.

Chester Hospital Staff Organized.—At the annual meeting of the staff, October 20, Dr. J. L. Forwood was re-elected chief of the surgical staff and Dr. D. M. McMasters chief of the medical staff. Dr. F. Farwell Long was assigned as lecturer on special surgery; Dr. Ellen E. Brown, on obstetrics; Dr. J. L. Forwood, on general surgery; Dr. Katherine W. Ulrich, on diseases of children; Dr. F. Otis Bryant, on anatomy; Dr. Samuel R. Crothers, on emergencies; Dr. D. M. McMasters, on general medicine; Dr. Edward W. Bing, on materia medica; Dr. L. Haines Crothers, on hygiene, and Dr. Leon Gottschalk, on physiology.

Philadelphia.

Reception for Weir Mitchell.—The Medical Club of Philadelphia will tender a reception to Dr. S. Weir Mitchell at the Hotel Bellevue, November 20.

Dr. Filbert's Will.—By the will of the late Dr. Ludwig S. Filbert, the estate, which is appraised at $300,000 or more, after the payment of a few small legacies, is divided equally between his wife, son and daughter.

Finsen Light Laboratory.—A specially constructed laboratory for *x*-ray and Finsen light research is being erected in connection with the University Hospital. At the last session of the legislature $25,000 was appropriated for this purpose. Dr. Henry K. Pancoast will be in charge of the new department.

Personal.—Dr. James E. McCoy has been appointed physician to the medical dispensary of the Children's Hospital.—Dr. B. Franklin Stahl has been appointed medical director of St. Agnes' Hospital, vice Dr. William H. Parish, deceased.——Dr. Leo Loeb has been appointed assistant demonstrator in pathology at the University of Pennsylvania.——Dr. Howard S. Anders has been made assistant professor of physical diagnosis in the Medico-Chirurgical College.

Smallpox Regulations.—The board of health recently passed a resolution directing all inmates of houses where smallpox develops to be removed to the Municipal Hospital for antiseptic baths and disinfection of clothing. The resolution provides for such disinfection in case of scarlet fever and diphtheria when the medical inspector deems it necessary. The action is especially to protect Director Martin from legal complications in carrying out such measures, as he has been several times threatened with suit for damages.

GENERAL.

The Army Medical School began its seventh annual session, November 3, with twenty-seven student officers in attendance. The faculty consists of the following officers: Col. Chas. Heizmann, president of faculty and professor of military medicine; Major William H. Arthur, professor of duties of medical officers in peace and war; Major William C. Borden, professor of military surgery; Major Walter D. McCaw, professor of military hygiene and lecturer on tropical diseases; Major James D. Glennan, ophthalmology and optometry; Captain F. P. Reynolds, instructor in hospital corps drill and medical department administration; Captain C. R. Darnall, secretary of faculty, instructor in sanitary chemistry and operative surgery; Lieutenant James Carroll, professor of bacteriology and clinical microscopy, and Captain H. G. Trout, instructor in equitation.

The Yellow Fever Scourge.—Thousands of cases of yellow fever in Mexico and hundreds in Texas are reported by the representative of the U. S. Public Health and Marine-Hospital Service. The death rate is about 5 per cent. A total of 748 cases and 74 deaths is reported at Laredo, Tex., up to November 9. Railroad schedules are interrupted and trains avoid infected towns or run through rapidly with car doors and

windows closed or else suspend passenger trains. Thus there is also scarcity of provisions in some places. The Little Rock (Ark.) Board of Health established a quarantine against San Antonio, Laredo and other infected points. Forepaugh's circus was also enjoined from stopping in Little Rock en route north from Texas. Other cities have quarantined against Texas cities. El Paso, however, has thrown wide open her gates and will receive yellow fever refugees or sufferers without restriction. This action was taken on the ground that the mosquito concerned in the propagation of yellow fever can not exist above 1,200 feet, especially in a dry climate. El Paso's elevation is 4,000 feet, and her air dry. It was, therefore, decided by the authorities of that city that no danger of the transmission of the disease exists there.

CANADA.

Smallpox in New Brunswick.—Fourteen cases of smallpox are reported in Madawasha County, N. B., on the border of the State of Maine.

Typhoid Fever in Manitoba.—This disease has been very prevalent this autumn in Manitoba and Winnipeg. In Winnipeg one of the Industrial Exhibition buildings has been converted into a hospital for 35 patients, with a house surgeon and a staff of nurses in charge.

Toronto's Health Statistics.—During October, 1903, there were 118 cases of diphtheria, 23 of scarlet fever and 18 of typhoid fever. The deaths from contagious diseases in Toronto during September and October were: Scarlet fever, one in each month; diphtheria, in September, 7; in October, 13; typhoid, 3 and 6; consumption, 28 and 19.

Druggists and Physicians Charged with Violations of Laws.—The Pharmaceutical Association of Quebec has laid charges in the police court against a number of Quebec physicians, accusing them of giving prescriptions to be filled by unlicensed druggists or unregistered drug clerks and also against several druggists for selling poisons to the public contrary to the provisions of the pharmacy act, and for permitting unqualified clerks to fill prescriptions.

Ontario Birth Rate.—The provincial board reports 47,796 births during 1902 in Ontario, as compared with 46,061 in 1901, or an increase of 1,735. The number of marriages in 1902 was 18,072, an increase of 37 over 1901. Deaths during 1902 numbered 27,864; in 1901 29,608, showing the substantial decrease of 1,744. Dr. Bryce, secretary of the provincial board, attributes the increased birth rate to the crusade instituted by the press of the country and by the ministers of all denominations against race suicide.

Manitoba Medical College Opens.—This college began its twenty-first consecutive session September 21 with the largest attendance in its history. There are over forty in the freshman class. The most particular feature of the Manitoba medical act is that there is no council examination for the graduates of the Manitoba University. All graduates of this university are licensed to practice on payment of the registration fee of $75. The following changes in the staff have been made since last session: Dr. J. O. Todd has been elected to the chair of anatomy in succession to the late Dr. Neilson. Dr. James McKenty and Dr. James Pullar have been appointed assistant demonstrators in anatomy. Dr. W. L. Watt will conduct the practical and physiologic chemistry, and Mr. J. S. Pierce will teach the organic and inorganic chemistry.

Five-Year Medical Course in Quebec.—The Quebec Board of Physicians and Surgeons at a recent meeting decided to lengthen the medical course from four to five years. Another important item was the repealing of that section of the by-laws of the Quebec council which permitted men having British licenses to register and practice in the province of Quebec without having to undergo any further examination. A third question debated was the compulsory B. A. course, or "cours classique complet," before admission to the study of medicine n that province. The law in relation to this was so amended that the Catholic or French speaking candidate would have to pass such examination, but no change was made for the Protestant or English speaking candidate. These changes will be reported to the Quebec legislature, and the probability is that they will become law without alteration.

FOREIGN.

Plague at Rio de Janeiro is reported to the extent of 29 deaths and 52 new cases and 109 cases under treatment during the week ended November 5.

King Edward Sanatorium.—The cornerstone of the King Edward VII Consumption Sanatorium was laid November 3 at Midhurst, Sussex, Eng., by the king. One million dollars was given for this by Sir Ernest Cassel.

Another Case of Lethargic Sleep.—A young man in the province of Warsaw sank into a lethargic slumber last April and it has been impossible to arouse him. He wakens sufficiently to take a little liquid food every three weeks, and then succumbs at once to sleep.

International Congress of Applied Chemistry.—The committee in charge of the sixth congress, to be held at Rome in 1906, is already diligently at work. Professor Paterno was appointed president and the executive committee consists of Professors Piretti, Nasini, Ciamician and Menozzi.

Plan for Serum Institute in Germany.—The German authorities have about decided to found a serum institute for the nearly gratuitous distribution of antitoxins and serums for various diseases, and for research thereon. It is to be modeled on the lines of the Paris Pasteur Institute and will be called the Behring Institute.

Continental Anglo-American Medical Society.—The object of this association is purely social. The members are located mostly in the various European watering-places or in the large cities, and gather once a year for social intercourse. The fifteenth annual dinner was held at Paris, October 9, with thirty members in attendance.

Driven to Suicide by a Charlatan's Publications.—A comparatively young man committed suicide last month in Vienna. He left a farewell letter to his wife and children in which he stated that he had been driven to suicide by the knowledge that the affection from which he was a sufferer entailed insanity in time, adding "See Bilz's book."

The Operation on Emperor William.—The Emperor of Germany had removed from his larynx, November 7, a small pea-sized growth, which, according to the newspaper reports, was probably a simple papilloma. The operation was very simple and brief, and the growth is declared by the physicians in charge to have no suggestion of malignancy.

Italian Congress of Pathology.—This congress was held at Florence in October and appointed Milan as the place for the next meeting, which will be held during the spring of 1905. Professors Golgi and Foa were appointed a committee to confer with the German Pathologic Society in regard to whether the approaching congress could not be made international.

Subsidies for Authors.—The well-known "Military Medical Academy" at St. Petersburg appropriates annually nearly $800 as a fund for professors in the academy who during the year have published text-books on their special branches of science. This year it was divided between Bechtereff and Kravkoff, as each had published a manual, the former on the functions of the brain, and the latter on pharmacology.

Medical Affairs in Constantinople.—A new medical school has been constructed at Constantinople, said to be a model. Prof. R. Rieder of Bonn has been in charge of the work, and the new building was to have been dedicated November 6. The sultan became convinced that the radical political element might find a footing in the new school, and he has consequently ordered the project to be abandoned. Professor Rieder returns to Bonn and the building stands vacant.

Antituberculosis Dispensary in Berlin.—Von Leyden announces that a dispensary is soon to be opened at Berlin, modeled on those in France and Belgium, for tuberculous outpatients alone. At first it is to be restricted to persons dismissed from the great Belzig sanatorium. They are to be kept track of and their environment made as favorable as possible, with supervision as to whether they continue to conform to the prophylactic measures recommended.

Heavy Fine for Failure to Find Symptoms.—A Spanish physician recently testified that he could detect nothing abnormal in a man who had apparently recovered complete health after a blow on the head. The injury had at first produced symptoms of slight concussion of the brain, but these had all subsided at the time of the medical examination. A few days later other physicians noticed the presence of symptoms of cerebral concussion and the first expert was fined by the court $300 for false testimony. The *Siglo Médico* publishes a vigorous protest against this decision "which opens a new horizon of misfortune for the already sufficiently unfortunate medical class."

Progress in Peru.—Two members of the profession have been successively minister of the interior in Peru during the last year, Drs. D. Matto and M. C. Barrios. The former organized three maritime disinfecting stations at Paita, Callao and

llo. Dr. Barrios assumed office last September, and within a week he had secured the passage of a law by the senate, organizing a national board of public health as a section of his department. Its duties are to be similar to those of our marine-hospital service, with a director and a subdirector for the subsections of hygiene and demography. Peru, with nearly 1,000,000 square miles, has only 4,000,000 inhabitants, and the population has been declining or stationary for several years.

Campaign Against Charlatans and Proprietary Medicines in Germany.—The Cologne courts recently fined a "magnetopath" named Offermann $250 for his pretensions that he was able to cure all diseases. The same court (Landgericht) has also recently sent out a notice warning the public against "Warner's Safe Cure," which is being advertised extensively throughout the country. The notice enumerates the ingredients of the remedy and reiterates that there is no such thing as a universal medicine to cure all diseases, and that the price of the remedy in question far exceeds the actual value of the ingredients. The public is therefore warned against purchasing this useless preparation (nutzloses Mittel). The local board of health at Carlsruhe has issued a similar notice in regard to "Flucol," a much advertised oil remedy for pains of all kinds, asthma, rheumatism, etc., warning against its internal use on account of the danger of injury to the kidneys from its ingredients.

Professional Secrecy.—The national board of health at Buenos Ayres was recently consulted by the courts in regard to a suit brought by a physician against an estate for services rendered. The physician, in bringing the suit, enumerated the particulars of his services and demanded remuneration for conducting a premature delivery, curetting and after-care. The patient was an unmarried woman, and the affair had been conducted at her request with complete secrecy. The board of health materially reduced the amount to be paid, and severely censured the physician for his lack of professional secrecy in the matter. The death of the patient in the interim was no excuse for proclaiming the details of the services rendered. They also censured him for conducting such an operation without insisting on the presence of another medical man. The action of the board was modeled on Brouardel's maxims, which it cites from his work, "La Responsabilité Médicale." Several pages are devoted to the case in the *Semana Médica* of September 17.

Recent Important Medical Congresses in Europe.—In Germany the Congress of Physicians and Naturalists was held at Cassel, September 20 to 26. This is the annual meeting of the association devoted to research and practice in the medical and allied sciences. The attendance is always well into the thousands. The principal feature this year was Behring's address on tuberculosis, which was reviewed on page 994. In France the congresses of surgery and urology have just concluded their sessions at Paris. The subjects discussed at the former were "Exclusion of the Intestine," with addresses by H. Hartmann of Paris and others, and "Brain Tumors." The subjects appointed for discussion at the Congress of Surgery next year are "Hematology from the Surgical Standpoint," with an address by Tuffier of Paris, and "Surgical Treatment of Biliary Cirrhosis," with address by Monprofit of Angers. The Congress of Urology discussed "Rebellious Cystitis" and "Surgery of the Genito-urinary Organs," with addresses by Imbert of Montpellier, Pasteau of Paris, and others, Professor Guyon in the chair. Among the communications presented on surgery of the genital organs and urethra was one by Dr. Cumston of Boston. Our French and German exchanges give full particulars of these congresses in their last and current issues.

Correspondence.

A National Research Laboratory.

MILTON, KY., Oct. 28, 1903.

To the Editor:—Your endorsement of the Smallpox Research Laboratory in Cleveland (THE JOURNAL, Oct. 24, 1903, p. 1029) is commendable and justified. Would it not be better to have a national laboratory, under the auspices of a department of health, for studies on the etiology and pathology of all contagious and infectious diseases? Does not this work in Cleveland and Boston emphasize the need of the strong arm of the government to prosecute this important work?

S. E. HAMPTON, M.D.

[Researches are now being carried on in the Hygienic Laboratory of the Public Health and Marine-Hospital Service on the etiology and pathology of smallpox and of other diseases. A building, thoroughly equipped, has recently been completed, and is now being used for the purpose. The Army Medical Department is also doing good work of this kind in connection with the Army Medical School. The lamented Walter Reed, at the time of his death, was engaged in some interesting work on smallpox. The laboratory connected with the Medical Department of the Army in Manila is doing good work in the investigation of tropical diseases.—ED.]

Dosage of Carbolic Acid.

NEW ORLEANS, LA., Nov. 2, 1903.

To the Editor:—In an editorial in THE JOURNAL, October 31, you express surprise at the possibility of administering carbolic acid in more than 7-drop doses without grave results. I, too, had been taught to regard the internal administration of carbolic acid as a dangerous procedure until I became a surgeon in the British African service in 1893, where I learned that 15-drop doses often repeated afforded the best cure for the diarrhea and dysentery so prevalent and fatal along the west coast of Africa. W. LAURENCE STEVENSON, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

MEDICAL PRACTICE IN SWITZERLAND.

GUALALA, CAL., Oct. 29, 1903.

To the Editor:—Will you kindly inform me, under Queries and Minor Notes in THE JOURNAL: 1. If foreigners can take up medical practice in Switzerland? 2. The names of the medical journals in Switzerland and where they are published? ENQUIRER.

ANS.—1. Foreigners must pass through some of the government examinations—the first, third and fourth—which are conducted in German and French and which are likely, we believe, to be rather thorough. One will probably also have to show a longer period of study of medicine than is demanded in this country. 2. At least three medical journals are published in Switzerland, possibly more: The *Correspondenzblatt für die Schweizerische Aerzte*, the *Revue Medicale de la Suisse Romande* and the *Bull. Internationale de la Soc. de la Croix Rouge*. The first is published in Basle, the other two in Geneva.

SADISM.

DETROIT, Nov. 4, 1903.

To the Editor:—In THE JOURNAL, October 31, p. 1098, under "A Warning to Wealthy Parents," there occurs the phrase "proved to be a typical case of extreme sadism." The last word is a new one to me; neither the Standard nor Century dictionaries have it. Can you give its true meaning and derivation? There may be others who do not like to pass over words that are new to their vocabulary.

G. C.

ANS.—The word means a sexual perversion which obtains satisfaction in inflicting cruelty on others. It is derived from the Marquis de Sade, a historical example of this type, and himself an author of works on sexual matters published in the latter part of the eighteenth century.

Marriages.

CHARLES H. AYLING, M.D., Gridley, Ill., October 28.

OLIVER P. COE, M.D., to Miss Kathryn Hunter, both of Cincinnati, November 11.

CLARK A. BUSWELL, M.D., Chicago, to Miss Emma Rink of Elgin, Ill., November 4.

EMORY M. GOODWIN, M.D., to Miss Edith Shumway, both of Glenville, Ohio, October 27.

BENJAMIN D. MOSHER, M.D., to Miss Minnie Hess, both of Troy Grove, Ill., October 23.

ELMA L. JANES, M.D., Madison, Wis., to George H. Townsend of Dayton, Ohio, October 29.

LOUIS V. SAPH, M.D., San Jose, Cal., to Miss Nancy Wallace of Woodland, Cal., October 21.

JAMES V. MAY, M.D., to Miss Viola Florence Pickett, both of Wautoma, Wis., October 29.

ENOCH SAMUEL COOPER, M.D., Peachtree, Ala., to Miss Louise Rosine Krudop of Mobile, October 28.

J. ROYSTON GREEN, M.D., Baltimore, to Miss Mary Chew Grason, at Towson, Md., October 28.

ROBERT JAMES CHRISTIE, JR., M.D., to Miss Edith Eliza Turner, both of Quincy, Ill., October 26.

RICHARD LAWRENCE CAMPBELL, M.D., East St. Louis, Ill., to Miss Leva A. Crane of Pekin, Ill., October 29.

T. JACOB SMITH, M.D., Princess Anne, Md., to Miss Sophonisba P. Handy, at Schoharie, N. Y., October 27.

ORVILLE WARD WILSON, M.D., Clearfield, Pa., to Miss Lottie Idella McCloskey, of Lock Haven, Pa., October 29.

ANDREW A. BRADFORD, M.D., Cambridge, Ohio, to Miss Alice E. Elder of Bremen, Ohio, at Columbus, October 22.

JESSE W. INGRAM, M.D., Whatcom, Wash., to Miss Anna Grace Newmyer of Spokane, Wash., at Walla Walla, Wash., October 23.

Deaths.

Julian J. Chisolm, M.D. Medical College of the State of South Carolina, Charleston, 1850, died at Petersburg, Va., November 2, aged 73. After studying abroad he began practice in Charleston, and by his early recognized ability rose to the professorship of surgery in 1858. In the Civil War he obtained the first medical appointment and also treated the first wounded in the war (at Fort Sumter). He was the author of a "Manual of Military Surgery," which was the official text-book of the Confederate surgeons. He resumed his chair in 1865, but removed to Baltimore in 1869, and was at once made professor of operative surgery and diseases of the eye and ear in the School of Medicine of the University of Maryland. He was also dean of the faculty from 1869 to 1874. In 1873 he gave up surgery and devoted himself thenceforth exclusively to his specialty, in which he achieved an international reputation. He was a most prolific writer, a skillful operator and a man of extraordinary energy. He was a born teacher. He was chairman of the ophthalmologic section of the International Medical Congress of 1887. The great work of his life was the founding in 1877 of the Presbyterian Eye, Ear and Throat Hospital of Baltimore, one of the largest special hospitals in the country. In 1894, shortly after a trip to Europe, he was stricken with apoplexy and aphasia, and his active work ceased. He then gradually failed until his death.

William Reed McMahan, M.D. Rush Medical College, Chicago, 1868, one of the most prominent practitioners of southern Indiana; a veteran of the Civil War; in 1882, 1883 and 1884 professor of pathology in the Evansville (Ind.) Medical College; for 18 years chief surgeon of the Louisville, Evansville and St. Louis Railway; for two years consulting surgeon of the Lexington and St. Louis division of the southern railway system; a member of the American Medical Association; in 1903 first vice-president of the Southern Railway Surgeons' Association; one of the founders of the Dubois County Medical Association, and a member of the Indiana State Medical Society, died from apoplexy at his home in Huntingsburg, Ind., October 23, aged 60. He was for two years president and for six years a member of the board of control of the Indiana Southern Hospital for the Insane.

Robert Wood Mitchell, M.D. Tulane University, New Orleans, 1856, a member of the American Medical Association, American Public Health Association, Medical Society of the State of Tennessee, Memphis and Shelby County Medical Society and National Board of Health, professor of materia medica in Memphis Medical College, founder of the City Hospital, Memphis, secretary of the local board of health, during the Civil War regimental, brigade and division surgeon in the Confederate service; a pioneer practitioner of Memphis, who performed faithful work in yellow fever epidemics and was made one of the board appointed by congress to investigate the cause of yellow fever, died at his home in Memphis, November 2, from heart disease, after a brief illness, aged 71.

Simon Pollak, M.D. University of Vienna, Austria, 1835, the oldest practitioner of St. Louis; a member of the American Medical Association; one of the founders of the Missouri State School for the Blind, who opened, in 1861, the first eye and ear clinic west of the Mississippi, died at his home in St. Louis, October 31, aged 90. During the Civil War he served on the U. S. Sanitary Commission. He was many times treasurer and once president of the St. Louis Medical Society. Dr. Pollak was one of the quartet of St. Louis veteran physicians in whose honor a banquet was given by the medical profession of the city on April 14 last.

Archibald Atkinson, M.D. University of Pennsylvania, Philadelphia, 1854, afterward a student in Dublin and Paris for two years; brigade surgeon in the Confederate service during the Civil War; professor of materia medica and therapeutics in the College of Physicians and surgeons, Baltimore, and later in the Baltimore Medical College, died at his home in Baltimore, October 29, from Bright's disease, aged 71.

Leon de Chesne, M.D. University of Louvain, Belgium, 1879, a member of the American Medical Association and the Wisconsin State Medical Society, and for thirteen years a prominent practitioner of Sturgeon Bay, Wis., died at Presbyterian Hospital, Chicago, October 28, from carcinoma of the tongue, after an illness of nine months, aged 51.

Lorenzo Traver, M.D. Albany (N. Y.) Medical College, 1857, surgeon U. S. Navy until 1868, and thereafter a resident of Providence, R. I.; a member of the American Medical Association, Rhode Island Medical Association and Providence Medical Association, died at his home in Providence, October 24, aged 69.

Stephen L. Blachly, M.D. Jefferson Medical College, Philadelphia, 1870, for fifty years a practitioner in Washington County, Pa., and for several years president of the county society, died at his home in Wilkinsburg, Pa., October 28, after a long illness, aged 87. He retired from active practice in 1890.

Joseph Billings Morton, M.D. College of Physicians and Surgeons, New York, 1849, the oldest practitioner in New Jersey, who for several years had compiled the weather reports for the Signal Service Bureau of Elizabeth, died at his home in that city, November 2, aged 77.

Wakeman Briarly Munnikhuysen, M.D. University of Pennsylvania, Philadelphia, 1869, a surgeon in the German army during the Franco-Prussian War, died at his home in Belair, Md., October 27, from paralysis, after a partial invalidism of two years, aged 59.

A. D. Binkerd, M.D. Long Island College Hospital, Brooklyn, 1864, formerly assistant surgeon Third Company U. S. Heavy Artillery, died at his home in Miller's Eddy, West Monterey, Pa., October 27, after a short illness from neuralgia of the heart, aged 78.

Bernard A. Daly, M.D. University College of Medicine, Richmond, Va., 1899, died at his home in Newark, N. J., November 2, from septicemia, resulting from a slight wound received during a surgical operation, four weeks before, aged 27.

John B. Weaver, M.D. Michigan College of Medicine, Detroit, 1881, died suddenly in the City Hall, Lansing, Mich., October 31, aged about 50. Death is supposed to have been due to rheumatism of the heart.

Thomas James Davis, M.D. University of Vermont, Burlington, 1885, superintendent of Charity Hospital, formerly McKane Hospital, Savannah, Ga., died at Sheepshead Bay, N. Y., November 5.

Benjamin Elmore Kell, M.D. Bellevue Hospital Medical College, New York, 1890, of Chester, S. C., died, October 30, at the home of his father, Dr. James T. Kell, Ardreys, N. C., after a long illness.

Robert C. Downey, M.D. Starling Medical College, Columbus, 1864, surgeon of the Thirteenth Ohio Volunteer Cavalry in the Civil War, died at his home in Caldwell, Ohio, October 22, aged 69.

Joseph T. Battle, M.D. Medical College of Georgia, Augusta, 1868, died at his home in Highland Park, Montgomery, Ala., October 22, from rheumatism, after an illness of several days.

Patrick Curran, M.D. Rush Medical College, Chicago, 1878, of Chicago, died at Fort Worth, Texas, where he had gone a year ago for the benefit of his health, October 28, aged 75.

Harvey P. Cox, M.D. University of Louisville, Ky., 1876, of Mackville, Ky., died at the Gray Street Infirmary, Louisville, October 29, from cirrhosis of the liver, aged 51.

Albert U. Evarts, M.D. Louisville Medical College, 1871, died at his home in Laporte City, Iowa, November 3, after a short illness, from Bright's disease, aged 60.

Caleb C. Libby, M.D., a member of the state senate, died at his home in East Pittston, Me., October 27, from kidney disease, after a long illness, aged 56.

Silas Edwin Akers, M.D. University College of Medicine, Richmond, Va., 1898, died at his home at Willis, Va., October 22, from typhoid fever, aged 31.

R. R. MacFarlane, M.D. Trinity College, Toronto, of Seattle, Wash., and Dawson, N. W. Territory, was found dead on a train in Montana, October 24.

Louis Ronchi, M.D. Royal Medical College, Rome, Italy, was asphyxiated by gas at his boarding house in New York, November 3.

E. B. Williams, M.D., died at Nome, Alaska, September 11, from heart disease, aged 48.

Deaths Abroad.

Otto J. F. Nasse, M.D., professor of pharmacology and physiologic chemistry at Rostock from 1880 to 1899, died at Freiburg, October 20. He was a prolific writer on his specialty, and besides his contributions to Pflüger's *Archiv* and other periodicals he published works on the physiology of peristalsis and on the striped muscle substance. His successor at Rostock is Prof. Rudolf Kobert, whose name is also well known by his numerous publications.

D. Tibone, M.D., one of the most prominent gynecologists of Italy, died suddenly at Rome, October 7, aged 70. He had been professor of obstetrics and gynecology at Turin for thirty-eight years.

Friedrich Betz, M.D., died at Heilbronn, October 19, aged 84. He founded the medical journal, *Memorabilien*, in 1856, and conducted it until last year, when its suspension was announced.

R. Seccondi, M.D., professor of ophthalmology at Genoa and a prominent member of the Italian senate.

Miscellany.

CLIPPINGS FROM LAY EXCHANGES.

ANTEMORTEM INQUEST.

"Dr. —— of the State Board of Health was in town yesterday, to hold an inquest over ——, who is suffering from smallpox."—*Houtzdale* (Pa.) *Citizen*, Oct. 9, 1900.

NEW INSTRUMENT.

"Dr. —— . . . does not think the sleeping sickness is caused by a microbe, but by a trysanasometer belonging to the same group of parasites which attacks cattle."—*N. Y. Sun*, Nov. 1, 1903.

POSTMORTEM HEMORRHAGE CAUSES DEATH.

In the biennial report of Queen's Hospital, Honolulu, Hawaii, published in the *Honolulu Bulletin* of August 20, death is said to have been due, in one instance, to "postmortem hemorrhage."

INVOLUTION.

"Dr. —— of Chicago may take the work at Grand Avenue Chapel. . . . . Dr. —— is a converted physician, so he says, until a few years ago he practiced in ——."—*Crawfordsville* (Ind.) *Journal*, September 21.

RENAL CHOLELITHIASIS.

"The many Vermillion friends of —— learn with much regret of his serious condition with kidney trouble. He will submit to an operation in Chicago soon for the removal of a gallstone from his kidneys. . . . ."

NASAL DYSMENORRHEA.

"Dr. —— then read the next paper, which was entitled 'A New Treatment for Dysmenorrhea.' The chief treatment of this nasal infection was cocaine . . . .—Memphis (Tenn.) Report of Mississippi Valley Medical Association.

NEW LOCALITY FOR CANCER.

"Prof. ——, an eminent physician and member of the senate, publishes to-day a long article to demonstrate that —— died of a tuberculosis cancer on the right hydrothorax."—*Rutland* (Vt.) *Evening News*, September 11, and other newspapers.

POST HOC, PROPTER HOC?

In a list of companies incorporated, published in the *New York Journal of Commerce*, Sept. 2, 1903, is "The Mutual Medical Company—Objects: furnish medical attendance and subsequently bury the dead; capital $2,000. Incorporators . . ."

AN ORACULAR JURY.

"A coroner's jury in Holly, in its verdict on the death of a suicide, found that 'the oracle of his heart was weak, and he would soon have died of rupture of the oracle if he had not taken his own life."—*Grand Rapids* (Mich.) *Evening Press*, October 3.

MEDICAL STUDENTS CUT THROAT.

"——, who has been deaf and dumb for four years as the result of a mining accident . . . . has been restored to speech and hearing by students of —— Medical College, Chicago, ... who cut ——'s throat open and removed clots of blood and supplied him with artificial eardrums."—*Chicago Tribune*, October 26.

State Boards of Registration.

COMING EXAMINATIONS.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1.

New Mexico Board of Health, Santa Fe, Dec. 7.

Examining Board of Medical Society of Delaware, Dover, Dec. 8.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10.

Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14, 15 and 16.

Medical Council, Philadelphia, Dec. 15.

Medical Examining Board of Virginia, Lynchburg, Dec. 15-18.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22, 23 and 24.

North Dakota Report.—The North Dakota State Medical Examining Board, at Grand Forks, October 6 to 8, held a written examination, at which 11 out of 14 applicants passed, a grade of 75 per cent. being required and questions being asked in 13 subjects.

PASSED.

College.	Year Grad.	Per Cent.
University of Minnesota	1903	78
University of Minnesota	1903	85
University of Michigan	1903	83
University of Christiania, Sweden	1893	83
Hamline University	1901	76
Kansas City Medical College	1903	83
Northwestern University, Chicago	1903	92
Harvard Medical School	1900	82
Hering Medical College, Chicago	1903	79
Johns Hopkins University, Baltimore	1902	81
College of Physicians and Surgeons, Chicago	1903	76

FAILED.

College of Physicians and Surgeons, Keokuk	1902	65
College of Physicians and Surgeons, Keokuk	1897	70
Starling Medical College, Columbus	....	72

Idaho Report.—Dr. R. L. Nourse, Hailey, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, October 6 to 8, as follows: Subjects, 12; questions, 120; percentage required, 75; examined, 24; passed, 19; failed, 5.

PASSED.

College.	Year Grad.	Per Cent.
Columbia University, New York	1898	87
Barnes, Medical College, St. Louis	1903	80.6
Barnes Medical College, St. Louis	1903	78.1
Hahnemann Medical College, Chicago	1902	75.6
Jefferson Medical College, Philadelphia	1902	76.6
Jefferson Medical College, Philadelphia	1896	79.2
Beaumont Medical College, St. Louis	1901	82.6
Creighton Medical College, Omaha	1902	92.6
University of Michigan	1903	87
College of Physicians and Surgeons, Chicago	1893	86.9
Rush Medical College, Chicago	1903	78.3
Rush Medical College, Chicago	1901	89.3
Northwestern University, Chicago	1902	84.9
Harvey Medical College, Chicago	1901	76.9
Keokuk Medical College, Iowa	1892	84.3
University of Colorado, Boulder	1901	84.5
University of Colorado, Boulder	1903	86.3
University of Colorado, Boulder	1903	79.2
University of Minnesota	1901	80.9

FAILED.

Kansas Medical College, Topeka	1895	65.2
Jefferson Medical College, Philadelphia	1895	74.3
Kentucky School of Medicine, Louisville	1879	35.9
College of Physicians and Surgeons, Kansas City	1902	61.6
Rush Medical College, Chicago	1902	74.6

Georgia Report.—Dr. I. H. Goss, Athens, secretary of the Georgia State Board of Medical Examiners, reports the written examination at Atlanta, October 13, as follows: Number of subjects examined in 10; total questions, 56; percentage required to pass, 75; examined, 27; passed, 25; failed, 2.

PASSED.

College.	Year Grad.	Per Cent.
Atlanta College of Physicians and Surgeons	1903	*76
Atlanta College of Physicians and Surgeons	1903	76
Atlanta College of Physicians and Surgeons	1903	85
Atlanta College of Physicians and Surgeons	1903	75
Atlanta College of Physicians and Surgeons	1903	75
Atlanta College of Physicians and Surgeons	1903	75
Leonard Medical College	1903	79
Leonard Medical College	1903	75
Johns Hopkins Medical College	1900	89
Jefferson Medical College	1903	85
Jefferson Medical College	1903	84
Univ. and Bellevue Hospital Med. College, New York	1903	84
Univ. and Bellevue Hospital Med. College, New York	1903	85
Tulane University	1903	88
Baltimore College of Physicians and Surgeons	1903	85
Baltimore College of Physicians and Surgeons	1903	82
Grant University	1903	78
Meharry Medical College	1903	77
University of Maryland	1903	86
University of Maryland	1903	81
University of Maryland	1903	84
University of Georgia	1899	75
University of Louisville	1903	88
Vanderbilt University	1894	78
Southern Medical College	1894	84

FAILED.

Atlanta Medical College	....	..
Atlanta Medical College	....	..

* Second examination.

Association News.

New members for the month of October, 1903.

ALABAMA.

Duncan, W. P., Birmingham.

ARKANSAS.

Breathwit, William, Draughon.
Moorhead, W. H., Stuttgart.
Tarkington, A. R., Hot Springs.
Wyatt, William A., Rosie.

CALIFORNIA.

Spalding, O. B., San Francisco.
Campbell, Mary P., San Francisco.
Meyer, J. H., San Barnardino.
Stivers, Charles G., Los Angeles.

COLORADO.

Jaffa, Perry, Trinidad.
Oertel, Henry B., Pueblo.
Gengenbach, F. P., Denver.
Davenport, R. G., Trinidad.
Kahn, S. G., Leadville.

CONNECTICUT.

Steele, H. M., New Haven.
Bailey, M. A., Hartford.
Bunce, Philip D., Hartford.
Dowling, John F., Hartford.

DISTRICT OF COLUMBIA.

Howard, C. Norman, Washington.

GEORGIA.

Oertel, T. E., Augusta.

ILLINOIS.

Reiterman, Charles, Chicago.
Rowan, Charles J., Chicago.
Zurawski, K. A., Chicago.
Pence, C. D., Chicago.
Armstrong, Guy L., Taylorville.
Fitzgerald, Frank, Morrison.
Dickerson, Jas. H., Taylorville.
Hill, T. F., Athens.
Alexander, John W., Oakland.
Pickard, W. S., Maywood.

INDIANA.

Ray, Frank E., Shelbyville.
Yencer, M. W., Boston.
Suttner, C. N., Elwood.
Pothuisje, P. J., Remington.

IOWA.

Welsh, F. E., Rutland.
Gullison, Andrew, Lake Mills.
Arenschild, E. M., Ottumwa.
Hughes, Sarah L., Burlington.
Welpton, H. G., Des Moines.
Kasten, W. C., Fort Madison.
Mulligan, W. W., Burlington.
Ely, Frank A., Des Moines.
Schwabland, W. T., Lester.
Huband, Charles E., Ottumwa.
Eiel, H. E., Buffalo Center.
Rogers, Arthur M., Wapello.

KANSAS.

Linley, Hubbard, Atchison.
Miller, William E., Muscotah.

KENTUCKY.

Ogilvie, R. W., Princeton.
Anderson, V. V., Barbourville.
Hall, G. C., Louisville.
Forsythe, W. H., Lexington.

LOUISIANA.

Cocker, George F., New Orleans.
Moss, A. H., Lake Charles.
Haydel, J. J., Plancheville.

MAINE.

Emmons, George P., Lewiston.

MARYLAND.

Getz, Charles, Baltimore.
Griffith, L. A., Upper Marlboro.

MASSACHUSETTS.

Adams, G. E., Worcester.
Barrell, Mary E., Worcester.
Holbrook, B., West Newton.
Hazlett, Olive B., Malden.

MICHIGAN.

May, George A., Ann Arbor.
Lynam, T. P., Ironwood.
Cope, Charles S., Ionia.
Wilson, Walter J., Jr., Detroit.
Bender, Frederick P., Caro.
Haskins, Mary G., Detroit.
Lindbohm, Albert W., Ironwood.
Ganung, Cora Pope, Lansing.
Kenyon, Frank P., Plymouth.
Read, L. C., Grand Rapids.

MINNESOTA.

Hirschfield, M. S., Deer Creek.
Weston, C. G., Minneapolis.
Titus, Jerome H., Sacred Heart.

MISSISSIPPI.

Fountain, J. G., Pearlington.
Hunnicutt, W. J., Poplarville.
Anderson, Jacob M., Itta Bena.

MISSOURI.

Moore, Roy D., Central.
Barnes, Algenon S., St. Louis.
McGill, W. J., St. Joseph.
Putman, Ola, Marceline.
Pierpoint, J. E., Skidmore.
Viedt, E. J., Rockville.
Woolsey, N. B., Braymer.
Gleaves, O. G., St. Joseph.
Kirchner, Walter C. G., St. Louis.
Clark, Wm. A., Jefferson City.
Talbott, Hudson, St. Louis.
Thomas, C. E., St. Joseph.
Ayres, Samuel, Kansas City.
Burns, Robert, St. Louis.

NEBRASKA.

Lansing, L. A., Emerson.
Leahy, Bartholomew J., Jackson.
Johnson, Andrew, Beatrice.
Fast, W. S., Falls City.
Kelly, Thomas, South Omaha.
Schindel, Charles M., S. Omaha.
Walker, William H., Omaha.
Lake, Frederick W., Omaha.
Arnold, Harry L., Omaha.
Smith, Seymour H., Omaha.
Pollard, Charles W., Omaha.
Moore, J. C., Omaha.
Lndington, Paul H., Omaha.
Rix, Rudolph, Omaha.

NEW HAMPSHIRE.

Stickney, H. L., Manchester.

NEW JERSEY.

Dunlap, Thomas G., Atlantic City.
Marshall, Jos. C., Atlantic City.
Russell, Anthony B., East Orange.
Warner, W. B., Red Bank.
Wood, Frank M., Camden.
Reed, James J., Sea Bright.
Quinby, William O'G., Newark.
Leaver, Morris H., Quakertown.
Diverty, Henry B., Woodbury.
Houck, William J., Newark.

NEW YORK.

York, George W., Buffalo.
O'Neill, James M., Buffalo.
Corcoran, Walter J., Brooklyn.
Sanders, Jos. A., Clifton Springs.
Bainbridge, W. S., New York City.
Lambert, W. E., New York City.
Bennett, T. L., New York City.
Shepard, W. H., New York City.
Coe, J. W., New York City.
Kilmer, T. W., New York City.
Truman, Irving P., Hornellsville.
Meany, Edw., Ithaca.
Helwig, Frank A., Akron.
Cotton, John, Burnt Mills.
Cocke, Wm. I., Port Washington.
Butler, Andrew J., Unadilla.

OHIO.

Clark, F. S., Cleveland.
Hole, Charles M., Cleveland.
Moorehouse, Geo. W., Cleveland.
Stuart, Charles C., Cleveland.
Kaler, A. F., Columbus.
Pepper, L. C., Loramie.
Hannum, B. G., Cleveland.
Morris, W. E., Lisbon.
Goodman, S. J., Columbus.
McKitrick, Llewellyn, Dublin.
Lewis, William F., Martinsburg.
Stout, J. J., Luhrig.
Taylor, Martin, Fort Recovery.
Moses, Jacob B., Crestline.
Cosler, Harry A., North Hampton.
Wittenmyer, J. M., Peebles.
Marquart, C. A., Crestline.

OKLAHOMA.

Rucks, William W., Guthrie.
Hamilton, W. S., Norman.

PENNSYLVANIA.

Booth, Bradford A., Pittsburg.
Heckel, E. B., Pittsburg.
Shaw, James P., Pittsburg.
Brown, John R., Pittsburg.
Burke, John G., Pittsburg.
Butler, Ralph, Philadelphia.
Rhoads, Edw. G., Philadelphia.
Peter, Luther C., Philadelphia.
Moore, John D., Philadelphia.
Megargee, Geo. L., Philadelphia.
Biedert, Chas. C., Philadelphia.
Currie, Thos. R., Philadelphia.
Piersol, Geo. A., Philadelphia.
Edsall, David S., Philadelphia.
Harland, W. G. B., Philadelphia.
Babbitt, Jas. A., Philadelphia.
Griscom, Mary W., Philadelphia.
McCombs, Robt. S., Philadelphia.
Hatfield, Chas. J., Philadelphia.
Traver, S. N., Steelton.
Gruver, Arthur B., Erie.
Lloyd, John H., Erie.
Haben, John F., McKeesport.
Bryant, F. Otis, Chester.
Mowery, Jacob L., Lancaster.
Snyder, Francis J., York.
Yagle, George N., Red Lion.
McLaughlin, C. M., Greencastle.
Brown, O. S., Warren.
Crandal, George D., Blossburg.
McKinley, H. Clay, Meyersdale.
Merryman, John W., Leonard.
Dunkle, Gally B., Washington.
Robinhold, D. Guy, Forty Fort.
Haines, Samuel H., Bradford.
Shindel, Will L., Sunbury.
Kinard, George C., Lincoln.
Follmer, James B., Berwick.
Canfield, H. A., Bradford.
Wycoff, George R., Duquesne.
Brown, Alex. MacL., Franklin.
De Bashore, Simeon, Palmyra.
Berge, William H., Avoca.
McKown, H. L., Tunkhannock.
Johnson, William M., Venango.
Casselberry, C. M., Pottstown.
Hland, Edw. M., Coraopolis.
Kuhns, Harry B., Neale.
Pennell, H. Y., E. Downingtown.
Gaston, Ida E., Philadelphia.
Backenstoe, W. A., Emaus.
Young, James K., Philadelphia.
Bliss, A. A., Philadelphia.
Crueger, E. A., Philadelphia.
Cary, Ezra H., Prosperity.
Hitschler, W. A., Philadelphia.
Fleckenstine, H., Newportville.
Good, W. H., Philadelphia.
Gerhard, S. P., Philadelphia.
Pottberg, Charles, Philadelphia.
O'Reilly, Chas. A., Philadelphia.
Morton, T. S. K., Philadelphia.
Williamson, J. J. G., Philadelphia.
McCaraghy, A., Philadelphia.
Trever, C. W. L., Philadelphia.
Johnson, A. R., New Bloomfield.
Carr, William H., Lancaster.
Reynolds, J. Hervey, Bellevue.
Sumney, F. F., Dravosburg.
Rice, Daniel S., Hastings.
Pratt, C. Manville, Towanda.
Wright, Theodore, Dushore.

RHODE ISLAND.

Bacon, Edw. S., Providence.
Barker, Christopher F., Newport.
Jordan, William H., Providence.
Ecroyd, Henry, Newport.

SOUTH CAROLINA.

Hofman, Van Telburg, Sumter.

SOUTH DAKOTA.

Tilton, A. L., Leslie.

TENNESSEE.

Rice, John C., Braden.
Tucker, R. O., Nashville.
Wilson, Henry B., Chattanooga.
Branch, Benj. L., Collierville.

TEXAS.

Martin, J. M., Hillsboro.
Palmer, Hal J., Yarboro.
Whitworth, Albert J., Yarboro.
Wagner, Steven V., Houston.

UTAH.

Condon, A. S., Ogden.

VIRGINIA.

Dalton, Martin L., Floyd.

WASHINGTON.

Hastings, William C., Seattle.

WEST VIRGINIA.

Fox, Joseph A., Hinton.

WISCONSIN.

Conroy, J. M., Neillsville.
Herron, Allen L., Milwaukee.
Sandborn, M. J., Appleton.
Vollmer, Alfred M., Superior.
Shaw, A. O., Ashland.
Sauerhering, Douglas L., Wausau.
Pomainville, F., Grand Rapids.
Dogherty, C. F., Muscoda.
Jones, John R., Randolph.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, for the week ending Nov. 7, 1903:

Brooks, William H., asst.-surgeon, ordered to proceed from Vancouver Barracks to Fort Walla Walla, Wash., to accompany the Thirtieth Battery Field Artillery, en route to Fort Snelling, Minn. On completion of this duty, granted thirty days' leave of absence.

Rand, Irving W., asst.-surgeon, granted thirty days' leave of absence, with permission to apply for thirty days' extension.

Greenleaf, Henry S., asst.-surgeon, relieved from further duty at Presidio of San Francisco, Cal., and ordered to Fort Moultrie, S. C.

Henderson, A. B., asst.-surgeon, ordered before Army retiring board at Denver, Colo.

Roberts, William, asst.-surgeon, granted three months' sick leave on arrival of medical officer at Fort Brady, Mich.

Howard, Deane C., asst.-surgeon, ordered to U. S. Army General Hospital, Washington Barracks, D. C., for duty.

Patterson, Edwin W., contract surgeon, serving in the Division of the Philippines, granted leave of absence for three months in the United States.

Stoney, Randell C., contract surgeon, relieved from temporary duty at Fort Dupont, Del., and ordered to Fort Revere, Mass., for temporary duty; relieving Contract Surgeon Raoul A. Amador, U. S. A., granted leave of absence for one month and fifteen days.

Ames, Roger P., contract surgeon, relieved from duty at Fort Barrancas, Fla., and assigned to duty at Fort McIntosh, Texas.

Hogan, David D., contract surgeon, now on two months' leave from the Division of the Philippines, has been granted an extension of leave of one month.

Baker, Charles L., contract surgeon, relieved from duty at Fort Baker, Cal., and ordered to Camp McKinley, Honolulu, H. I.

Burr, Rollin T., contract surgeon, returned to duty at Cabana Barracks, Havana, Cuba, from temporary duty at Headquarters Artillery Forces in Cuba, where he has been since February last.

Woods, Oscar W., contract surgeon, relieved from temporary duty at Fort Casey, Wash., and ordered to Fort Wright, Wash.

McCall, James H., contract surgeon, returned to his station, Columbia Arsenal, Tenn., from duty at Camp Young, West Point, Ky., and accompanying troops to Fort Sheridan, Ill.

Rhoades, Rex H., contract dental surgeon, relieved from duty at Fort Leavenworth, Kas., and ordered to the Philippines for duty.

Fisher, William C., contract dental surgeon, ordered from Fort Sheridan, Ill., to Fort Wayne, Mich.

Stone, Frank P., contract dental surgeon, ordered from the Philippines to the General Hospital, Presidio of San Francisco, for treatment.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Nov. 7, 1903:

Elliott, M. S., surgeon, ordered to the Naval Hospital, Norfolk, Va.

Evans, S. G., surgeon, detached from Naval Hospital, Norfolk, Va., and ordered to the U. S. S. *Cleveland.*

Wheeler, W. M., surgeon, detached from the Naval Hospital, Newport, R. I., and granted leave of absence for thirty days.

Blackwell, E. M., P. A. surgeon, detached from the U. S. R. S. *Hancock* and ordered to the U. S. S. *Castine.*

Spear, R., P. A. surgeon, detached from the U. S. S. *Wheeling* and ordered home to await orders.

Odell, H. E., P. A. surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the U. S. S. *Wheeling.*

Murphy, J. A., asst.-surgeon, ordered to the Navy Yard, Washington, D. C.

Richardson, F. A., A. A. surgeon, ordered to the Naval Hospital, Newport, R. I.

Schwerin, L. H., A. A. surgeon, detached from the U. S. S. *Yankton* and ordered to the U. S. S. *Southery.*

Elmer, M. K., asst.-surgeon, detached from the U. S. R. S. *Independence* and ordered to the U. S. T. S. *Pensacola.*

Dabney, V., A. A. surgeon, detached from the U. S. T. S. *Pensacola* and ordered to duty with Recruiting Party No. 4.

Chapman, R. B., A. A. surgeon, detached from duty with Recruiting Party No. 4 and ordered to the Navy Yard, Mare Island, Cal.

Taylor, E. C., and I. S. K. Reeves, asst.-surgeons, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Marsteller, E. H., surgeon, ordered to the U. S. S. *Columbia.*

Kennedy, J. T., P. A. surgeon, commissioned passed assistant surgeon, with rank of lieutenant.

Ohnesorg, K., P. A. surgeon, commissioned passed assistant surgeon, with rank of lieutenant, from March 3, 1903.

Miller, J., and F. E. Campbell, asst.-surgeons, ordered to Naval Museum of Hygiene and Medical School, Washington, D. C.

High, W. E. G., asst.-surgeon, ordered to the U. S. T. S. *Constellation.*

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commisioned officers of the Public Health and Marine-Hospital Service for the two weeks ended Nov. 5, 1903:

Surgeon J. M. Gassaway, granted extension of leave of absence for one month from October 13.

Surgeon P. C. Kalloch, to proceed to Dorchester, Mass., for special temporary duty.

Surgeon S. D. Brooks, detailed as inspector of the Marine Hospital and unserviceable property at Mobile, Ala.

Surgeon H. R. Carter, granted leave of absence for one day, Oct. 29, 1903, under paragraph 189 of the Regulations.

Assistant Surgeon General G. T. Vaughan, appointed as member of committee to consider and report on the matter of uniforms and insignia for officers and employes of the Customs Service.

Asst.-Surgeon W. C. Billings, relieved from duty at Quebec, Canada, and assigned to duty in the office of the U. S. Commissioner of Immigration at St. Johns, N. B.

Asst.-Surgeon J. W. Kerr, granted leave of absence for two days from Oct. 18, 1903, under paragraph 191 of the Regulations. Relieved from duty at the Immigration Depot, New York, and directed to proceed to Duluth, Minn., for temporary duty as medical inspector of aliens.

Asst.-Surgeon H. A. Stansfield, granted leave of absence for ten days. On expiration of leave to report at Bureau, Washington, D. C.

Asst.-Surgeon C. W. Wille, relieved from duty at Philadelphia and directed to proceed to Baltimore and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon J. S. Boggess, granted leave of absence for three days from November 3.

P. A. Surgeon J. C. Perry, to proceed to Lexington, Va., for special temporary duty.

P. A. Surgeon J. A. Nydegger, Bureau letter of Oct. 10, 1903, granting him leave of absence for one month, amended so that leave shall be for twenty-nine days from September 23.

P. A. Surgeon H. W. Wickes, granted leave of absence for two days from October 28.

P. A. Surgeon M. H. Foster, granted leave of absence for fifteen days from November 3.

P. A. Surgeon J. F. Anderson, to proceed to Lexington, Va., for special temporary duty.

A. A. Surgeon J. F. Bullard, granted leave of absence for four days from October 29.

A. A. Surgeon B. W. Goldsborough, Department letter granting him leave of absence for three weeks from Sept. 22, 1903, amended to read thirteen days.

A. A. Surgeon J. M. Jackson, Jr., Department letter granting him leave of absence for thirty days from Oct. 5, 1903, amended so as to read thirty days from October 26.

A. A. Surgeon N. V. Safford, granted leave of absence for three days from Oct. 23, 1903, under paragraph 191 of the Regulations.

A. A. Surgeon F. M. Clarke, granted leave of absence for twenty days from November 8.

A. A. Surgeon D. M. Echemendia, granted leave of absence, on account of sickness, for thirty days from October 5.

A. A. Surgeon J. W. Tappan, granted leave of absence for seven days from Nov. 2, 1903, under paragraph 191 of the Regulations.

Pharmacist John Achenbach, granted leave of absence for six days from Oct. 26, 1903, under paragraph 210 of the Regulations.

BOARDS CONVENED.

Board convened at Baltimore, Nov. 2, 1903, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon H. B. Carter, chairman; Asst.-Surgeon M. W. Glover, recorder.

Board convened at Washington, D. C., Oct. 29, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Board convened at Philadelphia, Oct. 30, 1903, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Asst.-Surgeon W. A. Korn, chairman; Asst.-Surgeon C. W. Wille, recorder.

PROMOTION.

Asst.-Surgeon J. C. Hobdy commissioned (recess) as passed assistant surgeon in the Public Health and Marine-Hospital Service, to rank as such from Aug. 15, 1903.

APPOINTMENT.

W. J. S. Stewart, appointed acting assistant surgeon for duty at Rio de Janeiro, Brazil.

CASUALTIES.

Asst.-Surgeon C. E. Decker, died Oct. 21, 1903.

A. A. Surgeon C. B. Sweeting, died Oct. 4, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 6, 1903.

SMALLPOX—UNITED STATES.

Alabama: Mobile, Oct. 25-31, 7 cases.

California: San Francisco, Oct. 19-25, 2 cases.

Colorado: Denver, Sept. 27-Oct. 17, 14 cases.

Illinois: Belleville, Oct. 25-31, 7 cases; Chicago, Oct. 25-31, 1 case.

Indiana: Evansville, Oct. 18-24, 1 case, imported.

Louisiana: New Orleans, Oct. 25-31, 1 case.

Maryland: Cumberland, Oct. 1-31, 1 case.

Massachusetts: Boston, Oct. 25-31, 1 case.

New Hampshire: Manchester, Oct. 25-31, 7 cases.

New York: New York City, Oct. 25-31, 1 case.

Ohio: Cincinnati, Oct. 24-30, 4 cases; Cleveland, Oct. 25-31, 2 cases.

Pennsylvania: Erie, Oct. 25-31, 1 case; Johnstown, Oct. 25-31, 6 cases, 2 deaths; Philadelphia, Oct. 25-31, 13 cases, 8 deaths; Pittsburg, Oct. 18-31, 96 cases, 12 deaths, 1 case imported.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Aug. 1-31, 12 deaths.

Belgium: Antwerp, Oct. 4-10, 2 cases.

Brazil: Rio de Janeiro, Sept. 28-Oct. 11, 117 cases, 64 deaths.

Colombia: Barranquilla, Oct. 5-18, 3 deaths.

France: Paris, Oct. 12-17, 1 case, 1 death; Rouen, Sept. 1-30, 5 cases.

Great Britain: Birmingham, Oct. 11-17, 1 case; Glasgow, Oct. 17-23, 1 death; Liverpool, Oct. 11-17, 4 cases; London, Oct. 11-17, 11 cases; Manchester, Oct. 11-17, 5 cases; Newcastle-on-Tyne, Oct. 11-17, 6 cases.

Greece: Athens, Oct. 4-10, 1 case.

Guiana: Demorara, Aug. 29-Sept. 26, 326 cases, 1 death.

India: Bombay, Sept. 30-Oct. 6, 2 deaths.

Hawaiian Islands: Honolulu, Sept. 1-30, 3 cases, 2 deaths.

Japan: Yokohama, Jan. 1-Sept. 19, 2 cases.

Malta: Oct. 13-19, 1 case.

Mexico: City of Mexico, Oct. 12-18, 2 cases, 2 deaths.

Russia: Moscow, Oct. 4-10, 4 cases; St. Petersburg, Oct. 4-10, 19 cases; Warsaw, Sept. 20-26, 3 deaths.

Spain: Bacelona, Oct. 11-17, 5 deaths.

Turkey: Smyrna, Oct. 5-11, 59 deaths.

Uruguay: Montevideo, June 5-Sept. 5, 10 cases.

YELLOW FEVER—UNITED STATES.

Texas: Connel, Nov. 3, 1 case; Laredo, Oct. 28-Nov. 4, 81 cases, 20 deaths; Minera, Oct. 30, 1 case; San Antonio, Oct. 27-Nov. 2, 4 cases, 3 deaths; Dewitt County, to Nov. 4, 5 cases, 1 death.

YELLOW FEVER—FOREIGN.

Brazil, Rio de Janeiro, Sept. 28-Oct. 11, 4 cases, 3 deaths.

Costa Rica: Limon, Oct. 22, 1 case.

Mexico. Tampico, Oct. 11-24, 4 deaths; Vera Cruz, Oct. 19-24, 41 cases, 12 deaths.
Jamaica: Port Royal, Oct. 11-17, 4 cases.

CHOLERA—FOREIGN.

India: Madras, Sept. 19-Oct. 2, 4 deaths.
Japan: Kobe, Sept. 27-Oct. 3, 2 cases, 1 death; Nagasaki, Oct. 26, present.
Turkey: Arghani-Maaden, Oct. 6, 2 cases; Gerger, Oct. 6, 4 cases; Syria, Sept. 28-Oct. 5, 743 cases, 635 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Sept. 28-Oct. 11, 80 cases, 31 deaths.
Egypt: Alexandria, Oct. 3-10, 7 cases, 2 deaths.
India: Bombay, Sept. 30-Oct. 6, 76 deaths.
Japan: Yokohama, Sept. 13-26, 2 cases, 2 deaths.
Mauritius: Sept. 18-Oct. 1, 104 cases, 76 deaths.
South Africa: East London, Sept. 6-19, 1 case, 1 death; Port Elizabeth, Sept. 6-19, 1 case.
Turkey: Syria, Damascus, Oct. 19, present; Hama, Oct. 19, present; Homa, Oct. 19, present; Tripoli, Oct. 19, present.

Medical Organization.

California.

KERN COUNTY MEDICAL ASSOCIATION.—At the meeting held in Bakersfield, October 19, the society adopted the standard constitution and by-laws, and elected Dr. Clarence W. Kellogg, Kern, president; Dr. J. L. Carson, Bakersfield, vice-president, and Dr. William S. Fowler, Bakersfield, secretary.

SONOMA COUNTY MEDICAL SOCIETY.—The physicians of the county met at Santa Rosa, October 21, to consider the organization of a county society. Drs. Andrew W. Morton, Curtis G. Kenyon and Philip M. Jones, San Francisco, trustees of the Medical Society of the State of California, were present. Dr. Elizabeth M. Yates, Santa Rosa, was made temporary chairman, and Dr. Melville M. Shearer, Santa Rosa, temporary secretary. The standard constitution and by-laws was read, discussed and adopted, and permanent organization effected by the election of the following officers: Dr. Melville M. Shearer, president; Dr. James W. Jesse, vice-president; Dr. George W. Mallory, secretary, and Dr. Anabel McG. Stuart, treasurer, all of Santa Rosa.

Florida.

BREVARD COUNTY MEDICAL SOCIETY.—This society has been organized at Titusville with the following officers: Dr. Benjamin R. Wilson, Titusville, president; Dr. George W. Holmes, Sharpes, vice-president; Dr. William L. Hughlett, Cocoa, secretary and treasurer, and Drs. Leon A. Peek, Melbourne, Clyde P. Platts, Fort Pierce, and Edward E. Rollins, Titusville, censors.

Illinois.

CLARK COUNTY MEDICAL SOCIETY.—At the second quarterly meeting held in Marshall, October 8, a new constitution and by-laws was read and adopted.

LOGAN COUNTY MEDICAL SOCIETY.—This society met at Lincoln, October 29, adopted the standard constitution and by-laws and elected the following officers: Dr. James L. Lowrie, Lincoln, president; Drs. Louis F. Curtis, Elkhart, and Maskell Lee, Atlanta, vice-presidents; Dr. Harry S. Oyler, Lincoln, secretary, and Dr. William H. Kirby, Chestnut, treasurer.

Indiana.

GRANT COUNTY MEDICAL SOCIETY.—At the meeting held in Marion, October 27, the society adopted the standard constitution and by-laws. The increase in membership has been marked, especially among the younger physicians in the county.

Iowa.

GRUNDY COUNTY MEDICAL SOCIETY.—At its meeting held in Grundy Center, October 27, the society reorganized and adopted a new constitution and by-laws.

MUSCATINE COUNTY MEDICAL SOCIETY.—The full quota of officers of this society, whose reorganization was noticed in THE JOURNAL of October 24, is as follows: President, Dr. Henry M. Dean, Muscatine; vice-president, Dr. Calvin W. Smith, Muscatine; secretary-treasurer, Dr. Thomas F. Beveridge, Muscatine, and censors, Drs. George O. Morgridge, Muscatine, Alexander R. Leith, Wilton, and Channing B. Kimball, West Liberty. The next meeting will be held jointly with the Southeastern Iowa District Medical Association, at Muscatine, November 19.

Louisiana.

VERMILION PARISH MEDICAL SOCIETY.—The physicians of the parish met in Abbeville, October 17, and organized a society on the standard plan with 10 members, and the following officers: Dr. Milton R. Cushman, Abbeville, president; Dr. Joseph T. Abshire, Leroy, vice-president; Dr. Clarence J. Edwards, Abbeville, secretary, and Dr. H. B. White, Gueydan, treasurer.

ST. TAMMANY PARISH MEDICAL SOCIETY.—Physicians of the parish met in Covington, October 20, and organized a society on the standard plan, with the following officers: Dr. Ruffin B. Paine, Mandeville, president; Dr. James F. Pigott, Covington, vice-president, and Dr. H. D. Bulloch, Covington, secretary and treasurer. The society started with a charter membership of 11.

ST. JAMES PARISH MEDICAL SOCIETY.—Dr. Andrew G. Friederichs, New Orleans, councilor for the Second District, and Dr. Louis G. Le Beuf, New Orleans, met with the physicians of the parish at Convent, October 31, and aided in the organization of this society, which has an initial membership of 12. The following officers were elected: Dr. Pierre C. Tircuit, Oubre, president, and Dr. J. F. Buquoi, secretary.

TERREBONNE PARISH MEDICAL SOCIETY.—Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, met the physicians of the parish at Houma, October 23, and participated in the organization of a parish society with an initial charter membership of 10. The following officers were elected: Dr. Robert E. McBride, Houma, president; Dr. Adolphe Delcourt, Houma, vice-president; Dr. Adolphe Delcourt, Jr., Houma, secretary, and Dr. Adolphe Tircuit, Little Caillou, treasurer.

IBERIA PARISH MEDICAL SOCIETY.—Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, met the physicians of the parish at New Iberia, October 27, and helped them to organize a medical society with the following officers: President, Dr. George J. Sabathier, New Iberia; vice-president, Dr. George P. Minvielle, Jeanerette; secretary and treasurer, Dr. J. Wofford Saunders, New Iberia, and committee on scientific work, Drs. J. Wofford Saunders, New Iberia, Phares A. Bogkin, Jeancrette, and George P. Minveille, Jeanerette.

Minnesota.

MILLE LACS, ISANTI AND KANABEC COUNTY MEDICAL SOCIETY.—This society has been organized at Princeton with the following officers: President, Dr. Henry C. Cooney, Princeton; vice-president, Dr. Henry P. Bacon, Milaca; secretary, Dr. Theo. L. F. Armitage, Princeton; treasurer, Dr. G. Ross Caley, Princeton, and censors, Drs. Jacob F. Whiting, Spencer Brook, Robert B. Hixson, Cambridge, and George W. Nichols, Milaca.

Missouri.

MORGAN COUNTY MEDICAL SOCIETY.—This society, auxiliary to the Medical Association of the State of Missouri, was organized at Versailles, October 29, with the following officers: Dr. Joel D. Hubbard, president; Dr. John T. Beale, secretary, and Dr. Robert Q. Kelly, delegate to the state association, all of Versailles.

North Carolina.

SCOTLAND COUNTY MEDICAL SOCIETY.—Dr. Jacob F. Highsmith, Fayetteville, councilor for the Fifth District, met with the physicians of the county at Laurinburg, October 19, and organized a county society with the following officers: President, Dr. Daniel M. Prince, Laurinburg; vice-president, Dr. William T. Pate, Gibson; secretary and treasurer, Dr. Alfred W. Hamer, Laurinburg, and censors, Drs. Peter John, Laurinburg, William G. Shaw, Fontcol, and George M. Pate, Gibson.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.
Western Surgical and Gynecological Association, Denver, Dec. 28-29.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-first Annual Meeting, held at Washington, D. C., Oct. 26 to 30, 1903.

(*Continued from page 1158.*)

Report of the Committee on Animal Diseases and Food.

DR. D. E. SALMON, Washington, D. C., chairman, presented this report, which will be published in full in THE JOURNAL. The committee concluded that it would require much work to decide with even approximate accuracy the proportion of human tuberculosis caused by animal infec-

tion; but the fact that 25 per cent. of the cases in children investigated by the German commission, and 50 per cent. of similar cases investigated by de Schweinitz showed that they were caused by animal infection was sufficient to convince the committee that measures should be taken and enforced at once to guard against infection from this source.

DISCUSSION.

Dr. George M. Sternberg called attention to the facts that pathogenic bacteria vary greatly in virulency, that attenuated varieties may be produced, motile bacilli lose their motility, etc.

Dr. Gardner T. Swarts, Providence, R. I., mentioned the shaking of the hide of the cow as a means of transmission of tuberculosis through milk, in addition to shaking the udder during the milking process.

Dr. John Guiteras, Havana, Cuba, said the results in Cuba tended to show the transmission of tuberculosis through milk was not as frequent as was generally supposed. No milk was used in Cuba that was not boiled, and yet he believed infantile tuberculosis was as frequent in Cuba as elsewhere.

Dr. J. M. Lindsay, Havana, Cuba, did not believe consumption, strictly speaking, was a contagious, infectious or hereditary disease. He said it was a product of wrong living. This wrong living might be from taking milk from tuberculous cows, or from living in a tuberculous house.

Dr. D. E. Salmon, Washington, D. C., said that while Cuba sterilized its milk more than America did, yet it might also be the case that if Cuba did not sterilize its milk it would have more tuberculosis than it did at present.

Report of the Committee on the Causes and Prevention of Infant Mortality.

Dr. Henry Mitchell, Asbury Park, N. J., chairman, in this report, said that among the most promising measures for a further reduction of infant mortality, the committee directed attention to the following: 1. To secure a more general adoption of cleanly methods of the collection, cooling and handling of cow's milk. It was not enough to destroy bacteria which had been permitted to gain entrance into the milk, or while pathogenic bacteria might be rendered innocuous, the toxins already formed were not affected by high temperature, hence no manipulation of the milk could be safely substituted for cleanliness in its collection and distribution. 2. To abolish breeding-places for flies in dwellings and to exclude them from contact with food. 3. To encourage the erection of improved tenements in cities and to show the dwellers in crowded districts the advantage of residence in the suburbs. 4. To more effectually isolate all cases of the dangerous communicable diseases.

Preparation of Vaccine Virus.

Dr. John F. Anderson, Washington, D. C., said experimental work had shown that the germicidal action of glycerin was feeble; other substances have been tried, and of these, chloroform seemed the most valuable. By it, the extraneous bacteria are removed in from a few hours to seven days; glycerin requires four weeks for full effect. Chloroform does not harm the vaccine potency. Chloroform, being extremely volatile, could be allowed to evaporate from the vaccine under aseptic precautions after being allowed to act as long as desired. It would be especially useful in hot countries where the active agent in vaccine does not retain its potency long, or when, as in epidemics, sudden calls were made for large quantities of virus.

Report of the Committee on the Disposal of Refuse Materials.

Mr. Rudolph Hering, New York City, read this report, pointing out that each municipality should select the most economical method in construction and maintenance, as determined by a study of its own special conditions, and by using the deductions of the large experience with such problems both in Europe and at home.

Report of the Committee on the Etiology of Yellow Fever.

Dr. John W. Ross, U. S. N., Washington, D. C., read this report. Baggage and bedding were admitted to Havana freely, and no cases were caused thereby. The conclusions previously reached were supported by experience since.

Report of the Committee on the Canteen in Armies.

Dr. George M. Kober, chairman, Washington, D. C., read this report. Reference was made to the introduction of the canteen system, and after dwelling at great length on the increase of drunkenness, the increase of trials by summary or other courts for drunkenness and for offenses caused by drunkenness, increase of desertions, increase in absence without leave, effects of the abolition of the sale of beer at the posts on the morality and discipline of the command, the committee presented the following recommendations:

THE RARE NECESSITY FOR ALCOHOL.

1. Your committee is aware of the fact that beverages containing alcohol are an accessory food of value only when it becomes necessary to increase temporarily the elasticity of mind and body and a desire and capacity for work, and that the subsequent depressing effects and the baneful influence of its misuse requires great care in its employment, especially when rest, proper food and some of the alkaloidal beverages, like coffee, tea, cocoa, and stimulants, like meat broths and soup, may accomplish the same purpose, and their sale as a substitute should be encouraged.

CHOOSE THE LESSER EVIL.

2. In spite of the fact that beer drinking, viewed in the abstract, is unproductive of good, your committee believes that its sale in canteens, under rational and comprehensive regulations, rather than its total prohibition, will subserve the best interest of scientific temperance, because so long as human nature is weak and the masses are not properly educated, the substitution of a lesser evil under military control appears not only justifiable but will in the future, as it has in the past, prevent excesses which are fatal to the soldier, soul and body. At present every effort toward total abstinence at military posts merely opposes theory to facts and sentiment to statistics, and compels recourse to saloons of the lowest character, whose proprietors care nothing for the efficiency of the army or the ruin of a good soldier.

A SOCIAL CLUB—NOT A SALOON.

3. Every precaution should be observed to conduct post exchanges and the sale of light wine and beer along the lines recommended by Munson in his "Theory and Practice of Military Hygiene," pp. 820-822, and your committee begs to emphasize the fact that the bar features should be entirely abolished and that the exchange should, in fact, be a soldiers' club, with ample facilities for reading rooms, legitimate amusements and athletic sports, where the soldier as a self-respecting individual may satisfy in an orderly manner his craving for diversion from the routine duties of a military life, without undue prominence of the refreshment feature.

SUBSTITUTES FOR ALCOHOLICS.

4. The sale of soft drinks, warm lunches, coffee, tea, cocoa, bouillon and soups should be encouraged as substitutes for alcoholic beverages, and medicinal and line officers should be directed to educate, by precept and example, the rank and file of the army; that, for persons in health, alcohol in any form presents no advantages not found in other foodstuffs or stimulants and which are, moreover, free from the dangers attending its use. In this connection it should be remembered that good food, well prepared and properly cooked and served, is one of the most effective prophylactic measures against the "drink habit" in civil as well as military life, and no effort should be spared to bring the culinary department in the army to the highest state of perfection.

VENEREAL PROPHYLAXIS.

5. Medical officers should point out the grave and far-reaching consequences of the effect of venereal diseases, so intimately connected with the drink habit, and make a strong plea in favor of continence. This may be done by letting these young men know that while the sexual passion is very strong it can be accelerated or delayed, excited or lowered by the influence of the will. The soldier can be assured that by the cultivation of pure thoughts, removal of temptation, normal mental and, especially, by vigorous physical exercise, continence is not only possible but easy.

OFFICERS SHOULD TAKE A PERSONAL INTEREST IN THEIR MEN.

6. Strong effort should be made to improve the social conditions of the soldiers. There are times and occasions when the friendly advice of a company commander or attending surgeon, showing a personal interest in the physical and moral welfare of the young soldier, will prove a greater benefit than the cold verdict of a summary court martial. Such personal efforts on the part of the officers, dictated by the spirit of a universal brotherhood of man, appears to us perfectly compatible with proper military discipline. It is also believed that the habit of making savings deposits with the army paymasters may be greatly stimulated by personal efforts.

RESOLUTIONS ADOPTED.

The committee recommended the presentation to the Senate and House of Representatives in Congress the following resolutions, which were adopted by the association:

Resolved, That this body deplores the action of Congress in curtailing the authorization of the army canteen or post exchange and, in the interests of general and military sanitation, recommends its establishment on its former basis at the earliest possible date.

Resolved, That this body, in the interest of temperance and humanity, cordially invites the intelligent co-operation of a very large element of good citizens, who have been active in securing legislation against the sales in the military service of alcoholics of any character, in taking successive steps toward the betterment of existing conditions, and thus assist in controlling and largely curtailing an evil which it is powerless at present to prevent.

Human and Bovine Tuberculosis.

DR. M. P. RAVENEL, Philadelphia, discussed the researches made on this subject. He felt that the genetic unity of the human and bovine races of tubercle bacilli, as well as their intertransmissibility, had been definitely demonstrated. It had also been proven that a certain proportion of persons, chiefly young children, met their death through infection with the bovine tubercle bacillus, but the knowledge at hand did not enable him at present to define the extent of this danger.

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.

Twentieth Annual Meeting, held in New York City, Oct. 19-22, 1903.

(Concluded from page 1159.)

Properties of the Blood Serum as Illuminated by Ehrlich's Researches.

DR. RICHARD C. CABOT, Boston, gave a most interesting talk on this subject, with the object of popularizing it among physicians. He characterized it as the most important single medical discovery that had been made since the publication of Virchow's cellular doctrine. After explaining, in a most delightful manner Ehrlich's side-chain theory, he went into the subject of hemolysis, with its medical and medicolegal aspects.

Diphtheria in the Country; Its Diagnosis and Management.

DR. J. R. STURTEVANT, Theresa, described cases from which he reasoned that the admission of chickens to the dwelling house and the open cesspool near the door were not uncommon sources of diphtheria. He believed it was the duty of every country practitioner to always keep diphtheria antitoxin at hand, and, according to his own experience, doses of 1,500 units were ordinarily sufficient.

DISCUSSION.

DR. J. ORLEY STRANAHAN, Rome, said that he had found it necessary and desirable to use large doses; in one case he had given 3,000 units every six hours for five doses before there was any improvement.

DR. DELANCEY ROCHESTER, Buffalo, said that an extensive hospital experience with diphtheria had taught him to use antitoxin freely. His initial dose was 4,000 units at least, and he had given during the first year of life as high as 5,000 units, sometimes repeating this dose in three hours.

Some Features of the Epileptic Attack.

DR. B. ONUF, Sonyea, called attention to the fact that the epileptic cry was not shrill, but was a low tremulous moan. The positions of the limbs varied in different attacks or even in the same attack, but the point to be noted was the asymmetry of these postures. It was not always easy to determine whether or not any consciousness remained, but there might be some recollection of the attack, or if pricked with a pin during the seizure, the way in which the limb was placed out of the way of the irritation might show some cerebral activity to be present.

Prostatectomy.

DR. PARKER SYMS, New York, reported 25 cases and showed the specimens. There was one death, which occurred after 23 operations had been done. There were practically 20 cures. The principal danger was from the anesthetic.

DISCUSSION.

DR. GOODFELLOW, San Francisco, said that he had done about 90 prostatectomies. He makes use of the old median lithotomy operation, and, in the past two years, in order to avoid the dangers of ordinary general anesthesia, he has employed spinal cocainization. He rarely had much hemorrhage with these perineal operations, and since he had, as far as possible, avoided instrumentation, both before and after operation, epididymitis had been a very rare complication.

DR. HENRY ROTH, New York, said that he had seen most of Dr. Syms' cases, and had been impressed with the fact that the mortality was only 4 per cent., whereas the earlier prostatectomies of a few years ago had a mortality of 30 or 40 per cent. The general condition rather than the patient's age should be considered when deciding on operation.

Knowledge of the Eye That is of Use to the General Practitioner.

DR. S. BUSBY ALLEN, New York, read this paper. He said that every practitioner should be on the alert for acute glaucoma because he could easily detect it by merely noting the tension of the eye, and because a failure to recognize the true condition at once led to such serious consequences. In about 30 per cent. of cases of tabes progressive loss of vision, diplopia and possibly ptosis precede the other symptoms. The onset and steady increase of presbyopia at an unusually early age should suggest diabetes. Cataract is also not uncommon in diabetes. Inequality of the pupils should always lead to a searching examination.

The Early Diagnosis of Tuberculosis.

DR. JAMES J. WALSH, New York, was the author of this paper. He pointed out that a rapid pulse was often persistently present for a considerable time before the toxin of tuberculosis exerted any perceptible influence on the body temperature. And yet slight temperature variations were among the early signs. The temperature should be taken at 8 a. m., 12 m. and 6 p. m., and if there is a daily variation of a degree and a half it is probable that some infection is present. In some healthy individuals a morning temperature of 98.5 F. would point to a slight elevation of the temperature. There was often extensive consolidation of the lungs, and sometimes even secondary infection before tubercle bacilli appeared in the sputum. The posterior portion of the apex was the first part usually affected.

DISCUSSION.

DR. DELANCEY ROCHESTER mentioned a case in which there was not as much as one degree of daily variation in temperature, so far as could be learned from taking the temperature three times a day, but when he had it taken every two hours from 6 a. m. to 10 p. m. it was discovered that the highest temperature was between 8 and 10 p. m., instead of between 2 and 6 p. m., and that the total daily variation was 2.5 F. He had found a change in the pitch on percussion to be of value at a time when the other physical signs were negative. The physical signs of incipient tuberculosis were often obtained at the clavicle, above the scapula and in the upper part of the scapular region. The tuberculin test is an important confirmatory test.

DR. S. A. KNOPF, New York, said that early pulmonary consolidation could often be detected best by placing the hand over the lung and telling the patient to take a deep breath and then make a humming sound. This would produce a perceptible fremitus. He had known reaction to the tuberculin test in chlorotic girls, as well as in actinomycosis and syphilis; moreover, it sometimes causes a generalization of the disease; hence it is both unreliable and dangerous.

Treatment of Septic Affections by the Intravenous Injections of Collargol.

DR. GEORGE TUCKER HARRISON, New York, recommended injection of a 5 per cent. solution into the vein under aseptic precautions; he had never found it necessary to use more than 7 injections in any one case. He felt that this treatment was a therapeutic resource of the highest order.

Acute Cholecystitis.

DR. J. H. MUSSER, Philadelphia, believed cholecystitis to be a very common disease and one bearing some resemblance to appendicitis. Pain in the epigastrium, or radiating to the right shoulder, was present in 95 per cent. of the cases. Forty per cent. of all types of cholecystitis die if not operated on, whereas only 5 per cent. die if subjected to operation during the course of the disease.

DISCUSSION.

DR. ROBERT T. MORRIS, New York, mentioned a case in which, although there had been no prodromal symptoms immediately following an operation for acute empyema of the gall bladder, the patient passed through a typical typhoid. He believed acute pancreatitis to be a most dangerous complication, this alone affording an excellent reason for operating.

DR. ALEXANDER LAMBERT said he had found it at times wellnigh impossible to differentiate between appendicitis and chole-

cystitis. Some assistance was derived from noting the effect of pressing over the appendix and over the gall bladder.

The Surgical Treatment of Salpingitis.

Dr. Henry C. Coe, New York, said that the propriety of the operation of vaginal incision and drainage in pyosalpinx is now generally recognized. Even the simplest cases of pelvic abscess should be prepared for an abdominal section before any attempt is made to evacuate them. The practical difficulty in all conservative operations on the tubes was to distinguish between healthy and diseased tissues. When doing the radical operation, it was better to excise the tube and suture the uterine cornu than to leave a stump of tube.

The Non-Operative Treatment of Salpingitis.

Dr. W. Travis Gibb, New York, said that in acute catarrhal salpingitis the treatment should be largely expectant, and the use of antipyretics should be avoided, because pain and fever were depended on by the physician to show him the course of the disease. Curettage and intra-uterine applications should be avoided during the acute stage. As a symptomatic cure can be effected in many cases of chronic salpingitis by non-operative treatment, this method should be given a fair trial. Opiates and stimulants should be avoided and everything done to improve the general health. In addition large hot saline douches should be taken, and the vagina should be tamponed with cylinders of lamb's wool moistened with ichthyol.

DISCUSSION.

Dr. W. M. Polk spoke in favor of incision through the posterior cul-de-sac in cases of severe pelvic inflammation.

Dr. C. Bonifield, Cincinnati, said that he had found veratrum viride, given usually in doses of 8 to 15 minims every eight to twelve hours, a most useful means of limiting pelvic inflammation, and at the same time favoring elimination of septic matter by stimulating the skin, kidneys and liver.

Clinical Aspects of Ileocolitis in Children.

Dr. Thomas M. Rotch, Boston, said that ileocolitis was usually secondary to fermental diarrhea or to the acute infectious diseases, especially measles. The characteristic symptoms were persistent fever, frequent, small stools containing blood, mucus, pus and shreds of membrane, tenesmus and more or less abdominal tenderness. Of 61 cases of diarrhea in which bacteriologic examinations were made last summer, the *Bacillus pyocyaneus* was present as the apparent cause in 2, the *Streptococcus pyogenes* in 1, and the Shiga bacillus in 10 cases. In the remaining 48 the sugar-fermenting organisms were found. The Shiga bacillus was not always the cause in cases having slightly bloody stools.

Dr. Albert H. Ely, Southampton, reported several cases of colon bacillus infection of the female genito-urinary tract.

DISCUSSION.

Dr. William H. Park said that the more ileocolitis resembled severe dysentery, the greater the probability of finding the dysentery bacillus in the stools.

Dr. L. Emmett Holt, New York, said that all kinds of lesion had been found associated with the Shiga infection. Such infection was commonly denoted by sudden onset, high temperature and stools of blood and mucus. In these cases it seemed probable that the serum treatment would prove of service.

Dr. R. G. Freeman, New York, said that in most of the 44 cases in which he had found the Shiga bacillus there were stools of blood and mucus. The stools and the persistence of the disease were the most characteristic features. The mortality was a trifle higher in the cases that did not receive the serum treatment, but the difference was slight. It was probable that the dosage had been inadequate.

Other papers were read as follows:

"Arteriosclerosis and Its Bearing on Certain Lesions of the Retina and Optic Nerves," by Dr. Charles Stedman Bull, New York. "The Influence of Oxygen Taken by Full Normal Respiration, When Chemically Pure, as a Means of Sustaining and Increasing Mental, Nervous and Physical Energy," by Dr. Cordelia A. Greene, Castile. "Peculiar Symptoms Following a Radical Operation on the Ear," by Dr. George F. Cott, Buffalo. "Radium in Medicine," by Dr. Samuel G. Tracy, New York. "The Etiology and Pathology of Salpingitis," by Dr. Edward J. Ill, Newark, N. J. "Removal of Superior Maxillæ for Phosphorus Necrosis," by Dr. David P. Austin, New York. "The Typhoid Epidemic in Ithaca, with Special Reference to Causation, Prevention and Treatment," by Dr. Chauncey P. Biggs, Ithaca. "Treatment of Compound Fractures," by Dr. V. D. Bozovsky, Dunkirk. "Minus Cylinders; Those Who Prescribe Them and Those Who Wear Them," by Dr. Frank W. Higgins, Cortland.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Zinc Sulphocarbolate in Cholera Infantum.

Dr. W. F. Waugh, in an abstract in *Med. Rev. of Reviews*, lauds the use of zinc sulphocarbolate in the treatment of summer complaint, enterocolitis and cholera infantum. The bowels should be thoroughly cleared out with castor oil, calomel, mercury and chalk, aromatic rhubarb, lavage or colonic flushing as seems best in the individual case.

For lavage he recommends a solution containing one grain of zinc sulphocarbolate to the ounce. The same solution may be used for colonic flushing.

When the type is dysenteric, silver nitrate, grains 2 (.12) to the pint (480.) of water should be used for rectal flushing and should be given as hot as can be borne. This should be followed with the zinc salt internally, grains ½ (.03) to two (.12) every hour to children in the second summer. It should be given in powder form combined with bismuth and pepsin. Where there is extreme acidity of the stools marked by excoriation of the rectal mucosa, sodium sulphocarbolate is preferable or the triple salts zinc, sodium and calcium.

Atropin may be of service in relieving the gastric irritability. The best diet, according to the author, is the raw white of egg in ice water, coffee, rice-water, barley water, toast water, followed by meat soups and fruit juices. The fresh juice of lean beef can be given in five (.30) to ten (.65) drop doses every hour, and in extremely debilitated individuals it should be dropped on the tongue and allowed to trickle down the esophagus.

Hot, cold or salt baths are always indicated.

Chronic Otorrhea.

The following combination is recommended by *Merck's Archives* in the treatment of chronic otorrhea:

℞.	Ichthyol	|
	Glycerini	|
	Aq. destil., āā.....3ii	8|

M. Sig.: After thoroughly syringing out the ear with warm chamomile tea, allow four to eight drops to run into the ear and repeat this treatment once a day.

The treatment of chronic nicotinism involves hygienic and medicinal measures, according to J. V. Shoemaker, in *Med. Standard*. The victim should abandon the use of tobacco. If he can not do this, he should at least diminish his smoking or chewing. His food should be plain, well prepared, nutritious and digestible. Tonics and digestants are usually required. The following combination is of service:

℞.	Zinci valerianatis .....gr. ii	12
	Zinci phosphidi .....gr. ⅛	008
	Pulv. cannabis ind. .....gr. ¼	015

M. Ft. capsula No. i. Sig.: One such every four hours.

The salts of zinc counteract the nervous prostration and the cannabis indica allays the morbid imagination, which sometimes continues for a considerable length of time after the use of tobacco has been stopped.

Erysipelas.

The constitutional treatment of erysipelas, according to Hyde, should be directed to lowering the temperature, to obtaining the proper functional activity of all the organs of the body and to sustaining the strength of the patient. The purpose of local treatment is to limit the extension of the disease. Collodion, iodin, carbolic acid, alcohol, solutions of tannin and nitrate of silver are among the various remedies

recommended as local treatment for this infection. The following combinations have been employed with success:

℞. Sodii hyposulphitis 3iii 12
Aquæ .....ʒiii 90
M. Sig.: Apply locally on gauze; or:

℞. Acidi carbol. 3ii 8
Alcoholis .....ʒiss 45
M. Sig.: Apply locally.

The following combinations are remedies which have been used successfully by experienced physicians, as noted by Cheron in a former issue of *Ther. Gaz.:*

℞. Creolin 3i 4
Iodoformi 3iv 15
Lanolini 3x 40
M. Sig.: Thoroughly spread over the affected area and cover with gutta percha; or:

℞. Creolin 3i 4
Cretæ prep.
Adipis, āā .....ʒss 15
Olei menth. pip. .....gtt. iii 20
M. Sig.: Apply locally.

The foregoing serves to produce a cooling effect to the inflamed parts.

Ichthyol may be used as a local antiseptic in the following combination:

℞. Ichthyol
Spts. etheris, āā.....3v 20
Collodii (flexible) 3x 40
M. Sig.: Apply locally.

Internally the administration of quinin is of value to check the progress of the disease and to reduce the temperature. Iron may be given internally in the form of the tincture in large doses frequently repeated and well diluted in water. Locally it may be applied as follows:

℞. Ferri sulphatis 3i 4
Lig. petrolati .....ʒi 30
M. Sig.: Apply locally.

The sodium preparations, applied on compresses, may be combined as follows:

℞. Sodii salicylatis 3ii 8
Sodii bicarb. 3i 4
Aq. bullientis .....Oi 480
M. Sig.: Apply on compresses.

The tincture of benzoin has frequently been used in the following combination:

℞. Tinct. benzoini comp.
Glycerini
Collodii (flex.), āā.....3ii 8
M. Sig.: To be painted over the affected area once or twice daily.

Internally the following combination containing ammonium is recommended:

℞. Ammon. carb. 3ii 8
Solutionis ammon. acetatis .....ʒiii 90
Ext. glycyrrhizæ flu. .....ʒi 30
M. Sig.: Two teaspoonfuls every three hours in water.

Delirium Tremens.

The treatment of delirium tremens, according to J. R. Clemens, in *N. Y. and Phila. Med. Jour.*, consists in prophylaxis and the treatment of the attack. The abortive treatment should be directed toward proper elimination by the bowels, moral suasion and feedings of milk and beef juice every two hours, with some sedative such as sulphonal or paraldehyde. An attack may develop a lobar pneumonia, causing one to consider the question as to the advisability of administering alcohol in delirium tremens. Alcoholics, as a rule, do not eat a sufficient amount of nourishing food, therefore food, according to the author, is the chief indication in the treatment. And, if the patient is well along in years or the attack is severe, he recommends the administration of whisky or brandy first as a bribe to get the patient to take food, and, secondly, as a stimulant to the heart, which will also combat the insomnia which is so constant. In young subjects both narcotics and alcoholic stimulants are contraindicated. The general treatment, as outlined by the author, is as follows:

FOOD.

Milk, raw or peptonized, every two hours, alternating with beef juice.

MEDICINAL TREATMENT.

A dose of the mild chlorid of mercury at the onset, followed by a saline. A bitter tonic containing strychnia as the chief ingredient should then be given, and if the heart sounds become weak the strychnia should be given hypodermically. In treating the stubborn insomnia, the room should be dark, cool and quiet. To promote sleep hyoscin hydrobromate in doses of gr. 1/200 (.0003) to gr. 1/100 (.0006) should be given hypodermically or it may be substituted by sulphonal or paraldehyde. He condemns the use of opium or chloral because of the condition of the heart and kidneys. The patient should be constantly observed because of the tendency to suicide. Moral suasion should be used to keep the patient in bed, and, if necessary, a draw sheet should be passed across the bed over the patient and tied to the bed railing. The treatment of the delirium should be secondary to the heart and lungs.

Dr. George S. Weever, in the same periodical, recommends the following preparations either separately or combined in the treatment of the insomnia: Ammonium bromid dram 1 (4.00); morphin sulphatis grain ¼ (.015); chloral hydrate grains ten (.65) to grains fifteen (1.00). He prefers the ammonium preparation along with cold douches and packs to relieve the delirium. After the patient has recovered from the delirium the following combination is recommended:

℞. Quin. sulph.
Pulv. capsici, āā..... gr. ii 12
Ext. nucis vom. .....gr. ¼ 015
M. Ft. cap. No. i. Sig.: One every four hours.

If the stomach is irritable, as is usually the case, H. K. Glidden recommends the following:

℞. Bismuthi subnit.
Cerii oxalatis, āā.....3i 4
Sodii bicarb. .....gr. xxiv 1 65
M. Ft. chartulæ No. xii. Sig.: One powder every four hours.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Illinois—Restricts Sale and Prescribing of Cocain.—What is to be known as Section 14a of the act to regulate the practice of pharmacy in Illinois is added by an act in the laws of 1903. It provides that it shall not be lawful for any druggist or other person to retail or sell or give away any cocain hydrochlorate, or any salts of or any compound of cocain, or any preparation containing cocain, or any salts of or any compound thereof, except on the written prescription of a licensed physician or dentist, which prescription shall only be filled once, and must have written plainly on it the name and address of the patient. This section shall not apply to sales at wholesale by any manufacturer or wholesale dealer, who shall sell original packages only. Each container must be labeled with a label specifically setting forth the proportion of cocain contained therein. What is to be known as Section 14b, provides that any druggist or other person who shall retail or sell any cocain, etc., in violation of this act, and any druggist or other person who shall prescribe any cocain, etc., to any person addicted to the habitual use of cocain, etc., in any form, shall, for the first offense, be fined from $50 to $200, and for each subsequent offense from $200 to $1,000, and if the person so offending shall have a license as a physician, dentist or pharmacist, such license shall be revoked. (The words "knowingly prescribes" do not appear. The physician apparently has no escape in case he fails to recognize a patient as a cocain user.)

Illinois—Must Report Deaths as Well as Births—Fees.—The Illinois act of 1903, referred to on page 971 of The Journal, Oct. 17, 1903, as requiring reports of births, also provides that it shall be the duty of every physician and midwife practicing in the state to report in writing, to the State Board of

Health at Springfield, the death of any of his or her patients within thirty days after said death: Provided, That in the case of deaths which occur within the corporate jurisdiction of cities, the ordinance of which requires that the burial or removal permit shall be issued before the burial or removal of the body, and that before such permit shall be issued a report or certificate of death shall be presented to the official by whom the permit shall be issued, no report need be made to the State Board of Health by the physician or midwife. All reports of deaths shall be made in the manner directed by the State Board of Health on its blank forms. Every physician, midwife or coroner who shall make a report of death to the State Board of Health in the manner provided for shall be paid for each report the sum of 25 cents. The fees for reporting births or deaths are made a charge on the county in which they accrue, and the county clerk of the respective counties shall, on the request of any person entitled to said fees in his county, issue to such person his warrant on the county treasurer of said county for the amount of fees due such person under this act, and the county treasurer of said county shall pay the same on presentation out of any money belonging to the county not otherwise appropriated: Provided, That no payment shall be made under the sections providing for payment for reporting births and deaths where the period of gestation is less than seven months.

Maine—Prohibits Spitting on Floors of Street Cars.—Chapter 139 of the Public Laws of Maine of 1903 provides that whoever spits on the floor of any street car shall be fined not less than $2 nor more than $10.

Maine—Provides for State Laboratory of Hygiene.—Chapter 223 of the Public Laws of Maine of 1903 confers on the State Board of Health authority to establish and equip with proper and necessary apparatus, instruments and supplies a state laboratory of hygiene for the chemical and bacteriologic examination of water supplies, milk and food products, and the examination of cases and suspected cases of diphtheria, typhoid fever, tuberculosis, glanders and other infectious and contagious diseases. The State Board of Health shall appoint a director of such laboratory, who shall hold that position at the pleasure of the board. He shall keep a record of all specimens sent to him for examination, and examine these specimens without unnecessary delay, and do such other work and make such other investigations relating to the public health as the board may from time to time instruct him to do. The services of the laboratory and all investigations therein made shall be free to the people of the state.

Massachusetts—Practice of Dentistry by Physician.—Chapter 219 of the Acts of Massachusetts of 1903, entitled "An act relative to the practice of dentistry," amends Section 29 of Chapter 76 of the revised laws so that it reads: The provisions of Sections 24 to 28, inclusive, shall not apply to a physician registered under the provisions of this chapter "and in actual practice as a physician, in cases where he deems immediate treatment necessary for the relief of his patients," etc., the amendment consisting of the insertion of the words inclosed in quotation marks.

Massachusetts—Forbids Furnishing Liquor at Hospitals.—Chapter 410 of the Acts of Massachusetts of 1903 provides that whoever gives, sells or delivers spirituous or intoxicating liquor to a patient of the Massachusetts Hospital for dipsomaniacs and inebriates, or of any of the state hospitals for the insane, or to a patient under the control of any of said hospitals, except under the direction of a physician of the hospital, and whoever has in his possession within the precincts of any of said hospitals, any such liquor, with intent to convey or deliver it to any patient thereof, except under direction as aforesaid, shall be punished by a fine of not more than $50 or by imprisonment for not more than two months.

Michigan—Prohibits Exhibitions of the Deformed, Etc.—No. 103 of the Public Acts of Michigan of 1903 provides, under penalty, that it shall be unlawful for any physician or other person to expose or keep on exhibition any human monstrosity, or any diseased or deformed human bodies, or parts or representation thereof, which would be indecent in the case of a living person, except as used for scientific purposes before members of the medical profession or medical classes.

Michigan—Provision for Prevention of Rabies.—No. 116 of the Public Acts of Michigan of 1903 provides that whenever it shall be proved to the satisfaction of the local board of health that any indigent person within its jurisdiction has been bitten by a rabid dog, or other rabid animal, or in any other manner has been infected with the virus of rabies, said board shall make the necessary arrangements and send said person to the Pasteur Institute at the University of Michigan. The necessary expenses thus incurred shall be a charge on the township, city or incorporated village in which the expense was authorized. Before their payment or allowance all bills for such expenses shall be audited by the local board of health.

Wisconsin—Maternity Home and Baby-Farm Regulations.—Chapter 161 of the Laws of Wisconsin of 1903 provides that any person or corporation who own, conduct or manage any institution for the boarding or sheltering of infant children, or any so-called maternity home or lying-in hospital or so-called "baby farm" shall, before taking any inmate, report in writing to the local board of health, health officer or health department, the name and address of such person or corporation and the exact location of the institution. The local health officer or health commissioner, or his assistants, shall, at reasonable hours, be admitted to inspect the institution. Births, including those of stillborn or prematurely born children, taking place in such maternity home shall be reported to the local board of health or health officer or department within twenty-four hours and before the child is removed from the institution. Likewise, the arrival of any child at a home for infants shall be reported, giving name, sex, age, color and from whom received. The removal of any child shall also be reported. And it shall be the duty of the local board of health, health officer or department to keep informed of the nature and reputation of every such institution in their respective jurisdiction, and to visit and inspect the same from time to time.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.
October 31.

1 *The Dietetic Treatment of Chronic Nephritis. J. M. Anders.
2 *The Technic of McGraw's Method of Gastroenterostomy. Samuel Lloyd.
3 Successful Intraneural Infiltration of the Median and Ulnar Nerves During an Operation for Dupuytren's Contraction of the Fingers. W. W. Keen.
4 *Digestion of Milk. George Richter.
5 *Mercury; Its Administration Hypodermically in Syphilis. William F. Bernart.
6 *Volvulus of the Stomach. C. D. Spivak.
7 *Multiple Visceral Lesion. A. L. Benedict.

1. **Chronic Nephritis.**—Anders considers the diet most important. He thinks clinicians tend too much to giving an insufficient amount of albuminous aliment, and finds a moderate quantity allowable and often beneficial. He is not inclined to think the red meats especially more dangerous than the white. In general he would say that whole milk diluted should make a considerable portion of the diet, while the meats should be restricted as a rule, and fruits, green vegetables and rice be given more freely. The individual meals should be small and taken at three-hour intervals. The extent to which the diet contributes to nutrition should be carefully estimated, as shown by noting the effect on the intensity of the albumin and particularly on the kidney elimination of normal metabolic products. He does not recommend chemical substances as tests for secretory function. The use of cryoscopy to determine the kidney secretion is specially mentioned. The patient should keep a careful record of the body weight at intervals and the diet be regulated accordingly. He also insists on the value of systematic blood examinations.

2. **The McGraw Method of Gastro-enterostomy.**—Lloyd describes the McGraw operation, using the illustrations employed

in Walker's paper in THE JOURNAL of January 17. He believes in a good-sized rubber ligature, and he thinks Willy Meyer's suggestion of using a 4 mm. rubber cord should be adopted. He has had 7 cases, with no deaths, operated on thus. Six were successfully carried through by the McGraw method, but in the seventh, operation was completed by suturing on account of the breaking of the rubber. He does not think, however, that the method would be applicable in entero-enterostomy necessitated by complete intestinal obstruction.

4. **Digestion of Milk.**—Richter argues for the use of preservatives in milk, claiming that an overdose of an antiseptic is not so harmful as infected milk, and that the absolute forbidding of these preservatives, formaldehyd, boric acid, etc., is illogical and detrimental to the health of the community.

5. **Mercury in Syphilis.**—Bernart holds that the hypodermic method of using mercury in syphilis will cure many cases which under other methods are known as incurable, and will place the treatment on a more scientific basis, and allow the keeping of better and more accurate records. This method is, he says, absolutely essential in syphilitic lesions of the nervous system, still amenable to specific treatment. Here will be found its greatest field. He insists on the importance of accessory treatment; thorough cleanliness of the teeth and mouth, regulation of the diet, abstinence from alcohol, the observance of strict hygienic conditions, outdoor exercise, fresh air, sunshine and baths. The method he uses is to inject in the post-trochanteric region, the dosage varying within certain recognized limits to suit the individual. The principle in the severe cases is to give the largest dose possible without producing ptyalism.

6. **Volvulus of the Stomach.**—Spivak reviews and reproduces cases and discusses the mechanism. Parts of his conclusions are as follows:

Volvulus of the stomach occurs in all ages and in both sexes.

Digestive disorders may be considered as etiologic factors.

Volvulus of the stomach may be divided into (*a*) that due to organic changes produced by adhesions, ulcerations, tumors and contractions, and (*b*) that in which no visible organic changes have taken place.

The characteristic symptoms are: Sudden onset; distension, which commences in the left hypochondriac region, and which gradually increases in size; a tumor, which gives, on percussion, a tympanitic sound; vomiting or regurgitation immediately following ingestion of food or drink; no belching, no escape of flatus; inability to pass a sound into the stomach.

When the condition is recognized, early operative interference is indicated, and recovery is almost certain.

7. **Multiple Visceral Lesion.**—This term is used by Benedict to imply disease where the heart, liver and kidneys are chronically inflamed, the degenerative lesions being more or less interdependent. He includes them in the digestive specialty on account of the importance of nutrition of these patients, and of the important diagnostic problems as regards the size of the liver, the acidity of the urine, blood and stomach contents and the fact that sometime in their course the actual treatment must be mostly directed to the digestive organs. In many instances the liver is more affected than the heart and kidneys, and the liver itself is quite directly dependent on the dyspeptic troubles. He mentions the importance of diet, regulation of the amount of water, etc., and remarks that enteroclysis, aside from its local influence in the removal of toxins, has its value as a cardiac and circulatory stimulant and is one of the best means of treating the renal element of multiple visceral lesions. Saline solution is one of the most harmless and efficient diuretics; similarly gastric lavage is valuable. He does not think that hypodermoclysis or intravenous injections are necessary in these cases unless the state of the bowel prohibits enteroclysis. The hemorrhages which may occur from varicosities due to back pressure in the portal system are remarked on, and also that the pancreas is likely to participate in the sclerotic process involving the liver. The condition of the blood and ductless glands must also not be neglected.

New York Medical Journal.

October 31.

8 Presidential Address to the Medical and Chirurgical Faculty of Maryland. Eugene F. Cordell.
9 *Conservative Gynecologic Surgery; Its Practical Results. Henry C. Coe.
10 *The Diagnosis of Head Injuries. Clinton B. Herrick.
11 The Treatment of Diseased Faucial Tonsils in the Adult. Eugene W. Davis.
12 *The Present Status of Spinal Subarachnoid Cocainization. Ernest G. Mark.
13 *A Consideration of the Pathology and Treatment of Cancer. Leonard Weber.

9. **Conservative Gynecologic Surgery.**—Coe notices the methods of different operators, with special reference to results. In over 5 per cent. of his conservative operations he has been obliged to perform a secondary laparotomy in order to effect a cure, and he thinks this fairly represents the experience of other surgeons. Those who have employed the vaginal route report better results, but one can not accept the sweeping statement of Joseph Price that the necessity for a second operation implies a want of skill or technic in the first. The results of conservative surgery of the adnexa have their drawbacks, and we have not yet discovered any certain methods of preventing the re-formation of adhesions or predicting what cases will give further trouble. He does not, as a rule, favor resection of the tubes. He thinks it rather an unnecessary procedure, and as regards relief of symptoms from conservative operation, the results may be disappointing. What the patient generally wants is relief from pain and she will be disappointed if this is not obtained. Disturbances of menstruation are common after partial removal of the ovaries, amenorrhea, but more often profuse menorrhagia. He has been obliged to remove the uterus at least in a dozen cases on account of hemorrhage alone. His results in cure of sterility have not been so brilliant as those reported by Dudley, since less than 3 per cent. of his patients have become pregnant after resection of the tubes and organs. While he believes in the propriety of preserving the ovaries even at the risk of a second operation, the question must suggest itself as to whether it is not better to leave a doubtful ovary alone than to tinker with it, and thus possibly invite cystic degeneration or the cirrhosis which we fear. We can not exactly define the border line between normal and pathologic, even on the operating table. Conservatism, however, has come to stay, and with more perfect technic and experience better results may be hoped for.

10. **Head Injuries.**—Herrick describes the various forms of head injuries, including contusions, scalp wounds, fractures of various types, contused brain, lacerations, hemorrhage, etc.

12. **Spinal Cocainization.**—Mark has investigated this subject, sending a circular out to the various surgeons, most extensive users of spinal cocainization, asking them concerning mortality attributed to it, the technic, and the dangers as compared with general anesthesia. He reviews the deaths reported and finds little evidence of the responsibility of the method for the result. Only one surgeon heard from has abandoned the method on account of the "difficulty of obtaining uniform sterile solutions of strength"; some preferred tropacocain to cocain. A number of cases are reported. He concludes that the method is as safe, if not safer, than general anesthesia, and that we may safely employ a dose up to .48 of a grain of cocain without fear of toxic effects, and that shock, when present, is decidedly less than that of general anesthesia. There is less danger of annoying sequelæ, but on account of the variability in the length of its analgetic action, it is contraindicated in prolonged operative procedures. Only one death has been reported in this country that could be attributed to its use, and the patient was an elderly woman, weighing 318 pounds, with a very serious heart lesion. The surgeon in this case, Dr. Morton, is still one of the most devoted adherents of the method.

13. **Cancer.**—Weber does not implicitly accept the parasitic theory of cancer. The parasite has not been demonstrated. Early excision is the method to be employed. He has given up escharotics and advises against them. The use of the *x*-ray should follow the operation. In many cases much can be done by diet, hydrotherapy, sunshine, tonics, etc., to increase the resistance and prevent recurrence.

Boston Medical and Surgical Journal.

October 29.

14 *The Relation of Laboratory Research to the General Practitioner of Medicine. Horace D. Arnold.

15 Pneumothorax Associated with Fracture of the Ribs; Report of Two Cases. Fred T. Murphy.
16 *Some Observations on X-Ray Therapeutics in Skin Diseases. Frederick S. Burns.
17 *Record of Parasitic Infections in the Philippines. W. J. Calvert.

14. **Laboratory Research and the General Practitioner.**—The importance of laboratory methods is insisted on by Arnold, who, nevertheless, points out that it is one of the faults of our medical education at the present day to produce an exaggerated view in the mind of the medical student as to the importance of this work in general practice. He says it requires some courage to say that this side of medical education is overdone in schools, but the observation of recent graduates and students has convinced him that such is the case. While the laboratory expert has a better foundation he has also laboratory astigmatism, and common sense may be lacking. He thinks the general practitioner should have certain laboratory methods at his command, counting of the blood corpuscles, estimation of hemoglobin by means of Tallquist paper, examination of the urine, sometimes of the feces, sputum, pus, vomitus, and the gastric contents. The Widal reaction is rather beyond the general practitioner at present, and the laboratory should be depended on, but the bacteriologic diagnosis of diphtheria is important. He sums up by saying that the laboratory method in clinical medicine is of acknowledged value and such measures are not employed by the general practitioner as fully as they should be. The man who has plenty of time and does not choose to equip himself is short-sighted. The man who thinks he is too busy would find a limited sacrifice of time one of the best investments he could make. The practitioner who is too busy with general practice to do such work himself should have it done, nevertheless, where necessary.

16. **The X-Ray in Skin Diseases.**—Burns finds the *x*-rays of great value, in epithelioma especially, and says they offer the best relief to a certain class of such lesions. Some cases are better treated by excision and it is a waste of time to treat very small lesions for weeks when they can be effectually destroyed in a few minutes with the curette and cautery. Epithelioma and carcinoma below the cutaneous surface, and even lesions which have become deep by infiltration from the skin, should not be treated by the *x*-rays with the hope of cure. All such cases in which he has tried them have been failures and without permanent benefit, but there is almost a constant temporary relief from pain and sometimes considerable improvement in the general condition. The permanency of cure of epithelioma may be questioned, though he has not yet seen any relapses in his cases. He mentions cases of lupus, scrofuloderma, folliculitis of the beard, psoriasis and eczema treated with success. His experience includes 150 cases of skin disease treated by *x*-ray therapy.

17. **Parasitic Infections in the Philippines.**—In 136 autopsies Calvert found 53 cases of parasitic infections, 29 of ascarides, 10 of ankylostoma, 13 of tricocephalus and 1 of tenia. Forty of these cases were single infections, namely 25 of ascarides, 5 of ankylostoma, 9 of tricocephalus and 1 of tenia. Five were double infections of 2 or more; one was a triple infection of all three parasites. He says, considering the customs of the natives, especially as regards their drinking water, the figures are not so high as one would at first suppose. The small number of tenia is surprising when it is considered that cysticercus exists in 4 per cent. of all the hogs killed in Manila. No cases of trichiniasis were observed. Five cases of filariasis were found all from the Island of Luzon.

Medical Record, New York.

October 31.

18 *High-frequency Currents. Henry G. Piffard.
19 *Two New Methods of Determining the Digestive Activity of Gastric Juice. Henry Wald Bettmann and J. Henry Schroeder.
20 A Case of Neurofibroma of the Skin and Large Nerve Trunks in Which There Developed a Large Spindle-celled Sarcoma Beneath the Body of the Scapula. H. W. Austin.
21 *Some Notes on a Diet of Bread and Fruit, and Its Effects on High Blood Pressure, Dropsy and Obesity. Alexander Haig.
22 *Hallux Valgus. John G. Sheldon.

18. **High Frequency Currents.**—Piffard describes his methods and apparatus and their advantages. The article does not lend itself well to abstracting as regards the first point, and should be consulted for a full understanding.

19. **Gastric Juice Activity.**—Two new diagnostic methods are described by Bettmann and Schroeder, one based on the fact that albumin in solution will foam when shaken up, and if a digestive ferment be mixed with the foam the albumin will be digested and the foam will disappear, and with a rapidity in proportion to the amount of digestive ferment added. The results of this test agree with the law of Borissow and Schütz that the rapidity of the digestion is as the square root of the pepsin concentration. The other method is the use of the centrifuge to hasten Hammerschlag's test, instead of waiting twenty-four hours for the precipitate to form by means of sedimentation. The authors were able to get accurate results in two hours. It must be recognized that the law of Borissow and Schütz is not applicable to concentrated solutions of pepsin, but only to those of moderate strength. The steps of the process are given as follows:

The gastric juice to be tested is diluted with three times its volume of a .2 per cent. solution of HCl. This diluted juice and the standard albumin solution are placed in the incubator about fifteen minutes in order to be warmed to body temperature. In each of two test tubes are placed 10 c.c. of the standard acidified albumin solution. To one tube 5 c.c. of the diluted gastric juice is added, to the other (the control tube) 5 c.c. of a .2 per cent. solution of HCl. These tubes are then placed in the incubator at 37 to 40 C. for exactly seventy minutes. At the end of that time they are removed, and 10 c.c. are taken from each tube and placed in the centrifugal tubes graduated to .02 c.c. To each tube is added 5 c.c. of a 10 per cent. solution of trichloracetic acid and, after inverting the tubes several times, they are placed in a high-speed centrifugal machine and centrifuged two hours. At the end of this time the tubes are removed and the volume of sediment measured. The sediment in the control tube will be an index of the original albumin strength of the standard solution. The sediment in the second tube will be less, if digestion has taken place, the difference in the two sediments representing the proportion of albumin which has been transformed into peptone.

21. **A Bread and Fruit Diet.**—Haig points out the advantages of a bread and fruit diet in the high-blood-pressure group of uric-acid food poisonings, which used to be considered special diseases under the names of epilepsy, neuralgia, asthma, Bright's disease, etc. The great point in the relief of these troubles is the lowering of the blood pressure which can not be brought about with a milk diet on account of the large proportion of fluid contained. By cutting down the fluid to the smallest amount compatible with comfort, and feeding on breadstuffs, dried fruit and fresh fruit, nuts, etc., a blood pressure of 150 to 160 mm. of mercury can be reduced, he says, in a week or two to one of 120, with a corresponding improvement in all the symptoms above mentioned. This diet not only reduces the blood pressure, but eliminates also the source of the uric-acid poisoning.

22. **Hallux Valgus.**—After noticing the various methods of operating for this condition, Sheldon gives his own as follows:

Once having removed the infected bursæ, the skin incision is made according to Dawbarn, except in cases with a tender bursa. In these cases excise the bursæ and as much of the overlying skin as is compatible with complete closure of the wound. The next step is to free the inner portion of the distal end of the first metatarsal with a chisel or periosteotome. The inner one-half or two-thirds of the head of the bone is then removed with bone forceps. The outer one-third or one-half of the articular surface of the metatarsal and the phalanx are not disturbed. The extensor tendons of the great toe are then divided. The fascia and ligaments are then drawn together with catgut and the skin approximated with silkworm gut. The toe is held in proper position with a planter splint and adhesive plaster. I usually apply a constrictor before operating; but, without constriction, the hemorrhage is slight.

He has operated on 12 cases in this way with invariably perfect results in three or four weeks. It assures a movable joint, there is no great toe shortening, and the deformity is corrected. If the bone is affected the abnormal part is removed; the space resulting from removal heals by the blood-clot process and the extensor tendons are so lengthened that they do not tend to reproduce the deformity.

Medical News, New York.

October 31.

23 *Speculative Investments for Physicians.
24 *On the Production of Specific Cytolytic Sera for Thyroid and Parathyroid, with Observations on the Physiology and Pathology of the Parathyroid Gland, Especially in Its Relation to Exophthalmic Goiter. W. G. MacCallum.

25 *Skin Lesions Associated with Rapid Growth of Long Bones, Lineæ Albicantes. W. P. Northrup.
26 *Caffein in the Treatment of Alcoholic Toxemia. Arthur J. Hall.
27 *A Case of Chronic Lymphatic Leukemia without Enlargement of the Lymph Nodes. George Blumer and Hermon C. Gordinier.

23. Speculative Investments for Physicians.—This article was written largely at the instance of Dr. Osler, who has noticed the constant attempts that are being made by promoters to induce physicians to become interested in speculative concerns. The general tone of the article is throughout discouraging to such investments. The successful speculator is the one who loses early and stops.

24. Thyroid and Parathyroid Bodies.—MacCallum notices the claim of Gontscharukow that he has produced a serum the use of which indicated the influence of specific antithyroid toxins and gives in detail his own experiments bearing on this point. He inoculated geese with thyroid extract and used their serum on dogs. On the whole his experiments throw doubt on Gontscharukow's results. As far as any results were obtained from his experiments, they were that an attempt to produce cytotoxins capable of destroying cells or glands *in situ* was a failure, but it may be possible that a material was produced in geese which, combined with the normal secretion of the dog's thyroid or parathyroid, might neutralize it and cause the symptoms that ordinarily follow extirpation to be mitigated in certain instances. He also experimented with parathyroid excision and remarks on the symptoms produced, which are somewhat similar to those of exophthalmic goiter. He concludes that it is probable that the parathyroid produces a material that neutralizes poison produced elsewhere and that the poison thus neutralized can be mechanically washed out with relief of the symptoms. He was able to relieve the symptoms produced by parathyroid excision by injecting the blood of a normal dog into the veins of a dog suffering from removal of these glands and the result was complete relief. He also experimented to determine whether the effects were on the roots of the motor nerves or higher, and concluded that it was not alone the neurons of the anterior horns, but the upper motor neurons were also affected. Urinary examinations were made and the results of all the experiments seemed to show that there was a distinct difference between the effect of the parathyroid and thyroid glands, the latter more or less controlling metabolism; the former having apparently an entirely different function. The question whether exophthalmic goiter is the result of thyroid insufficiency is unsettled, but he thinks it is doubtful that such is the case since we know that extirpation of the thyroid, including the parathyroid, relieves the condition in many cases. He has lately been treating a woman suffering from exophthalmic goiter with parathyroid, but so far without results.

25. The Skin Lesions of Rapid Growth.—Northrup describes and illustrates a case of lineæ albicantes of the knee occurring after typhoid fever in a rapidly growing youth, and quotes from Comby's work on children's diseases, the only one in which he has found a description of similar conditions.

26. Caffein in Alcoholic Toxemia.—Hall finds that caffein administered in doses of 1 to 2 grains every one, two or three hours will usually so effectually quench the thirst or craving for alcohol in twenty-four or forty-eight hours that most confirmed habitués will voluntarily discontinue its use. He reports four cases. Where there is insomnia due to the caffein, it is different from the insomnia of alcohol, and much less disagreeable. He does not advocate caffein as a specific, but it appears to be a physiologic antagonist to alcohol as much as belladonna is to opium. If this is once established, the contention that alcoholism is a disease will have to be abandoned, and the fact that it is a toxemia must be admitted.

27. Leukemia.—Blumer and Gordinier give carefully reported cases and discuss the pathology. They conclude that while myelogenic leukemia is invariably a disease of the bone marrow, lymphocytic leukemia may be a disease either of the lymph apparatus, the bone marrow, or of both. They further express the belief that specific differences exist between the blood picture of the different forms.

Cincinnati Lancet-Clinic.

October 31.

28 On the Technic of Amputating in the Presence of Suppuration, Gangrene or Mortification. Thomas H. Manley.
29 Chorionic Villi. James W. Rowe.
30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

October 31.

31 The Medical Expert. Edward O. Plumbe.

University of Pennsylvania Medical Bulletin, Philadelphia.

October.

32 *Acute Lymphocytic Leukemia, with Reference to Its Myelogenous Origin. A. O. J. Kelly.
33 Primary Cancer of the Lung. J. H. Musser.
34 *Diabetes as a Complication of Pregnancy. Alfred Stengel.

32. Acute Lymphocytic Leukemia.—Kelly says our knowledge warrants the following opinions: The clinical manifestations and the blood pictures of leukemia justify the usual division into two clinical varieties, called the lymphatic and the myelogenous (or splenomedullary). Since, however, the so-called lymphatic leukemia may occur with little or no alteration in the lymph glands, and there is good evidence for believing that, whether these enlarge or not, the typical leukemic blood picture does not develop until the bone marrow becomes affected, the bone-marrow lesions appear to be the essential ones, and as both varieties of leukemia are myelogenous in origin, the terms lymphatic and myelogenous seem hardly appropriate. He prefers to distinguish the two classes as lymphocytic and myelocytic leukemia. There is no special line of demarcation between the two types, as transition forms occur. The disease, probably in all the cases, is the result of proliferation of bone marrow, but it is also likely that some of the circulating lymphocytes in lymphocytic leukemia are formed in the lymphoid structures elsewhere. The differences in the clinical course of the disease are probably attributable to differences in the chemotactic agent, whatever it may be, whether an infection or intoxication. He is inclined to attach much importance to the large mononuclear non-granular cells of the bone marrow in these cases, believing that it may form large lymphocytes or myelocytes, its development in one or the other direction being influenced by the nature of the chemotactic agent concerned. It is possible, too, that time has something to do with it; the basophile cells are looked on as the younger form, while the neutrophile cells and their derivatives are of the older growth. At present there is no way of distinguishing, when found in the blood, the lymphocyte derived from the lymph gland from that derived from bone-marrow, but it is probable that those found in the circulating blood in the healthy are derived entirely from the lymph glands, while those occurring in lymphocytic leukemia are derived in large part, and in some cases exclusively, from the bone marrow. Finally he remarks that the clinical manifestations of acute lymphocytic leukemia are especially of interest in their marked resemblance to typhoid fever. There is reason to think, he says, that some cases have been presumed to have been typhoid fever, and the error has not been rectified even at the necropsy. The differential diagnosis is by examination of the blood and by microscopic examination of the tissues.

34. Diabetes in Pregnancy.—The cases of diabetes developing during pregnancy are discussed by Stengel, who reports observations and refers to a number of histories by Matthews Duncan, who also tabulates reported cases. The most important question is that of prognosis. It is correct to assume it to be a condition of great gravity, but the seriousness of the condition has perhaps been overestimated. While the results for both mother and child are dangerous they are less frequently so than has been generally supposed and Stengel thinks that careful hygienic, dietetic and medicinal treatment should always be resorted to. Increasing glycosuria, diaceturia, grave weakness and rapidly increasing emaciation would, of course, suggest prompt intervention.

Northwest Medicine, Seattle, Wash.

October.

35 *A Few Reasons for Early Operation in Gallstone Disease. Park W. Willis.

36 A Philosophic Review of the Crowning Sin of Civilization. Ernest Crutcher.
37 Hypodermic Injection of Pilocarpin. R. W. Perry.
38 The Lumbricoid of the Tropics. J. S. Stott.
39 The Value of the Blood Examination. Robert M. Stith.

35. **Gallstone Disease.**—Willis reports cases and asserts that almost certain and permanent relief may be afforded by early operation with very slight risk to life and slight discomfort; otherwise there is liable to be serious trouble and possible malignancy. He questions the statement that the gall bladder has no function, and does not believe in cholecystectomy as a rule.

In the discussion following, Dr. Hutchinson held that the gall bladder was an entirely useless organ and practically obsolete, like the appendix, and should be removed whenever it causes trouble. He did not consider that gallstone was the cause of cancer, but vice versa.

Wisconsin Medical Journal, Milwaukee.

October.

40 The Diagnosis of Hysteria. Hugh T. Patrick.
41 The Etiology of Some Pensioned Disabilities Measured by Modern Pathology. W. T. Sarles.
42 *Displacement of the Uterus. Gustave A. Kletzsch.
43 Immunity and Its Relation to Surgical Pathology. J. M. Dodd.

42. **Uterine Displacements.**—Kletzsch says that every effort should be made to correct uterine malposition. If out of place, the general health of the patient must suffer sooner or later, but malposition alone is not the sole cause of this; the lacerated, subinvoluted and relaxed pelvic tissues contribute their part. We know, moreover, that retroversion or flexion is the first step toward prolapse, and neglect may make the conditions still more difficult to remedy. As regards operation, he says the ordinary Alexander operation ought only to be done in cases of pure displacements; if complicated by adhesions or procidentia uteri, this operation will fail. Vaginal fixation may bring the body of the uterus forward, but it destroys one of the main points of support, that is, to the base of the bladder and pelvic fascia, and this in time permits sagging downward. Fixation to the anterior abdominal wall may raise the uterus above the plane of the pelvis, below which it belongs, and also fix the fundus unnaturally, but to Kletzsch it is, nevertheless, the best operation for the great majority of cases. It must be supplemented by repair of any lacerations of the cervix or perineum, otherwise it will fail.

Denver Medical Times.

October.

44 Address, Rocky Mountain Interstate Medical Association. C. H. Soller.
45 Some of the More Unusual Complications of Syphilis. William E. Bernart.
46 *The Deleterious Effects of the Excessive Use of Salt Chlorid of Sodium. (To be continued.) W. B. Parsons.
47 Hay Fever, Pollen Asthma, or Summer Catarrh. W. W. Woodring.
48 Relation of Orthopedics and Radiography. Byron C. Leavitt.

46. **Chlorid of Sodium.**—The experience of Parsons with chlorid of sodium has been rather peculiar. He had been an excessive salt eater, but at least eight years ago he began to have dizzy spells and hallucinations, also peculiar brain sensations and loss of memory. He had been a user of alcoholic liquors, sometimes enough to feel their effects, for twenty-five years. Thinking that this might be the cause he stopped, but without result. Then for a month he quit tobacco, which he had been chewing for many years, but with no change. Finally it occurred to him that salt might be the cause. He began to investigate, finding that salt in certain animal organisms was poisonous, and referring to his own clinical experience he found a case somewhat similar to his own. He therefore stopped the use of salt, with the result of the relief of all unpleasant symptoms, which again appeared on its re-use, hence he thinks salt was the cause of all his trouble. (His article is to be continued.)

New Yorker Medicinische Monatschrift.

September.

49 *Hayti—Klima und Krankheiten. A. Herzfeld.

49. **Hayti; Its Climate and Diseases.**—Herzfeld considers the climate of Hayti not unhealthy for the tropics. On the lower coast dirt and deteriorated civilization is the rule. He gives a black picture of the condition of the Haytian towns, but the minute one steps out of them one meets the most charming tropical vegetation. The diseases and climate are those of the tropics. After the European has been there for some months he generally suffers from the so-called local fever and then dysentery. The so-called "red dog," a sort of dermatitis caused by the sun is common, and he finds zinc stearate compound one of the best remedies. The habits of the sojourner there are generally bad as regards excesses. Cholera is not yet known; yellow fever occurs in epidemics; typhoid is not rare, and malaria in all its forms is frequent. Pneumonia and acute and chronic rheumatism are not rare in the coast region. Lepra and elephantiasis are frequent among the lower classes. Gonorrhea and syphilis are exceedingly common, and the blacks seem to be reckless and ignorant in regard to them. The drinking water is generally good and obtained through the old French aqueducts. The white population drink it mixed with rum "to kill the bacilli." The dwelling houses of the old Spanish style are good and are usually furnished abundantly with baths. The natives all take baths in a very primitive way, males and females together. He concludes by stating that Hayti is not yet afflicted with Eddyism and osteopathy.

Cleveland Medical Journal.

October.

50 *A Brief Résumé of the Literature on the Involvement of the Spinal Nerves and Cord in Influenza. Edward P. Carter.
51 *Cases of Isolated Paralysis of the Suprascapular Nerve. Frank E. Bunts.
52 Nephrectomy, Indication for, with Report of Five Cases. Henry A. Becker.
53 The Passage of an Open Safety-pin Through the Intestinal Canal. Hunter H. Powell.

50. **Influenza.**—Carter's résumé of the literature seems a fairly complete study of the subject. He concludes that under certain conditions the influenza toxin exhibits a remarkable predilection for the spinal nerves and cord, giving rise to a neuritis of the trunks of the peripheral nerves closely resembling that following diphtheria. In the spinal cord it is capable of reproducing almost any one of the pathologic conditions. As a rule, the involvement of the nerve trunks is very late, sometimes after the establishment of convalescence, and it is peculiar in not showing any affinity for any single nerve or group of nerves, but in being scattered. Recovery generally occurs rapidly after the subsidence of symptoms, though the case reported by Putnam and a number of instances by Franke appear as examples of chronic post-influenzal neuritis.

51. **Paralysis of the Suprascapular Nerve.**—Bunts has collected cases and discusses the etiology, pathology, etc. It seems to be due to sudden trauma or neuritis from other causes or associated with contusion or laceration of the nerve or loss of its continuity. The symptoms are summarized by him as: 1. Depression or shallowness of the supraspinous and infraspinous fossæ. 2. The impairment of external rotation of the arm. 3. Frequently a weakness in the elevation or abduction of the arm. 4. A probable slight displacement of the scapula. The diagnosis is not difficult, as a rule, but where it is obscure a few successive examinations, including electric reactions, will reveal the condition. It can not in all cases be made immediately; its rarity allows it sometimes to escape observation unless important symptoms are present. He thinks that cold and rest is the best treatment for cases due to sudden trauma, and suggests study of the synergistic action of other muscles that might be substituted for the paralyzed ones.

Old Dominion Journal, Richmond.

October.

54 X-Ray Therapy, with a Report of Cases. Ennion G. Williams.
55 *The Accurate Estimation of Pulse Tension. Henry W. Cook.
56 *Perineal Prostatectomy, with Report of Two Cases. J. Shelton Horsley.
57 Report of a Typical Case of Exophthalmic Goiter. William H. Lyne.
58 Some Remarks on the Importance of Otorrhea. Clifton M. Miller.

55. **Pulse Tension.**—The importance of pulse tension in obscure brain lesions, comatose conditions, typhoid, pneumonia, etc., are noted by Cook, who mentions the remedies that are

applicable. Of the cardiovascular stimulants, strychnin is undoubtedly the most reliable. Digitalis should be used with caution; it is valuable in toxic conditions. Cocain is useful, but transitory in effect. Adrenalin can hardly be regarded, he thinks, as either a cardiac or a vasomotor stimulant. He believes it distinctly injurious to the muscle fibers of the heart. The 3 cases which he saw die under its continued administration all closed with symptoms of cardiac poisoning, and he believes that, while it kept the patient alive for hours in shock, the drug was responsible for the ultimate cardiac failure. Aside from its local administration to stop hemorrhage, the uses of adrenalin are limited. Its administration as an arterial stimulant should be confined to desperate cases of profound shock where low tension pulse threatens immediate dissolution. Alcohol he never found to have any true stimulant action on the pulse tension. Saline infusions are likewise wanting in any true stimulant action. They are invaluable in aiding elimination and helping to refill the depleted vessels. Of the depressant drugs amyl nitrite acts promptly, but is very transient. Nitroglycerin acts in a few minutes, causing a fall which can not be recovered from in less than an hour. Sodium nitrite acts more slowly and is better for continued administration. In conclusion he mentions two conditions where the use of the accurate estimation of the pulse tension has been found valuable: 1. In following changes in patient's condition during anesthesia and operative manipulations, especially where the condition is weak or dangerous, and during chloroform anesthesia, which has a marked depressant action. 2. In detecting perforation in typhoid, daily routine estimations of blood pressure afford a new basis for decision. A sudden rise in blood pressure, in connection with suspicious symptoms, is strong confirmatory evidence. An unchanged blood pressure in spite of suspicious symptoms almost excludes the possibility of perforation.

56.—This has appeared elsewhere, see title 88 below.

Journal of Medical Research, Boston.

October.

59 *A Study of the Agglutinating, Hemolytic and Endothelilytic Action of the Blood Serum in Variola. William T. Howard, Jr.
60 *Studies on the Etiology and Pathology of Variola. Roger G. Perkins and George O. Pay.
61 *Streptococcus Pyogenes in Variola. Ibid.
62 *Bactericidal Action of the Blood Serum in Variola and in Varioloid. Ibid.
63 On the Chemistry of the Chromatin Substance of the Nerve-cell. P. A. Levene.
64 On the Autolysis of Brain Tissue. P. A. Levene and L. B. Stookey.
65 *On the Digestion and Self-Digestion of Tissues and Tissue Extracts. Ibid.
66 The Agglutination of the Pneumococcus with Certain Normal and Immune Sera. Augustus Wadsworth.
67 A Pathology for Forage Poisoning, or the So-called Epizootic Cerebrospinal Meningitis of Horses. (A Preliminary Note.) D. J. McCarthy and Mazyck P. Ravenel.
68 Cat's Blood; Differential Counts of the Leucocytes. F. C. Busch and Charles Van Bergen.
69 *The Reactions of the Blood in Experimental Diabetes Mellitus —A Contribution to Our Knowledge of the Thermolabile Complements. J. E. Sweet.
70 The Pathology of Chronic Fluorine Poisoning. Fritz Schwyzer.

59-62. Variola.—The articles on variola, etc., have already been briefly referred to editorially.

65. The Digestion of Tissues.—Levene and Stookey have studied on three lines of research and here give their conclusions and the methods of analysis. They used an extract of fresh pancreas or other tissue and the white of an egg, boiled and unboiled. Unboiled extracts are digested more slowly than the ones that have been heated. The strength of the digestion depends on the quantity of enzyme added. The action of certain small quantities of pancreatic extract may be almost inhibited by unheated white of egg, though effective when added to previously heated egg white. It is evident, they say, from their experiments that in the course of digestion the enzyme action and the inhibitory action of the tissue extract become gradually exhausted. As regards the second point studied, namely, whether the tissue extracts inhibit proteolytic enzymes, it appears probable that the inhibitory action of the neutral extract is destroyed by acetic acid in the extract of spleen and liver, and that the acid extract contains their enzymes. In pancreatic extract and in the white of the egg an inhibitory action against the intracellular enzymes is demonstrated. The third question was whether the inhibitory action of the blood and tissues can be increased by immunization. The experiments showed that the blood of the immunized rabbits offers a markedly higher resistance toward tryptic digestion than that of the normal animal, while the behavior of the same blood toward splenic and hepatic extracts was not much different from that of normal blood. This may have been due to the fact that the inhibitory power against the enzyme was destroyed by the acetic acid. The work on immunization of animals against enzymes of the liver and spleen is in progress.

69. Diabetes.—From the experiments here detailed as to the recognition of blood in diabetes mellitus, Sweet considers the following conclusions justified:

1. The subcutaneous injection of an alcoholic solution of phloridzin, which causes a transitory glycosuria, is showed by a slight, though readily demonstrable, increase in the serum of the rabbit of the hemolytic complement for bovine erythrocytes; this increase is to be explained as occurring coincidently with the inflammatory reaction of the organism to the injection. 2. No effect of injections of phloridzin on the amboceptor for bovine erythrocytes can be demonstrated. 3. The intraperitoneal injection of adrenalin chlorid is followed by no marked effect on the blood reactions; the injection may, however, cause an inflammatory reaction, and so cause an increase of complementary activity. 4. The complete removal of the pancreas from dogs, which causes a true diabetes mellitus of severe type, is followed by a marked decrease of the hemolytic activity of the diabetic dog's serum for both rabbits' and guinea-pigs' erythrocytes. 5. The diabetes caused by the complete extirpation of the pancreas is further characterized by what is to be interpreted as a complete loss of the normal bactericidal property of the serum of the dog. . . . 6. This decrease of the hemolytic activity of the diabetic dog's serum for is due to loss of hemolytic complements. . . . 7. The complete removal of the pancreas is as necessary to this loss of complements as it is to the production of a diabetes. 8. The complete removal of the pancreas has not deprived the organism of its power to react to the inflammatory process by an increase of the complementary substances. 9. No disturbance of the normal relation of the receptors of the erythrocytes to specific hemolytic amboceptors can be demonstrated in the course of a true experimental diabetes. 10. The loss of the complementary substances in diabetes mellitus points conclusively to the fact that no relation exists between the leucocytes of any type and the production of the complements. 11. A decrease in the amount of glucose excreted by the diabetic organism can not be shown to occur in the course of a secondary infection, at least during the earlier stages of the diabetes.

Medical and Surgical Monitor, Indianapolis.

October 15.

71 *The Mineral Waters of Indiana. George D. Kahlo.
72 *Tuberculosis Among the Insane. William Charles White.
73 Report of a Case of Adeno-carcinoma of the Nose. L. F. Page.
74 A Note on Perineorrhaphy. Thomas B. Eastman.
75 Iliac Abscess—Operation and Treatment. A. F. Stewart.

71. Mineral Waters in Indiana.—Kahlo describes the mineral springs in Indiana and their merits. Winona, in Kosciusko County, possesses a mild alkaline-calcic water of merit in gastric disorders, incipient nephritis, renal calculi and cystitis, which contains 15.54 grains of calcium bicarbonate with 8.48 grains magnesium bicarb. per gallon. Mudlavia possesses a similar water, but is chiefly famous for its mud baths. The most popular resorts in Indiana are French Lick and West Baden Springs, which are practically one place, only a mile apart, and have excellent facilities for accommodating patients. The waters there are sulpho-saline-alkaline, containing 347 gr. of solids to the gallon, chiefly calcium, magnesium and sodium sulphate, magnesium carbonate and sodium chlorid, with traces of other constituents and carbonic acid in the proportion of 433 parts per million. He recommends these baths for chronic gastritis with deficient secretion and excessive mucus, associated constipation and disturbed metabolism; also in the irregular type of gout and in lithemia they seem to act as a specific. They are also useful in cholelithiasis, hepatic congestion and the early stages of cirrhosis. In albuminuria and diabetes he has seen the disappearance of the abnormal urinary constituents after a few days' treatment, but was not able to follow any of these cases beyond their stay at the springs, and can not, therefore, speak as to the permanent results. Advanced cases of nephritis were seemingly aggravated. Hyperchlorhydria and pregnancy are other contraindications. Cystitis, urethral inflammation, rheumatism and certain chronic cutaneous diseases are also benefited, the latter probably in part the result of external employment of the waters. There is apparently very little ac-

quired tolerance of the effects of these waters in constipation, and the relief is generally more or less permanent. He speaks of the effect of change of scene and adds a word of warning regarding the tendency to drink the stronger waters too frequently, especially if near meals.

72. **Tuberculosis Among the Insane.**—White pleads for the isolation of the tuberculous insane, as it is impossible, he thinks, to make them observe the ordinary precautions which would make their association with other patients safe. He would advise that each patient on admission be accompanied by a statement of the examining physician, including the family history and existing physical condition as regards tuberculosis, so as not to misplace cases on their reception. The sputum examination and tuberculin test are both recommended as diagnostic aids. The serum tests, he thinks, will be of service when better perfected.

Southern California Practitioner, Los Angeles.

October.

76 *The X-Rays and Diabetes. A. J. Comstock.
77 The Diagnosis of Myocardial Degeneration. Randall Hutchinson.
78 Privileged Medical Communications. David W. Cheever.
79 The Workings of the New York Law. Walter Soren.
80 Privileged Communications to Physicians. Frederick J. Stimson.

76. **X-Rays in Diabetes.**—Comstock warns against the use of the *x*-rays in diabetes, especially when the part treated is in the foot or hands. He reports a case in which the reaction of the tissues to the rays was so much out of proportion to what was expected that it was hard to explain the patient's susceptibility excepting on the ground of weakened tissue due to diabetes. Hence, he thinks, the need of this caution. The bad results were not permanent.

Texas Medical Journal, Austin.

October.

81 *Adrenalin Chlorid and Hydrochlorate of Cocain in Dentistry. R. Menger.
82 *Prostatectomy; Its Indications and Technic. G. Frank Lydston.

81. **Adrenalin in Dentistry.**—Menger has tested the combined action of adrenalin and cocain in the extraction of twelve teeth at one sitting. The results were so satisfactory that he reports the case. The immediate and after-effects were more effective and pleasant than under chloroform narcosis. The injections had to be continued during the operation, but there were positively no bad after-effects, notwithstanding the extreme nervousness of the patient. A 5 per cent. cocain solution and one-half part of 1 to 1000 adrenalin solution, injected along the alveoli, was used.

82. **Prostatectomy.**—Lydston reviews the indications and methods of prostatectomy. He thinks the Bottini operation should be considered only as a late resort in such cases, and has very narrow limitations. It is useful only when rational surgery is not applicable, and should be considered an operation of necessity rather than election. He prefers the perineal method, but employs the suprapubic section if necessary. No single operation can be successfully used in a routine way. He remarks that he has several cases under observation in which a suprapubic fistula has been made, and the patients are so well satisfied that they will not listen to any suggestion of radical operation.

Medical Age, Detroit.

October 25.

83 The Mischievous in Midwifery. W. P. Manton.

Virginia Medical Semi-Monthly, Richmond.

October 23.

84 Physical Examination of the Abdomen of the Gastric Patient. Wilbur F. Skillman.
85 Retained Intubation Tube, with Report of a Case. Albert A. Cannaday.
86 Laboratory Diagnosis in Gastric Disorders. E. Guy Hopkins.
87 Effects and Treatment of Adenoids. H. M. DeJarnette.
88 *Perineal Prostatectomy, with Report of Two Cases. J. Shelton Horsley.
89 Is Stone in the Kidney Primarily a Surgical Disease? Benjamin K. Hays.
90 Use of Pigskin Grafts on Extensive Granulating Surface in Case of Superficial Gangrene; Clinical Report. J. Hamilton Browning.

88.—This has appeared elsewhere, see title 56 above.

Medical Fortnightly, St. Louis.

October 26.

91 Treatment of Syphilitic Lesions of the Nose and Throat, with Report of Cases. Algernon S. Barnes, Jr.
92 The Card System in Medical Practice. Carl E. Black.

Albany Medical Annals.

November.

93 The Management of Epidemics of Contagious and Infectious Diseases. J. S. Fulton.
94 The Education of the Nurse. Willis E. Ford.
95 Operations on the Stomach, with Special Reference to the Toilet of the Peritoneum. Albert Vander Veer.
96 Report of a Case of Tetanus. Douglas C. Moriarta.

Medical Sentinel, Portland, Ore.

October.

97 What Is the X-Ray? Richard Nunn.
98 Technical Management of the X-Ray. George E. Houck.
99 The X-Ray in the Diagnosis of Fractures. George F. Wilson.
100 The X-Ray in Diseases of the Skin and Glands. Luther H. Hamilton.
101 Etiology and Treatment of Pathologic Conditions of the Prostate, with a Report of a Case of Prostatectomy. W. L. Durand.

Pennsylvania Medical Journal, Pittsburg.

October.

102 Address, Medical Society of the State of Pennsylvania. William M. Welch.
103 Is There a Medical Profession? Thomas B. Davis.
104 *The Importance and Necessity of "Industrial Hospitals." W. B. Lowman.
105 *The Medical Expert Witness. G. W. Wagoner.
106 *Additional Reflections on State Medical Board Examinations. A. O. J. Kelly.

104.—This article was abstracted in THE JOURNAL of October 10, p. 925.

105.—Ibid.

106.—Ibid.

Dominion Medical Monthly, Toronto.

October.

107 Address on Medical Science. Charles S. Sherrington.
108 *Address in Medicine—The Lymph Circulation in Modern Medicine. Hugh A. McCallum.

108.—See abstract in THE JOURNAL of September 5, p. 626.

Hot Springs Medical Journal.

October.

109 Color Blindness. W. T. Salmon.
110 Report of a Case. (Non-Gonorrheal Genital Infection.) M. M. Lively.

Bulletin of the American Academy of Medicine, Easton, Pa.

October.

111 *Elective Studies in the Medical Course. Electives in Anatomy. Frederic H. Gerrish.
112 *Internal Medicine: to What Extent Required or Elective in the Medical Course? S. G. Bonney.
113 *Required and Elective Dermatology. L. Duncan Bulkley.
114 *Training for a Specialty; the Theory and the Condition, as Illustrated by Ophthalmology. Edward Jackson.
115 *The Life and Health of Our Girls in Relation to Their Future. James H. McBride.

111.—See abstract in THE JOURNAL, xl, p. 1602.

112.—Ibid.

113.—Ibid.

114.—Ibid., p. 1603.

115.—Ibid., p. 1527.

Columbus Medical Journal.

October.

116 Special Topography of the Ureter and Tractus Lymphaticus. Byron Robinson.
117 Stokes-Adams Syndrome and Acquired Syphilis. Cases. Fred Fletcher.
118 The Future of the Practice of Medicine in the United States. (To be continued.) L. G. G. De La Mache.

Alabama Medical Journal, Birmingham.

October.

119 A Case of Complete Adhesion Between the Soft Palate and the Posterior Pharyngeal Wall. Dunbar Roy.
120 Should the Public Be Educated in Matters Medical? T. A. Casey.
121 Hydramnios, Polyhydramnios Dropsy of the Amnion. J. C. Abernathy.

Louisville Monthly Journal of Medicine and Surgery.

November.

122 Gastric Carcinoma. Ben Carlos Frazier.
123 *Nasopharyngeal Adenoids. J. A. Stucky.
124 Complete Congenital Clefts of the Palate. James B. Bullitt.
125 Some Observations on the Prognosis in Acquired Syphilis. I. N. Bloom.
126 Epidemic Dysentery. W. L. Taylor.
127 Gastro-enteritis. L. F. Hammond.

123.—See abstract in THE JOURNAL of October 31, p. 1106.

International Medical Magazine, New York.

October.

128 Questions and Answers Concerning Gonorrhea in Women.
129 The Diagnosis of Gonorrhea in the Female. William B. Small.
130 The Topical Treatment of Gonorrhea in Women. W. A. Newman Dorland.
131 Laceration and Congenital Split and Erosion of the Cervix Uteri. Henry D. Beyea.
132 Painful Incarceration of Eleventh Rib. A. L. Benedict.
133 Clinical Notes of a Case of Hyperchlorhydria Successfully Treated by Mechanical Vibratory Stimulation. George I. Rochelle.
134 Gonorrhea in Women. E. E. Montgomery.

Interstate Medical Journal, St. Louis.

October.

135 Review of Eight Years' Work at the St. Louis Insane Asylum. Edward C. Runge.
136 Astereognosis in a Case of Tabes. Frank R. Fry.
137 Ocular Examination as an Aid to the Early Diagnosis of Multiple Sclerosis, with Report of a Case. John Green, Jr., and Sidney I. Schwab.
138 The Reflexograph and Its Uses—Being an Apparatus to Automatically Measure, Time and Chart the Knee-jerks, and for Other Purposes. J. M. Bradley.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 24.

1 The Study of Structure in Relation to Function. W. H. Allchin.
2 *On the Importance of Accurate Muscular Analysis in Lesions of the Brachial Plexus; and the Treatment of Erb's Palsy and Infantile Paralysis of the Upper Extremity by Cross-Union of the Nerve Roots. Wilfred Harris and V. Warren Low.
3 The Physical Examination of the Upper Regions of the Chest. E. Lloyd Jones.
4 *Discussion on the Treatment of Gastric Ulcer. Thomas D. Griffiths, H. D. Rolleston and others.
5 Discussion on Susceptibility and Infection. Robert J. M. Buchanan and others.
6 *The Treatment of Pulmonary Tuberculosis by Formaldehyd. D. I. Chowry-Muthu.
7 Spinal Puncture in "Uremia." D. C. McVail.
8 *The Comparative Value of Oral and Rectal Temperatures in the Study of Pulmonary Tuberculosis. T. N. Kelynack and Sydney R. Williams.
9 The Mineral Water of Llangammarch Wells. W. Black Jones.
10 Discussion on the Results of Treatment of Malignant Diseases by Electrical Methods. Lewis Jones and others.
11 A Discussion on the Treatment of Tuberculous Disease by Electrical Methods. Chisholm Williams and others.
12 *Some Points in Practical Muscle Testing. W. S. Hedley.
13 Use of Electricity in the Treatment of Affections of the Digestive Organs. George Herschell.
14 The X-Rays as a Diagnostic Agent in Pulmonary Conditions. Joseph S. Bolton.
15 *Discussion on the Pathology of General Paralysis of the Insane. W. Ford Robertson and others.

2. **Erb-Duchenne Paralysis.**—Harris and Low report and discuss three cases and conclude that the fifth cervical is chiefly involved. A study of the articles of Thornburn and Sherrington and a remarkable case of Markoe seem to prove that motor innervation of the deltoid, spinati, biceps and brachialis anticus is derived from the fifth cervical root and they, therefore, operated, uniting this root to the sixth. In no case has the time elapsed been sufficient to judge as to the perfect success, but the results thus far seem promising. The operation, while it has some difficulties, is not an impracticable one, and is worth trying. There will have to be some relearning of the muscles and co-ordination of impulses with the new connection, but the authors say in all probability the nearer the two nerves are to one another in respect to the cord segment to which they belong the less the difficulty will be after cross-suturing in overcoming any tendency to inco-ordination. They, therefore, recommend suturing the fifth root into the sixth rather than into the seventh in such cases, as they consider that the sixth is not affected in the ordinary form of this paralysis. They also specially urge the importance of employing careful faradic stimulation of the nerve trunks in all such operations as an aid to accurate scientific diagnosis.

4. **Gastric Ulcer.**—Griffiths treats all his cases of gastric peptic ulcer by putting the stomach absolutely at rest and abundant rectal feeding. The patient is put to bed for at least twelve days, the bowels cleaned out by enemata and rectal feeding commenced almost immediately. Nutrient enemata at a temperature of 97 to 100 are given every four hours and in the intervals drink enemata given according to the needs. He does not allow the patient to take any liquid by the mouth, and the stomach should be kept absolutely quiet. He specially mentions the condition of the tongue and the smell of the breath as valuable guides to the efficiency and sufficiency of the rectal feeding. When it is sufficient the tongue is moist and healthy, and the breath is sweet, while that of a starved patient has a peculiar offensive smell, which is hard to describe; perhaps the closest to it is the drunkard's breath. Moreover, the patient is comfortable when sufficiently fed. When the rectum is intolerant of an artificial enema, which rarely occurs, he would give a few minims of laudanum, 5 to 10 minims, two or three times in the twenty-four hours. Feeding by the mouth is very carefully begun on the eleventh day.

Rolleston follows much the same lines, forbidding all water or any food by the mouth and relies on rectal injections entirely. As regards medicinal treatment he would try potassium iodid in chronic gastric ulcer of adult males, as there is a possibility of specific character. The importance of local treatment of the mouth can not be overestimated. Carefully washing out the stomach with mild antiseptic solution or water or the running in of a large amount of bismuth are sometimes usefully employed. Of course the symptomatic treatment of the patient is sometimes required. Parotitis, which is a complication occasionally seen in gastric ulcer with rectal feeding, rarely requires operation. Apart from perforation the only acute complication which requires operation in gastric ulcer is repeated hemorrhage, which does not yield to medical treatment and endangers life. He speaks of the importance of oral sepsis in producing vomiting. He has seen striking benefit from counter-irritation by blisters to the epigastrium. In chronic gastric ulcer operation is justified when there is constant pain not relieved and when there is an intermittent or permanent pyloric obstruction and lastly, when hematemesis recurs in spite of the medical treatment.

6. **Tuberculosis.**—Chowry-Muthu reports the results of treatment of pulmonary tuberculosis by the inhalation of formaldehyd or creosote vapor in connection with the open-air treatment. Notwithstanding the use of the latter, he thinks the drug treatment had its effects. He has also tried intravenous injection and considers it also of value. He speaks well of the electric treatment on the Crotte plan. The open-air treatment, he says, requires a great sacrifice of time and means, and should be supplemented by something else. Serum-therapy is in its infancy. Special drugs by the mouth are disappointing. Tuberculin has not yet developed. The continued inhalation and vapor treatment by formaldehyd is simple and can be used in all cases. The intravenous injection used with gas should be given a trial in the early cases, and if it does no good it at least does no harm. The electric treatment is plausible and hopeful.

8. **Tuberculosis.**—The comparative value of oral and rectal temperatures of pulmonary tuberculosis is discussed by Kelynack and Williams, whose conclusions are as follows:

1. Temperatures carefully taken in the mouth during rest form a reliable guide in the management of phthisical cases under conditions of sanatorium life. 2. Temperatures taken in the mouth during or shortly after exercise can not be considered trustworthy unless registered with such precautions as militate against their general practical applicability. 3. Temperatures taken in the rectum during rest, generally speaking, register higher than in the mouth, but do not otherwise usually afford any special assistance in the management of phthisical cases. 4. Temperatures taken in the rectum during or shortly after exercises, in both healthy and phthisical subjects, register a temperature considerably higher than that in the mouth and, while in the non-tuberculous the return to normal is more rapid than in the tuberculous, no special direct advantage for the phthisical appears specially to accrue from this method. 5. For practical purposes in the management of phthisical cases undergoing so-called sanatorium treatment the registration of temperature by the oral method, when taken during rest and with due care, affords reliable guidance.

12. **Muscle Testing.**—Hedley calls attention to the degenerative reaction as an important diagnostic aid. He thinks that with all the new things, the medical man is in danger of forgetting older valuable methods. The practical clinical point he makes is that while increased anodic contraction with decreased cathodic contraction—which is given as an essential point in the recognition of degeneration by some—is an important

symptom of degeneration, we must not expect it to be always present as its appearance depends on the realization of many conditions.

15.—See abstract in THE JOURNAL of September 12, p. 678.

The Lancet, London.

October 24.

16 The Study of Structure in Relation to Function. W. H. Allchin.
17 *On the Effect of Perforation of the Colon by Small Foreign Bodies, Especially in Relation to Abscess of an Epiploic Appendage. J. Bland-Sutton.
18 The Correction of Hereditary Tendencies. Samuel Wilks.
19 *On the Use of Pure Carbolic Acid in the Treatment of Smallpox. A. E. Brindley and F. W. Bonis.
20 *A Simple Method of Performing Intestinal Union. Alexander MacLennan.
21 On the Value of Saline Infusion in the Treatment of Enteric Fever. D. G. Marshall.
22 The Value of Blood Examinations in Abdominal Diseases. C. J. Nepean Longridge.

17. Colon Perforation.—Bland-Sutton reports and illustrates two cases which show that a foreign body may perforate the large intestine and lodge in an epiploic appendix. The bodies in these cases were pieces of straw and metal. These foreign bodies are enclosed in fecal concretions which show how angular and dangerously pointed bodies may traverse the colon and be safely ejected without harm to the host. Common as anal abscess is, he thinks it stands in very small proportion to the number of cases where small foreign bodies are daily ingested and ejected.

19. Carbolic Acid in Smallpox.—Brindley and Bonis report the results of cases in which smallpox was treated by penciling the vesicles with pure carbolic acid. The effect was shown in the rapid shriveling up and scabbing of the vesicles. Two or three applications may be made if necessary over certain parts of the body. An important part of the treatment is the securing of early removal of scabs by oil poultices or otherwise to prevent subsequent abscess formation. The action of the drug is not irritating, but rather palliative, and appears to be a local one, the acid penetrating the walls of the vesicles and disinfecting their contents. The total number of cases thus treated was 35, of which 22 were of the severe kind, mostly confluent; 5 were fatal, 2 of these were complicated with scarlet fever, and a third was malignant smallpox with subcutaneous hemorrhages. A large number of the cases had never been vaccinated.

20. Intestinal Anastomosis.—The method here described by McLennan consists in a curved, slightly tapering bone bobbin, the narrow end of which is inserted into the proximal end of the gut. It is fixed there by a ligature which binds the intestine into the outermost groove (A). Over this ligature is placed a plain rubber ring similar to an umbrella ring, which must be tight, but not too tight to prevent its being easily placed in position. The proximal end of the intestine so armed is inserted into the distal end of the gut far enough for it to cover the second groove (B). The distal end is ligatured into this groove over the proximal end in a manner similar to that by which the proximal end is fixed to the bobbin. The rubber ring under the distal end of the bobbin then has to be gently manipulated backward from its resting place over the first ligature in groove A and past groove B, lodging at last into the most inner groove (C). The conical shape of the bobbin favors this manipulation. Care must be taken that it is not pushed beyond groove C. Union is then completed by stitching the cut borders of the mesentery. Eventually all distal to the rubber ring comes away. The operation is an easy one to perform and takes much less time to carry out than to describe.

Revue de Chirurgie, Paris.

Last indexed page 937.

23 (XXIII, No. 10.) *Mother-of-pearl Workers' Osteomyelitis. A. Broca and P. Tridon.—Osteomyélite des nacriers.
24 *De la splénectomie dans la splénomégalie avec hépatopathie cirrhotique (type clinique, maladie de Banti). E. Quénu and P. Duval.
25 *Entrance of Air Into Veins During Gynecologic Operations. X. Delore.—De l'entrée de l'air dans les veines pendant les opérations gynécologiques.

23. Pearlworkers' Osteomyelitis.—Ignorance of the subject's trade may lead to an erroneous diagnosis, as this affection may simulate a tuberculous osteitis or subacute osteomyelitis. The surgical treatment necessary for the latter is useless, if not injurious, in pearlworkers' osteomyelitis, which subsides promptly on removal of the cause with complete return of the functions of the parts. In a case described in detail—the first in France—removal of the cause, with rest, was all the treatment Broca attempted, and recovery was complete in two months. The affection appears about the time of puberty, and is characterized by a hard, painful tumefaction of one or more bones of the limbs or face, gradually extending. It develops in the course of a few weeks or months, with slight general symptoms, and then subsides spontaneously, but displays a tendency to recurrence.

24. Splenectomy in Banti's Disease.—Quénu and Duval had a patient with splenomegalia and cirrhosis of the liver under observation for a long time, but the symptoms were bearable. Another patient exhibiting the same but severer symptoms was treated by extirpation of the spleen. Comparison of the course of the two almost identical cases shows the great benefit derived from the operation, the first of its kind in France. The spleen showed excessive development of some of the veinules and capillaries, with sclerosis of the trabecular tissue and atrophy or, at certain parts, actual disappearance of the malpighian corpuscles. In this case and in 3 reported by Banti, in which the cirrhosis of the liver had been clinically recognized, all treated by removal of the spleen, the patients were all restored to health except one, who succumbed to puerperal septicemia. There was no postoperative hemorrhage in any instance, and one of the subjects who had had hematemesis before was not troubled in this way afterward. The liver affection seems to retrogress, or at least be arrested, after the splenectomy, evidently due to the removal of the cause. Bessel-Hagen advocates splenectomy at any stage of the disease, but Quénu would restrict it to cases in which the patient was incommoded by the size of the spleen. Until this occurs he would not venture to remove it on theoretic grounds alone, and therefore refrained from intervention on his first patient. The patient operated on has recovered complete health, has married and borne two healthy children. The recovery was equally pronounced and permanent in Banti's cases treated by splenectomy, and, on the other hand, there is not a single case on record of recovery of a patient not operated on. Removal of the spleen is an empiric procedure, but experience shows that it cures the disease. The same result may possibly be secured by combining omentopexy and splenopexy, as suggested by Schani, but this has not yet been tried in the clinic.

25. Entrance of Air into the Veins During Operations.—Delore has been studying this subject since he witnessed the death of a woman from this cause during an abdominal, subtotal hysterectomy. He reviews the history of what is known in regard to the effects of air in the veins, both in experimental research and in the clinic. The fact is well established that sudden entrance of air into the veins is liable to prove fatal, and that dilatation of the veins is a predisposing factor. Another important factor is extreme anemia, noted in the case described and also in one reported by Biermer under the title of gaseous embolism during enucleation of a uterine myoma. The air replaces the lacking blood in the veins. It is possible, likewise, that the Trendelenburg position may have favored the introduction of air in the 2 cases mentioned. Thoracic aspiration is undoubtedly the cause of the entrance of air, and it might possibly be prevented by preliminary hemostasis in cases of pronounced anemia. Section of the vein between two forceps not only prevents hemorrhage but also entrance of air. When the air has entered, the opening in the vein should be closed at once to prevent further influx. Bégouin's experiences with animals are instructive. After insufflating air into the jugular vein of rabbits and dogs, he introduced a Dieulafoy aspirator into the right ventricle. As the air escaped the animal resumed the appearance of health while all the controls were rapidly dying. Insufflating more air later again into the vein after recovery, without subsequent aspiration, was followed by the almost immediate death of the animal. The results of these experiences

have not been applied to man, but puncture of the right ventricle might be advisable as a last resort in case of sudden penetration of air into the veins entailing distention of the right heart and alarming symptoms. When the air enters more gradually, even a much larger amount may be tolerated by the subject without much disturbance and with ultimate recovery.

Semaine Médicale, Paris.

26 (XXIII, No. 41.) *Des colorations du liquide céphalo-rachidien d'origine hémorrhagique. L. Bard.
27 De la splénophlébite. Rommelaere.
28 Recherches sur la fonction motrice de l'utérus. Masius.
29 Letter from America. Le négre des Etats-Unis au point de vue médico-chirurgical. F. Munch.
30 Anesthésie obstétricale par injections epidurales de cocaine. Jambon.

26. Diagnostic Significance of the Color of the Cerebrospinal Fluid.—Bard has long been expatiating on the importance of the information to be derived from his "three-tube test" examination of the tint of the centrifugalized fluid derived by lumbar puncture. Out of 300 cases in which lumbar puncture was made, the fluid showed an abnormal tint in 20. Besides the tint it is possible to examine the cytology of the fluid, the permeability of the meninges to iodid of potassium from without inward, and the variations in the hemolytic power of the fluid. In regard to the cytology, only the finding of desquamated endothelial cells has much diagnostic value. The permeability of the meninges to potassium iodid, previously ingested, may be useful, perhaps, in case of a non-hemorrhagic fluid, but in case of blood it does not convey any information as to whether the blood entered by transudation or by irruption. The variations in the hemolytic power of the cerebrospinal fluid are valuable indices, as under normal conditions the fluid does not dissolve the reds of the subject except at a dilution of 12 drops of distilled water to 10 drops of the fluid. In case of meningeal hemorrhage this power is augmented, and 4 to 6 drops of distilled water produce the same effect as the 12 drops in normal conditions. High hemolytic power is therefore a sign of a hemorrhagic lesion, while the reverse indicates an accidental hemorrhage. When the centrifugalized fluid exhibits a yellowish tint not due to hemoglobin, it is probably due to a pigment derived from hemoglobin left from old hemorrhagic exudations.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 1172.

31 (XXXIX, No. 2.) *Zur supracondylaren Fraktur des Ober-Armes. H. Hilgenreiner.
32 Ueber operative Behandlung der progredienten eitrigen Peritonitis. W. Weber.
33 *Zur Winkelmannschen Hydrocelen-Operation. T. Suzuki.
34 *Permanent Cures After Gallstone Operations. A. Schott.—Dauerheilungen nach Gallensteinoperationen.
35 *Operative Treatment of Gastric Cancer at Zurich. Schönholzer.—Die Chirurgie des Magenkrebses an der Krönlein'schen Klinik, 1881-1902.
36 Fall von muskulärer Makroglossie. P. Lengemann.
37 *Remote Results of Treatment of Actinomycosis at Tübingen. G. Heinzelmann.—Endresultate der Behandlung der Aktinomykose in der von Bruns'schen Klinik.
38 Occurrence of Lymph Glands in Cheek Substance. Trendel.—Ueber das Vorkommen von Lymphdrüsen in der Wangensubstanz und ihre klinische Bedeutung.
39 (Supplementary No.) Report of Czerny's Clinic, Heidelberg, for 1902.

31. Fracture of Upper Arm Above the Condyle.—Hilgenreiner emphasizes the necessity for differentiating between fracture from extension and fracture from flexion, as they require opposite treatment. He recommends early massage, and as soon as consolidation has occurred, tepid baths and active movements. He has observed 21 cases and describes them, with 30 radiographs and a review of the literature. Two-thirds of the cases occur between the fifth and tenth year.

33. Operation for Hydrocele.—Suzuki reports 33 cases operated on by Winkelmann's technic. In the majority the suture could be removed the fifth to the eighth day, and the patient could be dismissed the eighth to the tenth day. The operation was done with Schleich's anesthesia in most instances. Out of a total of 137 cases on record to date, recurrence has been noted in only 6. The method seems to be preferable to all others, as the intervention is insignificant, the healing is more rapidly completed, general narcosis is not necessary and the subject can be treated as an out-patient.

34. Remote Results After Gallstone Operations.—Schott reviews the experiences at Heidelberg with 180 patients operated on for gallstones. A later series of 170 cases is not included in this summary. In 11 per cent. stones were discovered later; in 8 per cent. emerging through the fistula. There was recurrence of pains in 1 per cent., with icterus in 10 per cent. of the conservative operations and in 15 per cent. of the drained cases. Bile fistulæ occurred in only 4.4 per cent., while in previous years the proportion was 9.1 per cent. Czerny ascribes this better result to his present practice of fastening the gall bladder to the parietal peritoneum and inserting a drain tube to which the edges of the wound cling so closely that the mucosa of the gall bladder does not project into the abdominal wound, interfering with its healing. Gastro-intestinal disturbances were noted in 36.6 per cent., probably due to formation of adhesions. In the total 180 cases followed for from five to six years there has been permanent cure of the tendency to biliary lithiasis in 95 per cent. Genuine recurrence of stones was not observed in a single instance, and in only 5 per cent. have symptoms developed which could possibly be attributed to the biliary system. The mortality of gallstone operations has been reduced to 5 per cent. and of cystostomy to 1.3 per cent. Cystectomy shows only 20 per cent. mortality and choledochotomy only 4.4 per cent., in comparison to the 12 per cent. of former series operated on. These percentages justify early operating in case of gallstones.

35. Surgery of Gastric Cancer at Zurich.—Schönholzer continues his review of Krönlein's operations. In this part he gives the details of 55 cases of gastrectomy with 27.2 per cent. mortality, and of 91 gastro-enterostomies, with 23 per cent. mortality.

37. Actinomycosis at the Tuebingen Clinic.—Heinzelmann reports 56 cases operated on since 1885. The prognosis depends on the localization of the process permitting extirpation. Of 39 cases in which the face was affected 98.7 per cent. were permanently cured. Of the 11 cases of abdominal actinomycosis, 27.2 per cent. were cured. Potassium iodid is always given in addition to the operative intervention.

Centralblatt f. Chirurgie, Leipsic.

40 (XXX, No. 40.) Zur Frage der retroduodenalen Choledochotomie. F. de Quervain.
41 Ein neuer Operations- und Extensions-Tisch (table). A. E. Stein (Wiesbaden).
42 (No. 41.) *Radical Operation of Inguinal Hernia Based on Anatomic Relations. C. Hofmann (Cologne).—Zur Radikaloperation der Leistenhernien, mit bes. Berücksichtigung der anat. Verhältnisse.
43 (No. 42.) *Combination of Rubber and Lisle Thread Gloves. Goepel.—Ueber die Verbindung von Gummi- und Zwirnhandschuhen.

42. Operation for Inguinal Hernia.—Hofmann remarks that in incipient inguinal hernia he has always been impressed with the large size of the internal ring, evidently congenital. He has also noticed that the spermatic cord seems to separate into its parts toward the back of the inguinal canal, and the hernia may find its way through between them, instead of merely pushing the cord—as a whole—to one side. He thinks it important not to touch the tissues with the fingers, and to open up the entire hernial sac and internal inguinal ring. The sac is then dissected out from the rear forward, carefully refraining from disturbing the funiculus spermaticus, leaving it unmolested in its nest. The operation then proceeds as usual, laying the main stress on the obliteration of the sac at the level of the parietal peritoneum and providing a support for it at the internal inguinal ring with one or more sutures of wire. The normal anatomic relations are carefully regarded and reproduced, the spermatic cord not removed from its place. He applies the supporting suture by passing the wire or other material through the internal oblique, then through the transverse fascia of the posterior wall of the inguinal canal, passing between the separate parts of the spermatic cord, and finally through the everted Poupart ligament. Tying the ends of the suture closes completely the inguinal canal without injuring the parts of the spermatic cord. The closure is more complete than with a Bassini.

A year has passed since he first began using this technic, and the results have been perfect to date.

43. **Combination of Rubber and Thread Gloves.**—The advocates of rubber gloves and of thread gloves are informed by Goepel that the advantages of both, with none of the drawbacks of either, are combined by simply drawing a pair of thread gloves over a pair of rubber gloves.

Centralblatt f. Gynäkologie, Leipsic.

44 (XXVII, No. 40.) Eklampsie, enorme Placenta. R. Koenig.
45 4 Fälle von Eklampsie. Windisch-Oedön.
46 Funnel Pelvis. W. P. Richter.—Zur Frage des ("einfachen") Trichterbeckens.
47 (No. 41.) 2 Fälle von Uterus-Ruptur. J. Lovrich (Budapest).
48 Zur Sectio cesarea, 6 Fälle mit gunstigem Ausgang. A. v. Valenta.
49 Nochmals über meine Modifikation des Hegar'schen Nadelhalters (needle holder). G. Burckhard.
50 (No. 42.) *Strumektomie als Noth-Operation in der Schwangerschaft (pregnancy). R. v. Fellenberg.
51 Spontaneous Healing of a Cervico-vaginal Fistula, and of Rupture of Uterus a Year Later in Another Pregnancy. Galliatia.—Ein seltener Fall einer Spontanheilung einer Blasencervixfistel, sowie ein Jahr darauf erfolgter Uterusruptur bei neuerlich eingetretener Schwangerschaft. Heilung.
52 *New Obstetrical Bag. R. de Seigneux (Geneva, Switzerland). —Neue geburtshilfliche Tasche.

50. **Emergency Strumectomy During Pregnancy.**—Fellenberg was called in 2 cases to relieve women suddenly suffocating from compression of the trachea by a goiter. The trachea was flattened to such an extent that tracheotomy alone would have been useless. After making an incision from the sternum to the cricoid cartilage, he carried it to the left in a Kocher angular incision and pushed out the incarcerated lobe, thus removing the pressure from the trachea. Artificial respiration was then applied and the patient revived, after which the remainder of the gland was extirpated at leisure. Although there had been no opportunity for disinfecting the field, the wounds soon healed. One woman bore a viable child two days later and the other healthy twins a month afterward.

52. **Obstetrical Bag.**—The points on which de Seigneux lays most stress include the keeping of each instrument wrapped in a separate linen bag, and placing all the instruments needed for certain interventions together, wrapping the group in a cloth fastened with safety pins. The entire bundle is then boiled; all danger of rusting is prevented by addition of a 20 gm. tablet of borax to the liter of water.

Deutsches Archiv f. klinische Medicin, Berlin.

Last indexed page 401.

53 (LXXVI, No. 6.) *Determination of Blood in the Presence of Other Anorganic and Organic Substances. O. Rossel (Basle).—Beitrag zum Nachweis von Blut bei Anwesenheit anderer anorganischer und organischer Substanzen in klinischen und gerichtlichen Fällen.
54 *Animal and Human Favus. O. Wandel (Kiel).—Zur Frage des Tier- und Menschen-Favus.
55 *Study of Case of Excessive Ascites from Thrombosis of Portal Vein. O. Schulz and L. R. Müller.—Klinische, physiologische und path.-anat. Untersuchungen an einem Fall von hochgradigem Aszites bei Pfortaderthrombose.
56 (LXXVII, 1-2.) *Zur Kasuistik der Visceral-Syphilis. H. Quincke (Kiel).
57 *Ueber Oxyuris vermicularis. A. Heller (Ibid.).
58 *Zur pathologischen Anatomie der Tetanie. R. Peters (St. Petersburg).
59 *Experimental Study of Disturbances in Circulation in Acute Infectious Diseases. Pässier and Roily (Leipsic).—Ueber Kreislaufstörungen, etc.
60 Cytodiagnosis of Thoracic and Abdominal Fluids. L. v. Ketly and A. v. Torday.—Inwiefern ist die Cytodiagnostik bei der Beurteilung der Brust- und Bauchhöhlenflüssigkeiten zu verwerten?
61 Genuine Blood-Clot Casts of Trachea and Bronchi. E. Fabian. —Echte Blutgerinnsel als Ausgüsse der Trachea und der Bronchien in einem Falle von allgem. hemorrhäg. Diathese bei chron. Ikterus, zugleich ein Beitrag zur Lehre von den Bronchialgerinnseln.

53. **Determination of Blood in Stools and Vomit.**—Rossel has devised a method of blood determination which has never failed him. It revealed blood in the stools in suspicious cases of ulcus ventriculi when it was impossible to detect it by other means, and even the spectroscope findings were negative. The results of the test were confirmed by the course of the affection. The reagent is a mixture of an aqueous solution of Barbadoes aloin, alcohol and turpentine. In testing cases in which cancer or ulcer is suspected, the subjects must refrain from previous ingestion of meats, etc., containing blood and from iron medication.

54. **Favus in Man and Animals.**—Wandel believes in the multiplicity of favus, his researches indicating that the favus of mice is sometimes transmitted to man, but that the latter has an individual favus. A third variety, which mostly affects dogs, is scarcely ever transmitted to man. Fowls have still another kind of favus.

55. **Excessive Ascites from Thrombosis of Portal Vein.**—The liver was small but the biliary secretion was normal in the case described. The peritoneum absorbed the ascites in large measure, and the amount of the fluid poured out daily into the abdominal cavity could be increased by giving a diet poor in albumin, and diminished by giving abundance of albumin, especially milk. The proportion of nitrogen in the ascitic fluid varied with the amount of nitrogenous food taken, and nitrogenized extractives were found in it. By diminishing the intake of fluids the excessive transudation could be somewhat modified and the time for the next puncture postponed a little. About 20 to 25 liters were withdrawn at each puncture. There was nothing to explain the origin of the thrombosis in the portal vein.

56. **Visceral Syphilis.**—Among the interesting cases described by Quincke is one in which gummatous indurations in the cystic duct and head of the pancreas could be palpated in a syphilitic subject, with typical attacks of gallstone colic, which were assumed to mean a superposed biliary lithiasis. An operation, however, disclosed that there was no tendency to gallstone formation, but a tumor was found which was not disturbed. It subsided under iodid treatment. In a second similar case the portal vein and biliary passages were compressed by a gummatous proliferation. In a third, a gumma in the mesentery had caused stagnation of stomach contents and dilatation of the organ. The gumma was nearly as large as a man's fist and had developed to this size in the course of six weeks in an old syphilitic. Measures directed against the stomach conditions proved ineffectual, but under mercurial inunctions and iodid there was marked improvement. He also reviews a number of cases of aneurisms in syphilitics and 3 of brain syphilis. One of the latter patients presented a permanently subnormal temperature.

57. **Study of the Oxyuris.**—Heller describes the development of these parasites and the best mode of expelling them. The eggs passing from the mouth into the stomach hatch there and the embryo then travels into the small intestine. The female travels through the cecal valve and lays her eggs on the feces or mucus in the large intestine. The life cycle from the egg to sexual maturity is about five weeks. The best mode of expelling the parasite is to attack the young brood in the small intestine by administering calomel. This seems to be particularly effectual in carrying away the intestinal mucus which protects the parasites against the action of the vermifuge. Santonin or something of the kind is then given and followed by another purgative. This expels the young; the females in the large intestine can be evacuated afterward by an injection of one to three quarts of a .2 to .5 per cent. solution of sapo medicatus, taken in the knee-elbow position. This course of treatment should be repeated in a week, and the subject instructed to avoid reinfection through the dirt under the fingernails, etc.

58. **Pathologic Anatomy of Tetany.**—Peters announces that the histologic study of 8 cases of tetany has revealed that it is an organic affection, the lesion consisting in an interstitial neuritis or ganglitis. The part affected is the extradural connective tissue, and the lesion is a small-celled infiltration with hemorrhages or fibrinous deposits, or a jelly-like infiltration into the epidural tissue. This interstitial neuritis affects both motor and sensory nerves in their extradural portion. The intradural and intramedullary portions are free from it, and also the peripheral nerves. The ganglitis may assume the form of proliferation of the intracapsular endothelium or of infiltration of round cells into the stroma of the ganglion, or of degeneration of the protoplasm of the nerve cells with karyolysis. The process involves the nerve roots innervating the parts that are the seat of the muscular spasms. The latter

are not merely root symptoms from inflammatory irritation of the motor nerves, but are principally due to this pachymeningitic inflammation in the sensory sphere and exaggerated excitability of the motor nerves. This overexcitability of the motor nerves is the result of mechanical compression of the motor fibers in the root region by the products of the inflammation. As the openings in the dura and between the vertebræ are about of a constant size, the effect of these local pathologic processes is most marked the larger the size of the emerging nerve roots with their vessels. As the seventh and eighth cervical roots and the lowest lumbar and upper sacral roots are the thickest, the parts innervated by these roots suffer most from the effects of the lesions. Trousseau's sign can likewise be explained by this compression of the roots and vascular congestion with the entailed overexcitability of the nerves involved. Peters adds that he has noticed a new phenomenon characteristic of tetany, constant in 78 cases examined. He calls it the "jumping-jack sign." If the anode of a current of 3 to 4 milliamperes is placed on the breast, the cathode on the spine near the fifth to seventh cervical vertebræ, the arms jerk like those of a jumping-jack when the string is pulled. The legs jerk in the same way if the electricity is applied lower down, and on one side alone if applied to one side of the median line. This jerking is evidently due to overexcitability of the nerve roots.

59. **Disturbances in Circulation in Infectious Diseases.**—Pässler and Rolly state that their experimental and clinical researches have shown that the disturbances in the circulation induced in the course of acute infectious diseases are due to vasomotor paralysis. This is compensated for a time by extra work on the part of the heart, but the heart soon suffers from lack of its usual blood supply and becomes unequal to the task. The collapse is thus due not to direct injury of the organ by the infection but to the inadequate blood supply in consequence of the vasomotor paralysis. If it is possible to restore the blood supply of the heart approximately to normal, then it resumes its work and collapse is averted. In case of diphtheria, the heart may suffer in time from the direct action of the diphtheria toxin, its resisting power being reduced under the influence of the toxin until it may finally yield even without primary vasomotor paralysis. Pneumococcus toxin does not have this injurious effect.

Münchener Med. Wochenschrift, Munich.

62 (L, No. 40.) Significance of Hyperglobulia in Congenital Heart Affections. E. Fromherz.—Zur Bedeutung der Hyperglobulie bei kong. Herzkrankheiten.
63 *Acute Inflammation of Cecum. Reisinger.—Ueber akute Entzündung des Coekums.
64 *Zur Lehre von der Bakteriurie. Cnopf.
65 Action of Carbonated Saline Waters. O. Reissner and G. Grote.—Zur Wirkung der kohlensäurehaltigen Thermalsolen nach Versuchen an Nauheimer Bädern.
66 *Epidemic Pneumonia. F. Spaet (Ebern).—Ueber epidemische Lungenentzündung. (Concluded from No. 39.)
67 *Ultimate Results of Operative Treatment of Lung Abscesses. Karewski.—Die chirurg. Behandlung der Lungenabszesse, insbes. deren Dauerresultate. (Concluded from No. 39.)
68 (No. 41.) Weitere. Untersuchungen über alimentäre Albuminurie. M. Ascoli and A. Bonfanti.
69 *Ueber Hypaesthesie bei Appendizitis. J. Peiser.
69½ Zur Pathogenese der Epilepsie (multiple Angiome des Gehirns mit Ossifikation). Crelte.
70 *Influence of Alcohol on Size of Heart. A. Bickel.—Ueber den Einfluss des Alkohols auf die Herzgrösse.
71 Zur Kasuistik der Nägelerkrankungen. F. Bering (Kiel).
72 Conductibility of Organic Fluids. F. Engelmann.—Die Bestimmung der elektrischen Leitfähigkeit von Körperflüssigkeiten.
73 Ein Modifikation des Cooper'schen Kissens (cushion). A. Martina (Graz).
74 *Does Hygiene Lead to Race Degeneration? Max Gruber.—Führt die Hygiene zur Entartung der Rasse? (Commenced in No. 40.)

63. **Acute Infection of the Cecum.**—Reisinger reports two cases of apparently primary gangrenous typhlitis, in one of which constipation played an important part. In both cases the cecum alone was involved and the appendix was normal. He discusses the pathology of these cases and suggests that the peritoneal, free portion of the hinder cecal wall is less resistant than other parts, hence the danger of gangrene. He thinks the rule should be in deep-seated stenosis of the large intestine, where an artificial anus is required, that the cecum be examined and further treatment regulated by the findings. If there is danger from the cecum it would be better to make the artificial anus at this point rather than at the sigmoid flexure.

64. **Bacteriuria.**—Cnopf reports cases of children in which an infectious fever existed at first of dubious diagnosis, but which was explained by the examination of the urine, showing infection with the colon bacillus or with other microbes. He holds that infection of the contents of the bladder may occur without irritation of the bladder wall, and produce general symptoms with which the subjective symptoms do not altogether harmonize. In order to avoid confusion it is necessary not only to examine the urine chemically, but also bacteriologically, to get a fair idea of the nature of the disease and also the possibilities of its treatment.

66. **Epidemic Pneumonia.**—A suddenly-occurring epidemic of croupous pneumonia in a small German village is reported and the probable causes discussed by Spaet. He concludes that the spread of the disease, involving as it did some 13 per cent. of the population, must have been by contagion. Pneumonia undoubtedly is a contagious disease, but the contagion seems to depend more or less on local and temporary conditions, which need further study.

67. **Lung Abscess.**—Karewski holds that while natural healing of acute cases may occur in young individuals, and in case of small foci lying in the lung apices or larger ones in the base of the lungs, unless one sees that spontaneous opening is decidedly probable, or if the abscess does not completely empty itself, it is desirable to resort to operation. Before everything else, the condition of chronic suppuration must be avoided and timely operation prevent the formation of multiple suppurative foci.

69. **Hypoesthesia in Appendicitis.**—A number of cases are reported by Peiser. Nine of them showed marked abnormalities of sensibility in the right lower abdominal region. In one it was not certain, and in another there was no disturbance. Of the 9 cases noted, hypoesthesia existed in 6, and in 2 hyperesthesia, and 1 began with lessened, but ended with increased, sensibility. The local sensory disturbances were not well defined, and Peiser was not able to fully follow up the investigation. He asks, however, certain questions as worthy of note in regard to the occurrence of diminished sensibility in appendicitis: 1. In what percentage of cases of appendicitis do we find disturbance of sensation and what proportion of hypoesthesia and hyperesthesia? 2. What common symptoms have the cases of each kind? 3. Is there a difference as regards the intraperitoneal and retroperitoneal position of the appendix? 4. Have suppurative pus collections (greater or lesser) any influence on the occurrence and form of sensory disturbances? 5. What is the relation of this disturbance to the clinical course of the appendicitis before and after operation? 6. Does the number of preceding attacks have any influence on the course or form of the disturbance? 7. What is the condition as regards sensory disturbance in persons who have gone through an attack of appendicitis, but for the time are free from the disorder? 8. How are the sensory disturbances to be explained?

70. **Influence of Alcohol on the Size of the Heart.**—The question whether alcohol increases the size of the heart has a therapeutic bearing, since if such is the case we would not be justified in using it therapeutically in certain cases where we now employ it. Bickel has experimented as to this point on animals by subcutaneous injection or forced ingestion of alcohol in dogs, then examining the condition of the heart. From his results with the aid of the Moritz orthodiagraphic apparatus he does not prove any enlargement of the heart in animals from the use of alcohol. This result agrees with the observations of Moritz in corresponding experiments on the human being.

74. **Hygiene and Race Degeneration.**—In a long article in this and a preceding number, Gruber takes up the questions which have been raised as to how far hygiene tends toward racial degeneracy. The claim has been made that, like all animals, man as he approaches his natural state undergoes a process of natural selection which benefits the race as a whole, weeding out the unfit, and all the infirmities of civilization are

perpetuated, it is said, by the care we take of our defective individuals. Bad teeth, defective eyesight, hypersensitiveness to temperature, inability to endure hardships are mentioned, and alcohol, too, is said to have a selective action in weeding out the degenerates. Thus the larger the infant mortality the better the surviving specimens. Gruber statistically proves that where the infant mortality is high the adult mortality is also high, and that hygiene, instead of causing race deterioration, seems to be an agency for greater race vitality. He reviews a number of errors which he thinks are more or less common. It is an error, for instance, to assume that a greater sensibility or lessened resistance in all cases must lead to disease and death, and not less an error to speak of an inborn physical incapacity where there is an actual special weakness which causes death. We must consider many other possible factors, and we must remember that every defective individual who is weeded out in consequence of his defects has not necessarily had that defectiveness from his birth or is a born degenerate. It is also unscientific to make any sharp distinction between defectiveness and non-defectiveness as practiced, the one implying destruction and the latter perfection and growth. There is an infinite number of transitional stages between the two. Natural selection is no explanation of the facts as they occur in actual life, and it is poor policy to claim that the strong do not need the benefits of hygienic measures as well as the defective. He makes a special point of this as regards alcohol. While it has a limited selective action, it is nevertheless one of the most tremendous evils to the race. As regards mankind in general, the application of the principle of the struggle for life is not correct, and the improvement of the race will not be by the blind working of natural selection, but by rational race culture the chance for which is afforded to a large extent by the provisions of modern hygiene and civilization.

Gazzetta degli Ospedali, Milan.

Last indexed page 996.

75 (XXIV, No. 101.) *Sul laparocele inguinale e sua cura coll' embricamento delle aponeurosi. C. Garampazzi.
76 *Hypodermoclysis in Influenza. E. Cioffi.—Dell' ipodermoclisi nell' influenza.
77 (No. 104.) Emeralopia da parotite epidemica. A. Campani. One case.
78 *Su la legatura simultanea dell' arteria e della vena femorale. C. Orecchia.
79 Water Treatment of Infants' Gastroenteritis. A. Prandi.—Le gastroenterite acute dei bambini e la cura idrica.
80 Una modificazione della siringa ad S di I. Petit pel cateterismo retrogrado. G. Barbanti.
81 (No. 107.) Della polmonite lobare acuta. G. Corsini.
82 Exophthalmic Goiter. G. Migliacci.—Del gozzo esoftalmico.
83 *Cura chirurgica radicale del varicocele. C. Viscontini.
84 Contributo alla chirurgia conservativa dell' ovaio. E. I. Andreoli.
85 (No. 110.) Del intervento chirurgico in alcune forme di nefrite. A. Luxardo.
86 Poisoning from Aspirin. A. Borri.—Caso di avvelenamento per aspirina.
87 Local Treatment of Burns. M. Capurbano.—Cura locale delle scottature mercé il glicerolato tannico.
88 *Nuovo metodo per la ricerca dell' albuminuria delle orine. N. Introna.
89 La fisiologia del corpo tiroidea nell' ultimo ventennio. G. Urso.
90 (No. 113.) Caso di polimiosite ossificante progressiva. E. De Renzi.
91 Epidemia di tifo. F. Minella.
92 *Sulla cherato-congiuntivite bilateral secondaria a reumatismo articolare. C. Ortale.
93 Sulla biologia morfologica del bac. tubercolare in mezzi inadatti al suo sviluppo (on unsuitable culture media). G. Guyot.
94 (No. 116.) Goiter. G. Migliacci.—Sulla patogenesi e cura del gozzo volgare.
95 Cura della peritonite tubercolare con le iniezione iodiche alla Durante. N. Palombari.
96 (No. 119.) *Contributo allo studio delle malattie funzionali del cuore. A. Amantini.
97 Infezione puerperale e pseudo infezione puerperale. N. Muglia.

75. **Treatment of Inguinal Laparocele.**—Garampazzi treats this condition by a method of repair which he describes in full, and states that several of the patients seen years afterward show the permanently successful results of the intervention. He discusses the relations between inguinal laparocele and traumatism and the various modes of operative intervention that have been proposed. He makes a curved incision, the convex side downward, to avoid the tissues in which the sweat and sebaceous glands are most numerous, and draws the layers of the aponeurosis one on top of the other to reinforce the wall, avoiding compressing the elements of the cord. He prepares the aponeurosis by turning back the upper lip of the wound as an ophthalmologist everts the eyelid. This produces a kind of artificial Poupart's ligament, after which he proceeds as for an ordinary Bassini. The lower flap of the aponeurosis is then sutured to the turned-over edge of the everted flap, after which the free edge is turned back into place and sutured.

76. **Saline Transfusion in Influenza.**—Cioffi believes that he is the first to apply this measure in influenza. He reports a case in detail in which the results were surprisingly good. The patient was a woman of 45, and when first seen the pulse was 142 and threadlike, there was great weakness, also dyspnea, progressing to actual collapse with constant vomiting and subnormal temperature for three days, notwithstanding the most energetic measures, caffein, etc. As a last resort, the patient being almost in articulo mortis, 100 gm. of a 7 per cent. salt solution were injected subcutaneously. The benefit was apparent in half an hour, and all the symptoms rapidly improved. There was a chill and slight fever during the evening, but by the next morning the pulse was 80 and strong, temperature nearly normal, and in three days the patient was completely cured.

78. **Simultaneous Ligature of Femoral Artery and Vein.**—Orecchia reports a case of stab wound of the thigh in a healthy young man, in which he found it necessary, in order to control the threatening hemorrhage, to throw a ligature around both the femoral artery and vein. Gangrene developed in consequence, and notwithstanding disarticulation of the limb the patient succumbed. He reviews the cases that have been reported in the literature in which the femoral artery and vein have been ligated. Gangrene followed in 8 out of 15 (Braun), and in 14 out of 24 published by other writers, while Tillmann, Sorrentino and Pilcher have each reported a complete recovery. Orecchia experimented on 8 dogs and found that none of them showed evidences of gangrene after ligature of the femoral artery and vein supplemented in some of the animals by ligature of several other vessels in the vicinity and even by extensive venesection. Dogs are evidently much more resistant than man to such procedures, and it is possible that the vessels tolerate the procedures better in some persons than in others.

83. **Operative Treatment of Varicocele.**—Parona's method has been applied in 41 cases and the results have been perfectly satisfactory in all, with no further necessity for a suspensory. In mild cases, not causing pain nor other disturbance, a suspensory is all that is needed, but when symptoms demand more active treatment, the Parona method is regarded as superior to all others by Viscontini. The testicle is detached from the vaginalis; the enlarged veins are buried in the turned over vaginalis, and the latter is fastened at the outlet of the inguinal canal. The technic was worked out on animals and the remote results examined before it was tried in the clinic—all the evidence being in its favor. The patients can be dismissed in fifteen days. The details of the intervention were published in a previous communication in the *Policlinico*, VI, 1899.

88. **Formaldehyd Test for Albumin in Urine.**—Introna has found that formaldehyd causes the coagulation of albumin in solution and recommends a new test for albuminuria based on this fact. He adds 1 c.c. of formaldehyd to 56 c.c. of urine. If it is free from albumin the fluid remains clear, but in the presence of albumin it becomes turbid and a flocculent precipitate is gradually deposited consisting entirely of the albumin. The test can be hastened by heating to boiling point, in which case the precipitate is deposited without delay. For quantitative estimation by weight he adds 20 c.c. of formalin to 100 c.c. urine and heats for half an hour in the water bath, concluding by the technic of the Scherer test. He also asserts that formol may be substituted for the Esbach reagent in quantitative clinical diagnosis. He tabulates the results of various tests of solutions of albumin of known concentration, comparing them with the results obtained with the formalin. In every instance the exact proportion known to exist was

reproduced with the latter, while the results of boiling and adding acetic acid were always a little below the correct figure.

92. **Kerato-Conjunctivitis Consecutive to Articular Rheumatism.**—Ortale's patient was a healthy man of 30 who passed through a typical attack of articular rheumatism. Some of the joint symptoms have recurred in a mild form occasionally during the months since, and accompanied each time by symptoms of circumscribed kerato-conjunctivitis, which disappear with the joint symptoms.

96. **Functional Heart Affections.**—In the 2 cases reported in detail by Amantini the syndrome was evidently that of a cardiac neurosis in exceptionally nervous subjects. Although exclusively functional, yet the severity of the attacks is liable to induce some dangerous complication, or to entail organic disease in time, some valvular defect or myocarditis, myocardiac insufficiency or general arteriosclerosis. These possible dangers must be borne in mind by the physician and he should aim to keep the digestive tract in good condition and induce such patients to refrain from nervous strain of all kinds. Medicines to act on the heart are useless and even dangerous; the main reliance must be on the avoidance of the inciting causes of the neurosis.

Riforma Medica, Palermo.

98 (XIX, No. 39.) Di una streptothrix isolata dal sottosuolo. P. L. Pellegrino (Messina).
99 *Osservazioni cliniche, batteriologiche, ematologiche ed istologiche sul pemfigo cronico. T. Secchi and A. Serra. (Concluded.)
100 Le iniezioni di olio iodato nella tubercolosi chirurgica. C. Mastri.
101 (No. 40.) Importanza della citasi (enzima cellulare), prodotta artificialmente nell' organismo, nelle infezioni sperimentali. N. Pane.
102 Bactericidal Properties of Rabbit Blood Postmortem. C. Cafiero.—Ricerche sulle modificazioni del potere battericida del sangue post mortem nei conigli.
103 *Rapid Method of Detecting Vegetable Poisons. E. Di Mattei (Catania).—Di un metodo rapido per la ricerca dei veleni vegetali in tossicologia forense.
104 Sul valore disinfettante dei vapori d'alcool. P. Satta.

99. **Chronic Pemphigus.**—Secchi's patient was a woman with evidences of malarial cachexia, who entered the clinic on account of recurring attacks of a febrile bullous eruption with the clinical morphology of chronic pemphigus. A staphylococcus aureus was cultivated from the blood which produced merely transient fever and emaciation in a rabbit after intravenous inoculation. From one of the bullæ a streptococcus and staphylococcus aureus were derived which proved fatal for a rabbit in eleven days in intravenous injection. Abscesses were found in the kidney. He explains the case as chronic pemphigus caused by a staphylococcic septicemia consecutive to malaria.

103. **Rapid Method of Detecting Vegetable Poisons in Animal Tissues.**—Di Mattei announced last year that it was possible to determine the nature of some poisons by the characteristic differences exhibited by the precipitates after treatment with Bouchardat's reagent. He now reports that the tissues of animals killed by ingestion of a vegetable alkaloid poison exhibit the same characteristic precipitate reaction as the pure poison alone. Consequently it will be possible to detect poisons in the viscera in forensic cases by this simple test. He cites the peculiarities of each precipitate as observed in extracts of tissues of animals poisoned with strychnin, brucin, veratrin or morphin, etc. Control tests confirmed the specific and differential value of the aspect, color, etc., of the precipitates in the case of each poison. The response to the test was as perfect in tissues from animals that had been dead for five days as in the fresh cadavers. He proceeds by digesting the specimen with alcohol for twelve hours or with water slightly acidulated with tartaric acid, then filtering and evaporating the alcohol. He then adds a little water and induces precipitation with the Bouchardat reagent, concluding by extracting the alkaloid from the precipitate with baryta water to confirm its identity. By this technic it is possible to detect and identify a vegetable alkaloid poison in the tissues in less than two days. [The Bouchardat reagent for alkaloids is a mixture of 10 parts iodin and 20 parts potassium iodid in 500 parts water.—ED.]

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MODERN METHODS IN THE SURGERY OF PARALYSES. With Special Reference to Muscle-Grafting, Tendon-Transplantation and Arthrodesis. By A. H. Tubby, M.S. Lond., F.R.C.S. Eng., Surgeon to, and Lecturer on Clinical and Orthopedic Surgery, and in Charge of the Orthopedic Department at Westminster Hospital; and Robert Jones, F.R.C.S.E., Honorary Surgeon to the Royal Southern Hospital, Liverpool. Illustrated by 93 Figures and 58 Cases. Cloth. Pp. 311. Price, $3.25. London: Macmillan & Co. New York: The Macmillan Company. 1903.

AN ATLAS OF HUMAN ANATOMY. For Students and Physicians. By Carl Toldt, M.D., Professor of Anatomy in the University of Vienna. Assisted by Alois Dalla Rosa, M.D. Translated from the Third German Edition and Adapted to English and American and International Terminology. By M. Eden Paul, M.D. Brux., M.R.C.S., L.R.C.P. First Section. A. The Regions of the Human Body. B. Osteology. (Figures 1 to 377 and Index.) Cloth. Pp. 161. Price, $2.50. New York: Rebman Company. 1903.

PRACTICAL GYNECOLOGY. A Comprehensive Text-Book for Students and Physicians. By E. E. Montgomery, M.D., LL.D., Professor of Gynecology, Jefferson Medical College. Second Revised Edition. With 539 Illustrations, the Greater Number of Which Have Been Drawn and Engraved Especially for This Work, for the Most Part from Original Sources. Cloth. Pp. 900. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

THE FOUR EPOCHS OF WOMAN'S LIFE. Maidenhood, Marriage, Maternity, Menopause. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," Fellow of the New York Academy of Medicine. With an Introductory note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. Cloth. Pp. 247. Price, $1.50 net. Philadelphia, New York, London: W. A. Saunders & Co. 1903.

GRUNDRISS DER AUGENHEILKUNDE. Von Dr. Charles H. May, Chef der Augenklinik, Med. Abteilung, Columbia Universitat. New York. Autorisierte deutsche Ausgabe für deutsche Studierende und Aerzte bearbeitet von Dr. E. H. Oppenheimer, Augenarzt in Berlin. Mit 13 Farbendrucktafeln (36 Figures) und 191 Textabbildungen. Cloth. Pp. 344. Berlin: Verlag von August Hirschwald.

DANGEROUS COMMUNICABLE DISEASES. How Spread, How Restricted and Prevented. Data and Statements Supplied to School Superintendents and Teachers, by the Michigan State Board of Health, in Compliance with Act No. 146, Laws of 1895. (Fourteenth Edition, August, 1903, 30,000; 203,000 Printed.) Paper. Lansing, Mich.: Robert Smith Printing Co.

MODERN SURGERY. General and Operative. By John Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. With Over 700 Illustrations, Some in Colors. Cloth. Pp. 1099. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania. Sixth Edition, Thoroughly Revised, Enlarged and Reset. Illustrated. Flexible Leather. Pp. 556. Price, $2.25 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, M.D., Professor of Hygiene in the Medico-Chirurgical College of Philadelphia. New Third Edition, Enlarged and Thoroughly Revised. With 86 Illustrations. Cloth. Pp. 467. Price, $2.25 net. Philadelphia and New York: Lea Brothers & Co.

A MANUAL FOR STUDENTS AND PHYSICIANS. By Henry E. Hale, A.M., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons (Columbia University), New York. With 71 Illustrations. Cloth. Pp. 384. Price, $1.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

MAMMALIAN ANATOMY. With Special Reference to the Cat. By Alvin Davison, Ph.D., ex-Fellow of Princeton University. With Over 100 Illustrations, Made by W. H. Reese, A.M., from the Author's Dissections. Cloth. Pp. 250. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1903.

PROCEEDINGS AND ADDRESSES OF THE SIXTH GENERAL CONFERENCE OF THE HEALTH OFFICIALS IN MICHIGAN, Ann Arbor, Mich., Jan. 15 and 16, 1903. Under the Auspices of the State Board of Health. Paper. Pp. 106. Lansing, Mich.: Robert Smith Printing Co. 1903.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By George L. Richards, M.D., Fellow American Laryngological, Rhinological and Otological Society. Cloth. Pp. 330. Price, $2.00. Published by International Journal of Surgery Company, N. Y.

MANUAL OF MEDICINE. By Thomas Kirkpatrick Monro, M.A., M.D., Fellow of, and Examiner to, the Faculty of Physicians and Surgeons, Glasgow. Cloth. Pp. 901. Price, $5.00. Philadelphia and New York: W. B. Saunders & Co.

PSYCHOTHERAPY in the Practice of Medicine and Surgery. By Sheldon Leavitt, M.D. Cloth. Pp. 247. Price, $2.00. Chicago: Gardner-Taylor Press. 1903.

PHYSICIAN'S POCKET ACCOUNT BOOK. By J. J. Taylor, M.D. Leather. Pp. 200. Price, $1.00. Philadelphia: Published by the Medical Council.

THE PUBLIC SERVICE.

[For the benefit of the members of the medical departments of the Army, Navy, etc., this department will hereafter appear near the center of the reading pages, to allow the publication of each report one week earlier. The first and last pages of THE JOURNAL go to press before those in the center.]

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Original Articles.

THE SURGICAL TREATMENT OF TRAUMATIC HEMORRHAGE OF THE SPLEEN.*

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CHICAGO.

The timely and intelligent application of the modern hemostatic resources enables the surgeon to deal successfully with external hemorrhage, but the treatment of visceral hemorrhage from the large vascular internal organs is by no means a closed chapter. Hemorrhage from wounds of the spleen, liver and kidneys is usually profuse, and is more frequently the result of injury to the parenchyma and veins than to the principal artery or its larger branches; in other words, the loss of blood is more frequently due to parenchymatous and venous than arterial hemorrhage. As a rule, the severity of traumatic hemorrhage of these organs bears a direct relation to the degree of their vascularity. The absence of muscular tissue in these organs is largely responsible for the profuseness of the hemorrhage and the difficulties encountered in attempts to arrest it. The severed vessels do not contract; their lumina remain patent, thus maintaining mechanical conditions antagonistic to spontaneous hemostasis by thrombus formation. The great abundance of capillary vessels and the delicate structure of the large veins are other anatomic features adverse to Nature's efforts in arresting the hemorrhage. The friability of the parenchyma of these organs and the thinness of their capsular investment render it difficult to apply the direct hemostatic measures so reliable in arresting hemorrhage from other organs and parts, and for these reasons can not be resorted to here with the same sense of security. Even when these organs, when the source of hemorrhage, are exposed by the accident which caused the visceral injury, or when the visceral wound has been made accessible by incision, the surgeon is often at a loss what course to pursue. As the hemorrhage is often so severe as to place in immediate jeopardy the life of the patient, the surgeon must of necessity act promptly and with decision. Hesitation becomes a source of danger under such circumstances. The spleen is one of the most vascular organs in the body. If the abdomen of an anesthetized dog is opened, the spleen exposed and the animal bled to death by cutting the femoral or common carotid artery, the organ becomes pale and loses two-thirds of its volume before the animal expires. The same reduction in size follows section of the splenic artery. With the increase of the splenic anemia, the parenchyma becomes firmer.

Traumatic hemorrhage of the spleen must necessarily vary in accordance with the size, direction, location and character of the wound. A wound near the hilus of the organ, implicating the principal trunk of the splenic artery, would naturally give rise to a maximum amount of hemorrhage. As a rule, the larger the wound, the severer the hemorrhage. A transverse wound bleeds more profusely than a longitudinal one because it severs more large vessels, the wounds being of the same size. An incised wound bleeds more freely than a lacerated, contused or punctured wound for the same reasons as incised wounds elsewhere. A brief study of the available clinical material applicable to consideration of traumatic hemorrhage of the spleen and its surgical treatment should prove interesting, as well as profitable, at this time.

RUPTURE OF SPLEEN.

E. Berger[1] has collected 168 cases of rupture of the spleen. Deaths occurred as follows:

On the first day	145	86.3 per cent.
Of these, during the first hour	87	51.8 " "
From 2 to 10 hours	43	25.6 " "
From 11 to 24 hours	15	8.9 " "
After the first day	23	13.7 " "
Of these on the second day		4
Of these on the third day		6
Of these on the fourth day		3
Of these on the fifth day		4
Of these on the twelfth and thirteenth day, each		2
Of these on the sixteenth and twenty-first day, each		1

In those who died on the first day hemorrhage was the immediate cause of death, and in some of those who died later, so that not more than in 10 per cent. could infection be regarded as the cause of death.

GUNSHOT WOUNDS.

During the Civil War 253,142 of the Federal Army were wounded, and in only 29 of this immense number wound of the spleen is recorded. During the Franco-Prussian War, of 99,566 wounded of the German army, only 4 wounds of the spleen are mentioned.

Robinson,[2] in his report on 1,596 gunshot wounds in the Philippine campaign, says: "Death in consequence of gunshot wounds of the spleen was the rule. Our statistics show only one recovery."

Sir Frederick Treves refers to one case of gunshot wound of the spleen operated on by laparotomy in the South African War. The patient died on the table.

The number of spleen wounds in military statistics is small because wounds of this organ are usually associated with other grave complications, and only too often

* Presented to the Surgical Section of the Madrid International Medical Congress.

1. Archiv für klinische Chirurgie, Bd. xxviii, Heft 3.
2. Annals of Surgery, February, 1901.

death ensues on the field before assistance can be rendered.

Of 80 cases of gunshot wounds of the spleen collected by Berger from all sources who died without operation, 34 died of hemorrhage on the first day.

Of the cases subjected to surgical treatment, 16.7 per cent. which occurred in military practice and 63.6 per cent. in civil practice usually died of hemorrhage. Death before the fourth day could generally be attributed to hemorrhage; after that time to infection. Infection is again very prone to give rise to secondary hemorrhage.

INCISED AND STAB WOUNDS.

Berger tabulated 40 cases of incised and stab wounds of the spleen. In 10 of the cases the wounded spleen was prolapsed. In 14 cases, without prolapse, surgical treatment was not resorted to; the mortality was 78.6 per cent. Hemorrhage was the predominating cause of death, usually within twenty-four hours. Statistics go to show that the prognosis is much more favorable if the wounded organ is prolapsed.

SURGICAL TREATMENT.

The surgical treatment of wounds of the spleen has been studied with special care by Mayer, Edler and Berger. Berger's[3] painstaking statistical work brings the subject up to the present day. He collected 127 cases of wounds of the spleen treated by laparotomy. Of this number, 90 were subparietal wounds, 18 gunshot and 19 incised and stab wounds. In more than 80 per cent. the indication for laparotomy was hemorrhage. Operation was performed from six to nine hours after injury. In 80 cases the wounded organ was removed, with 35 deaths. Suturing (splenorrhaphy) was done in 14 cases, with 2 deaths. Tamponade was employed in 10 cases, with only one death. In many of these cases there were found other visceral injuries, which made further operative intervention necessary.

SPLENORRHAPHY.

Suture of wounds of the spleen was first performed by Lamarchia in 1896. His patient died of secondary hemorrhage an hour and a half after the operation. In a similar case, Madelung, after suturing the spleen, covered the sutured wound with omentum, and his patient recovered.

CAUTERIZATION.

In a case of a splenic wound which bled profusely Rehn attempted to arrest the hemorrhage by suturing. The bleeding continued, and was finally arrested by the use of the actual cautery. Snegnireff made use of hot steam. The actual cautery has a very limited sphere of usefulness in the treatment of traumatic hemorrhage of the spleen, owing to its uncertainty and the additional destruction of tissue by its use, and the liability of extending the injury inflicted to adjacent organs.

TAMPONADE.

Kelling recommends air tamponade of the peritoneal cavity as a hemostatic for the arrest of visceral hemorrhage. In a dog he divided the spleen transversely, injected air into the abdominal cavity until by intraperitoneal pressure the hemorrhage was completely arrested. He probably would not rely on this method of arresting hemorrhage in the treatment of traumatic hemorrhage of the spleen in the human subject. Gauze tamponade has yielded the best results, and should be given the preference in appropriate cases.

LIGATION OF THE SPLENIC ARTERY.

Ligation of the splenic artery would certainly control hemorrhage from any wound of the spleen, regardless of location and size. It is unfortunate that this radical measure is incompatible with the preservation of the wounded organ, as has been demonstrated by the experiments of Jonnesco and his assistants. Most of the animals operated on by ligating the splenic artery of the intact spleen died of a toxemia which, according to the opinions of the experimenters, was caused by the production of a poison in the substance of the spleen completely deprived of its blood supply. They suggested that this poison found its way into the peritoneal cavity, and from there was absorbed by the lymphatics and entered the general circulation, causing death from acute toxemia. In the few instances of recovery of the animals the spleen became extremely atrophic in less than two weeks.

SPLENECTOMY.

It has been shown by experiments on animals, as well as by clinical observation, that the spleen can be removed without any serious immediate or remote consequences. This well-known fact would naturally suggest to the surgeon the advisability of resorting to excision of the wounded spleen in all cases in which less severe measures promise little or no encouragement in arresting the hemorrhage. Then, too, splenectomy for hemorrhage has a fairly good record. Of the 80 cases tabulated by Berger, in which the spleen was removed for hemorrhage, 35 recovered. Notwithstanding the facts referred to above, it must be contended that ideal surgery is and always will be conservative surgery. The unnecessary removal of any organ for hemorrhage or other lesion amenable to successful treatment by conservative measures is faulty in theory and practice, and should not be encouraged. The spleen has its important functions to perform, and, although in its absence other organs appear to assume its rôle in the organism and compensate for its loss, we as yet are not warranted in assuming that its removal is a matter of so little consequence that it is not necessary to limit it to cases in which no other alternative is left. Splenectomy should be reserved for cases of traumatic hemorrhage of the spleen in which the bleeding can not be arrested by conservative treatment, and in cases in which the visceral injury otherwise is of a nature incompatible with attempts to conserve the damaged organ.

PARTIAL SPLENECTOMY.

Excision of the injured part of the spleen may become necessary in the surgical treatment of hemorrhage of the spleen. Hartin Jordan[4] has made some very interesting experiments which have a practical bearing on this question. He made partial excision of the spleen on 22 dogs. Hemorrhage was controlled by double ligature of the arteries and suturing of the margins of the visceral wound. He found that the lower part of the spleen could be removed without giving rise to any troublesome hemorrhage or serious general disturbances, which could not be said when the entire spleen or its upper part was excised, as ligation of the splenic artery compromises the splenic plexus, which is in intimate relation with the solar plexus.

3. "Die Verletzungen der Milz und ihre chirurgische Behandlung," Archiv f. klinische Chirurgie, Bd. lxviii, Heft 4.

4. The Lancet, Jan. 22, 1899.

FORCIPRESSURE OF WOUND MARGINS.

Under slow broad pressure with forcipressure forceps, the pulp of the spleen is displaced from the meshwork of loose connective tissue which, in turn, is condensed into a broad firm band in which the larger blood vessels become entangled, their cut ends contused, and hemorrhage even of branches of the splenic artery of considerable size and large veins is arrested. This method of arresting arterial, venous and parenchymatous hemorrhage has been practiced extensively and with the best results in arresting hemorrhage from other vascular organs and tissues, and is of special value in the surgical treatment of traumatic hemorrhage of the spleen. During the winter of 1902 I made a series of experiments on dogs to test its hemostatic value. A few of these experiments I will relate very briefly here:

EXPERIMENT 1.—This experiment was made solely for the purpose of demonstrating the immediate hemostatic effect of forcible compression in arresting traumatic hemorrhage of the spleen. Dog of medium size. Under ether anesthesia the abdomen was opened, the spleen exposed and a longitudinal incision, three and one-half inches, was made through the entire thickness, causing very profuse hemorrhage. The margins of the visceral incision were clamped with heavy compression forceps, making slow but firm pressure. The immediate effect of the pressure was to squeeze out of the fibrous meshwork of the spleen the pulp, transforming the tissues in the grasp of the forceps into a firm fibrous mass. The hemorrhage was almost completely arrested, and ceased entirely on uniting the crushed tissues with two catgut sutures.

EXPERIMENT 2.—Small dog. Under complete anesthesia the abdomen was opened in the median line by an incision four inches in length. The left lobe of the liver projected into the incision and was incised two-thirds in its anteroposterior diameter. The hemorrhage, which was profuse, was arrested by clamping the margins of the wound. The crushed tissues were sutured together with three catgut sutures, all of which were tied on the convex side. The hemorrhage was completely controlled by the combined process of crushing and suturing. The spleen was then incised deeply in a transverse direction, the wound margins subjected to slow forceps pressure and the crushed tissues sutured with silk. The abdominal incision was closed with six silk through-and-through sutures and the wound sealed. The dog lived four days. Surface of visceral wounds adherent to omentum and parietal peritoneum. An abscess was found in the spleen under the omental adhesions. A silk suture completely detached was found floating in the pus. Nothing abnormal in the liver wound.

EXPERIMENT 3.—Large black bitch. Chloroform anesthesia. Through a median incision the spleen was exposed and an incision, four inches in length, was made in the center of its long axis, dividing the organ nearly into equal halves. In consequence of the profuse bleeding the organ collapsed in a few moments to less than one-half of its normal volume. The hemorrhage was promptly arrested by marginal crushing and the crushed borders united with four strong catgut sutures. One additional suture was placed on the under surface of the spleen to arrest the bleeding from a small point. The animal exhibited no untoward symptoms after the operation, and was killed a week later. External wound completely healed. Spleen slightly enlarged. Wound on both sides covered by adherent omentum. Healing of visceral wound satisfactory and far advanced.

EXPERIMENT 4.—Light brown, medium-sized dog. Through a median incision, four inches in length, the spleen was exposed and its longer but narrower half was deeply incised from the free border in a longitudinal direction. With a pair of long hemostatic forceps the borders of the wound were crushed slowly, with the result of arresting the profuse hemorrhage almost completely. The slight oozing which remained was arrested on uniting the crushed margins with six catgut sutures. Abdomen closed with six silk sutures. The dog showed no indications of indisposition after the operation. The appetite remained voracious and was satisfied by a liberal diet of coarse food. The animal was killed two weeks after the operation. The injured part of the spleen was much enlarged, club-shaped and enveloped by firm adhesions. On palpation distinct fluctuation could be felt. On incision about an ounce of pus escaped. The abscess cavity was circumscribed and well walled off. On closer inspection the cavity was found to be on the surface of the spleen, the anterior wall being formed by the adherent omentum. Beneath the abscess healing of the splenic wound had taken place.

EXPERIMENT 5.—White fox terrier, poorly nourished. Through the usual median abdominal incision the spleen was made accessible and was cut transversely near the hilus, through two-thirds of its diameter. The severe bleeding yielded promptly to crushing of the margins of the wound with a strong pair of hemostatic forceps with wide blades. The crushing was continued for two minutes. With three catgut stitches the crushed edges were sutured. Hemostasis absolute. The behavior of the animal after the operation suggested satisfactory repair of the wound. The dog was killed in three weeks and the postmortem showed that the wound of the spleen had healed in an ideal manner. Size of spleen normal, or nearly so; adhesions few and slight; organ freely movable.

EXPERIMENT 6.—Small male dog. In this experiment the spleen was deeply incised in a transverse direction through its largest part. Under slow marginal pressure with clamp forceps the hemorrhage was quickly and almost completely arrested. The crushed tissues were then united with three catgut sutures and the abdomen closed with three silk sutures. Dog remained in excellent condition when killed, three weeks later. The splenic wound was found healed and covered by omentum. Organ normal in size and freely movable.

EXPERIMENT 7.—Medium-sized bitch. In this instance the spleen was incised longitudinally from the free border to the depth of three inches. The bleeding, which was very profuse, yielded promptly to slow crushing of the wound margins. The blades of the forceps were applied in such a way that about one-fourth of an inch of the margin of the wound escaped from their grasp. A slight oozing which persisted was arrested by suturing together of the crushed tissues with fine catgut sutures. The dog was in perfect condition when killed, four weeks later. Spleen slightly enlarged. Omentum adherent to the surface of the wound. Ideal healing of the visceral wound through the entire length of the incision.

REMARKS ON THE EXPERIMENTS.

These experiments prove the hemostatic value of marginal crushing of wounds of the spleen. All of the wounds made were clean-cut, incised wounds, hence wounds calculated to give rise to a maximum amount of hemorrhage. In all cases the hemorrhage, which was always profuse, was completely arrested by the crushing and suturing of the crushed margins. Secondary hemorrhage never occurred. The postmortem specimens showed invariably adhesions between the omentum and the wound surfaces. In two of the experiments a small localized abscess developed, undoubtedly in consequence of infected ligature material. All of the visceral wounds were large and a considerable amount of splenic tissue was destroyed by the crushing process, but nothing approaching marked atrophy was observed in any of the specimens. Even in the cases in which the organ was divided two-thirds through its transverse diameter near the hilus the distal part retained its vitality, and exhibited no gross lesions in consequence of the diminished blood supply. I am of the opinion that much of the destroyed tissue was replaced by regeneration, as exhibited by the specimens. The regenerative capacity of splenic tissue has been well established by experimental researches made for this special purpose.

The procedure I have described recommends itself in the treatment of certain wounds of the normal spleen,

particularly in incised wounds and straight tears, when a quick hemostasis is a matter of greatest importance. The broad forcipressure can be relied on in arresting the bleeding, consequently further serious loss of blood is prevented the moment the visceral wound has been made accessible. Too much stress can not be placed on the importance of making the compression slowly, as rapid compression is liable to tear the fragile tissue instead of compressing it. With two large hemostatic forceps, both wound margins are compressed simultaneously, thus controlling the hemorrhage the moment they are applied. The crushed margins should be sutured together with catgut. The slight oozing, which sometimes remains, takes place from the crushed tissues, and sometimes yields promptly to the suturing of the

Fig. 1.—Crushing the margins of the wound in the spleen.

compressed borders. Another reason for suturing the wound is to prevent extensive and perhaps harmful adhesions between the wound margins and adjacent viscera. There is also reason to believe that approximation of the wound margins is conducive to an ideal healing of the wound, and subsequent regeneration of the tissues lost by the injury and the operative intervention. As crushed tissue is more liable to infection than vascular tissue, permanent suture material should be avoided.

In discussing the general subject of hemostasis of splenic wounds, it is apparent that no one exclusive

Fig. 2.—The wound sutured.

method of treatment can be relied on. The treatment to be employed must necessarily depend on the location, size and character of the wound, and the condition of the wounded organ. The one great rule that should not be lost sight of, and one which should apply to all kinds of surgical work, is, not to sacrifice any more healthy tissue than is absolutely necessary to meet the indications presented by each individual case. Conservative surgery should take the place here, as elsewhere, of mutilating surgery. The fact that the spleen can be removed in animals without any serious consequences following does not warrant the conclusion that this organ can be sacrificed with immunity. It is true that the spleen has been removed in the human subject for various indications without any apparent ill effect, but cases may occur in which other organs may fail to assume compensatory action. The retroperitoneal hemolymph glands in the renal and other regions might refuse to respond to the need of an additional blood-producing organ. The removal of a wounded healthy spleen is an easy operation, and can always be relied on in arresting the hemorrhage, but these reasons alone would not warrant the removal of the organ if the hemorrhage can be arrested by conservative measures.

The surgical treatment of traumatic hemorrhage of the spleen naturally divides itself into: 1, Splenectomy; 2, partial splenectomy; 3, splenorrhaphy; 4, aseptic tamponade; 5, cauterization; 6, marginal crushing and suturing.

1. *Splenectomy.*—Splenectomy is the operation of necessity in the treatment of traumatic hemorrhage of the spleen, if the organ itself is diseased or in case the wound implicates the main trunk of the splenic artery. If the spleen is enlarged and softened, as is the case after acute infectious diseases, or, in consequence of chronic malarial intoxication, wounds cause very obstinate bleeding, which, owing to the textural changes which have taken place, resists all attempts at hemostasis short of splenectomy. In such an event, no time should be lost in the employment of conservative measures, and the diseased wounded organ should be promptly removed. The same treatment is to be pursued if the wound involves the hilus of the spleen and its principal artery.

2. *Partial Splenectomy.*—If the lower part of the spleen has been extensively crushed or lacerated, or if a transverse wound has divided two-thirds of the diameter of the organ, removal of the injured or partially detached part of the spleen is indicated. The amputation should be done by the use of the crushing forceps, and after excision the crushed tissue should be covered with omentum, which is sutured over it with catgut sutures. Suturing of the omentum over the stump is an additional means of hemostasis, and prevents harmful visceral adhesions.

3. *Splenorrhaphy.*—Suturing as a hemostatic has had a fairly good record, and will be resorted to in appropriate cases. The mattress suture or shoemaker's stitch is best adapted for this purpose. A round needle armed with catgut is to be used for this purpose. Bleeding from the punctures is reduced to a minimum by using the double catgut suture, so as to tampon the tract made by the needle with the suture material, which soon swells by the absorption of moisture. After the hemorrhage has been arrested in this manner, the cut surfaces are sutured together with a few separate catgut stitches. In bullet wounds, a circle of through-and-through mattress sutures will usually succeed in arresting the bleeding. The bullet wound itself in such cases should always be drained with aseptic gauze. If suturing is decided on, further loss of blood should be prevented by digital compression of the injured part of the spleen until the suturing is completed.

4. *Aseptic Tamponade.*—The aseptic tampon is often relied on by the surgeon in the management of troublesome parenchymatous hemorrhage that can not be controlled by more direct means, or when the source of hemorrhage is not accessible to more reliable hemostatic resources. In the case of wounds of the spleen,

this method of arresting the hemorrhage meets with a decided disadvantage in the absence of an adequate resistance to pressure. Notwithstanding the unfavorable mechanical conditions for effective tamponade, this hemostatic agent has given satisfactory results in many cases of traumatic hemorrhage of the spleen, in which it was relied on in arresting the bleeding. It will prove of value if the hemorrhage is venous or parenchymatous, but should never be relied on in bleeding from arteries of any considerable size, that is, in the treatment of arterial hemorrhage. The typical Mikulicz tampon is the one to be employed, as in this case the tampon can be removed with ease, and there is no danger of leaving a part of the tampon in the wound. The tampon also serves the useful purpose of a drain, and should be allowed to remain as long as it is deemed necessary to continue drainage. The size of the tampon can be diminished at any time it is considered safe to do so.

5. *Cauterization.*—The use of the actual cautery in the treatment of traumatic hemorrhage of the spleen has an exceedingly limited sphere of usefulness, if any. It is not reliable, and may inflict serious damage on important adjacent structures. The eschar which it produces interferes seriously with an ideal healing of the visceral wound. For these and other reasons it seems to me that the actual cautery should be resorted to only in exceptional cases as a hemostatic in the treatment of wounds of the spleen.

6. *Marginal Crushing of the Wound and Suturing.*—The most reliable procedure in arresting traumatic hemorrhage of the spleen in all cases in which the wounded organ can be saved is marginal crushing, followed by suturing the crushed margins with catgut. The hemorrhage is arrested the moment the forceps are applied, and the blood vessels in the crushed tissues are speedily obliterated by thrombosis, thus guarding against recurrence of the bleeding, and by uniting the crushed wound margins by suturing with catgut the visceral wound is placed in the most favorable condition for speedy healing and regeneration of the tissues lost by the injury and the operative treatment of the wound.

EXPERIMENTS WITH RENNET AND ANTIRENENE.*

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PHILADELPHIA.

In 1899 Morgenroth published a paper entitled "The Antibody of Rennet," containing a description of certain work that he had done in support of Ehrlich's chemical theory of the toxin-antitoxin reaction. So far as I know, Morgenroth's work met with universal acceptance without having been subjected to experimental confirmation, nor did I think it worth while to confirm it or make any addition to what Morgenroth had found until the specific precipitates began to attract attention, when their study led me to experiment with antipeptone, antivenene and antirenene.

The antirenene was prepared solely for the purpose of securing the precipitate, but as I found it possessed the power of inhibiting the coagulant action of rennet on milk, I continued to investigate the subject until I found in it a confirmation of what Morgenroth had done, and found myself able to make a few additional contributions to the subject.

Morgenroth's experiments were performed on goats, which were injected with rennet prepared by Witte in Rostock, the activity of this rennet being 1-3,000,000. The sterility of the rennet solution was secured by the addition of iodin (1 c.c. of a 1-10 iodin solution to each 10 c.c. of the rennet solution permitted to stand 1 hour at room temperature), and no abscesses followed its employment. The goat was given increasing doses of the rennet solution administered by subcutaneous injection until 6.5 grams at a dose were administered. After each injection the temperature rose to about 41.4 C., without any disturbance of the general condition or appetite, and without any observable diminution of the body weight. Of the two goats thus treated, one produced a considerable quantity of the antibody, the other attained an extremely small degree of immunity, although both were subjected to exactly the same treatment.

The observation of Schepilewski, that an injection of sterile rennet produced amyloid disease, was not confirmed, as both of the goats remained healthy for more than a year after the close of the experiment.

Morgenroth's studies of the antirenene were made with the blood serum and milk of the goats. The standard rennet solution for testing the antibody consisted of a watery extract of the rennet powder in a 10 per cent. sodium chlorid solution, to which was subsequently added an equal quantity of glycerin and 10 per cent. sodium salt solution. It was found that such a solution contained 2 per cent. of the rennet powder, and could be kept for more than a year and a half unaltered. The presence of the antibody in the serum was tested on cow's milk saturated with chloroform by a long continued shaking in a shaking apparatus and then preserved in the cold.

The method for testing adopted by Morgenroth was as follows: His rennet had the power of coagulating milk in a proportion of 1 part in 3,000,000, but when the milk received an addition of 2 c.c. of the serum of an immunized goat, a proportion of rennet equal to 1-30,000 failed to produce coagulation, though a proportion of 1-25,000 produced a firm clot, so that the serum had the power to neutralize 100 times the coagulating rennet dose, and to thicken the milk 200 times the usual dose was required.

The serum from the other goat that did not attain a high degree of antirenene was so much less active that 2 c.c. inhibited in a proportion of 1-120,000 only. The antibody was extremely unstable, and when preserved with chloroform and kept in an ice chest, its activity disappeared in a few months.

My own experiments were conducted on a different plan and with different animals. Rabbits were chosen for the experiment, and at weekly intervals were given intraperitoneal injections of considerable quantities of the standard rennet solution. The rennet employed is a granular, dry powder of a yellow-cream color, freely soluble in water and physiologic salt solution. My standard solution consisted of a 5 per cent. solution in physiologic salt solution, saturated with chloretone. This preparation was found to be so stable that its strength did not alter on keeping for several months, and it was so active that 1/2,500 of a c.c. produced a firm coagulum in standardized milk in between one and two hours. The strength was, therefore, equivalent to 1-500,000. Each injection of 5 c.c. given to the rabbit contained 0.25 of a gram of the pure rennet.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

The rabbits on which my experiments were made weighed in the neighborhood of 1.5 kilograms each. Morgenroth does not give the weight of his goats, and I am not sufficiently familiar with goats to know exactly what they weigh, but presume an average goat would weigh about 50 kilograms. This being the case, the goats weighed approximately thirty times as much as the rabbits, and basing the calculation on body weight would presumably endure about thirty times as much rennet. My experiments were conducted without any knowledge as to the quantity of rennet administered by Morgenroth to his goats. On subsequently looking it up I found that the largest quantity they received was 6.5 grams. Since the rabbits received 0.25 of a gram at a dose, the goats on the same ratio should have received about 8 grams. This would suggest that the rabbits should have attained a higher degree of immunity and produced a stronger antibody than the goats, supposing their ability to produce the antibody about equal. We find, however, that the rennet with which Morgenroth performed his experiments had a strength of 1-3,000,000, or six times that of my rennet. It is thus evident that in proportion to their weight, my rabbits did not receive nearly as much rennet as Morgenroth's goats, and it is not surprising that I found the anticoagulant powers of their serum considerably less. This is, however, by no means a necessary inference, as Morgenroth showed that of his goats, one produced a serum whose anticoagulant power was 1-25,000, while the other was only 1-120,000, thus confirming what is a familiar observation to every one who has experimented with antibodies, viz., that different animals treated in the same way attain very different degrees of immunity, and very different kinds of antibodies in the blood.

Three rabbits were employed for the experiment. The first died after a single injection. At the necropsy I found an extensive serofibrinous inflammation of the pericardium, pleura and peritoneum, and with more or less pneumonia. The exudates contained several different bacteria. The second animal endured about five injections and then died with identical lesions. In the exudates and blood several different bacteria were found. Both the animals seemed to die early in the night, and when bacterioscopic examination showed that several bacteria were present in the exudates, it was not thought worth while to endeavor to isolate the one responsible for the infection. It is interesting to notice, however, that fibrinous exudates occurred in both these animals.

The third rabbit survived a number of injections of 0.25 of a gram of the rennet and was finally bled to death, the serum being carefully separated for study, and extracts of the different organs of the body made in order to determine whether either rennet or antirenene might be contained in the tissues. For this purpose extracts were made of the medulla oblongata, kidney, liver, pancreas, adrenal, bone marrow, lung, voluntary muscle, stomach, large intestine and small intestine. These extracts were prepared by adding to each fragment of tissue ten times its weight of physiologic salt solution (a gram was considered equivalent to 1 c.c. of salt solution). The organs were finely crushed in a mortar, being reduced to a pulp before the salt solution was added. The mixture was then placed in a test tube and kept in the cold over night. The rabbit, therefore, furnished blood serum, organic extracts and urine for further study.

In order that the investigations might be accurate, it was necessary to standardize the milk, and for this purpose chloroform and formaldehyd were first tried. The chloroform was found to be less reliable than was hoped, and the formaldehyd was found to diminish the coagulability of the milk. I, therefore, tried chloretone and found that by saturating the milk with this I was perfectly able to protect it against subsequent microorganismal contaminations, without in any way inhibiting its coagulating power.

As the layer of cream which soon rises and covers the surface of milk kept at the temperature of the body interferes with determining whether the milk has thickened from the presence of the rennet, I found it expedient to use "separator milk" from which the cream was removed. The reaction of the milk affects the action of the rennet; acid milk coagulated much more completely than neutral or alkaline milk. By securing milk fresh from the dairy and immediately saturating it with chloretone, I was able to secure a sufficiently accurate standard, as there was very little variation in the reaction of fresh separator milks, and the saturation with chloretone prevented the development of acidity by bacterial action. The reaction of the milks employed was acid, the acidity varying from 16 to 18 c.c. of normal caustic soda solution being required to neutralize one liter. The difference was so slight that though we tested it carefully it did not in any way seem to modify the action of the rennet, and it is thought not worth while to correct it.

It is well known that the temperature affects the action of rennet, which is much more energetic at high than at low temperatures. Morgenroth preferred to afford his rennet twenty-four hours in which to effect coagulation, keeping the milk in the meantime on ice. Inasmuch as we had eliminated the possibility of any bacterial change in the milk, we were able to keep it at the temperature of incubation, and found that 0.000002 of a gram of rennet added to 10 c.c. of milk invariably produced a firm clot in between one and two hours. We, therefore, adopted the temperature of 37 C. as a standard for the experiments.

In studying the action of the antibody we, therefore, had the following standard conditions:

1. A solution of rennet of which 0.000002 of a gram invariably coagulated 10 c.c. of milk kept at 37 C. in between one and two hours.

2. Milk of a reaction necessary for the appropriate action of the rennet and perfectly preserved from bacterial contamination or alteration either from the production of enzymes or the formation of acids, by saturation with chloretone. (Of this milk, 10 c.c. were used for each test).

The first series was an endeavor to determine whether the rennet injected into the animal was stored up in any of its tissues, and for this purpose 2 c.c. of each of the tissue extracts prepared was added to 10 c.c. of milk and incubated the appropriate length of time. This experiment we made as soon as the extract was prepared.

Table 1.—The Following Mixtures Were Permitted to Stand for 12 Hours:

10 c.c.	Milk	+	1 c.c.	Extract of	Kidney (freshly prepared)	=0
"	"	+	"	"	Liver	=0
"	"	+	"	"	Pancreas	=0
"	"	+	"	"	Adrenal	=0
"	"	+	"	"	Bone marrow	=0
"	"	+	"	"	Lung	=0
"	"	+	"	"	Voluntary muscle	=0
"	"	+	"	"	Brain	=0
"	"	+	"	"	Blood serum	=0
"	"	+	"	"	Urine	=0
"	"	+	"	"	Large intestine	=0
"	"	+	"	"	Small intestine	=+
"	"	+	"	"	Stomach	=+

The coagulation produced by the extracts of stomach and small intestine probably depends on

the presence of rennet naturally formed in the stomach. No rennet existed in any of the other extracts, in the blood serum or in the urine. A similar series was made after permitting the sodium chlorid solution to act on the crushed organs for about 20 hours.

TABLE 2.

10 c.c. Milk + 1 c.c. Extract of Kidney*	=0
" " + " " " Liver	=0
" " + " " " Pancreas	=0
" " + " " " Adrenal	=0
" " + " " " Bone marrow	=0
" " + " " " Lung	=0
" " + " " " Voluntary muscle	=0
" " + " " " Brain	=0
" " + " " " Blood serum	=0
" " + " " " Urine	=0
" " + " " " Large intestine	=0
" " + " " " Small intestine	=0
" " + " " " Stomach	=0

* After 24 hours' maceration.

The next experiments were made for the purpose of determining whether any of the organic extracts contained important quantities of antirenene, and were made with extracts which had been allowed to stand in the cold for about twenty hours.

TABLE 3.—THE FOLLOWING WERE PERMITTED TO STAND FOR 3 HOURS:

10 c.c. Milk + 1 c.c. 20-hour Extract of:	
Kidney + rennet 0.000002 gr.	=+
Liver + rennet 0.000002 gr.	=+
Pancreas + rennet 0.000002 gr.	=+
Adrenal + rennet 0.000002 gr.	=+
Bone marrow + 0.000002 gr.	=+
Lung + rennet 0.000002 gr.	=+
Voluntary muscle + rennet 0.000002 gr.	=+
Brain + rennet 0.000002 gr.	=+
Large intestine + rennet 0.000002 gr.	=+
Small intestine + rennet 0.000002 gr.	=+
Stomach + rennet 0.000002 gr.	=+

Although these experiments were crudely made, they seemed to indicate the absence of important quantities of antirenene in the tissues of the rabbit's body. It might be well to remark that the softest coagulum in the series was that in the tube to which the bone marrow had been added.

The next experiments were made to determine the ability of the blood serum to inhibit the action of the rennet. I find that my method of experimentation differs markedly from that of Morgenroth. Morgenroth used a measured quantity of milk containing an equal proportion of serum and added varying quantities of the rennet. I preferred to experiment by a method more nearly resembling that by which the antitoxic unit is determined in the estimation of the value of antidiphtheritic and antitetanic serums. I, therefore, employed 10 c.c. of milk to which was added exactly the quantity of rennet known to effect its coagulation, and then varying quantities of serum, until I determined the least quantity that would inhibit coagulation.

TABLE 4.—DURATION OF THE EXPERIMENT 3 HOURS. TEMPERATURE 37 C.

10 c.c. Milk + 0.00002 gr. rennet + serum 1 c.c.	=0
" " + " " " + " 0.7 c.c.	=0
" " + " " " + " 0.6 c.c.	=0
" " + " " " + " 0.5 c.c.	=0
" " + " " " + " 0.4 c.c.	=0*
" " + " " " + " 0.3 c.c.	=0†
" " + " " " + " 0.2 c.c.	=+
" " + " " " + " 0.1 c.c.	=+
" " + " " " + " 0.09 c.c.	=+
" " + " " " + " 0.08 c.c.	=+
" " + " " " + " 0.07 c.c.	=+
" " + " " " + " 0.06 c.c.	=+
" " + " " " + " 0.05 c.c.	=+
" " + " " " + " 0.04 c.c.	=+
" " + " " " + " 0.03 c.c.	=+
" " + " " " + " 0.02 c.c.	=+
" " + " " " + " 0.01 c.c.	=+
" " + " " " + " 0.001 c.c.	=+
" " + " " " + " 0.0005 c.c.	=+
Control 10 c.c. milk + 0.00002 gr. rennet + serum	=0

* Soft clot. † Very soft clot.

In this way I showed that the serum effected a distinct inhibition of coagulation, causing the rennet to become inactive in tubes containing 0.5 c.c., or more, of the serum.

The next series of experiments had to do with the specific precipitate, which I expected to find much more delicate, as a means of determining the presence of the antibody rather than the interference with coagulation. Dilutions of the serum and rennet in which the proportions were known, were prepared, placed in small test tubes and kept at the standard temperature. The result was not delicate, as I had anticipated, as is shown by the following table. The quantities of rennet and serum were each diluted with several cubic centimeters of physiologic salt solution, poured together, well shaken, placed in a narrow test tube, and incubated for twenty-four hours:

TABLE 5.

0.00002 gr. rennet + 0.4 c.c. serum	=+
" " " + 0.3 c.c. serum	=+
" " " + 0.2 c.c. serum	=+
" " " + 0.1 c.c. serum	=+(?)
" " " + 0.01 c.c. serum	=0
" " " + 0.005 c.c. serum	=0
" " " + 0.0033 c.c. serum	=0
" " " + 0.0025 c.c. serum	=0
" " " + 0.002 c.c. serum	=0
" " " + 0.001666 c.c. serum	=0
" " " + 0.00142 c.c. serum	=0
" " " + 0.00125 c.c. serum	=0
" " " + 0.0011 c.c. serum	=0
" " " + 0.001 c.c. serum	=0

The large quantity of serum required to inhibit the action of the rennet perplexed me, as it seemed not to be in keeping with what was known about other antibodies. It, therefore, occurred to me that the action of the rennet on the milk might take place too rapidly to afford anything but an overwhelming quantity of the serum an opportunity to inhibit it, and that if I would make mixtures of rennet and the antibody in varying proportions and permit them to stand at the temperature adopted for the standard for a number of hours, the rennet might be destroyed by the antibody in very much smaller quantities than was necessary when both were immediately added to the milk. I, therefore, prepared a number of such mixtures and a correspondingly great dilution of rennet, permitted them to stand over night in the incubator and then added the appropriate quantities to the milk. The result showed that under these conditions the action of the antibody on the rennet was very energetic and entirely confirmed by expectations. Instead of requiring 0.5 c.c. to inhibit coagulation, I now found 0.0005 c.c. to be sufficient, this being the least quantity investigated.

TABLE 6.—TIME, 3 HOURS. TEMPERATURE, 37 C. CONTROL. 10 C.C. MILK + (0.00002 GR. RENNET INCUBATED 24 HOURS) =+.

10 c.c. milk + (0.00002 gr. rennet + 0.4 c.c. serum)	=0
" " + " " " + 0.3 c.c. serum)	=0
" " + " " " + 0.2 c.c. serum)	=0
" " + " " " + 0.1 c.c. serum)	=0
" " + " " " + 0.01 c.c. serum)	=0
" " + " " " + 0.005 c.c. serum)	=0
" " + " " " + 0.0033 c.c. serum)	=0
" " + " " " + 0.0025 c.c. serum)	=0
" " + " " " + 0.002 c.c. serum)	=0
" " + " " " + 0.00175 c.c. serum)	=0
" " + " " " + 0.001425 c.c. serum)	=0
" " + " " " + 0.001225 c.c. serum)	=0
" " + " " " + 0.00111 c.c. serum)	=0
" " + " " " + 0.001 c.c. serum)	=0
" " + " " " + 0.0005 c.c. serum)	=0

I was very anxious to determine how much less than this quantity would inhibit the coagulating power of the rennet. But at this point my experiments were interrupted by pressure of other work and the matter was dropped for several weeks. When I was able to return to it again, I found that what Morgenroth had discovered regarding the instability of the antirenene was correct, and that my serum had entirely lost its power, either when added to the milk or when added to the rennet, to interfere with coagulation.

SUMMARY.

The experiments confirm Morgenroth's discovery that the repeated introduction of rennet is followed by the formation of an antibody inhibiting its action. They show that properly prepared mixtures of rennet and antirenene give a specific precipitate, and show, I think for the first time, that the action of the antirenene is infinitely more active when the two are mixed and allowed to stand for some time before being added to the milk than when immediately added to the milk.

This is in thorough keeping with what was observed by Martin and Cherry regarding the interaction of venom and antivenene. I am also able to confirm Morgenroth's observation of the instability of the antibody.

DISCUSSION.

DR. JOSEPH MCFARLAND, Philadelphia—After the use of the chloretone in the milk I found that I was able to keep the milk as long as I liked. Owing to the negligence of the attendant in not cleaning up the bottles on the stand in my laboratory some of them stood for eight weeks without contamination. The milk simply dried up. I have found chloretone one of the best reagents for the preservation of serums, milks, urines and organic extracts from bacterial contamination. Bacteria will not grow in any of these when the chloretone has been added and there is no injurious chemical action.

DR. L. HEKTOEN, Chicago—I would like to inquire whether the rabbit serum has any coagulative power.

DR. J. W. FOSS, Phoenix, Ariz.—Will anything short of a saturated solution of chloretone act as a preservative?

DR. JOSEPH MCFARLAND, Philadelphia—Replying to the first question, normal horse serum contains a body that slightly inhibits the coagulative power of rennin, but rabbit serum does not.

As to the chloretone, I always use the saturated solution because that is the easiest to prepare.

THE PROTOPLASMIC ACTIVITY OF THE RENAL EPITHELIUM,

AS DETERMINED BY THE ELIMINATION OF PIGMENTS INJECTED INTO THE CIRCULATION.*

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INTRODUCTION.

The question of the functional activity of the renal epithelium is ever one of deep interest, both to the physiologist and to the pathologist.

It will be remembered that Bowman's theory concerning the separation of the urine by the kidney was originally founded on anatomic findings entirely and not on experimental evidence. According to this view, the glomeruli separate the watery portion of the urine and the freely diffusible substances, while the specific ingredients of the urine, viz., the urea, uric acid, etc., are secreted by the cells of the uriniferous tubules.

Bowman's theory was replaced for a time by that of Ludwig when the latter investigator and his school showed the close relationship which exists between the circulation of blood in the kidney and the amount of urine separated. This theory held that the separation of urine by the kidney is purely a physical process, the blood-pressure in the glomerular capillaries causing all the ingredients of the urine to filter through into Bowman's capsule in very dilute solution. During the passage of this dilute solution down the uriniferous tubules the water was supposed to diffuse back from the urine into the lymph, so that the urine becomes more concentrated as it enters the pelvis of the kidney.

Further investigation of the subject soon showed that alterations in the general arterial blood-pressure do not always cause corresponding changes in the amount of urine formed, while the latter may be influenced by conditions which do not affect the former. These facts called the first part of Ludwig's theory seriously into question. The latter part, pertaining to the diffusion of water from the uriniferous tubules into the lymph, was demonstrated to be impossible, as the urine has a greater osmotic pressure than the lymph, and if any diffusion takes place, the water would pass in the opposite direction to that contended by Ludwig.

Heidenhain then put forward a theory which is in part a revival of Bowman's hypothesis in that the specific ingredients of the urine are held to be secreted by the protoplasmic activity of the cells lining the uriniferous tubules. Heidenhain went still further and held that the water and freely diffusible constituents of the urine are secreted by the flat epithelium covering the glomeruli and that these are not merely filtered by a physical process alone, although the influence of changes in the general or local circulation on the flow of urine is fully recognized.

Both of these theories have been modified from time to time, and while there may be minor differences, there are two main views held at the present time as to the functional activity of the kidney:

(1) *The Filtration-Absorption Theory* or *Modified Ludwig's Theory.*—This holds that all the ingredients of the urine in very dilute solution are filtered through the capillary wall and the epithelium covering the glomerulus, and that the water and chlorids are absorbed by the cells lining the uriniferous tubules, while the urea, uric acid, phosphates, sulphates, etc., pass on to the pelvis of the kidney in more concentrated solution.

According to this view, the epithelium of the uriniferous tubules is not excretive, but is only concerned in absorption. These cells are supposed to have a selective power in absorbing certain ingredients like the chlorids, while other diffusible substances like urea pass on. If this theory be correct, Heidenhain calculated that fully 70 kilos of water must filter through the glomeruli daily.

(2) *The Excretory, Vital,* or *Bowman-Heidenhain Theory.*—It is contended by those who hold to the other explanation of the function of the kidney that only the water and inorganic salts are separated by the glomeruli. The glomerular epithelium is supposed to be permeable to certain substances and not to others, so that the fluid which collects in the capsule of Bowman contains the inorganic salts in the relative proportion in which they occur in the urine. The cells lining the tubules, and especially those of the contorted tubules, are held to separate the specific ingredients of the urine by an excretory action, i. e., by a protoplasmic activity similar to the secretory activity of other glands.

The main point at issue betwen these diverse views is whether the renal epithelium is absorptive like that lining the intestine, or excretory in function. If the former is correct, then water and salts are absorbed from the urine into the lymph; if the latter is correct, then the metabolites and possibly some of the salts of the urine are separated by protoplasmic activity from the lymph into the urine as it passes down the tubules.

In trying to determine which of these theories is correct most of the work in recent years has been carried

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

on by studying the molecular concentration of the urine under different conditions and comparing it with that of the blood. Much has also been done in studying the action and elimination of different salts.

Unfortunately, there is no ingredient of the urine which can be traced through the renal epithelium by microchemical methods. Bowman[1] and Von Wittich[2] described the presence of uric acid crystals in the epithelial cells lining the uriniferous tubules of birds, but it has since been contended by Schmidt[3] that these observations are incorrect, and that uric acid crystals only occur within the lumen of the tubule and on, but not within, the protoplasm.

Heidenhain[4] made use of a soluble stain which can be injected into the circulation without any harm and can be precipitated in the kidney by perfusing it with absolute alcohol. Sodium sulphindigotate (indigo carmine), when injected into the circulation, appears in the urine in from 2 to 3 minutes. Heidenhain found that if the kidney be quickly excised 5 minutes after the injection of the stain and perfused with absolute alcohol, the pigment is precipitated chiefly in the medulla of the kidney. When the spinal cord was cut prior to the injection so as to lower the blood-pressure and thereby stop the flow of urine, he found the pigment chiefly in the cortex and on microscopic examination found the precipitated pigment granules principally within the lumen of the convoluted tubules, and to a less extent in the epithelial cells lining them.

Heidenhain concluded from these experiments that this pigment is eliminated by an excretory activity of the cells lining the convoluted tubules. While it does not necessarily follow from this that urea is excreted in the same way, nevertheless, this would seem highly probable from the large proportion of this metabolite in the urine if such excretory activity can once be positively established.

Other experimenters have not always obtained the same results from injecting indigo carmine that Heidenhain did. The results obtained with this dye are extremely variable, but admitting that they are uniform, quite a different interpretation has been placed on them. The pigment precipitated in the kidney has been found to occur chiefly in the lumen of the uriniferous tubule and in that part of the renal epithelium which immediately borders on the lumen. It does not occur in such abundance in these cells toward the basement membrane. It is contended by some[5] that the presence of these granules in this part of the cell might be due to absorption from the urine within the tubule as readily as to excretion from the lymph into the urine. This view is rendered more plausible by the fact that by varying the conditions of the experiments the glomerulus is often found to be stained.

PLAN OF EXPERIMENTATION.

The experiments presented in this paper were undertaken with the idea of attempting to clear up this point, viz., whether the protoplasmic activity of the renal epithelium is concerned in absorption or in excretion in the elimination of pigments injected into the systemic circulation.

Different methods were used to stop the free flow of urine with the idea of diminishing the amount of water separated by the glomeruli without interfering with the protoplasmic activity of the epithelium lining the tubules. In one experiment the spinal cord was cut so as to lower the blood-pressure and thereby stop the flow of urine. In two others advantage was taken of the anuria from surgical shock. It is a matter of common experience in performing experiments on the kidney that often the urine does not flow for a considerable time after a kidney or ureter has been exposed, and at times it is necessary to inject a diuretic or physiologic salt solution to establish the flow. As the amount of pigmentation of the kidneys varies in different animals considerably, even when the conditions of experimentation are identical, it is obviously desirable to stop the flow from one kidney without interfering with its circulation, while the other one continues to act normally. This is far preferable to the method of stopping the flow in both kidneys, as it allows comparison in the same animal.

In three experiments one renal artery was compressed between the fingers for one-half to one minute at a time and repeated if necessary. This usually causes a temporary cessation in the flow of urine without interfering with the blood supply, as no injury is done to the artery. Unfortunately, when fluids are subsequently injected the flow of urine sometimes starts again, but is never as great as on the normal side.

In eight experiments the ureter of one side was connected with a mercury manometer by means of a cannula and the urine allowed to flow until the mercury in the manometer ceased to rise. It requires a pressure of 30-40 mm. Hg. to stop the flow of urine. In this way the ureter and pelvis are distended and the outflow from the uriniferous tubules is thus obstructed and comes to a standstill. Normally the pressure in the ureter necessary to stop the flow of urine does not exceed 40 mm. Hg., but under the influence of diuretics it may go as high as 60 or 70 mm. of Hg.

Several of my experiments were performed before the publication of Cushny's paper[6] on the elimination of salts by the kidney when the ureter is obstructed, and until then my attention had not been called to the interference with the renal circulation by obstructing the ureter. Lindemann[7] showed that a pressure of 100 to 200 mm. of Hg. in the ureter causes the kidney to swell up and interfere seriously with the renal circulation, as the outflow of blood from the renal vein is greatly diminished, but if this pressure does not exceed 50 mm. Hg. the venous outflow is not reduced by 10 per cent. In my later experiments a T cannula was tied in the obstructed ureter after a method devised by Cushny, so that one arm could be connected with a manometer, while a short piece of rubber tubing on the other arm, with a screw pinch cock, allowed the urine secreted under pressure to escape and in this way the pressure was kept uniformly between 35 and 40 mm. of mercury.

An effort was made to see if the protoplasmic activity of the renal epithelium could be lessened by atropin. It is supposed by some that this alkaloid checks the renal activity in the same way that it does that of most other glands. Careful urea determinations were made of the urine collected from the ureters for five-minute periods before and after the administration of atropin in three experiments, but there was no diminution in the quantity of urine or of urea, although the flow of saliva was completely stopped and could not be excited in any way.

1. Bowman: Phil. Trans., London, 1842.
2. Von Wittich: Arch. f. mik. Anat., 1875, Bd. xi.
3. Schmidt: Arch. f. d. Ges. Physiologie, 1890, Bd. xlviii.
4. Heidenhain: Hermann's Handbuch d. Physiologie, vol. v.
5. Starling: Schäfer's Text-book of Physiology, vol. i.
6. Cushny: Brit. Journ. of Phys., vol. xxviii, No. 6.
7. Lindemann: Beiträge z. path. Anat. und Phys., xxi, p. 500, 1897.

Pilocarpin also fails to increase the amount of urine or of urea.

SELECTION OF A SUITABLE PIGMENT.

Experiments with sodium sulphindigotate (indigo carmine) are so extremely variable that satisfactory results were never obtained, although it has been tried in nine experiments not included in this paper. Care was taken to repeat exactly the conditions as described by Heidenhain, but the trouble seems to lie in the composition of the pigment and the change which it undergoes under the influence of the living tissues. The living cells appear to reduce it to a colorless substance. This change is so great that even though the kidney is colored blue when it is first cut out and perfused with absolute alcohol, it soon loses color, and sections mounted from it show no color granules. The pigment was the purest obtainable from different sources, but the results were always the same, even though large amounts were injected (5 c.c. to 7.5 c.c. of saturated solution per kilo of body weight).

Starling[5] recommends the use of carmine dissolved in a weak solution of sodium hydroxid. Carmine has the advantage of being more complex in its composition and less diffusible, so that it can be traced through the tissues more readily. It is also very much more stable; is not reduced by the tissues, and can be more completely precipitated by absolute alcohol than can indigo carmine.

The only disadvantages of carmine are its comparative insolubility and the effect of the sodium on the circulation. A saturated solution in weak NaOH solution rarely contains more than 1 per cent. of carmine, and may contain much less if made hastily. When such a solution is rapidly injected directly into the vein it causes the heart to beat slowly and a fall of pressure ensues. This can be obviated by making the injection slowly, and with this precaution from 5 c.c. to 7 c.c. of a saturated solution of carmine in 0.1 per cent. NaOH may be injected for each kilo of body weight. It is very essential that the solution be freshly prepared, as it decomposes very readily.

To avoid the effect on the heart of any free alkali, commercial sodium carminate was tried, but proved less satisfactory than a fresh solution of carmine. The tissues were not so deeply stained and the stain was more diffuse and not so completely precipitated by absolute alcohol.

Sometimes when carmine has been injected into the circulation the urine and kidneys remain remarkably free from the pigment, although the other tissues are stained and the blood-pressure has remained normal throughout. This caused us to try other materials which can be used for the microchemical examination of tissues.

As large amounts of potassium ferrocyanid can be injected directly into the circulation without any injurious effect, this salt was used, and after it had appeared in the urine the kidneys were excised and perfused with a weak solution of ferric chlorid containing a little free HCl. The entire organ turned blue after a time, but sections showed a diffuse stain in some places, with deeply stained material in the lumen of the straight tubules. The results were less satisfactory than those obtained with carmine.

The injection of a soluble salt of iron (citrate of iron and ammonium) was next undertaken, and after the iron had been found in the urine for some time the animal was killed. One kidney was then perfused with a weak solution of ammonium sulphid, and the other was cut into very thin pieces and placed in a weak solution of potassium ferrocyanid acidulated with HCl. The kidneys showed marked precipitates of black in the one kidney and blue in the other, but microscopic sections of the organs were not as satisfactory as those made from experiments in which carmine was used.

Recently a freshly prepared liquor carmini (U. S. P.) has been used. This is a 6.5 per cent. solution of ammonium carminate from which all free ammonia has been driven off by gentle heat or gaseous diffusion. It has the advantage that it contains much more carmine than is possible to get in solution otherwise, and does not lower the blood pressure if injected slowly. It has the disadvantage over a solution of sodium carminate that it increases the flow of urine, probably in the same way that saline diuretics do, as it contains 35 per cent. of glycerin. This also causes a more diffuse staining of the glomeruli than is seen after the injection of the other pigments, although two parts of physiologic salt solution were added to the liquor carmini for injection. At first 5 c.c. or 6 c.c. of liquor carmini per kilo of body weight were injected, but this causes such diffuse pigmentation that 4 c.c. per kilo is a better proportion. Less than this does not give such good results.

In the experiments with carmine and indigo carmine the kidneys were perfused with absolute alcohol through cannulæ tied in the renal arteries. At first this was done with a syringe, but it was found much better to make the injections by gravity, using a separating funnel at a height of about six feet and allowing the absolute alcohol to perfuse for an hour, the kidney being covered with alcohol. The alcohol flowed freely from the renal vein and some escaped from the ureter. The organ was then cut open and thin pieces were placed in a large excess of absolute alcohol. These were then imbedded in paraffin and mounted unstained, so that none of the pigment could diffuse out.

When comparisons were made between the two kidneys the cannulæ of the two renal arteries were connected by a Y tube with one column of alcohol, so that the pressure and amount of absolute alcohol perfused were as nearly equal as is possible to obtain.

In precipitating the iron and potassium ferrocyanid in the kidney the precipitating solution was perfused by gravity and the tissues were then fixed by absolute alcohol and mounted in the same way.

One important fact to remember in this connection is that the vasa recta (i. e., the arterial twigs running between the straight uriniferous tubules) receive much more alcohol when the kidney is perfused than the capillaries about the convoluted tubules. I have determined this definitely by injecting a gelatin mass colored with soluble Prussian blue, with exactly the same pressure and conditions used for perfusing with alcohol. The kidney was warmed by perfusing with physiologic salt solution at 40 C. and it was kept covered with the same. When the gelatin was perfused it flowed freely from the renal vein and the pelvis and ureter were colored blue. The gelatin was then made to set by plunging the kidney in very cold physiologic salt solution, while the pressure in the renal artery was kept up.

On section the blue was found chiefly in the vessels between the straight tubules, in the interlobular arteries and in the capillaries of the glomeruli, but not in the second set of capillaries (renal portal capillaries) about the contorted tubules. This may account for the more complete precipitation of pigment in the straight tubules, and especially just at the junction of the cortex

with the medulla. It is here that the greatest amount of pigment is found precipitated in these experiments.

THE ELIMINATION OF THE PIGMENT.

Indigo carmine, potassium ferrocyanid or carmine may be detected in the urine flowing from the ureter in from two and a half to three minutes after it has been injected into the jugular vein. In the case of iron it requires a slightly longer time—from four to five minutes. The tissues are all diffusely stained after the injection of carmine or indigo carmine. When the kidney is cut open after it has been perfused so as to precipitate the dye, it is seen to be deeply colored, mostly in the medulla and where the latter joins the cortex. On section most of the pigment is found within the uriniferous tubules. The question at once arises, is this pigmentation merely the result of diffusion, or is this foreign substance eliminated by the kidney and gotten rid of in this way?

In the case of carmine it can at once be stated that this is an excretory activity and not merely a diffusion. This statement is based on the observation that pigment granules can be seen within the epithelial cells of the organs of excretion, viz., the kidney, liver and colon, while we do not find them in the cells of the pancreas, spleen or muscles. When moderate amounts of the pigment have been injected these granules do not occur in the cells lining the stomach or small intestine, although the vascularity of all these tissues is fully as great as that of the excretory organs. Furthermore, the contents of the colon and sigmoid flexure show the presence of the dye, while the contents of the stomach and small intestine are not colored unless very large amounts of carmine have been injected. Sections of the tissues not concerned in the elimination of the stain show the pigment granules within the blood-vessels and perivascular lymph spaces, but not within the cells of the parenchyma.

THE MANNER OF ELIMINATION BY THE KIDNEY.

Attention may next be directed to determining whether the elimination by the kidney is the result of filtration through the glomeruli or the result of a protoplasmic activity of the epithelium lining the uriniferous tubules. Neither one of these processes precludes the possibility of the other, and both may operate at the same time. This is often lost sight of by those who endeavor to prove a favorite theory.

When a kidney is removed one-half hour after the injection of carmine into the systemic circulation; is perfused with absolute alcohol for an hour in the manner before mentioned, so as to fix the cells and precipitate the stain *in situ;* and is then imbedded, sectioned and mounted in agents which can not dissolve the stain, most of the pigment is found in the straight tubules of the medulla and those of the medullary rays reaching from the medulla into the cortex. The convoluted tubules of the cortex contain less pigment and it only occurs in places while the glomeruli are quite free from it.

The precipitated carmine occurs chiefly in the lumen of the convoluted tubule and in that part of the epithelial cells which borders on the lumen. The part of the epithelial cells which is nearest the basement membrane is not free from pigment, but with the low power appears to be uniformly tinted.

As stated before, this condition is taken to indicate absorption by those who hold to the filtration theory, while it is interpreted as evidence of excretory activity by those who hold the Bowman-Heidenhain theory.

The experiments presented in this paper seem to indicate that these granules are in the process of excretion rather than of absorption. This view is based on the following facts:

1. The pigment in the renal epithelium of the contorted tubules is found chiefly, but not exclusively, in the part bordering on the lumen. If these cells be examined with a high power (1/12 oil immersion lens), the basal part shows not only a diffuse stain, but fine carmine granules. These can be found not only in cells containing large granules, but in many cells in which there are no coarse granules near the lumen. The difference in the size of these granules is fully as marked as the variation in the size of the neutrophile and eosinophile granules of leucocytes. Why is there this difference in the size of these precipitated carmine granules?

It has been pointed out that in perfusing the kidney with a pressure sufficient to cause a free flow from the renal vein, the vasa recta and the interlobular arteries receive most of the perfused fluid, while the capillaries about the convoluted tubules receive very little. Some of the perfused fluid filters through the blood-vessels of the glomeruli and escapes from the uriniferous tubules into the ureter even when absolute alcohol is used. It would seem possible, therefore, that the pigment is more completely precipitated in the straight tubules and outer part of the convoluted tubules than in the basal part of the latter. This would only explain the difference in the size of the granules, but not the difference in the amount of pigment in these two parts of the cells lining the contorted tubules.

This difference in the distribution of the pigment does not necessarily indicate that it is absorbed by these cells. It will be recalled that in the mammary gland during active secretion the fat globules accumulate in that part of the cell next to the lumen of the acini, and are not uniformly distributed in the part near the basement membrane. The same thing is true of the zymogens of most glands which pour out external secretions. No one would contend from this condition alone that these products of gland activity are absorbed and not secreted.

2. Against the view that these pigment granules are being absorbed, we would point to the fact that some cells in the liver and many cells in the colon show the presence of such granules. If the amount of carmine injected is very large this pigment is also found in the epithelial cells lining the stomach and intestine, but when moderate amounts are used the dye is excreted chiefly by the kidneys and colon. The contents of these hollow viscera show that the carmine is excreted. Other tissues such as the pancreas and spleen, which are just as vascular, do not show the carmine granules in the cells. It can not be contended that the carmine granules in the cells lining the alimentary tract are being absorbed. It is much more probable that the epithelial cells of the uriniferous tubules like those of the colon are active in excreting this foreign substance from the blood.

3. If the ureter be obstructed so that the outflow of urine is stopped without interfering with the circulation of the kidney, the renal epithelium is free to act while the separation of fluid by the glomeruli is reduced to a minimum. When carmine is injected under these circumstances the amount of pigment in the obstructed kidney is much greater than in the normal one. The cortex is more deeply colored than in the unobstructed kidney, but still contains less than the medulla. Sections show most of the pigment in the lumen, as very

little is flushed out. The amount of pigment in the cells of the contorted tubules, and especially toward the basement membrane, is relatively increased. It might be contended that this is due to increased absorption under pressure, but the concentration of the urine which accumulates in the pelvis of the kidney when the ureter is obstructed argues strongly against the view that a dilute urine continues to be actively separated by the glomeruli when the ureter is obstructed. This has been determined by comparing the amounts of urine and urea respectively given off by the normal and by the obstructed kidney. My own experiments are not in accord with those of Cushny on this point.

3. When the free flow of urine is stopped by cutting the spinal cord and thereby lowering the blood-pressure, or as the result of surgical shock, or as the result of compressing the renal artery for a short time without injuring the intima, the injection of carmine into the circulation results in far more of this pigment being found in the uriniferous tubules and in the cells lining them than could be accounted for by a slight transudate which might continue from the glomeruli with complete resorption of the water. Indeed, when the flow of urine has been stopped on one side by the temporary compression of the renal artery the kidney of that side shows fully more carmine than its fellow. This condition would be reversed if the carmine in the cells were the result of absorption from a dilute urine.

4. In none of these cases does the stain show extensively in the glomeruli or capsule of Bowman when carmine dissolved by weak sodium hydroxid has been used. Even when the ureter has been obstructed and the kidney is deeply pigmented as contrasted with its fellow, the glomeruli do not show the pigment granules one would expect to find if the filtration through these structures had continued. If all the pigment found in the uriniferous tubules had come from the glomeruli and none from the epithelial cells, then the glomeruli should also be stained when their activity is stopped by obstruction to the outflow of urine from the kidney.

When ammonium carminate held in solution by glycerin is used the glomeruli show carmine granules, whether the ureter is obstructed or not. This solution has a greater diuretic action than any other substance used, and it is probably in more complete solution and more diffusible than the carmine dissolved by soda.

5. The glomeruli do not show a deposition of carmine granules, even when the animal is killed shortly after the injection of carmine dissolved by sodium hydroxid. In one experiment the kidney was excised four minutes after the injection of carmine and one minute after it appeared in the urine; in others after intervals of 10, 15 and 20 minutes, but in none of them have the glomeruli been stained as has been described with indigo carmine.

In conclusion it should be stated that these experiments merely indicate that pigments are excreted by a protoplasmic activity of the renal epithelium. They do not contend that none of the pigment is filtered through the glomeruli. On the other hand, when ammonium carminate is used the sections indicate that this is the case, and Starling's experiments with indigo carmine show the same thing. As stated before, we should bear in mind that both processes may operate at the same time.

The elimination of pigments by the kidney does not afford a method of determining positively and finally whether the rodded epithelium is excretive or absorptive in function, but the former seems the more probable. Of course, urea and the metabolites of the urine may be handled in a different way from foreign substances injected into the circulation. However, it seems improbable that the cells lining the uriniferous tubules are concerned exclusively in absorption, as has been contended recently.

DISCUSSION.

DR. E. R. LECOUNT, Chicago—I would like to ask if the arrangement of the pigment granules in the secretory cells of the convoluted epithelium was in rows, at right angles to the channel. We can recall that in various kinds of secretory epithelium it has been proven that there are intracellular passages. In the pancreas, liver cells and others there are pathways which lead into the channels. The renal epithelium is striated and the striations are at right angles to the tubules. I do not know that it has been proven that this is due to the existence of passageways, but it would be interesting to determine that point.

DR. W. S. CARTER, Galveston, Texas—I have not observed any such arrangement. The coarse pigment granules occur in great numbers near the lumen of the tubule, and where we have these very fine ones they are very evenly distributed through the protoplasm.

THE PHARMACOLOGIC ACTION OF DRUGS;

IS IT DETERMINED BY CHEMICAL STRUCTURE OR BY PHYSICAL CHARACTERS?*

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A close connection between therapeutics and chemistry has been recognized so long and has survived so many changes in each of these subjects that it was only natural that in the last half century the infant science of experimental pharmacology should renew the old alliance. Accordingly, soon after the idea of molecular structure and the use of structural formulæ were introduced in chemistry, the question was broached whether the effects of drugs in the organism could be co-ordinated with their molecular constitution. The answer has very generally been in the affirmative, and the view that there exists a direct relationship between chemical configuration and pharmacologic action has been supported by a number of important memoirs. Some sanguine advocates have even expressed the hope that with advancing knowledge of pharmacology the time may arrive when the action of a remedy will be deduced from its structure alone, and when the quest for new remedies will no longer be pursued in the haphazard way of the past, but with the definite object of forming a molecule of a certain structural arrangement, which will then necessarily possess the action desired.

Before considering how far this theory has proved to be correct, it may be well to examine what is meant by the structural formulæ which adorn so many pharmacologic treatises, but which I fear fail to enlighten as many readers as they repel. These may be regarded as a sort of shorthand statement of a series of reactions which the compound has been found to present; the structural formula, like a family tree, indicates the origin of the molecule, the products that may be expected from it when subjected to such processes as oxidation or reduction, and what compounds it is likely to

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enter into combination with. On the other hand, the structural formula, again like a family tree, takes no account of the physical properties of the individual, such as the solubility, volatility, etc. For example, the formula of ethyl alcohol (CH_3CH_2OH) indicates its relationship to ethane (CH_3CH_3), acetic acid (CH_3COOH), etc., and suggests that it will tend to form combinations with acids, etc.; but if this substance were unknown and its formula only were before us, one could not infer with any certainty whether it would be soluble in water in any given proportion, or how volatile it would prove to be. The molecular structure may thus indicate the action of a substance in so far as that is determined by the combinations formed by the drug in the organism, but can give no clue to those effects which are due to its volatility, solubility or other physical properties. Now, it is obvious to every one that these influence the action of drugs very considerably; for example, the volatility of ether and chloroform determines largely their availability as anesthetics, while the less volatile nature of chloral and paraldehyd precludes their use for this purpose in man, but renders them more suitable than their more volatile relatives for use as hypnotics.

The importance of these physical factors has always received some recognition, for it has always been admitted that the relation between structure and action only holds as far as the physical characters of the bodies do not diverge too widely. Thus the lower alcohols all have a characteristic action on the central nervous system, which is lost as the molecule becomes more complex in the higher members of the series, and this has been explained by the molecule in the latter being absorbed less readily through its smaller solubility in the body fluids. But while admitting that the physical properties influence the results to some extent, it has been held that the real key to the action of remedies lies in their chemical affinities, that, for example, the change induced in the effects of methane (CH_4), by the substitution of a hydroxyl for a hydrogen atom is due rather to the chemical affinities of the hydroxyl than to the fact that the substance changes from a gas to a liquid. In recent years, however, the study of chemical structure has found a rival in the study of the physical characters; the properties of individual substances have begun to receive some attention as well as their relationships; and with this revival in interest the question has arisen as to the relative importance of the molecular constitution and of the physical characters of a substance in determining its pharmacologic action. In other words, a doubt has arisen whether the pharmacologic effects are due to the formation of chemical combinations in the tissues or to the presence of the drugs as uncombined foreign bodies in the cells and fluids. If chemical compounds are formed, then the molecular structure is the direct determining factor, though it may be modified by the physical characters, while, on the other hand, if no true chemical combinations are formed, the structure is of less immediate interest to the pharmacologist, and the physical characters ought to receive his chief attention, while the connection between the structure and the physical properties scarcely comes within his sphere of action.

A concrete example may illustrate the problem, and a simple one is offered by a comparison of the effects of methane (CH_4), which is practically inert, and of methyl alcohol (CH_3OH), which is a depressant to the central nervous system. It may be held that the OH of the alcohol permits of a combination being formed with protoplasm in the same way as with an acid, and that in the absence of OH in methane the latter is incapable of such a combination and therefore inert; or it may be suggested that the alcohol possesses some physical property, e. g., a lower volatility, which permits of its effecting some change in the cell without any chemical combination being formed, while methane is devoid of this physical property and inert. The question can be decided only by examining a large number of bodies and finding how far they support either view. For example, if it is found that no body homologous to methane is depressant and all the alcohols homologous with methyl alcohol resemble it in activity, there will be strong grounds for supposing that the hydroxyl in the methyl alcohol is the essential feature. On the other hand, if it is found that a large number of bodies possessing the physical characters of methyl alcohol, but without a hydroxyl group, are depressant, while those resembling methane in physical properties, but differing from it in structure are inert, the probability will be strong that the physical properties are the essential feature.

The time at my disposal is too short to allow of taking up all the work that has been done on this subject, and I think it will be more profitable to take up a few examples in which the action has been ascribed to one or the other factor.

One of the instances often quoted in support of the position that action is determined by structure is the large series of hypnotic bodies belonging to the aliphatic or open-chain series, including alcohol, ether, chloroform, chloral, paraldehyd, etc. Here is a series closely connected chemically and possessed of a characteristic action on the central nervous system. It is natural that it should be regarded as evidence in favor of the older view. It is true that the relationship proves only to be a very general one, and that whenever an attempt is made to apply the rule to individuals some exception is found to present itself. I need only cite the interesting experiments of Kionka[1] on the subject. He found that methane (CH_4), is devoid of narcotic action, while CH_3Cl has some effect. The presence of Cl appears to endow the molecule with activity, and further halogen substitution might be expected to augment this; on comparing CH_3Cl and $CHCl_3$, he found the latter four times more powerful. The inference would seem justified that CCl_4 would prove still more active; but as a matter of fact it is only half as depressant as $CHCl_3$. This result and numerous other similar divergences from what might have been expected from the older view have suggested that the depressant qualities of this series are not determined by their molecular structure, but by some physical factor which is present in a considerable proportion of the chemical group, but not in all of them. Professor Hans Meyer,[2] the originator of this view, ascribes the depressant action largely to their tendency to pass from watery solutions into fats and oils. Now, the cells in which these bodies tend to accumulate are peculiarly rich in lecithin and cholesterin (lipoids), and when a molecule of chloroform comes in contact with these cells it tends to leave the blood plasma and enter the lipoids. Its presence in the cells, however, deranges their delicate mechanism somewhat in the same way as a grain of sand may stop a watch, without any chemical combination having been formed. When chloroform is no longer inhaled and the blood becomes

1. Arch. internat. de Pharmacodyn. et de Ther., vii, 1900.
2. Arch. f. Exp. Path. u. Pharm., xlii, p. 109. Compare, also, Overton, Studien über die Narkose, Jena, Fischer, 1901.

free from it, the molecules in the nerve cells slowly return to the plasma, for though they are not so soluble in the latter as in the lipoids, they are not, of course, quite insoluble in it, and as those returning to the plasma are duly excreted in the lungs, more and more passes from the lipoids until these are finally capable of assuming their normal relation to the rest of the cell and consciousness returns.

In order to possess the hypnotic action associated with the methane series, a substance must thus be partially soluble in water or blood plasma and more soluble in the lipoids. In fact, a certain definite relation in its solubilities must exist, and in addition it must not act very powerfully on any other organ, otherwise its narcotic action will be obscured. This view is not unattended with difficulties, one of the most obvious of which is the fact that many substances share the physical properties of the narcotics without inducing their effects in the organism. Thus many substances of the benzol or aromatic series resemble the anesthetics in their relative solubility in water and lipoids, but fail to induce true narcosis. In some of them doubtless narcosis could be induced were it not for their affecting other organs. Meyer[3] has adduced one very telling argument in favor of his view in his investigation of the narcotic action of drugs at different temperatures and his comparisons of their relative solubility in water and oil at these temperatures. For example, he finds that the tendency of alcohol to pass from water to oil is almost twice as great at 30 C. as at 3 C., and in accord with this he found that it was about twice as depressant to tadpoles at 30 C. as at 3 C. On the other hand, less salicylamid passes into the oil from water at the higher temperature, and the narcotic action of this substance is correspondingly reduced. It seems quite impossible to account for this result on the older view of structural relationship, for this, of course, remains unchanged by the change in temperature.

In these cases the question is much complicated by the fact that the drugs have to be absorbed into the blood and distributed throughout the body and then taken up by the nerve cells; there is thus large opportunity for the interference of other factors than the relationship between the molecules and the nerve cells. A simpler process to follow is afforded by the local reactions, and one of these has been worked out in detail by Sternberg.[4] I refer to the characters of the bodies which have a sweet or bitter taste. Acid and alkaline tastes are, of course, not due to the similarity in structure of the acids on the one hand and of the alkalies on the other. but to the fact that acids in solution have a free hydrogen ion and alkalies a free hydroxyl ion; it is not similarity in molecular structure, then, but identity of ions that gives the identity of action here. Sternberg then confines his attention to sweet and bitter tasting substances and has obtained very striking results from his experiments, some of which may be mentioned here. The hydrocarbons are practically indifferent, but taste is conferred on them by the introduction of two or more OH groups, when the sense of sweetness follows. Thus glycol (CH_2OH-CH_2OH), glycerin ($CH_2OH.CHOH.CH_2OH$), erythritol ($CH_2OH(CHOH)_2CH_2OH$) and the succeeding members of the series are all sweet. The same result is attained if oxygen is added in the aldehydic form instead of in the form of hydroxyl. Thus biose (CH_2OH-CHO) is the first member of a sweet series, which may be followed up to dextrose if each C of the series has an OH attached to it. Even if one of the C atoms has no O attached to it the compound remains sweet, but if two C atoms are not oxygenated the taste is lost or changes to bitter. The oxygenated carbon atoms must, therefore, preponderate distinctly in bodies of this type which possess a sweet taste. That is, the sweetness is determined not by the presence of a definite group, but by the general character of the whole molecule; is there any physical character which is associated with such a molecule as Sternberg has defined as necessary to elicit the sensation of sweetness? Overton[5] has recently shown that the hydrocarbons are insoluble in water, but that as the HO groups increase in number they tend to give the molecule greater solubility in water and less in lipoids. Here, too, there must be a certain relative excess of the OH groups as compared with the non-oxygenated carbons; in fact, it seems possible to associate sweetness with a certain relative solubility in water and oils, although the subject requires much further investigation. The relationship between sweetness and this physical property is certainly suggestive.

A series of compounds which react very differently to living matter while practically indistinguishable by ordinary chemical reactions are the optical isomers. These have been studied of late years by Fischer,[6] who finds that the yeast cells and even the yeast ferments and emulsin can differentiate between the dextrorotary and levorotary isomeric sugars, while no ordinary chemical reagents select the one in preference to the other. Here again the property which determines the fate of these sugars does not seem to be associated with any one group in the molecule but to be determined by the character of the molecule as a whole, and this suggests that the selection of one isomer in preference to another by the ferments is due to the presence of some physical character, perhaps the rotation in one direction in the one, in the opposite in the other.[7] A similar selective action has been shown to occur in the higher animals as well as in the plants. I have recently been able to demonstrate a similar phenomenon in optically isomeric alkaloids. Thus levohyoscyamin proved to act about twelve times as strongly on the salivary glands as dextrohyoscyamin, although these two bodies can not be differentiated by ordinary chemical methods and would, therefore, be regarded as identical were it not for the different directions in which they rotate the ray of polarized light. It seems to me much more likely that the physical characteristic is the determining factor in this phenomenon than that the difference in configuration is the direct cause, although the physical factor undoubtedly rests on a structural difference ultimately. This can be determined, however, only by comparing the effects of other isomers on these organs.

Another set of reactions which appear to rest on a difference in physical properties rather than on chemical structure is offered by the behavior of the salts of the alkalies in the bowel. The class of saline cathartics can not be differentiated from the ordinary salts, such as the chlorids, iodids and nitrates, by any chemical feature possessed by the one group and not by the other, and it

3. Arch. f. Exp. Path. u. Pharm., xlvi, p. 338.

4. Arch. f. Phys., 1898. p. 451; Ztschr. f. Psych. u. Phys. der Sinnesorgan., 1899, xx, p. 385.

5. Pflüger's Arch., xcii, p. 115, 1902.

6. Ztschr. f. Physiol. Chem., xxvi, p. 61.

7. That the direction of rotation influences the reactions is shown by the fact that these isomers may be separated by the use of reagents which are themselves possessed of rotary powers.

seems necessary to resort to some physical differentiation, although it is not possible to define exactly this physical property at present. Thus the sulphates, phosphates, tartrates, and citrates of the alkalies are all possessed of cathartic properties, while the chlorids, bromids, iodids and nitrates are practically devoid of this action, and it might be supposed that purgation is connected in some way with the bivalent or trivalent anion. This rule fails, however, in several instances, notably in the case of the monovalent cathartic fluorids and in some members of the acetic acid series. On examining this series Wallace[8] found that formates, acetates, propionates, butyrates, valerates and caproates were rapidly absorbed; the next member, the enanthylates, passed more slowly from the bowel, and the eighth of the series, the caprylates, resembled the sulphates in their behavior. On taking up a parallel series of bivalent salts, he found that the oxalates were absorbed with much greater difficulty than the higher members, the malonates and succinates. The constitution of these bodies thus gives no key to their effects, and it seems probable that a clue must be sought in their physical characters.

The theory that pharmacologic action is correlated with the formation of chemical combinations has received a new lease of life through the remarkable series of discoveries which have been made in regard to immunity and which form the foundation of Ehrlich's theory. It is too early to attempt a discussion of the physical properties which may underlie these processes, but it is to be remarked that in the case of one hemolysin whose chemical and physical properties are known, the activity appears to be determined by the solubility co-efficient rather than by its power of chemical combination proper. I refer to the observations of Ransom[9] and Hedon,[10] which render it probable that the destruction of the red corpuscles by saponin is due to the solubility of the poison in the lipoids, and that the antihemolytic effect of blood serum in this case is the result of the presence of lipoids in the serum. Somewhat similar results have been obtained with some of the bacterial lysins,[11] and it seems possible that conditions of solubility rather than true chemical combination may prove to be the explanation of the vagaries of the intermediate body. It is a well-known fact that certain drugs act only in the presence of other bodies which are in themselves inert, but which tend to facilitate the solution of the active principles. For example, the active principles of the vegetable cathartics often prove less satisfactory when given in a pure form than when mixed with the inert bodies with which they are found in Nature.

Full justice to this question could only be done in a much more extended paper than I am able to lay before you to-day. For though the question has arisen in its present form only in the last few years, the facts bearing on it are so numerous that they will occupy much time and many minds in classifying them. I shall be satisfied if I suggest to you that the time-honored view that chemical structure determines pharmacologic effect is once more on its trial, and that many facts which can be brought into accord with it only with a certain effort can be explained more satisfactorily by supposing that structure is only the ultimate fact, and that the physical factors depending on structure are the immediate determinants of the action in the organism. On the other hand, there is no reason to doubt that many of the reactions of the living organism to chemical agents are the result of actual chemical combinations formed between them and the living substance.

8. Amer. Jour. of Phys., I, p. 411, 1898.
9. Deutsch. med. Woch., 1901, p. 194.
10. Arch. internal de Pharm. et de Ther., VIII, p. 381.
11. Noguchi: Univ. of Penn. Med. Bull., November, 1902, p. 327.

THE PHARMACOLOGIC ACTION OF DRUGS;

ITS RELATION TO THEIR THERAPEUTIC INDICATIONS.*

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The relation between the pharmacologic action of drugs and their therapeutic indications can best be shown after we have made a brief sketch of their history. From the earliest times to the present the use of drugs has been mainly derived from past experience. A system in which their use is based on past experiences which have not been carefully observed or controlled, as has been the case up to within a very few years, is called empirical therapeutics. A system in which the use of drugs is deduced from past experiences, which have been carefully controlled by scientific methods, is called rational therapeutics.

In the old days of Babylon when there were no physicians, the sick were exposed on the public ways so that they might converse with passers-by who perchance might have had the same ailment and who possibly could suggest a remedy. A similar custom prevailed among the Egyptians, who recorded on tablets in the temples the names of the remedies which had been found useful in certain ailments in order that they might be administered to persons suffering from these ailments. It is said that Hippocrates drew much of his therapeutic knowledge from such tablets in the temples on the Island of Cos.

Although various metals and salts were known to the old Egyptians, they relied almost wholly on drugs of botanical origin. Hippocrates, who lived about 460 B. C., based his therapeutics on the theory that the human body is composed of four humors—black bile, yellow bile, blood and phlegm, and that various diseases arose from the disproportion between these elements. He said that vinegar is diuretic and that its beneficial effects are due to its properties of dissolving the excess of black bile and of converting it into phlegm. He treated most diseases by emesis and cartharsis and used as emetics black and white hellebore, and as purgatives these, in addition to mezereum, rhamnus, elaterium, colocynth, scammory and aloes. As diuretics he used baths, wine, garlic, onions, leeks, cucumbers, celery and other strong-smelling substances and cantharides, and as narcotics he used opium and atropa mandragora. Externally he used a few metallic salts.

For several hundred years Hippocrates' successors followed practically the same therapeutics. Occasionally one advised mild treatment with but little bleeding, while another brought into vogue energetic treatment with profuse bleeding and purging and the use of drugs in large doses.

During the first century of the christian era, Dioscorides wrote a book in which he described all substances having medicinal value and named the subject materia medica. He divided the book into three groups devoted,

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respectively, to drugs of animal, vegetable and mineral origin. This work is of importance, as it was used as the standard on this subject as late as the sixteenth century.

Galen, who lived in the second century, considered that the body was composed of fire, air, water and earth; that it possessed two of the four "proprieties," heat, cold, wet and dry, and that drugs act by removing the excess of one or more of these "proprieties." Like Dioscorides, he attributed to every drug two of these "proprieties" to a varying degree. Thus he considered pepper hot to the fourth degree and mezerum cold to the first degree. He considered astringent and salty substances hot, bitter substances dry, and acid substances cold. He treated all diseases, whether hot or cold, wet or dry, according to the axiom *contraria, contrariis curantur.*

From the fifth to the twelfth century the Arabs monopolized the field of medicine and science. They followed Galen and Aristotle closely, but introduced a few new drugs. Among these were camphor and the milder purgatives, such as manna, senna, rhubarb, tamarind and cassia. Muriate of mercury, which they used for scabies; orpiment, which they used as an injection in dysentery, and niter internally as a diuretic were a few of the metallic compounds used.

After the Arabians came the German, French and English alchemists, among whom were Roger Bacon, who prepared gun powder; Arnould de Villeneuve, who prepared alcohol and turpentine, and Basil Valentine, the German monk, who, in the fifteenth century, introduced antimony into medicine. Valentine was led to this step on account of an accidental observation which he made on swine which had eaten some antimony that he had thrown out of his laboratory window. The swine had been violently purged, but subsequently gained remarkably in weight.

The greatest of the alchemists was Paracelsus, who, in the sixteenth century, tried to utilize chemical knowlede in medicine and tried to overthrow the humor doctrines of Hippocrates and Galen. He believed that the living organism was composed of three elements: salt, mercury and sulphur; that its existence was maintained by chemical processes and fermentations, and that disease was due to a loss of balance between the three elements. His therapeutics was based on these assumptions and also on the theory that there was a specific for each disease. Syphilis, which in his time was raging through Europe, he combated very successfully with inunctions, fumigations and internal use of mercury. He used mercury with success in leprosy, dropsy and scabies. For this last-named disease he also used sulphur. As a purgative he used precipitated mercury. Unfortunately, he used drugs on account of their resemblance to certain organs—lemon, for example, for heart disease because it had roughly the shape of a heart, and blood root for blood disease because it was red. At the end of the sixteenth century, Van Helmont, who followed the principles of Paracelsus, completed the downfall of the Galenic humor doctrines and of the therapeutics based on it.

It was about this period that cinchona, which had been used for a long time by the Indians in the treatment of malaria, was imported from Peru and recommended for the treatment of intermittent fever because of the cure it had produced on the vice-queen of Peru. It was used in fevers of other varieties and, in fact, in almost all diseases. Lobelia and sarsaparilla, which were used by the Indians for syphilis, were also introduced at this period and were used by those who were opposed to mercury. Ipecacuanha was imported from Brazil, but was used mainly by charlatans until it was successfully administered for dysentery to the French Crown Prince. It then received universal application. In 1640, Parkinson, in his work on botany, described digitalis, and recommended its use internally for epilepsy and externally for gout. It was not until almost a hundred years later that Withering discovered its diuretic and cardiac action and recommended its use in dropsy where the heart is weak.

From the time of Hippocrates to the nineteenth century a number of new drugs were added to the materia medica. The drugs used in different diseases were often changed. New diseases were treated with both old and new drugs. Every now and then a specific was declared for a certain disease, but it was soon discarded for another. After many systems of therapeutics based on sophistry had passed through the history of the world, physicians used drugs more or less according to their own experiences. Practically all of them differed in their opinion concerning the value of a drug in certain diseases.

In ancient Greece and Rome after energetic treatments had been in vogue for a time a reaction took place, and only small doses and mild measures were used. In the same manner after a period of energetic treatment with heroic doses of drugs from the time of Paracelsus to the end of the eighteenth century a reaction took place in the establishment of homeopathy with its infinitesimal doses. After making very imperfect observations the founder of homeopathy, Hahnemann, came to the unwarranted conclusions that drugs had opposite actions in small and large doses; that they acquired mystical curative power by unlimited dilutions; that symptoms alone should be treated regardless of the cause of diseases, and that these symptoms should be treated by a drug which produced the same symptoms in large doses.

Unfortunately, this whole system was based on a fallacy. Drugs do not necessarily produce in small doses effects opposite to those which they produce in large doses and can not possess any action whatsoever in extreme dilution, and, further, so little was known accurately about drugs at that time that often very erroneous actions were attributed to them. Homeopathy had, however, a practical success, according to statistics. This is not astonishing in view of the fact that its followers employed the best possible hygienic measures, better even than those used in the other schools. By the too heroic administrations of drugs without proper knowledge of their actions the end of the patient was often hastened or at least recovery was often impeded, so it is quite easy to see the reason for the apparent success of homeopathy at that time, as it was a system which really consisted in administering no drug at all, and thus permitted Nature to cure when favored by good hygienic measures.

Pharmacology remained behind some of the other branches of medicine because the methods of observation used to study the action of drugs were entirely wrong. The ancients as well as the empiricists of the middle age could make no headway in pharmacology on account of their inaccurate methods of observations. When a person recovered from a disease after the use of a drug they attributed the recovery to the use of the drug without further attempts to find whether or not this was

really so or whether the use of the drug and the recovery were merely two sequent events.

The theory of obtaining knowledge by practical experimentation is certainly a good one, but observations must be made and conclusions drawn with the greatest caution. When a drug is administered to a patient and he recovers from the disease the question arises whether or not the recovery is due to the drug. Good clinicians in hospitals have tried salicylates in rheumatism in a series of cases and have come to the conclusion that they have marked action. Other equally good clinicians can not see any good effects whatever. This discrepancy probably comes from the fact that those reporting good results observed a series of cases the majority of which had the disease mildly while the others observed it in patients who had the disease severely. The errors of the clinical experimental method can to a certain extent be overcome when the action of the drug is observed on thousands of patients by a large number of physicians. The good effect of mercury in syphilis which has been attested by its action in a very large number of cases over a period of centuries is even now thrown into grave doubts by a number of syphilographers who claim equally good results without its use.

Another source of error in the study of drugs has been in the use of crude preparations. These contain very variable quantities of active substances, sometimes none at all when the active substances are easily decomposed. A crude preparation sometimes contains two substances which are antidotes for each other, so that its action may depend on the ratio of each substance present.

If the methods so far described for ascertaining the action of a drug and its value in disease are so unreliable, what can, then, be done to raise the efficacy of therapeutics? The development of chemistry and physiology has helped to solve this question. In large part through the influence of Bacon's teaching of the accurate method of experimentation and of accurate deduction, physics was developed and the mystic art of alchemy was gradually transformed into the exact science of chemistry. As soon as chemistry was placed on an accurate footing it took enormous strides. Soon numbers of new compounds were found and analyzed by new and accurate methods, so that at the beginning of the nineteenth century the body to which opium chiefly owed its activity was isolated. The isolation of morphin from opium by Seturner in 1816 was followed by the isolation of quinin from cinchona bark by Pelletier in 1820, the isolation of aconitin from aconitum by Brandes, 1821, the isolation of strychnin from nux vomica by Pelletier in 1818, and the isolation of atropin from belladonna by Brandes in 1823. By administering these pure active principles to animals and carefully studying their action when other influences were excluded the science of experimental pharmacology was developed. It was by this method that Morton by experiments on mice and on himself discovered the narcotic properties of ether and introduced it into surgical practice; that Schmiedeberg discovered and studied the active principle of poisonous mushrooms and taught us its antidote by which many lives have been saved. It was by this method that the chemist Pasteur discovered the cure for rabies and Roux the specific for diphtheria. Countless numbers of drugs could be enumerated whose beneficial influence in therapeutics was derived from a careful and accurate study of their pharmacologic action.

Knowing the exact action of a drug in health, how shall we apply this knowledge in disease? Pathologic physiology teaches us that disease is due either to the abnormal increase, decrease or arrest of a function from some cause or causes. Naturally, our first thought is that drugs should be directed when possible against the cause of a disease. Examples of this are the use of quinin in malaria and the use of antitoxin in diphtheria. This method is practical, however, in but a very limited number of diseases. We do not know the cause of many diseases, and but few drugs have been found to act on the cause of disease. Even if we could apply drugs to the cause of every disease, we could not have a perfect system of therapeutics, for decrease in certain functions may have been produced which would remain in spite of the removal of the cause of the disease. As the action of a drug consists only in increasing or decreasing functions, our main use of drugs consists in increasing functions which are abnormally decreased and decreasing functions which are abnormally increased.

But like all new sciences, during its infancy pharmacology received opposition. Some clinicians objected to therapeutics based on scientific experiments, and still advocated the old empirical system. Nowadays, however, there is not a good clinician who does not realize not only the usefulness but the indispensability of an accurate knowledge of the action of drugs in treating diseases. In former times physicians would have considered it sufficient to know that morphin relieves pain and produces sleep. We know now that we could not use this drug to best advantage and with safety without knowing something of its other properties which have been learned by scientific experiments. Thus in using morphin to relieve pain in pneumonia, asphyxiation might be hastened by a physician who does not know that morphin depresses the respiratory center. Again, a case of morphin poisoning can not be properly treated without a knowledge of the fact that morphin is excreted in very large part by the stomach for hours even after its subcutaneous administration. Knowing this fact, the stomach should be washed out repeatedly at stated intervals in order to remove the morphin which has been excreted before it is reabsorbed. Many other examples could be given to show that a superficial knowledge of drugs acquired from clinical experience alone is not only not productive of best results in therapeutics, but that it may even be dangerous.

Realizing this fact, the best clinicians the world over now try to base their therapeutics on experimental pharmacology. There are, unfortunately, still a few cases where we are obliged to use drugs empirically. When we do use them in this manner we should know all that could be learned through scientific research concerning the action of these drugs in order to avoid undesirable results.

The general anesthetics, ether and chloroform, are absorbed into the blood according to the laws of partial tension. The blood absorbs these from the air of the alveoli until it contains the same concentration. On the other hand, the anesthetic passes back from the blood into the air of the alveoli as soon as the concentration in the latter is decreased. The intensity of action of the anesthetics is not dependent on the total amount of anesthetics taken but on their concentration in the blood at a given time. Not very seldom death occurs during anesthesia from ignorance of these facts by administering a small amount of an anesthetic, but in a too concentrated form. None of the anesthetics, including ether, has ever been shown to have a direct stimulant action on the heart. On the contrary, they all depress

this organ when given in sufficient doses. This fact makes obvious the undesirability of the use of ether subcutaneously in collapse, and especially in collapse following ether or chloroform anesthesia.

Experiments show that chloral and its allies have marked depressant effect on the circulation and respiration, while urethane and paraldehyd do not have this marked depressant effect; in fact, urethane even stimulates respiration. This indicates to us the use of urethane and paraldehyd instead of chloral when the circulation and respiration are weak. Chloral, which is more powerful than the others, still has its usefulness in cases without weakness of respiration or circulation where a powerful hypnotic is required.

Ever since antiseptics were first discovered much labor has been spent in trying to find an antiseptic which would kill disease-producing organisms in the circulation. Benzosol, carbolic acid and formaldehyd have been recommended for pyemia and general tuberculosis. Experiments have failed to show any substance which can be placed in the blood in great enough concentration to kill bacteria there without injuring or killing the subject. The use of all such substances recommended up to the present time is certainly to be discouraged because not only do we not attain our end, but decrease the vitality of the patient with strong protoplasmic poisons and, therefore, hasten his death. There is one drug, however, which probably destroys an animal parasite in the blood, i. e., quinin in malaria. This is possible because of the great selectiveness which quinin has for the lower forms of protoplasm.

Apomorphin has been advised as a narcotic in the treatment of alcoholismus. It can easily be shown by experiments that apomorphin does not have any narcotic properties whatsoever except just before it produces death. Its beneficial action in cases of alcoholismus can be explained by its emetic action. By producing nausea it brings about a disgust for alcoholic beverages.

In former times a large number of drugs, including calomel and podophyllin, were used as cholagogues, i. e., to increase biliary secretion. Recent experiments have shown direct cholagogue effects to be produced by bile alone. The other so-called cholagogues are merely cathartics, and what good effects they produce can all be explained by their purgative action.

Digitalis is one of the most useful, but at the same time, most misused of drugs. Many physicians ignore the double action of digitalis on the heart, i. e., the action on the inhibitory apparatus and that on the heart muscle directly. The main indication for digitalis in medicine is based on its power of increasing the force of the heart contraction. The results desired in cardiac uncompensation, an increase in the force of the heart and disappearance of dropsy, may be obtained with little or no diminution in the rate of the heart beat. On the other hand, decrease in the rate may occur without a sufficient increase in the force of the heart. In determining the dose of digitalis in a given case of cardiac uncompensation we must not be guided by the effect on the rate of the pulse alone, but especially by the effect on the force of the pulse, by the disappearance of the edema and by the increase in diuresis. Since the action of digitalis is to increase the force of the heart, its administration in a fully compensated heart is not indicated because it can then only uselessly overwork the heart. Since the action of the various members of the digitalis group, such as strophanthus, squills and convallaria, is, in the main, the same as that of digitalis, these can be used interchangeably with the latter.

Strychnin slows the heart by stimulation of the vagus and constricts the peripheral vessels by action on the vasomotor centrally and peripherally, but it does not stimulate the motor ganglia nor the muscle of the heart. These facts suggest a different use for strychnin than for digitalis. Strychnin can be used only to lower the rate of the pulse in tachycardia or to raise blood pressure in collapse, but good results can not be expected when we wish to increase the power of contraction of the heart directly. It should be used with care in degenerated hearts and vessels for fear of straining the former and rupturing the latter by the increased blood pressure incident to the constriction of the peripheral vessels.

For ages patients have been advised to frequent springs and spas for the cure of almost every disease. It is only comparatively recently that we have understood the modus operandi of this treatment and the source of benefit when obtained. Mystical curative power was formerly attributed to baths. We know now that neither water nor salts are absorbed through the unbroken skin, therefore baths can only have local effect on the skin, which is an irritant one, capable of producing reflex stimulation of circulation, respiration and consequently of metabolism. The ingestion of large quantities of water with salts produces an increase in metabolism by the salt action after absorption. On account of this increase in metabolism patients with almost any chronic disease are temporarily benefited. Furthermore, on account of the fact that salts and alkalies have the power of dissolving mucus, mineral waters containing these can benefit patients with catarrhs of the stomach and intestines by dissolving the mucus which is adherent to the walls. It is obvious that the same good results might be obtained at home by baths and by drinking water to which various salts had been added if we had not in the spas the additional action of the psychic influence of change of scenery, pleasant surroundings and careful régime.

[The discussion on the papers of Drs. Cushny, Tyrode and Sollmann will follow the paper of Dr. Sollmann next week.]

NON-ABSORBENT GAUZE:

THE PROPER MATERIAL FOR TAMPONADES IN SURGICAL AND OBSTETRIC HEMORRHAGES; A PRELIMINARY PAPER.*

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In presenting the subject of non-absorbent gauze for your consideration I am not offering a new topic for discussion; non-absorbent gauze takes its origin contemporaneously with the antiseptic dressings of Lister. Lister's[1] earlier dressings were distinctly non-absorbent; the manner of their production secured it, for muslin was soaked in a heated mixture of paraffin 16 parts, resin 4 parts and carbolic acid crystal 1 part; while still warm the excess of the compound was wrung out. Lister[2]

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. Sansom, A. E.: The Antiseptic System, Philadelphia, 1870.
2. Lister, J.: Edinburgh Med. Jour., p. 147, 1871.

shortly thereafter even suggested an 8 per cent. carbolic gauze made in the same manner. The paraffin counteracted the adhesiveness of the resin, and together they precluded a capillarity in gauzes thus treated. The faults of this carbolized gauze were early recognized and were its non-absorbence and its tendency to cake into a solid mass. In turn, Lister[2] experimented with corrosive sublimate and cyanid of mercury; the former, he found, combined with the discharges (pus and blood), being precipitated as an albumin-mercury chlorid, which did not have the antiseptic power of the bichlorid. By suspending the albumin-mercury chlorid in blood serum he secured a gauze which was "harsh mechanically and was not very absorbent (a serious defect)." To overcome these defects he tried a combination of the chlorids of ammonia and mercury (sal-alum-broth), the ammonia salt preventing the precipitation of the mercuric salt in the presence of albumin, but not inhibiting capillarity. The cyanid of mercury was too irritating for clinical use. Thereafter, surgical supply manufacturers used their skill in developing a true absorbent gauze.

My purpose in presenting these elementary facts is to show not Lister's endeavor to secure an ideal antiseptic gauze (his prime motive), but his endeavor to find an antiseptic gauze which was truly absorbent. His contemporaries, old and young, have kept his second purpose constantly in mind, and the original gauzes which were truly non-absorbent have been relegated to unmerited oblivion. In the early antiseptic days wound secretions were frequent, so an absorbent gauze was the desideratum of all surgeons; to-day, discharging wounds are seldom met, so the same necessity in all cases for a gauze with a marked capillarity does not exist as in former decades. To say the least, it does seem inconsistent for surgeons to require the same gauze for purposes of drainage as for packing in hemorrhage.

About a year ago R. H. M. Dawbarn of New York, in a personal communication, wrote me of the value of non-absorbent gauze in hemorrhages incident to surgical operations, and suggested that, in his opinion, it had as positive indications in obstetric uterovaginal tamponades as in surgical procedures; that for ten years he had repeatedly advised its use in various contributions on surgical subjects. The burden of my reply was that one of the physiologic functions of the puerperal uterus was to bleed for a variable period; therefore, if a gauze pack were introduced into the uterus it should be of such nature that it would not prohibit the normal drainage of that organ. Incited by his suggestion, I asked Johnson and Johnson to send me samples of plain non-absorbent gauze, with which I made some tests as to its action; the results of my experimentation, which will be epitomized later, have convinced me that when properly prepared its use is as clearly indicated in obstetrics as in surgical work. The one case in which I felt it was expedient to tampon since I began my investigation fully corroborated my tests; this case was one of severe hemorrhage following the manual removal of the placenta in a four months' criminal abortion.

The manufacture of non-absorbent gauze is practically a step short of the production of absorbent gauze; the raw cotton is thoroughly cleansed, then through devious treatments the individual fibers are gathered into threads, and the threads woven into the desired gauze. If the gauze is to be rendered absorbent it is boiled in a strong alkaline solution in order to remove the vegetable oil. The difference between the above non-absorbent gauze and commercial cheesecloth lies in the fact that cheesecloth is treated with a "sizing," such as albumin, preparations of zinc, clay, etc. The sizing increases the weight of the product, and also permits the utilizing of certain waste materials. In certain crude experiments as to the action of non-absorbent gauze I found these facts:

1. If the loose gauze be placed in a vessel containing a colored solution it floats; only that portion of the gauze brought into direct contact with the water is stained; no capillarity is observed. If the gauze be tightly rolled into a ball the same result occurs.

2. If the gauze be slightly dampened capillarity manifests itself after a protracted period; in one instance the solution passed over the rim of the vessel and down the dependent portion at the end of six hours. In a like test with absorbent gauze the water dropped in about a half hour.

3. If the gauze be thoroughly saturated with water and then subjected to the test, capillarity manifested itself shortly after a like treatment of absorbent gauze; when capillarity was thoroughly established the drops from the non-absorbent gauze fell more rapidly than from the other; the difference in capillarity may be ascribed, perhaps, to altered physical conditions—the size of the thread, more probably the size of the mesh, and the solidity of the wicking used, or if the mesh be filled with droplets of water "osmosis," if you please, may be the determining factor in producing a siphonage.

As a result of my tests I would hazard the statement that moist non-absorbent gauze has one-sixth to one-tenth the capillarity for water of the plain absorbent gauze. Some may raise the question, is a test with water applicable to the physical properties of blood? I maintain these tests are only illustrative; but I am confident that the two types of gauzes have relatively the same capillarity when considered with blood. Finding that the unprepared gauze under certain circumstances of moisture, or other physical conditions, may have a capillarity, has suggested to me that for certain restricted purposes in pure surgical work a gauze should be prepared which has no absorbency whatever; with this object in view I have considered the advisability of treating gauze with some substance which would attain this object. To be effective this substance should promote coagulation, or at least not delay it. As Lister's gauze was non-absorbent, from the method used in its preparation, I first thought of paraffin, so had some made. It produces a fine-looking gauze, soft in texture, but with difficulty takes up water or antiseptics within its substance. The chief objection to its use is that paraffin delays coagulation, so it is not an ideal substance for the purpose. As Pagenstecher[3] has had signal success with celluloid yarn for suture material, I turned to it as the next possibility. Perhaps the same objection obtains as against paraffin. These two substances do not agglutinate the fibers of the thread, as is evidenced by the samples before you; it is known that a rough substance, especially one with fine projecting filaments, accelerates coagulation, so what is gained by non-absorbency only may be lost by these two substances delaying clottage, which may be a serious defect. By incorporating an approved antiseptic in the fluid paraffin or celluloid, gauzes thus prepared may be made thoroughly bactericidal. O. Schaeffer[4] suggests, and uses, for post-partum uterovaginal tamponades a gauze impregnated with gutta percha; his paper was noted by me at the time of its publication, but his recommendation did not

3. Pagenstecher, J.: Phila. Med. Jour., p. 351. Feb. 10. 1900.
4. Schaeffer, O.: Münch. med. Woch., p. 945, Oct. 6, 1896.

make a particular impression on me; his plan of putting an absorbent strip of gauze against the bleeding site (e. g., the placental site), and then packing about this strip the gutta-percha gauze, did not seem feasible to me. Non-absorbent gauze treated with gelatin in many respects would be an ideal solution of the difficulty; gelatin, whether used by hypodermoclysis, by mouth, or by rectum, promotes coagulation; when applied directly to the bleeding surface it is more certainly effective. I have used gelatin absorbent gauze in my tamponades several times with positive results. Gelatin gauze can hardly be a marketable product on account of its great liability to germ contamination, as it is a good culture medium; again, the frequent German reports of tetanus following the hypodermatic use of gelatin demand that it be sterilized with especial care. It has been recently stated that the hemostatic property of gelatin is dependent largely, if not exclusively, on the calcium chlorid contained in it. If calcium chlorid is the hemostatic principle of gelatin it would be far more safe and rational to impregnate gauze with a weak solution of the salt, one to 200 or 500. There is one adverse factor in regard to calcium chlorid gauze for uterine tamponades, namely, the gauze must be both aseptic and antiseptic if it is to be left in place twenty-four to thirty-six hours; it may be a difficult proposition to get a good antiseptic which will not decompose in the presence of the calcium. In parenthesis I might state that the usual gauzes impregnated with antiseptics have not the capillarity of plain gauze. Hall[5] maintains this; Vignard[6] claims iodoform gauze has only one-fifth the absorbency of plain gauze; the users of medicated gauze do not get the full drainage they anticipate.

INDICATIONS FOR THE USE OF NON-ABSORBENT GAUZE.

When drainage is indicated in the abdominal, pelvic, thoracic, pus cavities, etc., there is no room for doubt that the gauze must be absorbent to the greatest degree. in stating this I make no asseveration as to the merits of gauze drains. The routine dressing for clean, dry wounds and surfaces, I am equally convinced, should be covered with the usual hygroscopic materials. *Per contra,* in cases of hemorrhage where it is impossible to catch the bleeding vessels with forceps or inexpedient at the moment to ligate, and in parenchymatous oozing, a gauze should be applied which possesses a minimum degree of capillarity, or one in which absorbency is entirely absent. A few illustrative instances will be sufficient; the rapid extirpation of the carcinomatous breast with the axillary glands with one sweep of the knife, as practiced by N. Senn; no clamps are applied until the breast is disposed of; here firm compression, not capillarity, is required. Non-absorbent gauze will find a ready use in that bloody operation of removing the upper maxillary bone, etc. In these cases, as well as in alarming hemorrhage from ruptured vessels in the course of difficult laparotomies, with concomitant shock, the blood absorbed by the usual gauze may be of such amount as to seriously jeopardize the life of the patient; by packing with a non-absorbent gauze some ounces of blood may be saved to the patient which otherwise would be lost, and the danger point will be more safely tided over.

In the meager presentation of the surgical indications of non-absorbent gauze my only purpose is to introduce the subject to surgeons; it is for them to place the indications for the use of the several forms; for mere compression I believe an impervious, or at least dry, gauze is to be elected; where compression and a modicum of drainage is demanded untreated non-absorbent gauze will be preferable.

OBSTETRIC INDICATIONS.

Antepartum.—The purpose of vaginal tamponades antepartum are fourfold: 1. To promote contractions. 2. To distend the vaginal vault, raise the uterus, and thus pull on the uterine arteries, acting as a tourniquet (Tweedy[7]). 3. To produce a compress against the bleeding surface (placenta previa). 4. To retain the effused blood so clotting may occur and thrombosis take place. The first three purposes will be as certainly produced by absorbent as non-absorbent gauze; their action is purely mechanical. As to the fourth, some may question which gauze is more effective; but either will act only as a mechanical stimulant to coagulation. I imagine that those who will defend the former will maintain that as soon as the serum is extruded from the clot it is absorbed by the gauze, thereby promoting further clotting. Coagulation is not an instantaneous process, it takes time; during the interval which must elapse absorbent gauze becomes saturated with blood, it has literally sapped the blood from the vessels; *per contra,* if non-absorbent gauze be used an efficient dam is pressed against the source of the bleeding, so only a minimum amount of blood escapes. Therefore, I would suggest that non-absorbent gauze should be used as the routine tampon material in all antepartum work where plugging is indicated, as in abortions, hydatidiform mole, placenta previa, etc.

Postpartum.—The virtues which we attribute to the antepartum vaginal tampon apply with equal force to the postpartum uterovaginal pack; I am positive that the most certain means of arresting postpartum hemorrhage lie in the timely use of thorough tamponades. I do not hold that tampons come into direct concurrence with massage through the abdomen, intrauterine compression, Breisky's bimanual compression, ergot, hot douche, and the other more or less certain means of securing contraction and coagulation, but I do maintain that all these should be held as tentative measures; when their uncertainty is manifested temporizing measures should be discarded and the gauze applied. To be sure, in very exceptional cases it will fail, but failure would be more glaring consequent to other methods of arresting bleeding. Chrobak[8] states that the tampon failed three times in twenty-seven cases of atony after delivery of the placenta.

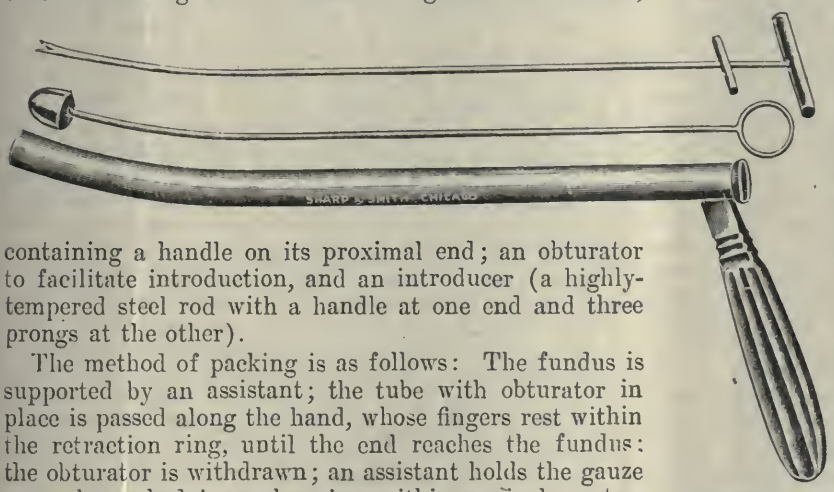
I would place the indications for the uterovaginal tamponade under these headings: 1. Atony. 2. Lacerations of the parturient canal (especially of the cervix) under such circumstances which preclude the delay incident to suturing the tears; in incomplete rupture of the uterus, and exceptionally in complete rupture. 3. Hemophilia (blood dyscrasia). 4. As a prophylactic against hemorrhage, as after severe operative deliveries; rapid delivery may be the cause of atony postpartum; the introduction of the tampon secures firm contractions. and prevents hemorrhage; the quicker the woman is returned to bed the better it is for her; this is especially the case in placenta previa. 5. As a prophylactic against infection; midwife cases, examinations by questionable hands, especially futile attempts at operative delivery; after manual delivery of the adherent or retained placenta.

5. Hall: Boston Med. and Surg. Jour., p. 518, vol. 137, 1897.
6. Vignard: Bulletin Med., Paris, No. 21, 1902.
7. Tweedy: British Med. Jour., p. 1445, vol. I, 1898.
8. Chrobak: Wiener klin. Woch., Sept. 18, 1902.

In using the tampon as a prophylactic against infection I most certainly would not recommend a non absorbent gauze; here a gauze with good drainage power must be used; it should be impregnated with a powerful antiseptic which at the same time is innocuous to the human organism; thus far I have found no chemical which so fully meets the indication as chinosol. In all the other conditions warranting the tampon I would use the non-absorbent gauze medicated with chinosol. It is frankly debatable if it is proper to employ a gauze charged with a substance which prohibits all capillarity, of a nature as I have already described. In blood dyscrasias I am positive gelatin gauze holds first rank; perhaps calcium chlorid in combination with a stable antiseptic may vie with it in efficacy.

TECHNIC OF INTRODUCTION.

I shall not dwell on the methods of Dührssen, Schauta and others who vary the method of packing by using the hand alone, the hand and dressing forceps, or the specula, vulsella and dressing forceps; they have been repeatedly described, and in proper surroundings merit their use. I would like to call attention again to the packer I exhibited to the Chicago Gynecological Society,[9] November, 1901. This instrument is a modification of some now in use, altered to meet the conditions of the parturient uterus. It consists of three parts (see illustration): a properly curved tube twenty-eight centimeters long with a caliber of eighteen millimeters,



containing a handle on its proximal end; an obturator to facilitate introduction, and an introducer (a highly-tempered steel rod with a handle at one end and three prongs at the other).

The method of packing is as follows: The fundus is supported by an assistant; the tube with obturator in place is passed along the hand, whose fingers rest within the retraction ring, until the end reaches the fundus: the obturator is withdrawn; an assistant holds the gauze properly packed in a glass jar, within an inch or two of the proximal opening of the tube, an end is picked up with a forceps and passed within the tube; then the introducer pushes it through the tube; finally, with quick back and forward movements, the introducer catches the gauze near the distal end of the carrier and carries it into the uterus, and eventually into the vagina. As the gauze is pushed home, the hand in the vagina holding the tube is gently swayed from side to side, thus completely filling the parturient canal. As the gauze escapes from the tube it (the tube) is gently withdrawn—in fact, is pushed back by the escaping gauze. Since introducing this instrument I have packed the genital tract eighteen times for the various indications already briefly enumerated with uniform success, and am convinced it is the safest method for placing gauze within the uterus: 1. It is the only aseptic method, for the gauze does not come in contact with living tissues until it is in its bed. I do not except the method where specula, vulsella and dressing forceps are used. 2. It requires only one introduction of an instrument; the dressing forceps must enter the parturient tract at least thirty, if not sixty, times. 3. Further abrasion of the already scarified mucous membrane is absolutely obviated; rough gauze passing over the membrane will make additional denudations, and may dislodge clots which are forming. 4. One assistant only is necessary, although two are preferable; he may support the fundus and hold the jar of gauze at the proper place; by other methods two assistants are wellnigh indispensable. The only disadvantage I can imagine is that in a marked atony of the uterus the packing may not, perhaps, be as firmly applied, which I feel is a valid objection.

Finally, whatever method of introduction is used it is indispensable to have a properly prepared gauze, one which is aseptic and antiseptic, and is so placed in the container that it feeds out without any handling. The gauze should be at least ten yards long, one-half yard wide, folded into a strip about two inches broad with the free edge perfectly covered; this strip must be felted in the jar; under no circumstances must it be rolled up, then placed in the receptacle. At the present time no gauze suitable for obstetric tamponades is on the market.

387 North State Street.

9. Holmes, R. W.: Amer. Jour. of Obst., p. 245, February, 1902.

DISCUSSION.

Dr. Chas. S. Bacon, Chicago—The assumption that absorbent gauze is drainage is not in accord with facts. It is well known that a gauze packing is a packing and not a drain. Wicking should be used when a drain is wanted. The impregnation of gauze with hemostatic substances is much more important than the impregnation of gauze with something that makes it non-absorbent. The idea of mechanical compression of bleeding vessels of the uterus in postpartum hemorrhage is, I believe, a mistake. We can never pack the uterus so as to compress the bleeding vessels unless we have the contracting action of the uterus. Stimulation of the uterus to contraction is essential in postpartum hemorrhage. Whether that is done by gauze or by some other substance is immaterial. In some cases it is desirable to hasten the coagulability of the blood. That is particularly true in cases of dyscrasia where there is a slow coagulation of the blood; these are the most serious cases, and are not so extremely rare. It is important to have some hemostatic or coagulating action in these cases, and that is secured by the use of gelatin or other substance. Investigations in that line are desirable. There is an indication for gauze packing in postpartum hemorrhage, such as lacerations that are not controlled by sutures. These are lacerations in the lower uterine segment that for some reason can not well be repaired by suture. Here we must rely on the contraction of the upper segment of the uterus to furnish resistance to the tampon. There we get a certain amount of mechanic compression, but it is not the compression that would be obtained in a surgical cavity after all, and even in these cases gauze impregnated with some coagulating substance would be useful.

Dr. C. O. Thienhaus, Milwaukee—In general surgery also we sometimes encounter situations in which gauze capable of promptly arresting capillary hemorrhage would be of greatest value. About two years ago a man of about 80 years of age was suffering from a chronic catarrh of the antrum. After opening the supermaxillary cavity, I endeavored to remove a few polypus growths on the middle turbinate. A severe hemorrhage followed which I was unable to control by gauze packing. Adrenalin solution stopped the hemorrhage promptly. Experiments ought to be made with gauze impregnated with adrenalin or with gelatin. Naturally, the drug used must not show bad effects on the wound or on the welfare of the patient.

Dr. V. M. Showalter, Point Clear, Ala.—Tamponage in postpartum hemorrhage is impractical and unscientific, except when the circular artery is involved in the laceration. One never has time to get the packing outfit ready. Immediate aid must be rendered. I have done this work for many years. A number of my patients suffer from pernicious anemia, which in some cases is secondary to uncinariasis, and with the seventh or eighth deliveries I usually expect a postpartum hemorrhage, and I am seldom disappointed. I never yet had a case where I had time to use tamponade or anything else except my hand. It is fashionable in my section to have very large families.

Dr. Hugo Ehrenfest, St. Louis—Tamponade is one of the most effective and important therapeutic measures at our command in dealing with obstetric hemorrhages. In practice we meet two difficulties: (1) We can not get gauze fit for tamponade. (It would be a great advantage if such a gauze should be marketed.) (2) It is a difficult procedure in packing the uterus to not carry infection from the vulva into the uterus. Special specula have been devised to protect the gauze which is introduced into the uterus, but they are very large and bulky. The instrument presented by Dr. Holmes is a valuable one. It will enable us to pack the uterus under aseptic conditions, and it is not so bulky that it can not be carried in the ordinary bag.

Dr. Wm. P. Manton, Detroit—Postpartum hemorrhage should be divided into two classes. In the first a large amount of blood is poured out in so short a time that the obstetrician has not time in which to do anything. In those cases there is sometimes a paralysis of the uterine muscular fibers, and the patient succumbs before the obstetrician can render assistance. In the ordinary cases of postpartum bleeding the hemorrhage is not so severe, but the obstetrician must act promptly and pack the uterus, and so stop the hemorrhage. The irritation of the gauze undoubtedly also acts in promoting contractions of the uterus. In my opinion, the absorbent gauze answers every purpose, although I have not had an opportunity to use the non-absorbent material. The blood fills the interstices of the gauze and promotes coagulation. This the non-absorbent gauze can not do. Any obstetrician of skill can, in the ordinary case, pack the uterus so tightly that not a drop of blood will escape. I think the drainage of serum is an advantage, and I can not see where, in obstetric practice at least, the non-absorbent gauze would be better than the absorbent. When we want to get drainage through the gauze we must use the absorbent, and in this respect the absorbent gauze is superior to the other.

Dr. Seth C. Gordon, Portland, Me.—Prevention is far better than cure, and I believe that nine-tenths of all postpartum hemorrhages can be prevented if the obstetricians do what they should. When I was studying medicine one of the best teachers in any branch was Prof. E. R. Peaslee of New York. He said never to deliver a woman without having some one press the uterus down as the child was being born. After the child is delivered this pressure on the uterus should be continued until the obstetrician is ready to take charge of the placenta. If one follows this teaching one will have less postpartum hemorrhage; in fact, I believe it will be rare.

Dr. H. J. Stacey, Leavenworth, Kas.—Absorbent gauze pushed in the uterus does not act as a drain. The only effect is to assist coagulation. Does not packing with a non-absorbent gauze act more like a plug and allow a condition very similar to accidental hemorrhage to occur? The only procedure in packing that is of any value is the manual method, as there is no time in which to get all the various instruments ready, although in a slow hemorrhage they might be used to advantage. In obstetric work I think Dr. Holmes has a very doubtful field for his gauze and packer.

Dr. H. E. Pearse, Kansas City, Mo.—We sometimes find it absolutely necessary during an abdominal surgical operation to control hemorrhage by packing, although it is not perfect surgery. It is always a confession of defeat. The control of hemorrhage is not the only factor to be considered; there is the question of drainage, the hemostasis being perfect; and of infection. It is essential to use nothing but absolutely sterile gauze. I long ago discarded medicated gauze where plain sterile gauze would answer the purpose, as it usually does. I control simple venous oozing with plain gauze, although this will not control arterial hemorrhage. Iodoform gauze is better for that purpose, although alum water is also useful. When we have to deal with an infected surface it is advisable to use iodoform gauze. When gauze is needed only to control hemorrhage I believe I will try Dr. Holmes' non-absorbable gauze. In that limited field of non-infected surfaces with a bleeding vnat is arterial, it would be a very desirable procedure.

Dr. Rosa Wiss, Meridian, Miss.—By having a pair of sterile rubber gloves in my bag I once saved a woman's life. I was called suddenly to deliver her of her twelfth child and found her all alone. Spontaneous delivery was very rapid, and immediately following a stream of blood as large as my wrist poured from her uterus. I knew that if that flow continued for a few minutes the patient would die. I remembered that I had my gloves, so I put them on and introduced my hand into the uterus, keeping the other on the abdomen to make pressure. I kept them in that position until I succeeded in stopping the hemorrhage. I sat there in that position for two hours, but the woman came through all right, and is alive to-day.

Dr. Effa V. Davis, Chicago—I desire to speak in favor of the instrument shown to-day. We all draw our conclusions largely from our own experience, and in twelve years of active obstetric practice I have seen very few postpartum hemorrhages, consequently I have a great deal of confidence in prophylaxis. The packing of gauze is such a very difficult procedure that other things which are more easily done should be considered first. In prophylaxis, simply holding the uterus at the birth of the child is not always a sufficient safeguard. One source of hemorrhage is a long, tedious birth, causing inertia of the uterus. Chronic endometritis, leaving a partially adherent placenta, is often another element. If we think of these things before delivery they will be of service. It is unwise to keep the subject of packing the uterus too prominently before us and to the exclusion of all other things. The obstetric work of the world is not done by the expert obstetrician, but by the busy general practitioner, who can not carry all these instruments all the time. The introduction of gauze over an unclean vulva and unclean bedding is a matter not to be overlooked. It is a procedure to be looked on with a great deal of fear and trembling in the hands of the general practitioner, who is often so illy prepared to do obstetric work. Packing the uterus is not the only thing, nor the first thing to do. We still hear of deaths from puerperal sepsis, and puerperal sepsis following the postpartum hemorrhage is in many instances the element which produces a fatal result, as the anemic state of the patient leaves her in the poorest possible condition to resist infection.

Dr. Granville Ryan, Des Moines, Iowa—Dr. Davis' point is too often overlooked, i. e., the matter of packing the uterus without having everything sterile. I have had a number of very severe cases of postpartum hemorrhage, but I have never packed a uterus, nor have I lost a case, nor had an infection. I always have normal salt solution and plenty of sterile water. I douche with the normal salt solution just as quickly and as hot as it can be applied. In addition I give strychnin and stypticin hypodermically and perform hypodermoclysis if necessary. I am very careful to antisepticize my hands and the vulva, of course. My experience has been that we too often forget or neglect to look into the history of the case to ascertain whether or not the patient is a bleeder. It is very necessary that that should be done. And, above everything else, we owe it to our patients to have a complete armamentarium and be ready for any emergency.

Dr. V. M. Showalter, Point Clear, Ala.—The advocation of tamponade is unscientific in conception and impractical in application. I may not possess the obstetric skill of others, but I can recall, from memory, fifteen patients with postpartum hemorrhage in the last fifteen years, and, thanks to the painstaking instruction I received from my old preceptor,

Dr. Owen of Mobile, I have never lost a case. In the cases where the blood flows like water from a pump you have not time to do anything except to put one hand into the uterus and place the other on the abdomen to excite contraction of the uterus. I always have an abundance of sterile water and salt solution prepared. I have never yet had the privilege of testing the value of prophylaxis because, as a rule, I do not see my patient until within thirty minutes of the time when the child is born. I do not believe that any man can on purely scientific grounds prove that tamponade is practical.

Dr. R. W. Holmes—The discussion has been largely on the treatment of postpartum hemorrhage. No one feels more than I do the value of prophylaxis in this condition, but every text-book of to-day makes positive, sweeping statements that are far from being true. They say that prophylaxis can eradicate postpartum hemorrhage entirely. That is impossible. We all should have a standard as to what is a normal blood loss. A woman who loses six ounces or more of blood should be considered to have postpartum hemorrhage, which includes 10 per cent. of women at least; but, fortunately, it is only 1 in 200 in which the hemorrhage is of any moment; and only 1 dies in 1,000 or 2,000. But the profession must learn that postpartum hemorrhage is one of the most frequent complications of labor, far more frequent than the complications of the first and second stage. The Credé treatment is recommended after twenty minutes, but in 60 to 75 per cent. of the cases a Credé can not be done after twenty minutes because the placenta is already out of the uterus. Credé treatment means the forcible separation and expulsion of the placenta from the upper uterine segment. As to adrenalin, the manufacturers would not recommend its use in the uterus; one death is reported following its use; its internal administration does not concern us here. Saenger recommended that ferrotannin be used; it is both styptic and, to a small degree only, an escharotic. Glutol is another, and there are many more substances which promote clotting. Any one who has put a tampon in the postpartum uterus knows that there is a capillarity to the gauze. There is not entire stoppage of blood between the tampon and the mucous membrane, because after three or four hours the napkin becomes stained with serum, and when the tampon is removed it is usually saturated with blood. I distinctly said in my paper that I did not believe in putting in absolutely non-absorbent gauze. I said it should be moist, which produces a minimum amount of capillarity. The uterus contracts and forces the blood into the meshes of the gauze, and when capillarity is once started it goes on just the same as in the case of absorbent gauze, only more slowly. The subject of drainage is entirely without the scope of the paper. The day has gone by when the physician can go to an obstetric case not prepared for the work. He must have a complete armamentarium, and I am thoroughly in accord with King of Washington, who said at least fifteen years ago that any man who went to an obstetric case and did not have an armamentarium to meet the ordinary emergencies of labor should be held criminally liable. The day of the man midwife is past. There are too many of them; they should be wiped out. I think the time will come when the man who goes to an obstetric case with his forceps wrapped in the morning paper will be held incompetent to practice his profession. Any man able to do obstetric work should be able to tampon a uterus. The instrument I have presented offers the only means of tamponing the uterus quickly, and at the same time eliminates all possible sources of contamination from the gauze sliding over the vulva and vaginal mucous membrane. The last speaker voices the opinion of those who decried the tampon when Dührssen first introduced it; its adoption by practically all scientific obstetricians is sufficient attestation of its inestimable value.

Some Uses of Olive Oil.—Beside having value as a mild laxative and tonic for babies, olive oil may be found of service in dysentery, in severe diarrhea and in chronic catarrhal gastritis.—*Texas Medical News.*

DESTRUCTIVE STERILIZATION BY CATAPHORESIS OF CANCER OF THE UTERINE CERVIX.*

G. BETTON MASSEY, M.D.
PHILADELPHIA.

The somber results of the knife and curette in the treatment of cancer of the cervix uteri are nowhere shown more distinctly than in that beautiful and monumental work of Cullen,[1] in which science has been enriched by the careful study of 141 cases operated on by master hands; seventy-three by hysterectomy and sixty-eight by curettement. Of the total number but fifteen, or about 10 per cent., were still living when the book went to press. An even more gloomy result was reported in a discussion in this Section at the Saratoga Session,[2] where one operator was quoted as saying that he had operated on 482 cases of cancer of the cervix, of which but two were living.

From experimental studies of the autoinfectivity of cancer, notably summarized in a chapter of the work mentioned, it is evident that this small percentage of cures in operable cases may be due in part to a reimplantation of the growth in the cut edges. This has been partially provided against by the Byrne method of cauterization by the galvanocaustic knife, and more recently by the electric cooking process of Skeene, revived by Downs. While the latter process is somewhat clumsy, and difficult of application through the vagina, owing to the large instruments and great heat required, it is evident that both methods are distinct advances in the treatment of cancer of the cervix by a probable elimination of operative infection.

A far more thorough sterilization is, however, possible by the use of the electrochemical method advocated by the writer for some years, for by this method no preliminary opening of the lymph and blood channels, with possible instantaneous admission of cancer cells, is required, the growth being destroyed and sterilized *in situ,* and the sterilization then carried to any desired depth and in any desired direction by small, easily-handled instruments, with complete protection of the external parts from accidentally straying force, and without appreciable heat production.

A powerful electric current is employed in this method for the development, within the substance of the growth, of nascent oxychlorids of mercury and zinc, from a union of electrolytically freed oxygen and chlorin with the mercury and zinc of an amalgamated electrode. These nascent salts thus produced during application are radiated in all directions by the continued flow of the current, devitalizing the protoplasm of the neighboring cells, particularly the better conducting lowly vitalized malignant cells, and the outflow may be governed and directed by the operator until both the center and the periphery of the growth are devitalized and sterilized, the destroyed tissues assuming a whitish-gray aspect.

The time required for the total destruction of an average cancer of the cervix varies from a half hour to two hours, with a current of 500 to 600 milliamperes, the patient being under a general anesthetic, as for a major operation. In certain early stages of malignant disease of the cervix the same results may be accom-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. Cancer of the Uterus, T. S. Cullen, D. Appleton & Co., New York, 1900.

2. The Journal A. M. A., July 26, 1902.

plished by several prolonged applications of 150 to 200 milliamperes, which may be borne without an anesthetic.

The immediate results of a thorough devitalization and sterilization of such a growth are the arrest of pain, hemorrhage and odor; and the slough produced is separated by the process of Nature in from ten days to three weeks. The bloodless destruction of the apparent portions of the growth do not, however, exhaust the full value of this application, for beyond the limit of absolutely destructive action there will be produced by a prolonged application a radiating zone of partial impregnation with the mercuric salt of sufficient strength to devitalize malignant cells, while the normal tissue elements are only irritated. It is this zone of sterilization that makes the value of this method absolutely unique, though the readiness with which the immediate area of necrosis is produced and directed at will is alone sufficient to attract the attention of the surgeon.

DETAILS OF THE OPERATION.

It is probable that the current required in a major application of mercuric cataphoresis in a case of cancer of the cervix may be obtained from the 110-volt Edison mains, but I have preferred to use a somewhat greater voltage, about 160 volts, obtained from specially built carbon-zinc-acid batteries of a total of about eighty cells. Two thirty-cell and one twenty-cell battery are connected in series to obtain this number. The batteries must be in the best order, freshly amalgamated, and with fresh fluid. The only other pieces of apparatus required are a good meter and controller adapted for the control and measurement of the large current used.

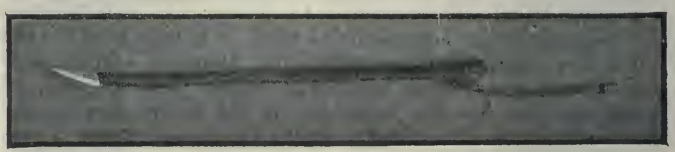
The negative dispersing pad on which the patient lies is placed on the operating table, which is preferably of wood to prevent straying of the current, covered with some material to make it slightly yielding to the shape of the patient's back. This pad is composed, from below upward, of a rubber sheet, on which is placed a lead plate as large as the patient's back, connected with the negative pole of the battery, and over the lead plate a very thick absorbent pad composed of nine or ten layers of heavy cotton material thoroughly saturated with warm water. Care must be taken that the lead plate is entirely covered so that the patient, who lies on it, does not come in contact with the metal.

On the pad the patient is placed in the dorsal position with the legs supported by a leg holder. After the patient is in position a deflated Kelly pad is slipped beneath the buttocks to prevent too short a circuit for the return current in this situation, and to provide drainage for the waste water used in keeping the vagina cool.

On a table at the side of the operator is placed a tray containing several appropriately shaped zinc electrodes with their tips coated with mercury, a glass cup containing dilute sulphuric acid to facilitate the renewal of the mercury on the electrodes, and another with several ounces of liquid mercury. The progress of the work is best observed by a miniature lamp and a Fergusson speculum when the electrode is removed from time to time, and these articles should, therefore, be at hand.

The best result in the cataphoric destruction and sterilization of cervical cancer is obtained from the mixed electrolytic salts of zinc and mercury, rather than from the pure mercuric salts from gold-mercury electrodes. This is partly due to the difficulty in controlling a liquid electrode surface in this situation. The accompanying illustration shows the shape of the zinc-mercury instrument that I have found to be most convenient for the purpose. You will observe that it is heavily coated with non-conducting materials fused on it except at the active surface.

The apparatus having been connected up and tested, the patient is etherized and placed on the table, with careful adjustment of the pad, and the operation begun by inserting the point of the electrode into the growth and turning the current on gradually until the desired strength has been attained. The operator's finger should be kept near the seat of action, and when an uncomfortable rise of heat is observed the rubber tip of a fountain syringe should be inserted within the vagina alongside the finger and a little cold water allowed to flow. This effectually keeps down the heat otherwise developed when so great a current is concentrated at such a small point as a single electrode. At the end of fifteen or twenty minutes the current should be turned off, the site of action examined, and a freshly amalgamated electrode placed in such new position as desired. At the end of a time varying from a half hour to two hours the whole of the growth will be destroyed and a moderate region beyond sterilized. The completeness of the destructive action is apparent on visual examination, but much more thoroughly attested by the changed conditions indicated to the examining finger, for it is characteristic of a cancerous growth under this process to become progressively soft during the flow of the chemical, and the test of a complete



softening of the indurated areas is the signal for the termination of the operation.

The after-treatment of the patient is merely expectant, but little pain being felt and this only during the first twelve hours.

The writer does not present this method to the profession as a cure-all by any means, but he does believe that it is the most effectual method for the treatment of the early stages of all varieties of malignancy in this situation, unless the recent attempts to apply radiotherapy within cavities can be improved; and it is evident that when applied in inoperable cases it will not only give a fighting chance of ultimate cure, but, by reason of the immediate relief it affords to the hemorrhage, pain and odor, it will become a valuable palliative and prolong life when a cure is impossible.

DISCUSSION.

DR. A. M. HAYDEN, Evansville, Ind.—I wish to know what results Dr. Massey has had; whether he has any statistics and any apparent cures, how long they have lasted, what stage they were in and whether they were diagnosed before the appearance of the offensive odor from the uterus.

DR. H. E. PEARSE, Kansas City, Mo.—I wonder why, in place of investigating this matter during the past years, the profession has always given it the very coldest welcome and the warmest opposition. In reality, it is a perfectly logical procedure. I tried it in three cases, and all three were failures, but I have not abandoned hope, because for fifteen years it was my pleasure to see case after case go to the surgeon for relief by operation, and it was my dismay to see every one of these cases come back to me, as a general practitioner, and seek for the relief that surgery could not give them. During five years I have seen an unlimited line of failures in

the operation for radical cure of uterine cancer. I now have one perfectly healthy case after nine years of postoperative life. We should look on this work of Dr. Massey's with at least a little bit of expectancy, and I hope he will tell us what he has accomplished.

Dr. G. B. Massey—The cataphoric method for the destruction of cancer has been used by me in as many as 63 cases in all portions of the body, but I have only had the opportunity to employ it in 7 cases of cancer of the cervix, and only 4 of these were treated exactly as described in the paper. There has been but one absolute and final success of the 7 treated—a case that had not been operated on previously, and in this case the patient remains well after the lapse of six years. All the rest were recurrences after knife operations, and, with the exception of one case that proved fatal from peritonitis within six days, they were all greatly benefited for a time, usually dying ultimately from a metastasis that must have been implanted before the application. But, whether the patient is suffering from metastasis or not, it is my conviction that this method offers the best chance for either the relief or cure of cancer in this situation.

EMPYEMA OF THE FRONTAL SINUS.

[Through inadvertence, the discussion at the New Orleans session on the paper of Dr. C. A. Thigpen, Montgomery, Ala., was omitted from The Journal, Nov. 14, 1903, page 1209. It was as follows:]

DISCUSSION.

Dr. Robert C. Myles, New York—The classic operation Dr. Thigpen performed is, in my opinion, always the proper one in this class of cases. He first provided for permanent drainage by removing the anterior end of the middle turbinal, some of the ethmoid cells, and also probably a part of the nasal process of the maxillary bone.

Dr. Gordon King, New Orleans—I want to emphasize the necessity in these chronic cases of a radical method of operation. I think all of us have had very disagreeable experiences very often of having these cases dragging on indefinitely by any method we may pursue. When the mucous lining of the cavity has become degenerated, sometimes forming polypoid masses that may almost occlude the cavity, it is necessary to scrape out the cavity. In those cases I do not see any other course of treatment to pursue except the radical method of opening the sinuses widely and then obliterating the cavity, whether you leave the cavity to become obliterated by a slow process of granulation, or close it up immediately and allow it to fill up from the inside, with the establishment of intranasal drainage. Even that is sometimes unsatisfactory, but not so unsatisfactory as the open method where you pack it as an external wound. Those cases are extremely unsatisfactory in their course. In the first place, it takes eight or nine months for them to finally heal up, and you have not only a depression but also an unsightly scar in a prominent place. A method with which I have had considerable experience has in a measure overcome that defect. It is the Ogston-Luc method, by which you open the cavity, clean it out and close it up, and the wound will heal beautifully, even after a large opening. It will go on very nicely for ten days or two weeks, however, and then it may again become obstructed. That takes place before the postoperative obliteration of the cavity. You are then forced sometimes to reopen the cavity and treat it externally. On this account some observers have lost confidence in that method. To overcome the difficulties an operation has been perfected which I think is satisfactory. There is a deformity of the face left, but with paraffin injections I think that can be overcome. The cavity is obliterated by the transplantation of a periosteal-cutaneous flap into the wound. The cavity is opened widely; it is scraped out thoroughly, no attention is paid to the intranasal drainage, and the wound is sutured afterward, except the external part of the wound. Obliteration of the cavity takes place immediately and recurrence is almost impossible. The usual course of these cases is an uneventful recovery in two or three weeks. I favor a modification of that method, which solves the question of drainage. That is simply complete obliteration of the cavity and intranasal drainage combined, so that the entire wound can be sutured up and drainage can be secured through the nose. There is no danger of the formation of a fistula. I have adopted that recently in a double empyema where the cavities were enormous and opened into one chamber. The process had gone on to the destruction of sight on one side before I saw the case. Healing took place in ten days with no bad features whatever following. That I believe to be one of the best operations we have in these cases.

Dr. Otto T. Freer, Chicago—In Killian's recently perfected operation for the complete obliteration of the frontal sinus in cases of chronic suppuration, he removes the entire front wall of the frontal sinus with the exception of a slender bridge of bone whose lower border is the supra-orbital margin. In addition he resects the frontal, also called nasal, process of the superior maxillary bone, making a broad opening as far back as the lachrymal bone, as far toward the center as the nasal bone and as far upward as the lower margin of the bridge mentioned. This gives most convenient access to the outlet of the sinus, the frontal and anterior ethmoidal cells and middle turbinated body. Killian also removes the orbital floor of the sinus so that the orbital fat may rise to help fill the hollow left by the obliterated sinus and the deformity thus becomes less than if only the front wall were removed. Killian's results have been perfect and his photographs show very slight disfigurement. I have done the operation on the cadaver only, but have been impressed with the ease of its performance, its precision and the easy access obtained to the ethmoidal cells both anterior and posterior. It is also possible to reach the sphenoidal sinus through the opening left by the removal of the frontal process.

Dr. Adolph O. Pfingst, Louisville—I wish to commend the method of Kunst and Luc, mentioned by a preceding speaker. I believe the operation described by Kunst should be done to get the best drainage. At first it struck me that drainage would not be proper in these cases. It has been suggested to introduce drainage tubes, but in the limited number of cases which I have treated I did the operation without drainage tubes. In two cases operated on by this method there has been no recurrence. There has been considerable work done on this subject in late years, but we have not really done enough along this line. Most of us do not care to see these cases come to us because at the best they are ungrateful in their results. We ought to give the subject more attention.

Dr. George L. Richards, Fall River—The question of deformity must not be too lightly overlooked. Deformity in the United States and deformity in Germany are two very different things. I have seen cases in Jansen's clinic with eyes looking in different directions; if such cases were to occur in this country they would be an unpleasant advertisement. Sometimes it may be just as well to be a little less radical and take a little longer to do the radical operations recommended by some of the German operators. You can put in a drainage tube and all that, but the opening into the nose usually sooner or later closes. You can maintain the external opening for a long time by putting a small silver or gold tube in the wound. I have had dentists make them with a little rim so they can not slip in. Cases sometimes show bulging from pus after apparent cure and the wound can be reopened if necessary rather than to do at first the very radical operation. The tube can be kept in almost indefinitely when the operation is done above the inner angle of the eye, and finally it may be removed and the hair of the brow grows over the wound so that the scar is almost imperceptible.

Dr. H. Dupuy, New Orleans—Dr. Lake of England has recently recorded three fatalities in his own practice where he had completely closed the wound, although he had free irrigation through the nose. It seems that the diploë of the frontal bone is very likely to receive infection, and by this means in two of his cases infection was carried to the brain. A recent experience in a case I have just reported to our state society has inclined me to the method of incomplete closure of the wound. Presuming there has been made a horizontal incision to the eyebrow, then after the operation I put in two or

three sutures from the outside, leaving an opening along the median line through which the packings may be introduced and drainage secured. In less than six weeks, in the case of a small frontal sinus, it was completely closed by granulations.

DR. E. FLETCHER INGALS, Chicago—I reported a case not long ago in which I succeeded in curing suppuration of the frontal sinus by a 4 per cent. solution of protargol, after the suppuration had continued for ten years. The man had been under my care for some time, but he had refused operation. By antiseptics we can frequently cure these cases without operation. In the cases in which I have made a radical operation I have put in a drainage tube from above; this tube has a flange at the upper end to prevent it from slipping down, and is somewhat funnel-shaped at its lower half so it will not work up. In one case where the posterior wall of the frontal was found completely destroyed at the time of operation I kept the external wound open between the eyebrows by a short rubber drainage tube flanged at both ends. This enabled the patient to cleanse the cavity easily. She refused to have the wound closed, although there was free drainage through the nose. The last I saw of her, about two years after the operation, the wound was still open. It is well to leave the external opening in such cases until we are sure suppuration has ceased.

DR. C. A. THIGPEN, Montgomery, Ala.—It was not my intention to dwell on the various operative procedures for frontal sinus disease. With regard to the operative technic the more I have operated the more conservative I have become, and before doing any external operation, the anterior portion of the middle turbinate should be removed and the probe introduced into the sinus to ascertain its upper boundary; from this point I open the cavity and drill downward and backward into the nose. Special attention should be directed to the nasal process of the superior maxillary bone, drilling away as much of it as possible, as advocated by Dr. Myles. Since following this teaching I have not failed to relieve my cases, and thus forego the necessity of a more mutilating operation.

THE CULTIVATION OF TRYPANOSOMA BRUCEI.

A PRELIMINARY NOTE.

(From the Hygienic Laboratory, University of Michigan.)

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AND
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At the New Orleans meeting of the American Medical Association we presented before the Section on Pathology and Physiology the results of our work on the cultivation of the ordinary rat trypanosome, *Trypanosoma lewisi.* The paper itself has appeared since then in the Vaughan *Festschrift.*[1] The results obtained mark a distinct advance in our knowledge of the animal parasites since this was the first time that a pathogenic protozoön was successfully cultivated and its relation to the disease demonstrated by inoculation of pure cultures. At that time we expressed the belief that the methods employed would probably be found to be applicable to other trypanosomes, and this view we have been able to confirm with reference to one of the most important organisms of this group, namely, *Trypanosoma brucei,* the cause of nagana or the tsetse-fly disease of South Africa.

The nagana material necessary for this work was kindly supplied us by Dr. H. Wolferstan Thomas, late fellow at McGill Medical College and now of the Liverpool School of Tropical Medicine. We take this occasion to express our grateful appreciation of the courtesy thus extended. It should be further stated that this material is lineally descended from that brought to England from Zululand in the fall of 1896 by Dr. Waghorn, and therefore it is the same as that employed by Kanthack, Durham and Blandford, by Plimmer and Bradford, by Laveran and Mesnil and other European workers, with the exception of Martini.

It has been shown that the *Trypanosoma brucei* dies out very rapidly in the cadaver, sometimes within a few hours, and that this occurs even when the blood is transferred to a tube. The longest that any one has been able to keep the parasite alive *in vitro* has been about six days. Under these conditions no evidence of multiplication has been observed. The virulence of the blood when kept in tubes is preserved longer than when the blood remains in the cadaver, but, only exceptionally, has it been found to persist up to the fourth day. It seemed as if this organism was essentially an obligative parasite and as such incapable of existing outside of the living animal.

The methods which we have employed are the same as those used for cultivating the rat trypanosome and for that reason need no description at this time.

The culture medium employed in all of our work was ordinary nutrient agar, containing variable amounts of defibrinated rabbit blood. In the water of condensation, which accumulates in tubes or flasks containing this medium, the rat trypanosome grows readily and luxuriantly. No difficulty is experienced in starting an initial culture of this trypanosome from the blood of an infected animal.

The nagana trypanosome does not take readily to this same medium, and a great deal of difficulty was experienced in obtaining cultures of this organism. When, however, an initial culture is once obtained, and the parasite has become used to its new soil, the subsequent cultivation is more easy.

Notwithstanding numerous modifications of our technic, all attempts to obtain cultures from the first twenty-five nagana animals failed. In the inoculated tubes the trypanosomes would usually die out on about the 5th to the 7th day; exceptionally they were found to be still alive on the 9th, 10th, 11th, 14th, and even on the 18th day. In these cases only a few survivals were left, most of the parasites having undergone degeneration and died. When the culture tubes were placed in the incubator the trypanosomes died out in two or three days.

The virulence of the fluid in the culture tubes was found to disappear usually on about the 4th or 5th day. In two instances, however, the surviving trypanosomes were found to be infectious on the 9th and on the 10th day. The infection in these instances was clearly due to the few cells which survived, since no evidence of multiplication could be detected. Frequently, such material, though containing living trypanosomes, failed to infect animals; a fact which goes to show that attenuation of the nagana parasite is possible. This we have been able to definitely establish with the pure cultures subsequently obtained.

From the second series of twenty-five nagana animals—white mice, rats and guinea-pigs—we succeeded in obtaining four positive cultures from as many different animals. The first of these, Culture A, was started August 27, and since that time has been carried through six successive generations *in vitro.* At the present time, November 12, it is in its seventh generation. In other words, this culture has been maintained under artificial

1. Contribution to Medical Research dedicated to Victor Clarence Vaughan, Ann Arbor, Mich., 1903, George Wahr, p. 549.

conditions for 77 days, and there is no apparent reason why it should not be cultivated indefinitely.

Culture B was started September 7, and during the next 52 days was carried through two generations. The third generation has as yet shown no growth, but probably will.

Culture C was started September 10, and is at the present time (63 days) in its third generation and is doing well.

Culture D was inoculated September 12, and the original tube contained living trypanosomes as late as the 45th day. A second generation, however, failed to take, probably owing to the feeble condition of the parasite.

It is difficult to furnish any satisfactory reason why only four animals out of fifty examined should have given positive results. There are obviously injurious substances present in the blood which tend to prevent the growth of the trypanosomes and eventually cause their destruction. Our efforts at present are directed at ascertaining the nature of these poisonous substances and to find means whereby this action may be counteracted.

When the nagana blood is planted on blood agar most of the trypanosomes rapidly die out; so much so, that an examination may fail to show a single living form and thus give rise to the impression that the culture is a failure and lead to the discarding of the tubes. And yet, a few surviving organisms are present and succeed in adapting themselves to the changed condition, and from these the culture begins. The whole phenomenon is very suggestive of a survival of the fittest.

The cultures of *Trypanosoma brucei* may be developed at room temperature, or at 25 C., or even at 34 C. At room temperature the growth is slow to come on, and, for that reason, the cultures will remain alive the longest. We have repeatedly found such cultures alive as late as the 45th day. When developed at 25 C., an excellent growth may be obtained in from 7 to 10 days, and may persist for several weeks. On the other hand, at 34 C. growth is possible, but the cultures die out in about a week. It may be stated at this point that when fully developed and actively motile cultures are placed at 34 C. they rapidly lose their virulence and die out in a few days.

The rat trypanosome, as already stated, grows readily on the blood agar medium and can be isolated from animals in nearly every trial. In this respect it will be seen that it differs materially from the nagana trypanosome, which only exceptionally yields to culture. While the former grows readily on media containing blood and agar in the proportion of 1 to 2, 1 to 5, and even 1 to 10, the latter can not be cultivated on a medium containing less than 1 to 1 of blood.

This fact may be utilized to separate the two trypanosomes when present in mixed infection in a rat. When a rat which contains *Tr. lewisi* is infected with *Tr. brucei*, both parasites appear in the blood and can be recognized, as Koch pointed out 5 years ago, by examining the blood. By injecting blood showing mixed infection into a dog, Koch was able to separate the nagana parasite from that of the rat. By means of our cultivation method, it is possible to plate out, as it were, the two organisms and obtain these in pure culture. The blood of the rat showing mixed infection when planted on blood agar (1 to 2), will give a rich growth of only the rat trypanosome, since the nagana parasite is unable to grow on this medium. If at the same time a portion of the blood is inoculated into a mouse or animal other than a rat, the nagana trypanosome will develop and eventually cause death. From the blood of this animal, by inoculating a 2 to 1 blood agar medium, it may be possible to obtain a pure culture of *Tr. brucei*.

The *Tr. brucei* as found in the blood of an animal is exceedingly virulent and an extremely minute amount of such blood is sufficient to cause the death of an infected animal. The result is much the same whether the parasites are very numerous or so few as to be scarcely detected under the microscope. From this it would appear that the virulence of *Tr. brucei* is a fixed and constant quantity.

TABLE SHOWING RESULTS OF INOCULATION OF CULTURES DEVELOPED AT 25 C.

	Culture and Generation.	Blood-agar.	Age of Culture.	Date of Inoculation.	Date of Appearance of Trypanosomes.	Date of Death.	Time Before Death.
Mouse 3.	A iii. . .	2:1	7 days	Oct. 5	Oct 14.	Oct. 16 . . .	11 days.
Rat 1	" . . .	"	"	. . . .	. . . . .	" 16 . . .	11 "
Coutrol mouse 9 . . .	A iv *a* flask	3:2	9 days	" 14. . . .	Oct. 19.	" 22 . . .	7½ "
Control mouse 10. . .	"	"	"	"	" 19.	" 21 . .	7 "
Mouse 1, 2d injection..	"	"	"	"	" 21.	" 23 . . .	9 "
Mouse 2, 2d injection..	"	"	"	"	" 19.	" 24 . . .	9½ "
Mouse 16, 2d injection	"	"	"	"	" 21.	" 23 . . .	8½ "
Mouse 11	A v *a* flask	"	6 days	" 21. . . .	" 26.	" 29 . . .	7½ "
Rat 2	" "	"	"	"	" 28.	Nov. 2 . .	11½ "
Mouse 6.	C ii	1:1	12 days	" 11. . . .	" 16.	Oct. 16 . . .	8 "
Mouse 5, 2d injection..	A iv.	"	18 days	" 23. . . .	. . . . .	. . . . .	Recovered.
Rat 5	A v *b* flask	"	10 days	Nov. 4. . . .	. . . . .	Nov. 8, a.m..	3½ days.

The intraperitoneal injection of virulent cultures of *Tr. brucei* causes death in mice and rats in about 7 or 8 days, exceptionally as late as 11 days. When it is remembered that these animals usually die in from 3 to 5 days after the inoculation of virulent blood, it will be seen that these cultures are already somewhat attenuated. The retarded death is not due, as might be supposed, to the injection of a small number of trypanosomes, since the cultures injected are extremely rich in actively motile parasites. In a few instances, our mice and even rats died in 3½ and in 5 days.

A study of the artificial cultures, however, shows that the virulence of this organism is variable and that it can be altered at will. This is an exceedingly important fact, since by means of attenuated cultures it may be feasible to secure the much-desired immunization.

The following table shows the results obtained by inoculating cultures developed at 25 C. These results prove that the organism cultivated is in reality the nagana trypanosome. Moreover, since these inoculations are made with pure cultures they furnish the final evidence, if it be needed, that this trypanosome is the cause

of nagana. The trypanosomes which appear in the blood of the infected animals are in every respect the same as those met with in the animals infected with nagana blood.

When a virulent culture, developed at room temperature or at 25 C., is placed at 34 C., for a day or two it becomes less active and non-infectious. The loss of virulence is not due to the death of the trypanosomes, for these may remain alive and apparently uninjured for several days. Eventually, however, they develop numerous globules within the cells, change into spherical involution forms and finally die out.

Our experiments on immunizing animals against nagana are not far enough advanced to warrant making any definite statement. An inspection of the table will show that in one experiment two control mice, Nos. 9 and 10, died in 7 and 7½ days, while three animals which received a single injection of living, but non-virulent trypanosomes, died in 8½, 9 and 9½ days after infection. This would indicate that a slight protection had been afforded by the single injection. Of course, more definite experiments will be needed before positive conclusions can be drawn. Such work is at present being carried on.

The cultivated *Tr. brucei* is readily distinguishable from that of *Tr. lewisi*. Thus, while the latter has almost homogeneous contents, the former is characterized by the presence of two or more bright, highly refracting globules, usually placed near the anterior or flagellar end. At times, the number of these globules is increased, as when the culture is kept at 34 C. In size these globules may attain one micron.

The *Tr. lewisi* varies considerably in size. Some forms are found which are not more than one or two microns long, not including the whip. Others are about the diameter of a red blood cell, while usually they average about 15 to 20 microns.

The *Tr. brucei* shows less variation in size and averages 15 microns in the living condition.

The motion of the two organisms is entirely different. Thus, while the rat trypanosome is frequently seen darting about in an almost straight line and with great speed, the nagana parasite usually shows only a slow, wriggling motion and scarcely departs from its place. The wave motion passes slowly along the thick undulating membrane and imparts the appearance of spiral rotation to the entire cell.

The most striking difference is perhaps seen in the appearance of the colonies or aggregates. The *Tr. lewisi* forms aggregates of spindle-shaped forms, consisting at times of many hundreds and even of thousands of cells. The cells composing these masses show a slight swaying motion and their whips seem to be directed centrally. The *Tr. brucei* rarely forms masses of more than 10 or 20 cells. The individuals are long, narrow and show the peculiar writhing motion. The flagella are directed outward and the appearance of the whole may be compared to the snakes on a Medusa head. The stellate group with the bright, refracting globules within the cells, suggests a jeweler's "sun-burst."

This paper is intended to briefly summarize the main facts arrived at in our studies up to the present time. The full details may be expected in a later publication.

Physicians, as a rule, do not write enough about their experiences. They have valuable practical knowledge which it would benefit themselves and the profession to publish. But they wait, because they think it necessary to write a long, big-worded article when really a short letter or description would be of more interest.—*Medical Summary.*

AN ANALYSIS OF FIFTEEN HUNDRED CASES OF TUBERCULOSIS

DISCHARGED FROM THE ADIRONDACK COTTAGE SANITARIUM FROM TWO TO EIGHTEEN YEARS AGO.

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In a disease of so relapsing a nature as tuberculosis the inexorable test of time is rarely applied in the study of the results obtained by any form of treatment. The object of this research has been to apply this crucial test to the permanency of the beneficial effects which are undoubtedly obtained by the sanatorium treatment of pulmonary tuberculosis. The results of treatment in this disease vary directly with so many factors that it is exceedingly difficult to compare the results obtained by different observers. The use of different classifications, and in some instances the different interpretation of the same classification render any comparison a difficult task. Take, for example, the terms "apparently cured" and "cured." One observer applies them to patients who have gone a few months without symptoms and whose physical signs, if at all abnormal, are indicative of a healed lesion. Another thinks the time should be six months, a third one year, and possibly interprets the physical signs differently. It is to be hoped before long we shall have in America one classification adopted by the various sanatoriums. The classification adopted by Dr Trudeau has been retained in these statistics, not because he claims it to be entirely satisfactory, but because it is the one which has been applied from the first and throughout the past eighteen years to the cases on which this study is based. The classification is as follows:

Incipient Stage.—Slight local, with little or no constitutional involvement.

Advanced Stage.—The localized disease process extensive or in an advanced stage, or slight local pulmonic invasion with rather marked constitutional involvement or with complications.

Far Advanced Stage.—Marked signs of pulmonic disintegration with marked constitutional symptoms.

Improved Condition.—Physical signs showing process less active, or general health improved with symptoms relieved or abated.

Arrested.—No activity in process in lungs, with absence of fever and other constitutional symptoms.

Apparently Cured.—Abnormal physical signs absent, or if present only slight and indicative of healed lesion. Absence for some months of pyrexia and of sputum or of sputum containing tubercle bacilli.

Perfectly Cured.—Abnormal physical signs absent, or if present only slight and indicative of healed lesion. Absence for two or more years of pyrexia and of sputum or of sputum containing tubercle bacilli.

In order that the results of the treatment by the fresh air and rest cure at the Adirondack Cottage Sanitarium may be fully understood, it is necessary to consider for a moment the difficulties under which the work was begun. When the institution was first started, Dr. Trudeau, owing to popular prejudice, had great difficulty in persuading patients to enter, and as a result many cases entirely unsuited for sanatorium treatment were admitted. A glance at the relative proportion of incipient, advanced and far advanced cases admitted during the first few years will make this clear. Of the first 500 patients 21 per cent. were

in an incipient stage, 48 per cent. in an advanced, and 29 per cent. in a far advanced stage. During the year ending Nov. 1, 1902, 165 patients were discharged. Of these on admission 31 per cent. were in an incipient stage, 46 per cent. in an advanced and 3 per cent. in a far advanced stage. Had such figures obtained during

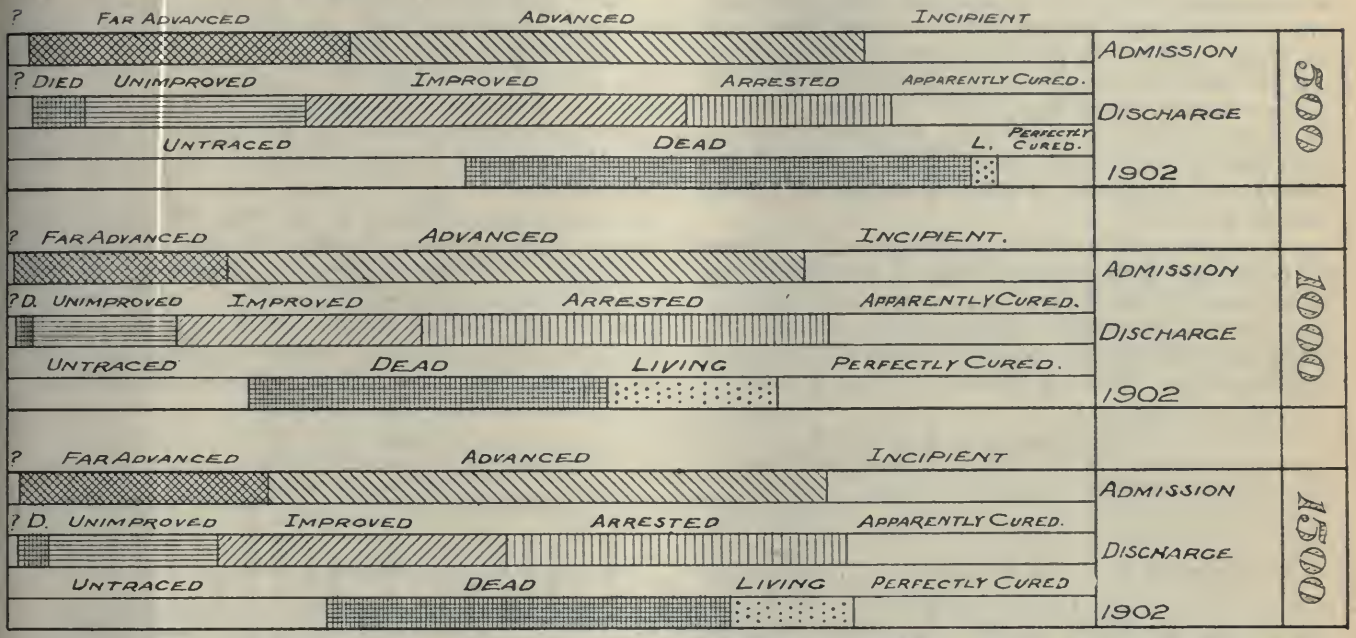

Chart 1.—Graphic representation of Tables 1, 2 and 3. The space marked ? indicates doubtful cases. The space marked "living" includes chronic and relapsed.

the first years of the institution the results would no doubt be very different.

I.—RESULTS OBTAINED IN 500 CASES DISCHARGED FROM EIGHT TO EIGHTEEN YEARS AGO.

The first 500 cases were admitted during a period extending from May 12, 1885, to July 1, 1893, a little more than eight years. The last of the patients was discharged nine years ago. Owing to the fact that it has not been possible until recently to trace the patients systematically many of the early cases have remained untraced. These untraced cases compose 43 per cent. of the first 500.

A.—*Incipient Cases.*—It has been long recognized that the curability of pulmonary tuberculosis depends directly on the stage of the disease. This has been found to hold true among these cases. The 103 incipient cases were discharged as follows: Apparently cured, 73 (71 per cent.); arrested, 12; improved, 12; unimproved, 6. At the present time there are: Well, 23 (22 per cent.); arrested, 1; relapsed, 2; dead, 26; untraced, 51. Of the 73 apparently cured cases 18 are well, while 3 of the 12 arrested, 2 of the 12 improved and none of the 6 unimproved are well. It is interesting to note among the incipient cases that at the present time about the same percentage of cures are obtained from those discharged apparently cured, arrested and improved. Twelve of the 73 cases discharged apparently cured, 2 of the arrested,

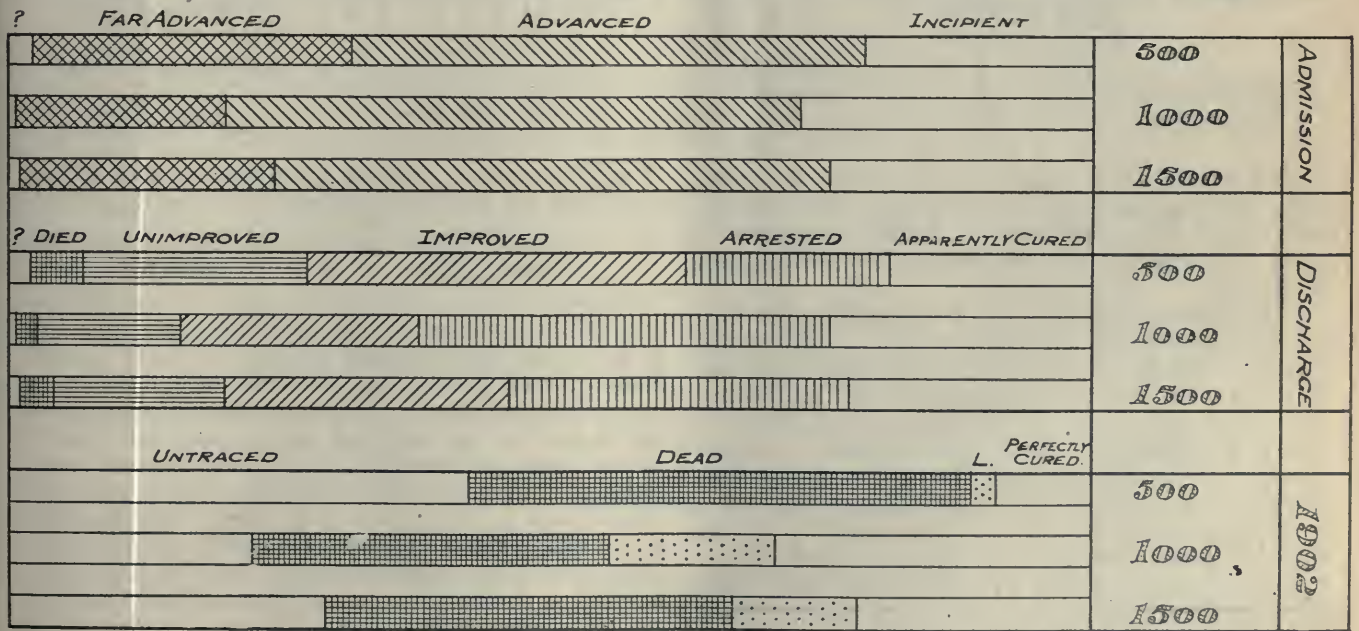

Chart 2.—Graphic comparison of condition on admission, on discharge, and in 1902.

8 of the improved and 4 of the unimproved are dead. The untraced cases are distributed according to the condition on discharge as follows: Apparently cured, 40; arrested, 7; improved, 2; unimproved, 2.

If, however, for a moment we exclude those cases that have not been traced, we find that 44 per cent. of the incipient cases that have been traced are well, 2 per cent. arrested, 4 per cent. relapsed and 50 per cent. dead. Of the traced incipient cases discharged apparently cured, 54.5 per cent. are well, of those arrested 60 per cent. (out of 5 cases), of the improved 20 per cent. Many of the untraced cases are undoubtedly dead, and while the percentage of cured cases would in all probability not reach 44 per cent., still it would be considerably more than 22 per cent.

B.—*Advanced Cases.*—Forty-eight per cent. of these 500 cases were in an advanced stage of the disease. Of the 165 cases discharged during the last year 64 per cent. were advanced, showing in the number of advanced cases admitted a much greater increase than in the number of incipient cases. Without question a large number of patients do not come under the observation of a physician until they are in an advanced stage. The 240 advanced cases were discharged as follows: Apparently cured, 20; arrested, 62; improved, 124; unimproved, 28; died, 6.

At the present time 17 (7 per cent.) of these are well, 5 arrested, 1 chronic, 117 (48 per cent.) dead and 100 untraced. Of the 20 apparently cured cases there are 11 well, while 4 of the 62 arrested, 2 of the 124 improved and none of the 28 unimproved cases are well. Two of the apparently cured cases are dead, 33 of the arrested, 55 of the improved, 21 of the unimproved. The untraced cases were as follows: Apparently cured, 7; arrested, 21; improved, 65; unimproved, 7. If the untraced cases are omitted the following figures are obtained: Well, 14 per cent.; arrested, 3 per cent.; dead, 84 per cent. Of the 13 apparently cured cases that have been traced 11, or 84 per cent., are well.

C.—*Far Advanced Cases.*—It is most gratifying to note the decrease in the far advanced cases. Of the first 500 cases 29 per cent. were far advanced, while last year the percentage was only 3. The 146 far advanced cases were discharged as follows: Apparently cured, 0; arrested, 19; improved, 41; unimproved, 70; dead, 16. At the present time there are: Well, 2; arrested, 1; chronic, 1; dead, 90 (62 per cent.); untraced, 52. The 2 cases now well were discharged as unimproved. Of the 19 arrested cases 12 are dead, while 22 of the 41 improved, 40 of the 70 unimproved cases are dead. The untraced cases are distributed as follows: Arrested, 6; improved, 18; unimproved, 28. If the untraced cases are omitted it is found that 2 per cent. are well, 1 per cent. arrested, 1 per cent. chronic and 96 per cent. are dead. To find after a lapse of nine years 4 far advanced cases alive is worthy of note, and the fact that 2 have apparently recovered is most interesting (and recalls the *spes phthisica*.

D.—*Summary of Results in the First 500 Cases.*—To sum up, the condition of the first 500 cases at present is as follows: Well, 42 (8 per cent.); arrested, 7 (1 per cent.); relapsed, 2; chronic, 2; dead, 233 (46 per cent.); untraced, 214 (44 per cent.). In 11 cases the records were incomplete, and as the patients could not be traced they have not been taken into account except in the total.

TABLE I.

ANALYSIS OF FIVE HUNDRED CASES DISCHARGED FROM EIGHT TO EIGHTEEN YEARS AGO.

Condition.				Condition in 1902.									
On Admission.	On Discharge.	Number.	Percentage.	Well.	Per cent.	Arrested.	Per cent.	Relapsed.	Per cent.	Chronic.	Per cent.	Dead.	Per cent.	Untraced.	Per cent.
Incipient	Ap. cured	73	70	18	25	1	1	2	2	0	0	12	17	40	55
	Disease arrested	12	12	3	25	0	0	0	0	0	0	2	16	7	59
	Disease improved	12	12	2	17	0	0	0	0	0	0	8	66	2	17
	Disease unimproved	6	6	0	0	0	0	0	0	0	0	4	67	2	33
	Total	103	..	23	22	1	1	2	2	0	0	26	25	51	50
Advanced	Ap. cured	20	8	11	55	0	0	0	0	0	0	2	10	7	35
	Disease arrested	62	26	4	6	3	5	0	0	1	1	33	54	21	34
	Disease improved	124	51	2	2	2	2	0	0	0	0	55	44	65	52
	Disease unimproved	28	12	0	0	0	0	0	0	0	0	21	75	7	25
	Died at sanitarium	6	3	0	0	0	0	0	0	0	0	6	100	0	0
	Total	240	..	17	7	5	2	0	0	1	0	117	49	100	42
Far advanced	Disease arrested	19	13	0	0	0	0	0	0	1	5	12	63	6	32
	Disease improved	41	28	0	0	1	2	0	0	0	0	22	54	18	44
	Disease unimproved	70	48	2	3	0	0	0	0	0	0	40	57	28	40
	Died at sanitarium	16	11	0	0	0	0	0	0	0	0	16	100	0	0
	Total	146	..	2	2	1	1	0	0	1	1	90	61	52	35
Incomplete records		11	..	0	0	0	0	0	0	0	0	0	0	11	100
Grand total		500	..	42	8	7	1	2	1	2	1	233	46	214	43

At the present time there are: Well, 2; arrested, 1; chronic, 1; dead, 90 (62 per cent.); untraced, 52. The 2 cases now well were discharged as unimproved. Of the 19 arrested cases 12 are dead, while 22 of the 41 improved, 40 of the 70 unimproved cases are dead. The untraced cases are distributed as follows: Arrested, 6; improved, 18; unimproved, 28. If the untraced cases are omitted it is found that 2 per cent. are well, 1 per cent. arrested, 1 per cent. chronic and 96 per cent. are dead. If only the traced cases are considered we find 15 per cent. well, 2.4 per cent. arrested and 81 per cent. dead.

II.—RESULTS OBTAINED IN ONE THOUSAND CASES DISCHARGED FROM TWO TO EIGHT YEARS AGO.

In order to compare the results obtained more recently with the earlier results 1,000 cases discharged from two to eight years ago have been studied. Of these patients 26.3 per cent. were in an incipient stage, showing in comparison with the first 500 cases a decided decrease in the number of far advanced cases, a material increase in the number of advanced and a decided increase in the number of incipient cases. The actual number of incipient cases increased over 31 per cent. On comparing the results of these cases with the earlier group it must not be overlooked that the earlier cases have all been discharged from eight to eighteen years, while none of the later group have been discharged more than eight, and some only two years.

A.—*Incipient Cases.*—The 263 incipient cases were discharged as follows: Apparently cured,[1] 172; ar-

1. Cases that remained at the sanitarium less than one week have been omitted, except in the tables.

rested, 71; improved, 17; unimproved, 2. At the present time there are: Well, 147 (57 per cent.); arrested, 12; relapsed, 12; chronic, 7; dead, 28 (11 per cent.); untraced, 57. Of the 172 apparently cured cases 113 (66 per cent.) are well, while 27 (38 per cent.) of the 71 arrested, 7 of the 17 improved and none of the unimproved are well. Ten of the apparently cured cases, 14 of the arrested, 2 of the improved and 2 of the unimproved cases are dead. The untraced cases are as follows: Apparently cured, 35; arrested, 16; improved, 6.

TABLE II.

ANALYSIS OF ONE THOUSAND CASES DISCHARGED FROM TWO TO EIGHT YEARS AGO.

Condition.				Condition in 1902.											
On Admission.	On Discharge.	Number.	Percentage.	Well.	Per cent.	Arrested.	Per cent.	Relapsed.	Per cent.	Chronic.	Per cent.	Dead.	Per cent.	Untraced.	Per cent.
Incipient	Ap. cured	172	65	113	66	3	2	9	5	2	1	10	6	35	20
	Disease arrested	71	27	27	38	7	10	3	4	4	6	14	20	16	22
	Disease improved	17	6	7	41	2	12	0	0	0	0	2	12	6	35
	Disease unimproved	2	1	0	0	0	0	0	0	0	0	2	100	0	0
	Stayed less than one week	1	1	0	0	0	0	0	0	1	100	0	0	0	0
	Total	263	..	147	56	12	5	12	5	7	2	28	11	57	21
Advanced	Ap. cured	70	13	43	61	1	1	4	6	1	2	7	10	14	20
	Disease arrested	276	51	76	28	40	15	20	7	17	6	73	26	50	18
	Disease improved	137	25	14	10	5	4	3	2	17	13	63	46	35	25
	Disease unimproved	50	9	1	2	0	0	0	0	3	6	31	62	15	30
	Died at sanitarium	4	1	0	0	0	0	0	0	0	0	4	100	0	0
	Stayed less than one week	1	1	0	0	0	0	0	0	0	0	0	0	1	100
	Total	538	..	134	25	46	9	27	5	38	7	178	33	115	21
Far advanced	Disease arrested	32	16	2	6	1	3	2	7	2	6	17	53	8	25
	Disease improved	75	38	1	1	3	4	1	1	6	8	47	63	17	23
	Disease unimproved	82	42	1	1	0	0	0	0	0	0	58	71	23	28
	Died at sanitarium	8	4	0	0	0	0	0	0	0	0	8	100	0	0
	Total	197	..	4	2	4	2	3	2	8	4	130	66	48	24
Doubtful cases		2	0	2	100	0	0	0	0	0	0	0	0	0	0
Grand total		1000	..	287	29	62	6	42	4	53	5	336	34	220	22

C.—*Far Advanced Cases.*—The 197 far advanced cases were discharged as follows: Arrested, 32; improved, 75; unimproved, 82; dead, 8. At the present time 4 (2 per cent.) are well, 4 arrested, 3 relapsed, 8 chronic, 130 (65 per cent.) dead, 48 untraced. Of the arrested cases 2 are well while 1 each of the improved and unimproved cases are well. Seventeen of the arrested cases, 47 of the improved and 58 of the unimproved are dead. The untraced cases are as follows: Arrested, 8; improved, 17; unimproved, 23.

TABLE III.

ANALYSIS OF FIFTEEN HUNDRED CASES DISCHARGED FROM TWO TO EIGHTEEN YEARS AGO.

Condition.				Condition in 1902.											
On Admission.	On Discharge.	Number.	Percentage.	Well.	Per cent.	Arrested.	Per cent.	Relapsed.	Per cent.	Chronic.	Per cent.	Dead.	Per cent.	Untraced.	Per cent.
Incipient	Ap. cured	245	67	131	53	4	2	11	4	2	1	22	9	75	31
	Disease arrested	83	23	30	36	7	8	3	3	4	5	16	20	23	28
	Disease improved	29	8	9	31	2	7	0	0	0	0	10	34	8	28
	Disease unimproved	8	2	0	0	0	0	0	0	0	0	6	75	2	25
	Stayed less than one week	1	0	0	0	0	0	0	0	1	100	0	0	0	0
	Total	366	..	170	46	13	4	14	4	7	2	54	15	108	29
Advanced	Ap. cured	90	12	54	60	1	1	4	4	1	1	9	10	21	24
	Disease arrested	338	43	80	24	43	13	20	6	18	5	106	31	71	21
	Disease improved	261	34	16	6	7	3	3	1	17	7	118	45	100	38
	Disease unimproved	78	10	1	1	0	0	0	0	3	4	52	67	22	28
	Died at sanitarium	10	1	0	0	0	0	0	0	0	0	10	100	0	0
	Stayed less than one week	1	0	0	0	0	0	0	0	0	0	0	0	1	100
	Total	778	..	151	19	51	6	27	4	39	5	295	38	215	28
Far advanced	Disease arrested	51	15	2	4	1	2	2	4	3	6	29	57	14	27
	Disease improved	116	34	1	1	4	4	1	1	6	5	69	59	35	30
	Disease unimproved	152	44	3	2	0	0	0	0	0	0	98	64	51	34
	Died at sanitarium	24	7	0	0	0	0	0	0	0	0	24	100	0	0
	Total	343	..	6	2	5	1	3	1	9	3	220	64	100	29
Doubtful cases		2	0	2	100	0	0	0	0	0	0	0	0	0	0
Incomplete records		11	0	0	0	0	0	0	0	0	0	0	0	11	100
Grand total		1500	..	329	22	69	5	44	3	55	4	569	37	434	29

B.—*Advanced Cases.*—The 538 advanced cases were discharged as follows: Apparently cured, 70; arrested, 276; improved, 137; unimproved, 50; dead, 4. At the present time: Well, 134 (25 per cent.); arrested, 46; relapsed, 27; chronic, 38; dead, 178 (33 per cent.); untraced, 115. Of the 70 apparently cured cases 43

SUMMARY OF RESULTS IN 1,000 CASES.

In other words, the condition at present of these 1,000 cases is as follows: Well, 28.7 per cent.; arrested, 6 per cent.; dead, 33.6 per cent.; untraced, 22 per cent. From this it is seen that 444 patients are alive, 336 dead and 220 untraced. Bearing in mind the fact that the patients of the first group were all discharged before the earliest cases of the second, it nevertheless appears that the patients of the second group have done better since discharge than those of the first group. Many of the untraced cases in both groups are undoubtedly dead. The reason why the percentages of the cases that have died do not vary more is probably due to the fact that in the second group a much larger percentage of the cases that have died have been traced. For this reason it is well to compare only the cases still alive in each group. Of the first group 10 per cent. of the cases are alive and 8 per cent. are well from eight to eighteen years after discharge. Of the second group, 44 per cent. of the cases are alive and 28.7 per cent. are well from two to eight years after discharge.

III.—RESULTS OBTAINED IN FIFTEEN HUNDRED CASES DISCHARGED FROM TWO TO EIGHTEEN YEARS AGO.

The number of cases discharged from the Adirondack Cottage Sanitarium until two years ago was 1,500. Of these 366 (24.4 per cent.) were incipient, 778 (51.8 per cent.) were advanced, 343 ((22.8 per cent.) were far advanced, 2 cases were doubtful and 11 cases had incomplete records.

A.—*Incipient Cases.*—The 366 incipient cases were discharged as follows: Apparently cured, 245 (67 per cent.); arrested, 83; improved, 29; unimproved, 8. At the present time 170 (46 per cent.) are well; 13 are in a state of arrest; 14 have relapsed; 7 are chronic; 54 are dead; 108 are untraced. Of the 245 cases apparently cured 131 are well, while 30 of the 83 arrested cases, 9 of the 29 improved cases and none of the unimproved cases are well. Twenty-two of the apparently cured cases are dead; 16 of the arrested, 10 of the improved, 6 of the 8 unimproved cases are dead. The untraced cases are as follows: Apparently cured, 75; arrested, 23; improved, 8; unimproved, 2.

B.—*Advanced Cases.*—The 778 advanced cases were discharged as follows: Apparently cured, 90 (11.5 per cent.); arrested, 338; improved, 261; unimproved, 78; dead, 10. At the present time 151 (19 per cent.) are well; 51 arrested; 27 relapsed; 39 chronic; 295 (38 per cent.) dead; 215 untraced. Of the 90 apparently cured cases 54 are well, while 80 of the 338 arrested, 16 of the 261 improved and 1 of the 78 unimproved are well. Nine of the apparently cured cases are dead; 106 of the arrested; 118 of the improved, and 52 of the unimproved. The untraced cases are as follows: Apparently cured, 21; arrested, 71; improved, 100; unimproved, 22.

C.—*Far Advanced.*—The 343 far advanced cases were discharged as follows: Arrested, 51; improved, 116; unimproved, 152; dead, 24. At the present time 6 (1.7 per cent.) of these are well; 5 arrested; 3 relapsed; 9 chronic; 220 dead, and 100 untraced. The cases that are well at present are as follows: Arrested, 2; improved, 1; unimproved, 3. Twenty-eight of the arrested cases are dead; 63 of the improved, and 45 of the unimproved.

SUMMARY OF RESULTS IN FIFTEEN HUNDRED CASES.

In all, 497 (33 per cent.) cases are alive; 569 (38 per cent.) are dead, and 434 (29 per cent.) are untraced. Of the 497 patients that are alive 329 (22 per cent.) are well; 69 (4.6 per cent.) are arrested; 44 (3 per cent.) relapsed; 55 (3.7 per cent.) are chronic.

If we deduct 434 untraced cases we have left 1,066 cases which have been traced. Of these 31 per cent. are well; 6.5 per cent. are arrested; 4 per cent. have relapsed; 5.2 are chronic; 53.3 per cent. are dead. Deducting from the number of incipient cases those that have been untraced we find that there are left 258 cases. Of these 66 per cent. are well and 21 per cent. are dead. Of the 563 advanced cases which have been traced 28.6 per cent. are well and 52 per cent. are dead; while of the 235 far advanced cases which have been traced 2.5 per cent. are well and 90 per cent. are dead. It must be remembered, however, that these figures are only approximately correct, as no doubt more of the untraced cases are dead than these figures would indicate.‡

Clinical Reports.

A CASE OF NEURITIS OF THE RIGHT INFERIOR DENTAL NERVE

INCIDENT ON FORWARD DISLOCATION OF THE MANDIBLE OF THREE YEARS' STANDING.*

GEORGE A. MOLEEN, PH.G., M.D.
DENVER.

Aside from its rarity, the following case will illustrate the importance of a clear history and complete examination even in such a simple malady as facial neuralgia. I acknowledge my indebtedness to Drs. Packard and Silverstein for their prompt care and treatment of what seemed to be the cause.

Mrs. L. K., aged 49, born in Lebanon, Pa., has been in Colorado three years and did not come for her health; occupation housewife. First seen Feb. 7, 1903.

Family History.—Parents born in Pennsylvania; mother died of la grippe, father from dropsy. There were fourteen in the family, of whom five sisters and two brothers are living, the remainder are dead from various irrelevant causes. Tuberculosis, other chronic diseases, insanity and nervous diseases are denied.

Past History.—Of the exanthemata she had diphtheria at 9; measles at 22; denies scarlet fever; has had no sequelæ nor has she at any time complained of aural discharge, dizziness or vomiting. Menstrual history good; climacteric six months ago. When young she complained considerably of toothache, and neuralgia was suggested. Shortly after her arrival in Colorado she began to have paroxysmal pain confined to the right side of face, which seemed to originate, according to her localization, about the right lower bicuspid. This was drawn without relief, and after several medical and dental examinations the lowers were drawn to no purpose, until finally, on the advice of a physician, all her teeth, upper and lower, were removed in April, 1902, without modifying her symptoms.

Present State.—She has slept little for three months past, on account of pain. She says sedatives have given but little relief. The paroxysms come on at varying intervals of from 3 to 10 or 15 minutes, and seem to be excited by movement of the jaw, as in eating or talking, and can be excited by forcibly depressing the jaw. They sometimes begin in the ear and at others in the alveolar process. During the paroxysm the face becomes pinched, the right side flushed, and in severe attacks perspires slightly on the right side only. The pupil of the right eye is seen to dilate when the eye is held open and her hands restrained. Between paroxysms she becomes quiet,

‡ Since the above was written 5 of the untraced cases have been found to be alive, making 502 cases alive. In 10 cases death was due to other causes than tuberculosis.

* Read before the Rocky Mountain Interstate Medical Association, Salt Lake City, 1903.

though she complains of prickling of the right side of the face and of numbness and tingling on the right side of tongue. Sometimes there is a roaring in the right ear and a burning sensation in the right nostril. She has been partially deaf for some time and can be made to hear with difficulty, though more readily in the right ear.

Examination.—Feb. 7 and 10, 1903. Well-developed German woman, with drawn, careworn, though anxious, expression. All voluntary and co-ordinate motion normal and equal. Reflexes normal and equal and there is no response on tapping the masseter. Tongue is protruded in the median line, without tremor.

Sensory phenomena are in the main normal throughout the body, though she has impaired tactile sensibility with hyperalgesia on right side of face, the outline of which is as follows: Beginning at the external angular process extending upward to about the bregma, then downward and apparently dividing the ear—i. e., the tragus is more hyperalgesic than the concha and pinna—continuing downward to about one-half inch below the angle of lower jaw and forward to about the median line. Touching the skin at this area is not perceived as readily as on the opposite, and when perceived is painful. Pressure over the mental foramen causes severe pain and sometimes excites a paroxysm, the same being true at the infra-orbital opening. The supra-orbital is seemingly no more sensitive on one side than on the other. The submaxillary gland is also very tender and excites an attack readily. The mucous membrane of the right nostril, as well as the same side of the tongue, was markedly hyperesthetic.

Special Senses.—Salt placed on the right half of the tongue in the usual manner was met by immediate signal, but the tongue was washed and wiped, avoiding the left side, without allowing her to withdraw it, and she was unable to recognize and name the substance, even after several attempts with sugar, vinegar, etc.; near the base of the tongue, however, i. e., at about the anterior pillar, she recognized readily. Taste was present throughout the entire left side of the tongue. When asked why she signaled, she stated that she felt it as rough and thought she could taste it, but it was the pain she perceived. There can be no evidence of interference with smell detected.

Diagnosis.—The foregoing was strongly indicative of some mischief along the two lower divisions of the fifth nerve, and especially the third, and that it was undoubtedly irritative in character, a cause was consequently sought.

It was noticed that on depression of the lower jaw the condyle became quite prominent on the left side of the face, about three-quarters of an inch in front of and slightly below the external auditory canal. The right side revealed a corresponding depression, the jaw then rotated laterally and with considerable force, and by examination it was found that when depressed the internal pterygoid muscle was in a state of tonic contraction.

It then seemed but fair to assume that the condyle of the right side was irritating the inferior maxillary nerve at or about the site of the otic ganglion, which assumption was cleared on a study of its communications and branches, viz.:

The second division was affected through the connection by means of the vidian and petrosal, with Meckel's ganglion.

The sympathetic connection afforded an explanation of the flushing, sweating and pupillary symptoms.

The branch of the tensor tympani explained the increased hearing on the affected side.

The chorda tympani accounted for the loss of taste in the anterior portion of the same side of tongue.

It will be seen that the area of the first division was exempt.

Treatment.—Just how long the displacement had existed, or when it occurred, could not be learned, and the patient was even ignorant of its existence.

On account of the probable filling of the glenoid cavity by fibrous tissue a brace was advised, which would constantly exert an upward and backward pressure on the chin and still allow movement of the jaw, also with spring compresses to avoid the lateral movement of the condyles. She was accordingly referred with the above suggestions. A brace was devised which met the indication, and iodids and small doses of mercury given for a time.

Course.—After 4 or 5 days the pain began to subside and in about 10 days disappeared entirely. The sense of taste returned rapidly and the hearing on the affected side diminished until equal to that of the other side. She continued wearing the brace until about June 22, when she developed pain in the tongue and was unable to protrude the organ. Whether it was due to irritation of the hypoglossal by the chin rest or not I can not say, though it disappeared in two or three days after removal of the brace.

About July 1, having removed the brace, she began to experience very severe paroxysms of pain, which she described as boring in character, and localized constantly at a point a little below the condyle of the same side. The attacks were therefore quite different from her former ones, there being no area of hyperalgesia, nor was the tenderness of the mental foramen as marked. There was no swelling or tenderness along the process at this time.

The possibility of neuroma at or about the point of irritation was considered, and Drs. Hopkins and Freeman were consulted regarding the advisability of operative interference,

The brace in position.

which now seemed to be the only means of affording her relief. During this time she was given three grains of codein in divided doses, in the course of three hours, which gave her more relief than three-eighth grain morphin. A small cyst was noticed at the angle of the jaw, internally, and opened without perceptibly influencing the symptoms.

The brace was reapplied and adjusted to increase the pressure on the chin, and at first had little effect. The potassium iodid and mercury (red iodid 1/50 grain) were resumed.

The pain gradually left her and at the present time she scarcely notices it. The brace has been kept in place steadily since, and she is still taking the iodids, mercury and codein, while enjoying her escape from the surgeon for the present.

DEATH BY LIGHTNING.

B. KELLY, M.D.

CLIO, IOWA.

A powerful man, weighing 212 pounds, 36 years old, was struck by lightning. In about 10 or 15 minutes I found him deeply cyanosed, skin relaxed and cool and the heart beating feebly, but there was no visible respiration. I gave him hypodermic injections of strychnin, whisky and finally the normal salt solution, keeping up artificial respiration for ten hours, when the heart failed. The face brightened slightly for a few moments under the artificial respiration and the heart at short periods beat stronger, but no farther reaction was obtained, the temperature steadily falling.

Finding literature scarce on the subject I will be glad to have some one state what would have been the prospects for a better result by the use of an electric battery.

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MENDEL'S LAWS AND RECENT ANIMAL EXPERIMENTS IN HYBRIDIZATION.

During the last decade perhaps no other set of scientific papers has called forth more discussion than have Mendel's memoirs on experiments in cross-fertilization of plants, which were briefly reviewed in a recent issue of THE JOURNAL.[1] Several experimenters have recently published their results obtained by cross-breeding animals, and earlier experiments have been reviewed in the light of Mendel's laws. The conclusions do not agree, however, as there is a difference in the interpretation of the results by different authorities. In 1885 Crampe published his results from crossing gray wild mice with albino mice, and these results are especially interesting because he was at that time not familiar with Mendel's laws. All the offspring coming from this cross were gray, the white being shut out (recessive). In the offspring from these hybrids the recessive characters reappeared. That is, there were 27.8 per cent. albinos and 72.2 per cent. colored mice. This is in close accord with Mendel's laws, as according to them there should be about 25 per cent. of albinos in this generation.

Von Guaita crossed Japanese waltzing mice with albinos and got hybrids resembling wild house-mice, both in color and behavior. There seems to have been here a reversion to the ancestral type. No albinos were found among the hybrids. From these hybrids, however, he got 14 albinos (31 per cent.) and 30 colored mice, some gray, some black, and some spotted. The albinism seems to have been recessive, in the Mendelian sense, but the variety of colors among the others is not in accord with Mendel's principles.

Cuénot crossed gray house-mice with white mice and invariably got gray hybrids, the white being recessive. These hybrids were mated and produced 270 young, 26.6 per cent. of which were albinos and 73.4 per cent. gray. The albinos produced only albinos in the succeeding generations. According to Mendel's laws, one-third of the grays should produce gray offspring and two-thirds of them should produce albinos and grays in the average proportion of one to three. It is not easy to select the constant grays from the hybrids and mate only hybrids, but Cuénot believes that the results are in close agreement with the demands of the law. From several matings of what he believes to have been hybrids coming from the first generation of hybrids he got 219 young, 21 per cent. of which were albinos and 74 per cent. gray.

Darbyshire mated Japanese waltzing mice with albinos, and the offspring, which represent 203 individuals, are all colored, but some of these are quite different from the Japanese waltzing mouse. There are no albinos, and none of these hybrids waltzes. He now mated some of these hybrids and got 37 offspring, 9 of which were albinos, approximately 25 per cent. Eight mice of this generation waltzed. In crossing albinos of the first generation of hybrids he got 39 albinos, 31 wild colored, 15 black and 3 yellow mice among the offspring. That is to say, there was a fairly sharp segregation into albinos and wild colored mice. According to Mendel's laws, there should be about 50 per cent. of albinos. The color of the eyes, however, does not follow Mendel's laws. Both the albinos and the Japanese waltzing mice have pink eyes, while the hybrids have dark eyes. If the pink eyes were recessive they should remain constant when both parents have pink eyes, and if they are dominant they should also be constant here.

Lastly may be mentioned Wood's records in hybridization of rabbits. This work was undertaken with a view of testing Galton's law of inheritance which may be stated here: "One-half of the heritage of any generation is derived from the parents, one-fourth from the grandparents, one-eighth from the great-grandparents, etc." Wood had black rabbits which were considered to be hybrids, and on mating them got 133 offspring, 21 per cent. of which were white. In mating black hybrids with albinos he got 40.3 per cent. albinos. In both of these experiments there were not quite enough albinos according to Mendel's laws. In mating albinos which came from black parents the offspring were always white. This result agrees with Mendel's laws, but it is entirely out of harmony with Galton's law.

It is seen from these experiments that most of the results agree fairly well with Mendel's laws, but there appear to be some exceptions. At present, however, the experiments are too few to draw positive conclusions from them, and as rabbits and mice are very complex organisms, it is possible that errors have crept in. It is left for the future, therefore, to determine how closely we can predict the characters of the offspring when the characters of both parents are known.

1. THE JOURNAL A. M. A., Nov. 7, 1903, p. 1146.

TUBERCULOSIS IN INDIA FAVORS KOCH'S VIEWS.

The problem of tuberculosis will not be worked out in one country or in one climate, and any one who bases his conclusions on the contracted view of his own personal experience is liable to be mistaken. There are many advantages in studying the disease under all conditions, requiring ranges of temperature, social and dietary customs, etc., which are not to be found in any one district or country.

The recent report of the health officer of Calcutta is somewhat to the point. As it appears from an abstract in the *Indian Medical Gazette,* tuberculosis is statis-

tically put down as furnishing 6.4 per cent. of the adult deaths in that city. The health officer, Dr. Cook, thinks that this is far too low a figure, and bases his opinion on several facts which seem to give it standing. For example, in the Medical College Hospital, Calcutta, 966 consecutive postmortems showed 13.4 per cent. of deaths due to pulmonary tuberculosis and 3.6 per cent. to other forms of tuberculosis. There are, moreover, he says, a large proportion of cases of tuberculosis that are not recognized. Calcutta is full of irregular practitioners of every sort, qualified and unqualified, and an immense number of tuberculous cases are registered under the names of dysentery, malaria, asthma, etc. Such cases come within the experience of every consultant physician.

It is well known that the tropics are no more exempt from tuberculosis than the temperate countries, but there are certain special phases that can be observed there, especially in a country like India, where religious and social customs have an important influence. Dr. Cook is inclined to think from his own Indian experience that there is some basis for Koch's utterances as regards the differences between bovine and human tuberculosis. The Indian experience shows that the Hindoos who eat no beef, who practically sterilize all the milk and cow-products they use, are no more exempt from tuberculosis than the Christian and Mohammedans in their midst. Another point raised is the comparative infrequency of tuberculosis in Indian children. This may possibly be accounted for by the late period of weaning and the almost universal practice of maternal nursing. Tuberculosis in India is, as a rule, a disease of adult life, and Dr. Cook seems to think that its propagation is almost always by contagion through sputum. The editor of the *Indian Medical Gazette* remarks that tuberculosis in all its forms is less frequent, according to his own observation, among native children than among those of the Eurasians or Europeans.

So far, Indian testimony seems to be in favor of the contagiousness of the disease and against Behring's theory of infant infection, though it is not, of course, conclusive, as there are too many elements to be considered. A thorough cosmopolitan study of the disease under all circumstances will assuredly be a valuable aid to the elucidation of its problems.

THE ARTIFICIAL CULTIVATION OF PATHOGENIC PROTOZOA.

Progress in the biologic sciences relating to medicine is dependent in large measure on special technical methods. This fact is particularly well illustrated by the history of bacteriology. The science of modern bacteriology is the direct outgrowth of the development, especially by Koch, of suitable media, more particularly solid media, on which bacteria will grow and multiply in a characteristic manner and in such form that it is possible to secure pure growths. Only in this way could it be possible to study adequately the cultural and other biologic peculiarities of bacteria and to obtain pathogenic bacteria in such form as to be able to subject them to various conditions and manipulations essential to investigations into the complex problems of immunity. The ingenuity required to secure pure growths on artificial media of some pathogenic bacteria is illustrated well in the case of the bacillus of tuberculosis, the gonococcus and the bacillus of influenza. Thus growth of the latter two is favored specially by the presence of certain constituents of human blood. And in spite of innumerable efforts, the peculiar requirements necessary to induce the bacillus of leprosy to grow on artificial media have not yet been discovered. This bacillus multiplies freely in the lesions of human leprosy, where it is readily demonstrable by special staining methods, but to this day pure cultures of the lepra bacillus have probably not been obtained. There are many diseases of undoubted infectious nature the unknown as well as the morphologically demonstrable pathogenic agents of which, so far as we know, are uncultivable with the methods now at hand.

Since it became established that certain diseases of man and animals were intimately associated with the presence of protozoa, which there was full reason to believe were specifically pathogenic, investigators have exercised the greatest ingenuity in order to devise suitable methods for their artificial growth. Success at last has crowned the efforts of Novy and McNeal, who have found that the trypanosoma of rats and of the tsetse-fly disease may be grown in the condensation fluid of agar mixed with rabbit's defibrinated blood—a really quite simple method. This being done, it was easy to take the next step, namely, to demonstrate the pathogenic powers of these trypanosomes by the injection of pure cultures. As indicated in their report in this issue of THE JOURNAL,[1] experiments in immunization are now feasible. The Ann Arbor investigators are therefore entitled to hearty congratulation on having succeeded in opening the way for the successful study of pathogenic protozoa in pure growths under artificial conditions along the same lines that have yielded such brilliant results in that other department of microbiology, namely, bacteriology.

May this prove to be but the beginning of a series of successful cultivations of microparasites of animal origin. Perchance we shall learn before long that colonies of protozoa can be grown on solid media as well. In bacteriology artificial cultures in liquid media preceded the development of the methods of cultivation on solid media, and it may well be that this will turn out to be the case with the animal microparasites also.

THE SELF-REPARATIVE POWER OF THE SPINAL CORD.

Some time ago we noticed editorially in THE JOURNAL[2] a remarkable case in a Philadelphia hospital in

1. See page 1266.
2. THE JOURNAL A. M. A., vol. xxxviii, p. 1626, June 21, 1902.

which, owing to traumatism and destruction of the cord, about three-quarters of an inch was resected and united again by sutures with the result of a partial restoration of function. There has been, so far as we know, no more recent report regarding the progress of this case in medical publications, though we have seen such notices in the daily press.

An almost equally remarkable case has just been reported by Dr. C. Harvey Rodi[3] of Calumet, Mich.: The patient was injured by a falling rock, and was operated on three hours after the injury. There was complete paralysis below the seat of fracture, and dislocation and fracture at the junction of the tenth and eleventh dorsal vertebræ. The ligamentous attachment of the tenth and eleventh spinous processes was severed and the arches separated so widely that the spinal canal was laid open and the cord exposed. The body of one of these vertebræ was fractured, and the cord was seen to be entirely severed save a filament about the size of a pin connecting the two parts which were separated about an inch. It is not stated that the cord was sutured, but portions of the articular process of the tenth and eleventh vertebræ were removed with a chisel to assist in reducing the dislocation and with a view to bony union. The wound was closed with silkworm gut, and a few strands inserted for drainage and a plaster jacket applied. The next day, it is reported, there was sensation a little below the pelvis; a week later sensation existed about the ankles, but paralysis continued for some time. A large deep sacral bed-sore appeared, there was incontinence of urine and of feces with cystitis; the patient nevertheless began to improve very rapidly, and is now—a year later—in control of both the sphincters and can go around on crutches. He claims to be getting stronger in his legs every day and looks forward to complete recovery. In this case the little band of spinal tissue seems to have acted like the catgut connection which has sometimes been made in widely-divided nerve suture, and as the route along which regenerated tissues can travel. It is hard to say what the actual condition of the cord is at the present time, but there certainly must have been a considerable restoration of structure to account for the restoration of function so far as it has progressed.

The case is well worth watching. Dr. Rodi had three local physicians examine the case at the time of the operation beside two medical students, and there seems to be no reasonable ground for questioning the facts. Our ideas not only as to regeneration of the nerves but also of the nerve centers seem likely to be somewhat revolutionized if such cases as this become very common.

3. The Journal of the Michigan State Medical Society for November.

ONE WAY OF DOING IT.

Our British contemporary, the *Medical Press and Circular,* editorially notices a peculiar method of revenging insults to the medical profession which, while we can not commend it, is perhaps somewhat excusable under the circumstances. In an Irish community certain of the public authorities had given out gratuitous and highly offensive utterances in regard to the medical profession in the district. The local branch of the British Medical Association made, our confrère says, an inarticulate but very effective reply. They did not resolve to boycott or refuse their medical services to the offending parties, but made a rule that special fees should be charged them and their families. The surest way to touch most people is through their pockets, and our contemporary hopes it will be effective in this case.

A REDISCOVERED TEST FOR MUMPS.

It is rather remarkable how well-known facts come to be rediscovered. There is probably no general practitioner of any experience in this country who has not heard of the diagnostic test for mumps—eating a pickle. In fact, it may be considered as a matter of universal knowledge. It seems, however, to have been only recently discovered abroad. A French physician reports in a Paris medical journal the value of vinegar or acetic acid as an early test for mumps and the directions are much the same practically as those in family domestic use in this country. The patient must swallow after the application of vinegar or acid, which causes a painful reflex secretion of saliva—the same old well-known phenomenon. That this idea is a new one in Great Britain also is apparently evidenced by the fact that our esteemed contemporary, the *British Medical Journal,* considered the article of sufficient importance to include it in its epitome of current medical literature in its issue of October 31.

THE DE NOVO ORIGIN OF INFECTIONS.

In a recent number of the *Lancet,*[1] Dr. H. Charlton Bastian advocates the *de novo* origin of a number of diseases considered by us as specially typical of bacterial infection. He bases his arguments on some experiments, made as far back as 1882 and 1884, and even earlier, of the production of so-called septicemias in the rabbit by the injection of putrid blood. One of these, the so-called Davaine septicemia, was undoubtedly a true septicemia, as we now understand the word. The other, Pasteur's septicemia, would probably be now more commonly recognized as a bacterial intoxication. The experiments to which he refers, however, can be usually assumed to be accounted for according to modern ideas of bacterial pathology, and his arguments based on these will not be held, by the modern pathologist, to carry much weight. He admits that it is not absolutely necessary to assume that bacteria can be produced *de novo,* but that they can be modifications of pre-existing and less virulent germs excited into active virulence by some special irritation. This is a modern view to some extent, and we may deem it possible. When, however, it is applied to such disorders as tuberculosis and leprosy, as in Dr. Bastian's article, our faith in his views is somewhat shaken. He seems to be positive, as he says when noticing Behring's recently enunciated

1. October 31.

opinions as to the latency of tubercle germs: "I, on the other hand, have proved the possibility of their *de novo* origin." Dr. Bastian's reputation as a scientific physician and an investigator is well established, but his earlier opinions in regard to the beginnings of life have long since been discredited. It would seem that he still holds to them, at least in a modified form. There is no necessity for believing that every inflammation or irritation is of bacterial origin, but that certain recognized disorders like consumption, leprosy, etc., are thus originated seems to be as much beyond question at the present time as any scientific fact. Dr. Bastian's paper is a sort of curiosity in its way, not only from what it really says, but also from what it infers; yet it will not, we think, give rise to any very serious questioning of the modern accepted views.

THE KAISER'S CASE.

The latest official reports from Germany, especially the details furnished by the operator, Dr. Moritz Schmidt, seem to give authoritative and trustworthy details as to the character of the growth that was removed from the throat of the German Emperor two weeks ago. Contrary to what was at first described, it is now announced that the polypus had no stem, as is usually the case, but spread itself over the surface, and especially over the free margin of the left vocal cord. For this reason the operation was more complicated than with an ordinary laryngeal polypus. The operation had to be done by a formal excision through surrounding tissues in order to enable the operator to obtain a grasp of the polypoid growth for complete removal. Perhaps the most discouraging part of the report is the fact that the entire left vocal cord was inflamed and reddish before the operation, and it is therefore expected that the return to normal conditions will require a rather prolonged period of convalescence. The fact that the so-called polypus was not pedunculated but sessile, would seem to indicate that it might be a neoplasm of infiltrating type, and in a position that is so prone to malignant degeneration as the larynx, this is not an encouraging feature of the case. The presence of some inflammatory reaction for a considerable period, and the fact that the scar of an operation of this kind is liable of itself to be a source of chronic irritation because of contractile tendencies inevitable in the new-formed tissues that will cover the defect, increases the possibilities of future malignant degeneration. When to this is added the discouraging factors in the Kaiser's personal history, the death of both father and mother from malignant disease, it can readily be understood why the matter causes serious apprehension in many minds. Professor Orth's very positive declaration of the non-malignancy of the growth was somewhat tempered by the fact that he considered certain elements in the tissues examined by him deserving of further investigation. While we certainly accept the statements of those who have charge of the case, as far as they go, and can not feel justified in taking a pessimistic view of the matter, it is well to remember at this time that on three separate occasions Orth's great predecessor, Virchow, was asked to examine portions of tissue removed from the throat of the Kaiser's late father, and on each occasion failed to find any sign of malignancy in them; and we all remember the outcome. We sincerely hope that these unfavorable possibilities—for they must at this time be regarded as such, and not as probabilities—may never be realized, for the German Emperor is one of the great moral forces in our generation.

DIABETIC FLOUR.

It has long been known from the analyses of Woods, Atwater and others that a number of so-called diabetic flours are not what they are claimed to be, and are only misleading and often injurious substitutes for the ordinary bread-making materials. It seems that some German and French manufacturers have succeeded in producing a gluten flour suitable for bread making, and similarly certain British makers have also approximately succeeded. It would appear that we have been less fortunate in this country; the New Hampshire State Board of Health has recently collected specimens of all the diabetic and gluten flours so advertised that were obtainable, and publish in their October report the results of an analysis of these samples. Out of 13 samples 7 had very little less than the average amount of starch, and only 2 samples were comparatively free from it. Neither of these two, however, were suitable for bread making, but were rather a sort of breakfast food or material for combination with almonds, etc., in preparing biscuits. A few others had a rather notably reduced amount of starch, and one, the soja bean meal, would be valuable as a substitute if it were possible to make a palatable bread from it. The results seem to show that many of the so-called diabetic foods, or gluten flours, are very little different from the whole wheat or graham flours, and have very little less starch than the ordinary white wheat flour. Some of the more highly-recommended and widely-advertised diabetic flours, the New Hampshire analyst says, "consist solely of whole wheat flour and by reckless misstatement and deliberate fraud are sold at enormous prices as a cure for diabetes." In a few cases the analyses show that the manufacturers have evidently tried with more or less success to produce a flour low in starch, and the judicious use of their products might be beneficial, but in any case the amount of starch present is high, and the flour must be used sparingly. The same results can be equally well obtained from diminishing the amount of ordinary bread material. There is a great deal of money in this manufacture, and the temptation for misrepresentation is great. One of the most disreputable methods employed is that noted in a recent British contemporary[1] where diabetic-flour manufacturers sent circulars to druggists all over Great Britain offering them 5 shillings for the address of every diabetic patient in their knowledge and thus endeavored to obtain surreptitiously and at the violation of professional confidence a means of advertising their wares. The concern thus acting is the Diabetes Flour Company of London, and its name should be remembered in case they attempt to introduce their products in this country.

1. Med. Press and Circular, Nov. 4, 1903.

Medical News.

CALIFORNIA.

More Bubonic Plague.—Three more deaths from bubonic plague occurred in San Francisco, October 20, 23 and 24.

Physician Aeronaut.—Dr. August A. Greth, San Francisco, has made a successful trip over San Francisco in a dirigible airship constructed by himself.

Smallpox.—In the Ophir district, Auburn, five cases have been discovered in one family.——During October 8 cases of so-called varioloid were reported in Sacramento.

To Clean Chinatown.—Mayor Schmitz of San Francisco has signed the ordinance passed by the board of supervisors appropriating $5,000 from the "Urgent Necessity Fund" to continue the work of thoroughly cleaning Chinatown and endeavoring to put that part of the city in sanitary condition.

Personal.—Dr. Ernest W. Fleming, Los Angeles, has returned from Europe.——Dr. and Mrs. Joseph Kurtz and daughter, Los Angeles, have returned after nearly a year abroad.——Dr. William F. Snow, assistant professor of hygiene at Leland Stanford University, has been made associate professor in the same department.——Dr. Aloysius P. O'Brien, San Francisco, has been commissioned colonel and surgeon-general of California.——Dr. Orra C. Hyde, Oakland, has been made resident physician in the St. Quentin prison.——Dr. J. Raymond Hurley, late U. S. M.-H. and P. H. Service, has accepted the position of surgeon on the Pacific Mail Steamship Company's steamer *American Maru*.——Dr. Melville M. Shearer, Santa Rosa, has been appointed a member of the advisory board recently formed to draft sanitary laws to be introduced at the next session of the legislature.——Dr. Ira B. Ladd, Stockton, has been re-elected physician of San Joaquin County.

COLORADO.

Deaths in the State.—During September 782 deaths and 22 still-births were reported, an annual mortality rate of 10.47 per 1,000, excluding still-births. Typhoid fever caused 51 deaths, diphtheria 14, and scarlet fever 5.

Communicable Diseases.—During September 123 cases of diphtheria were reported in the state, an increase of 14 cases over the preceding month; 62 cases of scarlet fever, an increase of 28 cases; 40 of smallpox, a decrease of 3 cases, and 386 cases of typhoid fever, an increase of 183 cases.

A Criminal Sentenced.—Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, informs us that Edward Reitzel, ex-convict of Pontiac Reformatory, alias Dr. George A. Elliott, alias George E. Cook, registered in Colorado by a stolen diploma from the Toronto University, 1896, was convicted of criminal abortion and sentenced November 14 to three years in the Colorado penitentiary. The details of this man's history, with his photograph, were published in THE JOURNAL, Jan. 3, 1903, page 42. Dr. Van Meter says further: "After skipping his bond in Colorado he changed the Elliott diploma to read George E. Cook, and registered it in Oklahoma. Accompanying it was an affidavit purporting to be from Dr. John B. Murphy, but which is a forgery throughout, the signature and all being in the handwriting of Reitzel's third wife, nee Mary Etta Inman. The real Dr. Elliott is practicing in Leamington, Ontario."

ILLINOIS.

Diphtheria Closes Schools.—A Decatur telegram reports that diphtheria has caused the closing of four schools in Long Creek and Mount Zion townships.

Personal.—Dr. Lee Smith has been elected chief of the medical staff of St. Joseph's Hospital, Bloomington, vice Dr. Charles R. Parke, removed from the city.——Dr. Ulric A. Bedard, Ste. Anne, has returned to America after a stay of three years in Paris.

Physician Breaks Laws.—At the semi-annual meeting of the Livingston County (Ill.) Medical Society, held in Pontiac, November 6, the censors reported that Dr. William L. Rabe, Dwight, had pleaded guilty to the charge of selling liquor to minors and he was accordingly expelled from the society.

Asylum Attendants Go Free.—The grand jury at Peoria found no indictment against the two asylum attendants accused of the murder of Thomas Hartley, the insane patient. The jury said they believed it would be impossible to show that the men were not defending themselves since no one saw the struggle except the participants.

Smallpox.—Ridgway has 8 cases.——The disease has appeared at Kewanee.——The quarantine of Joliet against Lemont was lifted November 11. Disease has not disappeared, but every precaution against its spread is being observed.——From 70 to 80 cases are said to exist in St. Clair County.——South Wilmington reports 6 cases.

State Charity Report.—The bulletin of the State Board of Charities for three months ended September 30 was issued November 10. The average number of inmates during the quarter was 10,826. The gross per capita cost of maintenance was $40.42 and the net per capita cost to the state $34.65. At the end of the quarter there was $4,710,924 27 in the state treasury to the credit of the institutions. The best record was made by the Illinois Eastern Hospital, Kankakee, where the net per capita cost for the quarter was only $29.21.

Chicago.

Presbyterian Hospital Concert.—The fifth annual concert for the benefit of this hospital on November 12 was well attended and netted about $7,500.

New Maternity.—The "Mercy Maternity" has just been completed as an adjunct to Mercy Hospital. The building is detached, and is under the charge of Dr. Joseph B. De Lee.

Deaths of the Week.—The deaths for the week ended November 14 were 484, equivalent to an annual mortality per 1,000 of 13.38, two deaths less than for the corresponding week of last year, and eight deaths more than for the previous week.

Gift to Wesley Hospital.—Rev. R. D. Sheppard of Evanston has offered $35,000 to Wesley Hospital toward paying off its indebtedness, provided the remainder, $25,000, is raised in two years. The trustees accepted the conditions and report that $17,000 of the necessary amount is already in sight.

Increased Mortality.—During the last thirteen years, 1890-1902 inclusive, the mortality from nephritis, heart disease and pneumonia has increased over that of the thirteen years, 1877-1890 inclusive, in the following ratios: Heart disease, 48 per cent.; pneumonia, 53 per cent., nephritis, 87 per cent.

Northwestern Faculty Changes.—At the meeting of the board of trustees of the Northwestern University, November 17, Dr. Charles L. Mix was elected professor of physical diagnosis to fill the vacancy left by the resignation of Dr. George W. Webster; Dr. Fred Menge was elected assistant professor of laryngology and rhinology, and Dr. William A. Mann was elected assistant clinical professor of ophthalmology and otology.

MARYLAND.

Personal.—Dr. Washington C. Claude, chief of staff of the Annapolis Emergency Hospital, has resigned.

Election of Officers.—The Frederick County Medical Society elected the following officers for the ensuing year: President, Dr. C. W. Goldsborough; vice-presidents, Drs. David M. Devilbiss and E. L. Beckley; secretary, Dr. Ira J. McCurdy; treasurer, Dr. William C. Johnson; librarian, Dr. Harvey F. Gitzendanner.

Emergency Hospital.—The Frederick County Medical Society's new hospital building will be formally opened December 1, with 25 beds. A board of trustees consisting of a number of physicians, with Dr. William H. Wagner as chairman, has been elected to manage the institution, which will be known as "The Emergency Hospital of Frederick County." Dr. Thomas Cullen, Baltimore, held a clinic before the society November 11, and read a paper.

Baltimore.

Deaths of the Week.—There were 190 deaths for the week ended November 14, five only being from typhoid fever.

Personal.—Dr. A. L. Frank has been elected president of the Hebrew Orphan Asylum and Hospital, vice Menka Friedman, deceased.

Another Ginger Death.—A case of death from wood alcohol poisoning was reported here on November 7 in a woman who had taken several doses of Jamaica ginger for "internal trouble." The attending physician's certificate was confirmed, on examination, by the coroner.

Tuberculosis Exposition.—Preparations are being consummated for the tuberculosis exposition, to be held here in January, under the combined auspices of the tuberculosis commission, the State Board of Health, and the Maryland Public Health Association. Details are in charge of Dr. W. S. Thayer, president of the commission; Mr. John M. Glen, secretary; Dr. John S. Fulton, secretary of the State Board of Health, and Dr. Marshall L. Price. Dr. Henry B. Jacobs has been elected chairman, and 250 prominent professional men and laymen have been asked to act as an advisory committee. A series of

lectures will be given, the object of which will be to present the extent and effects of the disease in a striking manner. The prevalence of the disease, its incidence on certain occupations and trades, and the various hygienic and personal factors which influence its spread will be shown. The pathologic exhibit will be arranged to show the effects of the disease on the various organs. Tuberculosis in the lower animals will also be fully illustrated. One section of the exhibit will be devoted to the various appliances used in the treatment and cure of tuberculosis. Hospitals and sanatoria will be illustrated by means of plans, elevations, photographs, models and by tables illustrating the cost and results of treatment. A number of special appliances will be shown for open-air treatment, among them portable houses, tents and special sleeping devices. This exposition will be the first of its kind ever held, and already has aroused considerable interest among physicians in this country and abroad. Among the sanatoria exhibited will figure about 75 American institutions and about 30 from abroad, of the latter the largest contingent will be furnished by Germany, the remainder being from France, England, Switzerland, Austria and Norway. The largest exhibit of the statistical and economic sides of the question will be furnished by Maryland. The influence of the disease on the birth-rate and school attendance, and the public and private cost, will be shown by means of charts and diagrams.

OHIO.

Adds Obstetric Department.—The Cincinnati City Hospital has added a department of obstetrics to be under the charge of Drs. William H. Taylor and George M. Allen.

Diphtheria.—Schools in Troy have been closed because of diphtheria.——Out of 39 children at the Holy Family Orphanage, Cleveland, 15 are said to be ill with diphtheria.

Personal.—Dr. Christian R. Holmes has resigned from the commission appointed to build the new city hospital, Cincinnati. Dr. Byron Stanton was appointed to fill the vacancy.

Change City Physicians.—The twelve district physicians formerly in the employ of Cleveland have been replaced by six, and the salary of five has been increased to $600 per annum. The physician for the first district, on account of extra duties, has a salary of $1,000.

Room for More Patients.—The board of medical advisers of the Cincinnati City Hospital, on the advice of the chief of staff, have thrown open three wards previously used as nurses' quarters, and have secured a building near by, to be used exclusively as a nurses' home.

Smallpox.—There are said to be 15 cases at Folk Station on the Cadiz branch of the Panhandle Railway.——The State Board of Health has been notified of 20 cases at Alliance, 10 at Marion, and 8 or 10 at Columbus Grove.——Portsmouth has quarantined against the districts affected with smallpox.

Staff Physicians Elected.—The election of staff physicians for the Cincinnati City Hospital resulted as follows: Physicians—Drs. George A. Fackler, Joseph Eichberg, E. W. Mitchell, Oliver P. Holt; neurologists—Drs. H. H. Hoppe, Frank W. Langdon; surgeons—Drs. N. P. Dandridge, Joseph Ransohoff, E. W. Walker, John C. Oliver; orthopedic surgeons—Drs. A. H. Freiberg, C. E. Caldwell; dermatologists—Drs. A. Ravogli, C. S. Evans; laryngologists and aurists—Drs. S. E. Allen, J. W. Murphy; oculists—Drs. Robert Sattler, D. T. Vail; obstetricians—Drs. W. H. Taylor, G. M. Allen; gynecologists—Drs. Charles A. L. Reed, John M. Withrow, C. L. Bonifield, Sigmar Stark; pathologists—Drs. H. W. Bettmann, Arch 1. Carson; pediatrists—Drs. Allen G. Poole, B. Knox Rachford; neuropathologist—Dr. David I. Wolfstein; clinical pathological laboratory and museum—Drs. John E. Greiwe, director, William H. Crane, James R. Rowe, Carl Hiller, Alfred Friedlander, Horace J. Whitacre, Frank E. Fee; physician to the Branch Hospital—Dr. B. F. Lyle, assistant Dr. Cook; resident physician—Dr. John E. Stemler.

TENNESSEE.

College Opens.—Tennessee Medical College, Knoxville, opened for its fall session November 2.

Tribute to Dr. Mitchell.—Tributes were paid to the memory of the late Dr. Robert Wood Mitchell of Memphis in resolutions adopted by the Memphis and Shelby County Medical Society at a special meeting held November 3.

Society Elects Officers.—At the annual election of officers of the Greene County Medical Society, Dr. Claude P. Fox, Greeneville, was elected president; Dr. I. B. Brown, Moskeim, vice-president, and Dr. S. Walter Woodyard, Greeneville, secretary.

Knoxville Mortality High.—The report of the Knoxville Board of Health for October shows the highest death rate for that month since 1898. The deaths numbered 47, equivalent to an annual death rate of 14.10 per 1,000. Pneumonia heads the list, with tuberculosis a close second.

Personal.—Dr. Charles Brower, Nashville, has been seriously ill with septicemia resulting from an infected wound received during a surgical operation.——Dr. J. Sinclair Dye has been selected as city physician of Chattanooga, to assume office at the expiration of the term of Dr. Edward R. Wise, January 1, 1904.

Smallpox.—Robertson County has 23 cases and several points of exposure.——Lilly Bluff School, near Langford, has been closed on account of the disease.——The secretary of the State Board of Health fears that there will be a great deal of smallpox in East Tennessee this winter.——Cumberland County has its first case in two years.——In the Knoxville Isolation Hospital 100 cases are under treatment.

TEXAS.

Smallpox.—The health officer of Harrison County reports 13 cases of smallpox and 2 suspicious cases in the Harleston neighborhood in the western part of the county.——Marshall has two cases.

Portrait Presented to Health Department.—On request of Dr. Tabor, the family of the late Dr. Walter F. Blunt, who was connected with the state quarantine service for over a quarter of a century, has given a large well-framed crayon picture of the Doctor.

Yellow Fever Abating.—Dr. George R. Tabor, state health officer, reports the yellow-fever situation as follows:,

Actual conditions in Texas are as follows: About 700 cases, with 60 deaths in Laredo; 18 cases, 8 deaths in San Antonio, with no case reported in San Antonio for seven days; 5 cases, 2 deaths in Dewitt County.

These are the only places of infection in Texas, and it is a true statement of existing conditions. Two frosts have fallen in Bexar and Dewitt counties. Conditions are favorable in Bexar, and I apprehend no further cases. Cases in Dewitt County confined to one house, with no other house nearer than one mile. Disease is ended there. Laredo is well quarantined.

There is no danger whatever to people coming to Texas, as our quarantine will amply protect other sections of the state. We hope to be able to give San Antonio a clean bill of health within a few days. The state and federal governments are co-operating at Laredo, and hope to exterminate the infection there soon.

VIRGINIA.

The Seaboard Medical Association of Virginia and North Carolina will meet in Norfolk, December 15, 16 and 17.

Wage War Against Irregulars.—The Norfolk Medical Society, at its meeting, November 10, appointed a committee to investigate charges against illegal practitioners of the city.

Personal.—Dr. W. Armistead Gillis, Petersburg, has received an appointment in the laboratory of the Bureau of Medicine and Surgery, U. S. Navy.——Dr. George Walke Wallace, Norfolk, after a period of ill health, has resumed practice.——Dr. Charles G. Cannaday, Roanoke, has been presented with a gold-headed cane by the exhibitors at the Virginia Medical Society meeting.——Dr. Albert S. Priddy, Marion, has moved to Bristol, Tenn.——Dr. E. C. S. Taliaferro, Achilles, has returned from Europe and is practicing in Norfolk.

WASHINGTON.

Fire Destroys Hospital.—A fire which caused a loss of more than a million dollars at Aberdeen, Wash., destroyed two buildings of the Grays Harbor Hospital.

Physician Injured.—Dr. W. C. Pallister, local surgeon of the Northern Pacific Railway at Kennewick, jumped from a train in motion, and sustained serious contusions and wounds.

Typhoid at Yakima.—The State Board of Health, which has been investigating the typhoid fever situation at North Yakima, reports a deplorable sanitary condition of the city; that about 200 cases of the disease exist in the city and vicinity, and that the death-rate is high.

Still in the Dark Ages.—Colfax is said to be wrestling with the vaccination problem. The State Board of Health has issued an order that all school children be vaccinated. It is reported that many Colfax people resent the order, consider it unconstitutional and are raising funds to make a test case.

WEST VIRGINIA.

Quarantine Lifted.—The smallpox quarantine which closed the Broaddus Institute, Clarksburg, for nearly a month, was

lifted November 4. Two students had smallpox, and two or three others what was called varioloid.

Smallpox Rages.—Kenova and Ceredo have epidemics. In Ceredo there are 50 cases, with 4 deaths. Both towns are quarantined against by Huntington, Catlettsburg and Ashland. From November 2 to November 4, 7 new cases were reported in Kenova, and 12 new cases in Ceredo.

Hospital Opened.—The Davis Memorial Hospital, Elkins, built by the late Henry G. Davis and wife, at a cost of $85,000, as a memorial to their son, who was drowned off the coast of Africa, was opened October 8. Dr. William W. Golden is superintendent and surgeon-in-charge, Dr. M. S. Wilson assistant resident physician, and Drs. William Osler, Thomas S. Cullen, Louis McL. Tiffany, and Frank Martin, Baltimore, are on the consulting staff.

State Board of Health Speaks.—The State Board of Health, after summarizing the smallpox situation in the state, and noting the increase in mortality from 12 to 20 per cent., recommends vaccination and revaccination and the exclusion from school of children who have not been vaccinated or who have not fully recovered from infectious diseases. Superintendents of state institutions are directed to have all inmates and employes vaccinated and to admit persons only with the greatest precautions against infection.

WISCONSIN.

Smallpox in Indians.—Smallpox has broken out among the Winnebago Indians who are in camp near Portage.

All Have Registered.—Every physician in Douglas County has either passed the prescribed examination or has registered.

Loving Cup Presented.—At the recent meeting of the Central Wisconsin Medical Society at Janesville, Dr. Joseph B. Whiting of that city was presented with a silver loving cup by the society.

Opens Sanitarium for Children.—Dr. Mary E. Pogue has opened a sanitarium at Lake Geneva, Wis., for the treatment of children suffering from nervous and mental defects. Supporting Dr. Pogue as a supervisory board are Drs. Daniel R. Brower, Sanger Brown, Archibald Church, W. S. Christopher, H. V. Halbert and William G. Stearns. Kindergarten, medical and corrective gymnastics, the correcting of speech defects, articulation, counting of beads and the less exhausting methods of mathematics, modeling in clay, basket and mat weaving and the control and understanding of self are to be taught, each child receiving individual instruction.

GENERAL.

Southern Medical College Association.—There will be a meeting of this association in the Piedmont Hotel, Atlanta, Ga., December 14, at 10 a. m. All southern medical colleges not already members and which desire to affiliate with this association, are requested by the secretary, G. C. Savage, M.D., 139 N. Spruce Street, Nashville, Tenn., to file application at this meeting.

The Warren Triennial Prize (founded by the late Dr. J. Mason Warren in memory of his father) of $500 will be awarded in 1904 for the best dissertation on some subject in physiology, surgery or pathologic anatomy; the arbitrators being the physicians and surgeons of the Massachusetts General Hospital. A high value will be placed on original work. Competing essays must be legibly written. and suitably bound, so as to be easily handled. The name of the writer must be inclosed in a sealed envelope, on which must be written a motto corresponding with one on the accompanying essay. Any clew given by a dissertation or by a writer which reveals his name before the award of the prize will disqualify him. If no essay is considered worthy, no award will be made. April 14, 1904, is the last day on which manuscripts may be received by Dr. Herbert B. Howard, resident physician, Massachusetts General Hospital, Boston.

CANADA.

British Columbia Examination.—Of the 13 candidates before the examiners of the British Columbia Medical Council this month, 11 were successful.

More Montreal Smallpox.—The Montreal Civil Smallpox Hospital, which has been closed for some time, is again open with 10 patients, all of whom it is asserted came from outside places.

In the Montreal General Hospital, in October, there were admitted to the wards 250; discharged, 229; deaths, 12; average daily sick, 190. There were 2,532 consultations in the outdoor departments. Typhoid fever cases have decreased to 24.

Ottawa Medico-Chirurgical Society Formed.—This society is formed by the union of the two medical societies of Ottawa, and the first meeting occurred November 5. Dr. H. Beaumont Small delivered the presidential address on "Medical Memoirs of Bytown," the old name of Ottawa before it became the capital of the dominion. The society will meet on the first and third Thursdays of each month. Sir James Grant, M.D., is the honorary president.

Personal.—Dr. M. O. Klotz, Ottawa, a graduate of Toronto University, will be appointed governor's fellow in pathology at McGill University.——Dr. J. C. Mitchell, ex-president of the Ontario Medical Association, assistant physician at the Toronto Asylum for the Insane, has been appointed by the Ontario government medical superintendent of the new epileptic hospital now being erected at Woodstock, Ont. Dr. Mitchell has been granted four months' leave of absence to visit similar institutions.

St. John Physicians Arrested for Not Reporting Births.—The law in New Brunswick formerly required the parents, a clergyman or the attending physician to report a birth. On the ground that the physician can better serve the cause of vital statistics, the law was amended so as to make this duty devolve on him. One day last week nearly all of the physicians of St. John appeared in the police court, summoned because of neglect to comply with this law. There being no compensation, the physicians have resented the law and seem not to have obeyed it.

British Columbia Medical Society.—The fourth annual meeting took place at Victoria, October 30 and 31, under the presidency of Dr. O. M. Jones, Victoria. Several physicians were present from the state of Washington, and took a lively part in the discussions. The presidential address dealt chiefly with medical education, deplored the money-making tendency of the modern medical college, and advocated raising the ideal of medical teaching and the maintenance of the noblest ethics of the profession. The following were the officers elected: President, Dr. A. P. Proctor, Kamloops; vice-president, Dr. Boyle, Vancouver; secretary, Dr. B. Jack, Vancouver.

Toronto Has Excellent Water.—A series of bacteriologic analyses of Toronto's drinking water have been made for four months. The highest rate reached was on September 30, when 1,120 colonies were registered per cubic centimeter, but these were mostly water forms, no gas-forming bacilli occurring. The lowest register was on October 24, the number reaching 240. Ten years ago the analysis used to show 20,000. It is thought that this record can not be beaten on this continent. Records have been kept weekly in the health department since 1893. The improvement in the water in the last ten years is due to the steel section of the conduit from the lake having replaced the old wooden one, and to the new settling basin.

Toronto Dispensary for Consumptives To Be Established.—The National Sanitarium Association has announced, with especial approval of the medical profession of Toronto, their intention to establish in Toronto a free dispensary for outdoor consumptive patients. In the same building it is proposed to have a lecture hall for students. The Toronto Free Consumption Hospital, now being erected about five miles away, and which will have accommodation for fifty patients, is almost completed. In connection with this hospital there are about forty acres of land, and the expenditure will reach $25.000, but another $25,000 is to be further spent, and toward this purpose a committee of prominent Toronto citizens are collecting funds.

FOREIGN.

Medical Affairs in Holland.—The present government of Holland is strongly in favor of homeopathy and faith healing, and loses no opportunity to discredit the medical profession. The authorities have even gone so far as to invite to the chair of pharmacognosy and pharmacodynamics at the University of Leyden a certain Mende-Ernst of Zurich, formerly a minister, well known throughout Switzerland as a charlatan and homeopath. The call was made at the instance of the prime minister, under protest from the faculty.

Resignation of Eulenburg.—The *Deutsche Med. Wochenschrift* was founded in 1871 by P. Börner at Berlin, and conducted after his death by S. Gutmann, until the latter died in 1893. Since that year this model medical journal has been in charge of Prof. A. Eulenburg, Geh. Med.-Rath, and of Professor J. Schwalbe. We regret to learn that Eulenburg's other duties have compelled him to sever his connection with

the journal. His resignation is to take effect at the close of the year. He has been one of the pioneers in the closer organization of the medical press in his own country and throughout the world.

The Austrian Trouble.—In Austria the government, through its representatives in parliament, seems to have publicly identified itself with the ignorant enemies of science and progress. Our Austrian exchanges comment with grief on this disgrace to their country. The culmination of the trouble was reached in a discussion of vivisection in the lower Austria Landtag. Several members, including the speaker of the house, accused the members of the medical profession, especially certain world-famous Vienna professors, of experimenting on poor patients and of other obnoxious practices in the line of vivisection. The matter was referred to a committee whose report recommends that all the laboratory animals should be removed from the clinics of the gynecologists Chrobak and Schauta. The dean, Professor Weichselbaum, and the other members of the faculty have publicly protested against this measure and the profession throughout Europe is watching aghast this dark cloud that is obscuring the brilliancy of the famous Vienna school. A public meeting of protest has been held at Vienna by the students and professors, and the medical chamber passed a unanimous resolution that the members of the national health service should resign in a body. The minister of education has tried to conciliate the profession, urging them not to take the words of the speaker of the house too seriously and exaggerate their import. Our Berlin exchanges quote Billroth's complaints of the indifference if not actual enmity of the legislators, even as long ago as 1874, and the conditions have evidently not improved since then. It is only a few weeks ago that the Austrian authorities decreed that cancroin should be tried on an extensive scale in certain Vienna hospitals, as mentioned at the time in this column.

Correspondence.

The Red-Light Treatment of Smallpox.

PHILADELPHIA, Nov. 14, 1903.

To the Editor:—I deem it proper to briefly reply to Dr. Finsen's article on "The Red-Light Treatment of Smallpox," which appeared in the last number of THE JOURNAL.

I wish to make public acknowledgment that I have done Dr. Finsen an injustice in stating that the red-light treatment did not originate with him. A treatment, which in effect was a sort of red-light treatment, was certainly employed by John of Gaddesden, but Dr. Finsen calls attention to the fact that the exclusion of the actinic rays of the sun was not its purpose, and that the red blankets and hangings, in all probability, did not exclude all daylight.

As to the value of the so-called red-light treatment, I am more convinced than ever of its inutility as additional clinical evidence comes to hand. I regret very much that Dr. Finsen did not discuss some of the theoretical objections to his theory. It appears to me that one of the strongest arguments against the correctness of Finsen's view is that the negro, whose skin is protected against the entrance of actinic solar rays by a blackish pigment—a far better barrier than red screens—is just as liable to die from smallpox or to be pitted by the disease as his white neighbor. Dr. Finsen has himself stated that "pigmentation constitutes a defense against the effects of the chemical rays." If his statement is true, and if the negro is not protected (which is an irrefutable fact) then the conclusion is imperative that chemical rays of light have nothing to do with pustulation in smallpox.

In support of his red-light treatment, Finsen quotes the results of treatment of 150 cases of smallpox in northern Europe. How often in the history of medicine have wonderful powers been attributed to therapeutic agents because of apparent clinical results. Rectal injections of hydrogen sulphid, the original tuberculin and a host of once loudly-acclaimed measures and drugs have after a time been lost sight of. Dr. Nelson D. Brayton, Indianapolis, has observed many cases of smallpox treated in red-light wards. He writes: "With an experience of at least 300 cases, I regret that I also must corroborate the results that Dr. Welch and Dr. Schamberg arrived at in Philadelphia, in the two cases in which they tried the red-light treatment of the disease, and say there is nothing in it. While it may sound well in theory and look beautiful in practice, it is nevertheless true that the dead are still removed, and the pitted and scarred still recover in a red-light hospital."

In order that the truth may be arrived at, it is important that negative and unfavorable results, as well as the successful ones, should be brought to public attention.

1636 Walnut Street. JAY F. SCHAMBERG, M.D.

Dose of Carbolic Acid and Dosage in General.

NEW YORK, Nov. 14, 1903.

To the Editor:—In reference to the dose of carbolic acid, I should like to say that I personally know a patient who is taking one-half dram, or 30 minims, of pure liquefied carbolic acid at a dose two or three times a day. He has been taking it for some time, and with apparent great benefit. Of course, he has reached the dose gradually, starting with one or two minim doses. I might take this opportunity to add that our so-called science of posology is in an uncertain, chaotic condition, and that no intelligent physician, who is able to watch and interpret effects, should be hampered by book doses. He need not be afraid of being styled a homeopath, if he thinks he gets good effects from and, therefore, prescribes doses much below the accepted minimum; nor, on the other hand, should he hesitate to order doses much above the dispensatory and dose-book maximum if he thinks such doses are demanded by the exigencies of the case. I have more than once prescribed doses which staggered the druggist—such as one ounce of bismuth subnitrate at a single dose, in gastric ulcer, 1/20 gr. of atropin sulphate in suspected intussusception—but which produced the happiest results on the patient. It would be well if the various board examiners gave a little more latitude to the candidates in the subject of posology. WM. J. ROBINSON, M.D.

The County Society and the Index Medicus.

ELKTON, MD., Oct. 30, 1903.

To the Editor:—The Cecil County (Md.) Medical Society has subscribed to the *Index Medicus*. I have thought that if a good proportion of the county societies would become interested in this matter, and follow the example of this Maryland society, the continued existence of this important journal would be assured. We propose to deposit the numbers in a public place accessible to all our members. I take it that making a universal index of medical literature available to the mass of the profession can not fail to have far-reaching results beyond the demonstration of the ability of organization in creating and sustaining great professional enterprises.

CHARLES M. ELLIS, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

THE HIPPOCRATIC OATH.

WISCONSIN, Nov. 13, 1903.

To the Editor:—Will you kindly give me the form of the oath or obligation that is administered to all graduates in medicine?

D. D.

ANSWER.—Our correspondent probably refers to the Hippocratic Oath, which is as follows:

"I swear by Apollo the physician and Œsculapius and Health, and All-heal and all gods and goddesses, that, according to my ability and judgment, I will keep this Oath, and this stipulation to reckon him who taught me this art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required, to look on his offspring in the same footing as my own brothers and to teach them this art, if they shall wish to learn it, without fee or stipulation, and that by precept, lecture and every other mode of instruction, I will impart a knowledge of the art to my own sons and those of my teachers, and to disciples bound by stipulation and oath, according to the law of medicine, but to none others. I will follow the system of regimen which, according to my ability and judgment, I consider for the benefit of my

patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practice my art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and further from the seduction of females or males, of freemen and slaves. Whatever in connection with my professional practice or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art respected by all men in all times. But should I trespass and violate this Oath, may the reverse be my lot."

A modified form of this oath was administered this year to graduates in medicine of the Syracuse University; this was published in THE JOURNAL, July 4, 1903. It is not usual to administer any oath in the majority of medical colleges. The graduates are supposed to be instructed as to their ethical obligations and expected to fulfill them.

TREATMENT OF GONORRHEAL ANKYLOSIS OF KNEE.

WEATHERFORD, TEXAS, November, 1903.

To the Editor:—What is your advice in a case of ankylosis of knee from gonorrheal arthritis? (Jan. 11, 1903.) The patient is a young man, aged 23, general health good; he has been up six months, has been at work some two months, has had every means of treatment except surgical, including 30 treatments by dry hot air. The knee is flexed 5 9/16 inches while the patient is lying on a horizontal plane. It is impossible to get any movement in the knee. It swells a little during the day's use.

DR. ROBERT R. NORWOOD.

ANSWER.—If under anesthesia the ankylosis of the knee is found to be bony, nothing can be done, unless the angle of deformity is so great as to warrant an open operation in order to correct this, in which case, of course, the knee would be stiff in its new position. If the adhesions are not bony, but can be broken up under an anesthetic, this should be done. The knee should then be bandaged—not too tightly—with a rubber bandage and enclosed in hot fomentations to relieve the pain and prevent too much swelling. Thereafter the joint should be moved at least once a day, in order that the adhesions may not reform, and the dressing should then be reapplied. This will be very painful, and will require a great deal of perseverance on the part of the surgeon, and of endurance and grit on the part of the patient, to thoroughly carry it out. It will also require several months' treatment.

Marriages.

MYRON L. HUNTINGTON, M.D. to Mrs. Jennie Garrett, both of Moline, Ill., November 5.

M. BOWMAN HOOD, M.D., to Miss Mabel Glyndon Joyner, both of Baltimore, November 4.

JOHN A. BAUER, M.D., to Miss Elizabeth Schlarmann, both of Germantown, Ill., October 28.

RICHARD L. NEER, M.D., Baltimore, to Miss Effie Maude Bennett, at Portland, Ore., November 3.

EMMETT J. CRAIG, M.D., U. S. Army, to Miss Annie Laurie Miller of San Diego, Cal., November 1.

LEONARD C. CHAMBERLAIN, M.D., to Miss Jeannette G. Drysdale, both of New Orleans, La., November 11.

FRANCIS S. FURMAN, M.D., Shreveport, La., to Miss Sarah Chandler, at Johnson City, Tenn., November 4.

VOLNEY McR. SHOWALTER, M.D., Point Clear, Ala., to Miss Charlotte McGraw, at Bradford, Pa., November 3.

FRANK TORNHOLM, M.D., Wahoo, Neb., to Miss Anna Josephine Pierson of South Bend, Ind., October 28.

AUGUST E. KROENING, M.D., Lincoln, Ill., to Miss Nellie Bellmar of Springfield, at Wilmington, Ill., October 28.

Deaths.

GEORGE JULIUS ENGELMANN, M.D.

George Julius Engelmann, M.D., Boston, died suddenly in Nashua, N. H., November 16, aged 56. While on a brief vacation he caught cold, pneumonia developed rapidly and all treatment was unavailing. He leaves a wife and three children. The burial took place yesterday in St. Louis.

Dr. Engelmann was born in St. Louis, July 2, 1847, and received his early education at Washington University, from which he graduated with the degree of master of arts in 1869. He took a medical course at the universities of Tuebingen, Berlin, where he obtained his medical degree in 1871, and in Vienna, where he obtained a degree of master of obstetrics a year later. He served as surgeon in the Franco-Prussian War and returned to St. Louis in 1873, where he practiced until 1895. His practice was devoted almost exclusively to gynecology and obstetrics. In 1895 he moved to Boston. He was an extensive traveler, and as a recreation made researches in the lines of ethnology and archeology. His collection of Missouri flints and pottery, which is now in the Peabody Archeological Museum in Cambridge, Mass., is justly renowned. He was a member of the American Medical Association, president of the American Gynecological Society in 1894-5, honorary president in 1884, and president in 1900 of the Gynecological Section of the International Medical Congress, honorary president of the International Congress of Obstetrics and Gynecology in Brussels, 1892, and in Amsterdam, 1899. He was president of the Boston Obstetrical Society, and a fellow of the British Gynecological and London Obstetrical societies.

He was professor of the diseases of women in the Missouri Medical College, St. Louis, and in the Post-Graduate School

GEORGE JULIUS ENGELMANN, M.D.

of Medicine in that city. He was a strong and forceful writer and chief among his contributions to literature are his works on "Mucous Membrane of the Uterus," published in 1875, on "Labor Among Primitive Peoples," 1882, which passed through two editions in English and was translated into French and German, and monographs in the line of his specialties.

Lucius Gillette Thompson, M.D. Starling Medical College, Columbus, Ohio, 1849, one of the founders of the Illinois State Medical Society, and first vice-president of the North Central Illinois Medical Association, died at his home in Lacon, Ill., October 30. In company with the late Dr. Robert Boal he drove from Lacon to Springfield in June, 1850, in response to a call for a state medical convention issued by the Ottawa Medico-Chirurgical Association. At this meeting 16 physicians were present, and the state society was organized. At its semi-centennial in 1900 Drs. Boal and Thompson were the sole survivors of those who organized the society.

Henry A. Clarke, M.D. Rush Medical College, Chicago, 1875, died suddenly at his home in Pueblo, Colo., October 18. At a meeting of the Pueblo County Medical Society, October 20, resolutions testifying to the worth of Dr. Clarke were adopted.

August C. Sapper, M.D. Missouri Medical College, St. Louis, 1893, chief of the medical staff of the Lutheran Hospital, St. Louis, died in that institution, November 8, from malignant disease, after an illness of five months, aged 35.

J. McFadden Gaston, M.D.—As we go to press we learn that Dr. J. McFadden Gaston, the noted surgeon of Atlanta, Ga., died at his home November 15, aged 79. An extended notice will appear in the next issue of THE JOURNAL.

William Wallace Seely, M.D. Medical College of Ohio, Cincinnati, 1864, professor of clinical ophthalmology and otology in the Medical College of Ohio, died at his home in Cincinnati, November 8, after a long illness, aged 66.

Emil Rosenberg, M.D. University of Berlin, Germany, 1855, senior medical examiner of the Northwestern Mutual Life Insurance Company, died at his home in New York City, November 4, aged 74.

Noah D. Jenkins, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1886, died at his home in Mark, Iowa, November 5, from the effects of the excessive use of liquor and drugs, aged 55.

E. C. Walters, M.D. Jefferson Medical College, Philadelphia, was found dead in his office in Washington, Pa., November 5, aged 35. Death is supposed to have been due to alcoholism.

Franklin von Artsdalen, M.D. Jefferson Medical College, Philadelphia, 1857, died at his home in Philadelphia, November 15, from kidney disease of long standing, aged 69.

Benjamin A. Andreas, M.D. Jefferson Medical College, Philadelphia, 1888, died suddenly at his home in South Bethlehem, Pa., October 26, from heart disease, aged 43.

Augustus Remick, M.D. Harvard University Medical School, Boston, 1868, a member of the American Medical Association, died in Providence, R. I., October 5, aged 64.

John Craig Nevins, M.D. Jefferson Medical College, Philadelphia, 1874, died at his home in Summit Hill, Pa., October 26, after an illness of nine months, aged 64.

Benjamin F. Sheeder, M.D. Jefferson Medical College, Philadelphia, 1893, died recently at his home in Saline, Mich., after an illness of two years from paralysis.

Nathaniel Jewett, M.D. Eclectic Medical College of the City of New York, 1871, died at his home in Ashburnham, Mass., November 3, after a long illness.

Morgan Clements, M.D. Jefferson Medical College, Philadelphia, 1848, died at his home near Tuscaloosa, Ala., November 1, after a short illness, aged 78.

James R. Sims, M.D. Eclectic Medical Institute, Cincinnati, 1883, Memphis Hospital Medical College, 1889, of Du Quoin, Ill., died October 11.

William R. Jenkins, M.D., of Freeman, Mo., died at the University Hospital, Kansas City, Mo., October 28, from cystitis, aged 48.

Samuel Henry Warren, M.D. University of Buffalo, 1880, of Buffalo, died from alcoholism at Riverside Hospital, Buffalo, October 29.

Louisa May Shryock, M.D. University of Wooster, Cleveland, 1893, of Butler, Pa., died at North Washington, Pa., November 3, aged 36.

David A. Pease, M.D. Cincinnati Medical College, died at his home in Twin Bridges, Mont., November 3, from heart disease, aged 72.

William H. H. Jackson, M.D. Cleveland Medical College, 1868, died suddenly at his home in Oil City, Pa., October 31, aged 63.

John Herbert Trout, M.D., Canada, of Toronto, Ont., died at Dubuque, Iowa, November 1, after a long illness, aged 29.

George Tallmadge Brown, M.D. New York University, 1879, died at his home in Margarettsville, N. Y., October 30.

Horace E. Jones, M.D. Barnes Medical College, St. Louis, 1899, of Thompsonville, Ill., died October 16.

Frank Judson, M.D., 1891, died at Dixon, Ill., October 28, after a surgical operation, aged 36.

Marcus L. Schlesinger, M.D. University of Moscow, Russia, 1889, of Chicago, died October 7.

Herman Rakenius, M.D. Rush Medical College, Chicago, 1878, of Chicago, died recently.

Adelia Barlow Diven, M.D., 1877, died at her home in Chicago, November 7, aged 59.

Franklin Hollen, M.D., 1878, of Clay County, Ill., died October 14.

Bennett F. Hopkins, M.D., 1893, of Rapatee, Ill., died recently.

Marcus L. Brown, M.D., 1877, of Enfield, Ill., died October 13.

James C. Scott, M.D., 1887, of Waynesville, Ill., died recently.

Edward R. Roe, M.D., 1881, of Chicago, died in October.

A. M. Ross, M.D., 1892, of Argenta, Ill., died recently.

Miscellany.

Improvement in Vital Statistics.—Effective co-operation has been instituted between the American Medical Association, the American Public Health Association, the Conference of State Boards of Health, the United States Census Bureau and the United States Public Health and Marine-Hospital Service for the improvement of the vital statistics of this country. Among the objects sought are the extension of adequate methods of registration, the use of uniform and comparable tables and rates in bulletins and reports and the improvement of the international classification of causes of death. A pamphlet on "Statistical Treatment of Causes of Death" has been issued by the United States Census Bureau, requests for which should be addressed to Mr. W. A. King, chief statistician for vital statistics, Census Bureau. It has special reference to the difficulties encountered in compiling deaths returned from several causes, and asks for the co-operation of the profession in framing a thoroughly satisfactory method of procedure in such cases.

Improved Local Antitoxin Treatment of Tetanus.—J. A. Sicard of Paris was the first to administer tetanus antitoxin by the lumbar subarachnoid route, and besides the 20 cases published by Vallas last year he knows of 6 cases thus successfully treated (2 personally observed), with another which terminated fatally. Experimental research has also established the possibility of curing even severe tetanus by subarachnoid injection of the antitoxin. Two dogs were saved in this way, while by the other routes none were saved in severe infection. Marie and Morax have recently announced that tetanus toxin besides being carried to the brain by the blood, may reach it by way of the peripheral nerves. The impregnation must occur by way of the cylinder-axis, as the cerebrospinal fluid does not become toxic even after subcutaneous injection of large amounts of the toxin. The cylinder-axis conveys the toxin just as it conveys in the opposite direction the trophic current. It is thus able to convey a toxin, a soluble ferment, but not microbian elements. The fact that the tetanus symptoms commence with trismus in man and in the injured limb in inoculated animals is proof of the correctness of this assumption. The peripheral nerves absorb the tetanus toxin from the lymph spaces around and transmit it to the brain as a plant takes up the water from the soil. Sicard applied these new data to the treatment of the disease in his 2 last cases mentioned above, supplementing the subarachnoid injection of the antitoxin by injections, not only at the point of the injury but along the nerve trunks—an amplified form of local treatment. By these *injections para-nerveuses périphériques*, as he calls them, he follows the toxin along its route. Both his patients thus treated promptly recovered. He advises 5 to 10 c.c. of the antitoxin injected around the wound; then 15 to 20 c.c. injected along the peripheral nerves, both the large and the medium, especially in the wounded limb, and the same amount injected into the subarachnoid space. Forty-eight hours later the injections may be repeated with the same doses, and again if needed, but the subarachnoid injections should not be repeated more than once.

A Roman Catholic's View of the Medical Profession.—In the *Ecclesiastical Review* for September is a chapter from the serial "In Father Martin's Library," from which we quote the following conversation: "'The ethics taught in our medical schools are in some respects admirable, and, perhaps, superior to those of any other learned profession. They inculcate a delicate regard for personal feelings, a vigorous exclusion of purely mercenary methods, the duty of safeguarding the interests of a patient, the keeping of secrets, and the maintenance of a recognized professional etiquette, not only toward brother physicians, but toward the ministers of religion. In-

deed, I have often thought that the readiness with which the average physician holds himself bound to answer a call to duty at the sick-bed or in emergency cases, even when it demands of him personal sacrifice out of all proportion to the remuneration held out, might serve us priests as a model when we are called by our poor people to administer to them the comforts of religion, which they covet even more than bodily relief or health.' 'I should suppose that a physician's reputation, and consequently his practice, depend on such conduct,' I said tentatively. 'Assuredly. But there are other motives that operate in most cases, and which indicate a naturally more sensitive or compassionate—I should say, perhaps, religious—disposition of mind. In the first place, the very attraction that leads a man to take up the profession of medicine betokens ordinarily a sympathetic nature. It is true that the methods of the dissecting room tend to brutalize a disposition naturally coarse or reckless; but for this the actual suffering which subsequent experience reveals to the practitioner in a thousand different forms of light and shade, furnish a strong antidote. No man, unless it be the priest who has to administer to a large community of needy souls, sees so much of the inner workings of human life, the true and false, as does the physician; and, if his mind be open, it can not but arouse in him motives which tend toward the real, the permanent, as opposed to the unrealities of our temporary existence. And this I hold to be the preamble to religion, as much as reflection is a condition of all spiritual consciousness and activity, etc., etc.!'"

Book Notices.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. VIII. Materia Medica and Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics, Forensic Medicine. Edited by George F. Butler, Ph.G., M.D.; Henry B. Favill, A.B., M.D.; Norman Bridge, A.M., M.D.; Daniel R. Brower, M.D., and Harold N. Moyer, M.D. July, 1903. Vol. IX. Physiology, Pathology, Bacteriology, Anatomy, Dictionary. Edited by W. A. Evans, M.S., M.D.; Adolph Gehrmann, M.D., and William Healy, A.B., M.D. August, 1903. Vol. X. Skin and Venereal Diseases, Nervous and Mental Diseases. Edited by W. L. Baum, M.D., and Hugh T. Patrick, M.D. September, 1903. Cloth. Pp. 326, 233 and 236 Respectively. Price, $1.50 and $1.25 Respectively. Chicago: The Year-Book Publishers.

In the July number of this series we have "Materia Medica and Therapeutics" by Dr. George F. Butler, who reviews the literature very thoroughly. A useful portion of the work is a list of the new proprietary remedies taken from *Merck's Archives*. "Preventive Medicine" is ably treated by Dr. Favill, and "Climatology, Suggestive Therapeutics and Forensic Medicine" by such well-known writers as Drs. Norman Bridge, Brower and Moyer. In the August issue we have the subjects of "Pathology" by Dr. W. A. Evans and "Physiology, Bacteriology and Hygiene" by Dr. Gehrmann. In conclusion a supplement to the medical dictionaries, containing the new medical terms, is furnished by Dr. William Healy. The usefulness of this last addition is apparent. In the September number Dr. W. L. Baum reviews the literature of skin and venereal diseases. This part of the work is well illustrated. Nervous diseases are treated of by Dr. H. T. Patrick, assisted by Dr. Charles L. Mix, who give the gist of what is new in this subject within the past year. The contribution to the subject of mental diseases is rather brief. This portion of the work does not fully represent all the valuable literature that has appeared on this subject within the period covered. As a whole the volumes fully bear out the reputation of the preceding ones. The series is a most valuable one and unique in its convenience and inexpensiveness.

THE MEDICAL ANNALS OF MARYLAND. 1799-1899. Prepared for the Centennial of the Medical and Chirurgical Faculty. By Eugene F. Cordell, M.D., Baltimore. 1903. Cloth. Pp. 888. Baltimore: Williams & Wilkins Co. 1903.

There are few commonwealths that have had the opportunity to have their medical history so well compiled as Dr. Cordell has done in this work for Maryland. It gives a valuable résumé of the principal facts as regards medical practice and medical history in the state during the nineteenth century. It is divided into three sections, the historical, the biographical and the chronological. The first gives the annals of the medico-chirurgical faculty—the state society—during its century of existence, with some notices of earlier organizations in the state. The second gives a brief biographic note of each member of the society so far as the records show from the beginning, making a total of about 2,400 persons. In the last section there is an account of the principal medical facts occurring in each year, and especially biographical notices of leading members of the profession in the state. The numerous portraits which embellish the text are a very valuable addition to the work and have evidently been carefully collected from the best available sources. It is something to know how our predecessors looked and the longer the time that has elapsed the more interest we have in them. The book is elegantly printed on excellent paper, its text is admirable and the industry and good judgment of the compiler are worthy of all praise.

ANALYSIS OF THE SEXUAL IMPULSE—LOVE AND PAIN—THE SEXUAL IMPULSE IN WOMEN. Third Volume in Series, "Studies in the Psychology of Sex." By Havelock Ellis, L.S.A. (England); Fellow of the Medicolegal Society of New York and Anthropological Society of Berlin. Cloth. Pp. 266. Price, $2.00 net. Philadelphia: F. A. Davis Company.

This is another volume in the series discussing sexual matters and is perhaps the most valuable one that has yet appeared. It treats of the fundamental principles and gives especial attention to an analysis of the sexual impulse in women. The many diseases and conditions in which the influence of sexual desire and gratification is sometimes discovered after having been ignored suggest the value of this book to the physician, especially to the neurologist. With his enthusiasm in and familiarity with the subject, Ellis goes into details that seem unnecessary and unpleasant—a criticism that would not be needed if the work were only placed in the hands of specialists.

THE NEUROLOGICAL PRACTICE OF MEDICINE. A Cursory Course of Selected Lectures in Neurology, Neuriatry, Psychology and Psychiatry. Applicable to General and Special Practice. With 177 Illustrations. After the Author's Class-Room Methods as a Teacher of Students. Designed for Students and General Practitioners of Medicine and Surgery. By Charles H. Hughes, M.D., President of the Faculty and Professor of Neurology, Psychiatry and Electrotherapy, Barnes Medical College. Cloth. Pp. 417. Price, $3.00. St. Louis: Hughes & Co.

Dr. Hughes has published in this volume the first series of his lectures on neurology given in the Barnes Medical College. The book contains a useful demonstration of the neuron theory, the methods of examination in nervous diseases and the general anatomy of the nervous centers, touching also on some pathologic points. The lecture style is clear and the subject-matter is given in an interesting as well as an instructive manner. The work is amply illustrated, not overloaded with technical matter and for that reason is so much better for the student, while at the same time it successfully conveys the instruction that it is intended to give.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By Richard C. Cabot, M.D., Physician to the Out-patients, Massachusetts General Hospital. Second Revised Edition. With 147 Illustrations. Cloth. Pp. 319. Price, $2.50 net. New York: Wm. Wood & Co. 1903.

Cabot's excellent work on diagnosis of diseases of the chest has won for itself a favorable place, and this edition will be welcome. For a convenient short manual on the subject we do not known of any work that is its superior. The present issue is beautifully gotten up and amply illustrated.

Association News.

AMERICAN MEDICAL ASSOCIATION.

Proceedings in the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-fourth Annual Session at New Orleans.

Dosage of Liquid Medicines.

The following is the report of the Committee on Dosage of Liquid Medicines and the action taken thereon, as reported in THE JOURNAL, May 23, 1903, page 1455:

To the Section on Materia Medica, Pharmacy and Therapeutics of the American Medical Association:

Your committee, appointed at the last session of this Section to consider the recommendations contained in the paper entitled "Dosage of Liquid Medicines: a Simple Plan for Greater Accuracy and Metric Measurements," communicated by Carl S. N. Hallberg, Chicago, respectfully reports as follows:

That, after giving the subject due consideration, they find that Professor Hallberg's criticism on the common methods of designating dosage of liquid medicines is well founded and just, and that the remedy he suggests to overcome the present indefiniteness and uncertainty, namely, the adoption of a standard pipette for dropping doses, and standard metric equivalents for the teaspoon and tablespoon, will be likely to overcome these evils to a great degree, and will favor uniformity and accuracy in the administration of this class of pharmaceutic preparations.

That we recognize the fact that the metric equivalent of the modern teaspoon averages five cubic centimeters, and the tablespoon fifteen cubic centimeters, and would suggest that this fact shall be borne in mind by physicians in ordering doses of liquid medicines. The Philadelphia College of Pharmacy last year adopted the following resolution: "The use of properly made and accurately graduated glass dose measures is to be commended. These measures, however, are to be so constructed that the height of the contained liquid at a spoonful mark is greater than its diameter." Approving this recommendation, the committee has devised a graduated measure for domestic use, which it believes has especial advantages over the usual form of measuring glass. Externally, it is cylindrical; internally, it is cylindrical down to the 15 c.c. mark, and below this point it is an inverted cone. A slight projection or ridge on the inner surface indicates the level for 5 c.c., and another at the base of the inverted cone indicates the lever for the 15 c.c. measure. The total capacity is 30 c.c. This is believed to be a convenient size and sufficiently large for the ordinary administration of liquid medicines, corresponding with one teaspoonful, one and two tablespoonfuls.

The committee also recommends the adoption of a standard medicine dropper or pipette, of 3 millimeters external diameter, which will deliver twenty drops of water, at 15 degrees C., which will measure 1 cubic centimeter when dropped at the rate of one per second, for the administration of doses less than the teaspoonful.

Your committee does not approve the suggestion to alter the values of some of the denominations of customary weights and measures, believing that such action might tend to confuse the subject rather than to facilitate the introduction of the metric method, which is the end desired.

[The report concluded with resolutions which were recommended for adoption by the Section. They are given below as finally adopted.]

FRANK WOODBURY,
AUGUSTUS A. ESHNER,
HORATIO C. WOOD, JR.,
Committee.

On motion the resolutions were adopted as follows:

To the House of Delegates: The following resolutions have been adopted by the Section on Materia Medica, Pharmacy and Therapeutics, and the delegate from that Section instructed to present them to the House of Delegates, with the recommendation that they be adopted by the Association:

Resolved, That teachers of medicine and pharmacy, editors of medical and pharmaceutic journals and authors of text-books are respectfully requested to give precedence to the metric method in the writing of all medical formulas and that, for the administration of doses of less than a teaspoonful, the quantity be stated in drops delivered from a standard medicine dropper or pipette of three millimeters external diameter, which will deliver twenty drops of water at 15 C., which will measure one cubic centimeter when dropped at the rate of one per second, and that the teaspoonful be considered as equivalent to five cubic centimeters and that the tablespoonful be considered as equivalent to fifteen centimeters; and

Resolved, That the orthography, abbreviation, etc., of the International Bureau, or as revised by the National Bureau of Standards at Washington, shall also be recommended for adoption in medical and pharmaceutic publications: and

Resolved, That a copy of these resolutions be transmitted to the Committee of Revision of the United States Pharmacopeia for 1900, with the request that they be incorporated, as far as possible, in the United States Pharmacopeia.

Nerve Nostrums and Drug Addictions.

The following is the report of the Committee on Nerve Nostrums and Drug Addictions and the action taken thereon, as reported in THE JOURNAL, May 23, 1903, page 1455:

The use of proprietary medicines, and especially the so-called nerve tonics and nerve sedatives, has rapidly increased in the past few years, and there seems no likelihood of their decrease unless some systematic plan is made to check this rapidly growing evil. The medical profession owes it to itself and to humanity to take a decided stand on the subject. While we are unable to get rid of the charlatan and faker, while we have motes in our own eyes, it devolves on us as teachers of hygiene to so educate the public that the nostrum business will be reduced to a minimum.

While the profession as a whole is opposed to nostrums, no organized plan to expose their fraudulent claims has yet been made. A few good papers have appeared sporadically in certain medical journals. Evidently the profession has thought that fads and fakers would die out if left alone with "their rope," but such is not the case.

The advertising media of proprietary medicines are: The physician's use of them, the religious press, the lay press, and their own printing presses. Nine of the most widely-read influential religious papers published by the Methodists began the new year by dropping the patent medicine ads. Even the lay press has begun to feel the hand of progress and civilization. Several of the leading newspapers in the east, in Philadelphia, New York and Boston, do not print objectionable medical advertisements.

Dr. Spratling has well said that the quack's secrecy is his only stock in trade; dispel the mystery surrounding him and he will disappear like mist before the rising sun. The term "patent" applied to these medicines is a fraud, pure and simple, because if they were patented their composition would be known and the "valuable discovery" would be free to the public when the patent ran out, as in the case of Castoria. Instead, they are kept secret, and are given protection and a perpetual monopoly on their names through the copyright and trade-mark laws. Some modification of these laws is a necessity.

LEGISLATION BY CONGRESS.

The opportunity is now with us to go before Congress and ask that body to regulate the interstate commerce in proprietary medicines. Such a law would be easier to pass than to break through the state legislature, which is controlled by country newspapers, whose very existence generally depends on the money paid for the advertisements, many of which are unfit to be read in any home in any civilized land. Such a measure should require that the formulas of all proprietary medicines be registered with some department of the Federal government, for instance, the recently established drug laboratory at Washington, and that the sale of all medicines containing any dangerous substances or habit-forming drugs be prohibited unless an exact and correct formula of the ingredients and their quantities be attached to the bottle.

DRUG ADDICTIONS.

With reference to the uses of hypnotics and analgesics and resultant drug addictions, we would recommend that the patient should never be advised of the character of the medicinal agent employed, that every precaution should be taken against such information as may lead to self-medication and its sequelæ of drug habits.

The addiction to drugs that enslave is too often caused by carelessness on the part of the physician giving verbal directions to the patient to take "so and so," or by informing him that he will give him something which will quickly afford relief from some acute pain, etc. The custom of prescribing some of these preparations in the original package, thus familiarizing patrons with the name and properties of

these medicines, is also a dangerous practice, leading to self-medication, and should not be countenanced by reputable physicians. Many of these preparations "prepared solely for physicians' use," are now sold as regular "patent medicines," even at cut rates in department stores. And let it be said to the shame of the medical profession that nearly a score of such medicines are advertised in medical journals, thus giving them a quasi endorsement.

LACK OF SCIENTIFIC NOMENCLATURE.

More general information concerning the Pharmacopeia and its unofficial supplement, the National Formulary, would lessen the necessity of resorting to unofficial preparations. The multiplication of these articles, with their often arbitrarily selected copyright titles, confuses the physician and is the bane of the pharmacist's existence. Sometimes the names of entirely different preparations are so similar as to invite error and serious consequences as a result. Even the true synthetic chemicals are open to this serious objection, while the many mixtures masquerading as definite chemical compounds under suggestive therapeutic terms simply make confusion worse confounded. Owing to their being protected often by patent on the product itself, as well as by patent on the process, in addition to a copyright on the trade name, their status is so questionable as to prevent their admission to the U. S. Pharmacopeia, and the medical and pharmaceutical professions are without adequate knowledge as to their identity, purity and strength. Valuable additions to the materia medica are thus submerged by the irresistible flood of nostrums until the physician is at sea and the pharmacist in despair.

Many schemes for segregation have been proposed, the plan pursued in France having received the most favor, as noticed at various times in the journals. There being here no official body corresponding to the French Academy of Medicine, it has been suggested that such committee might be formed from the American Medical Association and the American Pharmaceutical Association.

THE NATIONAL BUREAU OF MEDICINES AND FOODS.

There is about to be organized the National Bureau of Medicines and Foods, the object of which is to undertake work of this character. The bureau proposes to examine medicinal articles and foods, and certify to such as conform to the standard professed by the manufacturer and to be required by the bureau, for the information of the medical and pharmaceutical professions.

In conclusion your committee recommends:

1. That newspapers which do not print objectionable medical advertisements are entitled to and should receive the favor and preference of medical men.

2. That articles on the dangers arising from the use of quack nostrums should be written for such newspapers for publication.

3. That the Committee on National Legislation be asked to consider the feasibility of the introduction in the next House of Representatives an interstate measure prohibiting or limiting the sale of poisonous and dangerous patent medicines.

4. That no medicinal preparation for internal use, as distinguished from antiseptics, disinfectants, cosmetics and dietetics, advertised as a remedy or cure to the laity, is entitled to the patronage of physicians, nor should such be admitted to the pages of the medical journals, nor to the exhibitions of the American Medical Association.

5. That manufacturers be requested to print the scientific or chemical names under the trade names of all pharmaceutical or chemical preparations.

6. That the general plan and object of the National Bureau of Medicines and Foods are entitled to a further careful investigation by a special committee of the American Medical Association.

WM. J. ROBINSON, New York.
A. W. BAER, Chicago.
H. C. WOOD, JR., Philadelphia.

On motion these recommendations were adopted.

State Boards of Registration.

COMING EXAMINATIONS.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1. Secretary, Geo. G. Gere, M.D., 825 Market St., San Francisco.

New Mexico Board of Health, Santa Fe, Dec. 7. Secretary, Dr. D. B. Black, Las Vegas.

Examining Board of Medical Society of Delaware, Dover, Dec. 8. Secretary, Dr. P. W. Tomlinson, Wilmington.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10. Secretary, Dr. Frank Windeis, Columbus.

Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14, 15 and 16. Secretary, Dr. W. F. Morrow, Kansas City.

Medical Council, Philadelphia, Dec. 15. Secretary, Dr. Isaac B. Brown, Harrisburg.

Medical Examining Board of Virginia, Lynchburg, Dec. 15-18. Secretary, Dr. R. S. Martin, Stuart.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22, 23 and 24. Secretary, Dr. S. D. Van Meter, Denver.

The Confederation of Reciprocating Licensing Boards.—Dr. B. D. Harison, secretary of the American Confederation of Reciprocating Examining and Licensing Medical Boards, calls our attention to some errors and omissions in the report of the meeting of this confederation at St. Louis, October 27, which appeared in THE JOURNAL, November 7, page 1156. He says that four states were represented which we did not mention, namely: Ohio, Pennsylvania, Nebraska and Oklahoma. In our report we mentioned the obstacles to reciprocity. Dr. Harrison states that obstacles in the way of practical reciprocity were not discussed at the meeting except by inference; that it was declared by those states reciprocating under qualifications 1 and 2 that experience in exchanging certificates under these qualifications demonstrated the fact that there were no such obstacles as stated in THE JOURNAL report. "After several months' experience in exchanging certificates," Dr. Harison says, "under both qualifications 1 and 2 the obstacles reported in THE JOURNAL'S report have been demonstrated beyond any question or doubt to have no material existence." Dr. Harison says concerning the discussion on qualification 2 that the change made had no reference to the diploma, but added the requirements of a year's reputable practice in the state subsequent to the receiving of a license before endorsement could be had for a reciprocal license in another state. Qualification 2 as amended reads as follows:

That a certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for reciprocal registration in any other state, provided the holder of such state certificate had been engaged in reputable practice in such state at least one year, and also provided that the holder thereof was at the time of such registration the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirement of the examination test in such state.

Dr. Harison further says that the St. Louis meeting was without question the most successful and fruitful reciprocating conference ever held in the United States and that the confederation gained an actual increase of membership of over 66 per cent. and that a greater increase is more than probable within a brief period.

California Report.—Dr. George G. Gere, secretary of the Board of Medical Examiners of the State of California, reports in detail the written examinations held at San Francisco and Los Angeles, July 7 to 9 and August 4 to 6, 1903. The percentage required was 75, there were 9 subjects, 90 questions, and 158 candidates; of the latter, 108 passed and 50 failed, including 14 who were conditioned because of deficiency in certain branches, and who will be required only to take re-

COLLEGE.	No. Passed.	No. Failed.	Max. Grade.	Min. Grade.	Average of Those Who Passed.	Average of Those Who Failed.
Cooper Medical College.....	27	5	91.3	72.2	81.9	77.8
Univ. of Southern California..	19	0	89.1	75.1	81.7	.....
University of California.....	13	2	87.8	72.4	81.6	74.4
Coll. of P. and S., California.	13	7	89.2	70.3	81.5	76.1
California Med. College (E.)..	0	2	80.3	74.0	.....	77.1
Johns Hopkins University....	2	0	94.2	91.0	92.6	.....
Rush Medical College.....	3	‡3	84.5	71.5	82.2	69.6
Northwestern University	2	1	87.3	60.8	85.8	60.8
College of P. and S., Chicago.	2	2	75.3	72.7	75.1	73.0
Hahnemann M. C., Chicago..	2	2	83.5	73.5	82.1	75.1
University of Michigan.....	1	‡3	80.5	61.1	80.5	67.3
University of Louisville.....	0	‡3	77.4	53.3	.....	67.8
Bowdoin Med. College, Maine.	1	2	77.1	71.8	75.0	74.3
Saginaw Valley M. C., Mich..	1	1	77.2	66.2	77.2	66.2
Bellevue Med. Coll., New York	1	1	80.5	*44.7	80.5	44.7
University of Pennsylvania...	1	1	85.5	74.1	80.4	74.1
Columbia Univ., New York...	2	0	88.7	†83.3	86.0	.....

* Graduate 1889. † Graduate 1884. ‡ See dates of graduation below.

examination in those particular branches. By including in the summary those who were conditioned with those who failed, the average failing grades are raised, for example, some were conditioned in spite of average grades of 85 and 80. The year of graduation is recent (1900 to 1903), unless otherwise specified; we call attention to the many graduates of the years 1864 to 1890.

GRADES IN DETAIL.

Cooper Medical College—Passed: 91.3, 86.6 (2), 85.7, 85.1 (2), 84.2, 84.1, 84, 83.4, 83.2, 82.8, 82.5, 81.8, 81.7 (2), 80 8, 80.7, 80.3, 80.1, 79.7, 79, 77.7, 77.2, 76.4, 75.1, 75. Failed: 80.4.79.5, 79.3, 77.6, 72.2. (Those marked 75 or above were conditioned; those below failed entirely.)

University of Southern California—Passed: 89.1, 88.6, 84 6, 84.5, 84.3, 83.4, 83, 82.6, 81.7, 80.4, 79.8 (2), 79.7, 79.6 (2), 79.5, 79.2, 78.1, 75.1.

College of Physicians and Surgeons, California—Passed: 89.2, 87.4, 84.7, 84.4, 84.2, 83.3, 82.7, 81.7, 78.4 (2), 75.5, 75.4, 75. Failed: 85.1, 79.4, 76.6, 74.1 (2), 73.2, 70 3.

University of California—Passed: 87.8, 86.4, 84.7, 84 4, 83.5, 83.1, 81.3, 80, 79, 78.2, 78.1, 77.7, 77.6. Failed: 76.5, 72.4.

Rush Medical College—Passed: 84.5, 83.1 (graduate 1893), 79.1 (1869). Failed: 73.8, 71.5 (1881), 63.5.

Northwestern University—Passed: 87.3, 84.3. Failed: 60.8 (1869).

College of Physicians and Surgeons, Chicago—Passed: 75.3, 75 (1890). Failed: 73.4, 72.7.

Hahnemann Medical College, Chicago—Passed: 83.5, 80.7. Failed: 76.7, 73.5 (1891).

University of Michigan—Passed: 80.5 (1868). Failed. 71.7 (1890), 69.3 (1864), 61.1 (1882).

University of Louisville—Failed: 77.4 (1875), 72.8 (1892), 53.3 (1887).

Bowdoin Medical College—Passed: 75 (1893). Failed: 77.1 (1892), 71.6.

University of Pennsylvania—Passed: 85.5, 75.3 (1891). Failed: 74.1 (1884).

Colleges having but one representative were as follows:

PASSED.

College.	Year Grad.	Grade.
University of Berlin, Germany	1901	76.3
Pulte Medical College, Ohio	1903	75.1
Yale University	1898	81.5
University of Minnesota	1902	80.7
Western Reserve University, Ohio	1900	83.6
Baltimore Medical School	1902	82.8
Harvard University	1901	87.1
Medical College of South Carolina	1884	80.3
University of Colorado	1897	79.8
Washington University, St. Louis	1900	79.6
Jefferson Medical College, Philadelphia	1875	75.2
Kentucky School of Medicine	1885	79.7
University of Buffalo	1899	80.7
Barnes Medical College, St. Louis	1897	80.7
University of Niagara	1898	77.8
Creighton Medical College, Omaha	1900	78.5
University of Georgetown, D. C.	1902	77.2

FAILED.

Vanderbilt University, Tennessee	1903	76.3
New York University Medical College	1896	66.1
New York Homeopathic Medical College	1903	76.4
Apothecaries' Hall, Ireland	1899	75.3
University of Basle, Switzerland	1902	73.1
Tufts Medical College, Boston	1901	71.2
Laval University, Montreal	1901	69.6
University of Vienna, Austria	1891	74.0
Detroit Medical College	1897	61.6
Chicago Homeopathic Medical College	1879	65.2
Hahnemann Medical College, California	1901	71.3
University of the City of New York	1886	71.7
University of Iowa	1883	70.5
McGill University	1875	73.1

The questions asked were as follows:

MATERIA MEDICA (AUGUST).

1. What is meant by rational therapeutics? Empirical therapeutics? 2. Name three drugs that increase the amount of urine by raising the general blood pressure. Three that increase the quantity by acting locally on the kidney. 3. Name five drugs that are liable to cause an eruption on the skin when given in large doses. 4. Give five drugs that are supposed to have an antiseptic action on the intestinal tract. 5. Name a drug that has a physiologic action practically antagonistic to each of the following: Aconite, chloral-hydrate, morphin. 6. Name a drug that has a physiologic action practically synergetic with the above. 7. What is the composition of Blaud's pills? 8. Write a prescription for chronic constipation such as is commonly met with in patients of sedentary habits. 9. Name and give dose of two drugs that, administered three times a day for several days, might have a cumulative action. 10. What is the physiologic action of ergot on involuntary muscle? Nitroglycerin on peripheral blood vessels? Strychnia on the nervous system?

MATERIA MEDICA—HOMEOPATHIC (AUGUST).

1. Give the characteristic skin symptoms of graphites. 2. Give the neuralgic symptoms of colocynth. 3. Differentiate china and ipecac in hemorrhages. 4. Differentiate in general between belladonna, hyoscy. and stramon. 5. Give indications for two remedies in typhoid. 6. Describe the general effects of opium. 7. Give two remedies acting on the liver, with special indications. 8. Give brief outline of the action of quinin. 9. Give two remedies in the treatment of erysipelas, with indications. 10. What symptoms indicate sanguinaria in headaches?

MATERIA MEDICA AND THERAPEUTICS (JULY).

1. What do you understand by the cumulative action of a drug? 2. What are the modes of administration of medicine, and how does the dosage vary as compared to that of the mouth? 3. Give three drugs and their dosage that, in their excretion by the kidneys, will (*a*) render the urine antiseptic; (*b*) render the urine alkaline in reaction; (*c*) render the urine acid in reaction. 4. Name two drugs that will increase the secretion of bile by the liver cells (direct cholagogues), two that increase the flow of bile from the gall bladder into the intestinal tract (indirect cholagogues). 5. Compare the physiologic action on the heart of digitalis with strophanthus. 6. What would you consider a safe initial dose of hydrochlorate of cocain administered hypodermatically to an adult? 7. Compare the physiologic action of hyoscyamus with belladonna on the nervous system. 8. Give the medium adult dose of the following: Sulphate of morphin, tincture of belladonna, sulphate of strychnia, nitrate of silver, corrosive sublimate. 9. What is the composition of the following: Dover's powders, Fowler's solution, Basham's mixture? 10. What do you understand by the incompatibility of drugs? Name the general incompatibilities of iron.

MATERIA MEDICA AND THERAPEUTICS—ECLECTIC (JULY).

1. Give therapeutic application of digitalis—jaborandi and hyoscyamus. 2. Give indications and contraindications for morphia and chloral hydrate. 3. Give indications for strychnia. How would you give it and in what dose? 4. Give indications for aconite, veratrum, strophanthus, macrotys, and bryonia, with physiologic effect of each. 5. What is materia medica? Therapeutics? 6. How does gelsemium quiet a restless, fretful patient? 7. Differentiate a muriatic and nitric acid tongue. 8. What do you understand by the term alteratives: expectorants? 9. Specific diagnosis; specific medication. Define each, and on what are they based? 10. What form of medicine do you prefer, and why?

BACTERIOLOGY (AUGUST).

1. Name two anaërobic bacteria, and give a method of cultivating this class of bacteria. 2. Give the characteristics of anthrax bacilli. 3. Name three acid-resisting bacteria. 4. Name two ways by which bacteria propagate. 5. What is necessary to prove the pathogenic rôle of a pathogenic micro organism? 6. Give the differential bacteriologic diagnosis of typhoid and colon bacilli. 7. Describe gonococci, and give method of staining and method of culture. 8. What is Gram's solution, and how is it used? 9. What precautions are necessary in handling specimens that are to be examined for bacterial infections? 10. What bacteria are found in gangrene?

BACTERIOLOGY (JULY).

1. What do you understand by the terms toxins, ptomains, leucomains? 2. Bacteria, being devoid of chlorophyll, must obtain their nitrogen and carbon from what source in general? 3. In addition to carbon and nitrogen, what substance is required for the life and development of bacterial growth? 4. Define anaërobic, aërobic and facultative bacteria. 5. Name the three classes of bacteria as to form; illustrate each. 6. How are the micrococci subdivided, as seen in growing culture? Illustrate. 7. What is the difference between sterilization and disinfection? 8. What is an antiseptic, a germicide? Give examples of each. 9. What organism is generally accepted as the infective factor in puerperal septicemia? 10. Discuss the conditions necessary to infection; also give your ideas as to prevention of same, with method of disinfection.

PHYSIOLOGY (JULY).

1. What is meant by the proximate principles of the body, and how are they classified? 2. What is the composition of the gastric juice? In normal digestion what is the reaction shortly after taking food? 3. What is the action of pancreatic juice on albumin? Starch? Fats? Cane sugar? 4. What is considered a normal ratio in numbers between white and red blood corpuscles? How modified by prolonged exertion? By a hearty meal? 5. What is supposed to cause the first sound of the heart? The second sound? What constitutes a cardiac cycle? 6. What is average amount of air taken into the chest at each inspiration? 7. What is the average amount of water excreted in the urine in 24 hours? Urea? Uric acid? 8. What is glycogen? Give its origin and use. 9. What changes occur in the feces from obstruction of the common bile duct of the liver? 10. What is understood by reflex action? Illustrate by a drawing.

PHYSIOLOGY (AUGUST).

1. Name the digestive fluids found in the alimentary canal, and tell where each is produced. 2. Describe the circulation of the blood and give the causes of its flow in the different vessels. 3. Name the different organs concerned in the excretion of waste material of the body and give the principal ingredients eliminated by each. 4. Describe the lymphatic system and give its functions. 5. Name the principal divisions of the brain. 6. Describe the process of respiration. 7. Describe reflex action. 8. Describe stomach digestion. 9. Describe the portal circulation. 10. Name the cranial nerves and the function of each.

SURGERY (AUGUST).

1. Define fracture; compound fracture; comminuted fracture; impacted fracture; intracapsular fracture. 2. How would you recognize and dress a supracondyloid fracture of the humerus? 3. How would you treat a punctured wound; a lacerated wound? 4. Name different measures by which you would control hemorrhage in wounds. 5. In venous hemorrhage requiring surgical interference: First. How would you diagnose same? Second. What would be your treatment, and on what would it depend? Third. What are the special dangers in wounds of the internal jugular, subclavian, axillary, femoral and popliteal veins? 6. What is an irreducible hernia? A strangulated hernia, and how would you treat the latter? 7. Give the procedure, or steps, of an operation for inguinal hernia in the male. 8. Define phlegmon and outline treatment. 9. Give an example of a connective tissue tumor; an epithelial tumor; a dermoid tumor; a cystic tumor. 10. Differentiate chancre and chancroid under the following heads: Origin, incubation, situation, commencement, number, shape, surface, secretion, induration, sensibility, histology bubo.

SURGERY (JULY).

1. Arrange a grouping (*a*) showing principal benign tumors, (*b*) principal malignant tumors. 2. Differentiate a bilious colic and

right-sided renal colic. 3. Describe a chancroid. Give its usual symptoms and possible complications. 4. What are the causes of acute prostatitis? Describe a typical case, and give its treatment. 5. Describe the varieties of hemorrhoids, and give your treatment of any one variety. 6. Describe the osseous lesions of syphilis. 7. What is a tumor? Give the causes of tumors. Define homolgous tumor; heterologous tumor. 8. Describe the common forms of club-foot. Give the treatment of any one form. 9. Define shock. Give causes and symptoms. 10. Describe a method of skin-grafting. Under what conditions is skin-grafting employed?

ANATOMY (AUGUST).

Answer any 10 questions, but no more. 1. Describe the male urethra. 2 Describe the prostate glands, giving form, position, structure, blood and nerve supply. 3. Name several forms of hernia, giving the covering of oblique inguinal and femoral from within outward. 4. Name the ductless glands. 5. Describe the ileocecal valve. 6. Describe the clavicle, giving its structure and articulations. 7. What is the thorax, what does it contain, and of what is it formed? 8. Name the branches of the fifth nerve, giving general distribution of each. 9. Bound the abdominal cavity; name its contents and apertures, and what do they transmit? 10. Describe the peritoneum, and what does it invest? 11. Describe the lungs, giving structure, blood and nerve supply. 12. Describe the elbow joint, giving its articulations and ligaments. 13. Name the subdivisions of the alimentary canal, with its accessory organs. 14. Name the cranial nerves of special sense, and those of motion. 15. Name the three classes of articulations, giving examples of each.

ANATOMY (JULY).

Answer any 10, but no more. 1. What bones form the ankle joint? 2. Describe the thoracic duct. 3. The uterus, giving normal position. 4. The fallopian tubes. 5. The rectum. 6. The colon. 7. What are the branches of the axillary artery? 8. Give points of selection for ligation of axillary artery. 9. Give points of selection for ligation of subclavian artery. 10. What are the appendages of the skin? 11. What is the mesentery? 12. Locate and describe the prostate gland. 13. What viscera in the right hypochondriac region? 14. In the epigastric region? 15. In the hypogastric region?

OBSTETRICS (JULY).

1. What is menstruation? Give its clinical course, and describe the changes which take place in the endometrium. 2. How do you measure the conjugate diameters of the pelvis, and what degree of contraction is compatible with spontaneous delivery? 3. How may pregnancy be recognized in the early months, and on what evidence may the diagnosis be justified? 4. Give the vertex presentations in the order of their frequency and the mechanism of the most common. 5. What antiseptic measures should be employed in the conduct of labor, and how should they be carried out? 6. Describe the propelling forces in labor, and give the causes and treatment of inertia. 7. What are the indications for and rules to be observed in the use of obstetrical forceps? 8. Give the causes, signs, symptoms and treatment of puerperal sepsis. 9. What is involution, and how long a time is required for this process? 10. What is mastitis? Give its symptoms and treatment.

OBSTETRICS (AUGUST).

1. Give the diameters of the normal fetal head at full term. 2. Describe the formation of the placenta, and give the management of (*a*) retained placenta after abortion, (*b*) retained placenta after normal labor at full term. 3. Describe the fetal circulation, and state what changes take place in it at birth. 4. Give two possible physiologic causes of icterus neonatorum and differentiate the pathologic and physiologic forms. 5. Diagnose and give the prognosis and management of a breech presentation. 6. Give the pathology, prognosis and treatment of puerperal eclampsia. 7. How would you manage a case of labor at term with membranes ruptured and cord presenting? 8. Name the principal causes of sterility. 9. What results are likely to follow an unrepaired laceration of (*a*) the cervix uteri, (*b*) the perineum down to the sphincter ani? 10. What conditions should govern the use of anesthesia in labor? What anesthetic would you use, and why?

PATHOLOGY (AUGUST).

1. Name three predisposing causes of disease, and give example of each. 2. Define hypertrophy, hyperplasia, edema, anasarca, ascites. 3. Describe a diphtheritic inflammation of a mucous membrane. 4. Name the causes of hypertrophy of the liver. 5. Enumerate the causes and varieties of meningitis. 6. Name the causes, and give pathologic description of phlebitis. 7. What is the pathology of tabes dorsalis? 8. Describe the lymphatic involvement in an advanced case of carcinoma of the breast. 9. Examination of microscopic specimens. 10. Examination of pathologic specimens.

PATHOLOGY (JULY).

1. Describe the laboratory methods of service in the diagnosis of tubercular meningitis. 2. Enumerate the varieties of non-diabetic glycosuria. 3. In what conditions may eosinophilia be present? 4. Describe the character and extent of the lesions found in ischiorectal abscess. 5. Give causes and the most frequent localization of brain abscess. 6. Enumerate the causes of anuria. 7. Describe lipoma, and give its most frequent locations. 8. Define and describe surgical shock. 9. Examination of gross pathologic specimens. 10. Examination of microscopic sections.

CHEMISTRY (JULY).

1. What is the antidote for concentrated lye? 2. Why should fats or oils be avoided in phosphorus or phenol poisoning? 3. What element is indicated in anemic conditions? 4. Why is the blood saline? 5. Name the two normal pigments in the bile. 6. Why is toast more digestible than untoasted bread? 7. Calcium carbonate is an essential component of what parts of the human economy? 8. Where does protagon occur in the body? 9. What acid is found in sweat? 10. Name a carbohydrate that occurs in the urine pathologically.

CHEMISTRY (AUGUST).

Answer any 10, but no more. 1. State the law of definite proportions; of multiple proportions; illustrate each law by example or formulæ. 2. Define the words acid, base, salt. Name and define three classes of salts. 3. Give formulæ for (1) carbon monoxid, (2) carbon dioxid, (3) mercurous chlorid, (4) mercuric chlorid, (5) sodium sulphite, (6) ferrous sulphate, (7) hydrogen dioxid, (8) potassium permanganate, (9) nitric acid, (10) ethyl oxid. 4. Give the names, symbols and properties of the four elements classed as haloids. 5. Give the names, symbols and properties of the elements classed as alkali metals. 6. What is the effect of heat (to redness) on calcium carbonate? What produces the "hardness" of certain waters, and how does boiling soften them? 7. Describe a commercial process for the manufacture of sodium carbonate. 8. Describe two tests by which the mercurous salts may be distinguished from mercuric salts. 9. Define the following class names: (1) Hydrocarbons, (2) alcohols, (3) aldehyds, (4) organic acids, (5) ethers, (6) compound ethers, (7) carbohydrates, (8) amines. 10. Classify the following substances: (1) Marsh gas, (2) tallow, (3) chloral, (4) glycerin, (5) carbolic acid (phenol), (6) glucose, (7) iodoform, (8) benzine, (9) salol, (10) strychnin. 11. What is the normal reaction of fresh urine? How would you differentiate between alkalinity from fixed alkalies and alkalinity from decomposition? 12. Describe a quantitative test for urea. 13. Explain the formation of a phosphatic calculus with a uric acid nucleus. 14. Describe Fehling's test for sugar, and state the chemical property of glucose on which it is based. 15. In testing for albumin by heat, what other substance may cause a cloudy precipitate, and how may its presence be determined? In testing for albumin by nitric acid what other substance may cause a cloudy ring, and how may its presence be determined?

THEORY AND PRACTICE—HOMEOPATHIC (JULY).

Answer any 10 questions, but no more. 1. Define ascites. What are the causes, and how would you differentiate it? 2. Differentiate appendicitis, gallstone colic, and small right ovarian cyst with twisted pedicle. 3. Diagnose and treat a catarrhal enteritis. 4. Diagnose and outline treatment for obstruction of the cystic duct and of the common bile duct. 5. How would you recognize an internal hemorrhage, and what would you do for it? 6. What constitutes normal salt solution, and for what would you use it? 7. Define chalazion and blepharitis, and outline treatment for each. 8. What is anemia, and how would you treat it? 9. Diagnose and treat an acute nephritis. 10. What is marasmus? Outline general care of 6-month-old child so afflicted. 11. Give, briefly, your views in relation to baths—hot, warm, or cold—for the sick, how and for what you use them. 12. Diagnose pleurisy; give its complications. Outline treatment, medicinal and otherwise. 13. What is herpes zoster? Give causes and treatment. 14. What is a boil? What is a carbuncle? Give treatment for each. 15. What do you regard as the most worthy and important object in the practice of medicine?

THEORY AND PRACTICE—HOMEOPATHIC (AUGUST).

1. Give etiology, clinical course and general treatment of facial erysipelas. 2. Outline your treatment in a case of acute articular rheumatism. 3. Differentiate carefully between intercostal neuralgia, myalgia and pleurisy. 4. Give general and remedial treatment in an early case of diabetes mellitus. Prognosis? 5. Give symptoms and treatment of cholera infantum. 6. Give etiology, symptoms and treatment of angina pectoris. 7. Define goiter, giving treatment and prognosis in exophthalmic variety. 8. Give etiology and symptoms of a mitral and an aortic regurgitation. 9. Give etiology, symptoms and treatment of chronic cystitis. 10. Differentiate right renal colic from gallstone colic.

THEORY AND PRACTICE—ECLECTIC (JULY).

1. Give symptoms of intestinal infection, and name treatment for same. 2. How would you treat a tubercular knee? 3. Give treatment for pneumonia, with specific indications for each drug used. 4. When would you, and when would you not use poultices? 5. Name some of the common lesions of the heart, with remedies for the same. 6. What are some of the common causes of headache? Give treatment. 7. Write a prescription for pleurisy without effusion, where pain is sharp and increased by motion. 8. Diagnose a true case of diphtheria, and give indications for remedies. 9. What are the early symptoms of pulmonary tuberculosis as distinctive from a chronic pneumonia? 10. When does appendicitis cease to be medical and become surgical?

MEDICINE (AUGUST).

1. Differentiate varicella and variola; give a concise clinical history of each typical case. 2. What do you understand by enteroptosis; what are the common pathologic conditions involved? 3. Differentiate cancer of the stomach at an early stage, before any appreciable tumor, from catarrhal affections. 4. What is Hodgkins' disease; give symptoms and etiology. 5. Give a differential diagnosis of scarlet fever and measles. 6. Differentiate diphtheria and the various forms of tonsilitis at an early stage; give the treatment of diphtheria. 7. Give the etiology and pathology of tuberculosis of the intestines. 8. Give the differential symptoms of bronchiectasis and emphysema. 9. Describe the causative relations of syphilis and alcohol in atheromatous degeneration. 10. Give the clinical history of chronic parenchymatous nephritis and the urinary finding.

THEORY AND PRACTICE (JULY).

Answer any 10 questions. 1. Give diagnosis and treatment of acute purulent otitis media. 2. (*a*) Treatment of chronic follicular pharyngitis; (*b*) treatment of acute catarrhal laryngitis. 3. Give etiology, clinical history and treatment of cholera morbus. 4. How would you manage a case of acute gastro-intestinal catarrh in a child under 2 years old? 5. (*a*) Mention most common causes of constipation; (*b*) give treatment of chronic form. 6. What are the usual methods employed in examination of feces, and mention the clinical importance of each. 7. Give symptoms and treatment of acute cystitis. 8. Define and give symptoms and treatment of migraine. 9. Give etiology, characteristic symptoms and treatment of acute chorea. 10. (*a*) How would you recognize and treat diabetes mellitus? (*b*) Describe a diabetic blood test. 11. (*a*) Locate normal apex beat of the heart; (*b*) give diagnostic significance of displacement to the left; to the right; upward, and downward displacements. 12. Give treatment of eczema. 13. Give differential diagnosis of ascites and ovarian cyst. 14. Give diagnosis, prognosis and treatment of endometritis. 15. Write twenty lines on prophylaxis of pulmonary tuberculosis.

The Public Service.

Navy Changes.

List of changes in the Medical Corps of the Navy for the week ending Nov. 14, 1903:

Surgeon D. N. Carpenter, detached from the *Chicago* and ordered home to wait orders.

Asst. Surgeon R. B. Chapman, appointed assistant surgeon with rank of lieutenant, junior grade, from Oct. 28, 1903.

Surgeon O. Diehl, detached from the *Oregon* and ordered to the *New Orleans*.

P. A. Surgeon M. S. Guest, detached from the *New Orleans* and ordered to the *Oregon*.

P. A. Surgeon H. D Wilson, detached from the Naval Station, Olongapo, P. I., and ordered to the *Vicksburg*.

Asst. Surgeon G. M. Mayers, detached from the *Vicksburg* and ordered to the *El Cano*.

Asst.-Surgeon J. M. Brister, detached from the *El Cano* and ordered to the *Isla de Cuba*.

Surgeon C. Biddle, detached from the *Puritan* and ordered to the *Lancaster*.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 12, 1903:

Asst. Surgeon-General W. J. Pettus, detailed as inspector of unserviceable property in the Hygienic Laboratory.

P. A. Surgeon J. B. Green, granted leave of absence for twenty days from November 15.

P. A Surgeon J. F. Anderson, to proceed to Detroit for special temporary duty.

Asst.-Surgeon J. W. Trask, granted leave of absence for four days from Oct. 17, 1903, under paragraph 191 of the Regulations.

Asst. Surgeon T. W. Salmon, to proceed to Philadelphia and report to medical officer in command for duty.

A. A. Surgeon W. C. Mason, granted leave of absence for five days from November 19.

A. A. Surgeon Henry Owen, granted leave of absence for thirty days from November 8.

Pharmacist John Achenbach, granted leave of absence for seventeen days from November 20.

BOARD CONVENED.

Board convened at Chelsea, Mass., November 12, for physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, recorder.

APPOINTMENTS.

Thomas William Salmon of New York, commissioned (recess) as assistant surgeon, Nov. 7, 1903.

George Neves of Oklahoma, appointed pharmacist of the third class, Nov. 11, 1903.

RESIGNATION.

Pharmacist Frank Siedenburg resigned, to take effect Oct. 4, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Nov. 13, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Nov. 1-7, 2 cases.
Illinois: Belleville, Nov. 1-7, 11 cases, 1 death; Chicago, Nov. 1-7, 3 cases.
Indiana: Indianapolis, Oct. 25-31, 2 cases.
Louisiana: New Orleans, Nov. 1-7, 3 cases, 2 imported.
Maine: Grand Isle, Oct. 1-31, 25 cases.
Massachusetts: Haverhill, Nov. 1-7, 1 case.
Michigan: Detroit, Nov. 1-7, 2 cases.
Missouri: St. Louis, Oct. 25-31, 1 case.
New Hampshire: Manchester, Nov. 1-7, 5 cases.
New Jersey: Camden, Nov. 1-7, 1 case.
New York: New York, Nov. 1-7, 2 cases.
Ohio: Cincinnati, Oct. 31-Nov. 6, 1 case; Nov. 1-7, Cleveland, 1 case: Dayton, 2 cases; Warren, 1 case; Youngstown, 1 case.
Pennsylvania: Nov. 1-7, Erie, 1 case; Johnstown, 1 death; Philadelphia, 42 cases, 4 deaths; Pittsburg, 30 cases, 14 deaths.
Rhode Island: Providence, Nov. 1-7, 1 case.
Tennessee: Memphis, Nov. 1-7, 6 cases.
Utah: Salt Lake City, Oct. 25-31, 1 case.
Wisconsin: Milwaukee, Nov. 1-7, 1 case.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Oct. 11-24, 21 cases.
Belgium: Oct. 18-24, Antwerp, 2 cases; Brussels, 1 death.
Colombia: Barranquilla, Oct. 19-25, 1 death.
France: Marseilles, Sept. 1-30, 25 deaths; Paris, Oct. 18-24, 8 cases.
Great Britain: Bradford, Oct. 10-24, 4 cases: Glasgow, Oct. 24-30, 18 cases: Oct. 18-24, Leeds, 1 case; Liverpool, 4 cases; London, 26 cases: Newcastle-on-Tyne, 10 cases; Sheffield, 1 case.
Italy: Catania, Oct. 16-22, 1 death; Palermo, Oct. 18-24, 1 case.
Java: Batavia, Sept. 27-Oct. 3, 5 cases.
Malta: Oct. 11-17, 5 cases.
Mexico: City of Mexico, Oct. 19-25, 3 cases, 2 deaths; Tampico, Oct 25-31, 1 death.
Russia: Oct. 11-17, Moscow, 1 new case, 5 deaths: Odessa, 1 case; St. Petersburg, 33 cases, 1 death; Warsaw, Oct. 4-10, 4 deaths.
Turkey: Constantinople, Oct. 12-25, 4 deaths; Smyrna, Oct. 12-18, 46 deaths.
Venezuela: Tocuyo, Oct. 16, present.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Sept. 13-26, 2 cases, 1 death.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, Nov. 3-10, 10 cases; Laredo, Nov. 4-10, 120 cases, 18 deaths; Minera, Oct. 30-Nov. 6, 10 cases; San Antonio, Nov. 2-10, 3 cases, 1 death; Dewitt County, Nov. 4, 1 case.

YELLOW FEVER—FOREIGN.

Costa Rica: Limon, Oct. 23-29, 2 cases, 2 deaths.
Mexico: Oct. 4-10, Citas, 6 cases, 4 deaths: Culdad Victoria, 19 cases, 20 deaths; Linares, 376 cases, 34 deaths; Merida, 3 cases, 1 death; Progreso, 1 case; Tampico, 7 cases, 1 death; Tehuantepec, 1 death; Vera Cruz, Oct. 25-31, 43 cases, 13 deaths.

CHOLERA—INSULAR.

Philippine Islands: Sept. 13-26, Manila, 148 cases, 134 deaths; Provinces, 3,101 cases, 1,439 deaths.

CHOLERA—FOREIGN.

China: Hongkong, Sept. 20-26, 1 case, 1 death.
Japan: Yokohama, Oct. 4-10, 1 case, 1 death.
Turkey: Syria, Alexandretta, Oct. 11-17, 4 cases, 2 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Oct. 20-29, 4 cases, 4 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Sept. 13-26, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

China: Hongkong, Sept. 20-26, 2 cases, 1 death.
Formosa: Sept. 24-30, 1 new case, 2 deaths.
Japan: Yokohama, Oct. 4-10, 1 case, 1 death.
Mauritius: Oct. 2-8, 54 deaths.

Medical Organization.

Organization in Colorado.

J. M. BLAINE, M.D.
SECRETARY COLORADO STATE MEDICAL SOCIETY.

It should be remembered that the "backbone" of the continent passes through our state and that these spinous and transverse processes are not the best things in the world on which to found colonies and sustain vast populations; hence, one will find whole counties in this state where there are no physicians, and there are more than twenty counties in the state with from one to six physicians each. Under these circumstances it was thought best last year, when we adopted the new constitution, to modify it in one particular, viz., that persons in good standing in June, 1902, could remain members of the state society by paying the usual dues.

There were in the state sixty-six members who were protected by this proviso, as they were not members of county societies. There was no provision made, however, for new members to join the society except through membership in a local society. After trying this plan for a year our house of delegates, at the recent meeting in October, amended Chapter I, Article 11, of the by-laws so that there is now no membership in the state society. We made provision for the aforesaid "sixty-six" so that they could join the nearest county medical society without paying an initiation fee, provided the secretary of the state society would certify to their standing. This puts Colorado in line with the other states on the American Medical Association plan.

This brings us down to the question of providing local societies at convenient points throughout the state so that our men may not lose their standing in the American Medical Association.

When the new constitution was adopted there were ten county societies in the state. These were furnished with the model constitution sent out by the American Medical Association committee, and each one adopted it. In addition to these, we have, during the past year, organized seven new societies. Owing to the vastness of our state and the distances between centers of population, our councilors have delegated the work of organization to the secretary. This is a pleasant duty, and as a rule the work is very easy, for the physicians appreciate the fact that under the reorganization scheme a county society means something, as it carries with it representation in the state society, and is the only portal to the American Medical Association.

Last summer I received a letter from a physician in the southern part of the state asking how to join the state society. I answered that he could either join the nearest county society, which was 140 miles away, across a mountain range, requiring him to travel on three different lines of railroad, or organize a society of their own. I wrote to one of our prominent physicians living in that part of the state, and he took the matter up, and by combining five counties he organized a splendid society with 15 charter members. I received

the program of their last meeting and it would compare very favorably with a program of any society.

Last July I visited five counties and organized four societies, in one instance combining two counties. With three more societies (one of which is now under way) the "Western Slope" will be thoroughly organized, and I expect by our next meeting to be able to report societies organized in every available center.

In addition to the amendment mentioned, the house of delegates relieved the secretary from being chairman of the publishing committee and appointed a committee of three, with instructions to establish an official journal in which should be published the papers presented at the annual meeting and other matters of interest to the society. The section relating to membership in county societies was amended to read as follows:

Every reputable and legally qualified physician residing in this county who does not practice or claim to practice and agrees not to practice sectarian medicine, and who is not affiliated with a sectarian school or society, shall be eligible for membership.

This, we think, is a little stronger and better defined than the model furnished by the committee.

Up to June, 1902, when the new constitution was adopted, we had a total membership of 340. At our recent meeting in October the chartered county societies showed a membership of 554, and I expect to be able to report at our next meeting (October, 1904) that our membership has doubled.

Under the old system our dues were $5 per year. Under the new, and for the present, we assess each county society $3 per capita, so our revenue will be more than formerly.

We like the new plan. It has doubled our membership and unified the profession in the state, so that we will be in position to demand more courteous treatment at the hands of "Jim Crow" governors who have not enough gray matter in their brains to see the benefit of a good medical bill, or enough starch in their spinal cords to sign it; but, best of all, it constitutes the county society judge, jury and executioner and forces a man to be ethical at home before he can be a member of the state or national society.

California.

VENTURA COUNTY MEDICAL SOCIETY.—The medical men of the county met at Ventura, October 29, Dr. H. Bert Ellis, Los Angeles, president of the state society being present, and organized a county society with the following officers: Dr. John H. Love, Ventura, president; Dr. George A. Broughton, Oxnard, vice-president, and Dr. A. A. Maulhardt, Oxnard, secretary and treasurer.

Illinois.

MASON COUNTY MEDICAL SOCIETY.—This society was organized in Havana the first week in November with the following officers: Dr. Philip L. Diefendacher, Havana, president; Dr. Edward W. Paul, Forest City, vice-president; Dr. Harry H. Hanly, Havana, secretary, and Dr. C. Fred Grimmer, Topeka, treasurer.

Iowa.

SHELBY COUNTY MEDICAL SOCIETY.—On October 30, the physicians of the county met at Shelby and organized a county society with twelve charter members, and the following officers: Dr. N. Jasper Jones, Shelby, president; Dr. Eugene J. Smith, Harlan, vice-president, and Dr. Hennesy, Panama, secretary.

Louisiana.

ST. JAMES' PARISH MEDICAL SOCIETY.—At the meeting for organization, October 31, Dr. Peter C. Tircuit, St. Patricks, was elected president; Dr. Louis A. Gaudin, Convent, vice-president, and Dr. J. F. Buquoi, Colomb, secretary and treasurer.

CALCASIEU PARISH MEDICAL SOCIETY.—This society was formally organized on the standard plan, November 2, at Lake Charles, with the following officers: Dr. Allen J. Perkins, Lake Charles, president; Dr. Perrault, Jennings, vice-president, and Dr. Pearl Munday, secretary and treasurer.

ASSUMPTION PARISH MEDICAL SOCIETY.—The physicians of the parish met at Napoleonville, October 22, were addressed by Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, and organized a parish medical society on the standard plan, with the following officers: President, Dr. Thomas B. Pugh, Napoleonville; vice-president, Dr. Adolphe A. Aucoin, Plattenville, and secretary and treasurer, Dr. Adrian A. Landry, Paincourtville.

North Carolina.

WAYNE COUNTY MEDICAL SOCIETY.—This society was reorganized at Goldsboro, October 26, with the aid of Dr. Albert Anderson, Wilson, councilor for the Fourth District. The following officers were elected: Dr. Marcus E. Robinson, Goldsboro, president; Dr. William Spicer, Goldsboro, vice-president; Dr. William H. H. Cobb, Jr., Goldsboro, secretary; Dr. Theodore L. Ginn, Goldsboro, treasurer; Drs. William H. H. Cobb, Goldsboro, J. B. Kennedy, and William T. Turlington, Fremont, censors, and Dr. John F. Miller, delegate to the Medical Society of the State of North Carolina.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

COLORADO STATE MEDICAL SOCIETY.

Twenty-Third Annual Convention, held in Denver, Oct. 6-8, 1903.

(*Continued from page 982.*)

Osteo-arthritis and Rheumatoid Arthritis.

DR. B. C. LEAVITT, Denver, thinks that the two affections are often confounded. The severe cases of osteo-arthritis, he asserts, would not have reached this stage of they had been properly treated. As soon as the disease is recognized they should receive a tonic treatment, meat and fresh air being especially indicated. The joints should be wrapped in moistened gauze, covered with rubber tissue. They should be treated as tubercular patients. Going to Hot Springs has no medicinal value.

Incipient and Acute Insane—Recoverability and the Factors Therein.

DR. J. E. COURTNEY, Denver, asserts that the most important factor for recovery is the earliest possible recognition and treatment. The statistics of institutions are all uniform on these points. The percentage of recovery in which the attack has existed three months or less, is upward of 50 per cent. of all recoveries, and after a duration of six months previous to admission the recovery rate falls.

Soup Diet in Typhoid Fever.

DR. H. B. WHITNEY, Denver, fed 17 of his patients suffering from typhoid with soup. With the exception of one case that died from meningitis they were singularly devoid of either severe toxic gastro-intestinal symptoms; no delirium, sleeplessness, dry tongue, tympany or diarrhea. The diet was well borne. The soup is prepared according to the following formula: Five pounds of meat is put in 10 quarts of water, brought to a boil and skimmed. One pound of pearl barley is added, the whole is cooked for six hours, strained and seasoned. The patient received 40 ounces of the soup between 7 a. m. and 7 p. m.

The Treatment of Neurasthenia.

DR. HOWELL T. PERSHING, Denver, divides the remedies into (a) those whose chief effect is to prevent the loss of nervous energy—prevention of emotional disturbances by reassurance and favorable suggestion, by forming a habit of relaxation and repose, limitation of work, prevention of toxic condition, removal of peripheral irritation, reduction of cortical irritability by medicine, and sleep; (b) remedies whose chief effect is to increase the income of nervous energy—food and medicines, and (c) remedies used empirically whose action is complex or obscure—electricity, hydrotherapy, massage, exercise.

The problem of selection and combination of remedies the physician must approach in the spirit of an artist rather than in that of a pure scientist. His greatest skill will be demanded by those who are not financially able to command the luxuries of the rest cure and who must return to their work.

Case of Hysterical Hyperpyrexia and Hemoptysis.

DR. BERNARD OETTINGER, Denver, reported the case of a man 24 years old sent to Denver with diagnosis of tuberculosis.

On admission to the Jewish Hospital for Consumptives slight dullness at base of right lung could be detected, but no râles. He coughed up bloody mucus at times. Temperature normal. He was put to bed, and on the same day the thermometer registered 108 F. Two days later the temperature record was 114 F. by mouth and rectum. Complains he can not see well. Complete ptosis of right lid. Papillary reaction sluggish. Complete anesthesia over top of head, chest, back and shoulders. All possible points of deception or simulation were considered and excluded.

A Case of Congenital Dilatation of Colon.

Dr. C. K. Fleming, Denver, reported the case of a man 25 years old who suffered from chronic constipation from infancy. He was 8 days old when he had his first bowel movement, 80 days when he had the second movement. From the second year his bowels moved about four times a year. His movements were very large. Relief from distention could only be obtained by the use of rectal tube and prolonged irrigation.

During the intervals he felt perfectly well. The patient consented to an exploratory laparotomy. On opening the abdomen a large collapsed colon was readily found and delivered from the abdominal cavity. In color it resembled an ovarian cyst; it extended about 3 inches below splenic flexure to the anus, involving the descending colon, sigmoid and rectum. The operation consisted in plaiting the sac longitudinally from one extremity to the other. Seven or eight folds were taken. The plicated sac was suspended by a catgut suture to the abdominal wall. Convalescence was uninterrupted. His bowels move by cathartics daily, which was never possible before the operation.

Congenital Dislocation of Hip.

Dr. George B. Packard, Denver, reported the histories of six cases, three of which were operated on by Professor Lorenz and three by the author. Three of the cases gave good results and three produced anterior transpositions.

Injuries of the Elbow Joint.

Dr. C. B. Lyman employs plaster-of-paris splints made of 8 or 10 thicknesses of gauze, saturated thoroughly in liquid plaster of paris, one to extend from axilla to fingers, the other from neck to fingers. These are applied next to the skin and secured by roller bandage. The arm can then be flexed to any angle desired. The arm is then held in that position until the splints become hard. He does not believe in passive motion.

Radium.

Dr. G. H. Stover exhibited some radium chlorid and described various experiments which he made. He applied it in three cases of cancer, but so far the results were not satisfactory. He thinks radium will never equal the *x*-ray for skiagraphic work, nor probably as a therapeutic agent.

The Passing of the Curette and Douche.

Dr. H. G. Wetherill, Denver, maintains that the curette and bichlorid douche should not be used in acute infection of the female genital organs. They are unnecessary and universally injurious. The patients that have recovered after such operation have done so in spite of the treatment. The treatment he uses as a substitute is the flushing of the uterus through a double drainage tube with alcohol of varying strength, according to the severity of the symptoms and the degree of smarting it produces at the vaginal outlet. This is a modification of the alcohol method of Corossa. This treatment is used in the Woman's Hospital for all intrauterine infections after abortion, complete or incomplete, or labor or term.

Report of a Case of Nephro-ureterectomy.

Dr. Chas. H. McLean, Denver, reported the case of a man aged 72 years, who 30 years ago had an attack of excruciating pain in the region of left kidney extending to penis and left testicle, lasting one day and terminating rather abruptly. Ten years ago had another such attack, and since had renal attacks about every six months.

A year ago during an attack had a hemorrhage from kidney, and passed blood every two or three months since, accompanied by paroxysms of pain, nausea, chilliness and light fever. For last two or three months the hemorrhage is continuous. Patient consented to an operation. The kidney was found normal. A sound passed into the urethra met with an obstruction in the region of the pelvic brim. The ureter was found bent on itself and held firmly by adhesions. After separating the adhesions an attempt to pass the sound was not successful on account of thickening and tumefaction. The kidney and ureter were excised. Patient made good recovery.

Therapeutics of Whooping Cough.

Dr. J. Tracy Melvin, Sagauche, enthusiastically recommended the use of antipyrin internally and also as a spray of a 4 per cent. solution. He used exclusively this treatment in 14 cases, all of whom recovered in from twenty-two to twenty-six days. He supplements the antipyrin treatment with loading the inhaled air with vapor of creosote, pure and crude carbolic acids.

Specifics and Specific Treatment in Treatment of Pulmonary Tuberculosis.

Dr. S. Simon, Denver, presented a historical review of measures and methods which have been considered specifics in their time and generation. He concludes with the statement that he does not believe "there is or ever will be any one remedy which will prove specific." He thinks the one great therapeutic measure which is almost specific is plenty of pure aseptic air.

Treatment of Tubercular Ulceration of Rectum and Perianal Region.

Dr. P. Mayhew, Colorado Springs, treats the above condition as follows: He paints the ulcer with a saturated solution of trichloracetic acid. The next day this is repeated, and after waiting a few minutes for the acid to act the follicle of tissue which has been destroyed is removed with curette. No anesthetic is required. This may be repeated if necessary. The ulcer is dressed with iodin-carrying powders. The patient should be seen every other day. If healthy granulations have appeared there is no necessity of using the acid any more; Lugol's solution may be used instead. The tubercular ulcer is ultimately converted into a simple ulcer. The patients are apt to complain of increased soreness and painful defecation. This is really a sign of increased health.

Cholecystectomy vs. Cholecystostomy.

Dr. Maurice Kahn, Leadville, advocates the entire removal of the gall bladder whenever it is found diseased; he considers it a useless organ, "a settling basin for stone formation, and a suitable harbor for the multiplication of pathogenic bacteria." He operated on a woman 23 years of age who was treated for stomach trouble for several years. The gall bladder filled with pus and stones, was removed. The patient was out of bed 14 days after the operation.

A Case of Multiple Depressed Fracture of the Skull. Recovery.

Dr. S. D. Van Meter, Denver, reported as follows: Male, aged 40. Foreman. While repairing a shafting box was struck on the left side of the head, about center of squamous portion of temporal bone by the end of an iron buck-stay, 11 feet in length, which fell from an upright position, the dead weight of which was estimated at 150 pounds. It struck with sufficient force to drive the injured man's head against the shafting of an upright bolt hard enough to cause two depressed fractures at the point of contact, and fracture at base of brain. The depressed fragments were removed. The first 5 days he lay in a stupor, but there were no signs of compression. At the end of the second week the nurse was able to get him to take some water and liquid food by the mouth. In another week he was able to take sufficient food by the mouth to sustain him. During the sixth week he began to use the vessel for urination and defecation, and commenced to walk.

Dr. Howell T. Pershing, Denver, describes the defects of speech and mind as follows: He hears words but does not understand them; his speech is a jargon made up of words correctly uttered, of others mutilated, and of still others en-

tirely unintelligible, although intended for words. He is word-deaf for his own speech and for that of others. Both reading and writing are defective.

The following papers were also read:

"Electricity," by Dr. J. W. Cline; "Physiologic Factors Engaged in Gallstone Disease," by Dr. Henry Sewall; "Intrabronchial Injections in the Treatment of Certain Chronic Diseases," by Dr. L. B. Lockard; "Criminal Abortion," by Dr. Minnie C. T. Love; "Testing of Vision of Pupils in the Public Schools," by Dr. Edward Jackson; "Testing of Hearing of Pupils in Public Schools," by Dr. W. C. Bane; "An Outline of Albuminuria," by E. C. Hill; "Volvulus of the Stomach," by E. D. Spivak; "Remarks on Nervous Complications in Typhoid Fever," by Dr. Herbert A. Block, Pueblo; "Case of Tetanus Cured by Injecting Antitetanic Serum into the Brain," by Dr. I. B. Perkins, Denver; "Shall We Abandon the Use of Antitoxin?" by Dr. E. F. Waxham, Denver; "Conservative Surgery," by Dr. George C. Steman, Denver; "Heart Disease in Colorado," by Dr. Geo. H. Cattermole, Boulder; "Brain Surgery," by D. F. H. McNaught, Denver; "Results of X-ray Treatment," by Dr. S. B. Childs, Denver; "Local Anesthesia," by F. Gregory Connell, Leadville; "Cancer of the Rectum, Its Approach by the Abdominal Route," by Dr. C. A. Powers, Denver; "Tendon Losses," by Dr. Geo. E. Mill, Denver; "Rectal Siphon," by Dr. R. W. Carwin; "Prevention of Disease of Respiratory Tract," by Dr. A. R. Sallenberger, Colorado Springs; Symposium on the Stomach, participants: Drs. C. D. Spivak, Denver; W. A. Campbell, Colorado Springs; C. A. Powers, M. Kleiner, E. P. Herschey, E. J. A. Rogers, H. B. Whitney, J. E. Kinney, Denver; W. T. Little, Canon City; R. W. Corwin, Pueblo; J. N. Hall, Denver; Geo. A. Moleen, F. G. Byles, S. D. Hopkins, Denver; Geo. P. Libby, Colorado Springs; Robert Levy, J. M. Blaine and I. B. Perkins; "The Buelow Method of Drainage in Pneumopyothorax," by Dr. H. B. Whitney, Denver; "Dislocation of Outer End of Clavicle," by Dr. J. G. Sheldon, Telluride; "Puerperal Infection," by Dr. C. L. Wheaton, Denver; "Medical Education in Colorado," by S. G. Bonney, Denver; "Modern Theories of Immunity," by Dr. Henry Sewall, Denver; "Appendicitis," by Dr. Leonard Freeman, Denver; "Tuberculosis and Its Relation to the Public," by Dr. C. E. Cooper, Denver; "A Case of Schoenlein's Disease," by Dr. C. B. Van Zant, Denver; "A Case of Imperforate Anus with Vulvar Opening," by Dr. W. A. Jayne, Denver.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-first Annual Meeting, held at Washington, D. C., Oct. 26 to 30, 1903.

(*Concluded from page 1224.*)

Characteristics of the Stegomyia Fasciata which Affect the Conveyance of Yellow Fever.

DR. H. R. CARTER, Baltimore, read this paper and gave the following summary, among the special characteristics of the stegomyia, which affect its rôle as a carrier of yellow fever:

1. Its distribution is, generally, between latitudes 43 N. and 43 S. on the coasts and low plains of Africa, Asia and the adjacent islands; Australia and the Mediterranean basin of Europe. It is also general on the eastern coast of America from 38 N. to 35 S. latitude. On the west coast it is found at Panama and Guayaquil, and its existence is implied from Guaynquil to Acapulco. In the United States it is general on the coast and low plains of the southern states, except Maryland.

2. It is conveyed by vessels indefinite distances (from Cape Town to Savannah quarantine); in much greater numbers and more often by sail than by steam vessels.

3. It lives a long time—154 days being recorded by Guiteras of an infected insect.

4. Once having acquired the power of transmitting yellow fever, it retains it apparently as long as it lives—59 days being recorded.

A consideration of the four postulates above will render it advisable to safeguard the tropical countries of the East when communication is opened up between them and American ports infected with yellow fever, preferably by freeing the American ports of yellow fever.

5. It propagates preferably in artificial containers, but will propagate in pools where such containers are not available.

6. In America it has been reported only in the vicinity of human dwellings, and seems here not to be a sylvan, paludal or campestral mosquito.

The war against this insect in America should, therefore, be waged about the houses of men, and especially against water in artificial containers. The introduction of a water supply, piped to every house, so as to do away with cisterns and water jars, is the most important measure of sanitary engineering to free a town of this mosquito. Next to this is a system of drainage by covered drains to carry off the rain water and prevent pools. Cesspools are not objectionable on this score.

The stegomyia unquestionably hybernates in the United States, either as adult larva or egg, but if the infected adult hybernates, either a very large proportion of them die, or else the infecting parasite must generally die in the hybernating mosquito. The first seems more probable.

7. It is essentially a house mosquito, and is inclined to stay about the premises where it has fed. Hence, the greater safety of the wholesale district of an infected city as compared with the residence portion.

8. It does not feed in the dark or in bright sunlight. Therefore, in bright daylight or at night without artificial light are the safest times to be in an infected place.

9. The cycle of the yellow fever parasite in the mosquito before it can be conveyed to man is generally, in hot weather, about 14 days or over. Prior to the accomplishments of this cycle (once called the "extrinsic incubation of yellow fever") the mosquito can not convey this disease.

10. It is probably usually conveyed aerially less than 100 yards. In Havana the infected insect is believed to be never aerially conveyed 1,500 feet from the Havana shore.

The direction of the prevailing wind during the day influences its aerial conveyance.

The Effect of Lemon Juice in the Mixture Known as Lemonade on Typhoid Polluted Water.

DR. WILLIAM J. BISSELL, Buffalo, N. Y., read this paper as the result of an investigation prompted by a newspaper statement purporting to be from the Chicago Board of Health to the effect that lemonade would kill the typhoid bacilli. The conclusions drawn were: 1. Lemonade can not be depended on in this rôle. 2. This method of sterilizing typhoid polluted water should be discouraged.

Sodium Sulphite—A Dangerous Food Preservative.

DR. CHARLES HARRINGTON, Boston, said that sodium sulphite is used very extensively as a food-preservative, and, more particularly, for its effect on the color of chopped meat (Hamburg steak) and certain canned vegetables (asparagus and corn). Experiments show it to be a dangerous addition to food.

Studies of Media for the Quantitative Estimation of Bacteria in Water and Sewage.

MR. STEPHEN D. GAGE and MR. GEORGE O. ADAMS, Boston, contributed a joint paper on this subject. Studies of the efficiency of water filters in removing bacteria when estimated by counts on different media, show that there is a considerable variation between the various media, the ratio between the numbers of bacteria in the raw water and in the effluent being affected by the period of incubation, the reaction and the composition of the media. The writers recommend that a standard nomenclature be adopted for the various culture media, the names used to express, as far as possible, the composition of the media.

The Value of Tests for Bacteria of Specific Types as an Index of Pollution.

MR. H. W. CLARK and MR. STEPHEN D. GAGE, Boston, read a joint paper with this title. The colon bacillus is the most numerous type in normal sewage and is accordingly of the most value as a specific indication of pollution. Bacteria of the colon type can be detected in ordinary city sewage in dilutions of 1 to 10,000 to 1 to 100,000. Surface waters having the greatest relative population on their watershed have shown bacteria of the colon type more frequently than others with less population. Ground waters, on the other hand, unless grossly polluted never show bacteria of colon type. Examinations for *B. coli* in different volumes of water show that tests in both one and 100 cubic centimeters should be made, the tests in larger volumes being confirmatory of the tests in the smaller volumes and in cases where a considerable number of samples are taken from the same source tests in the larger volumes usually give more information day by day as to the quality of the water than do the tests in one cubic centimeter.

Epidemics of typhoid fever coincident with the finding of *B. coli* in normally pure waters, i. e., in waters known to be safe under ordinary conditions, but becoming dangerous by the accidental entrance of polluted water, have occurred where, although the entrance of this pollution was known, the danger was not indicated by chemical tests or by an increase in the numbers of bacteria beyond the usual limits of variation for waters of this class.

Report of the Committee on the Significance of Bacillus Coli in Water Supplies.

This report was read by the chairman, Mr. S. C. Prescott. To present a statement of the opinion of the committee individually and as a whole as probably representing the generally accepted views of sanitary bacteriologists as to the significance of *B. coli* in water, the following questions were sent

to each member. The answers appended, except as otherwise stated, were practically as given below. 1. In view of the fact that numerous investigators have found *B. coli* in nature where it could not be directly traced to sewage or fecal pollution, do you believe that the colon test of water is as safe an index of pollution as it was formerly regarded to be? Yes.

2. Are you of the opinion that the number of colon bacilli rather than their presence should be used as a criterion of recent sewage pollution? Yes.

3. To pronounce a water sewage-polluted, would you require as evidence that *B. coli* was present in a majority of one cubic centimeter samples? Yes, in general.

4. Are you in favor of recommending that the examination of large samples for *B. coli*, 100 to 1,000 c.c., be discouraged? Four members say "Yes" in reply, one says "No."

5. In case of a strong presumptive test, what confirmation tests would you require to make certain that the organisms present were *B. coli*? Full set of distinctive cultural tests.

6. In view of the probable presence of streptococci in polluted waters, do you think it desirable that they be isolated as well as *B. coli* to confirm suspicious evidence of pollution offered by *B. coli*? Two would not recommend this; one thinks it would be advantageous occasionally, but not practicable because of increase in routine work; one believes it should be done, when possible, for the sake of securing additional data, and for its general confirmation of the colon test; and one is indefinite.

A Simple Method for the Routine Detection of Colon Bacilli in Water.

Dr. William Royal Stokes, Baltimore, proposes the use of neutral red in a fermentation tube containing 1 per cent. lactose or milk sugar bouillon for the routine detection of colon bacilli in drinking water.

The work of Theobald Smith has shown that the colon bacillus ferments lactose with the production of from 30 to 50 per cent. of gas; that the medium is acidulated, and that the proportion of gas is usually that of one part of carbon dioxid to two of hydrogen. Jordan studied a large number of bacteria isolated from various rivers, and did not find any fermentive bacteria which carried out all of the phenomena in the lactose fermentation tube which is characteristic of the colon bacillus. The writer also isolated a moderate number of fermentive bacteria from the Baltimore water supply, and failed to find any fermentive bacteria exactly resembling the colon bacillus in lactose bouillon in the fermentation tube. In addition to the above characteristics of the colon bacillus in lactose bouillon, this organism causes a characteristic color reaction when neutral red is added to the solution in the proportion of 10 c.c. of a 0.5 per cent. solution to 1 liter. This has been partly described by Irons and others, but they use the test in an ordinary test tube. When used in the fermentation tube, the open bulb remains a port wine color, and the closed bulb a light canary yellow, often showing fluorescence. The curved stem joining the closed and open bulbs shows an abrupt contrast of the colors usually in the middle of the curve. The members of the proteus and cloacæ group usually turn both bulbs yellow, but not always. The method recommended is to inoculate a fermentation tube containing 1 per cent. lactose neutral red in the routine examination of water. If the percentage and amount of gas, the acidity, and the typical yellow-red contrast reaction all occur, the organism can be considered as *Bacillus coli communis*. This is a much shorter method than the isolation in pure culture, which takes from 5 to 7 days, and will also make it much easier to carry out quantitative experiments. These four distinct characteristics would seem to be sufficient to identify the colon bacillus in simple routine work.

The Bacterial Examination of 104 Samples of Water Together with a Detailed Study of the Colon Bacillus.

Dr. William J. Bissell, Buffalo, stated the results of an investigation as follows:

1. The amount of gas produced and the production of indol and putrefactive odors are not constant factors with even true colon bacilli; many of the lactic acid organisms bear a close resemblance to colon bacilli; and it is not safe to depend on presumptive tests alone in determining the presence of colon bacilli in the water.

2. In 104 samples of water from Niagara River examined at respectively 12 and 22 miles below a point where the sewage of over 400,000 people is received, colon bacilli were not found in all cubic centimeter amounts of the sample; there was a decrease in the number of colon bacilli the greater the distance down the stream; the heavy rains did not seem to increase the number of colon bacilli, although the land was used for farming purposes.

3. Colon bacilli can live in well waters at least 109 days, and the human variety seems to have a greater resistance than that from other sources.

4. In polluted water not all cubic centimeter amounts demonstrate the presence of the organisms. The writer believes that many organisms have been mistaken for the colon bacilli in water examinations.

5. There are many wells the waters of which do not contain colon bacilli, even though larger quantities are examined.

Isolation of Bacillus Coli Communis from the Alimentary Tract of Fish and the Significance Thereof.

Mr. George A. Johnson, New York City, said it has been shown that the colon bacillus is taken up by fish, and multiplies rapidly in the intestinal tract. A search of a large number of fish caught in an unpolluted water failed to reveal this organism in the intestinal tract. It would seem possible, therefore, that fish, having taken up the colon bacillus from a polluted water, might migrate to a water of comparative purity, where they would, naturally, discharge the greatly increased number of these organisms. Whether the finding of the colon bacillus deposited in a water in this manner would depreciate the value of the colon test in the examination of a public water supply is a question. It would certainly appear that if the colon bacillus can be thus easily transferred from one water to another that the transportation of the typhoid bacillus may be considered quite as likely. At least, the above results may explain the apparent phenomenon frequently noted where *B. coli communis* is found in comparatively large numbers in waters apparently open to but remote chances for fecal contamination.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Whitehead's Treatment of Gonorrhea.

Dr. W. H. Whitehead, Atlanta, Ga., whose article in the *Therapeutic Gazette* was reviewed in The Journal, November 7, page 1160, calls attention to our misunderstanding of one feature: His treatment is intended to be given by the physician only.

Argyrol in Gonorrhea.

R. O. Kevin, according to an abstract in *Med. Rev. of Reviews*, employs the following abortive treatment of gonorrhea if seen during the first twenty-four hours: After washing out the anterior urethra with warm water, two drams (8.00) of a 20 per cent. solution of argyrol are injected into the urethra and retained for ten minutes. This is repeated every three hours, day and night, for three days. According to the author 85 per cent. of the acute cases can be cured in from three to six weeks.

In chronic anterior urethritis or anterior-posterior urethritis, after irrigating with warm boric acid solution, a 20 per cent. solution of argyrol is applied to the urethral mucous membrane by means of a cotton applicator for two or three days. A 5 per cent. solution is used at the same time for irrigation.

In chronic posterior urethritis 5 to 20 per cent. solutions of

argyrol in lanolin are applied to the posterior urethra by means of sounds in addition to deep injections of the 10 per cent. aqueous solution every two or three days. In cases of cystitis, the bladder is irrigated with a saturated solution of boric acid, followed by a ¼ to 1 ounce (8.-30.) of a 10 to 20 per cent. argyrol solution injected into the bladder and allowed to remain. He recommends it in all chronic conditions of the cervix, urethra and endometrium as less irritating and more valuable than silver nitrate. It is non-irritating, and although containing 30 per cent. of silver it possesses greater penetrating powers than silver nitrate.

[In a recent discussion on the treatment of gonorrheal ophthalmia, W. T. Wilder presented its value in such cases as surpassing at present any other silver preparation. He employs it in 10 per cent. solutions to be dropped into the eye.]

Epistaxis.

In cases of epistaxis occurring in individuals with marked arteriosclerosis, according to an abstract in *N. Y. Med. Jour.*, mustard plasters may be used to the thighs, hot poultices applied to the back of the neck, and the arms should be elevated. As a snuff to check the hemorrhage the following is recommended:

℞. Antipyrini 3iiss 10
Cocainæ hydrochlor. .....gr. viiss 50

M. Sig.: To be used as a snuff to check nasal hemorrhage; or:

℞. Ext. hamamelidis exsic. .....gr. xv 1
Antipyrini 3iiss 10

M. Sig.: To be insufflated into the nares to check hemorrhage.

Hydrogen dioxid in its pure state is a valuable agent, also lemon juice or extract of adrenals (1-1,000), forty drops to half a glass of water. Tincture of iron is a very valuable agent used as follows:

℞. Tinct. ferri chloridi 3iiss 10
Aq. destil 3v 20

M. Sig.: To be applied locally to the nares; or:

℞. Gelatin 3iiss 10
Hydrarg. bichloridi .....gr. xv 1
Sol. sodii chloridi (7-100) .....Oii 1000

M. Sig.: Locally as an application.

A tampon saturated in the following solution is recommended, held in the affected nostril for five minutes:

℞. Cocainæ hydrochlor. .....gr. xv 1
Aq. destil. 3iiss 10

M. Sig.: Locally to the affected part.

To Reduce the Alkalinity of Urine.

Attention has been called by R. Hutchinson, in *British Med. Jour.*, to the value of acid sodium phosphate as an acidifier of urine. According to this author it has the greatest acidifying power of any preparation employed. It is a valuable agent in the treatment of cystitis, accompanied by the use of urotropin, which produces its best results in acid urine. The foregoing preparation is readily soluble in water, and may be given in doses of 30 (2.00) to 60 grains (4.00) every three or four hours if necessary.

Injections of Iodo-ether in Exophthalmic Goiter.

Abodie and Collon, in *Prog. Med.*, recommend the following combination as an injection in the treatment of exophthalmic goiter:

℞. Iodoformi 3i 4
Spts. etheris .....℥v 150

M. Sig.: Fifteen minims injected into the enlarged gland every second or third day.

By this mode of treatment improvement was noted in the headache, polyuria and neuralgic pains as well as a reduction in the rapid heart action and the tremor.

Adrenalin and Atropin.

R. Mengelburg, in *Annals of Ophthal.*, lays great stress on the fact that a combination of adrenalin and atropin is liable to produce symptoms of atropin poisoning, even in very small quantities. In several cases, although no idiosyncrasy to atropin was present when given alone, marked effects were produced by combining the two. His explanation is that through adrenalin the vessels of the mucous membrane of the canaliculus are much contracted and consequently the mucous membrane is made much thinner and the canal more patent, and in this way a larger opening is made through which the atropin can pass into the tear duct and from thence into the nose. He, therefore, advises extreme caution in using this combination.

Symptomatic Treatment of Phthisis.

The principal symptoms to be considered in the symptomatic treatment of phthisis, according to *The Pract.*, are the cough, night-sweats, occasional pains in the chest, digestive disturbances and hemoptysis.

COUGH.

In treating the cough it must be kept in mind that to a certain extent it is a salutary measure in that it tends to expel from the lungs a certain number of bacilli and other products. As a sedative for the cough at night the following combination is recommended:

℞. Liq. morphinæ .....gtt. iii 20
Vini ipecacuanhæ .....gtt. v 30
Oxymel scillæ .....gtt. xv 1
Theriacæ 3i 4

M. Sig.: At one dose for the cough, to be repeated as necessary.

Heroin may be substituted for the liquor morphin in the foregoing combination if preferred. In the early morning, if the cough is troublesome, much can be accomplished by the administration of some warm drink as hot milk or cocoa. During the day an inhaler may be used to advantage to check the cough and to disinfect the air passages. The following is of value as an inhalant:

℞. Olei eucalyptus
Spts. menthol
Spts. chloroformi, āā 3i 4

M. Sig.: Twenty to thirty drops to be inhaled three or more times through the day for half an hour or more each time.

THE NIGHT-SWEATS.

Tepid sponging at bedtime with an alcohol solution or vinegar water serves a good purpose, together with a drink of cold milk containing a little brandy. If this plan of treatment does not fulfill the needs the following pill should be given:

℞. Zinci oxidi ..... gr. ii-iv 12-.25
Ext. belladonnæ.....gr. ⅛-¼ 008-.015

M. Ft. pil. No. i. Sig.: One to be taken at bedtime.

Atropin sulphate gr. 1/100 (.0006) may be substituted for the foregoing, given hypodermically.

PAINS IN THE CHEST.

The pains are probably due to slight attacks of pleurisy. These may be relieved frequently by the application of some simple liniment or by painting the affected areas with iodin. The turpentine liniment proves effectual in most cases.

DIGESTIVE DERANGEMENTS.

It is of vital importance that the patient take as much nourishment as possible. To avoid digestive derangements a stomachic mixture such as the following is of service in improving the appetite and avoiding digestion:

℞. Tinct. nucis vom. 3i 4
Sodii bicarb. 3ii 8
Tinct. cardom. co. .....℥ss 15
Tinct. gentianæ co. q. s. ad.....℥ii 60

M. Sig.: Shake and take one teaspoonful three times a day.

If the digestion should then become disturbed the fatty materials should be cut down, give rest in bed and increase the elimination by the bowels by means of small doses of calomel.

DIARRHEA.

The diarrhea in phthisis may be simply due to overfeeding or otherwise to organic lesions in the alimentary tract, such as tubercular ulceration or amyloid disease. In the former instance a milk diet should be temporarily resorted to, and if

there are organic changes a starch and opium enema may be of use or the following combination given by the mouth:

℞. Plumbi subacetatis .....gr. ii |12
Liq. morphinæ .....m. v-x |30-.65
Acidi acetici dil. .....m. x |65
Aq. chloroformi .....3i 4|
M. Sig.: At one dose, to be repeated three times a day; or:
℞. Bismuthi salicylatis .....gr. xx 1|30
Sodii bicarb. .....gr. xv 1|
Mucil. acaciæ .....gr. x |65
Aq. menth. pip. .....3i 4|
M. Sig.: At one dose, to be repeated once or twice daily.

HEMOPTYSIS.

If necessary to check hemoptysis a hypodermic injection of morphin gr. ⅛-¼ (.008-.015) is probably the best treatment to quiet the patient and soothe the heart's action, which in turn aid in checking the hemorrhage. The patient should be instructed to lie quietly in bed, not speaking to anyone or even turning in bed. No food should be given for six or eight hours, when it should consist of cold or iced milk. Thirst may be relieved by sucking cracked ice. Ergot is not recommended on account of its tendency to raise blood pressure.

Calcium chlorid, gr. x-xx (.65-1.30), may be given to increase the coagulability of the blood. Turpentine is of value given as follows:

℞. Spts. terebinthinæ .....3ss 2|
Mist. amygdalæ .....3ii 8|
M. Sig.: At one dose.

If syncope should occur a teaspoonful or more of brandy should be given as a slight stimulant. The after-treatment of hemorrhage consists in correcting the anemia with preparations of iron.

Some authors recommend the following combination to check pulmonary hemorrhage:

℞. Stypticin .....gr. i |06
Plumbi acetatis .....gr. ii |12
Pulv. digitalis .....gr. i |06
Pulv. opii .....gr. ss |03
M. Ft. cap. No. i. Sig.: One such every four hours.

Aqueous Preparations of Menthol.

M. Cresantignes, in *Jour. Amer. Med. Sci.*, has found menthol to be a valuable anti-emetic given in an aqueous solution without the addition of a large amount of alcohol. To prepare an aqueous solution he recommends the following formula:

℞. Menthol .....gr. v |30
Tinct. quillajæ .....℥i 30|
Aq. destil .....℥v 150|
M. By dissolving the menthol in the tincture, add a small amount of glycerin and then add to the water in small quantities at a time. Sig.: Shake well and take two teaspoonfuls at a dose. Several teaspoonfuls may be taken at a time if necessary as the amount of menthol in each teaspoonful is very small. For external application the following combination is recommended:

℞. Menthol .....3v 20|
Tinct. quillajæ .....3iii 12|
Aq. destil. .....℥viss 200|
M. Sig.: To be applied as a wet compress for a few minutes at a time, followed by a compress of fresh water.

And as a gargle and mouth wash the following is recommended:

℞. Menthol |
Tinct. quillajæ, āā.....3i 4|
Solutionis acidi borici (saturated aqueous) .....℥vi 180|
M. Sig.: To be used as a gargle or mouth wash.

Employment of Heart Tonics Before an Anesthetic.

To overcome any cardiac enfeeblement which occurs in many patients previous to undergoing an operation, Feilchenfeld of Berlin, according to an abstract in *Medicine*, administers six drops of the tincture of strophanthus for two or three days preceding the operation. According to his statements too much stress is laid on the presence of valvular lesions and not sufficient attention given to the action of the heart. In individuals who are nervous and whose cardiac action tends to run up on slight provocation or where marked feebleness of pulse is shown, the administration of strophanthus or some similar heart tonic prior to an operation is very advantageous and important.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Connecticut—Obtaining Treatment by False Pretenses.—Chapter 27 of the Public Acts of Connecticut of 1903 provides that any person who obtains medical or surgical treatment from any dispensary located in the state on false pretenses or representations as to his place of residence or as to his pecuniary circumstances shall be fined not more than $50.

Connecticut—Licenses of Other States—Re-examinations.—Chapter 71 of the Public Acts of Connecticut of 1903 amends section 4715 of the general statutes, on requirements for obtaining certificate of registration, adding the provision that any one of the examining committees appointed under the provisions of section 4716 may accept the license of any state examining board in lieu of an examination, provided the applicant shall present satisfactory evidence (1) that such license has been issued after an examination of as high a grade and of the same kind as required in Connecticut; (2) that he is a resident of Connecticut, or that he intends to permanently reside therein; (3) that he has been in actual practice for at least six months in the year immediately preceding his application, and (4) that he is of good moral character and professional standing. The fee will be $15. Section 4718 of the general statutes, relating to examinations, etc., is amended by striking out the words: "An applicant, rejected by an examining committee, shall not be eligible to re-examination until after the expiration of twelve months," and inserting in lieu thereof the following: "An applicant rejected by an examining committee shall not be eligible to examination before either of the other examining committees until after the expiration of twelve months, but may be re-examined by the committee before whom he appeared, at any subsequent meeting of said committee."

New Hampshire—Prohibits Spitting in Public Places.—Chapter 2 of the Laws of New Hampshire of 1903, entitled "An act to promote cleanliness and to protect the public from the disease commonly known as consumption," provides, among other things, that it shall be unlawful for any person to spit on any sidewalk, in the compact part of any city, village or town, or in any railway station, hall or other public place, or in any street or steam railway car other than smoking cars, except into spittoons or other receptacles provided for that purpose.

New Hampshire—An Act in Relation to Smallpox.—Chapter 45 of the Laws of New Hampshire of 1903 provides that it shall be the duty of every physician who attends any person whom he suspects is infected with smallpox to immediately report the same to the health officers of the town in which said person then resides, or if there be no health officers, then to the selectmen of the town, who shall immediately quarantine such person, and if there be doubt whether such person is suffering from smallpox, then said health officers or selectmen shall immediately notify the state board of health and request it to investigate the case immediately. If any physician, health officer or selectman neglect so to do he shall be fined the sum of $100.

New Hampshire—College Course to Count One Year.—Chapter 115 of the Laws of New Hampshire of 1903 amends section 7 of chapter 63 of the laws of 1897, entitled "An act to regulate the licensing and registration of physicians and surgeons," by adding at the end of the fourth requirement, which is that the candidate has studied medicine not less than four full school years, the provision that the regent shall accept "as the equivalent of the first year of the fourth requirement evidence of graduation from a registered college course; pro-

viding that such college course shall have included not less than the minimum requirements for such admission to the second year of a medical school registered as maintaining at the time a satisfactory standard."

New Hampshire—Sanatorium Treatment for Indigent Consumptives.—Chapter 184 of the Laws of New Hampshire of 1903, a joint resolution, authorizes the state board of charities and correction to send such indigent consumptive patients as are suitable for remedial treatment to a sanatorium for treatment, the board to pay for the care, treatment and support of such patients only the actual cost of their maintenance in the sanatorium. Persons in indigent circumstances, who themselves or by their relatives are able to pay part of the cost of maintenance, may be admitted to the sanatorium and maintained and treated therein at the expense of the state to that extent that they can not, by themselves, or relatives chargeable therefor, pay such cost of maintenance, when the state board of charities and corrections so certify and stipulate the proportion the state will assume and pay.

New Hampshire—State to Care for Dependent Insane.—Chapter 61 of the Laws of New Hampshire of 1903 provides that the state, from Jan. 1, 1909, shall have the care, control and treatment of all insane persons now cared for by the various counties; and no county shall hereafter establish any asylum or other additional structure for the insane, nor after said date maintain any institution for the insane, or be liable for the board, treatment, care or act of any insane person. From and after the passage of this act, the state board of lunacy may order the removal of all such dependent insane persons to the state hospital for remedial treatment as in their judgment seems proper, and such persons shall be supported at the expense of the state. After Jan. 1, 1905, as rapidly as accommodations can be provided, the state board of lunacy shall transfer from the various county almshouses to the state hospital such insane persons as in their judgment seem most suitable, such transfers to be made pro rata to the population of the several counties.

New Hampshire—Creates Office of Medical Referee.—Chapter 134 of the Laws of New Hampshire of 1903 provides that the governor shall nominate and, with the advice of the council, shall appoint in each county from one to three able and discreet men, learned in the science of medicine, to be medical referees in such county as they shall reside, who shall hold the office for a term of five years, subject to removal at any time for cause. When a medical referee has notice that there has been found or is lying within his county the dead body of a person who is supposed to have died by violence or unlawful act, he shall take charge of the same, and if, on view thereof and personal inquiry into the cause and manner of death, he deems a further examination necessary, he shall notify the county solicitor of the county, and on being authorized by the solicitor in writing, shall make an autopsy in the presence of two or more persons, one of whom shall be a physician whose attendance he may compel by subpena if necessary, and shall reduce, or cause to be reduced, to writing every fact and circumstance tending to show the condition of the body and the cause and manner of death, with the names and addresses of the witnesses giving evidence. If on such view, with personal inquiry or autopsy, the referee is of the opinion that the death of the person was caused by violence, criminal or otherwise, he shall at once notify the attorney-general and the county solicitor. He must also make return of the death to the city or town clerk. With the advice and consent of the attorney-general or county solicitor, he may, if he deems it necessary, call a chemist or other expert to aid in the examination of the body or of substances supposed to have caused or contributed to the death. The fees to be allowed shall not exceed, for a view and inquiry without autopsy, $5; for a view and autopsy, $25; and mileage. When it is deemed necessary by the medical referee and county solicitor to have a physician or surgeon present at an autopsy as one of the witnesses, such physician or surgeon shall be allowed a reasonable compensation to be audited by the medical referee and county solicitor.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

November 7.

1 *The Dwarf Tapeworm (Hymenolepis Nana), a Newly Recognized and Probably Rather Common American Parasite. Charles W. Stiles.
2. The Operative Treatment of Chronic Bright's Disease; a Second Communication, Based on Reports of 120 Cases. (To be concluded.) Ramon Guiteras.
3 *The Importance of the Physical Examination of the Abdomen as a Routine Practice Irrespective of What Be the Symptoms. Mark I. Knapp.
4 *Deep Breathing Richard C. Newton.
5 *Some Points in the Treatment of Hip-joint Disease. George B. Packard.
6 Some Principles on which is Based the Therapeutics of Electricity in Nervous Diseases. A. D. Rockwell.

1. Dwarf Tapeworm (Hymenolepis nana).—Stiles describes this parasite, and thinks it is more common in this country than is generally supposed. He has had probable evidence of its occurrence in various portions of the southern states and as far north as Washington and Philadelphia. Infection, he thinks, takes place through the infection of food by rats and mice, and, while as a local parasite the symptoms may be slight, the animal possibly possesses a toxin that plays a considerable part in producing serious infectious symptoms in certain cases. The diagnosis is somewhat difficult on account of the smallness of the parasite and the minute portions evacuated. The best method is to examine microscopically and find the characteristic eggs. The only drug that is of use in its treatment is male fern. Prophylaxis consists in cleanly personal habits; keeping mice and rats away from the food supply, and if a person is found to have the dwarf tapeworm he should sleep alone until he is rid of it.

3. Physical Examination of the Abdomen.—Knapp insists on the importance of thorough examination of the abdomen, and describes the methods of palpation and inspection.

4. Deep Breathing.—Newton sums up his paper in the following after showing the evil consequences of the practice of shallow breathing:

1. Deep breathing is essential to good health, and is in many cases a valuable therapeutic measure.
2. Its importance is not at all generally appreciated.
3. It should be a part of every child's education.
4. It is especially indicated for backward and sickly children.
5. The profession owes it to itself to study more deeply this vital question and to be able to instruct the laity fully on all its bearings.

5. Hip-Joint Disease.—The importance of allowing some functional use of the affected member in case of hip-joint disease is pointed out by Packard. He thinks that a certain amount of exercise should be employed as early as possible, and that this is preferable to the common practice of prolonged fixation and disuse. He suggests other points and insists on favorable surroundings, good hygienic conditions, diet, treatment of anemia, etc., as may be necessary.

Medical News, New York.

November 7.

7 *Mastoid Disease and Extradural Abscess. Seymour Oppenheimer.
8 *Precipitins and Their Medicolegal Use. (To be continued.) James Ewing and Israel Strauss.
9 *A Study of Immunity. Ehrlich's Side-chain Theory. F. M. Pottenger.
10 Report of a Case of Acute Glaucoma Incited by the Use of Euphthalmine for Diagnostic Purposes. Henry W. Ring.
11 Circular Laceration of the Cervix Uteri. Hugh Crouse.

7. Epidural Abscess.—Oppenheimer discusses the relation of mastoid disease and extradural abscess, the usual etiologic rationale being based on the thin wall separating the lining membrane of the mastoid cells from the meninges becoming necrotic. There may be other pathologic elements such as tuberculosis, etc. Epidural abscess is the most frequent intracranial complication of mastoid empyema, and may be the cause of the sinus infection or development of a brain abscess. Picqué and Ferrier claim that more than one-half of all the cases of epidural abscess arise from mastoid disease. The two most common sites for the development of pus collection are: (1) In the posterior fossa near the vertical

portion of the groove for the lateral sinus, and (2) in the middle fossa on the superior surface of the osseous tissue forming the roof of the antral cavity. If the mastoiditis travels backward the perforation will probably be through the thinner tissue above mentioned, while in some cases the tendency is upward and inward, and the abscess develops in the middle cranial fossa. The dangers are greatest when close to the sinus on account of the tendency to secondary inflammation and thrombosis. The symptoms may be non-characteristic, but if the local meningitis becomes sharply defined it may become of diagnostic import. In uncomplicated cases pyrexia is very slight or absent, as a rule. There may be headache and other subjective symptoms. When the abscess is extrasinuous there is generally a rise of temperature, and if aural disease will not account for the condition, intracranial complication should be suspected. If there is a high temperature at the beginning and other symptoms indicating epidural abscess, a complication of sinus thrombosis may be looked for. If the temperature is not high enough to suggest either thrombosis or meningitis, the question of cerebral abscess will have to be considered, but the absence of localizing signs and of subnormal temperature will aid in eliminating this factor. Localizing symptoms may occur from pressure on the brain, and head pain is one of the most constant and valuable symptoms, and is often limited. The pulse rate varies with the degree of associated meningeal irritation. Rigors are rarely present, and if they occur suggest a sinus complication. Optic neuritis is rarely found. Vomiting may occur with exacerbation of pain, also vertigo, but these latter have little diagnostic value. Under the best conditions the diagnosis is indefinite, and in many cases the surgeon can not determine the presence of pus before operation. The lack of high temperature, rapid pulse, irritability, etc., separate it from meningitis, as a rule. If the diagnosis is still in doubt in the presence of meningeal symptoms lumbar puncture should be performed. If it gives negative results, epidural abscess or sinus phlebitis, or both, are probably present. A bone fistula connecting with the cranial cavity is an indication of abscess, and a doughy swelling behind the meatus is significant. Cases are reported and a bibliography given. The infection in these instances was polymicrobic. The termination of an epidural abscess, if not recognized, will depend on the direction it takes in the destruction of tissue. It may point downward and spontaneously evacuate, but, ordinarily, neglect is dangerous. In recognized cases the prognosis as regards cure is favorable if the abscess is evacuated. No other treatment than surgical release of the purulent collection is to be considered.

8. **Precipitins.**—Ewing and Strauss' article is largely a critical historical summary of the facts from the literature. They, however, give briefly the results of some experiments on the changes in precipitin substances and the specificity of precipitins recognized. They find that in order to obtain the specific reaction in the human blood free from the danger of error from the personal equation they had to dilute antisera from the rabbits in their experiments, at least 1 in 30, and require a flocculent precipitate within three hours at 37 C. (This article is to be continued.)

9. **Immunity.**—Pottenger's article contains nothing specially new.

American Medicine, Philadelphia.

November 7.

12 *The Treatment of Puerperal Sepsis. E. E. Montgomery.
13 *Hyaline Bodies in Tumors and Kindred Other Conditions. Randle C. Rosenberger.
14 Empyema. I. R. Trimble.
15 *Obstipation: Its Causes, Effects and Treatment. John L. Jelks.
16 *Nostalgia and Melancholia in the Tropics. E. S. Corson.
17 Case of Post-typhoidal Infection of a Rib. Alfred I. Ludlow.
18 A Study of School Hygiene, Development of Children and Preventive Medicine. Alice M. Smith.

12. See abstract in THE JOURNAL of October 31, p. 1105.

13. **Hyaline Bodies in Tumors.**—Rosenberger has observed these bodies in malignant and benign tumors, in juice as well as in stroma, and sometimes within the cells, and describes their appearance. He quotes at length from the literature, and his conclusions are as follows:

It is seen from the specimens studied that these bodies were observed with great regularity.

They were in most cases quite deeply situated in the tissues, while a great many more were seen intracellularly.

Some of them gave quite a typical reaction of amyloid material, while the greater number failed to give this reaction. Treating them with dilute hydrochloric acid failed to produce effervescence.

It seems to me that they correspond most closely to the fuchsin bodies described by Russell, and that they really represent some degenerative change occurring in the cell or cell nucleus. That they play some part in the etiology of the conditions in which they are found seems doubtful, notwithstanding the fact that they are found deeply situated and intracellular. They do not possess the peculiar intracellular characteristics which Plimmer's bodies do, being distinctly hyaline. They may, however, represent a hyaline or amyloid degeneration of blastomycetes.

The fact that cultures were not obtainable in any case on various media and the failure to demonstrate true budding seems almost positive proof that they are not blastomycetes.

15. **Obstipation.**—Jelks calls attention to the various causes of obstipation, especially the extravisceral, including conditions of the uterus, prostate, etc.; perivisceral, such as cicatrices, tumors; visceral, including volvulus and neoplasms, and intravisceral, including intussusception, foreign bodies, fecal impaction and valvular obstruction. Each of these possibilities is briefly mentioned, the latter more at length. He thinks obstruction by Houston's valves is prolific of more trouble than all the other causes together, but he wishes to insist on the importance of recognition of the fact that other causes also may be considered.

16. **Nostalgia in the Tropics.**—Corson finds that the isolation and monotony, the depressing conditions of climate and the attacks of special diseases of the unacclimated persons in the tropics are conducive to homesickness and melancholia. He suggests frequent change of residence, sanatoria at high altitudes, prevention of self-medication and return home where practicable. He sums up thus:

Americans, owing to their strenuous mode of living and the depressing conditions of the tropical climate, are especially liable to nostalgia and melancholia.

Persons suffering from nostalgia should be watched, and when it is complicated by melancholia they should be advised to return home at once.

Sanatoriums at high altitudes, if not already provided, should be exploited at once for the recruiting of the health of soldiers and civilians. Only the government can do this.

An especial effort should be made to educate all persons residing there as to the best methods of living for the preservation of health.

Boston Medical and Surgical Journal.

November 5.

19 *On Gastric Tetany. B. G. A. Moynihan.
20 *A Study of Pathologic Fermentation in the Stomach. Henry F. Hewes.
21 *Internal Medicine, to What Extent Required or Elective in the Medical Course. S. G. Bonney.
22 *Observations on the Iodin Reaction in Children. Charles H. Dunn.

19. **Gastric Tetany.**—Moynihan reviews the symptoms and the theories of the cause of this condition, giving most favor to the auto-intoxication theory as being most in accordance with the facts observed. The possible reflex action from sensory stimulation of the stomach nerves may also have its part. The connection of gastric tetany with the condition of the kidneys is a matter also to be studied. The fatality of the disease is especially noted. It occurs so late in the conditions which give it rise that it is generally hopeless. Earlier adoption of surgical measures in chronic gastric ulcer, pyloric stenosis, etc., in the late stages of which tetany appears, would probably prevent its occurrence in many cases.

20. **Gastric Fermentation.**—Hewes has studied the conditions of gastric fermentation in a case which is reported in full, and finds four bacterial types existing which he thinks are responsible for the pathologic condition. They were as follows: (1) A coccus growing in small white colonies on the gelatin; (2) a short bacillus growing in small white colonies and giving evidence of gas formation on the gelatin; (3) a long bacillus growing in large creamy white colonies and liquefying the gelatin; (4) an organism growing in white colonies and answering to the morphologic characteristics of the sarcinæ ventriculi. These were observed only once. He has isolated all these in tube cultures. The first three produced alcohol and gas (CO_2) and some form of organic acid at some stage in the fermentation. It does not follow that these are the sole causes, but he thinks that future investigation of the subject, consisting in the identification and study of these

bacterial ferments, may give further results which will be reported in another article.

21. This article was abstraced in THE JOURNAL, xl, p. 1602.

22. **The Iodin Reaction in Children.**—This reaction, which was described by Cabot and Locke (see abstract in THE JOURNAL of Feb. 22, 1902, p. 519), has been tested on the blood of children in the Children's Hospital at Boston, and the results are given. Dunn finds that it is always present, usually of average, and often of marked, intensity, a high percentage of cells being affected, in the following conditions: Lobar pneumonia, bronchopneumonia, cerebrospinal meningitis, influenza, empyema, non-tubercular suppuration, and also in single cases of appendicitis, diphtheria and starvation. It is usually present in typhoid fever and miliary tuberculosis, but may be absent, and it may be present or absent in anemia. It is usually absent, but may occur in nephritis, cardiac valvular disease and tuberculosis. It is absent in pleurisy with effusion, functional indigestion, rachitis, articular rheumatism, congenital cardiac diseases, chorea, infantile atrophy, and was never encountered in single cases of bronchitis, eczema, purpura, urticaria and scorbutus.

Medical Record, New York.

November 7.

23 *Surgical Interference in Hypertrophic Biliary Cirrhosis of the Liver. Julius Rosenstirn.
24 *Filariasis in Porto Rico. Bailey J. Ashford.
25 Treatment of Cancer of the Uterus. I. L. Watkins.
26 *Investigation of Rinderpest. J. A. Guthrie.
27 Some Practical Points Taught by the Discovery of B. Dysenteriæ in the Stools of Infants Suffering from Summer Diarrhea. Louis M. Warfield.
28 *Hemospermia, with Report of a Case. Arthur L. Chute.

23. **Talma's Operation.**—Rosenstirn reports two cases. In the first an erroneous diagnosis of adenoma of the liver was the reason for the laparotomy. When the true nature of the hepatic cirrhosis was discovered, the omentum, gall bladder and liver were sewed up to the parietal peritoneum with good results. The second case was one of Hanot's cirrhosis; the operation planned deliberately and the condition of the patient fully reported. The results were also good in this case. The theory of the relief of obstruction of the blood circulation being not sufficient in explaining the effect of the operation in this latter case, Rosenstirn suggests the possibility of the deficient neutralization of toxins by the liver as a cause of the disorder. It is possible, he says, that there is in this disease primarily a hypertoxicity of the blood which, passing through the liver, causes new tissue growth, and the liver is unable to cope with the conditions. Obstruction in the biliary canaliculi and the consequent retention of the bile may furnish a special avenue for the toxins to reach the cardiac circulation, so that they can not be successfully fought except by establishing another more round-about method of circulation, which is furnished by this operation.

24. **Filariasis in Porto Rico.**—Ashford has observed the incidence of this condition in Porto Rico, and concludes that at least about 10 per cent. of the people are affected. He reports cases in the mounted battalion of the Porto Rican Provisional Regiment, showing that about 12 per cent. of the soldiers were thus affected, presumably before their enlistment. In 5 cases there was strong presumptive proof of this in the families; all had been exposed; all were young men; most of them three years in the service without serious illness, and they were from all parts of the island. All but 4 had had attacks of inguinal or femoral adenitis with chills, fever, pain and a red line in the inner aspect of the leg and thigh at varying intervals. Six had had chyluria. He thinks the people living in the crowded districts in Porto Rico are liable to the infection, and sleeping out of quarters is dangerous. While the disease perhaps is not often followed by very serious consequences, yet it is a serious menace to the subject.

26. **Rinderpest.**—Guthrie has observed the methods of inoculation immunization of cattle against rinderpest as practiced in Hong Kong by those supplying the carabao for the United States government at Manila. He finds that the disorder corresponds almost exactly in its type with acute dysentery in the human being. The inoculation is a simple one: 10 c.c. of virulent blood from another bullock with the disease in progress and 50 c.c. of prepared serum from an inoculated animal are injected. The inoculation is repeated in five days, sometimes in less time; sometimes two or three extra injections are given. It is hoped that by continuous working in this way an immune breed of cattle will be produced.

28. **Hemospermia.**—This condition of the ejaculation of blood-stained seminal fluid is an uncommon one. It is not in itself a disease, and usually gives more trouble to the possessor than it should, and may occur in the various disorders of the genito-urinary organs, or sometimes without any pre-existing affection. A case is reported by Chute and a number of others are cited from the literature. The prognosis varies with the nature of the lesion. In most instances it is due to chronic inflammatory lesions of the posterior urethra, prostate or seminal vesicles. The prospect for recovery is usually good; of course, if due to malignant disease the prognosis is bad. The treatment should be directed to the causative lesions. Massage is often a very important adjunct in inflammatory cases. The only case he finds on record in which treatment failed is one connected with the hemorrhagic diathesis.

Cincinnati Lancet-Clinic.

November 7.

29 *Injuries of the Spine and Their Treatment. John C. Oliver.
30 *A Report of the Principles of Diagnosis and of Medical Malingering. John Punton.
31 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

29. **Injuries of the Spine.**—The statistics of the Cincinnati Hospital, and also the cases in his own private practice, are reported by Oliver, who insists on the importance of early operation in all cases where any evidence of activity on the part of the spinal cord exists. Good results where total abolition of function is present are not to be expected. The mortality is considerable, either with or without operation, and the majority of the patients remain paraplegics. Operation offers the only means of correctly demonstrating the condition. It may be successfully performed, he says, at a much later period than that formerly thought possible.

30. See THE JOURNAL, Oct. 24, p. 1041.

St. Louis Medical Review.

November 7.

32 Some Remarks About the Climate of the Southwest, and the Treatment of Tuberculosis. B. F. Stevens.

Journal of Nervous and Mental Diseases, New York.

November.

33 *Three Cases of Tumor Involving the Spinal Cord; Treated by Operation. James J. Putnam and J. W. Elliott.
34 *A Method for the Relief of Pain in Tumors of the Brain. William Browning.
35 *Triceps, Biceps and Finger Clonus. Theodore H. Weisenburg.
36 *Studies on the Cerebral Cortex in the Normal Human Brain and in Dementia Paralytica. (Continued.) G. Alfred Lawrence.

33. **Spinal Tumors.**—The first case reported by Putnam and Elliott was that of a young man who had, as a sequel to an accident, a tumor in the cerebrospinal region at the level of the second and third cervical vertebræ, which caused paralytic involvement of all four limbs, of the costal muscles and even of the diaphragm. An operation was performed, and a tumor the size of an acorn, which was, pathologically, identified as a giant-celled sarcoma, was removed. The condition improved rapidly after operation, but suffered a partial relapse, and then a recurrence of improvement, so that at the present time the patient is in active life, and claims to be steadily gaining. There is a spasticity of gait and some restriction of the rotation of the head and considerable reflex excitability. It is noted as the first instance in which an operation has been performed for tumor at this level, and is important as showing what can be done even in so malignant a type as sarcoma and how long the tendency to recurrence can be delayed. The second operation was one for carcinoma of the last dorsal and upper lumbar vertebræ. It was decidedly relieved by operation, but the patient finally succumbed several months afterward. Both the patient and her husband admitted that there was a marked relief from pain after the operation

had been performed. The third case was one of fibrosarcoma in the lower cervical region encircling the cord and dura. A dissection was made and the growth removed. The dura was penetrated in one place and a large amount of cerebrospinal fluid escaped. The patient died five days after the operation.

34. **Brain Tumors.**—The method for the relief of pain here suggested by Browning consists in the administration of such depressants as aconitia, veratrum or gelsemium in doses sufficient to control the pulse, thus relieving, he claims, the intracranial blood pressure. It can not in every case and at all times stop pain, but it relieves it, and will often be all that is required for this purpose, even though the condition has existed for many months. He believes the classes of cases that it is likely to relieve are those where there is more or less general increase of the intracranial pressure, which occurs most typically in intrasubstantial growths. The pain is less intense, but more continuous. It may be still more useful in cases where there is paroxysmal augmentation of the arterial pressure with terrific pain seizures. Where, on the other hand, the pain is the result of the direct implication or stretching of the external structures, as the meninges and outgoing nerves, we have neuralgia and localized pain, and the good to be realized from depressants may be only proportionate to the amount in which the pressure is the factor. As far as he has observed in his practice with this method, no injurious effect has been produced on the course of the trouble itself. If anything, the life has been prolonged. The tendency to brain hemorrhage which exists in some of these cases is also favorably influenced by treatment. In cancer cases the use of depressants may also have a diagnostic value.

35. **Triceps, Biceps and Finger Clonus.**—These peculiar reflexes are not noted in many works on nervous diseases, and Weisenburg therefore calls attention to their occurrence. He has seen triceps clonus in a general paralytic; still more typical in hemiplegia in an alcoholic case. In this case there was also biceps clonus. Finger clonus was observed in a case of right-sided hemiplegia of long standing.

36. **Paresis.**—Lawrence's article is continued. The installment in this issue is entirely given to the pathologic findings.

The Laryngoscope, St. Louis.

October.

37 *The Technic of Maxillary Sinus Operations. H. Holbrook Curtis.
38 *The Arch of the Palate. Henry L. Swain.
39 *Cicatricial Deformities in the Respiratory Tract Due to Causes Other than Syphilis and Traumatism. G. Hudson Makuen.
40 Subglottic Tumors of the Larynx. Richard H. Johnston.
41 The Inefficiency of the Wilde Incision. J. Morrison Ray.
42 New Laryngeal Instruments. Seth Scott Bishop.

37. **Maxillary Sinus Operations.**—Curtis goes at considerable length into the various operations for antral diseases. He favors the Luc-Caldwell operation as in many respects most satisfactory, but he also describes the operation through the inferior meatus, which has the advantage of requiring no anesthetic. It is performed by first cocainizing the inferior turbinate, cutting away its anterior third and bringing into view the outer wall of the meatus. He then makes a perforation with a trephine at a point a quarter of an inch above the nasal floor. As soon as the wall is perforated the trephine is changed for an olivary or barrel burr drill, enlarging the orifice upward, downward and backward. He then stuffs in some gauze wet with adrenalin solution to stop the bleeding, and by using properly curved, flexible ring curettes can reach the wall of the antrum very satisfactorily. He prefers the trephine for its ease in entering the wall of the meatus. He says he would favor a permanent drain for this region, since it can be useful whether the disease is local or connected with that in other diseased cavities. The article is fully illustrated.

38. **The Arch of the Palate.**—Swain has investigated the growth of the arch of the palate in a number of skulls, including those of Flathead Indians. His theory as to the cause of the arch is that it grows down with the growth of the skull. Nasal stoppage and mouth breathing tend to raise it by checking this growth. He says from a personal study we may conclude that it has been demonstrated:

1. That it is possible by deforming processes which artificially alter the shape of the skull to produce a change in form and shape of the hard palate. 2. That under these above-mentioned conditions the septum seems to conform itself to the altered development of the rest of the face, rather contrary to our previous ideas regarding the habits of this structure. 3. That if from arrested or retarded development of the superior maxilla, the palate fails to descend to its proper level, a bent septum is as liable to be produced as when the palate is arched too greatly by an unnatural narrowing process. Hence a palate of perfectly normal height as compared to breadth may produce a bend in the septum. 4. That in considering the various causes which produce the abnormalities of the palate, we must lay more stress on the lack of proper aëration of the maxillary sinuses retarding their development, and hence that of the whole superior maxilla. 5. The conservation and general care of the deciduous teeth help to produce a normal horizontal curve in the hard palate and lessen the tendency to narrowing.

39. **Cicatricial Deformities in the Respiratory Tract.**—Makuen endeavored by correspondence to find out the frequency of such deformities due to other causes than syphilis and traumatism, and reports his results. He found that 300 observers have seen 449 cases of cicatricial deformities not due to these causes. That 16 per cent. of these were caused by diphtheria, 8 per cent. by scarlatina, 3 per cent. by lupus, 1.6 per cent. by tuberculosis and 1.5 by scarlet fever and diphtheria combined, with 1.1 per cent. by typhoid fever and .5 per cent. by measles. Other causes mentioned are membranous rhinitis, catarrhal erosion, smallpox, scleroma, septal abscess, erysipelas and pemphigus. These facts, he says, emphasize the importance of giving more careful attention to the nose and throat in the treatment of the above-mentioned diseases.

Archives of Otology, New Rochelle, N. Y.

October.

43 *On Hemorrhage from Arrosion of the Brain Sinuses in Suppuration of the Temporal Bones. H. Eulenstein.
44 General Sepsis in Chronic Suppuration of the Middle Ear, with a Central Perforation of the Drum. Professor Bezold.
45 *Cheesy Empyema of the Nasal Accessory Sinuses. Alfred Stieda.
46 Two Cases of Aneurism of the Arteria Carotis Cerebri. A. V. Zur-Mühlen.
47 On the Pathological Anatomy of Deafmutism. Dr. Schwabach.
48 *Recent Theories on Sound Conduction. Dr. Treitel.
49 Report on the Progress of Otology During the First Quarter of the Year 1903. Arthur Hartmann.

43. **Arrosion of Brain Sinuses.**—Eulenstein reports a case of mastoiditis following scarlet fever in which, in spite of early paracentesis, decay of the bone continued. The infection entered the cranial cavity, producing epidural abscess and corroding ulcer of the sigmoid sinus, perforation of which led to profuse and repeated hemorrhage. Direct plugging of the sinus was not sufficient, and he therefore shut off the blood current from below by tying the internal jugular vein, exposing the lateral sinus above its knee, and kept it compressed with the finger during the operation. He thinks he would recommend this method in other cases, not only to control the bleeding sufficiently, but also to control the primary affection thoroughly. He reviews the cases from the literature—18 in all, including his own.

45. **Cheesy Empyema of the Nasal Accessory Sinuses.**—Three cases are reported by Stieda in which large masses of cheesy material were removed from the nose. In one case there was almost a pure culture of bacillus coli in the mass; in others it was mainly amorphous material. He thinks that the other typical cases that have been reported in the literature, as well as his own, give evidence of the destructive nature of the caseous formation in these sinuses, and show that the process can be cured by drainage and thorough cleanliness.

48. **Sound Conduction.**—The criticisms of the Helmholtz theory of sound conduction are reviewed and passed on by Treitel, who discusses the literature. He thinks the attempts that have been made to overthrow this theory have not been altogether failures. The proofs as regards the method of resonance of sound waves are still unsatisfactory, and the very careful studies of Kleinschmidt and Zimmermann show that the resonance theory of the drum membrane of Helmholtz has become untenable. Moreover, from physical and physiologic facts, molecule vibrations must be admitted as

possible. If the molecular theory is correct, the middle ear mechanism is not absolutely necessary for sound conduction, but only for dampening loud sounds. The views are diverging also as to how the sound waves excite the fibers of the basilar membrane. It appears that this can be done by bone conduction alone, as in the case of loss of drum membrane and fixation of the stapes. He is in no doubt as to the value of Rinne's test in the diagnosis of ear diseases. Further research is still required to settle the questions that have been raised.

American Journal of Obstetrics, New York.

October.

50 *The Abdominal and Pelvic Lymphatics and Their Relationship to Cancer of the Uterus. W. Francis B. Wakefield.
51 *Conservative Surgery of the Female Pelvic Organs. Richard C. Norris.
52 Personal Experience with Alexander's Operation for Retroversion of the Uterus. H. Meek.
53 *Some Remarks on Retrodeviations of the Uterus. A. P. Stoner.
54 Repeated Cesarean Section on the Same Individual, with Report of Two Cases. George Haven and Ernest B. Young.
55 The Work of Downes' Electrothermic Angiotribe (Hysterectomies, Salpingo-Oöphorectomies, Carcinoma Mammæ, Epithelioma and Hemorrhoids). E. Gustav Zinke.
56 The Urinary Secretion: Its Obstetrical and Gynecological Considerations. Chauncey D. Palmer.
57 *The Mechanism of Occipito-posterior Positions; Does the Occiput Rotate Above or Below the Spine of the Ischium? Walter B. Gossett.
58 Gynecological Cases. W. E. Reed and E. K. Paine.

50. Abdominal and Pelvic Lymphatics.—Wakefield describes the anatomic structures and importance of these nodes in cases of malignant disorder. He insists on the importance of their thorough removal in cervical cancer, and sums up his general statements as follows: 1. The desiderata, in the order of importance, are: Removal of the uterus, removal of the parametric connective tissue, removal of the upper part of the vagina and removal of the regional lymphatics. Vaginal hysterectomy has no place as a curative operation in cancer of the cervix, and may be only palliative. The abdominal route, which should include the combined abdominal and vaginal, is the only one sufficiently radical to obtain the results that permit hopes of permanent results. He does not think any operation worthy of consideration that does not succeed in accomplishing at least the first three of these above-mentioned desiderata. The fourth will gradually grow out of the performance of the other three. The technical difficulties will, of course, be surmounted only by the experienced surgeon, and will not be popular even with him until with prolonged practice he has reduced the operation to a reasonable time limit and cut down the mortality rate. That operation will survive which permits the accomplishment of all the desiderata above mentioned with the least injury to the peritoneal structures, and at the same time affords the greatest protection to the ureter and important vessels.

51. Conservative Gynecologic Surgery.—While the results in Norris' total series of cases of surgery of the female pelvic organs are somewhat discouraging, generally speaking, and sometimes difficult to understand, very fortunate results have followed when he has carried conservative efforts to the extreme in some cases. No surgeon can predict the outcome. Future fertility depends more on the condition of the tube and success in restoring its caliber and integrity than on successful plastic work on the ovary. This latter rarely accomplishes the chief desire of the patient, namely, the relief from pain, and the patient who desires to be still fertile must be told that the preservation of the ovarian function may entail some condition of pain, often lessened, but still existing. Follicular cystic degeneration is very prone to be progressive. The age of the patient may help in deciding the case. A woman of 40 or more years of age, if she has children, should rarely be subjected to the risk of a second operation. The nervous temperament, recuperative powers, etc., have their influence. Women of strong nervous force and vigor, indifferent to pain, are the most favorable for successful conservative work.

53. Retrodeviations of the Uterus.—Stoner finds the shortening of the uterine sacral ligaments one of the most important measures in treating these cases. The following operation has been found by him so far satisfactory:

After freeing all adhesions and completing the necessary toilet of the adnexa, the uterus is brought strongly forward by the aid of a tenaculum forceps inserted in the fundus. This maneuver brings the uterosacral ligaments into prominence and each is transfixed, 5 or 6 cm. from its attachment to the uterus, with a needle carrying a medium fine silk ligature. Midway between the sutures and the uterus the ligaments are again pierced with a suture. After slightly relinquishing the hold on the tenaculum, traction is made on the sutures. The first or higher one is drawn downward toward the uterine attachment and anchored close to its origin to the uterus. The lower one is drawn upward toward the sacroiliac junction and attached to its fellow. Thus the ligament is folded on itself as in Mann's operation on the round ligament. A 1-500 solution of bichlorid of mercury should be applied to the edges of the folds to destroy the epithelium and cause adhesion; but care should be taken to wipe dry any excess of the solution. The ligaments must be shortened only enough to place the cervix in an easy elevated position. To aid in folding the ligaments, hemostatic forceps may be used to advantage for grasping the traction suture close to the ligament. The operation is completed by whipping together the folds with fine catgut. The operation of itself is sufficient to hold the organ securely. However, as a matter of precaution the round ligament should be shortened by one of the standard methods. No operation for the cure of this affection is complete, however, without due attention to all complications, such as damaged pelvic floor, lacerations of the uterus, endometritis, etc. Shortening the utero-sacral ligaments I believe to be an ideal method for the cure of retrodisplacement. The operation is simple and is usually easily accomplished It is productive of no danger of bowel obstruction or pregnancy disorders, two very important points to consider in making up one's mind as to the best operative procedure.

57. Occipito-Posterior Positions.—Gossett holds that the occiput can not rotate forward after it passes posterior to the spine of the ischium. As the head descends in the R. O. P. position by the force of the uterine contraction it is first flexed to allow the head to enter the brim, substituting the sub-occipito-bregmatic diameter of the head for the occipito-frontal. The force of uterine contraction is transmitted through the vertebral column to the short pole of the fetal head, the occiput, producing more flexion. The head descends and the occiput, being the most dependent part, meets the resistance of the pyriformis muscle and soft parts which starts its rotation to the front, it rotating away from the point of resistance to that part of the pelvis where it has the least resistance, that is, to the right and forward. This is the beginning of the second step of labor in the R. O. P. position with a favorable termination, that is, the rotation of the occiput through three-eighths of a circle to the front. If the resistance of the pyriformis muscle and soft parts is not sufficient to start the rotation of the occiput to the front, then it will pass on down and fall behind the ischial spine and onto the right posterior inclined plane, following its direction, which is downward and inward to the hollow of the sacrum.

Annals of Surgery, Philadelphia.

October.

59 *A Case of Malignant Edema. Alfred H. Gould.
60 *Fatal Hemorrhage from Trephining. Joseph Ransohoff and A. V. Phelps.
61 *Notes on a Case of Fusiform Aneurism Treated by Matas' Method. Robert T. Morris.
62 On an Aggravated Case of Aneurism Racemosum. Carl Beck.
63 The Treatment of Aneurism of the External Iliac Artery by Digital Compression. Francis J. Shepherd.
64 *Calculous Anuria; Its Diagnosis and Treatment. Arthur T. Cabot.
65 *A New Method of Performing Perineal Section Without a Guide. Charles L. Gibson.
66 *A Clinical Contribution to the Knowledge of Tubercular Diseases of the Female Urinary Tract. Edward J. Ill.
67 *Contribution to the Surgery of Pyosalpinx. R. C. Coffey.
68 Congenital Luxation of the Ankle. Albert H. Freiberg.
69 Treatment of Complications Attendant on Chronic Gallstone Disease. John B. Deaver.
70 Tropical Abscess of the Liver. Ernest F. Robinson.
71 *Intestinal Localization. George H. Monks.
72 A Further Case of "Hour-glass" Stomach. John M. Elder.

59. Malignant Edema.—Malignant edema produced otherwise than by the Welch bacillus is rare. Gould has found only 5 cases in the medical literature, not one in the English language, and therefore the case he reports he thinks is of interest. There are 3 cases that are reported in addition to the 5 mentioned, but he considers the bacteriologic evidence insufficient. He describes the bacteriologic findings and the culture results.

60. Hemorrhage from Trephining.—The case of Ransohoff and Phelps was one of almost inevitable fatal hemorrhage. In using the electric fraise for the osteoplastic operation the bleeding from the bony canals was so excessive that the patient died on the table. The diploic canals were greatly enlarged, and whether another method would have had better

results is questionable. Posture of the head and compression of the carotids were without avail.

61. **Aneurism Treated by the Matas Method.**—Morris reports a case of fusiform aneurism in the popliteal region which was operated on by the Matas method of opening up and clearing out the clot and making a new arterial channel for the blood, with excellent results. As soon as the sutures were completed and the elastic bandage removed pulsation appeared and there was no leakage; the paralyses of sensation and motion which had resulted from the presence of the aneurism began to disappear. Sensation was well defined over the right leg and foot by the seventh day. On the twenty-second day there was still a little paralysis of motion in the anterior tibial region. The restoration of function is satisfactory.

64. **Calculous Anuria.**—Two cases are reported by Cabot. In the first the calculus was dislodged and forced on to the bladder by massage applied through the abdominal wall. He recommends this procedure as a frequent practice, though it should never lead to delay of operation during an uncertain period of diagnosis. In the second case the operation did not reveal a stone, but the subsequent history of the case showed that two small ones were washed out from the bladder with the Bigelow evacuator, and a large one crushed and pumped out under cocain anesthesia. Recovery was uneventful. The stones were evidently forced into the bladder by manipulation of the ureter during the operation.

65. **Perineal Section.**—The method here described by Gibson consists in using a rectal speculum and pulling down the prostate with a tenaculum, traction being exerted downward and somewhat backward. When median perineal section is performed the forefinger is introduced into the wound and as an assistant gently tugs on the hook one readily receives the sensation of the intermittent tension of the urethra in response to the traction on the prostate, thus guiding further incision. The danger of infection from puncture of the prostate through the rectal wall he thinks is minimal. In none of his cases has there been any such bad result. He does not recommend this as a routine operation, but it should be reserved for cases where there are unusual difficulties, a feeble patient, especially one with diseased kidneys or other complications. In septic states due to urinary extravasation, the very slight risk of infection (which, if it occurs, can easily be attacked through the existing perineal incision) may wisely be taken in order to increase the patient's chances.

66. **Tuberculosis of the Female Urinary Tract.**—Fourteen cases are reported and tabulated by Ill and their interesting points commented on. In only one case did the disease seem to have started in the bladder. The resistance to the tubercle bacilli of this organ seems to be so great that it will sometimes throw off the disease itself, as is demonstrated in his second case. Resection of the secondarily diseased portion is not necessary. Even the ureter may sometimes recover spontaneously, as is shown by another of the cases. He does not, however, advise leaving an infected ureter. He holds that these cases show that bladder tuberculosis is usually propagated by contiguity instead of by the blood current. Other cases show the possibility of recovery after long periods of time, as well as the rapidly fatal termination in some instances.

67. **Pyosalpinx.**—Coffey has developed from his experience a technic as follows:

After the abdominal incision has been made, first see if it is possible to push the intestines upwards towards the diaphragm, and hold them by packing in gauze sponges; second, seek the fundus of the uterus. Having made way to the uterus, gradually insinuate the finger along the posterior surface until the cul-de-sac has been reached. Carry a gauze sponge down between the fingers and the uterus. From this point of cleavage separate adhesions from the center as much as possible, gradually filling the space made with the gauze sponges. As fast as possible separate adhesions of the intestines and push them back towards the diaphragm until they are well out of the way and a thick wall of gauze sponges separates the field of operation from the general abdominal cavity. Now gradually separate the adhesions, holding down the tubes, and lift the uterus as high as possible with vulsellum forceps. . . . . The first step in the actual operation is to exsect the tube by a V-shaped incision in the cornu of the uterus. . . . . Follow this up with a continuous catgut until the V-shaped incision has been almost closed. Put down this needle and thread; lift the tube as high as possible; ligate the web or ligament of the tube in three or four different sections with catgut, as close as is consistent. A certain amount of comparatively healthy and active ovarian tissue may be found at the base of almost every ovary, no matter how cystic. Remove all the cystic portion, making, if possible, a V-shaped incision, which is to be closed with a very fine catgut. . . . . Now take up the needle and continuous catgut suture which has been used to close the V shaped uterine incision, pass the needle through the peritoneum just external to the line of stumps, then the side of the uterus, then through the peritoneum, back to the side of the uterus, and so until the peritoneum forming the web or ligament of the tube has been brought in contact with the side and back of the uterus. After this has been done, it is found that the raw stumps are hidden and in contact with the back and side of the uterus. The ovary is suspended by its normal ligament under a roof made of the peritoneum of the broad ligament, and is thus protected from contact with the intestines above. The other tube and ovary are treated likewise. Owing to the fact that very many of these cases tend to retroversion of the uterus, I have supplemented this part of the operation by what I have called for want of a better name, posterior advancement of the round ligament, which is done by seizing the round ligament an inch or an inch and a half from its uterine attachment and bringing a knuckle backward to be stitched to the posterior and lateral surfaces of the uterus and broad ligament by a line of catgut sutures. This holds the uterus in its normal position. In the great majority of cases every raw surface may be covered up by this method. If there should be infection of the ovary or in the stump following the operation, there is but one place for an accumulation to take place, namely, in the cul-de-sac, where it will do the least possible damage and be most easily reached.

He holds drainage unnecessary except in acute cases, as the pus is generally sterile and when required it is better to drain through the cul-de-sac. He usually employs the compound drain of rubber tube and gauze as being the most satisfactory. The advantages of his method he sums up as follows:

1. Small mortality. 2. The covering of every raw surface with peritoneum as far as possible, and directed so that drainage will be into the cul-de-sac. 3. Future complications and adhesions are almost altogether prevented by exsecting the tube from the cornu by a V-shaped incision, suturing the incision with catgut and bringing the peritoneum of the broad ligament and the stumps in contact with the uterine body. This turns the ovary and raw surfaces into the cul-de-sac, sheltered by overlying peritoneum, and all broken areas are brought into the cul-de-sac within easy reach in case of infection of either the uterus or remaining ovarian tissue. 4. Owing to the tendency of the uterus to be drawn backward by adhesions, the posterior advancement of the round and broad ligament serves a valuable purpose. 5. No vessel is tied which under ordinary circumstances could cause fatal hemorrhage, even though all ligatures slip. 6. All the normal womanly functions can be kept up except childbearing in almost every case.

He believes the method a useful one in conservative surgery. The article is profusely illustrated.

71. **Intestinal Localization.**—Monks has studied on the cadaver the characteristics of the intestine at various distances from the duodenum, and gives his results. He utilized for differentiation the root of the mesentery, which springs from the posterior wall of the abdomen along a straight line six inches in length, starting above on the left side of the spinal column where the duodenum ends, and about on a level with the body of the second lumbar vertebra, continued obliquely downward and to the right, to end in a somewhat indefinite way at a point opposite the sacro-iliac synchondrosis. The circulation in this mesentery is one of the valuable points in the localization of the intestine. The arrangement of the main branches of the superior mesenteric artery is in primary and secondary loops; the former predominating and being more marked in the upper end, and the circulation becoming more complicated as we descend. There seems to be no fixed rule as to the length of the intestine. Age and sex have little to do with it. Where the intestine is very long he has sometimes found the mesentery also of unusual length, and the little straight vessels running from the mesenteric loops to the intestines much longer than the average. Where it is short he has also observed in a few cases that the mesentery and vasa recta were also short. The diameter of the gut is the greatest above, and gradually diminishes in size as we go down the tube. In the lower third or so the size remains the same throughout. The thickness is greatest in the upper part on account of the large and numerous valvulæ conniventes and the greater development of the muscle layers. It gradually gets thinner until within two or three feet of the cecum, where it thickens again. This thickening is presumably due to an increase in the muscular elements. The upper part is normally bright pink or red, showing numerous vessels. As we go down the tube the color changes to a gray or pinkish or yellowish gray and the vascularity is less marked. The valvulæ conniventes diminish in number as we go down, and about fourteen or fifteen feet from the end of the duodenum they

seem to disappear, and below this can seldom be seen or felt. The various parts of the intestine show foods in various stages of intestinal digestion. The consistency increases somewhat towards the lower end. It is hardly necessary to suggest that when one end of the loop, which is high up in the bowel, is gently pulled on and meets with resistance the loop is probably close to the duodenum, and likewise when one low down in the bowel meets with resistance the loop is probably a short distance from the ileocecal valve. The mesentery varies in thickness in the different parts. The thinnest part of the mesentery is that portion which is adjacent to the upper part of the intestine, and it becomes thicker as we go down the tube, largely owing to the deposition of fat. Its translucency varies immensely. Tabs of fat near the mesenteric border of the intestine are another guide, increasing toward the lower region. The direction of the stretched mesentery may also be a guide. Knowing the direction of the line of resistance, we get an approximate idea as to the part of the mesenteric root which resists; we can generally tell whether it is to the left or right. The more it inclines to the left from below upward, the nearer is the loop to the duodenum, and vice versa. These conclusions which he reaches are only approximate ones. He gives a fair average showing that he was within three feet of the true localization in about 75 per cent. of his estimations, and that the average was not out more than 2 feet.

Journal of Tuberculosis, Asheville, N. C.

October.

73 The Floating Sanatorium for Pulmonary Tuberculosis. Franz Michael and Hermann Maurer.
74 The Very Earliest Manifestations of Pulmonary Tuberculosis. J. H. Tyndale.
75 The Civil Aspect of the Tuberculosis Problem. Arthur J. Richer.
76 The True Therapeutic Action of Ichthyol in Pulmonary Tuberculosis. James Burnet.

Carolina Medical Journal, Charlotte.

October.

77 *Intubation. J. W. Long.
78 Methods to Hasten Epidermization, with Special Reference to Skin Grafting. Stuart McGuire.
79 Some Mistakes of a Country Doctor.

77. Intubation.—Long describes his methods of intubation, insisting on the importance of frequent practice on the cadaver before attempting it on a living person. He mentions one little point of invaluable assistance to him. As soon as it is felt that the end of the tube has entered the larynx pass the finger quickly into the esophagus. If the tube is properly engaged the posterior laryngeal tissue will be felt between the tube and the finger, and we know that the tube is not getting into the esophagus. With this assurance push the tube gently home, following it as one would an urethral sound, for here, as in the urethra, there is danger of making a false passage or other injury. This precaution of feeling the posterior wall of the larynx is not, he thinks, mentioned in any text-book, but it is of special value, for, if observed, many of the difficulties of intubation would disappear. He thinks it would be better to remove the string as soon as it is seen that the larynx tolerates the tube. Feeding the patient is sometimes difficult at first. The child can swallow better lying down or even with the head hanging low. Sometimes forced feeding with the tube will be required. Extubation is in some respects more difficult. Some operators leave the string, others use external pressure to push the tube out. He remarks that one of the physicians of a hospital in Philadelphia told him that he considered it favorable when the tube was coughed up as it avoided the trauma of extubation. As regards retained tubes he thinks the average time can be estimated in days rather than in months. Fortunately the necessity of keeping it in longer than the normal period is rare. A number of cases are reported, and the results were 11 lives saved out of 13, or a mortality of only 15.33 per cent., which can be greatly improved on. In fact, a 5 per cent. mortality may be safely taken as the average.

Journal of Comparative Neurology, Granville, Ohio.

October.

80 The Neurofibrillar Structures in the Ganglia of the Leech and Crayfish, with Especial Reference to the Neurone Theory. C. W. Prentiss.
81 On the Increase in the Number of Medullated Nerve Fibers in the Ventral Roots of the Spinal Nerves of the Growing White Rat. Shinkishi Hatai.
82 On the Medullated Nerve Fibers Crossing the Site of Lesions in the Brain of the White Rat. S. Walter Ranson.
83 *On the Density of the Cutaneous Innervation in Man. Charles E. Ingert.
84 On the Law Determining the Number of Medullated Nerve Fibers Innervating the Thigh, Shank and Foot of the Frog —*Rana virescens.* Henry H. Donaldson.

83. Cutaneous Innervation in Man.—From his studies of the nerve fibers in the anterior roots and estimates based on others' work, Ingbert concludes that about 79 per cent. of the medullated nerve fibers in the dorsal roots of both sides, or 1,032,730 fibers, go to innervate the dermal surface, and about 21 per cent., or 274,521, are afferent fibers distributed to the muscles and deep tissues. The afferent fibers of spinal ganglion origin passing in the *rami communicantes* are not separately considered here, but are classed with those passing to the skin. According to his estimate (using the skin areas for a large man), one cutaneous nerve fiber in the dorsal spinal roots innervates, on the average, 1.08 sq. mm. of the skin of the head and neck and 3.15 of the skin of the trunk. For each additional class of nerve fibers assumed we must increase the area proportionately. If we assume, with Foster, four classes of cutaneous nerve fibers, then each fiber will have to innervate on the average 4.32 sq. mm. of the dermal surface of the head and neck, and 12.6 of the dermal surface of the trunk. If there are four classes of afferent nerve fibers in the dorsal roots, then a histologic examination of the nerve terminations in the skin ought to show each cutaneous nerve fiber to innervate average areas as large as those given above. He attaches a bibliography.

Medical Examiner and Practitioner, New York.

October.

85 Shall We Eliminate Cancer and Consumption from Family History in Our Application Blanks? E. Holovtchiner.
86 A Study on Light. J. Mount Bleyer.
87 Diagnosis and Prognosis of Erysipelas and Erysipeloid Conditions: Their Causes and Treatment. Thomas H. Manley.
88 Suggestions in the Treatment of Diseases of the Respiratory Tract. J. F. T. Jenkins.
89 Health Insurance. J. L. Hatch.

Texas Medical News, Austin.

October.

90 The Value of Modern Aids to Diagnosis of Diseases of the Stomach. J. W. McLaughlin.
91 *Intraspinal Injection of Antitetanic Serum in Tetanus. A. Garwood.
92 Women in Medicine. Harriett Williams.
93 Epidemics. William E. Drisdale.
94 Report of a Case of Malignant Senile Gangrene Cured by Topical Application of Intense Dry Hot Air. E. L. Morse.
95 Treatment of Septicemia by Intense Heat. R. W. Carter.

91. Subarachnoid Injection of Tetanus Antitoxin.—Garwood reports the first case in his practice of recovery from tetanus, and the only case treated by him by this method. Eleven injections of 10 c.c. antitoxin were made in thirteen days, withdrawing a total of 14 ounces of the cerebrospinal fluid in the 11 injections. No improvement was noted until after the third daily intraspinal injection.

American Practitioner and News, Louisville.

September 1.

96 Surgical Aspects of Tuberculosis. A. David Willmoth.
97 Setonage in Empyema. John S. Hoskins.
98 Medical Aspects of Tuberculosis. S. N. Willis.
99 The Roentgen Rays in Tuberculosis. M. F. Coomes.

St. Paul Medical Journal.

November.

100 The Celestial Family of Olympus; Its Physicians and Some of Their Most Notable Lineal Descendants. T. G. Stephens.
101 Raynaud's Disease, with Report of Two Cases. G. A. Newman.
102 Surgery of the Gall Bladder. J. T. Rogers.
103 Colonization of Defectives. A. C. Rogers.
104 Some General Thoughts in Relation to the Practice of Medicine. Emery H. Bayley.

Toledo Medical and Surgical Reporter.

November.

105 Some Facts Concerning Immunity and the Antitoxins. H. E. Smead.
106 Ehrlich's Side-chain Theory of Immunity. A. L. Steinfeld.
107 Rupture of the Uterus. Alfred F. McVety.
108 Potassium as Compared with Sodium and Strontium Salts. Charles Louy.
109 Interstitial Nephritis. Theodore Zbinden.

American Medical Compend, Toledo.

November.

110 Obscure Neuroses and Their Treatment. Brose S. Horne.
111 Treatment of Comedones (Acne Punctata). R. C. Longfellow.
Articles 105, 106, 107 and 109 above also appeared in this journal.

Mississippi Medical Record, Vicksburg.

November.

112 Shock as a Factor in Determining the Time to Operate After Receipt of Injury. F. P. Boatner.
113 A Peculiar Case of Complete Loss of Memory for Twenty Hours. J. A. Tabor.

Journal of the Kansas Medical Society, Topeka.

November.

114 Infectious Diseases and Quarantine. (To be continued.) Arthur W. Clark.
115 The Doctor, the Nurse and the Training School: Their Relations and Interwoven Responsibilities. B. D. Eastman.

Medical Herald, St. Joseph, Mo.

November.

116 Cysts of Ligamentum Latum—Para-oviducts—Mesonephritic. Malformations. Byron Robinson.
117 The Diagnosis of Obscure Bladder Conditions. E. G. Mark.
118 Some Personal Observations on the Treatment of Typhoid Fever. J. D. Brummall.
119 Brief Observations on Some Conditions in Women that Are of Much Concern to the Practitioner. J. Ridgly Simms.

Maryland Medical Journal, Baltimore.

November.

120 *The Dwarf Tapeworm (Hymenolepis nana), a Newly Recognized and Probably Rather Common American Parasite. Ch. Wardell Stiles.

120.—See also ¶1 above.

Journal of Advanced Therapeutics, New York.

November.

121 Some Principles on Which is Based the Therapeutics of Electricity in Nervous Diseases. A. D. Rockwell.
122 *Address. American Electrotherapeutic Association. Daniel R. Brower.
123 *Radium: with a Preliminary Note on Radium Rays in the Treatment of Cancer. Margaret A. Cleaves.
124 Selective, Harmonic, Electric Vibration: a New Physical Therapeutic Agent. Morris W. Brinkmann.
125 The Roentgen Ray as an Aid in Diagnosis. (Continued.) Herman Grad.

122.—See abstract in THE JOURNAL of October 17, p. 977.

123.—Ibid., p. 978.

Canadian Journal of Medicine and Surgery, Toronto.

November.

126 *Address on Medical Science. Charles S. Sherrington.
127 The Master word in Medicine. William Osler.
128 The Medical Treatment of Diseases of the Nose and Throat. John Hunter.

126.—This article appeared elsewhere. See THE JOURNAL of November 14, title 107, p. 1233.

St. Louis Courier of Medicine.

October.

129 Cases Illustrating the Course and Treatment of the Fecal Fistulæ which Complicate Appendicitis. Willard Bartlett.
130 Tubal Pregnancy. Report of a Case of Early Rupture. F. G. DeBose.
130½ Malaria. A Review of Some Recent Literature. (Concluded.) John Zahorsky.

Southern Practitioner, Nashville, Tenn.

November.

131 The General Practitioner's Relation to Insanity. A. E. Douglas.

Medical Bulletin, Philadelphia.

November.

132 Ophthalmia Neonatorum. L. Webster Fox.
133 *The Dietetic Treatment of Chronic Nephritis. J. M. Anders.
134 Disorders of Sleep. F. Savary Pearce.
135 A Clinical Study of Organic Iron. John V. Shoemaker.
136 The Treatment of Exophthalmic Goiter. Charles W. McIntire.

133.—This article appeared elsewhere. See THE JOURNAL, November 14, title 1, p. 1227.

Mobile Medical and Surgical Journal.

October.

137 Variola. W. D. Travis.
138 A Weak Solution of Cocain for Local Anesthesia. S. W. Pryor.

Pacific Medical Journal, San Francisco.

October.

139 Post-operative or Incisional Abdominal Hernia. Winslow Anderson.
140 Rodent Ulcer. H. D'Arcy Power.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 31.

1 Position of Laryngology and Otology in the Medical Student's Curriculum. Patrick W. Williams.
2 *Discussion on the Operative Treatment of Malignant Diseases of the Larynx. Felix Semon, Themistokles Gluck and others.
3 Two Cases of Epithelioma of the Larynx Remaining Well Two Years After Operation (Thyrotomy). Eugene S. Yonge.
4 *Discussion on the Technic of Operations on the Temporal Bone in Suppurative Middle ear Disease. P. McBride and others.
5 *On the Local Use of Formalin in the Treatment of Nasal Polypi Before and After Operation on the Same by the Usual Methods. Adolph Brunner.
6 Illustrations of the Effects Produced by the Singing Voice in a Suitable Medium. Arthur G. Haydon.
7 *A Discussion on the Upper Respiratory Tract as a Source of Systemic Infection. F. Dellaviliand Hall and others.
8 Difficulties and Insufficiency of the Stenosal Theory of Adenoid Deafness. David McKeown.
9 *The Surgical Treatment of Cancer of the Larynx. E. J. Moure.

2. **Malignant Disease of the Larynx.**—Semon thinks the intralaryngeal operation does not offer the least guarantee that a due amount of healthy tissue is removed. Thyrotomy is preferable if performed in the early stages of intrinsic malignant disease. It should be thorough and no sentimental considerations must interfere. Experience has shown him that often in cases of extensive disease without removal of the growth and soft parts around it subsequent energetic scraping of the base is sufficient to prevent recurrence. It is only when the cartilage is invaded that its removal is required. As regards total extirpation of the larynx he corrects the impression which has prevailed that he was an opponent of this operation; he advocates it when it is indicated. Subhyoid pharyngotomy is suitable for cases where the disease starts from the epiglottis or from the aryteno-epiglottidean fold. The technic is easy, but there has been a curious fatality in this operation. Palliative tracheotomy ought only to come into question when the disease has started in a locality where nothing short of total extirpation of the larynx could come into play and the patient declines that operation, or when the disease, starting in a better locality for the milder procedures, has not been recognized early enough to allow them to be employed or when serious complications forbid their employment. If it has to be performed it should be done as low down as possible. In conclusion he remarks in regard to the possibility of a reliable diagnosis and points out the difficulties.

Gluck followed Semon in the discussion and described his own methods. For diffuse papilloma, some cases of syphilis and circumscribed cancer of the vocal cords, he would make a low tracheotomy, expose the larynx through a median incision, divide the thyroid cartilage and the crico-thyroid in the median line and retract the halves. Then remove the growth with the scissors, knife, or thermocautery under cocain, putting in plugs of iodoform gauze and suturing to the cartilage. These can be removed in four or six days under anesthesia. If necessary the suspected region is cauterized and the wound stitched up. About the tenth day the sutures are removed and also the tracheal cannula. The third week healing is complete. His results have been excellent with this method. In cancer of the larynx and with tumors of the tongue and pharynx he has escaped the source of danger of inspiration pneumonia by resecting the trachea and stitching the distal cut end of that tube to a buttonhole in the skin, thus preventing the possibilities of foreign bodies reaching the lungs. Gluck also describes his method of hemilaryngectomy and total laryngectomy and extirpation of the larynx or pharynx, or both, reporting cases. His remarks are amply illustrated. His most recent results show a series of 22 complete laryngectomies with 1 death; that in a feeble old man. Of partial extirpations of the larynx and pharynx, generally combined with removal of infected glands, he has a series of 27 cases with only 1 death. In this the carotid had been tied and the death occurred from hemiplegia five days later. His principles are, first save and prolong the life of your patient and do not worry about the postoperative state. Restitution of function will be a secondary care.

4. **Suppurative Middle-Ear Disease.**—McBride's paper is chiefly historical as regards mastoid operation and intracranial suppuration. He reports illustrative cases.

5. **Nasal Polypi.**—Bronner, in case of nasal polypi, removes as much of the growth or diseased mucous membrane as he can with the cold snare and then applies formalin on a probe to the roots. He tries not to cut through the pedunculated polypi, but to pull them out by the roots. In this way he often succeeds in removing the whole, and in many cases part also of the underlying diseased bone. Before using formalin he again applies a powder consisting of equal parts of cocain, eucain and desiccated suprarenal extract to the parts. After a few days a formalin spray of 1 to 500 up to 1 to 100 is ordered to be used three times a day for a week or two and then less frequently. If this is painful he orders a paroleine spray to be used. Formalin is a powerful disinfectant, but also causes contraction and hardening of the diseased tissues. He also uses insufflations of tannoform, aristol and boric acid. As long as there is much discharge an alkaline spray should be used. The middle turbinate is often extensively diseased. He removes the anterior part by the forceps or snare. A careful examination of the nares and the reduction of the swelling by a local application of cocain and desiccated suprarenal extract enable a correct diagnosis to be made. This is his method in all cases of polypi. He is inclined to think that nasal polypus is most often an extension from disease of the accessory sinuses.

7. See abstract in THE JOURNAL of September 12, p. 679.

9. **Cancer of the Larynx.**—In extrinsic cancer with the disease still very limited it may be removed, Moure says, with the snare or cutting forceps under cocain and adrenalin. When it is situated further down, involving the epiglottis, base of the tongue and perhaps even the glosso-epiglottic folds, an external operation is required. For this he prefers transhyoid pharyngotomy, as recommended by Gussenbauer and revived by Vallas. The operation is easy. He opens from just behind the chin, backward to that point of the trachea where the cannula is to be introduced, dividing the tissues layer by layer in the middle line; also the hyoid bone if necessary. By drawing the two halves apart the epiglottis is easily exposed, and it is then drawn forward in the wound and removed. An energetic application of the curette and the thermocautery completes the operation. The two halves of the tongue are then sutured with catgut, the parts of the hyoid bone are held together by stitching the muscles above it and below, and finally, the skin is stitched with horsehair. He thinks it better to leave the tracheotomy tube in for some days, but it is not necessary to feed the patient through a tube. His patients have experienced no trouble in swallowing. The operation is an ideal one, as it gives access for the removal of infected glands, though it will not, of course, prevent recurrence. In intrinsic cancer thyrotomy is beneficial in cases of malignant growth originating in the interior of the larynx and especially of tumors of one or the other of the vocal cords. When one of the ventricular bands is affected and peripheral infiltration exists, or, still more, when the corresponding arytenoid cartilage is fixed, or there are signs of perichondrial disease, this method is unsuitable and should be rejected. He describes his methods at length. When the tumor has extended beyond the limits described, a partial or complete laryngectomy will be required.

The Lancet, London.

October 31.

10 *The Mental Diseases of the Climacteric. George H. Savage.
11 *Carcinoma of the Colon. William J. Walsham.
12 Abstracts of the Harben Lectures. Ferdinand Hueppe.
13 Large Bile Cyst of the Liver; Jaundice Without Cholelithiasis; Incision and Drainage; Recovery. Alban H. C. Doran.
14 The Great Importance from the Point of View of Medical Science of the Proof that Bacteria and Their Allies are Capable of Arising de novo. H. Charlton Bastian.
15 The Treatment of Pulmonary Tuberculosis by High-frequency Currents (Low Potential) and Intralaryngeal Injections of Antiseptics. J. Cunningham Bowie.
16 Some Cases of Dilatation of the Bronchial Tubes After Measles. Theodore Fisher.
17 Four Cases in which a Cystic Ovarian Tumor, which Was Not Malignant, Developed After a Similar Growth of the Ovary on the Same Side Had Been Removed. John D. Malcolm.
18 *An Adjunct to Uterine Irrigation in Puerperal Fever. David Watson.
19 A Case of Cutaneous Neuro-fibromatosis in which Newly Formed Nerve Fibers Were Found in the Tumors. Arthur Whitfield.

10. **Climacteric Insanity.**—The mental disturbances of the climacteric period are largely dependent on the neurotic predisposition, and are more frequent in single women and widows than in married women. The number of women who take to alcohol at this period is remarkable. There is a feeling of languor and inability to do what they want, and the taking of a little "pick me up" develops into a habit. Drug habits also develop about this time. In many cases the natural symptoms develop into delusions, self-consciousness is increased, and there is morbidity with impulsive and passionate acts or even suicide or homicide. A neurotic excitability is often noted and such conditions as kleptomania, hysterical developments, a tendency to lying accusations. Most of the cases are of the depressed type, with ideas of persecution, watching, etc. A late pregnancy occurring about or near the menopause is sometimes the cause of the mental trouble. Next to melancholia, the delusional characteristic is probably the most frequent. Ordinarily, one might say that if a patient did not get well in a year the chances are unfavorable, but with climacteric insanity it is impossible to give a definite prognosis as to recovery or the permanency of the disease. Probably there will be no improvement. If dementia appears it will become more pronounced, but there are occasional cases of remarkable late recoveries from this form of disorder.

11. **Carcinoma of the Colon.**—The points that Walsham emphasizes in this article are that columnar-celled sarcomas are the most benign forms of cancer that exist. At first the growth is localized to the bowel and has not affected the lymphatics, and if taken early enough the patient may be cured or the life prolonged a number of years. He has had cases where there has been no recurrence for about eight years. The symptoms are indefinite abdominal disturbances, uneasiness after eating, flatulency, a history of constipation with eructations, nearly always liquid stools, slowly progressing loss of weight and an almost constant desire to defecate. The rectum should be examined first, and this procedure may reveal the whole trouble. He would go thoroughly into the case, and says one should not assign the trouble to indigestion, but should watch and weigh the patient from week to week. If there is no improvement, examine the rectum and abdomen under an anesthetic, and if there is still no improvement make an exploratory incision, which will do no harm and may do a great deal of good. When an operation is to be performed the best plan is to do it in two stages: (1) Colotomy; (2) resection of the bowel and removal of the growth, uniting the ends of the bowel together with a Murphy button. After good union of the intestine close the colotomy wound and let the bowel resume its function. He advises against taking a wedge-shaped incision out of the mesentery, preferring to go along the edge of the mesentery and not to disturb the nutrient vessels.

18. **Puerperal Fever.**—An adjunct to uterine irrigation is described by Watson. After douching the uterus, express as much of the solution as possible, then inject into the cavity one ounce of glycerin containing 3 per cent. of formalin. This is quite innocuous and non-irritating and, in addition to its powerful antiseptic action, it removes all the water from the uterus. Its use prevents any rise of temperature following the douche which is sometimes observed under ordinary treatment. The whole procedure must be carried out with the strictest antiseptic precautions. Two cases are reported showing the results.

Journal of Tropical Medicine, London.

October 15.

20 *Note on the Use of Kerosene as a Culicide. St. George Gray.
21 *Remarks on the Panama Canal and the Introduction of Yellow Fever Into Asia. St. George Gray.
22 Notes on the Culicidæ of Dehra Dun. F. Wyville Thomson.

23 Syphilitic Gummata Involving Both Knee Joints. William Robertson.

20. **Kerosene as a Culicide.**—Gray finds that kerosene is not an absolutely successful culicide for the adult anopheles. Only a small proportion were killed by it, and it did not prevent them from laying eggs, though it has excellent results in preventing the development of the larvæ. Crude petroleum is more viscid and more likely to be efficient.

21. **Yellow Fever.**—Gray mentions the possibilities of stegomyia developing on steamers and being carried by them. He does not think, however, basing his views on Guiteras' experiments, that yellow fever is transmitted from insects to their offspring.

Indian Medical Gazette, Calcutta.

October.

24 *Perineal Litholapaxy in Children. J. Garvie.
25 The Bhowanipore Food Poisoning. J. Nield Cook.
26 A Note on Some Cases of Poisoning by Scopolia Lurida—Atropaceæ. A. J. Macnab.
27 *A Generally Unknown Source of Enteric Fever. W. Beevor.
28 Adrenalin and Its Uses in General Surgery, Especially Applied to Ophthalmology. Henry Gildney.

24. **Perineal Litholapaxy in Children.**—The indications for litholapaxy in adults and in children are the same, according to Garvie, who recommends the perineal method in young cases in preference to lithotomy. The only direction necessary to give, he says, to those unfamiliar with the operation is to measure the extent of one's incision in the deeper parts with a probe and, having satisfied oneself as to its sufficiency, to remove all instruments and gently insinuate the lithotrite. No force is required. There is no bruising or tearing of the tissues from crushing of the stone. The wound heals in about one week. He would ask the surgeon to use this operation frequently instead of the ordinary litholapaxy.

27. **Enteric Fever.**—Beevor calls attention to the danger of acquiring enteric fever from baths, especially in India. Few people seem to be aware of this possibility. Water may enter the mouth or nose and in this way produce infection. He advises the careful avoidance of any inhalation or swallowing of the water in the bath and careful washing of the teeth and gargling of the throat afterward, using a strong antiseptic tooth powder, and plenty of it. These precautions apply to those who bathe in rivers or streams, especially soldiers in active service.

Bulletin de l'Académie de Médecine, Paris.

29 (LXVII, No. 33.) *Ancestral Dwarf Growth. A. Poncet and R. Leriche.—Nains d' aujourd'hui et nains d' autrefois. Nanisme ancestral. Achondroplasie ethnique.
30 *Sleeping Sickness. R. Blanchard.—Présentation de 3 nègres du Congo, atteints de la maladie du sommeil.

29. **Dwarf Growth To-day and in the Past.**—Poncet presents arguments to prove that the traditions of pygmies in the remote past related to the advance guard of the human race, who were diminutive in stature. Recent discoveries of skeletons of dwarfs in the prehistoric burying places, their numbers during ancient and medieval history and the few specimens known at the present day, all confirm the assumption that they belonged to a special race, numerous in the early days and gradually becoming extinct. Rome had battalions of dwarf gladiators, and as late as the tenth century dwarf races were known to people Switzerland, Alsace, etc. Nuesch and Kollmann maintain that they were the original inhabitants of Europe. Poncet has recently examined two dwarfs, brother and sister, both healthy and intelligent, whose father and grandfather had likewise been dwarfs. Radioscopy shows that the epiphysial cartilage must have become united to the shaft at the normal date, while in ordinary dwarfs this union does not take place and their achondroplasia is pathologic. In the ancestral pygmies the ossification proceeds normally, only the epiphysial cartilage is physiologically and relatively unproductive.

30. **Sleeping Sickness.**—Blanchard exhibited three negroes from the French Congo, and stated that Brumpt who had brought them had observed 38 cases. In 32 of these he had isolated a trypanosoma from the cerebrospinal fluid. He found a fly, the glossina, invariably present where there are cases of sleeping sickness, and thinks that it is probably the obligatory intermediate host. The immunity of certain countries may be due to the absence of this glossina.

Presse Médicale, Paris.

31 (II, No. 83.) *Rôle des leucocytes dans l' assimilation et la répartition des médicaments dans l'organisme. M. Labbé.
32 The Omentum in Infections. L. G. Simon.—Rôle de l'épiploon au cours des infections générales.
33 Walking Apparatus R. Sorel (Havre).—Méthode ambulatoire pour fractures.
34 (No. 84.) *La découverte prê-prostatique du bout postérieur de l' urètre dans l'urêtrotomie externe sans conducteur. E. Forgue (Montpellier).
35 (No. 85.) *Usefulness of a Handle for Bowls, Dishes, Boxes, etc., Used in the Operating Room. F. Jayle.—De l' utilité d' un manche aux cuvettes et aux boites de pansements.
36 Report of French Congress of Surgery, Paris, October 19-24.
37 La dichotomie jugée par un chirurgien allemand.

31. **Role of the Leucocytes in Absorption and Distribution of Medicinal Substances.**—Labbé relates experiences which demonstrate that soluble substances are merely absorbed by the protoplasm of the phagocytes and chemical or physiological tests will reveal their presence. Insoluble substances are likewise taken up but undergo a transformation. Arsenic is broken into minute particles, transformed and rendered soluble. Calomel is split into metallic mercury and a bichlorid. This transformation occurs under the influence of the active ferments in the body of the leucocytes, the oxidases. When this transformation is complete the drug requires more complex tests to detect it, and the preliminary destruction of the albuminoid or nucleinic molecule. The research described confirms the superiority of the subcutaneous route over ingestion by the mouth for certain drugs. The insoluble salts become soluble by the mediation of the leucocytes. This occurs slowly and progressively, which explains the tardy and prolonged effects of injection of the insoluble salts. The leucocytes are also attracted to the site of a morbid process and thus carry to it the drug injected, but we must not forget that the drugs themselves have more or less affinity for certain tissues, and display a marked localizing tendency, characteristic for each chemical substance, and which needs further study.

34. **Opening Up Posterior End of Urethra Through Perineum.**—Forgue has performed this operation by the technic described in 3 cases of impermeable fistula of the urethra, going at once to the vesical end of the urethra where it emerges from the beak of the prostate. This technic is advantageous both for impermeable stricture and for traumatic rupture of the urethra. Eight cuts show the various steps of the intervention, which commences like that of a perineal prostatectomy. When the prostate has been located the urethra is incised just below it, and a sound is introduced down to the stricture. The urethra can then be readily incised over this sound and another inserted from the external meatus as far as the stricture. The stricture tissue between the two sounds can then be readily excised.

35. **Handles for Surgical Pans, Etc.**—Jayle thinks that a handle would prevent the practice of putting the thumb on the inside of the edge in handling dishes.

Semaine Médicale, Paris.

38 (XXIII, No. 42.) *La néphrite toxique appendiculaire; albuminurie appendiculaire. Dieulafoy.
39 *Comparative Importance of Heart Disease as Cause of Dismissal from French and German Armies.—Sur l'importance comparée des maladies de coeur comme cause de réforme dans les armées française et allemande.
40 Letter from America. F. Munch.—Sur le climat des Etats-Unis.

38. **Appendicitic Nephritis and Albuminuria.**—Dieulafoy reveals another instance of the insidious treachery of the toxins generated in appendicitis by pointing out their action on the kidneys. The poison injures these organs surreptitiously, without calling attention to its work, and the only external evidence of it is albuminuria. Since he has been studying this phase of appendicitis he has found that every appendicitis of any severity has been accompanied by albuminuria, with or without casts. It appears the second or third day and may be accompanied by a subicteric complexion. The albumin may amount to as much as .25, .5 or 1 gm. or more; in several cases he has witnessed the gradual subsidence of the albuminuria after the appendix has been removed. In these

cases the kidneys have only been lightly touched by the toxins, but in others the lesions are fatally serious. In one case the kidneys, as usual, appeared sound to the eye, but the microscope revealed "nécrose de coagulation" and granular fragmentation of the epithelial protoplasm. This patient had succumbed the fourth day of a toxic appendicitis. In another similar case lesions of necrosis and degeneracy were restricted to the secretory apparatus of the kidney. These and similar cases known to Dieulafoy indicate that death was due to a profound intoxication of the organism rather than to the infection *per se*. The noble elements of the kidney are evidently affected by the cytotoxin generated in appendicitis, and the cells of the liver and stomach are liable to share the same fate. During the fatal cases above mentioned the temperature never rose above 100.4 F., and the pulse did not betray the severity of the intoxication. He thinks that the knowledge of the frequency with which the kidneys are damaged even in the earliest stages of appendicitis will impel the profession to operate early and not wait for the attack to subside. It is very probable that these appendicular toxins generated in acute and chronic appendicitis may be responsible to a certain extent for the development later of chronic nephritis and Bright's disease. Also for pathologic conditions in the liver, especially for cirrhosis of intestinal origin.

39. Heart Disease Among the Soldiers in France and Germany.—The Journal has referred more than once to the concern expressed by the German authorities in regard to the fact that the number of cases of heart disease among the men in the military service has more than doubled during the last twenty years. The proportion has risen from 1.5 to 3.1 per 1,000. In France there has been an increase, but not to the same extent, merely from 1.84 to 2.92 per 1,000. In Germany the number of recruits rejected on account of heart disease has risen from 9.9 per 1,000 in 1894 to 17.4 in 1898. In France these figures for the same years ranged only from 3.97 per 1,000 to 4.07. The editorial we are reviewing suggests as a possible explanation of the condition in Germany that the extensive emigration has drained away the most vigorous young men, and also that the reduction of the period of military service has possibly contributed, as the work of three years is now crowded into two.

Archiv f. Gynäkologie, Berlin.

Last indexed page 171.

41 (LXX, No. 1.) Instrumental Dilatation. H. v. Bardeleben.—Wesen und Wert der schnellen mechanisch-instrumentellen Muttermundserweiterung in der Geburtshilfe. Unfavorable criticism.
42 *Zur Lehre der Symphysen-Ruptur. F. Kayser.
43 *Zur Frage der hereditären primären Genital-Tuberkulose beim Weibe. S. Gottschalk.
44 Ueber Carcinoma folliculoides ovarii. M. Voight.
45 *Ueber Anatomie und Pathologie der Placenta. Syncytium in dem schwangeren Uterus. Wirkung der Herz- und Nieren-Krankheiten auf die Muskulatur und Placenta. Atonie des Uterus. Placenta-Adhäreuz. Uterus ruptur. P. Kworostansky (Zurich).
46 Fall von chorio-villöser Neubildung (neoformation). M. Zondek.

42. Rupture of the Symphysis.—Kayser's patient was a young woman with normal pelvis and living child, extracted with forceps. The diastasis of the ends of the symphysis was 3 cm. at least. He sutured them together with silver wire, suturing the torn ligaments with catgut, draining and immobilization in a plaster cast. The patient recovered without any impairment of her gait or other disturbance. He advocates this procedure in all cases in which the extent of the gap, 2.5 cm. and more, renders the laceration of the ligaments probable. As the symphysis has such remarkable absorbing power, stagnation of even an aseptic secretion is liable to cause fever in these cases.

43. Hereditary Genital Tuberculosis.—Gottschalk regards the case he describes as one demonstrating the possibility of hereditary, primary genital tuberculosis. The uterus and adnexa were affected with tuberculosis and were removed by the vagina. The patient was a virgo intacta, with a tuberculous father. No other foci can be clinically detected and the patient has been permanently cured by removal of the diseased organs. Tubercle bacilli were found in the uterus, tubes and ovaries, but to date, three years since, not a trace of tuberculosis elsewhere can be discovered.

45. Anatomy and Pathology of the Placenta.—Microscopic study of 22 gravid uteri and of 6 morbid placentæ showed that the placenta has a remarkable capacity for adapting itself to its location and conditions of nutrition, etc. The mode of nidation of the ovum also varies according to the structure of the mucosa. The article is profusely illustrated.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

47 (XXIX, No. 42.) *Die Angina Vincenti. O. Hess (Marburg).
48 2 Fälle von Tetanus acutus. Berlizheimer and J. Meyer (Frankfurt a. M.).
49 *Ueber Influenza, Appendicitis und ihre Beziehung zu einander. Schultes (Jena).
50 *Pharynx-Tuberkulose bei Kindern. P. Schoetz.
51 Ueber unsere bisherigen Paraffin-Erfolge bei Nasendifformitäten und retroauriculären Defekten. R. Sokolowsky (Königsberg).
52 (No. 43.) *Zur combinirten abdominosakralen, -perinealen, bezw. -vaginalen Methode der Exstirpation hochsitzender Mastdarm und Colon pelvinum- Carcinome. F. Sasse (Paderborn).
53 Der Mechanismus der Darm-Strangulation. Wilms (Leipsic).
54 Ueber Perityphilitis. Schulz (Sonnenburg).
55 *Histology of Pathologic Gastric Mucosa. M. Einhorn (New York).—Ein weiterer Beitrag zur Kenntniss der Histologie der Magenschleimhaut in pathologischen Zustände dieses Organs.
56 Report of Congress of Naturalists and Physicians, Cassel, Sept. 20-26. (Concluded.)
57 Zur Aetiologie des sogen. rheumatischen Tetanus. H. Racine and H. Bruns (Gelsenkirchen).
58 Zur Operation der Cervix-Myome. Gottschalk (Berlin).
59 *Das Wattenlaufen, ein therapeutischer Sport. H. Stelzner.

47. Vincent's Angina.—This disorder, which has been recognized since 1893, is described by Hess, who distinguishes two types: 1. The rarer, croupous form with pseudo-membrane without great loss in substance, containing only the fusiform bacillus of Vincent and running a mild course. The membrane soon separates, leaving a very superficial ulcer succeeded by a second, thinner membrane, which after a few days also disappears. There is only a moderate fever for two or three days and slight swelling of the submaxillary glands. In the commoner, ulcerative diphtheria form, there is present, besides the bacillus, the Spirochaetis denticola. Pseudo-membrane forms in from two to four days with moderately deep ulcerations. The exudate is soft, gray, yellowish gray or greenish, and on removal reveals a bleeding ulcer with slight infiltration of the margins and the surrounding mucosa dark red and edematous. This is accompanied by considerable difficulty in swallowing, salivation and bad breath. The other tonsil may also be affected. The temperature goes up to 38 or 39 C. and there is a decided swelling of the neck glands, stiffness of the limbs, loss of appetite and a bad taste in the mouth. The disturbance in the general condition is usually only moderate, but may be severe. From the eighth to the tenth day the membrane separates, the ulcer heals up and very quick improvement occurs. Some cases of longer duration have been reported, from one to two months, and some defect may be left; in one case loss of the uvula has been recorded. The bacillus fusiformis differs from that of diphtheria in its length (6 to 12 microns), and in its form. It is thin and pointed at the ends and swollen in the middle, and lies scattered around like a diplobacillus, in radiating bundles, or the bacilli form acute angles. Its involution form shows vacuoles and other degenerative phenomena, and it forms no spores. It is readily stained with fuchsin and methylene blue and is markedly motile with long thin flagellæ, which appear at the ends and on both sides. The motility ceases in twenty minutes (Graupner). The bacilli are most numerous in the first days of the disease, and later, especially in the second form, other bacteria appear also. Pure cultures have never been obtained, the bacilli always occur with other bacteria. Spirillæ are present only in the second type of the disease. They are thin and long, twice as long as the bacillus, stain less readily and are not decolorized by the Gram stain; are very motile and likewise not cultivatable. They are found more abundantly on the surface than in the depths of the membrane. Inoculation experiments with the membrane or mucous membranes of sound animals have been generally without results, and the bacilli could be grown only in weak and tuberculous animals,

producing ulceration. Both microbes are saprophytes in the oral cavity and digestive tract. The spirillæ are never pathogenic except in combination with the fusiform bacillus. Seitz found the latter present in 110 out of 202 different disorders. The diagnosis of the condition is made positive by the presence of these forms and the non-presence of the true diphtheria bacillus, the exclusion of syphilis and the finding of staphylococci and streptococci only in the upper layer of the membrane. The therapeutics consists of gargles with chlorate of potash, etc., penciling with Lugol's solution, iodovasogen 5 per cent., silver nitrate, Peru balsam or methylene blue.

49. **Influenza and Appendicitis.**—Schultes has recognized 5 cases of appendicitis occurring in the course of influenza and attributable to influenzal infection which he reports. He reviews the literature of the subject to some extent.

50. **Tuberculosis of the Pharynx in Children.**—The rarity of this condition in children is first noticed by Schoetz, who reports 2 cases and notices those reported by Siegert, Catti and Comba. Altogether there have been reported 19 cases, a very small number considering the frequency of the condition in adults. He thinks it probable that in some instances it has been overlooked from its resemblance to diphtheria, which was diagnosed in one of his cases. The course is always fatal.

52. **Combined Method of Extirpating High Carcinoma in Rectum, Etc.**—In 4 cases Sasse has removed a carcinoma involving the higher portion of the rectum or colon. His first patient was a man of 45, and it is the first operation on record in which part of the rectum and small intestine were successfully removed in this way from a male subject. The other operations were on two elderly women and one man—the latter succumbing in a few days to peritonitis from an unsuspected hernia. The others are all in good health. Sasse commences the extirpation of the neoplasm by way of the perineum, sacrum or vagina, terminating it by a laparotomy, or vice versa, or returning from the second route to the first. He prefers the abdomino-sacral route for carcinoma reaching down to the floor of the Douglas or lower, with probable involvement of the lateral lymphatics. The statistics of this combined method show 20 recoveries in 35 operations, the mortality being 43 per cent., but by sex, the statistics show 93.3 per cent. recoveries in 13 women and 43 per cent. in 14 men. He describes his own material in detail. In the case first mentioned he commenced by resecting the sacrum, but found a loop of small intestine adherent with a communication into the rectum. He then tamponed this wound, raised the pelvis and proceeded to a median laparotomy. The loop of small intestine was resected and reunited with a Murphy button, and as much as possible of the mesocolon and pararectal connective tissue was dissected out and pushed out through the sacral opening. The peritoneum had been incised and turned back on each side of the field, and it was now sutured with catgut to leave no secreting surfaces in the abdominal cavity. The mesentery of the flexure was then mobilized and the small pelvis packed with a long strip of iodoform gauze, the end protruding from the sacral incision. The abdominal incision was then closed and the tumor then ablated *en masse*. The mucosa of the portion of the rectum left was removed at the same time and the upper stump drawn through it and sutured to the external anus. The temperature reached 38 C. only once. The intestine became gangrenous for 8 to 10 cm., resulting in the formation of a sacral anus, which healed in less than nine weeks. The patient was a farmer of 45, and he is in good health almost three years since, has gained in weight and has been a father. The first symptoms of the rectal cancer were noted two years before the operation.

55. **Histology of Gastric Mucosa.**—Einhorn gives in 15 cuts the microscopic aspect of sections of the stomach mucosa as selected from 34 cases of various stomach affections. He is convinced that the disorders in the secretory function are not due to primary alterations in the stomach mucosa, but that they entail the latter in time if long continued. He has been able in a few cases to diagnose cancer from a scrap of the mucosa, showing a direct proliferation of the cells of the epithelium into the gland substance. In regard to treatment of deranged secretory function, he thinks that the main stress should be laid on improvement of the general condition.

59. **Wattenlaufen—A New Therapeutic Sport.**—During the last few years a seacoast resort in northwest Germany has inaugurated a sport which is commended by Stelzner for its therapeutic value. With legs bare to the knee the people, young and old, men and women, flock to the shore as the tide goes out and promenade on the wet sand left bare by the receding tide. Many elderly persons come to this resort from a distance to take advantage of this sport as a therapeutic measure, saying that it ensures them a healthy winter. It is not practiced as a fad, but in all seriousness, and the return of the tide prevents excess. Stelzner reviews the indications and contraindications for this beach strolling, and states that its best effects are obtained in nervous affections, insomnia, etc., far surpassing those resulting from sea bathing.

Mitteilungen aus den Grenzgebieten, Jena.

Last indexed page 815.

60 (XII, No. 1.) *Present Status of Surgery of Pancreas, with Especial Regard to Injuries and Inflammations of the Organ. J. v. Mikulicz (Breslau).—Ueber den heutigen Stand der Chirurgie des Pankreas mit bes. Rücksicht auf die Verletzungen und Entzündungen des Organes.

61 *Hypersecretion of Gastric Juice. H. Strauss (Berlin).—Klinische Studien über den Magensaftfluss.

62 *Ruptures of Gastrointestinal Tract. Sauerbruch (Berlin).—Die Pathogenese der subkutanen Rupturen des Magendarmtraktus.

63 *Tumors of Spinal Membrane. F. Schultz (Bonn).—Zur Diagnostik und operative Behandlung der Rückenmarkshautgeschwülste.

60. **Surgery of Pancreas.**—Mikulicz refers appreciatively to the recent work on this subject by Mayo Robson and Moynihan which has appeared since he delivered this address at Washington last May. (See page 1524 of last volume.) He advocates laparotomy when symptoms point to injury of the pancreas, although none of them is pathognomonic. After arresting the hemorrhage and rinsing out the peritoneal cavity with a 9 per cent. saline solution, he always applies tampon drainage even if he has been able to suture the wound in the pancreas. In acute pancreatitis he operates at once in order to put an end to the dangerous toxic-septic condition and prevent necrotic degeneration of the tissue of the gland from the abnormal pancreatic ferment. It is difficult to distinguish between acute pancreatitis and the so-called pancreas apoplexy, and chronic pancreatitis may simulate carcinoma of the organ. Chronic pancreatitis is induced by gallstones more frequently than by true pancreas stones. He has collected 75 cases of acute pancreatitis treated by surgical intervention. In 37 the pancreas itself was operated on, and 25 were cured. In 41 the pancreas was not operated on and only 4 of the patients recovered. He has operated on the pancreas thirty-one times. In 10 cases on account of cyst, including 2 ablations of the organ and 8 in which it was merely incised and drained. All the patients recovered. In 16 cases the intervention was for malignant tumors. He reviews his experiences in detail.

61. **Hypersecretion of Gastric Juice.**—Strauss describes the clinical picture of this condition, free from complications, as the finding of more than 30 c.c. of true gastric secretion in the empty stomach without sprouting sarcinæ and molds, and negative results to the fermentation and currant tests, indicating the lack of pronounced derangement of the motor function. From 10 to 20 c.c. indicates some abnormal condition; 20 to 30 is pathologic. The smallest amount he found in any case with clinical manifestations was 40 c.c. The acute and intermittent cases are generally of nervous origin, occurring in the course of tabes or severe functional neuroses, but sometimes they are due to some local condition of irritation, possibly from stenosis. The chronic form of gastrosuccorrhea may likewise be regarded as the result of some local irritation of the secreting apparatus of the stomach. This condition of irritation may be of intragastric origin, possibly from some motor disturbance, but usually outlasting the latter. Sometimes it is the result of gastric ulcer, which in turn is unfavorably influenced by the hypersecretion. In other cases the source of the irritation may lie outside the

stomach, and be neurogenic or hematogenic. He advocates in treatment systematic evacuation of the stomach content with the stomach tube. In case of motor derangement he supplements this by lavage, raising the pelvis. An albumin and fat diet is kept up for several weeks—butter and oils, with small, frequent meals, rectal feeding and, if necessary, a course of treatment as for gastric ulcer. For medication he prefers alkalies, with silver nitrate if needed, bismuth and atropin if there are paroxysms. Gastroenterostomy is the last resort. He concludes his article with a study of the metabolism in cases of hypersecretion.

62. **Subcutaneous Ruptures of Gastrointestinal Tract.**—Sauerbruch has made an exhaustive study of the conditions that produce contusions, rupture and laceration of the stomach and intestines. Contusions of the intestine may not be perceptible from the aspect of the viscus alone. They are liable to be induced by contusion of the spine or pelvis, the intestine almost empty and the force applied to a circumscribed region. A predisposition to rupture is afforded when the intestines are full or the loop of intestine closed at both ends with contusion of the abdomen affecting the distended loop. Laceration from traction is liable when the force is applied obliquely from below upward at an angle to the spine. Also when the contusion or traction affects an intestinal loop immovably fastened by physiologic or morbid conditions. These three types of injury may be associated. Further predisposition is afforded by reflex rigidity of the abdominal wall, muscular tonus, the condition of the peritoneum, shape of the pelvis and condition of the abdominal organs at the time, as in pregnancy, affections of the intestinal walls, etc.

63. **Tumors of Spinal Membrane.**—Schultze diagnoses a tumor in the spinal membrane in cases presenting a permanent and gradually progressing motor and sensory paralysis, its limits above always persisting at or near the same point, even in the absence of pain of any kind. These symptoms differentiate a tumor of the spine outside of the spinal cord after exclusion of syphilis, myelitis and vertebral affections. It may be difficult to differentiate the condition from multiple sclerosis, which may develop with the clinical picture of a transverse myelitis, and also from chronic pachymeningitis and leptomeningitis, intramedullary tumor and vertebral caries. In locating the tumor it is important to note besides the pain on pressure, the zones of exaggerated or deficient sensation and symptoms of motor derangement. The reflexes, pains and paresthesia at remote points are less important for the differentiation. He reports 10 cases, in 9 of which his diagnosis of an extramedullary tumor was confirmed by the operation or necropsy. Three of the patients were permanently cured by surgical intervention and one permanently improved, while 3 died soon afterward. A tumor of this kind is usually a fibroma or fibrosarcoma when it develops slowly and symptoms are observed for years. There was no evidence of trauma in his cases.

Münchener Med. Wochenschrift, Munich.

64 (L, No. 42.) *Mirror Register of Pulse. O. Frank (Munich).—Die Registrierung des Pulses durch einen Spiegel-Sphygmographen.
65 Smallpox in Strassburg. J. Baer.—Die Pockenerkrankungen in Strassburg i. E. im Sommer 1903.
66 Relations Between Blood Serum and Body Cells. K. Landsteiner.—Ueber Beziehungen zwischen dem Blutserum und den Körperzellen.
67 *Axial Torsion of Large Intestine During Childbirth. F. Fromme.—Ueber Achsendrehung des Dickarms unter der Geburt.
68 Aspirin in der augenärztlichen Praxis (in ophthalmology). O. Neustätter.
69 By-Effects of Aspirin. Winckelmann.—Aspirin-Nebenwirkung.
70 *Mixed Narcosis with Laughing Gas. Krönig (Jena).—Ueber Lachgasmischnarkosen.
71 *New Form of Splint. O. Vulpius.—Die Heidelberger Verbandschiene, eine neue Schienenvorrichtung.
72 Modified Burette as Tube for Centrifugalizing. C. Kleneberger.—Eine modifizierte Bürette als Zentrifugenröhrchen.
73 *Improved Electric Light for Examining. V. Pick.—Eine einfache Vorrichtung zur Verbesserung der elektrischen Untersuchungslampe.
74 The Lighting of Schools, etc. Report of Committee.—Die Beleuchtungsanlagen in den Erziehungs und Unterrichtsanstalten.

64. **Mirror Sphygmograph.**—Frank thinks that the weight of the parts of the sphygmographs in use prevents accurate measurement of the actual pulse wave. To obviate this inconvenience he has devised an apparatus in which the movements of the lever applied to the artery are reflected on a mirror constantly turning on its axis. Light is focused on the mirror in such a way that it follows the movements of the sphygmograph lever, and these variations are mirrored on a sheet of sensitized kodak film, likewise revolving on a roller with the same velocity as the mirror. In this way the pulse curve is recorded without interference from the weight of the parts of the registering apparatus. He uses a Nernst incandescent lamp for the source of the light, focused by a lens. The entire apparatus is small and simple and does not require particular skill on the part of the user.

67. **Axial Torsion of Large Intestine During Childbirth.**—Fromme has observed a case of this kind and has found 2 others in the literature, all befalling healthy young women at the onset of parturition. Each case terminated fatally. None was diagnosed correctly.

70. **Laughing-Gas Mixed Narcosis.**—Krönig gives cuts of an apparatus he has devised for this method of narcosis. It is a combination of Bennet's inhaler with the Braun apparatus. He has used it in 500 narcoses and proclaims that it is entirely free from the inconveniences of the initial stages of the usual chloroform and ether narcosis. He applies the mask with only air passing through it, and this tranquilizes the patient. He then turns on the odorless, compressed laughing-gas and in 40 to 60 seconds the patient is unconscious; ether can be substituted for the gas without his knowledge, and the narcosis proceeds smoothly.

71. **Vulpius' New Splints.**—The splints are made of aluminum and consist of a row of cross strips, each provided with a ring on the outside through which a rod of aluminum is slipped to hold them all firm. He gives illustrations of the mode of application and extols their superiority over other splints.

73. **Improved Electric Lamp for Examinations.**—Pick coats the bulb of an ordinary 16 candle-power incandescent lamp with a layer of gypsum, leaving only a small space free on one side. This concentrates the light at one point and leaves the rest of the room dark. He states that it is surprising how powerful a ray can be thus produced from an ordinary incandescent bulb.

Therapeutische Monatshefte, Berlin.

Last indexed page 1173.

75 (XVI, No. 7.) "Successes" of Diphtheria Serum Treatment. Kassowitz.—Die Erfolge des Diph. heilserums.
76 Discussion of Diuretic Action of Boric Acid. O. Liebreich.—Ueber die diuretische Wirkung der Borsäure.
77 *Odda in Infant Feeding. E. Müller.—Zur Ernährung von Kindern mit Odda.
78 *Zur Behandlung der puerperalen Septico-Pyemie mit intravenösen Collargol-Injektionen. Rosenstein.
79 So-Called Iodin Baths. Pelizaeus.—Ueber die sogen Iodbader.
80 Modified Adenotome. L. Katz.—Ein modifiziertes Ringmesser (knieförmiges Adenotom) mit einigen Bemerkungen.
81 *Protargol Gelatine in Gonorrhea. P. Scharff.—Ueber die Urosanolbehandlung in der Gonorrhoe.
82 Present Status of Treatment of Whooping Cough. M. Schreiner.—Ueber den heutigen Stand, etc., und über neuere Erfahrungen mit Oxykampfer und Citrophen. (Concluded.) See also No. 8.
83 Clinical Thermometer that Can Be Boiled. E. Kantrowicz (Berlin).

77. **Odda in Infant Feeding.**—This artificial baby food differs from others in that it contains in large proportion the yolks of hen's eggs. Müller has found it specially useful added to the milk after the seventh month.

78. **Collargol in Pyemia.**—Rosenstein's experience has been favorable in his cases of puerperal septicemia treated with intravenous injections of collargol. He uses for the purpose a syringe of his own devising, which he describes and illustrates. When suppuration has already occurred, then all silver salts are ineffectual. He thinks the dosage of collargol, etc., is still in the experimental stage and that still larger amounts might possibly be injected with impunity.

81. **Protargol Gelatin in Gonorrhea.**—Scharff has treated 30 cases of gonorrhea with urosanol and found it very satisfactory, but warns that it should not be used for more than three weeks at a time.

Wiener klinische Wochenschrift, Vienna.

Last indexed page 1121.

84 (XVI, No. 39.) *Ein System der Lymphomatosen. W. Türk.
85 Fall von Anemia splenica mit Uebergang in Lymphozyten-Leukämie. S. M. Zypkin.
86 Zur Symptomatologie der Pellagra. L. Stefanowicz.
87 (No. 40.) Mode of Action and Origin of Active Substances in Sera. Max Gruber.—Wirkungsweise und Ursprung der aktiven Stoffe in den präventiven und antitoxischen Sera.
88 *Suture of the Septum in Prolapse Operations. R. Gersuny.—Die Septumnaht bei Prolapsoperationen.
89 Zur operativen Behandlung des Klumpfusses und des Plattfusses. F. v. Friedländer.
90 *Urotropin als Prophylacticum gegen Scharlach-Nephritis. J. Widowitz.
91 (No. 41.) *Ueber den Circulus vitiosus nach Gastroenterostomie. O. Föderl.
92 *Zur Chirurgie des kallosen penetrierenden Ulcus ventriculi. H. Lorenz.
93 *Zur Skopolamin-Morphin-Narkose. M. Stolz (Graz).

84. **Classification of Lymphomatoses.**—Türk groups cases of lymphomatosis as the chronic benign, the acute and the chronic malignant. The first two groups are subdivided into the alymphemic, the sublymphemic and the lymphemic, the latter being chronic or acute lymphoid leukemia, both of benign character. The sublymphemic chronic benign is Pinkus' pseudolymphemia, and all forms of the partially aggressive, acute cases of lymphomatosis come under the heading of chloroma. The chronic malignant is lymphosarcomatosis, either local or generalized. All these types may appear independently and transitional forms may be observed, especially between the sublymphemic and lymphemic types. He describes a number of unpublished cases to illustrate the bases for this classification. He shows that chloroma is an acute lymphomatosis with a green coloring of the lymphoid proliferations and a special predilection in the skeleton for the periosteum and marrow in its localizations. The green coloring is an unessential symptom, not creating any essential difference between this form of the affection and other acute lymphomatoses of the same nature. Its predilection for the periosteum, dura and serosæ justifies the assumption of partial aggressiveness, and this is sustained by the findings in the spleen, glands and marrow which present regularly the anatomic characteristics of acute leukemia. That is to say, the points where the conditions are unfavorable for the washing away of the cells exhibit evidences of injury. When the lymphatic system is abnormally functioning or enlarging or the lymph cells are being produced in abnormal abundance—if the lymph cells are not swept away they pile up and cause the formation of a tumor. This is liable to become aggressive at any moment, and especially at those points where the local anatomic conditions are such as to interfere with the washing away of the cells. As these anatomic conditions differ at various points, the subject may exhibit simultaneously benign tumor formation at one place and partially aggressive at another, without justifying the assumption that two different processes are involved. Benign lymphomatosis is also liable to become transformed into a localized lymphosarcoma at any time. This is particularly likely to happen in the aleukemic forms, anything causing even a slight, local or transient increase of the slow, gradual proliferation may impart the impulse to local aggressive growth. In conclusion he notes that the more acute the course of the lymphomatosis the more pronounced the abnormal character of the cells. It is possible that the leucoblastic myeloid tissue may suffer likewise from such acute hyperplastic affections, with production of similarly abnormal cells, ending finally in cells which no longer differ essentially from those observed in acute lymphomatosis. There are probably borderland affections of these great systems, the intermediate rôle being the acute hyperplasia of both systems. It is possible that many puzzling cases may prove to be a myeloid counterpart to the acute lymphomatoses.

88. **Suture of the Septum in Prolapse Operations.**—This article was contributed to the Chrobak *Festschrift*, 1903, and is accompanied by ten cuts showing the various steps of the technic, the aim sought and the conditions realized. Gersuny believes that prolapse after childbirth is due more to the injury to the pelvic cellular tissue than to the stretching of the vagina, etc. He remedies the conditions in vaginal cystocele by restoring and strengthening the vesico-vaginal and the recto-vaginal septa. He detaches the anterior wall of the vagina from the cystocele throughout its entire extent. The wall of the bladder is then pushed inward and the size of the organ thus reduced, and this reduction assured by two sutures. This reduces or closes the gap in the septum, and by reuniting the anterior vaginal-wall flaps the suture of the septum is re-enforced. The proctocele is then treated in the same manner—a superficial circular suture is run around the prolapsed portion and after reduction the thread is drawn up and tied. The perineum is then restored with buried sutures, but the suture of the septa is the main feature of the intervention.

90. **Urotropin as Prophylactic Against Scarlet-Fever Nephritis.**—Widowitz has never had a case of nephritis among his 102 scarlet fever patients since he introduced the plan of preventive administration of urotropin. He gives from .05 gm. to .5 gm. of urotropin three times a day, according to age, during the first three days of the disease, and again at the beginning of the third week, for another three days.

91. **Circulus Vitiosus After Gastroenterostomy.**—Föderl reviews his experience as assistant at Gussenbauer's clinic, 1895-1902, during which time 62 gastroenterostomies were performed. A certain number presented symptoms of the circulus vitiosus, and Föderl is inclined to attribute this to the too acute angle formed by the anastomosed loop. As it bends in a sharp angle the lower wall projects into the lumen in a sharp fold, acting like a valve at times, closing the lumen of one or the other arm of the loop. He shows that this can be prevented by shortening the mesentery of the anastomosed loop. When three radial stitches have been taken in the mesentery just below the point of the anastomosis, and tied, this takes a tuck in the mesentery and the loop is unable to stretch up into a sharp point, but must retain its broad curve.

92. **Treatment of Gastric Ulcer.**—Lorenz relates two cases of the so-called callous penetrating gastric ulcer which required an operation. The patients were women of 52 and 57, and the tumors tore in each case as a drain tube was being introduced. This variety of ulcer does not have as good prognosis as others, but both these patients rapidly recovered. Lorenz thinks that there may possibly be some connection between this unexpectedly favorable result and the tearing of the ulcer tissue during the intervention. It may have mobilized the tissues and thus have created better conditions for healing in place of the rigid ulcer growth.

93. **Scopolamin-Morphin Narcosis.**—Stolz was obliged to complete the narcosis with inhalation of an anesthetic in 309 out of 465 patients anesthetized by the scopolamin-morphin method. Three of the patients died in consequence of the injections, one exhibited profound and 9 slight asphyxia, while heart weakness was frequently observed.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed page 1173.

94 (L, Nos. 3-4.) *Nitrogenous Substances in Pathologic Urine. R. von Jaksch (Prague).—Weitere Mitteilungen über die Verteilung der stickstoffhaltigen Substanzen im Harne des kranken Menschen.
95 Increased Heat Production as a Cause of Fever. W. Hale White.—Vermehrte Wärmebildung als eine Ursache des Fiebers.
96 *Tendon Reflexes in Nephritis. A. Lion (von Leube's clinic, Würzburg).—Das Verhalten der Sehnenreflexe bei Nierenentzündung.
97 Why Are Scientific Deductions in the Domain of the Healing Art So Difficult, etc. O. Rosenbach.—Warum sind wissenschaftliche Schlussfolgerungen auf dem Gebiete der Heilkunde so schwierig, und in welchem Umfang können wesentliche Fehlerquellen durch die betriebstechnische (energetische) Betrachtungsweise vermindert oder beseitigt werden? (Concluded.)
98 Ueber muskuläre Rückenversteifung (Rigiditas dorsalis myopathica, Senator) mit bes. Berücksichtigung des traumatischen Ursprungs. E. Barg (Senator's clinic, Berlin).
99 *Blood Pressure and Physical Exercise. Karrenstein.—Blutdruck und Körperarbeit.
100 *Influence of Nutritive Enemata on Peristalsis and Secretion in Gastrointestinal Canal. O. Loewe (von Leube's clinic, Würzburg).—Ueber den Einfluss von Nährklystieren auf die Peristaltik und Sekretion im Magendarmkanal.

94. **Nitrogenous Substances in Pathologic Urine.**—The extensive researches here described may be epitomized in the statement that in diabetes, typhoid fever, liver affections and certain cases of exophthalmic goiter, there is a very slight in-

crease in the amido-acid nitrogen. Also that 1.5 to 3 per cent. of the total nitrogen in the urine consists of amido-acid nitrogen, and that this percentage may be increased by the diet. Von Jaksch announces further that 95.85 to 98.36 per cent. of the nitrogen in the urine in morbid conditions, not precipitated by phospho-tungstic acid, consists of urea. On the other hand, 5.16 to 8.51 per cent. of the nitrogenous compounds precipitated by this agent consists of purin bodies and ammonia. He found that 83.83 to 91.07 per cent. of the total nitrogen in the urine is in the form of urea, while 1.52 to 3.61 per cent. is in the form of amido-acid nitrogen. Multiplying the total nitrogen by the proportion of nitrogenous substances precipitated by phospho-tungstic acid in urine free from albumin, gives the percentage of urea sufficiently accurately enough for clinical purposes.

96. **Behavior of Tendon Reflexes in Kidney Disease.**—Lion found that the knee-jerk was about normal in afebrile cases of nephritis, but that it became exaggerated as the affection grew more serious, especially with threatening uremia. In contracted kidney with good diuresis it was normal. In only 5 out of 262 cases were the reflexes diminished. The exaggeration in severe nephritis may be regarded as a sign of retention of substances which normally enter into the formation of urine. As the symptoms become attenuated with recovery or transition into the chronic form the reflexes have a tendency to return to normal.

99. **Blood Pressure and Physical Exercise.**—Karrenstein refers to a vasodilating reflex the reduction of the blood pressure noted after long-continued physical exercise.

100. **Nutritive Enemata in Regard to Peristalsis.**—Loewe examined the exposed stomach and intestines of cats, after injection of a nutritive enema to the ileocecal valve. He found that the addition of opium rendered the absorption of the fluid possible without any motor stimulation of the stomach or small intestine. The large intestine always showed signs of peristalsis, although very slight, and it was noted also in the small intestine when the opium had been omitted. He concludes that nutritive enemata may be used with impunity in case of affections of the stomach and upper intestine, and (with opium) of the middle intestine, but they are contraindicated in case of perityphlitis and typhoid fever, especially during the period when the scabs are being thrown off. He found droplets of oil from the enema in the entire intestinal canal and even in the stomach in 2 cases.

Brazil Medico, Rio de Janeiro.

Last indexed page 1174.

101 (XVII, No. 26.) Modified Phimosis Forceps. A. B. Benjamin.—Pinça de phimosis modificada.
102 (No. 28.) A febre amarella e a cellula hyalina. J. B. de Lacerda.
103 (No. 29.) Blood-sucking Insects in Southern Brazil. A. Lutz.—Nota preliminar sobre os insectos sugadores de sangue observados nos Estados de S. Paulo e Rio de Janeiro.
104 *Brazilian Method of Treating Aneurisms of Aorta. A. de Freitas.—Methodo brazileiro ou voltaisaçao cutanea positiva no tratamento dos aneurismas da aorta.
104½ (No. 31.) Serumtherapia da peste.—Valor curativo do serum antipestoso de Butantan. V. Godinho.
105 *Report of Committee on Transmission of Yellow Fever by Clothing.—Febre amarella.
106 (No. 32.) Sobre alguns signaes cardiacos ainda nao descriptos na febre amarella. A. Austregesilo.
107 (No. 34.) Estudo de algumas formas clinicas do paludismo. E. Meirelles. (Concluded.)
108 (No. 35.) Conclusion of Report of Fifth Brazilian Medical Congress. (Commenced in No. 25.)

104. **Electric Treatment of Aneurisms.**—De Freitas calls this method of positive cutaneous galvanism "the Brazilian method," and claims that it deserves the preference over all others, as it aids Nature, and is the easiest for the patient. He exhibited a patient at the local medical society whose aneurism of the ascending aorta had been reduced from 42 cm. in circumference to 37, with the complete cessation of all the annoying symptoms and final reduction of the aneurism by 5 cm. in all its diameters. In one patient, after potassium iodid had been used for two years without relief, the electric treatment proved rapidly successful in arresting the pains and distress. Another patient had been treated for five years in vain with other measures, and received the same benefit as the first from the electricity. His record includes 5 others all materially improved. As many as 50 sittings were needed in some cases to produce the desired result.

105. **Non-Transmission of Yellow Fever by Clothing.**—The committee appointed by the Brazilian authorities report an interesting series of experiments. Nine persons went to the isolation hospital and slept on bedding and wore garments from yellow fever patients. In the room occupied by some of the subjects three bottles were opened—one containing urine from a yellow fever patient, another black vomit, and a third some yellow fever feces. The garments and bedding were also shaken in the room. The tests were continued from February 18 to May, and none of the subjects nor the members of the committee have shown the slightest symptoms of illness to date.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Applications of Hematology. By James Ewing, M.D., Professor of Pathology, Cornell University Medical College. New York. Second edition, revised and enlarged. Price, $3.50 net. Cloth. Pp. 492, with 43 engravings and 18 full-page colored plates. Philadelphia and New York: Lea Brothers & Co.

THE TREATMENT OF CERTAIN MALIGNANT GROWTHS BY EXCISION OF EXTERNAL CAROTIDS. By Robert H. M. Dawbarn, M.D., Professor of Surgery and Surgical Anatomy in the New York Polyclinic Medical School and Hospital. (The Samuel D. Gross Prize Essay.) Pp. xiii-192. Cloth. Price, $2.00 net. Philadelphia: F. A. Davis Company.

THE NATURE OF MAN. Studies in Optimistic Philosophy. By Elie Metchnikoff, Professor at the Pasteur Institute. The English Translation. Edited by P. Chalmers Mitchell, M.A., D.Sc., Oxon., Secretary of the Zoological Society of London. Cloth. Pp. 309. Price, $2.00 net. New York and London: G. P. Putnam's Sons. 1903.

A TEXT-BOOK OF PRACTICAL GYNECOLOGY, for Practitioners and Students. By D. Tod Gilliam, M.D., Professor of Gynecology in Starling Medical College, Columbus, Ohio. Cloth. Price, $4.00 net. Illustrated with 350 engravings, a colored frontispiece and 11 full-page half-tone plates. Philadelphia: F. A. Davis Company.

DISEASES OF WOMEN. By Alfred Lewis Galabin, M.A., M.D., F.R.C.P., Late Fellow of Trinity College, Cambridge. Sixth Edition. Much Enlarged. With 284 Illustrations. Cloth. Pp. 695. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

STATIC ELECTRICITY, X-RAY AND ELECTRO-VIBRATION. Their Therapeutic Application. By Franklin B. Gottschalk, M.D., Professor of Diseases of Children, Jenner Medical College. Cloth. Pp. 176. Price, $2.00. Chicago: T. Eisele.

TREASURY DEPARTMENT. Spotted Fever (Tick Fever) of the Rocky Mountains. A New Disease. By John F. Anderson. Paper. Pp. 50. Washington: Government Printing Office. 1903.

New Patents.

Patents of interest to physicians, October 20 and 27.

741996. Vaporizer. Godfrey Beaumont, Dallas, Texas.
741886. Vaccine tube. Walter H. Chandler, Toronto, Canada.
741929. Hernial truss. Wm. S. Rice, Adams, N. Y.
742081. Strabismus goggle. John E. Stierle, Marshfield, Wis.
741849. Artificial leg. Charles E. Stone, Port Townsend, Wash.
741989. Closure of vessels for sterilized substances. Jochum K. Van der Heide, Amsterdam, Netherlands.
741742. Sterilizing apparatus. George Van Eyck, Oeflingen, Germany.
742377. Tablet-feeding machine. John W. and A. M. Ayers, New York, N. Y.
742560. Sterilizer. Robert P. Barnstead, Ashmont, Mass.
742287. Massage instrument. Louis Casper, Chicago.
742608. Truss. Royal Doane, Elmira, N. Y.
742634 and 742635. Medicament injector. Thomas E. Hall, Chicago.
742434. Syringe, Engelbert Hriss, Frankfort-on-the-Main, Germany.
742329. Sight-testing apparatus. George Johnston, Detroit.
742790. Stethoscope. Wm. Jones, Denver.
742341. Ozonator. Joseph Miller and F. M. Ashley, New York.
742244. Machine for producing hot air currents and liquid spray. James C. Sherburne, Des Moines, Iowa.
742814. Surgical appliance. Albert V. Todd, Denver.
742762. Hypodermic syringe. Ralph Walsh, Washington, D. C.
742534. Massaging implement. Julius B. Wantz, Chicago.

THE PUBLIC SERVICE.

[For the benefit of the members of the medical departments of the Army, Navy, etc., this department will hereafter appear near the center of the reading pages, to allow the publication of each report one week earlier. The first and last pages of THE JOURNAL go to press before those in the center.]

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Original Articles.

OPERATIVE TREATMENT OF BILATERAL CICATRICIAL ANKYLOSIS OF THE JAWS.

A CONTRIBUTION BASED ON A REPORT OF A CASE OF TWENTY YEARS' DURATION, RELIEVED BY A SERIES OF PLASTIC AND OSTEOPLASTIC OPERATIONS.*

RUDOLPH MATAS, M.D.

NEW ORLEANS.

The occurrence of permanent trismus or "locked jaws" ("ankylosis," "occlusion," "constriction" of the jaws) may result from a variety of well-known causes which, according to the permanent or temporary nature of the cause, or the parts involved in the pathologic process, vary in their prognosis and in their amenability to treatment. It is not my purpose to discuss this subject systematically, but to limit my remarks to the consideration of that most frequent, distressing and intractable variety of trismus in which the jaws are permanently locked and immobilized by the formation of rigid cicatricial bands and masses which hold the maxillæ in an unyielding clasp, reduce the capacity of the buccal space and thus more or less completely interfere with the movements of mastication. (Ankylosis spuria mandibulæ of the older writers.)

While the movements of the lower jaw may be restricted by the formation of cicatrices in the soft parts outside of the mouth in consequence of destructive lesions, accidental injuries, pathologic processes and surgical operations which cause great destruction and scarring about the face, the peribuccal and perimaxillary tissues, as is often seen as a sequel of burns, gunshot wounds, carbuncles and malignant ulcerations, etc., these are not, as a rule, so serious from the functional or surgical point of view as the class of cases in which the immobility of the jaws is caused by a destruction of the lining mucosa of the mouth. In these cases the mucous membrane is usually destroyed by progressive ulceration or gangrenous inflammations which, spreading on the inner surface of the cheek, give rise to either unilateral or bilateral ulcerations, which in healing leave large areas of dense, retractile, cicatricial tissue. Many of the most destructive, gangrenous and ulcerative infections of the mouth which are responsible for the loss of the oral mucosa occur in early life (noma, cancrum oris, scarlatina, diphtheria, mercurial stomatitis, syphilis, tuberculosis), and, as a result of the tender age of the patients, lead, when neglected, to a series of secondary changes, which influence most injuriously the entire development of the face, thus adding great disfigurement to a distressing interference with a most important function.

When cicatricial trismus occurs in early childhood the development of the lower jaw is greatly interfered with, and it remains rudimentary and infantile in size and shape. The chin is dwarfed, small and retracted, giving to the face an asymmetrical and ungraceful appearance (micrognathism), which is most striking when viewed in profile (the so-called "bird face"). The eruption of the permanent teeth is likewise interfered with; the molars make their appearance in vicious attitudes; more often they are deviated from a vertical to an oblique or horizontal axis and the grinding surfaces face the tongue instead of the teeth of the upper jaw. The front teeth of the upper jaw project beyond the lower set; the lower teeth are imperfectly developed, unhealthy and covered with thick, offensive salivary incrustations and food accumulations. The secretions of the mouth are usually malodorous from stagnation, and there is a perceptible dribbling of saliva when the angles of the mouth are involved in the contraction. In spite of the rigidity of the jaws, the reduced buccal space, and the inability to separate the teeth, and of their extremely defective mode of feeding, it is remarkable how well these patients adapt themselves to these conditions and succeed in keeping up a fair state of general nutrition. More often, however, these persons succeed in nourishing themselves because of the absence of teeth or irregularities in their development, which allow the food to be forced between the missing teeth or interdental spaces. The entire muscular apparatus of mastication undergoes atrophic changes from arrested development and disuse; in fact, the entire innervation and vascular supply of the inframaxillary portion of the face suffers from the same cause and retains an infantile form, markedly contrasting with the upper jaw and face, which continue to develop and grow in normal proportion until adult life.

To add to the complexity of these cases, we find that the cicatricial masses in the rear mouth undergo, in some instances, a process of osseous infiltration, which transforms the scar tissue into a solid piece of bone, of the consistence of old callus, which permanently unites the upper and lower maxillæ into a single immovable bone.[1] This is particularly true of those fortunately rare cases in which the original causal infection has spread from the mucosa to the periosteum, exciting this to the formation of hyperostoses by the proliferation of osteoblasts in the budding granulation tissue.

When these ossified bands exist, they are usually found in the posterior part of the mouth, in the vestibular

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. Numerous cases of ossification of intrabuccal bands will be found reported in the literature; the cases reported by C. Esterle, B. Holt, Marchiafava, Sebastian, Walter, Sarrazin, Heath, and others, are fully referred to in the index catalogue of the Surgeon-General's library, vol. vii.

space, extending from the upper gingival border to the inner surface of the body of the lower jaw, as far forward as the bicuspids or even the commissure of the mouth. In dealing with cicatricial occlusion within the mouth, the resistance, thickness and density of the scar bands must be considered. Not only is the cartilaginous and osseous transformation of these bands a matter of importance, but their situation and limitations are of still greater importance in determining the prognosis and the mode of procedure.

As shown by Verneuil, who so ably studied this form of maxillary ankylosis 40 years ago, we should try to distinguish, for practical purposes, the cases in which the cicatrices occupy the anterior from those which contract the posterior regions of the oral cavity. When the scar bands are limited to the anterior (facial) part of the vestibule and lips, the prospect of operative relief is excellent and the prognosis very favorable; but when the scar masses are formed on a level with the last molar or in the pterygoid region along the angle, body, and ramus, the possibility of restoring the mobility of the lower jaw without resorting to some form of intrabuccal plasty, combined with osteotomy and pseudarthrosis, is reduced to a minimum. Even a comparatively superficial destruction of the mucous membrane in the retrovestibular space and along the inner surface of the ramus is sufficient to cause permanent contraction and immobility of the jaw, because in the normal state the mucous membrane is tightly stretched over and adherent to the periosteum and peribuccal tissues. Inflammatory and ulcerative processes starting in the mucous membrane at this level, therefore, are easily propagated to the periosteum and bone, forming dense, fused, unyielding masses, which do not permit of anatomic differentiation into their component elements.

It is evident from what has been stated that the problem which confronts the surgeon who would attempt to give relief in such cases by mobilizing and liberating the lower jaw is far more complex than a superficial glance at the subject would imply. In fact, the division or excision of the constricting cicatricial bands is only one of its phases, and other factors in the problem must be considered before anything like a functional restitution of the lower jaw can be obtained. In view of the arrested development of the jaw, of the atrophied and shortened muscles and ligaments which are concerned in the control of the inferior maxilla, and the vicious attitude of the teeth, it is evident that neither a functional, cosmetic or anatomic restitution, in a complete sense, can be expected by any mode of treatment. Nevertheless, even in such extreme cases, fortunately very rare at the present time (when the opportunities for surgical relief are given to all in almost every community), the surgeon may still hope to restore the mobility of the lower jaw sufficiently to permit of easy feeding and mastication, and thus greatly relieve the condition of these unfortunate sufferers.

In the treatment of the rare and grave type of cases which we have in view, no single method of treatment will suffice, and it is only by judiciously combining a variety of procedures that we may hope to release the jaw and obtain a certain degree of mobility which will permit the patient to open his mouth and to masticate solid food.

In unilateral cases, and especially where the scar tissue only involves the angle of the mouth and lateral aspect of the cheek, the problem is solved with comparative ease, and a simple plastic operation will generally suffice. In the symmetrical or bilateral cases involving the deeper recesses of the oral cavity, osseous sections must be added to dermal transplantations to obtain the desired result. None of the ordinary methods by which the jaw can be forcibly separated by mechanical dilators, wedges, conical screws or mouth gags, can be expected to give even temporary relief; to have attempted any procedure of this sort on the patient whose history has furnished the text for this paper, would have resulted simply in breaking the teeth or fracturing the jaws. The simple division of the ossified cicatricial masses with knife and chisel would have been dangerous on account of the great depth of the scars, and could not be considered.

Mears' method of dividing the scar tissue after creating a mucous lined tunnel under it with a seton-like ligature, valuable as it is and worthy of trial in simpler cases, was evidently impossible here.[2]

The various procedures which have been recommended for the permanent relief of cicatricial occlusion of the jaws, exclusive of the simple palliative and mechanical methods previously referred to, may be grouped under the following heads:

1. Division and excision of the scar tissue with substitution of transplanted skin or of mucous flaps, for the lost mucosa.

2. Division and detachment of tendinous insertions and aponeurotic expansions of the muscles of mastication at their surface of attachment to the lower jaw (masseter, pterygoid, etc.), after division of the cicatricial bands in the mouth.

3. Creation of a new point or center of motion in the body of the jaw (pseudarthrosis) by osteotomy in front of the resisting and unyielding scar masses when these exist in the postbuccal space.

4. Excision of the temporomaxillary joint, condyle or part of the lower jaw, with or without associate myoplasty.

EXCISION OF SCAR AND SUBSTITUTION OF HEALTHY SKIN.

The first group embraces the greatest number of suggestions, some of these very ingenious. We should note that in recent years and since the advent of a more aggressive and radical technic for the cure of malignant diseases, the indications for the extirpation of the mucous membrane of the mouth in dealing with growths of the face, and especially of the cheeks and lips, have increased. Surgeons have been compelled to tax their ingenuity considerably in the effort to prevent the con-

2. Dr. Mears' method is thus described by the author ("The Operative Treatment of Occlusion of the Jaws," by J. Ewing Mears, THE JOURNAL A. M. A., Sept. 18, 1897): "In performing this operation a long-handled, slightly curved needle threaded with a strong aseptic twisted-silk ligature of sufficient length, is introduced at the angle of the mouth on the inner surface and carried carefully into the space between the cicatricial mass and the buccinator muscle and the point made to emerge at the posterior border of the last molar tooth of the lower jaw—at which point the posterior border of the cicatricial tissue can usually be felt. The ligature is now seized with the toothed forceps, the needle withdrawn, the ends tied and the ligature left loosely in the channel thus formed. As the intention is not to divide the mass by the ligature, this is permitted to remain without traction, the formation of the canal lined by normal mucous membrane being facilitated by drawing the ligature backward and forward, and thus destroying any adhesions which may form. When a probe passes readily and smoothly and without provoking bleeding, it may be assumed that the canal is lined by normal mucous membrane. This is usually accomplished in three weeks, when the scar tissue is divided with a blunt-pointed bistoury introduced into the canal." A mouth gag is then introduced between the teeth, and the mouth forced open to the widest extent. This is repeated at intervals until the mouth is healed, etc. Dr. Mears' experience with this method appears to have demonstrated its permanent value.

tractions that necessarily follow an extensive extirpation of the mucosa.

In the endeavor to find a suitable material, free from the retractile tendency of scar tissue, a number of plastic operations have been devised (cheiloplasty and meloplasty), in which the transplantation of pediculated skin flaps have figured largely. Autoplastic skin flaps obtained from all parts of the face, neck and cheek and upper extremities have been utilized; mucous flaps from the mouth (palate and lips) have been tried less often; Thiersch grafts have been utilized freely as secondary aids to epidermization of raw surfaces; even heteroplastic flaps taken from the mucous lining of the dog's mouth have been transplanted from the living animal, but with very doubtful results.[3]

Among the more practicable and useful of the numerous plastic operations that have been suggested is the meloplasty of Jäsche.[4] This operator, after splitting the cheek from the angle of the mouth to the masseter, including the cicatrized mucosa, sutured the skin of the cheek, on each side of the fissure, to the gums and mucosa of the vestibule inside of the mouth. After adhesion of the skin has taken place, two semilunar skin flaps of sufficient length are dissected out of the skin of the cheek and attached to the upper and lower lining of the artificial oral cleft, leaving the flaps attached to the gums, thus inverting the free skin edges into the mouth. After this the flaps are sutured in the mouth by their edges and the cheek is closed over the defect, restoring the mouth to its normal dimensions. Gussenbauer's[5] method is in some cases still more serviceable. This author, after splitting the cheek through and through, from mouth to masseter, and thus dividing all resisting scar tissue freely, cuts a trapezoidal flap out of the lateral aspect of the neck and folds it over the denuded masseter into the mouth where it is sutured to the mucosa. After adhesions have been contracted, the pedicle is cut off and the graft is turned into the mouth throughout its free extent, with its dermal surface facing the teeth. After suturing it in place to the edges of the cleft and angle of the mouth on the inner side, the cheek is closed. Jäsche's and Gussenbauer's operations are typical of the modern methods of autoplasty and differ from the earlier operations,[6] in which attempts at plastic repair were made by sliding flaps in which the dermal surface remained external and no allowance was made for secondary contraction of the flap surface on the inner or mucous side of the mouth.

Gersuny opens the mouth through an external incision made along the lower border of the jaw from the chin to the angle. A skin flap large enough to cover the defective area in the mouth is dissected from the submaxillary region and is completely mobilized, with the exception of a pedicle made of periosteum, cervical aponeurosis and other subcutaneous tissues. With this pedicle as a base of vascular supply, the flap is turned into the mouth with the skin surface facing the teeth and is attached to the free margins of the defect. The external incision is then closed. This method has been variously modified by v. Hacker, Eiselsberg, and Kraske. Its chief merit is that it diminishes the scarring in the face. On the other hand, Bardenheuer utilizes a pediculated flap borrowed from the hairless parts of the forehead with its pedicle attached to the lateral surface of the nose. This flap is turned into the mouth, where the skin is substituted for the defective mucosa. When the skin of the cheek has been destroyed with the mucous membrane, an additional pediculated flap is borrowed from the neck and made to cover the cheek in such a manner that the raw surfaces of both flaps are brought together; thus the forehead flap is made to serve as mucosa and the neck flap covers the defect in the cheek. This method has been adopted, with modifications, by Oberst, Rötter and others. In other cases, Bardenheuer filled the defects in the cheek with pediculated flaps borrowed from the arm.

Partsch of Breslau prepares his flap for transplantation before attempting to use it in the mouth by first dissecting and mobilizing it in the neck, after which its raw surface is covered with Thiersch grafts. In this manner the flap is covered with epidermis on both surfaces. When epidermization has been accomplished, the diseased area in the cheek is removed and the graft thus prepared is attached permanently *in situ*. In cases in which the gap to be covered in the mouth is very great, Hahn and Israel cut a very long pediculated flap from the neck and attach it to the mouth with the skin surface looking inward; after this has become adherent, the long pedicle is detached at its root and what remains of the flap is folded on itself so that the raw surfaces come together, leaving a thick double layer of skin at the seat of the defect. Hahn's flaps begin at the clavicle and end at the mamma. The flap is dissected upward toward its clavicular attachment and the mammary end is attached to the mouth; subsequently, when this has adhered, the clavicular pedicle is divided and the flap is folded on itself like a booklet, forming a double layer, as in the previous case. Following the same plan, Israel makes his flap extend from the angle of the jaw to the clavicle and utilizes them in the same way.

Czerny has applied similar methods by cutting out a long flap with its pedicle at the zygoma and its free extremity as low down as the middle of the sterno-mastoid; this flap is folded on itself and made to cover the defect in the cheek at the same sitting. In connection with these plastic transplantations of the skin into the mouth (meloplasty), it is well to remember with Lexar,[7] to whom I am indebted for a large number of the preceding references, that the hope once entertained that the skin when transplanted into the mouth would lose its cutaneous peculiarities and finally cease to grow hair, has never been realized, though it has been shown by Ritschl that the skin does undergo atrophic changes in the course of time. Tufts of hair will grow in the mouth years after the transplantation of the skin. Thiersch mentions a case in which hair formed in this way 21 years after the operation. Hence the importance of selecting skin from normally hairless surfaces whenever possible. In operations on the cheek, the preservation of Stenson's duct and its replantation into the mouth is very important to prevent "weeping" scars.

3. See Halsted's case of cicatricial contraction of the jaws (unilateral), treated by transplantation of a mucous graft taken directly from a dog's mouth. Johns Hopkins Hospital Bulletin, December, 1890.

4. Jäsche, G.: Ueber die operation der Mundklemme. Med. Zeitung. Russland. St. Petersburg, 1868. xv, 209. The same: Zur operation Behandlung der narbigen Kieferklemme. Arch. f. Klin. Chirurg., Berlin, 1868, ix, 226-229.

5. Gussenbauer, C.: Ueber ein neues Verfahren der Stomatoplastik zur Heilung der narbigen Kieferklemme. Arch. f. Klin. Chir., Berlin, 1877, xx, 526-536, 1 pl.

6. See a noted case reported by Valentine Mott, "A Case of Rigidity of the Lower Jaw and Taliacotian Operation," Amer. Jour. Med. Sci., 1831-2, ix, 47-50, 1 pl.

7. Handbuch der Praktischen Chirurg., Bergmann-Bruns-Mikulicz, Bd. 1.

In a few suitable cases the mucous membrane of the mouth in the vicinity of the excised areas may be utilized to cover the defect. We have already referred to Halsted's unique experience when he attempted to relieve cicatricial trismus by transplanting a fresh nonpediculated graft from the mouth of a dog to that of a boy suffering with this defect. I am not aware that the final outcome of this experiment has ever been published, but it is evidently an extremely uncertain method, which offers little prospects of practical results. In regard to the autogenic mucous grafts, Bayer has covered a defect in the cheeks by covering it with a mucous flap transplanted from the hard palate. In a case of carcinoma of the cheek, Oberst succeeded in overcoming the defect by cutting out two pediculated flaps from the inner (mucous) surface of the upper and lower lips respectively. He split the cheek to the masseter, extirpated the neoplasm and dissected the flaps from the upper and lower lips on their inner surfaces, sutured them together along their edges, leaving the raw surface outward, and the edges of the cheek-incision were closed over them. But these methods are of very limited application as compared with the cutaneous flaps, which are generally accessible and are far more manageable.

MYOTOMIES AND MYOPLASTIES.

In the second group of procedures that have been suggested and applied for the relief of cicatricial ankylosis, we should mention the division of the muscles of mastication or the detachment of their tendinous insertions with the object of creating more advantageous points of attachment and thus increasing the mobility of the lower jaw. It is doubtful that any permanent results can be obtained solely by myologic sections or reimplantations, except in cases of purely myopathic occlusion of the jaws. Such cases are reported in the literature in which good effects have been claimed, but the operations were either too recent when reported to prove the permanent success of the method adopted, or the procedures have been applied to cases in which the cicatricial contractions involved only the anterior region of the mouth and cheeks. In other instances the myotomies have been assisted by making a section of the jaw and creating a false joint, which is the really effective agent.

Gurdon Buck (1840), J. Carnochan (1846), J. R. Wood of New York (1850), J. W. Schmidt of Boston (1854), Müller and Little of New York, were among the first surgeons to report cases of tenotomy and division of the masseter and temporal for the relief of cicatricial constriction of the jaws in this country. The surgeons of other countries have reported a number of observations. LeDentu, in a more recent period, obtained a satisfactory result in a case in which the rigidity of the jaws was apparently caused by permanent contraction of the masseter and internal pterygoid, by making an incision along the angle of the jaw, through which he detached the masseter from its lower insertion as high up as possible; the adhesions of the mucosa to the body and ramus were also detached, and the internal pterygoid was also mobilized with a periostome. After these parts had been freely mobilized, he was able to open the mouth with a gag and kept the jaws wide apart for several weeks until the muscles had become permanently inserted at a higher point of attachment.

More frequently, sections of the muscles (masseter, temporal) have been made with the view of interposing muscular and aponeurotic flaps between the sections of the lower jaw, which is divided at the angle or at the ramus with the view of creating a false joint. In order to prevent the subsequent union of the fragments, muscular flaps borrowed from the masseter and pterygoids are interposed and sutured between the edges of the divided bone to insure the permanency of the pseudarthrosis. Verneuil first suggested this modification of Esmarch's operation and Helferich has adopted the same idea, in cases of true ankylosis of the temporomaxillary joint, by turning down a flap of the temporal after excision of the condyle. Lenz, Mikulicz, Riegner, Henle and Rochet have reported good results from this combined myo-osteoplasty.

OSSEOUS SECTIONS AND OSTEOPLASTIC OPERATIONS.

Sections of the lower jaw have been made through the condyle, the coronoid process, ramus and the body of the jaw. More frequently the temporomaxillary articulation has been excised or a linear section of the body (Rizzoli) or a cuneiform excision of the body (Esmarch) on a level with the angle, and including the angle, are now made, with the view of creating a pseudarthrosis.

Rhea Barton of Philadelphia was the first to suggest osteotomy for the relief of ankylosis in orthopedic surgery. Berard first suggested osteotomy of the condyle in ankylosis of the jaw. Carnochan, Richet, Dieffenbach took up the same idea and favored it about 1846. W. Grube[8] is credited as the first, according to Mathé (quoted by F. Guniyon[9]), to perform an osteotomy of the ramus for ankylosis of the jaws by intrabuccal section, in 1863.

A. Cabot of Boston and Koenig have clearly defined the indications for temporomaxillary excision. Baumgartner, Küster, Kraske and Bergmann have contributed modifications in the operative technic, which are more or less advantageous. Excision of the temporomaxillary joint is now restricted to cases of true ankylosis of this joint, and the myoplasties which have been suggested by Verneuil and others previously referred to, simply aim at the prevention of recurrence of the ankylosis by the new formation of bone tissue between the excised fragments. The most decisive step in the operative treatment of cicatricial constriction was not made until Esmarch and Rizzoli almost simultaneously and independently of each other suggested and performed, in 1854 and 1857, the operations which bear their names. The object of both operators was to create a false joint in the body of the lower jaw in front of the unyielding cicatricial bands. Esmarch removed a section of bone and Rizzoli made a linear osteotomy. The two procedures have been variously modified, but Esmarch's operation is the one generally preferred, as it is the most certain to prevent a reunion of the bone fragments. The modification first suggested by Bruns, Bonnet, Wagner and Heath, by which a triangular piece of bone is removed from the body of the jaw, including the angle, is the one now preferred. The operation is best performed by external incision and without opening the mouth (Levrat). The Gigli saw is particularly well adapted for this purpose. The external incision will also permit the masseter and external pterygoid to be detached from their insertions as a preliminary to the excision of the angle.

The immediate results of this operation are strikingly satisfactory in mobilizing the jaw; but in order to obtain the best results in long-standing cases, as in

8. Arch. f. Klin. Chir., Berlin, 1863, iv, 165-182.
9. Dict. Encycloped. des Science. Méd. (Déchambre).

the instance here reported, the cicatricial tissue in the mouth must be excised and a flap of skin, transplanted from the nearest hairless region into the mouth, must be substituted for the missing or contracted mucosa. In bilateral cicatricial cases involving the deeper regions of the oral cavity, a combination of methods is indicated.

The selection of the method in each case must be made judiciously, according to the special conditions existing in the case. It must be remembered, however, in making Esmarch's pseudarthrosis that a false joint should be made on one side only, and that nothing is gained by a bilateral section of the body of the jaw. This has been done by some surgeons, but it is evident that they have overlooked the fundamental fact that by the division of the jaw on both sides by osteotomy not only is the nutrition of the middle fragment greatly impaired, so that it becomes an easy prey to infection and necrotic changes, but that all control of the isolated middle piece and the capacity to chew food, and even to open the mouth and close it, voluntarily, is greatly impaired, because of the separation and isolation of the middle fragment from the muscles of mastication. It is, therefore, important, in all bilateral cases, to limit the formation of a false joint to one side only, so that the function of the masseter, pterygoid and temporal of the other side may be maintained. The removal of the anterior cicatricial bands and substitution of dermal flaps by autoplasty will usually suffice to give to the patient motion and control of the jaw. Should more motion be required, the excision of the condyle, part of the ramus of the jaw (without injuring the temporal and pterygoid) on the side opposite the pseudarthrosis, will give room for the play of the muscles of mastication by increasing the temporomaxillary space. This last expedient is, however, only justifiable in cicatricial ankylosis of the grave osteogenic type herein described.

GENERAL CONCLUSIONS.

In cicatricial constriction of the jaw, the operative treatment must be guided by a full knowledge of the seat of the constricting bands; their extent, their density and their association with secondary developmental defects or associate lesions in the osseous, articular and muscular apparatus of the lower jaw. The age of the patient, the cause of the lesion, duration of the trismic condition, the seat and extent of the cicatrices, whether extra- or intra-buccal, are the most important elements in determining the final results of the operative treatment.

2. The most intractable and difficult cases are those in which the lesions are symmetric and bilateral, which begin in inflammatory and necrogenic processes in the mucous membrane of the retrovestibular and pterygoid regions of the mouth in early childhood, and are neglected until atrophic, degenerative and developmental changes in the maxilla and its condyle have taken place.

3. The best results are obtained by early and persistent treatment.

4. In the complex and neglected cases of the class referred to (intrabuccal), no single operative method is sufficient to obtain permanent relief. The cases involving the anterior portion of the mouth and cheek are the most favorable for treatment, and the simple method of division of the cicatrices suggested by Mears will probably suffice. In the deeper or retrobuccal cases, a combination of methods, including autoplastic skin transplantations, osseous sections, with the creation of an unilateral pseudarthrosis (Esmarch), with or without myoplasty, will be required to obtain a moderate, but advantageous, degree of motion of the lower jaw.

5. Simple plastic operations to replace the lost mucous membrane by transplanting skin are necessary, but not sufficient in the deeper posterior bilateral cicatricial contractions. They must be regarded solely as adjuncts to the formation of a pseudarthrosis.

6. In making a false joint by Esmarch's or Rizzoli's method, it is important that the procedure should be limited to one side only, because a bilateral pseudarthrosis will result simply in increasing the mobility of the intervening fragment, with loss of voluntary control. The best results are obtained by unilateral pseudarthrosis, combined with bilateral plastic dermal transplantations, to which may be added, in the gravest cases, excision of the maxillary condyle on the side opposite the pseudarthrosis, without damaging the temporal, pterygoid or masseteric attachments.

7. By the combination of the methods above presented and a prolonged course of maxillary gymnastics following osteoplasty, functional results may be obtained, even in the most forbidding cases, without, however, the expectation of attaining the surgical ideal, either as to cosmetic or functional results.

CLINICAL OBSERVATION.

E. S., age 28, white, male, farmer, was admitted to the Charity Hospital Nov. 14, 1900. The patient is a native of Louisiana; single; of good habits and gives an excellent family history; father and mother both living and healthy; has four sisters and five brothers all living and well. Has never had gonorrhea or syphilis and has never been addicted to alcohol. When 7 years old he had a fever which was called "brain fever," and during the treatment was given calomel, which caused a violent stomatitis and salivation followed by deep ulceration on both sides of the mouth and especially the inner surfaces of both cheeks. It was two months before his mouth was well, and after healing he found that he was unable to open his jaws in consequence of the cicatricial contraction of the mucous membrane. When 17 years old he had malarial fever and he was treated with calomel with the result that he was again salivated, leaving ulcers in his mouth which healed in two weeks. After these had healed his mouth was more firmly closed than ever and he had great difficulty in feeding himself. When he was 25 years of age he was again sick with malarial fever, and was once more treated with calomel, which was followed by the usual salivation and an ulcerative stomatitis which lasted several days. Since that time the original contraction of the mouth which had completely immobilized his jaws had greatly altered his physiognomy and had compelled him to subsist purely on fluid and semifluid foods. In 1898 a physician made an incision over the left condyle of the lower jaw, probably with the intention of resecting the condyle, but there is no evidence to show that this was accomplished. Several efforts were made at various times to force his mouth open by mechanical means, but nothing was obtained by these efforts except to cause him to lose several of his teeth.

Jan. 15, 1901, he was again admitted to the Charity Hospital and examined for the first time by the writer. The general examination showed a healthy man, apparently fairly well nourished, about 5 feet 5 inches in height and weighing about 125 pounds. The face at once attracted attention by the small and undeveloped appearance of the chin and by the immobility of the lower jaw, which gave a fixed, rigid and set expression to the face. The angles of the mouth were drawn down and were adherent, especially on the left side, to the lower jaw by a distinct synechial band. The front teeth (incisors and canines) were irregular, notched, carious and incrusted with tartar. They projected for a considerable distance in a forward and oblique direction over those of the lower set, which were even more irregular, carious and stained

by calcareous deposits and tobacco juice. The gums were ulcerated and retracted from the teeth. A tendency to salivary dribbling was noticeable at the angles of the mouth. The chin receded and was small, contrasting with the upper half of the face, which was well developed; the hair of the beard, of a light sandy color, was scant and there was scarcely any growth of hair on the chin or lips. The cheeks were rounded and fully developed, contrasting in this way with the smallness and infantile appearance of the chin and lower jaw. The patient spoke without moving the jaws, and this gave his speech a peculiar and indistinct enunciation. The jaws were so firmly set that the point of a pocket penknife could scarcely be inserted flatwise between the front teeth. On attempting to explore the mouth with the fingers it was found that the entrance to the vestibule was blocked, on a level with the canines, by the existence of extensive cicatricial bands, which, beginning at the angles of the mouth, prevented further access to the space between the cheek and teeth on both sides. The back teeth and molars appeared to be in absolute contact. A probe could not be passed between the rows of the back teeth and only penetrated to the end of the vestibule by keeping it in close contact with the bicuspids and molars. Not the least impression could be made on the lower jaw by any manipulation. Evidently the inner surface of both cheeks was lined by a cicatricial mass, which had entirely replaced the normal mucosa. It was remarkable in this case, as in other reported instances, that the general nutrition had been maintained throughout the long period of twenty years that this condition had lasted, and that the patient had not suffered a great loss of body weight in spite of the notable interference with alimentation. This was partly accounted for by the fact that the patient had lost several of his teeth and had succeeded in feeding himself with milk, eggs, cereals, soups and other soft foods, such as chopped meats, which he crowded into his mouth with the help of his fingers.

In view of the extremely aggravated condition thus presented to us, the existence of a bilateral and extensive symmetrical constriction produced by cicatricial bands which had entirely replaced the mucosa of the vestibule and of the cheeks, and also of the atrophied, rudimentary and undeveloped state of the lower jaw and of the entire masticatory apparatus—we were undecided for a while as to the best course to pursue. It was plain that nothing could be accomplished by the usual mechanical methods of separating the jaws or of dividing the cicatrices by the simple intrabuccal methods recommended by some writers, more especially by Mears, as there was absolutely no room for any intra-oral manipulations. Nevertheless, after further deliberation I decided to divide the cicatricial masses on both sides by the procedure originally suggested by G. Jäsche, who described it nearly a half century ago, and which permits not only of a free visual exploration of the mouth, but also favors a substitution of the flexible skin of the cheek for the rigid and unyielding scar tissue after this has been divided and excised. This procedure appeared to be particularly applicable in his case, as the redundancy of the cheeks afforded an abundance of material for plastic work.

First Operation.—Feb. 1, 1901, the first stage of Jäsche's operation was undertaken. After a preliminary administration of one-quarter grain of morphin hypodermically, the cheeks were infiltrated along the line of the proposed incision from the angle of the mouth to the masseter, a little below the middle line of the cheek. The cutaneous incision was mapped out with an intradermal injection of one-fifth of 1 per cent. Schleich solution, and the subcutaneous tissue was made tense by massive infiltration of a 0.2 per cent. eucain B. isotonic saline solution injected with the author's infiltration apparatus. The dense tissues lying between the mucosa of the mouth, the ascending ramus of the jaw and the masseter were also infiltrated with the help of a long needle attached to the apparatus. An incision was then made which completely divided the cheek and opened the buccal cavity from the mouth to the anterior border of the ascending ramus of the lower jaw (Fig. 1). In doing this it was found that the mucous lining of the cheek had been completely replaced by a dense, thick scar tissue, which became harder as the ascending ramus of the jaw was approached. It was very difficult to divide this dense fibrous tissue with a knife, and as the end of the vestibular space was reached it was found necessary to resort to the sharp edge of a McEwen chisel to divide the scar tissue, which on the level with the last molars was found ossified and forming a bony bridge which clamped the two jaws and held them together as a single piece from one alveolar process to the other. By using the chisel freely the ossified tissue was divided and a considerable part of it was excised and removed. The cheek of the right side was anesthetized and treated in the same manner, the osseous bridge and scar tissue existing to the same extent as on the opposite side. After this had been done it was found the narrow space between the cheek and teeth was filled with a soft calculous mass formed by a mixture of tartar, stagnant food and precipitated tobacco juice, all of which had accumulated and formed a thick magma in this inaccessible space. After removing this stagnant mass on both sides we were able to explore the mouth and investigate the condition and relations of the teeth more satisfactorily. By insinuating the edge of the chisel behind the molars we divided all constricting bands and ossified masses to the ramus of the jaw, and by using the chisel as a lever we were soon able to pry open the jaw sufficiently to explore the interior of the mouth and determine the full extent of the constricting lesion. By further use of a

Fig. 1.—First stage of Jäsche's operation shown in profile. Incision from angle of mouth to anterior border of masseter.

conical dilator and by forcible manipulation with the hands we succeeded in separating the jaws 2½ inches apart, but we desisted from further efforts at this point for fear of breaking the delicate and undeveloped lower jaw.

After opening the mouth freely in this way we were at once struck by the vicious attitude of the permanent molars and bicuspids. In the twenty years that the constriction had existed the eruption of the permanent teeth had evidently been interfered with, and they had grown upward in an oblique direction, finally assuming a horizontal position so that the normal axis of each tooth was set at right angles to the alveolar margin; thus the grinding surfaces of the teeth were all turned toward the interior of the mouth. This abnormal attitude was much more marked in the lower than in the upper teeth. Having now obtained as much separation as was practically necessary for alimentation, we completed the first step of Jäsche's operation by suturing the cutaneous edges of the divided cheek flaps with the relics of mucosa and dense tissue which covered the upper and lower alveolar processes at the gingivobuccal junction. This was done with some difficulty, as the sutures would cut through the scar tissue whenever they were tied with even moderate tension. We therefore found it necessary to support the tissues by packing the large buccal clefts that we had created on each side of the mouth with strips of iodoform gauze and holding these in place with adhesive straps. Fortunately, on account of the abundance of skin covering the cheeks, there was no tension,

we had little difficulty in maintaining the flaps inverted into the mouth until healing had taken place.

In the course of a few weeks the skin of the cheeks had united with the gums throughout the whole line of incision, and the appearance of the patient was that of a man with a huge oral cleft or macrostoma which extended from one masseter to the other (Fig. 2). After healing had taken place systematic efforts were made to widen the interspace between the jaws with the view of stretching the contracted and shortened muscles of mastication and of increasing as much as possible the impaired mobility of the lower maxillary. For this purpose several contrivances were used. In addition to the usual mouth gags (conical and Goodwillie's) a special contrivance by which elastic traction could be made on the lower jaw with rubber tubing was found particularly beneficial. This most effective appliance was used as follows: A heavy piece of rubber tubing 3½ feet long by ½ inch in diameter was stretched over the mouth in the cleft as far back as possible, behind the last molar so as to fit like a bit in a horse's mouth; the free ends of the tube were then crossed as a figure of 8 back

Fig. 2.—Profile, showing result after first stage of Jäsche's operation; a macrostoma or oral cleft remains as an extension of the mouth on both sides, to the masseter; the skin edges of the cleft are attached to the gums and vestibule of the mouth.

of the neck and each end again carried down in front of the chest on each side, below each axilla, and tied over the back of the chest while the rubber was stretched (Fig. 3). The immediate effect of this was to cause a flexure of the head on the neck and chest, but by forcibly extending the head backward while the patient was in a horizontal position the elastic tension made on the lower jaw caused the mouth to open to the widest possible extent compatible with the resistance of the muscles of mastication. By persisting in the fullest extended attitude of the head all muscular resistance was gradually overcome and even ligamentous tissues yielded and the maximum amount of separation of the jaws was obtained with the least amount of traumatism or suffering to the patient. Whenever the patient would tire of the extension he would simply flex the head and the elastic tension would at once diminish sufficiently to give relief. In this way elastic extension could be kept up intermittently for periods of half an hour or more at a time, thus securing the benefits of prolonged treatment, which he learned to apply himself with decided advantage.

The patient gave us the benefit of his most conscientious cooperation throughout the long duration of the treatment, and his patience, courage and willingness to help us were most admirable and inspired us constantly in our efforts to improve his unfortunate condition. During the two years that he remained at the hospital he was subjected to six operations. He became attached to the service and rendered most valuable help as an assistant nurse, and in this way we were given a most favorable opportunity to follow his progress and the effects of treatment.

On May 30, nearly five months after the division of the cheeks and separation of the jaws, the patient had made so

Fig. 3.—Separation of the jaws after division of the cheeks and scar tissue on both sides; first stage of Jäsche's operation (from a photograph).

much progress and was able to take nourishment so well and masticate all foods that we decided to complete Jäsche's operation by finally closing the gap in the cheek and restoring the mouth to its normal dimensions. This operation was performed under chloroform anesthesia May 30. Chloroform was given on this occasion because there was no longer the risk that was associated with the administration of a general anesthetic in a case of constricted and trismic jaws. Had we

Fig. 4.—Second stage of Jäsche's operation. Two semilunar flaps are dissected from the cheek on each side of the oral cleft. These flaps remain attached to the gums and alveolar borders on each side of the cleft; the free edges are turned down from the cheek.

given a general anesthetic when the jaws were locked, and had vomiting, extreme salivation or bronchorrhea occurred, the patient would have incurred great risk of suffocation and death from a blocking of the larynx before we could have been able to divide the cicatrices and open the mouth. The choice of an anesthetic is therefore a matter of more than usual concern in such cases, and the advantages of local anesthesia by infiltration are well worthy of consideration. After the mobility of the lower jaw had been secured the

special risks of a general anesthetic were eliminated and we did not hesitate to administer chloroform, which the patient took quickly and well.

The second step of Jäsche's operation consisted essentially in cutting two semilunar flaps (Fig. 4) from the upper and lower margins of the buccal cleft, each flap extending at its fixed or attached portion from the angle of the mouth to the end of the newly-formed cheek gap. After dissecting these flaps they were turned into the mouth in such a manner that the epidermal surface faced the interior of the mouth and formed the inner lining of the cheek, the raw surface looking outward (Fig. 5). The fixed edge remained attached to the gums and alveolar processes; the free margins were sutured together with fine chromic catgut, thus forming a complete cutaneous partition which replaced the lost mucosa of the cheek, the diaphragm thus formed also acting as a barrier to the secretions of the mouth and preventing their entrance into the cheek wound. The external incision in the cheek was then readily closed by a series of interrupted catgut sutures (Fig. 6). This procedure was successfully applied to both cheeks and the mouth was restored to its normal appearance and dimensions.

The external wound healed per primam and the inverted flaps in the mouth united *in situ* in the right cheek, but the flaps of the left side sloughed away, in consequence, no doubt, of the defective vascular supply which held it to the gums

Fig. 5.—Second stage of Jäsche's operation, continued. The diagram shows the free edges of the cheek flaps sutured in the mouth to replace the lost mucosa; the raw surfaces look outward and are subsequently covered by suturing over them the raw edges of the cheek incision.

notwithstanding the long time that had been allowed to form nutritive communications (five months). This liability to necrosis of the flaps is no doubt the weak point in Jäsche's method of meloplasty in cases of this kind, when the flaps are cut off from the chief base of vascular supply and the nutrition of the skin is dependent solely on adhesions recently contracted with a cicatricial and poorly nourished base, such as usually exist in the scar tissue of the gums. In consequence of this unfortunate loss of the skin flaps on one side a secondary cicatricial contracture inevitably followed, and with it a partial relapse to the original condition of constriction that compelled us to resort to other expedients for the patient's relief.

From May 30, 1901, to Feb. 22, 1902, nothing further was done. The mouth and cheeks had healed completely and the patient was able to separate the jaws to some extent, but not more than half an inch in a vertical direction between the front teeth; the lateral motion remained improved, but was still greatly limited on account of the marked contraction of the left inner cheek, which had returned nearly to the condition existing prior to the Jäsche operation.

Therefore, in February, 1902, we decided that before undertaking any further plastic work with the view of correcting the remaining cicatricial contraction in the left cheek, we would increase the general mobility of the lower jaw by excising the right condyle and a part of the ascending ramus, leaving the coronoid attachment of the temporal muscle intact, thus making more space for the play of this muscle and the masseter, which were irremediably atrophied and shortened by early interference with the development and function of the maxilla.

The right temporomaxillary joint was excised and a large section of the ascending ramus of the jaw was also removed subperiosteally, leaving a considerable gap in the bone, which shortened the distance between the zygomatic arch and angle of the jaw on that side, thus approximating the points of attachment of the masseter and temporal without interfering with the periosteal attachment of the pterygoids. This wound healed kindly and without bad effects, as the branches of the facial nerve had been carefully protected throughout the operation. On the other hand, very little benefit was appreciable as far as the mobility of the jaw was concerned in view of the persistence of the cicatricial contraction of the left cheek, which prevented any exhibition of improved motion. Nevertheless, I have reason to believe that the extensive resection of bone at this point has been of value in favoring an increased mobility of the jaw by combining it with the procedures that were subsequently applied.

After this wound had healed we waited until April 21 before proceeding to the final operations by which we expected to completely mobilize the jaw. April 21 (two months after the excision of the right condyle), under chloroform anesthesia,

Fig. 6.—Jäsche's operation completed. The incision in the cheek closed by suture.

we again divided the left cheek along the line of the old cicatrix and at once a very fair separation of the jaws occurred, which gave us a gain of at least one and a half inches in the space between the front teeth. Fearing now that in spite of the splicing of a new and pediculated skin flap in the cheek that secondary contraction would take place, we decided to create a pseudarthrosis at the left angle of the lower jaw by excising a wedge-shaped piece of the maxilla at this point. This was done by Esmarch's method modified as follows: A horizontal incision about 2½ inches long was made parallel with the horizontal ramus of the jaw and terminating at the angle, around which it curved upward, gently following its contour. All the soft parts were cut down to the periosteum, and the angle of the jaw was divided subperiosteally without disturbing the tendinous attachments of the masseter or pterygoid. The angle of the jaw was completely separated from the rami in two sections, one vertical, through the horizontal ramus, and the other a cross section through the ascending ramus, by passing a Gigli saw subperiosteally around the jaw at these points. The periosteal capsule was then divided at this point and the severed bone sections were separately covered with periosteum. This procedure not only protected the exposed bone surfaces, but effectively prevented a future restoration of the continuity of the jaw at this point, the musculo-aponeurotic expansions of the masseter and the external pterygoid being sutured together in the interspace between the divided bone surface. The effect of this newly-created point of motion in

increasing the general mobility of the lower jaw was very marked indeed, and we felt confident that if we could only succeed in preventing the formation of a retractile cicatrix in the mouth that a permanent and satisfactory mobilization of the jaw would be obtained. Therefore, at the same sitting we undertook a plastic restoration of the cheek somewhat like the method suggested first by C. Gussenbauer in 1877, by which a long, well-nourished, pediculated skin flap dissected from the hairless part of the neck is transplanted into the mouth as a lining for the cheek. A flap 3½ inches in length by 1¼ inches in breadth was dissected from the neck and freely mobilized with its pedicle attached to the face close to the terminus of the gap in the cheek. The flap was turned on itself, and its entire edge was sutured to the inner surface

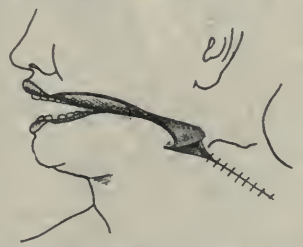

Fig. 7.—First stage of the modified Gussenbauer operation. The skin flap from the neck is turned into the oral cleft so that the skin edge is sutured to the inner raw surface of the cleft corresponding to the upper lip; the raw surface of the flap is also allowed to contract adhesions with the gum and cheek of the upper side of the cleft. After vascular connections have been formed the flap is turned completely into the mouth, as shown in Fig. 8.

of the vestibule from the angle of the mouth and along the inner border of the upper cheek flap. The lower edge of the transplanted flap was not sutured to the inner surface of the lower half of the cheek and the raw surface of the pediculated flap was thus allowed to come in contact with the thick raw surface of the upper half of the cheek (Fig. 7). Nothing further was done to close the gap in the mouth and this stage of the meloplasty was ended by simply closing the wound left in the neck after the transplantation of the pediculated graft.

The division of this plastic operation in two stages was adopted in this case because we were anxious to avoid the

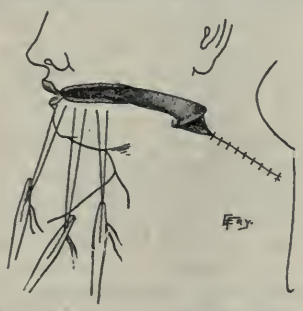

Fig. 8.—After firm adhesion has taken place, the transplanted flap is partially detached from the upper edge of the cheek cleft, leaving the gum line attached. The dermal surface of the flap looks into the mouth; the raw surface of the lower edge is brought into apposition with the raw inner surface of the lower cheek cleft. The two raw surfaces (of the cheek and of the flap) are brought together by a series of transfixion sutures (mattress type), which are tied externally over small pads of gauze.

risk of a second failure from sloughing, owing to defective vascular connections in the gums and mouth; we feared that in spite of the apparently abundant blood supply that came to the transplanted flap through its pedicle, that necrosis of its edges might occur from partial strangulation and infection if the flap was sutured in the mouth and the cheek closed over it. As a result of these precautions we had the satisfaction of seeing the transplanted flaps firmly united along the entire line of attachment to the inner surface of the cheek, where it remained in a well-nourished condition for the following six months. It was not until Nov. 22, 1902, that we undertook the final closure of the gap in the cheek, and this was done as follows:

The transplanted flap which had become firmly adherent throughout its attachment to the intrabuccal surface of the inner cheek was carefully detached from the cutaneous margin of the cheek cleft, leaving the upper skin surface of the graft attached to the gum and vestibule of the mouth. The lower half of the original skin incision was detached from the gum line and the lower border of the graft was inserted in the gingivobuccal groove and held firmly in place by a series of through-and-through mattress sutures, which held the raw surfaces of the graft and inner raw surface of the cheek in apposition (Fig. 8). The sutures (silkworm) were inserted with the Reverdin needle and the free ends of each suture were tied over a small pad of gauze on the outer surface of the cheek. After thus securing a complete apposition of the raw surfaces the cutaneous covering of the graft made a smooth lining for the inner surface of the cheek. The external incision in the cheek was closed over the graft by interrupted silkworm sutures throughout its length, except at its terminal (masseteric) end, where the pedicle of the graft was allowed to remain undivided, so as to insure its nutrition until a firm union had been obtained (Fig. 9).

Dec. 8, 1902, seventeen days after the cheek had been closed and no further doubt existed as to the vitality of the transplanted flap, and the success of the operation had been assured by the complete healing of the entire wound, we

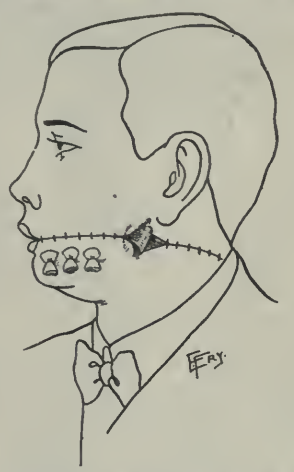

Fig. 9.—Appearance of face after suture of the cheeks in the modified Gussenbauer operation performed in this case. After suturing the cheek the pedicle alone remains to indicate the existence of the dermal flap, which has been transplanted from the neck into the mouth to replace the lost mucosa.

cocainized the pedicle and excised it, leaving a space at the terminus of the cheek incision, which was closed with a few catgut sutures. On the third day the wound had healed and the patient was well.

The patient remained in the hospital of his own accord until Jan. 8, 1903, when he was finally discharged to return home (Fig. 10).

Briefly summarizing the operative treatment of this case, we find that the patient was under observation at the hospital for a period of two years, from Jan. 15, 1901, to Jan. 8, 1903, and that during this time six operations were performed. The first operation (Feb. 1, 1901) was a complete through-and-through section of each cheek, including the division and incision of all cicatricial and ossified bands; separation of the jaws and suturing of the skin of the cheek to the gums, thus creating a huge oral cleft, or macrostoma (Figs. 1-3).

Second operation (May 30, 1901): Closure of the cheek gap by Jäsche's meloplasty. Third operation (Feb. 22, 1902): Excision of right condyle and part of ramus of the jaw. Fourth operation (April 31, 1902): Esmarch's cuneiform excision of the left angle of the lower jaw, to create a pseudarthrosis at this point; also

first stage of modified Gussenbauer's meloplasty. Fifth operation (Nov. 20, 1902); Gussenbauer's meloplasty completed by leaving pediculated neck graft in the mouth. Sixth operation (Dec. 8, 1902): Division of the pedicle of the transplanted flap and final closure of the cheek incision.

The final results obtained by these various operations and the protracted treatment associated with them was fairly satisfactory, and justified the sacrifices made by the patient in obtaining relief for what appeared in the start to be an absolutely irremediable condition. The chief object aimed at was to restore to the patient the ability to open his mouth, eat and chew food by increasing the capacity of the mouth and restoring the lost motion of the lower jaw. This object was to a large extent attained without entailing any serious sacrifice of his appearance, which had already been seriously affected by the disease. When he was admitted to the hospital the front teeth could not be separated to the extent of admitting the blade of a penknife introduced flatwise. When he was discharged he could separate his front teeth more than an inch apart. He could move his jaws laterally quite freely, and could eat and chew any ordinary article of diet without difficulty. While freely recognizing that all facial scars should be avoided in correcting deformities of this kind, it is evident that when dealing with a case of this type cosmetic considerations must be relegated to a secondary plane, and that restoration of the lost maxillary function must be given the prime consideration.

Fig. 10.—Photograph of the patient at the time of discharge from hospital. The pedicle had been divided and all incisions had healed.

DISCUSSION.

DR. JOHN B. MURPHY, Chicago—This condition of ankylosis is a most trying one for the patient and for the surgeon. I have had the good fortune to have two of these cases. One of them was the result of ulcerative stomatitis, which destroyed all the tissues of the cheek except the skin. The cheek was one cicatricial mass, and the muscles were destroyed clear back to the angle of the jaw. The treatment consisted of division of the fibrous mass and excision of the scar tissue on each side up to the base of the teeth. The first thing that was done after making the incision through the growth was the complete removal of the cicatricial tissue through the mouth. A flap was turned back from the neck below the chin, with its base below the ear. It was drawn into the mouth through a small incision in the cheek at the angle of the jaw, then turned on itself so that the skin came against the teeth and the raw surface outward. It was sutured above and below to the gums and iodoform gauze packed between the teeth and the flap, so as to make a perfect apposition between the cheek and the surface of the flap, thus placing the cutaneous surface of the flap on the inside. The result was excellent and without much disfigurement.

The second case followed the removal of a large angioma, which had left a large cicatricial mass so firm as to displace the teeth inward in a straight line. The teeth stood in a straight row from the angle of the left jaw to the right bicuspid. Through an incision from the angle of the mouth to the angle of the jaw I removed all the cicatricial tissue except the skin. Portions of the angioma still remained. I made the reverse type of flap from the skin of the neck, sutured the edges to the gums and closed the incision in the mouth; the cheek was packed with iodoform gauze. I succeeded in this last case, which I considered the more desperate, in getting a very movable jaw.

In neither case did we have the pain and other complications preceding the operation which Dr. Matas had in his cases, and I desire to compliment him on his work on these cases.

DR. J. R. EASTMAN, Indianapolis—I have had under my observation during the winter, a case of cicatricial ankylosis of the jaw which may be interesting to the members of the Section because of its rather unusual etiology. The case concerned a boy 7 years of age, who gave a negative anamnesis except that he recalled having fallen and having sustained what was described by his parents to have been a slight superficial injury at the angle of the right inferior maxilla. It was impossible for the boy to separate the jaws more than one-sixteenth of an inch, and he was therefore unable to take any other than liquid nourishment. It was also impossible to force open the mouth without using dangerous force.

There was a small scar and reddened area at the angle of the jaw. On making an incision over this scar and passing my finger along the ramus of the inferior maxilla I came on a hard object which proved to be a piece of wood one and one-fourth inches in length by one-fourth of an inch in thickness, jammed in between the ramus of the inferior maxillary and the superior maxillary bone. It was imbedded in scar and granulation tissue, which had become very dense. I removed the wood with a pair of forceps, and was immediately able to open the boy's mouth with slight force as wide as one-half inch. He has been able to chew food of all kinds, and I have not at this time advised further operation, though I am not unmindful that scar formation may make a plastic operation necessary.

DR. E. D. MARTIN, New Orleans—The last case recalls one of a severe head injury, where pus had dissected down on either side of the scalp until the masseter muscles were seriously impaired and cicatricial contraction followed. This case I was enabled to cure by a very simple device. I had made for him an apparatus resembling a glove-stretcher. This he carried in his pocket, and in his odd moments would put it between his teeth and with a little force succeeded finally in stretching his jaws to their full capacity.

If I had a case so complicated as the one reported by Dr. Matas I should not hesitate to remove the lower jaw. We

know how satisfactory the results are in cases where the jaw is removed for sarcoma, and especially when a temporary splint has been kept in position until the wound has cicatricized. This would preserve the orbicular muscles and give, in my opinion, far better control of the normal structures.

Dr. A. J. Ochsner, Chicago—I wish to call attention in connection with this discussion to one point which became apparent to me in one of my own cases. It is this: that a deformity of the lower jaw, and especially of the teeth such as that encountered in Dr. Matas' case, will disappear to a very great extent in growing children, if the operation is performed while the child is young. In an operation which I did on a child six years ago, within a year the lower jaw grew and the new teeth came in properly and the appearance of the child is now very nearly normal. I think it is better to do the operation while the child is still young, because the deformity can be corrected to a considerable extent, provided the jaw and the teeth are not hampered in their growth by the pressure which is due to connective tissue.

Dr. Rudolph Matas, New Orleans—There is no doubt of the great value of plastic flaps in operations of this character as substitutes for the lost mucosa of the mouth, though their value has been doubted by some writers. Without the skin, which is fortunately quite available in the vicinity of the mouth, there would be no hope of ever restoring the mobility of the jaws in grave cases of this cicatricial type. The cheeks, forehead or neck offer the best material for skin transplantation. The skin ultimately assumes the characters of the mucosa, especially when borrowed from normal hairless parts. I am much pleased that Dr. Murphy's experience has confirmed my own. Dr. Eastman and Dr. Martin have recorded interesting cases. Dr. Martin's mode of separating the jaws is valuable, but not applicable to cases like the one under consideration. His suggestion that the removal of the jaw would be expedient in a case like the one reported is entirely too drastic. It is impossible to conceive how excision could in any way better the situation of such a patient. There is no question that my patient's condition is infinitely better now with a plastic that yields restricted motion than without a lower jaw, or with an artificial jaw, as an artificial jaw, no matter how ingenious it might be, could never take the place of even a fragment of healthy maxilla. I entirely agree with Dr. Ochsner's remark that these cases should be operated on early to obtain the best results. I did not see my patient until he was 27 years of age, when permanent atrophic change in the bones and muscles had taken place and when developmental defects in the eruption of the permanent teeth had made the task of a perfect restoration a practical impossibility. Had the operation been performed twenty-five years before, I am confident very little traumatism would have been required to effect a cure. Nevertheless, when we consider the extreme conditions under which treatment was undertaken, the results must be considered highly satisfactory.

SURGICAL TREATMENT OF HIGH MYOPIA.

(SECOND PAPER.)*

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In an essay delivered before the Western Ophthalmological and Otolaryngological Association at New Orleans, Feb. 10, 1899, and published by Drs. Würdemann and Murray in the *Annals of Ophthalmology,* April, 1899, the authors noted the rarity of high myopia in America and the relative frequency of this condition in the ophthalmic statistical reports of Germany and other European countries. A number of statistical tables were given in this paper which have been amplified and are herewith appended. These are taken entirely from the authors' private practice during the last fourteen years, in which 10,500 pairs of glasses have been prescribed, this, of course, including renewals of prescriptions. The following table shows the refraction of 4,690 eyes under a cycloplegic:

TABLE OF CASES UP TO JAN. 1, 1899.

Refraction.	No. of Cases.	Percentage.	Percentage.
Myopia	172	3.7	
M. As.	190	4.0	17.3
Comp. M. As.	451	9.6	
Hyperopia	1,148	24.4	
H. As.	512	10.9	76.7
Comp. H. As.	1,942	41.4	
Mixed As.	275	6.0	6.0
Total.	4,690	100.0	100.0

In addition to these there were 755 eyes fitted for presbyopia without the use of a cycloplegic.

The following table shows the refraction of 3,331 eyes and includes those in which complete examination under cycloplegic was made, and 861 eyes examined without cycloplegic in persons over 45 years of age:

TABLE OF CASES FROM JAN. 1, 1899, TO JAN. 1, 1903.

Refraction.	No. of Cases.	Percentage.	Percentage.
Myopia	110	4.45	
M. As.	56	2.26	16.02
Comp. M. As.	230	9.31	
Hyperopia	529	21.42	
H. As.	320	12.96	75.60
Comp. H. As.	1,018	41.22	
Mixed As.	207	8.38	8.38
Total.	2,470	100.00	100.00
Presbyopia	861		
	3,331		

Out of the above number of 7,160 eyes refracted under a cycloplegic there are only 282, or 3.9 per cent., of simple myopia; and including simple myopia, myopic astigmatism and compound myopic astigmatism there are only 1,209 eyes, or 16.9 per cent., with myopia. Of the total number of eyes refracted, 8,776, there were only 78 eyes of myopia over 10.00 D. (0.888 per cent.). Operation has been suggested in 4 instances and accepted in 3 (6 eyes), and the result in the 6 eyes operated on has been extremely satisfactory, although each operation was much more complicated than ordinary cataract extraction.

But few of the high myopic cases were adapted for operation, as the large proportion achieved comfortable and useful vision by proper correction of the refraction. It will be observed in most cases that the high myopia was accompanied by a considerable degree of astigmatism. It is likely that the many operations done for high myopia by our foreign confrères need not have been undertaken if they had corrected the accompanying astigmatism which was the greatest factor of discomfort. In other cases marked deviation of the visual axes existed, as is usually the condition in myopia (that of divergence). A marked example of the benefits derived from the correction of the full refraction and of the muscular deviation was the following case:

Case A.—Sister D. (a nun of Notre Dame Convent), Milwaukee, July 25, 1899, presented an unusual picture of very high myopia with internal strabismus. She was wearing, R.—15.00⌒ prism 10° base out; L.—15.00⌒ prism 10° base out, fitted by an optician. With these she had homonymous diplopia with the red glass of 25° and left hyperphoria of 4°. The full refraction was, R.—20.00⌒—1.00, 90°; V.=6/xxxvi; L.—17.00, V.=6/xxiv; by adding prism 10° out with prism 4° down over the R. eye and prism 15° out over the L. eye, monocular vision could be obtained, but with no combination of lenses could easy or useful vision be given to both or either eye and the patient preferred to do without any glasses. Op-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

erative work being suggested August 1, was accepted, the first step in which was to restore the visual axes to as near parallelism as possible; this being done by full tenotomies of both internal recti and advancement of the left external rectus. Monocular vision was immediately achieved, there being immediate exophoria of 2°. August 16 there was orthophoria in the distance; August 22, glasses were prescribed, R.—20.00⌒—1.00, 90°; L.—17.00, for distance and occasional use, and for the near was ordered, R.—16.00⌒—1.00, 90°; L.—13.00; for constant and near use. With these, to this date, she has had satisfactory vision and use of the eyes.

An example of the pursuance of vocation in high myopia without refractive correction, the patient refusing it, was the following:

CASE B.—March 7, 1892, M. D., age 40, seamstress; vision 0^2 counting fingers at 2 m., could read ordinary print by holding book very close to face, which posture she habitually maintained while working; had tried many times to get refractive correction. R.—11.00⌒0.50, 90°, V.=2/lx; L.—11.00⌒—2.00, 130°, V.=6/lx. These were ordered but were not tolerated; distance glasses changed later to R.—6.00⌒—0.50, 50°; L.—6.00⌒—2.00, 130°. Reading glasses were later ordered, R.—4.00, L.—4.00⌒—2.00, 130°, which were, as well as the other lenses ordered, asserted by the patient to be of no use. She has been under observation about every two years on account of recurrent deafness from inspissated cerumen and has tried no other glasses but gets along well in her business as head seamstress of a large department store and re-

TABLE OF MYOPIC CASES—10.00 D. OR OVER.

No.	Sex.	Age.	Vision.	Refraction.	V. After Refract.	Condition of Fundus and Media.	Treatment.
1	F...	15	O^2 Fings. 1 m	O.D.—15 00 O.S.—14.00	Not given...	Not given	Gl sses ordered.
2	F...	30	" " "	O.D.—15.00 O.S.—11 00 6/xxxvi	6/xviii	Patches of atrophy in choroid	Full correction for dist., +4.00 added for near.
3	F...	.	" " "	O^2—16.00	O^2 6/xxxvi	Not given	Ord. O^2 —13.00.
4	F. .	.	" " "	O^2—14.00⌒—1.00, 180°	Not given	" "	+6.00 added for near.
5	M..	41	Fingers, 2 m.	O.D.—8.00	" "	" "	1½° L. H. lens decent. down.
			" 1½ m.	O.S.—11.00			
6	F...	.	O^2 " 2 m	O.D.—11 00⌒—50. 45°	" "	" "	Full correction for dist., +5.00 added for near.
				O.S.—11.00⌒—2 00, 130°			
7	F...	60	" " ½ m.	O.D.— 9 00⌒—1.00, 135°	O^2 6/xl	Extensive central choroidal disease with large staphyloma in O.D.	+6.00 added for near.
				O.S.—13.00⌒—4.00, 105°			
8	M..	55	" " ½ m.	O.D.—11 00	O^2 6/x	Slight choroiditis, some opacities in vitreous.	11° diplopia heteronomous pr. 6° base in ord., +3.00 added for near.
				O.S.—7 00⌒ 1.00, 165°			
9	M..	23	" " 2 m.	O.D.—11.00⌒—1.25, 165° (1894)	O^2 5/x	Progressive myopia, some choroiditis.	Full correctio not tolerated, +3.00 added and worn constantly.
				O.S—9.00⌒ 1.75, 15°			
				O.D.—14 00⌒—1.50, 15° (1901)	O^2 5/x		
				O.S.—12 00⌒—1.75, 180°			
10	F...	30	" ½ m.	O^2—16 00	Not given	O.D. conical cornea, 37.00 D. at 180°	Glasses ordered.
			" 3 m.				
11	F...	20	Not given	O^2—16.00	" "	Not given	" "
12	F...	60	Fingers, 2 m.	O.D.—12.00	" "	" "	Glasses ordered, +4.00 added for near.
			" 3 m.	O.S.—10 00			
13	F...	21	Not given	O.D.—10.00⌒—2.00, 180°	5/xl	Optic nerve atrophy, V. F., right especially reduced.	+1.00 added to full correction.
				O.S.—10.00⌒—2.00, 180°	5/xxxv		
14	F...	9	6/xxxvi	O.D—11 00	O^2 5/xxxv	Not given	Glasses ordered.
			6/lx	O.S. 11 00			
15	F...	20	1/lx	O.D.—14 00⌒—3 00, 15°	=5/x	O.D. slight post staphyloma; O.S. large post staphyloma.	Full correction for dist.. +3.00 added for near.
			1/cxx	O.S.—20 00⌒ 3.00, 165°	=5/xii		
16	F. .	26	O^2 1/lx	O.D.—10 00⌒—1 50, 180°	=5/x	O. S. optic nerve atrophy	Full correction for dist., +3.00 added for near.
				O.S.—10 00⌒—1.50, 180°	=?		
17	F...	48	O^2 1/lx.	O.D.—5 00⌒—8.00, 15°	O^2 3/xxxvi(?)	Hydrops cornea, from old staphyloma due to ophthalmia neonatorum.	Ordered O^2 —9.00.
				O.S.—10 00⌒—5.00, 180°			
18	F...	37	O^2 1/lx.	O^2—13.00	O^2 5/xii	Post staphyloma	Full correction for dist., +3.00 added for near.
19	F...	19	O^2 1/lx.	O.D.—16.00⌒—3.50, 180° (1897)	O.D.6/xxxvi	Large conus in O^2	+4.00 added for near, adv. op. which was accepted.
				O.S.—14.00⌒—1 25, 180°			
				O.D.—17 00⌒—2.75, 180° (1898)	O.S.6/xxiv		
				O.S.—16 00⌒—1 50, 180°			
20	F...	63	Not given	O.D.—17 00	6/xxiv	Post-staphyl. vitreous opac., beginning lenticular opac.	Full correction for dist., +4.00 added for near.
				O.S.—13.00	6/xxxvi		
21	F...	52	O^2 5/l.	O.D.—11.00	6/xxiv	Old corneal macula O^2	Full correction for dist., +2.50 added for near.
				O.S.—5.50	6/xviii		
22	F...	33	Fingers, 1 m.	O.D.—18.00	—6/lx	Not given	O.D. not corrected.
			6/xii	O.S.—12.25⌒—75, 75°	—6/vi		
23	M..	18	Large objects.	O.D.—16 00	Large objects.	Staphyloma, central chorio-retinitis, O D. opt c nerve atrophy.	Full correction for dist., +4.00 added for near.
			Fingers, 2 m.	O.S.—16 00	6/xxiv		
24	F...	31	Not given	O.D.—12.00⌒—1.50. 165°	O^2 6/xviii	O^2 large staphyloma	Full correction ordered, +6 00 added for near.
				O.S.—12 00⌒			
25	M. .	38	Not given	O.D.—13 00⌒—1.25, 15°	6/lx	Lateral nystagmus	Full correction ordered.
				O.S.—13 00⌒—1 25, 180°	+6/lx		
26	F...	37	O^2 finger, ½ m.	O.D.—20 00⌒—1 00, 90°	6/xxxvi	Internal strabismus, homon, diplopia 25°.	Tenot. and full correct. for distance, +4.00 added for near.
				O.S —17.00	6/xxiv		
27	F...	63	Not given	O D.—13 00⌒—0 37, 480°	6/xxiv	Staphyloma choroiditis	+1 00 added to full correction, +4.00 added fo near.
				O.S.—13 00⌒—1.25, 180°			
28	F...	31	6/vi	O.D.+0 37, 90°	6/vi		Full correction ordered.
			Fingers, 1 m.	O.S. 10 00⌒—1.50, 30°	6/xxiv		
29	M..	42	Fingers, 2 m	O^2—16.00	6/xxiv	Small retinal detachment on O.S., post. staphyloma O^2.	O^2 —12 00.
			Fingers, ½ m.				
30	M..	39	Fingers, ½ m	O^2—17.00	Improved sl.	Choroiditis and vitreous opac. O^2, retinal detach. O.D.	Full correction ordered.
			Fingers, 2 m.				
31	F,..	38	Not given	O.D.—15 00⌒—1.00, 15°	—6/xii	Large staphyloma, peripher. lenticular opacity O^2.	+1.00 added to full correction, +4.00 added for near.
				O.S.—15 00⌒—1.00, 140°			
32	F...	34	Not given	O^2—18 00	Not given	Choroidal change	Full correction ordered.
33	F...	.	2/lx	O.D.—14 00⌒—1.25, 180°	" "	" "	" " "
			5/lx	O.S.—14 00⌒ 1.50, 180°			
34	F...	40	2/lx	O.D.—16 00⌒—3.00, 180°	6/viii		Could not tolerate glasses, operated (See report.)
			4/lx	O.S.—13 00⌒—1 50, 180°			
35	F...	37	Fingers, 2 m.	O.D.—4 00⌒ 10 00, 180°	6/xxxvi		Full correction ordered.
			5/x.	O.S.+0.50⌒—2.00, 180°	—6/viii		
36	M..	55	O^2—5/lx.	O.D. 5.00⌒—2.00, 155°	6/xxiv	Post. staphyloma, O.S. old trachoma	Myopia not corrected.
				O.S.—11 00	+6/lx		
37	F...	35	—5/lx.	O.D.—10 00⌒—1.50, 180°	6/xxxvi	Post. staphyloma	Full correction ordered.
			5/lx.	O.S. 5.50⌒—0.25, 180°	6/vi		
38	F. .	52	?	O^2—20.00	Finger, 3 m.	O.D. degeneration and vitr's opacity.	—9.00 ord. for constant use.
39	M..	26	Not given.	O.D.—10 00⌒—5.00, 180°	Not given	Macular retinitis from electric light.	Ord. No. 2 smoked clips for wear over full correction.
				O.S.—9 00⌒—7 00, 180°	" "		
40	F...	59	Not given	O.D.—10 00	6/lx	Retinal detachment, O.D. recurrent, retina returning to place.	+4.00 added for near.
				O.S.—13 00	6/xxv		
41	F...	54	Not given	O^2—18 00	Not given	Cataract O^2	Operation. (See report of case.)
42	F...	14	O^2 6/lx	O.D.—12 00	6/xxiv	External strabismus post. staphyloma O.D.	Full correction ordered.
				O.S.—7.00	6/viii		
43	M..	28	Not given	O^2—13 00	Improved sl.	Cataract O^2; choroidal changes and retinal atrophy.	

fuses to try further correction of the refraction. In this case the patient prefers to utilize the blurred large images rather than the clearer smaller images given by correcting lenses, and as the myopia has not progressed during the dozen years she has been under observation, she has learned to adapt her blurred sight to her vocation and is otherwise a healthy woman. This is one of the few cases in which refractive correction may be dispensed with.

In the following cases the crystalline lenses were removed by operations:

Case 1.—Miss J. L., aged 20, born in Norway, resident of Manitowoc, Wis., recommended by Dr. J. F. Pritchard; came to the office July 6, 1897. She had worn several pairs of glasses on account of shortsightedness, but had received no satisfaction on account of the eyestrain which occurred when she wore them.

Family History.—Father had good eyes, died of yellow fever in middle life; mother living and in good health, has always had weak eyes, but never worn glasses, has had only the one child.

Personal History.—Patient had pneumonia at the age of 2 years and again at 11, has never been strong and is now anemic, has always complained of weak eyes, has found it very difficult to study, has been very nearsighted since adolescence, has been employed as house servant.

Examination showed a high degree of myopia with well-developed conus in both eyes; no opacities of vitreous; ophthalmometric measurement showed corneal astigmatism R—2.75, 90°; L.—2.25, 105°; the refraction was R.—17.00⌒2.75, 180°; L.—16.00⌒—1.50, 180°; for which the following correction was given: R.—16.00⌒—2.50, 180°, V.=6/xxxvi; L.—14.00⌒—1.25, 180°, V.=6/xxxvi; reduction of 4.0 D. from spheres for close work was given. These glasses were better worn than those which she had been wearing, but she was unable with them to follow up her ambition to become a dressmaker.

Operation for removal of the lens was advised June 15, 1898, accepted, and patient sent to the hospital. Following day, discission of right lens capsule under holocain anesthesia and atropin mydriasis; but little reaction. July 2, 1898, a second discission was done which caused considerable reaction, although the patient was allowed to go home. July 14 she wrote she had great pain, anterior chamber shallow, lens decidedly swollen.

July 26 she came to the hospital, lens greatly swollen, disintegrating and bulging into anterior chamber; tension +2; lens matter was removed by linear incision under holocain anesthesia. A clear pupil immediately resulting. Further course was uneventful.

September 16 ophthalmometer showed corneal astigmatism in the eye operated on of 2.50, 105°. With +1.00⌒+2.00, 115°, V.=6/xxiv; with addition of +3.50 sphere, Sn. 1.0 was read at 0.50.

September 17 the effect of the operation having been satisfactory in the right eye, a discission was done on the left lens capsule which at first was followed by no reaction, but two weeks later the lens became so much swollen that tension and pain occurred, so that it was extracted October 1 by linear incision, which was followed by clear pupil. Further course uneventful.

November 15 a secondary operation was done on the capsule remaining in the right eye. At this time the ophthalmometer showed corneal astigmatism for the left eye 4.25, 75°. The refractive condition was R.+1.00⌒+2.00, 115°; V.=6/xxiv; L.+2.00⌒+3.00, 75°, V.=—6/xxiv. With these she has binocular vision and with the addition of +3.50 spheres, for the near point, can read Sn. 1.0 at 0.50.

Patient has been seen or has written several times since and expressed herself as being very well satisfied with the improvement of vision and with the increased use of the eyes which she has obtained through the effect of the operation. Under date of Dec. 21, 1898, she wrote us "that she could see first rate in the distance but not so well near by." It may be that readjustment of the reading glasses will satisfy her more completely. There has been no tendency toward any other complication than that from the excessive swelling of the lens and to this date the eyes are in very much better condition than before the operation.

Later the patient returned to the office complaining of "black spots" before the eyes, especially the left. Vision with correcting lenses was 6/xv, R. and L. Ophthalmoscopic examination showed a disseminated choroiditis, most marked in the left eye—probably a result of the pathologic condition present before extraction of the lens. Visual field contracted in both eyes. The patient was given an alterative and advised to use the eyes as little as possible for near work. She has since been lost from observation.

Case 2.—April 28, 1900, Sister F. (a nun of Notre Dame Convent), aged 40; German descent, had been a nun for many years; high myopia and astigmatism, was wearing —11.00 spheres in both eyes fitted by local oculist; had had many pairs of glasses but had received no satisfaction on account of the accompanying eyestrain. Full refraction was R.—15.00 ⌒—3.00, 180°; L.—12.00⌒—1.50, 180°, which were ordered for her and likewise weaker pair for near use, but she was unable to wear any, preferring to do without glasses. Operation for the myopia was suggested and accepted, discission being done on the lens of the right eye May 18, 1900, and repeated six weeks later and subsequent discission of the capsule being made at the end of three months from the first operation when examination showed the eye to have the following refraction; R.+1.00⌒+1.25, 90°, V.=6/vi; October 27 discission was made on the left eye, and this repeated on Feb. 27, 1901, for opening of the capsule; April 30 the refraction of the right eye remained the same, while the left took +3.50⌒+1.50, 90°, with which V.=6/vi; +3.00 being added to this for the near gave comfortable reading vision. Aug. 26, 1901, there was no change in the glasses and the patient said she could see double with the left eye, which was evidently due to a strand of the capsule almost vertically across the pupil. This was discided, the irides were perfectly mobile to light and accommodation, the visual field was enlarged and the patient had satisfactory and clear vision.

Case 3.—Oct. 22, 1902, Sister R. (Dominican nun), aged 54, high myopia with cataractous changes in both eyes which had been going on slowly for four years; there were vitreous opacities and in both eyes myopia —18.00 D., for which she was wearing —10.00 D. spheres, but without satisfaction; had been unable to read for a year, and had consulted a number of oculists. We advised extraction of the lens, and October 29 discission was first made on the right eye, the lens being found to be hard and quite movable; November 1, simple extraction of the right lens was made, the pupil being left clear and round. November 25 there was thick secondary cataract, which was discided December 21. The refraction on December 22 was R. +1.75, 180°, with which V.=6/xxii, and with +3.50 could read Snellen 0.25 at 25. For some time after the extraction she had purple vision, which entirely passed away. Jan. 1, 1903, simple extraction was made on the left eye, which was perfectly normal, but was followed by considerable hyphemia, the bleeding of the iris persisting for over three weeks, but finally becoming resorbed, and as the patient had good candle field and could count fingers, at this date discission of the capsule was made, which, on March 7, gave vision 6/xxxvi with +2.00. March 25 R.—50⌒+1.75, 180°, V.=6/xii; L.+0.50⌒+2.25, 180°, V.=6/xxiv, with +3.50 she could read Sn. 1.50 at 25, R.—2.0 at 25, L; glasses ordered.

The results in all three cases have been most gratifying to the patients and the operators, despite their complicated course. In all cases we obtained the advantages which were shown in the paper read Feb. 10, 1899:

(1) Increase in the visual acuity; (2) enlargement of the retinal images; (3) enlargement of the visual field; (4) increased range for near work; (5) the wearing of light lenses instead of heavy strong spheric lenses, in a combination which permits of clearer and less distorted retinal images; (6) the pupil being brought

nearer the retina the eccentric visual rays are more excluded; (7) and most important, the more extended use of the eyes obtained by the patients; in all cases a new world having been opened to their view. Detachment of the retina has not occurred in any of these cases, and even if it should happen, the German statistics show that its occurrence is only in 5 per cent., and this is the percentage of cases of high myopia in which detachment occurs without operation. We will repeat the résumé given in our previous paper, which we have had no occasion to change:

RESUME.

1. Surgical treatment of myopia should be limited to those cases over —12.00 D. who suffer great inconvenience from their correcting lenses. The ideal cases for operation are those of —17.00 to —18.00 D.

2. The operation is mainly indicated in young adults.

3. Cases having active disease and changes in the ocular structures, such as progressive myopia, chorioiditis, fluidity of the vitreous or detachment of the retina are not applicable.

4. The dangers of operative interference are more than counterbalanced by the results to be achieved, which are mainly, increase of visual acuity and of the visual field, and more extended use of the eyes which accompany diminishment of the refraction.

THE CAUSES, PREVENTION AND MANAGEMENT OF MYOPIA.*

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In presenting this subject for consideration, I feel that it is neither fitting nor just that I should discuss every phase of it. It is my purpose, however, to draw your fire, and in this way to have the subject thoroughly ventilated.

In the beginning, permit me to say that I shall discuss the management of myopia in those who are under the presbyopic age, for I conceive that it is during this period that we are confronted by the serious problems in the management of the shortsighted eye.

The initial proposition which I wish to set forth is: that the condition of emmetropia is the normal and natural refractive condition of the human eye. It is true that infants, as a rule, are born hyperopic, and, therefore, it must be true that if they happen to arrive at the condition of emmetropia, an elongation of the eyeball along its anteroposterior axis occurs.

Emmetropia, therefore, under these circumstances, is an acquired condition. Now, if it is the purpose of Nature that all infants should be born hyperopic, it must be her purpose further either that the growth of the eye anteroposteriorly should cease at the moment at which the emmetropic length is attained, or that the final destination of the eye should be myopia.

Since no thing or condition in Nature is stationary, it follows that constant change in the length of the eyeball is natural, and that the condition of emmetropia is a fleeting and a transitory one. This line of reasoning places our philosophy almost in the realm of transcendentalism, and it is the basis of those who claim that the ideal eye is hyperopic; that emmetropia is a step, an intermediary one indeed, if not the first step toward myopia. I can not accept this interpretation as a practical basis, and I feel compelled to regard the emmetropic eye as the ideal one to which all eyes that differ from it should be reduced. This conclusion is not strictly logical, but is eminently practical, and is necessary in this discussion.

I regard the myopic eye as a vicious, diseased organ, with a constant tendency to increase in its anteroposterior diameter. It is likewise more subject to structural changes at its posterior pole than other eyes. It is a part of a reasonable therapeusis, therefore, to prevent the occurrence of myopia, to prevent its increase when it has occurred, or to reduce its increase to the minimum.

As has been stated, the physical cause of myopia is the elongation of the eyeball in its anteroposterior axis. The causes of this can be divided into those which are predisposing and those which are direct.

Permit me first to refer to the direct cause. I think it is safe to say that two theories are held on this point. One may be called the accommodative hypothesis and the other the convergence hypothesis.

Antecedent to the paper of Foerster, which appeared in *Knapp and Schwerger's Archives,* in 1884, the accommodative hypothesis had universal sway; but in 1884 Foerster set forth the reasonable claims of the convergence hypothesis as opposed to the accommodative hypothesis, in explanation of the cause of the development of myopia.

For my own part, I can not see how any one can adhere to the accommodative theory, either on the ground of philosophy or practical experience. In discussing the relative merits of these two theories, Foerster pointed out that if the elongation of the eye were caused by the muscular action of the tensor of the choroid, myopia would carry with itself its own infallible and invincible remedy; for the simple reason that work demanded of the accommodative apparatus decreases as the myopia increases. All this ceases the moment we look for the origin and increase of myopia in the excessive convergence of the visual axes. As the nearsightedness increases, the convergence of the visual axes increases, while simultaneously its claims on the tensor of the choroid decreases, which is practically the corollary to the initial proposition.

The persistent increase of myopia the moment it has attained a relatively high degree harmonizes, therefore, precisely with the increased angle of convergence. Foerster discarded the accommodative theory, and plainly pronounced himself in favor of the convergence hypothesis. His article contained the histories of a large number of cases which tend to support his views.

In convergence of the eyes for a near point there is pressure on the sides of the ball by the external muscles, and the nearer the object looked at the greater is the pressure. At the same time, there is necessarily a determination of blood to each eye, in conformity with that physiologic rule which demands the presence of a greater quantity of blood during physiologic activity than during physiologic rest. Unquestionably, then, these conditions might reasonably tend to produce myopia.

We are, perhaps, in some respects indebted to Von Graefe for the accommodative view of the cause of increase in myopia. He observed that in the effort to accommodate there occurred an increased pulsation of the retinal veins. He reasoned from this that the active condition increased interocular tension and thereby conduced to increase the length of the ball.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

That the eyeball itself should be increased in length by the act of accommodation in which there is a pull from the front on the back of the globe by an interior structure, is to me as unreasonable as that a man should be able to raise himself from the ground by pulling on his boot straps. I, therefore, accept the convergence hypothesis as the only reasonable one extant for the direct cause of increase in the length of the eyeball; and it is on this basis that I purpose to treat this subject.

It has been stated that the majority of eyes at birth are hyperopic. I think it is not straining a point to say that all eyes that are not macrophthalmic are hyperopic at birth. If the condition of myopia is to arise in these eyes, of course the condition of emmetropia is to be attained first.

Myopia rarely occurs in very early life; very rarely, indeed, does it occur under five years of age. And, in fact, I believe it can be said that in a large majority of cases it occurs after the child has commenced to use its eyes at school. The active study involves convergence of the visual axes; but I do not believe for one instant that this act alone will produce myopia. This reflection leads me to consider the predisposing causes of myopia.

I fancy no one will deny that myopia is particularly apt to occur in childhood after one or more of the exanthemata. I think scarlet fever and measles can be cited among these as claiming the largest number of victims. Subsequent to these diseases, the vitality of the patient is very much lowered. The entire muscular power of the body is diminished and, I think, particularly the accommodative power. The natural impulse to convergence degenerates into an effort. Along with that comes the congestion of tissues whose vitality has been weakened.

Most children are inclined to hold their books nearer than is necessary, and the younger the child, the nearer is the book apt to be held. The squeezing of the lateral muscles supplemented by congestion of naturally yielding tissues incident to childhood, fulfills the necessary conditions that favor the increase in the length of the eye. I cite the exanthemata because they, I believe, are the most frequent of the predisposing causes of myopia in childhood, and I cite them as types. Similar causes will produce similar conditions.

It is an accepted fact that heredity is a predisposing cause in the development of myopia. If a mother or a father in a family be myopic, and there are several children, myopia is most likely to develop in one or more of them. And it appears to be a fact, in my experience, that the mother is more apt to transmit myopia than the father.

Illumination and a proper text for books may be cited here. In schoolrooms the desks should be so arranged that the light, if possible, should always fall from the left, for obvious reasons. Moreover, the inclination of the desk should be such that the visual lines from the eyes when the head is held in almost an erect posture should strike the plane of the desk at right angles. This will obviate and possibly remove the habit so many children have of bending over their books.

This leads me to mention the importance of posture. The head should not be bent; it should be held almost erect; and the book, if it is read in the hand, should be held in front of the eye, and very nearly on the same plane as the eye.

The character of the illumination by night I conceive to be of the greatest importance. I can not condemn too strongly the use of the unfrosted electric bulb, which permits the eye to see the carbon wire. This, under all circumstances, will produce an after-image which is wearisome and irritating, and produces congestion of the entire ocular structures. If the electric bulb is used, and the bulb is within the field of vision, it should be at least frosted so that the carbon wire can not be seen.

I also desire to register here my condemnation of the Welsbach white light, which produces an exceedingly fierce light, in which I can not fail to detect some of the blue elements of the spectrum. This light is to me exceedingly disagreeable and produces distinct discomfort when used as an illumination for reading.

The best illumination for study, in my opinion, is the so-called German student's lamp, or the Argand gas burner, over which a green shade is placed. The source of illumination should be toward the left of the individual and below the level of the eyes, so that the light is reflected on the paper and again reflected to the eyes.

The slightly yellow light of the oil lamp, and even the Argand burner, give a wave length which is apparently grateful to the eye; and the further it is from the red end of the spectrum, without becoming green, the more grateful it appears to be.

The characteristic text of our schoolbooks and other books is gradually becoming larger and the linear spaces greater. There is to-day no longer any need or necessity for the small forms of print, and it will be an advantageous thing for the human eye when they have been relegated to the historic past.

I firmly believe that the high percentage of myopia in Germany is due as much to the universally abominable illumination there as to the German type. Luckily, nowadays, a large number of the German scientific books are being printed in the Latin text, and if the homes of the people could be illuminated so well even as the homes of our poorer classes, I believe there would be seen a diminution of myopia in Germany in the near future.

As a matter of course, an attempt to read in a reclining posture is a frequent cause of the increase of myopia. In this position there is the greatest possible strain on the lateral muscles.

Any general systemic condition which is inclined to cause congestion of the head tends to favoring the production of myopia; eminently, for example, constipation; and in early childhood this irregularity should be carefully watched and abated.

Owing to the vigilance and wisdom of our surgeons in this country, much has been done to prevent conditions at school and in home life which lead to the production of myopia in our children. A continued crusade along these lines will effect still more beneficent results.

Heredity, however, is harder to be combated, so far as it itself is concerned. But it behooves every intelligent surgeon who has under his care children with this predisposition to lay down the most rigorous rules for the care and conduct of the eyes of such children.

During convalescence from any form of sickness, children should not be permitted to go to school until all symptoms and signs have disappeared, and until they have regained their former strength and vitality. Even then their study should be graduated in quantity, and the number of hours of study should be cut down.

In this connection I can not refrain from condemning that which is so prevalent to-day in our schools,

namely, the making on children of demands inconsistent with reason and their ability, so that by the time a girl or a boy retires for the night, she or he has in one way or another employed the eyes from eight to twelve hours a day. Physicians should instruct parents and families in this matter; and the sight should be spared at the expense of useless and superfluous information. A fair amount of knowledge and perfect eyesight is preferable to extraordinary knowledge with strained eyesight and amblyopia.

The matter lies more in the hands of the general practitioner than in those of the specialist, for it is to the latter that the victim first comes.

Let us, then, assume that myopia has arisen in a child under the age of 15 years. What course should we pursue? So far as the correction of the refraction is concerned, three courses lie before us: the total correction of the myopia, the under correction, or no correction.

The total correction of this error is demanded on the convergence hypothesis, and is directly contraindicated on the accommodative hypothesis. Conversely, the under correction of the error or its non-correction is demanded on the accommodative hypothesis and contraindicated on the convergence hypothesis. Which one is to be pursued? It is fair to assume that that treatment is the best which is dictated by reason and fortified by statistics and authority.

I have already declared myself a distinct believer in the convergence hypothesis, and have given the reasons for my belief; therefore, by virtue of opinion I am compromised to the convergence hypothesis and the treatment by full correction. I shall not consider the question of non-correction at all. It appears to me that sufficient statistics have been compiled even at present in favor of the convergence hypothesis to demand the earnest attention of those who oppose it, if not to bring conviction, as to its correctness. The weight of authority, I believe, to-day is in favor of full correction. In the Heidelberg Congress of 1901, the majority of those present spoke in favor of full correction, and it is my ardent desire that a full discussion of this important subject should set forth the views of all those present. Dr. Edward Jackson has presented to this Society the result of his investigations along this line as far back as 1892. He reported the histories of 62 cases treated by full correction—the average period of observation for each case being about 5½ years. In these cases there were 123 eyes, one being blind with congenital cataract. During the above-mentioned period of time, 93 out of 123 eyes remained practically unchanged in the matter of refraction. In 10 eyes there was an increase, .50 D.S.; in 3, the myopia was diminished, .50 D.; in 13, the myopia increased more than .50 D., the average being 1.5 D.; in 4 eyes, the myopia was diminished more than .50 D., the average being 1 D. The visual acuity diminished in 6 eyes to a very slight degree; in 16 the visual acuity was markedly increased, and in a few it was doubled. These statistics have latterly been supplemented by others equally striking.

Over against these let us place those of Schreiter, Roscher and Meyerhof, in uncorrected or under-corrected myopia. Their patients were mostly under 20 years of age. Schreiter found less than 21 per cent. stationary in an average of 6 years of observation. Roscher found 39 per cent. of non-increase and Meyerhof 38 per cent. The latter two had their patients under observation for about four years. If one compares these statistics with those of Jackson, in which 75.6 per cent. remained stationary, such figures will carry their own weight and need no support.

These facts are supplemented forcibly by the statistics of Pfalz and Heine, presented at the Heidelberg Congress in 1901. The statistics presented by these men were overwhelmingly in favor of full correction. Fuchs, von Hippel, Axenfeld, Uhthoff and many others spoke in favor of full correction. When we remember that the former treatment of under correction or no correction of myopia found its greatest supporters among Germans, the incident becomes singularly significant.

Knapp has expressed himself in favor of full correction of myopia when there is good vision and no fundus changes present.

Over against this weight of evidence stands the views of Koenigshoefer, who is a strong advocate of under correction.

Liebreich has expressed some original views as to the physical cause of myopia. He considers it due to increased interpupillary distance caused by a separation of the orbits. He claims that this osseous malformation produces a disturbance in the correlation between accommodation and convergence which, of course, causes an increase in the angle B. He thinks total correction achieves good results only in those cases in which the angle B is either very small or normal.

It is safe to say that sufficient statistics have not been brought forward in this matter, and herein is a loophole for the disciples of under correction. It is hoped that the interest in the matter will be so stirred that careful statistics of all cases of myopia under treatment will be compiled, and the principles at issue be settled beyond peradventure.

Widmark of Stockholm has called attention to the influence of corneal opacities in causing an increase of myopia when it is present or its production when astigmatism is associated with the opacities. He has observed, however, that the production of myopia or its increase generally occurs in that eye which is free from opacities, and in case there is astigmatism in each, he has observed that myopia arises in the less astigmatic eye. While he favors the convergence rather than the accommodative hypothesis, he conceives that myopia produced by opacities of the cornea, as above described, can not be explained on the convergence hypothesis. It appears to me that his observations were strong proof in favor of the convergence hypothesis. The opacities in the cornea induce the patient to hold the work nearer to the eye; this perforce increases the convergence of the visual axes and excessive congestion of the better eye—ideal conditions for the production of myopia on the basis of the views expressed in this paper. His conclusions seem to me to negative his reasoning and his observations.

Foerster concluded that three things were necessary in correcting myopia; the first was a full and proper correction, the second, the proper position of the eyes in work, and the third, the use of abducting prisms to force the near point outward in binocular vision.

The first two propositions are eminently reasonable, but the third I consider superrogatory, and this latter suggestion of his is characteristic of all those who propose new ideas. It seems reasonable enough that there should be a full and complete correction, but the use of abducting prisms points, in my opinion, lies in the direction of overdoing the matter.

For my own part, I regret I have not kept my records carefully enough to enable me to back my opinion, concerning the full correction of myopia, by statistics. Yet, after all, statistics are in many ways deceptive because it is practically impossible to collate uniformly similar cases. The weight of the evidence, in my experience, has been overwhelmingly in favor of full correction, though I do not think the rule can be said to be hard and fast.

I commenced to give the full correction in myopia in 1886, and I have continued to do so under proper conditions to this date. It requires no patriarchal experience to remember the day when the full correction was never given and when even the myopic laity entertained definite views on the subject. To-day at times one meets patients who still give some evidence of their attachment to those views.

It has frequently happened to me to be compelled to combat these views in the mothers and fathers of children—so strongly and widely was the old idea of under correction promulgated by the elder practitioners. It is not possible for me to say to what degree I correct myopia in all cases. Each case I consider a law unto itself. I have known some people, even adults, who accept and wear with perfect ease for distance, glasses which would not for a moment be tolerated by another with an equal error.

Suffice it to say, I correct myopia in children to the limit, if possible, and I force them to wear the glasses for reading and for near work. I consider this necessary in low degrees of myopia as well as in high. Now, I do not mean that every individual should be forced to wear the full correction glass which is indicated by retinoscopy or the direct method, but he should be made to wear the weakest glass found by the test case with which he gets the best vision with the most comfort; this I consider full correction.

It is obviously absurd to force on a patient a correction which is estimated by objective methods of examination alone. The functional method with the test case is the crucial test, and its decision should guide us. There must, however, be a reasonable relationship between all methods.

In those cases in which the degree of myopia in the two eyes differs considerably in amount, it is my custom, as a rule, to give the glass which corrects the less myopic eye to both eyes. I find that this is uniformly more agreeable than correcting each eye separately. This can hardly be said to be full correction in a true sense, but it amounts to that, and is in the way of my rule, viz.: the weakest glasses which give the best vision with the greatest comfort to both eyes.

Of course, the far point should always be thrust as near as possible to infinity, i. e., to say to twenty feet. But in the majority of cases it is not well to give the stronger glass if a weaker glass will give the same visual result, because the sharper visual image furnished by the stronger glass causes the patient discomfort. I do not believe that the cause of this lies in the increased accommodation. I believe it is an inherent quality in some retinæ. It is obvious, then, that the weakest glass which gives the best vision compatible with comfort is the strongest glass which will be tolerated. I am accustomed to ask the patients if the glasses feel "soft." This word seems to convey the proper idea to them. There seems to be a uniform conviction that full correction ought not to be worn where fundus changes, particularly choroidal ones, are present. For a long time I held this to be an exception to my views of full correction, but one case which I shall relate has caused me to give as full a correction as possible in many of these cases.

A woman, aged between 35 and 40, had a high-graded myopia with extensive posterior staphyloma in each eye and marked changes at the macula in the left eye. She had been under the care of a surgeon in a neighboring city, who held the old views about the correction of myopia. He cautioned her against any correction at all, but gave her a weak pair of lenses with which she could see very little better at a distance than without any, and told her to read without glasses. She could not enjoy the pleasures of reading, nor the theater, nor could she go about the streets by herself without great danger. This had persisted for at least ten years. The loss of sight, and particularly detachment of retina, was held up to her as a check on her ambition to be more comfortable, and so she sat and held her hands. In her right eye she had 20/30 vision with —11 D.S.⌒ —1. S.D. with ax. 90°; in her left, 20/200 vision, with —11 D.

After the use of atropin for a week, I gave her the above correction for distance, and at the end of another week I gave her a reading glass; in the right eye, —7 D.S. ⌒ the cylindrical correction, and in the left, —7 D.S. She tolerated both glasses well and has worn this correction for five years. At first I demanded she should increase her reading gradually in this wise: the first day she was to read fifteen minutes, the second 30 minutes, the third three-quarters of an hour, and so on until she had attained two hours of steady reading. I was rigorous in this particular, and I customarily give these instructions to cases in which there is a high degree of myopia, and in which the full or the best possible correction has not been worn before. This lady, emboldened by the ease and comfort with which she sees far and near, has regularly taken each summer since a course at a summer university. Her whole method of life has been altered, and she is grateful. She was of uncertain age and so I gave her a reading glass. If she had been ten years younger I verily believe she would have accepted the same glass for distance and reading. Before the correction she was wont to have photopsies and muscæ volitantes. These symptoms practically disappeared under correction.

I am inclined to think that some lay too much stress on the matter of choroidal changes in the correction of myopia. I believe it is always well to proceed with such cases cautiously, and it is my custom to use a mydriatic for some time before prescribing, but I do not believe that the tension on the choroid necessarily caused in the act of accommodation has so serious an effect as is ordinarily believed. This case supports my views on this point fully, and I have had many similar ones in my practice.

As to the use of a mydriatic, I hold that it is well in all cases of choroidal lesion to employ atropin sulphate, and when the eyes have been kept in a condition of physiologic rest for an appropriate time to discontinue its use, and give the correction according to the principles I have set forth.

As to the use of homatropin, it is my custom to use this agent in simpler cases in which there is spasm of the accommodation or the asthenopic symptoms are particularly marked. I believe that the use of a mydriatic in all cases is not necessary. I also believe that a skillful ophthalmoscopist can, in the great majority of cases, adjust the glasses correctly without its use. *Per contra,* I believe the use of homatropin in every case will do no harm, and will lead more nearly to a correct adjustment. In some way I conceive that the constant and uniform use of homatropin is a refuge for the unskillful.

It is always my custom to make first an approximately quantitative diagnosis with the skiascope, to cor-

roborate it by the direct method, to scour the fundus with the indirect, to use the ophthalmometer next, and to hold all these methods in check by the test case. The correction by the skiascope alone is not practical, in my opinion. I place very little faith in this method alone, as a quantitative test. It takes too much time, is wearisome to the patient and the surgeon, and is open to other objections which it is not my purpose to set forth here. As a qualitative and an approximately quantitative method of examination, I consider it of the greatest service, but I never correct by it alone, nor could I rely on it against the findings of the other methods.

As a means of discovering the approximate axis of astigmatism, I have quite as much faith in it as I have in the ophthalmometer. In clinical work, I am accustomed to use Placido's disc, but I hold behind the aperture in one hand a + 4 D. spherical glass. As a rapid method of diagnosing the approximate axis in astigmatism, I consider this is exceedingly useful.

I conceive that in the correction of myopic astigmatism, as in spherical myopia, the weakest glass which affords the best vision, consistent with comfort, is the correct one to give.

I think, then, it can not be said that all cases of myopia, whether spherical or astigmatic, can or should be fully corrected, and in using the term, "full correction," or in advocating the principle, I desire to be understood as advocating the use of the weakest concave glass which gives the best vision and is, at the same time, compatible with the comfort of the patient. This, it will be observed, is distinctly adverse to habitual under correction, or no correction at all, and is consistent, in my opinion, with the principles involved in the convergence hypothesis.

I think I may sum up my views on this subject in the following manner:

1. Myopia is a condition in which there is an increase in the anteroposterior diameter of the eyeball. This condition is, except in very rare cases, acquired. It is a distinctly vicious process, and in the great majority of cases tends to increase. It should, therefore, be regarded as a disease. It usually begins in childhood.

2. Its causes may be divided into predisposing causes and a direct cause.

3. (*a*) The predisposing causes are, in general terms: Heredity, naturally lax conditions of the eye tunics in certain individuals; the injudicious use of the eyes after sickness, usually in children, after the exanthemata; bad illumination, improperly placed illumination, incorrect position in the act of reading; the existence of refractive errors, generally astigmatism, which is uncorrected or improperly corrected; corneal opacities; any systemic condition which tends to produce cerebral congestion, for example, constipation.

(*b*) The direct cause is an elongation of the eye on its anteroposterior axis, at the posterior pole, except in the case of corneal astigmatism.

4. When myopia has once been acquired, its increase is directly caused by the pressure on the globe by the extrinsic muscles, due to the convergence of the visual lines toward the far point—the convergence theory.

5. The weight of evidence and reason is distinctly against the accommodative theory.

6. Theoretically, full correction of the myopia is indicated, whereby the far point is thrust to infinity.

7. Practically, this is not always possible.

8. The far point should be thrust as far as possible toward infinity, but, at the same time, it should be compatible with the best vision and the greatest comfort.

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DISCUSSION

ON THE PAPERS OF DRS. WURDEMANN AND BLACK AND CLAIBORNE.

DR. EDWARD JACKSON, Denver—No fixed rules can be laid down, in my opinion, as to what cases are suitable for operation and what cases are not, and a very definite opinion on the advisability of operation can not be given in any case until it has been repeatedly seen and studied and the test lenses tried. I have so often seen lenses of 18 and 20 diopters worn with comfort for years that my experience with removal of the clear crystalline lens has been very small. I think, too, that the contraindications can not be stated very definitely, as any rules will have so many exceptions that they will lose the value of rules. Fundus changes are not necessarily a contraindication. If they are so extensive that perfect focusing of light on the retina will not give any improvement of vision, probably there would be no reason for an operation. If the eye is not in a good condition for operation, as having a recent choroiditis, or recent hemorrhages, an operation should not be done at that time. With reference to the vision, we can expect a certain improvement from the effect of bringing the nodal point forward from the retina by the operation; and that becomes a very important indication in cases where the acuteness of vision can be brought up by lenses to 1/6 or 1/8. If you can get vision of 1/6 or 1/8 with the lenses and the operation is successful and the case goes smoothly, there is a probability of bringing up the vision to a point where it will be very useful. Vision much lower than that, however, may be improved so as to be of great benefit. As to the effect of operation on refraction, it may be expected to increase for some months and sometimes for some years afterward. If myopia remains it will be still further reduced and if hyperopia, it will become greater. That corresponds to what occurs in cataract extraction. Diminution of refraction goes on after the changes of astigmatism have ceased. As to the methods of operating, one point should be emphasized; that is the care in making a moderate or small discission to commence with. While the effect of this on some eyes may be very slight and may entail some waiting, it is a great deal safer. I have had to take out for sympathetic ophthalmia an eye that had been lost by an operation for the removal of the lens. While I did not do the original operation, it was a free discission and was followed in twenty-four hours by severe swelling. Of course, if one be prepared to deliver the lens at any time after discission the serious damage may be obviated. Still after acute swelling the eye is not in as good condition for the removal of the lens as when the lens has been allowed to become opaque slowly. If the lens must be removed as soon as possible, it is better and safer to remove it without any discission whatever, even though a subsequent operation has to be done.

DR. A. B. HALE, Chicago—In my clinical work about 38 per cent. of the cases are myopic, as many of them are Russians and Poles. I have ten cases of operation that I have not yet reported in which the results have been very good. Where Dr. Black gives the percentage he forgets that many cases of postoperative prolapse do not go into the records at all. I saw six cases last summer of postoperative prolapse that were not reported and heard of six others. Axenfeld, in a personal letter, says that he is not satisfied with the reports for the first six months, but is inclined to wait for one and a half or two years, as he had one prolapse two years after operation. I think we must accept statistics with a little less cheerfulness than they are presented to us.

DR. H. D. BRUNS, New Orleans—In about 2,500 cases of refraction I have operated seven times for the removal of the lens in high myopia. I reported three of these in the *American Journal of Ophthalmology*, 1898 and 1899, under the heading of "Cases from the Clinic." It seems to me that the greatest value of the operation is prophylactic. There is little chance of keeping a very high myopia in a young person stationary and we

have the greatest opportunity to rescue these individuals from helpless middle age, with the oncoming of cataractous changes later; and we all know how unfortunate operations on such cataracts are. All of my operations but one have been in patients under 18 years of age; that exception confirms what was said a moment ago about certain pathologic changes not being a contraindication. The discission was done to relieve the dull, incessant pain of a highly myopic eye with posterior staphyloma in a woman of 35. I operated in 1897 and the patient some years afterward was entirely free from pain, the disease had made no further progress and she was well satisfied with the result. I agree fully with what has been said about the moderateness of the discission and I think it holds true of all discissions. It is well to make a small discission and wait to see how the eye will tolerate it. I prefer safety with length of time to the loss of a well-seeing eye which I have counseled the patient to have operated on for his future good. That makes the loss of an eye a calamity indeed. The only case in which there was a bad reaction was one operated on by one of my assistants, which had to be extracted. The lens was too much broken up in the discission. A month of iridocyclitis followed. The patient was a little child 12 years of age with good eyes, except that she had 14 diopters of myopia, and I experienced such a bad 30 days that I have never since been tempted to try to gain time at the expense of absolute safety.

Dr. Melville Black, Denver—It seems to me that Nature makes a strong effort in high myopia toward prophylaxis that should be recognized. There is a tendency in all these cases to divergence due to inability of the interni to swing the eyes in. It would seem to me that it is well to recognize this effort on the part of Nature and not try too much to overcome it by giving the patient binocular single vision. I operated recently on a case with 20 diopters. It will not be my policy to operate on the other eye, for I prefer to have in this case as much disassociation of the eyes as possible. It will be impossible in this case for the patient to use the eyes together. I have given nothing for distance over the eye operated on, but have corrected the other eye by a minus 14 diopter lens, which can be worn for near work; thus the patient uses the eye operated on for distance and not the eye operated on for near work. I think that will tend to reduce the probabilities of increase in the myopia.

Dr. J. F. Fulton, St. Paul—I am so pleased with the results of discission that I do not see why extraction should ever be attempted. It is wonderful how rapidly the lens will be absorbed. Success consists in being extremely careful in the original discission. After that you can tear up the anterior capsule freely. The few cases I have operated on have been extremely satisfactory.

Dr. H. Moulton, Ft. Smith, Ark.—I believe in the full correction of myopia, but in cases in children we must secure the coöperation of the parents. Many parents do not do enough close work to understand or appreciate the insistence on suitable light and places of study for the children. It is difficult to get them to follow out our directions properly.

Dr. Oscar Dodd, Chicago—For the last few years I have been correcting my myopic cases in full and find that they are not only more comfortable, but, in following them up and having them come back for examination every six months, I find that nearly all remain stationary, while those cases I have seen which were not fully corrected made much greater changes. One point to be insisted on, I think, is the careful correction of the astigmatism. I had a case of high myopia not very long ago a man 39 years of age, that had been refracted by an oculist ten years before. In the course of a year he lost his reading glasses and had worn those intended for distance, —20 D., all of the time. I found that he took a —22 D. in one eye and —24 D. in the other to see in the distance sufficiently well to read the names on the street cars. I advised removal of the lenses, but at his age I was careful about promising a good result. He preferred to get along with an occasional use of the distance glasses.

Dr. G. E. de Schweinitz, Philadelphia—In all important particulars I agree with Dr. Claiborne. I believe that young persons under 25, with good vision and a moderate degree of myopia (under 6 D.) should wear the full correction of their refractive defect constantly, if accommodation is ample and no signs of fatigue are present. The same rule is applicable to patients until they reach those years when accommodation must necessarily receive help, or when examination shows that the amplitude of accommodation is not equal to the necessities of the patient's life. I agree with Dr. Jackson that full correction is the object to be attained for young persons with normal visual acuity and binocular near vision, no matter how high their myopia, provided the lens selected shall not be an over-correction when brought close to the eye. I fully understand that there are many exceptions to these rules, and that each case must be studied and decided on its own merits, but other things being equal I consider it a positive misfortune that when young people first come for the correction of their myopia they are so frequently given the so-called under-correction, because once under-correction having been given, it is difficult to alter it to a full correction, and a full correction, within the limits already stated, is the best safeguard against the increase of myopia, when worn with proper regard to the hygiene of the eye and the body generally. My experience in the removal of the clear crystalline lens for the relief of high grades of myopia has been a limited one, but entirely favorable. I have always operated by discission first, followed by extraction. The really brilliant results which I witnessed in Dr. Bruns' clinic to-day have well-nigh persuaded me, however, to pursue his method of repeated discissions.

Dr. Leartus Connor, Detroit—All school children are subject to about the same conditions, and yet only a few develop myopia. Why is it? My explanation is that some unknown factor of nutrition exists in the eyeball in these particular persons by which the disastrous results develop. We should, of course, endeavor to remove these so far as we can.

Dr. Allen Greenwood, Boston—I think these cases should always be refracted under the complete mydriasis of atropin.

Dr. John E. Weeks, New York—Although the accommodation theory may not, perhaps, be logical, certain cases come before us that are difficult to explain in any other way. I have in mind a family of five, the father and four children. The father had a myopia of 10 diopters with astigmatism of about 2.50 D. in each eye, with some floating opacities in the vitreous. The oldest son had a myopia of about 5 diopters with astigmatism of 1.50; the child next in age had a myopia of about 2 diopters with some astigmatism; the third, hyperopic astigmatism of 1.50 to 2 diopters, and the fourth, hypermetropia with astigmatism. In each case there was progressive posterior staphyloma. The error of refraction was corrected as completely as possible. This was about seven years ago. The father died about three years after the examination was made and his myopia had not increased. The children have been under observation ever since, and with the exception of about .50 diopter in the oldest boy the refraction has not changed. This is not an isolated instance in my practice. I have not infrequently found that the correction of the error of refraction arrested the process in cases in which staphyloma posterior or sclerochoroiditis posterior was progressive. Although convergence may be chiefly instrumental I do not believe it is the whole cause. As to the removal of the lens in high myopia, I have operated a number of times; I shall hereafter operate by small discissions at first. I shall do a linear extraction only in those cases in which I am compelled to do it. It is, as Dr. Bruns has said, a great calamity to lose an eye after advising removal of the clear lens. Operation by discission and subsequent linear extraction is safer than primary extraction.

Dr. N. M. Black, Milwaukee—I thoroughly agree with Dr. Bruns in doing small repeated discissions and not attempting linear extraction unless indicated; one exception, however, can be made, in the case where the lens is becoming cataractous; in that case linear extraction is justifiable. As to operating where there is disease of the fundus I think the patient should first undergo a certain amount of treatment.

Dr. J. H. Claiborne, Jr., New York—Dr. Thompson taught the full correction of myopia some twenty years ago. I was not aware of that until Dr. Bruns called my attention to it in

a note just now. I thought Forster was the first. As to Dr. Connor's question: I made mention of a case in these words "a relaxed condition of the tissues peculiar to some people." The negro has a characteristic expression for conditions of this kind, "slack twisted people." Such are persons of low vitality who are placed in unfavorable conditions. Some one has suggested that there should be full correction always under atropin. It is clear to me that if you take the refraction under atropin and then without you find a considerable difference. The eye will be more myopic when the atropin has worn off because there is a tonic action of the ciliary muscle that we can not get rid of. I can not accept that proposition as an absolute truism. I have observed a habit growing among ophthalmologists in speaking of "refracting patients," and I want to put myself on record as opposed to it. A patient may be refractory, but can not be refracted. We should eliminate that expression from our nomenclature.

RESEARCH PROBLEMS OF PHARMACOLOGY.*

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The main object of pharmacology is to supply a basis for rational therapeutics. The entire medical profession has always been in accord as to the desirability of this end, but the methods of pharmacology did not at first secure universal recognition. This prejudice against laboratory experiments has now practically disappeared, partly through the advance of medical education and partly through mutual concessions. The modern physician realizes that rational therapeutics can not be based solely on bedside "experience," with its hastily and imperfectly observed and digested data. The phenomena in question are altogether too complex to be understood by such primitive methods. They need to be studied by the most delicate and profound methods over which modern science disposes. This study constitutes a large part of the research problems of pharmacology.

PRACTICAL PROBLEMS.

These problems, which pharmacology must investigate in regard to every used drug, before rational therapeutics can rest on a sound foundation, are broadly as follows: The immediate and late, the direct and indirect, modifications produced by varying doses of the drug in every structure on which it may act, intentionally or accidentally; these actions as manifested in disease; the cause of these actions; the fate of the drug in the body; the chemical constitution of the drug; the effect of the constitution on the action; the possibility of modifying the constitution of active drugs and with this their action, with consequent improvements in the drug; and, finally, the effect of the simultaneous presence in the body of this drug with others.

Almost every pharmacologic research deals more or less directly with one or another of these questions, and considerable has been accomplished in this direction. The results are, however, altogether too scanty. To realize how far we still are from a satisfactory solution of these problems, you need only examine critically our present knowledge of even the most commonly used drugs, such as strychnin, and you will see that not one of the above questions is answered as fully even as our present experimental means permit. It is well to recall that we do not even know wherein the members of a pharmacologic group—such as the digitalis group, the bitters, the cathartics—differ from each other. As a further instance of our limited knowledge of very important points, it must be confessed that we know very little of the late changes produced by drugs and of the reactions which must in many cases follow their actions.

PROBLEMS REQUIRING CO-OPERATION WITH OTHER MEDICAL BRANCHES.

To obtain satisfactory solutions of these problems, pharmacology must undertake, in the first place, a more detailed study of the therapeutic and poisonous actions of important remedies, such as aconite, alcohol, antipyretics, antiseptics, arsenic, caffein, cathartics, cholagogues, dietaries, digestive ferments, digitalis, diuretics, ergot, gelatin (as hemostatic), hydrastis, iodids, iron, mercury, quinin, strychnin, saline infusions, etc. These should be investigated not only by laboratory experiments, but also on carefully diagnosed and observed cases at the bedside. For this a correct diagnosis and understanding of the pathologic condition are prerequisite, and the slow progress of therapeutics is partly due to the deficiencies in this respect, deficiencies which the leaders in these branches are the first to acknowledge. However, it should be possible, even with the present conditions, to so state the problems to be investigated that the answers should be clear and decisive, and that the results of different observers would be comparable.

It is in this connection, in directing and co-ordinating clinical inquiries, that the older, experienced practitioners could do invaluable service in advancing pharmacologic research. Very great benefits are to be expected from the reorganizing hospitals for this purpose, for there are at present very few hospitals in which the experimentalist can co-operate with the clinician. As an instance, there are very few which have the laboratory facilities to make the most ordinary observations on metabolism; nor have they on their staff any men practiced in such work, or even nurses or orderlies who are trained in collecting the material properly. The limits of the thermometer, microscope, hemoglobinometer, hemocytometer and thermostat; and of test tube and burette work, have been pretty well exhausted. To make real advance, the hospitals must have added facilities, and must have a man or a staff who can devote themselves to the scientific work, without distraction by routine duties lying outside of the scientific scope.

This would also give opportunity for applying pharmacology to the investigation of the nature of disease. It must be remembered that both in pharmacology and in pathology we deal with altered cell metabolism. It is often merely a matter of convenience under which science we class a given phenomenon. Toxin-tetanus, diphtheritic paralysis, diabetic coma, and many other forms of disease are strictly intoxications. The methods used in their investigations must be essentially those which have proved so fruitful in the pharmacologic laboratories. All the diseases due to toxins, as also uremia, scurvy, rickets, gout, nephritis, indigestion, etc., need to be investigated in this spirit. This fact is not yet sufficiently appreciated. Natural and acquired tolerance to poisons is another subject in which the pathologist, clinician and pharmacologist can co-operate; but in this field pharmacology is particularly behind. We know less about the mechanism of tolerance in the case of drugs, as morphin, nicotin, alcohol or atropin, than in the case of bacterial toxins—although even here our knowledge is not exhaustive.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

Considerable progress has been made in the way of replacing crude drugs by their active constituents. However, we know but very imperfectly the active constituents of some very important drugs, as digitalis or ergot. Methods should be devised for the practical isolation of these in active and stable form. Other plants, not as yet in common use, may also contain valuable ingredients. The usefulness of active constituents in general could often be greatly increased by modifying undesirable characters, as instability, solubility, rapidity of action, side actions, etc. There can be no doubt that the actions of a drug depend on its constitution, and can be altered with this. Here the chemists do us a great service by modifying the constitution of drugs in almost any manner which we may desire. It is the office of the pharmacologist and of the clinician to ascertain the effect of these modifications. This has been done in many cases to the great advantage of therapeutics. The small book of Fraenkel, *"Arzneimittelsynthese,"* gives very interesting proofs of this statement. It does not seem too much to hope that we may eventually be able to dispense entirely with vegetable drugs, and to produce artificially the identical constituents which we now use, and in many cases improvements on these.

This era seems, however, still very distant; we must for some time put up with the disadvantages incident to drugs derived directly from the organic kingdom. But here also great improvements are to be effected, and this offers an alluring field for the scientifically trained pharmaceutic chemist. The present pharmaceutic preparations are, in many cases, far from ideal. They often contain useless and even undesirable constituents, are unsightly, of bad odor and taste, inconvenient and prone to alteration. One of their most unsatisfactory features consists in their uncertain strength. This should be speedily remedied by suitable assay processes, chemical or "physiologic." The subject of physiologic standardization needs thorough investigation to determine the limits of its usefulness, and to establish proper official standards. When reliable assay processes have been elaborated, a great deal can be done in improving crude drugs by cultivation, selecting proper varieties, determining the best season for collecting, etc.—as is now done in the case of cinchona and of the sugar beet. Cultivation should produce a more steady supply of a higher and more uniform quality.

METHODS.

There is no dearth of problems which may be solved by the experimental methods now known to us. However, investigation directed to the improvement of old, or the elaboration of new, research methods constitutes a very useful field of research. Every advance in this direction brings with it large additions to our knowledge, by opening up new problems, or by making research more exact, more easy or less costly.

THEORETICAL QUESTIONS.

I have attempted to lay before you some problems, the solution of which would have an immediate bearing on the questions of everyday practice. Every successful research, in answering some questions, raises others. Every explanation requires further explanation, until we face the question: what is the ultimate nature of the phenomena of life? This, the ultimate question of all biologic sciences, needs to be answered before biologic problems can be said to be thoroughly understood. But just as the science of physics is not rendered useless by the fact that it can not explain the nature of matter or of force, so the science of medicine is not rendered useless because it has not yet answered its ultimate problems. We can not afford to lay medicine aside until the biologist has finished his investigations. While we are seeking to solve the puzzle of the "ultimate question" we must be content with finding partial solutions to practical questions as they present themselves.

Both lines of investigation are open, and research may be directed either to immediate practical problems, or it may deal more or less directly with the ultimate questions. However, the two are so closely interrelated that every result in one direction aids also in the other. It is, therefore, quite possible to keep both objects in view. This will broaden the work, and will make it more immediately useful. The history of science shows abundantly that achievements in abstract directions are by no means incompatible with the duties of a practicing physician, much less with those of a medical research worker. Pharmacology has taken a prominent part in the investigation of the ultimate vital phenomena, and it holds out peculiar promise in this direction. Its object and scope go to the very root of the matter. It is the experimental chemistry of protoplasm. As ordinary chemistry studies the properties of elements or of simpler molecules by combining them with reagents, so pharmacology studies the properties of the more complex protoplasm (or biogen) molecules by combining them with similar reagents—in other words, by acting on them with chemical or molecular stimuli. The rich variety of stimuli which pharmacology supplies offers a good chance of solving the riddle of the chemical changes which underly stimulation. This requires, however, a more philosophic comprehension of pharmacology than we have at present. Our science consists as yet for the most part of isolated facts without apparent connection. These must be reduced to general laws. We know, in a general way, that drugs act selectively on certain cells. An intimate connection must exist between the constitution of drugs acting on similar protoplasmic structures, and also between the constitution of structures which are affected by a given drug. These connections are becoming dimly perceptible, but require much detail work in the elaboration of a cellular and comparative pharmacology. The modification produced by reagents must be studied by every conceivable method on vital phenomena in their simplest and in their most specialized forms. They are to be studied in their simplest variety, as exhibited in unicellular structures, as the protozoa; and also in collections of cells—in tissues—where the effects are summed up, and consequently larger, but also more complex. They are to be studied in functions of the most primitive type, as in ameba and bacteria, where the functions are simplest in kind, but are complicated by other functions; and they are to be studied in the most specialized form, as in muscle or nerve, where the functions are single in number, but complex in the development which they have reached. We must also study the corresponding modifications in the constituents of protoplasm, particularly in proteids, in organic and inorganic ferments, in toxins, antitoxins, agglutinins, etc.

As these data become known, it will be possible to connect them, and to arrange them into larger and larger groups. We will then have to inquire into the underlying cause of these groups; in other words, into the principles which determine drug action. It is very probable that the grouping will itself throw light on this question. The selective action of drugs may be in part

explained by selective absorption, in part by chemical affinities of the protoplasm. The explanation of both may be largely the same. In either case there is a co-operation of ordinary physical forces, and of other forces which have not so far been reduced to physical terms, and which are, therefore, called vital. The relations of these two sets of forces are interesting problems which find practical application, e. g., in the phenomena of absorption and secretion. We can not hope to make much advance in the study of these vital forces until the part played by the physical forces is understood. When this has been done, the remaining questions will be clearly and simply stated. It may also be expected that the inquiries necessary for this purpose will throw light on the remaining questions, or will at least point out the way for further inquiry.

These are, in broadest outline, the problems which pharmacology has to solve in the matter. It is needless to say that these ultimate problems may and must be also approached by other channels. The chemist must clear up the constitution of proteids, and eventually of living protoplasm; the morphologist must explain structure, the pathologist the phenomena of degeneration and of death, the physiologist must co-ordinate all these data, etc. Indeed, these problems are the meeting place of all the biologic sciences. To insure any conspicuous success in their solution, the investigator must possess a good measure and quality of "scientific imagination" and an extensive acquaintance with the advanced work in the several departments of natural science; he must have a comprehensive, carefully-matured plan of investigation, in which every achievement of research finds a natural place. Very few can have these qualifications. Nevertheless no investigator can be indifferent to these ultimate problems. Every well-ascertained biologic fact, no matter how isolated or insignificant, will contribute to their solution, for these facts constitute the raw material from which generalizations and laws must be built.

PHARMACOLOGIC RESEARCH FOR THE PROFESSION.

My object in laying before you this outlined program of pharmacologic research has been to show you that pharmacology has very many practical and theoretical problems which are capable of solution, and which are worth solving. A physician who wishes earnestly to co-operate to some extent in this research work, will naturally meet some difficulties, and must be prepared to make some sacrifices. But these will not usually be insuperable. There are problems, on some of which I have touched, which demand little except clinical material and accurate—and especially unprejudiced—observation. Here belongs a great deal of preliminary work in comparing the value of drugs supposed to possess equivalent actions, as also observation of idiosyncrasies, of unusual effects of drugs, etc. I may say here that I consider isolated observations of this kind as usually possessing comparatively small value. They acquire importance only when they are collected and examined critically, collated and generalized. I would suggest that the Chairman of the Section appoint expert committees consisting of clinicians and experimentalists to whom such observations could be communicated and who could report yearly on progress. I have already indicated the rôle which hospitals should have in this work. Sooner or later, the intending investigator will recognize the limitations of such empirical observations, and will desire to apply experimental methods. This requires special training, and usually laboratory facilities. Experimental work is, therefore, best begun in an established pharmacologic laboratory, under the guidance of a skilled teacher. This will offer no great difficulty to those physicians who practice in a medical center. One or two hours every day devoted conscientiously to this purpose will suffice for a great deal of research. For those who live at a distance the difficulties are greater, but can be surmounted by spending a few weeks every year in the city. The sacrifice in doing this is perhaps rather apparent than real. In countries in which the public is educated to realize the value of medical research, work of this kind usually redounds in the end to the advantage of the practice of the investigator. I have not sufficient personal experience to say what would be its effect in this direction in this country. But even if we assume that it does somewhat cut down the income, every physician should ask himself whether it is not worth some cost. On undertaking this work the beginner must take care to make haste slowly. A most frequent cause of failure and disappointment is the choice of problems which are too large or too intricate. If the intending investigator has not had any laboratory training, he will do well to either take a laboratory course, if such can be obtained, or to give what aid he can to a more advanced worker, and to pick up some training in this manner. He may then attack some short and simple problem, intended mainly to familiarize him with research methods. The choice of this he should leave to his instructor. He will thus acquire the experience which will enable him to begin on more independent work, preferably along lines suggested by himself; but he should be slow to dispense with the advice and supervision of some more experienced investigator.

The students of the present generation have considerable advantage over the older practitioners, for some amount of laboratory technic is now taught in all the better medical schools. However, the colleges could do a great deal more in this direction of university work by developing the scientific spirit in their students; through the contagious example of research on the part of the instructors; by offering more extensive and more advanced laboratory courses, and by encouraging original work on the part of students. The luxury of laboring at research can not and should not be forced on every student; but the present medical curriculum is so overburdened that even the most willing student can not find time for advanced university work, and is hard put to it to acquire what is strictly necessary to his calling. The only relief seems to be in some system which cuts down the minimum in all branches, but requires advanced elective work along some lines. Such a system is quite simple and feasible in theory; but in practice it is a most expensive method of teaching, since it necessitates a large staff and costly equipment. However, increase of the cost of teaching is a common condition in all progress of medical education. The endowment of medical colleges is one of the most pressing needs of the day, if they are to keep the pace which they have set.

The efficiency of research work could be very greatly increased by more extensive co-operation and organization. Many questions remain unsolved, many good ideas are lost, many good researches come to naught, for the lack of these. The most important and far-reaching problems are too large to be solved by one man, and must be abandoned or only very partially answered,

unless co-operation of investigators exists. In this sense it would be very desirable if there were some central institute or academy which would direct the activity of all the research workers in a given field; which would assign problems and apportion means; which would direct and co-ordinate the work. The difficulties connected with such a plan are, however, so great that there is little chance of its realization in the near future. Nor is the present system, in which every laboratory is an isolated center of research, without some compensating features. It serves to distribute research over a wide field; it encourages originality, and it is a strong stimulus to competition, which is not always detrimental. These features are not, however, incompatible with some degree of co-operation. Every research worker should place himself in communication with other experimenters, or under their guidance. No better means for this purpose can be imagined than the scientific medical societies, local and national, and their sections. These can, by the appointment of committees, by prescribing of questions and by popular lectures, etc., take on themselves advisory and critical functions which would be extremely valuable, and which would lie strictly within their scope.

This concludes all I wished to say to you on the subject of "Research Problems of Pharmacology." I hoped to convince you that work in this field deserves the active support of the entire medical profession, and that this support is practicable. I have tried to give some suggestions as to the ways in which the best results could be assured. I have also ventured to give my conception of the rôles which the professional pharmacologists and the clinicians, the laboratories, the hospitals, the medical and scientific societies should play in this work. These are deep questions, and the views of others will doubtless be of the greatest value, if the paper is so fortunate as to elicit discussion. The solution to this most direct problem—how much every one of us should contribute to this work—is one which each must necessarily answer for himself.

DISCUSSION

ON THE PAPERS OF DRS. CUSHNY, TYRODE, AND SOLLMANN.*

Dr. Caswell A. Mayo, New York—I am much pleased to have the opportunity to say something on behalf of the American Pharmaceutical Association. That association is working on closely similar lines to those being followed by this Section, a fact which is shown by the character of recent communications read before the American Pharmaceutical Association, one of which was the report of the committee on the acquirement of drug habits, of which committee I am a member. This committee made rather an exhaustive study of the subject by correspondence with members of the pharmaceutic calling, and the conditions found show the great need for radical legislative measures restricting the sale of narcotic drugs. I am happy to say that this need is appreciated, and has already been acted on in Ohio and Illinois. One wholesale druggist in Ohio recently informed me that since the enactment of the anti-cocain law in that state—and the American Pharmaceutical Association is primarily responsible for the passage of the law—his sales of cocain had diminished to one-fourth of what they had been. We know that the sale of cocain in Ohio had grown to enormous proportions, but these sales have been materially cut down, and this is due largely to the activity of the American Pharmaceutical Association and the Ohio Board of Pharmacy. I mention this to show that the pharmacist, though much maligned, still has the good of the public at heart, and fully realizes the obligations under which he rests. No doubt you have seen much in the papers about the amount of adulteration of drugs that is carried on in New York City. Unfortunately, much of this is true, but the manner in which the facts were presented would convey the idea that all pharmacists are guilty of adulteration. All of you know that this is not true and that some of the pharmacists are reliable, and I want to enter a plea with you for the honest pharmacists. Last year the American Pharmaceutical Association celebrated its fiftieth anniversary; this organization was founded for the prevention of adulteration of drugs. This fact shows that the better element in the drug trade is active in its efforts to prevent adulteration, and the physician can help the reputable pharmacist by giving countenance only to those pharmacists who are accurate and trustworthy.

Dr. Henry Beates, Jr., Philadelphia—It is interesting to contemplate what seems to be the natural disappearance of homeopathy. In an effort to establish a law governing practice in the state of Pennsylvania, where there are three boards of medical examiners, a measure was incorporated in the proposed act which would restrict the licentiate to that system of practice representing the school from which he obtained his diploma. In other words, one licensed by the eclectic board would be restricted to eclectic practice, and so, respectively, with the licentiates of the homeopathic and the regular boards. It is interesting to know that a delegation representing homeopathy appeared before the legislature and protested against the incorporation of such an article in the proposed act. In reference to the general results which have been published and taught as the result of investigations on the physiologic action of drugs, and which investigations were conducted by the administration of galenic preparations, it is self-evident that the natural complexity of a given remedy, because of the various active principles possessed, renders these conclusions erroneous. Our physiologic action, therefore, must be practically rewritten, and such conclusions adopted as are based on the exclusive use of chemically-pure active principles. Therapeusis of a scientific character can only be practiced by the use of chemically-pure active principles. The time has arrived when these crude and unavoidably complex galenic preparations must be almost entirely abandoned.

Dr. W. J. Robinson, New York—I am the last person in the world to discourage pharmacologic research. I know the benefits derived from this source have been enormous, but I am not as enthusiastic as I was ten years ago. Ten years ago I was a hearty vivisectionist, and was called all sorts of names by our antis; but I must say that while the benefits are great, we are very apt to be led into error. Our Chairman, in his most excellent address, has shown us that life is neither a chemical, nor a physical, nor a purely mechanical force; but I go still further and say that purely animal life is different in many manifestations from human life. In the former, for instance, suggestion plays no part, while we know what an important rôle it plays on the condition of health or disease in human beings. To mention only two examples which the essayist has given us: He said that experimental research has shown that ether in collapse is not to be used. Clinically, we know that it is a good measure when injected hypodermically. Again, pharmacologic research shows that antiseptics are of no benefit because we can not get a sufficient quantity in the blood to kill the bacteria; still, experimentally, we know that intestinal antiseptics do an immense amount of good. How they do it we do not know, but they do it. I am not opposed to pharmacologic research, but I accept laboratory conclusions with hesitation. In this connection I will read a few words written by Sir William Mitchell Banks, who was at one time an enthusiastic animal experimenter, but whose ideas on the subject have undergone a considerable change. He says:

> No one for a moment will consider me as holding in contempt either experiments or commissions as such, and what I say I say with regret, but my firm conviction is that neither of them has hitherto been of the least avail in aiding us in our search for the best anesthetic or for the best method of using it. There is no possible comparison between a healthy dog or cat or any other animal, and a diseased human being. They are not in the least under the same conditions, and experiments on them are therefore useless. Take on one side a healthy retriever with its heart and arteries all sound, and without knowledge of what is going to happen to it, consequently without the least fear or anxiety. Take, on the other

* The papers of Drs. Cushny and Tyrode appeared last week.

hand, a middle-aged, or somewhat corpulent woman, with flabby heart and somewhat inelastic arteries. Suppose her to be the victim of some cancerous disease the knowledge of which has worn her out with anxiety and distress, and then let her pass a sleepless night before the operation, going over and over in imagination all the terrible process and making sure that she will die under the anesthetic. Or take your drunken, whisky-sodden dock-laborer, with tissues so steeped in drink that one is almost tempted to believe in the possibility of spontaneous combustion, with cirrhotic liver, fatty heart and albuminous urine. I can not see any parallel whatever between the healthy canine animal and the diseased human animal, nor can I see how experiment on the former will help us with the case of the latter. It is impossible.

Dr. Bodine recently reported two cases of chloroform anesthesia, both patients dying before a drop of chloroform had been administered; simply dying from fear or autosuggestion. The conditions in experimented animals and diseased human beings are widely different. Laboratory research should be continued, but we should accept conclusions with the greatest caution, and whenever bedside experience contradicts the laboratory researches we should follow the former, leaving the latter to take care of itself.

DR. W. W. TOMPKINS, Charleston, W. Va.—I would like to see emphasized that part of the address of Dr. Tyrode which speaks of preparations which should not be excluded merely because the kidneys were not doing their duty. There seems to be an impression among the profession that in Bright's disease particularly morphin should be excluded. My personal observation and experience is that morphin will give a certain degree of comfort. So in pneumonia we are told not to use morphin on account of the depressing effects on the heart. I think that all depends on the quantity that is used. Ordinarily, large quantities of morphin, particularly in pneumonia, are injurious; but, on the other hand, one of the most satisfactory means of whipping up a lagging heart is to use morphin in small quantities, such as a sixteenth to an eighth of a grain frequently repeated. Rheumatism is one of the most unsatisfactory diseases we have to deal with. How much effect the salicylates have on rheumatism I am unable to state; in some cases they seem to act like magic, and in other cases they are most disappointing.

DR. M. VEJUX-TYRODE—I agree with the one who said that conclusions should be drawn very carefully from scientific experiments, not only on this subject, but also in scientific experiments on all subjects. As regards the use of ether, its apparent action can be explained. In the first place, all irritating substances have a reflex stimulating action due to the irritation; thus the local application of ammonia, or acetic acid, or cold baths, momentarily increase circulation; but for a longer period of time it is impossible for them to act. Ether depresses the heart only when given in large quantities. There is never greater efficiency of the heart's action, but the vessels relaxed by ether enable you to feel a pulse more plainly, and you have an apparent stimulation which, however, is not real. In regard to experiments on animals and the value of these experiments, I think the criticism is a little too severe. You will find a certain reaction in animals from certain drugs. Of course, we must admit that this varies, but, as a rule, it is only a matter of degree; and, practically, that which stimulates the muscle of the heart does so not only in the dog but in all animals down to the frog. You may say that morphin produces sleep in the higher animal and excitement in the frog. This is explained very easily. There is a certain action of drugs whereby they act strongest on the best-developed functions. In the human being the brain is more highly developed than the spinal cord, therefore morphin brings about sleep, and the stimulating action on the cord is much less manifest because in the higher animal the brain controls the cord more powerfully. On the other hand, in the lower animal the action of morphin is more pronounced on the cord because there is little cerebrum to be acted on, and thus we get excitement instead of sleep. Still, the action of the drug is not changed; it is only a different manifestation in the different animals due to their degree of development. In drawing conclusions for use in disease we must take into consideration all these different actions on different organs. Dr. Robinson stated that when we have two sources of knowledge for the action of a drug, the purely clinical and the pharmacologic point of view, we ought to choose the clinical one. I think that is a point which should be taken into profound consideration before drawing any conclusion, for clinicians have differed widely for ages and ages. A drug will be discarded for a long time and then brought into use again, but for an entirely different affection from that in which it was formerly used, and this shows that the clinical basis for action was not substantial. When sufficient experimentation has been done by reliable men, who all agree on the action of a drug, there should be no hesitancy in leaving the clinical basis and changing to the pharmacologic one.

REMOVAL OF THE FAUCIAL TONSIL;

SOME OBSERVATIONS AND A NEW METHOD OF OPERATION.*

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In reviewing the literature[1] on diseases of the tonsils, it will be found that as early as 10 A. D. the medical men of that age recognized this structure as the seat of disease, for at that time the gland was operated on and completely extirpated. In the work of Celsus (10 A. D.) we find tonsillotomy spoken of as a common practice. It was accomplished either by dissecting with a bistoury or by the fingernail of the operator. Not until much later did the profession become aware of the dangers of the operation, which finally came to be considered dangerous from the fact that cases occurred in which death from hemorrhage followed. It was in the fifth century that medical writers first advocated a modified operation for the relief of enlarged glands in this region. Ætius (490 A. D.) advised the removal of only that part of the gland which protruded beyond the pillars of the fauces. In 750 Paulus Ægineta advised grasping the gland with a tenaculum, drawing it well out of its position and "cutting it out by the root." He limited his operable cases, however, to those in which the tonsils were white and contracted, with a narrow base. He advised against operation on the inflamed tonsil. Albercasis (1120) had the same ideas, showing that the fear of hemorrhage had gained a firm foothold in the minds of medical men of his day.

After this period the operation became obsolete, and in the work of Paré (1509) mention is made of the performance of tracheotomy where there was serious enlargement of the tonsils. He also mentions ligature of the glands, but advised against excision. In 1540 it was suggested to loosen the gland around its edges and then tear it out by grasping it with a vulsellum forceps. As the operation was not easy, and dangerous, great care was enjoined. In 1637, Serverini, during an epidemic of tonsillitis at Naples, removed large portions of the gland, using caustics when they were sessile, a hook and a semi-circular knife when pediculated. In 1672 Dionis advised against operation in any form, as in his opinion the tonsil had a physiologic importance which should not be sacrificed. He did not believe in taking even a small piece away. Many surgeons wrote adversely to the operation. Among these was Heister (1683), who said: "The operation is not only too severe and cruel, but also too difficult in its performance to come into the practice of moderns because of the obscure situation of the tonsils."

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

1. The historic part of this paper was taken from Mackenzie's "Diseases of the Throat and Nose," and the anatomic part from Watson Williams' "Diseases of the Upper Respiratory Tract."

After 1740 the operation with tenaculum and bistoury was again commonly practiced. It was brought again into practice by Meseati and Wiseman. Wiseman first ligated the gland and then cut away the projecting portion. In 1757 Caqué commenced excision again at the Hotel Dieu of Rheims, and proved that the great dread of hemorrhage was unfounded. From this time on the operation became one of the recognized treatments, and instruments began to be improved on and new methods adopted for its performance. The first one to use scissors was Louis, in 1774. He used both straight and curved blades, and at times still resorted to a probe-pointed bistoury. He never cut away more than the inner half of the gland, or that part that projected into the pharynx. In 1827 Physick of Philadelphia caused to be produced the first tonsillotome, which was modeled much after the style of the present Mackenzie. Five years later the first Fahnestock came into use in Germany and France, and was the first ring knife cutting from behind forward. It was practically the Mathieu of to-day. Hundreds of styles are in vogue to-day, till the surgeon has enough to satisfy almost any fancy.

From this early history to the present time we see there have been all sorts of opinions as to the proper method of treatment of this condition, and even to-day there are those who believe the gland should be left discreetly alone.

Historically, we are not much farther advanced than was Celsus at the commencement of the Christian era, and most of us believe, as did he, that diseased glands should be completely extirpated. Surgeons are becoming more impressed with the thought that when necessity demands surgical interference with this gland it should be removed in its entirety. This conclusion has been arrived at after observations made on tonsils which have been partially removed by the tonsillotome. I have observed that, aside from the mechanical obstruction produced, the inner half of the gland is not so detrimental to the health of the patient as the part left *in situ* by the tonsillotome.

In order to bring this subject to your notice in the proper light, it should be stated that tonsils which are diseased may be divided into two classes. First, those which, by their enlarged size, produce mechanical obstruction, thus causing imperfect access both to the stomach for food and to the lungs for air, termed obstructive. And, second, those which do not protrude into the pharynx, or small tonsils, which are diseased and produce injurious effects on the surrounding tissues, or where there occur crypts which constantly fill with secretion, causing foci of infection, called non-obstructive.

In the first instance, a mere reduction of the size of the gland might suffice, whether this be accomplished by excision or the shrinking of the gland. This condition may be relieved by the use of the tonsillotome, and, in the opinion of the writer, is about the only place where the use of this instrument is permissible. With this instrument we are able to remove about two-fifths or one-half of that part of the gland which projects into the pharynx, giving as much room as would be indicated by the inner edge of the palatal arches, it being impossible to get much beyond this. Splitting the tonsil, puncturing it with acids, the use of the galvano-cautery point, or the use of gargles or pigments are of little or no benefit, but all have their devotees, and many think they obtain satisfactory results by the use of such methods. For this we care little at the present time, it being our object to deal with those cases which come under the second class, namely, those tonsils which it is impossible to remove with the tonsillotome, even in part, which constantly fill with secretion in the diseased crypts, and form foci of infection. To this class belong nearly all of the cases brought to the notice of the surgeon. The patient has a history of attacks of tonsillitis, perhaps peritonsillar abscess or "quinsy," and in same cases beginning phthisis. It has been demonstrated beyond question that this gland, when diseased, is a means of infection; it is now classed along with the other infective tracts, the intestinal, respiratory and genito-urinary. It is not hard to believe that these lymphatics are active in the production of disease, if you but observe the great quantities of putrid material squeezed out of a tonsil in the process of extirpation, as it is a decomposing mass, and its retention in the tonsil and surrounding parts permits of its absorption by the system. The part of the gland most productive of this process is found in the supratonsillar fossa. Just at this point let me call your attention to the formation of this gland with its anatomic relations. With the appearance of the horizontal fissures in the lateral foregut there appear the formation of five arches with intervening clefts. From the first arch or plate the lower jaw develops. From the second arch the anterior pillar of the fauces and a portion of the hyoid bone. From the third arch the posterior pillar of the fauces, and the cleft between the second and third forms the fossa of Rosenmueller above and the sinus tonsillaris below. The palate is formed by the ingrowth of the palatal plates from the upper jaw which meet in the median line. These plates extend backward and cross the second and third visceral arches and the intervening cleft, dividing the fetal pharynx into an upper and a lower series of parts.

In the upper part the eustachian tube is developed from the cleft between the first and second arches. Behind it is Rosenmüller's fossa, corresponding to the cleft below the soft palate, which is known as the sinus tonsillaris, in which the tonsil develops, the unoccupied portion of the cleft above the tonsil being the supratonsillar fossa. The faucial tonsil arises by an invagination of the hypoblast in the sinus tonsillaris. The diverticulum thus formed subdivides, forming the crypts around which lymphoid tissue develops. Some authors state that there are often two tonsils formed, but this can easily be understood as being only one tonsil when we reflect that in the formation of the tonsil irregular folding of this diverticulum may occur with the subsequent development, or not, of lymphoid tissue in any particular part. It is thus that the different forms of tonsils occur, and although there may apparently be more than one tonsil, it is one structure which may be subdivided irregularly.

In early fetal life the anterior pillar widens and extends backward, covering the cleft in which the tonsil develops. In this way the tonsil may be more or less completely covered by the thin free border of the anterior pillar, which membrane is known as the plica triangularis or tonsillaris, mentioned further on in this paper. The supratonsillar fossa may extend downward on the outer side of the tonsil between it and the superior constrictor muscle of the pharynx, and also upward and backward into the soft palate. This condition can also be produced by pathologic causes. The supratonsillar fossa appears to be the most important part of the anatomy of these parts from the fact that the uppermost crypts of the tonsils empty into it and because the orifice of com-

munication with the pharynx is often imperfect, owing to the presence of the plica tonsillaris or a hypertrophied condition of the upper part of the tonsil.

The pocket thus formed by the extension of the supratonsillar fossa becomes the receptacle for micro-organisms and the accumulation of decomposing caseous material extruded from the upper tonsillar crypts. The plica tonsillaris is at times very marked, and we can recall cases where a tonsil was almost hidden from view by this membranous fold. A case comes to mind where only a small portion of the superior part of the tonsil was in view through a small round opening six mm. in diameter in the plica tonsillaris. Conditions similar to this are not uncommon. This will easily be understood to close the opening between the supratonsillar fossa and the pharynx and we can readily understand how accumulations in this fossa may be kept penned up, as it were, in a sac. In nearly all these cases we can pass a probe up over the gland into a pocket which varies in size and depth, and at times passes down and around the external surface of the gland. The crypts which empty into this fossa are often pressed on, and if there be a slight amount of inflammation of the pillars, the cavity may be closed off, giving rise to a condition where it is difficult for the secretions to escape into the pharynx. When this exists the imprisoned secretion undergoes decomposition, and an auto-infection occurs. The secretion thus accumulating begins to burrow and gives rise to a condition where the tonsil becomes surrounded with cheesy material, as was described by Pynchon in his article on the "submerged tonsil." I have never seen a case where an operation for removal had been done with the use of the tonsillotome that this top of the tonsil could not be demonstrated. The crypts that empty into the throat are not so apt to fill or stay filled with this secretion as they are squeezed by the pressure made on the tonsil in the act of swallowing by the pharyngeal muscles. For this same reason there is a tendency to form larger pockets behind the tonsil by pressing the secretion toward the point of least resistance. Thus it is common to find cavities extending up into the soft palate and down behind the gland as far as the larynx.

After the formation of such a pocket, even though the supratonsillar fossa becomes communicative with the pharynx again, it is found that there is a habit of secretion becoming lodged here, giving rise to symptoms such as localized tonsillitis, peritonsillar abscess or rheumatism. Owing to the above fact, I have been in the habit of teaching students that if any part of the gland must be left in the throat let it not be the upper portion. In other words, clean out the supratonsillar fossa at all events, for the lower part is of vastly less importance, although we should take that portion also. It makes no difference how small the gland is if it be diseased, for if this perverted secretion is present it should be removed. This secretion has never been studied enough to determine its consistence, but I am wont to believe it is of a cholesteomatous nature.

I have been astonished in finding so many specialists who still adhere to the belief that a diseased tonsil does no harm. I can not understand why it does no harm if we can demonstrate the material it continues to manufacture contains decomposing and septic material and we are able to demonstrate the presence in this secretion of virulent bacilli. I do not wish to be understood as advocating the removal of all tonsils, but that these diseased ones should receive the strictest kind of surgical treatment. It is almost impossible to contend with cases of pharyngitis, tonsillitis, laryngitis and non-suppurative otitis media, unless we get rid of such diseased conditions. This is particularly true of the last-named disease. From the foregoing it is attempted to show that it is not the size of the glands that interests us most, but its character. Thus we may have very large hypertrophies causing little or no trouble, whereas, on the other hand, very small insignificant ones are productive of the direst results.

With these facts in mind it devolves on us to find the best means for the removal of this diseased tissue and the destruction of the pockets already formed. It matters little just how the tonsil is removed, and probably each one of you have a method which is efficacious. Personally, I was in no way satisfied with the means at hand, and have endeavored to perfect an operation at once easy of mode and complete in result. Before describing my own method, however, I should like to state some of the objections I have observed to the means commonly in use:

1. *The Tonsillotome.*—This is figured in the great majority of text-books as *the* way. It seems to me it should no longer be classed as an instrument for complete removal of tonsils, as this is an impossible feat with its use. The only place where its use is permissible is in very young children where the tonsils are so large as to encroach on the process of breathing and swallowing. Even in this case it does the work in a very poor way. It is a compromise and should no longer be tolerated by specialists. The cases of dangerous hemorrhage written about are often after the use of the tonsillotome and occur from the division of a small arterial branch, which on account of its being embedded in fibrous tissue can not retract. The contents of the supratonsillar fossa can never be removed with this instrument, as has been repeatedly shown by clinical demonstrations. It is of no value in small tonsils or those which are long and flat. It, therefore, should be discarded as an instrument for tonsillotomy.

2. *The Snare.*—This method is a good one, but is too slow. The entire gland must be loosened from its attachments above, below, in front and behind, before the instrument can be applied. The hemorrhage may not be so great as by the cutting methods, but cases have come to my knowledge where very severe bleeding occurred. It is a good method where the use of general anesthesia is indicated and especially in children under narcosis.

3. *The Galvano-Cautery.*—Several methods of this type of operative procedure are in use. The method as practiced by Pynchon gives fine results save that it leaves a large cicatricial space on each side of the pharynx. The main objection to this method is the loss of one-half of the anterior pillar and the long period of suffering after each cauterization, and the danger following of middle ear inflammation. As done by its author, one-half of the tonsil is burned out. After this is healed the remaining half is burned away. Then the other tonsil is attacked in a similar way. Each burning leaves the patient with a sore throat for ten days. In this way he must be laid up for forty days for the complete operation, which is an objectionable point, and few patients willingly submit to it. It is not practical at all in children, as each burning occupies from fifteen to twenty-five minutes, and children will not stand this length of performance. Strong solutions of cocain are used, and many people are easily poisoned with this drug.

4. *Dissection.*—This is a tedious operation, requires a good patient and is liable to leave a haggled surface. It is hard to avoid cutting the pillars, and when the tonsil extends well up into the soft palate, as it often does for 2 cm., it becomes difficult. Bleeding is very troublesome, and this makes a clean, smooth wound very hard to accomplish. Hemorrhage is very liable to be severe.

5. *Scissors.*—After trying all the other methods, I have come more and more to depend on the scissors method, and the more I see of them the more confirmed do I become that this method is the best for dealing with hypertrophied and diseased tonsils. After loosening the anterior pillar with a curved bistoury, the scissors are fitted into place, and with two or three snips the tonsil is removed.

After its removal the supratonsillar fossa is explored for fragments, and if any are found it is easy to cut them away. Flat tonsils which extend down to the base of the tongue are as easily removed as little ones. After the tonsil is removed, if any pockets exist they can be cut out in the same manner. The scissors I prefer is one devised by myself and has the following points of advantage: (1) It has blades that can be thrown wide apart with the least possible motion of the handles; (2) as the handles do not have to be widely separated, one is able to operate in a mouth where the teeth can not be thrown wide apart; (3) the curve of the blades is sufficient to avoid the danger of cutting the epiglottis; (4) they are bent on their long axis so that when in position they fit between the pillars of the fauces; (5) they are strong enough to cut through the toughest fibrous tonsil. The instrument used to separate the pillar is a double-edged bistoury curved on the flat and with a dull point. By having it double-edged it may be used to cut up or down and for either tonsil. In its removal the tonsil is grasped by a strong fixation forceps by which the gland is drawn inward. The left tonsil is removed with the scissors held in the right hand, and the right with the scissors in the left hand. It is unnecessary to resort to the use of a mouth gag or tongue depressor. There is little pain after the pillar is loosened and the hemorrhage is not greater than with the use of the tonsillotome. The wound is clean and smooth, and is healed in from four to seven days. The pillars do not attach to each other, and after the surfaces are healed it would be hard to tell that an operation had been done, as very little cicatricial tissue is formed.

After a year's observation, both in clinical and private cases, I am satisfied that this operation is a happy solution of complete excision. In several instances in removing fibrous tonsils I have seen brisk bleeding which in each case was caused by the cutting of a small arterial branch embedded in the fibrous tissue. In these cases I grasp the bleeding vessel with the surrounding tissue and excise it till I find I am into the connective tissue surrounding the tonsil. As soon as this is accomplished the vessel has a chance to retract and the bleeding ceases. I have never had to resort to unnatural means as yet for controlling hemorrhage and have not thus far experienced secondary hemorrhage. Young patients, as well as older ones, are operated on with ease, and it seems to the author that there is nothing wanting to make the operation both generally adopted and useful.

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DISCUSSION.

Dr. Frank W. Hilscher, Spokane—I have been doing a similar operation for about three years, and I am in accord with everything Dr. Robertson said this morning, especially that regarding the removal of those tonsils which ordinarily are not removed. They are diseased tissue and are very frequently the cause of trouble where one would not think they would be large enough to do any danger. Those pockets harbor all kinds of germs, and unless you can get rid of them entirely you have not done for your patient all that you should. I use the scissors usually for the whole operation. I have a certain kind of scissors with which I can remove both tonsils with the right hand.

Dr. S. G. Miner, Detroit—I certainly think that the scissors operation must be performed in a very limited number of cases. The great objection to it is its severity; in private practice the pain and discomfort given the patient is unnecessary except in the diseased submerged variety. I think if more care were taken in freeing the tonsil from all adhesions better results would follow. If that were done in every case the scissors operation would be unnecessary. If we can remove the tonsils with the tonsillotome, it is certainly preferable.

Dr. J. F. Barnhill, Indianapolis—Dr. Robertson's demonstration shows that there are imbedded tonsils that can be well and certainly removed by his method. I have no doubt that if some of us who are less skilled in the use of scissors were to try the operation we would meet some difficulty. I prefer the use of the snare in such cases as Dr. Robertson operated on this morning, first loosening the pillars from the tonsils just as Dr. Robertson did before using his scissors. I think that with the snare method the operator can remove the tonsils much quicker than did the Doctor with his scissors, rapidly though he worked. For a child, I very much prefer the tonsillotome to any other instrument. At this age the gland is soft, not often adherent to the pillars of the fauces, and removal can be accomplished in a very few seconds. This being the case, why should we subject the child to an operation which is longer and more painful?

Dr. E. Fletcher Ingals, Chicago—In the majority of cases that I see, the pillars of the fauces are adherent to the tonsils, and when this is the case I am not able to remove them satisfactorily with the tonsillotome. In adults I use the tonsillotome almost invariably; in children I seldom use it. In children and in adults when the anterior pillar of the fauces is adherent to the tonsil I separate them with the blunt hook and with my finger, and then, with my finger when practicable, dissect the tonsil loose from its bed. It may then be seized with the forceps and removed with the cold snare. In this way there is practically no hemorrhage in the great majority of cases, excepting the little that comes from separating the anterior pillar. I formerly thought there would never be bleeding of any amount, for in hundreds of operations I had not seen it; but one day when operating on a child a vessel a millimeter and a half in diameter bled profusely, but as the patient was under a general anesthetic I had little difficulty in catching the vessel with a hemostat and tying it. In more than 50 per cent. of all cases of hypertrophy of the tonsils in children there is an enlargement at the same time of Luschka's tonsil. If we remove the faucial tonsils but leave a large Luschka's tonsil we have not done our duty. In about 20 per cent. of the cases of adenoids there is also atresia of the posterior nares which should be cured at the same time. Owing to these conditions I place the patient prone with the face drawn over the side of the table and first remove the right tonsil, and then turn the patient to the other side and remove the left tonsil, and with the patient in this latter position I remove Luschka's tonsil. If an operation is done at all it should be done well.

Dr. Robert C. Myles, New York—It would seem that an operation like tonsillotomy should have been more or less perfected before now, but my opinion is that it is in its infancy. For several years I have been experimenting with the tonsils. I have employed the scissors, the guillotine, the snare, and the various forms of tonsil punches, and the operations have been done with and without anesthesia. It seems to me extremely odd that we should think so differently concerning the tonsils. I have never seen a tonsil adherent to the anterior pillars. In the dead room I have taken specimens and given them to the

pathologists and they could not find adhesions. The part some physicians call the pillar is the opercular fold and is a half an inch from the pillar. This fold of mucous membrane touches the pillar only at the upper part. We should determine how much tonsil tissue one is entitled to; we do not know how many cubic millimeters of tonsil tissue should be considered the normal amount. If one examines carefully he will find that tonsil tissue in many cases extends outward into the neck for some distance. In children, on whom guillotine operations on the tonsils have been performed, I often find large masses that should be removed. In the cases in which there is bleeding and vomiting, in a woman, for instance, who is delicate and nervous, the punch forceps is at times preferable.

Dr. H. W. Loeb, St. Louis—In the beginning of my practice I feared and looked for adhesions. I have not found much reason, as Dr. Myles states, to fear adhesions. My trouble is not with the adhesions to the pillars or to the plica tonsillaris but with lateral attachments. When the tonsils extend downward and are attached to the lateral wall of the pharynx you may have considerable trouble. My own methods, of course, have been various. In the more favorable cases, with the electrocautery snare you can get out all the tonsil that projects, and with the cold snare, of course, the same thing could be done. The appearance of the cut surface of the tonsil when the knife operation is used and the rounded appearance when the snare is used, in many cases demonstrates the value of the snare operation in completely removing the diseased tonsillar tissue.

Dr. George L. Richards, Fall River, Mass.—The ordinary Schleich anesthetic tablet dissolved in water and injected into the tonsil will secure an anesthesia that will materially help in operations without general anesthesia. It is of especial value in the snare operation. Dissolved in an adrenalin solution it gives beautiful results in preventing loss of blood. In only one case have I had hemorrhage after this method. I dissolve the tablet in thirty minims of 1 to 6,000 to 1 to 10,000 adrenalin solution.

Dr. Charles M. Robertson, Chicago—We must remember that this is an operation for the removal of the tonsils rather than an operation for the avoidance of pain. The operation is not any more painful than a tonsillotomy ordinarily is. It is not any more painful than the snare operation. It is also not so much a question whether we can get the tonsil out quickly or slowly but rather whether we get it all out. As to the danger of this operation, it seems to me to compare well with other operations. Dr. Ingals says that he never uses the tonsillotome in children but invariably does in adults, and that he never finds adhesions in adults, but does in children. The reverse would seem to me better. In the hysterical man I operated on this morning the adhesions were tough, true adhesions and difficult to cut. In Chicago I have seen many such cases. Of course, what I have called adhesions may be the plica tonsillaris, but there are adhesions there nevertheless. One can use any kind of general anesthesia preferred. The hen-egg tonsils spoken of by Dr. Myles are exactly the ones we are after, and the ones I particularly use my scissors for. The possibility of doing damage to the blood vessels has been suggested. One can go just as far as one needs to get out the tonsillar tissue and no further. After one gets out all the tonsillar tissue one can see the connective tissue. As to the snare, Dr. Loeb's remarks correspond with what I said in my paper. It is a good method, especially in children under general anesthesia. The objection is that you have to loosen up the tonsil too much to adjust the snare. The tonsil often extends up into the soft palate, and you can pull them well down within the grasp of the scissors. These cases make the most beautiful ones for the use of the scissors. The hemorrhage the Doctor spoke of was not a secondary hemorrhage. Secondary hemorrhage comes on later from the sloughing of a vessel. What he mentioned was a late primary hemorrhage. I do not object to the use of the tonsillotome, but it is an imperfect method of operating.

To properly diagnosticate a given case is the *sine qua non.*—*Pennsylvania Medical Journal.*

ARTIFICIAL DILATATION OF THE CERVIX UTERI WITH A NEW INSTRUMENT.

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Artificial dilatation of the cervix uteri during labor is a well-recognized obstetric expedient, which is not only of great value in certain cases as a means of accelerating tedious labor, but also becomes an absolutely necessary method of procedure in many instances where the life of the mother or of the child may be dependent on prompt delivery.

The problem of the safe and efficient mechanical dilatation of the rigid cervix of the pregnant uterus is an interesting one which has not as yet been entirely and satisfactorily solved, although there are many methods and a considerable number of instruments devised for the purpose. Under the head of mechanical dilatation of the cervix the writer would include all forms of artificial dilatation whether performed by the hand, by dilating bags, or by instruments.

Bougies and gauze introduced into the uterus, the latter device being known as tamponade of the cervix, should in no respect be regarded as dilators of the cervix, although frequently so considered. These are merely stimulants of uterine contractions in the absence of labor pains.

Manual dilatation, both complete and partial, has doubtless been performed many times by nearly every practitioner of general medicine, and in many cases with the greatest satisfaction with respect to results. In the writer's experience, it has proved of the greatest value as a means of partial dilatation of the rigid cervix in the presence of the tedious and exhausting but inefficient pains of the first stage. For this condition it is best done under primary anesthesia, all that is necessary being accomplished during one or two uterine contractions. The uterine contractions are thereby inhibited for only a few minutes, but the patient is often thus enabled to secure a short period of rest or sleep, which is of material aid to her in completing the labor. The writer has used this expedient a great many times, and has found it much more satisfactory and efficient than the administration of chloral, which is now rarely used. If carefully done, the method will seldom give rise to cervical lacerations.

If the membranes are unruptured, one effort of dilatation under primary anesthesia has always been sufficient in my cases. With ruptured membranes, however, and a rigid cervix, partial manual dilatation finds its greatest value for tedious labor. With a small os, a rigid cervix, ruptured membranes, and the patient becoming worn out from inefficient pains, intermittent manual dilatation, if I may be allowed the use of this term, is better and safer than complete manual dilatation performed at one sitting. That is, partial manual dilatation may be repeated several times, with an interval of an hour or more between, with perfect safety in a dry first stage where the patient is apparently making no progress herself. The intermittent manual dilatation is much safer for the integrity of the cervix than is uninterrupted complete dilatation, and the repeated primary anesthesia at this time amounts to no more than does the giving of ether with single pains in the second stage.

It may sometimes seem that there is no appreciable progress on the part of the patient in the intervals between the dilatations, even with severe pains, and yet

there is in reality progress, and that of an important nature. If carefully looked for, this is shown in the drawing up of the cervix which tends toward its ultimate obliteration or disappearance over and above the fetal head. It is clear, I think, that if complete manual dilatation is performed at one time in such cases, the cervix does not become completely obliterated or taken up in the natural manner, but usually hangs down in the vagina as a sort of border or short curtain around the head. This often gives rise to difficulty in case of a subsequent forceps operation, particularly the anterior portion of the cervix which may obstruct the head. Moreover, I believe this condition is a frequent cause of lacerations to the cervix. As an illustration of this method, recently I gave ether three times and did partial manual dilatation each time in a young primipara with a long and exhausting first stage. This amounted in the end to complete manual dilatation. A high forceps operation was finally necessary, and as a result of so much interference I expected more or less impairment of the cervix, but on examination of the patient four weeks after delivery I was much gratified to find that there was absolutely no tear.

Manual dilatation has, however, always found its widest use in cases calling for rapid dilatation and delivery, and in such is undoubtedly a method of the greatest value. In placenta previa and in eclampsia it is most frequently used.

Complete manual dilatation of the cervix of the pregnant uterus, especially in primiparous cases, is a very exhausting and worrisome procedure, and it not infrequently requires more than an hour to accomplish. It exhausts first one hand and then the other of the operator, and the assistant is often asked to aid because of the severe labor involved. Nothing that I know of in the whole range of surgery is so difficult and so exhausting as the complete manual dilatation of the rigid os, followed by delivery in a primipara at or near term. Moreover, the operation is often unsatisfactory because when it is completed as far as possible, and the closed fist may be inserted and pulled through the cervix, even then the dilatation is not sufficient to admit of the passage of the fetal head at full term, and there is often sufficient delay from this cause to interfere with the birth of a living child. Moreover, after the severe strain and the cramped position of the hands necessary in manual dilatation, the operator is in no condition to perform an operation and to do justice to himself and his patient.

With the various forms of dilating bags I have had a very limited experience. The small fiddle-shaped rubber bags of Barnes were never efficient and are, I believe, practically obsolete, although they still figure in many text-books. The cone-shaped inelastic bag of Champetier de Ribes undoubtedly has certain merits as a dilator of the cervix and also has many warm admirers. It is used more or less extensively as a dilator with ruptured membranes, and also to promote contractions in uterine inertia. Abroad, it is also used in the treatment of placenta previa, where in Dublin, I believe, it finds its chief advocates for this condition. The great objections to its use are that it is often difficult to properly insert; there is danger of its displacing the presenting part at the pelvic inlet; it frequently results in prolapse of the cord, and too violent uterine contractions are likely to be induced.

The use of tents as cervical dilators has, I believe, been almost wholly given up, although they are occasionally advised by writers. Their use is not to be recommended because of the slowness of their action and chiefly because of the impossibility to render them aseptic.

Deep cervical incisions, in place of mechanical dilatation, is a method recently advanced by Dührssen of Berlin, in whom it finds a very strenuous advocate. He is also a great opponent of instrumental dilatation chiefly on the ground of the danger of deep tears, but his opinion can not be considered altogether unprejudiced because of his own operation. Dührssen's method has not been practiced to any great extent in this country or abroad so far as I am aware, outside of his own immediate circle.

That there is a certain considerable and legitimate need and demand for a mechanical dilator of the cervix in pregnancy and in labor is, I believe, plainly evident. This demand is attested by the various instruments which have already been devised for this purpose, although no one of these, except the recent one of Bossi, has ever met with much approval outside of the hands of its inventor.

Considerable controversy has recently been aroused, particularly in Germany, by the introduction of Bossi's dilator, which has had an extensive trial there and in England. Many men have used it successfully and without serious damage to the maternal soft parts. On the other hand, some men denounce it as a dangerous instrument and declare that any form of instrumental dilatation of the cervix is an unsafe procedure. I have myself used the Bossi dilator in two cases of eclampsia demanding rapid delivery, and with the greatest success. Both patients were primiparæ, and in neither was there appreciable laceration. One required nineteen minutes and the other thirty minutes for complete dilatation.

Any contention over the use of methods or of instruments can be settled, I believe, in only one way, and that is by the results of the individual operator. If one finds that by adopting certain methods he obtains better results than by others, then that method is by all means the one for him to pursue. Other observers may get different results and naturally make their deductions accordingly.

To the average man the operation which accomplishes the result in the easiest manner and with the least damage is the most satisfactory, and that operation, whether it be by hand or by instrument, is the one for him to adopt. There seems to be nowhere any hesitancy in the employment of forcible dilatation of the cervix, but it is altogether a question of how it shall be performed. I have no doubt that forcible instrumental dilatation of the cervix will in some cases, even in the most skillful hands, cause moderate laceration of the cervix, and very likely in unskillful hands occasionally deep tears. Why should this not be so with an instrument? We all know that it does frequently occur with dilatation by the hands, and that dilatation of the cervix without laceration is often impossible of attainment. Can any one describe any method of forcible dilatation which does not give rise to lacerations, or can any one point out any number of cases which have been dilated manually which do not show them?

The deepest laceration I have ever seen—one extending deep into the broad ligament—has recently been under my care for repair, after manual dilatation at the hands of a man who opposes the use of the instrument. I have also known of at least two cases of rupture of the uterus from manual dilatation. Even cases in which

the delivery is entirely taken care of by Nature show deep lacerations. What gynecologist has not seen many deep bilateral lacerations in women who have had absolutely normal labors? There always is, and probably always will be, more or less danger of lacerations in any form of artificial dilatation of the cervix for rapid delivery, no matter whether this is done manually or by instruments. It is practically impossible, in my experience, to dilate a primiparous cervix completely by hand and do a rapid delivery without causing lacerations of the cervix. Undoubtedly, the colpeurynter does this better and with less injury than any other method, but even this is not free from objections on this score.

The danger of tearing the tissues is, I believe, not as great with the metal dilators, if they are used properly and carefully, as it is with the hand attempting to force itself into the closed cervix. With manual dilatation it is often not a question of merely causing tears, but so rigid is the cervix that it becomes largely a question of being able to apply sufficient force to get the os open in some way and of pushing the hand through, regardless of the integrity of the cervix. In many cases where the hand is the agent for dilatation the cervix yields only by tearing.

With the mechanical dilator the force expended can be accurately gauged and uniform power and pressure applied to the cervix, and by keeping the tissues constantly on a moderate tension, letting up a little occasionally to observe its effect on the cervix, the tissues are stretched and give better than by such jerky and irregular force as may be applied under manual dilatation.

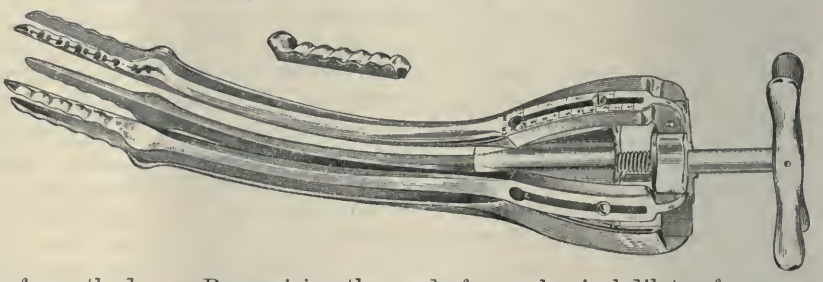
I do not wish it to be thought that I believe that manual dilatation of the cervix is to be superseded by instrumental dilatation or even that its field is wider than that of the former. Manual dilatation of the cervix in labor is a procedure of great usefulness, and is considered by many men to be the only safe method, and is the only method used by them. In cases of soft multiparous cervices, in the presence of old tears and in placenta previa, I believe that manual dilatation is usually much better than any form of instrumental dilatation. Indeed, in these cases it is my opinion that instrumental dilatation is usually contraindictated, excepting only certain instances where dilatation of the cervix may be done by some form of the colpeurynter. Instrumental dilatation is best done directly under the eye of the operator who can see and observe the cervix as it dilates and also the extent of each tear as it occurs. With a tear thus easily located, it is a very simple matter, as I have found, to put one or two stitches into the torn edges, although this is rarely necessary.

Granted that instrumental dilatation is permissible in certain cases, I believe it needs no demonstration that a dilator for the pregnant uterus to be efficient must exercise lateral pressure against the inner surface of the cervix. The insertion or pushing of conical-shaped bodies into the cervical canal suffices for slight degrees of dilatations for curettage, but for delivery sufficient dilatation can not be accomplished in that way.

The hand is virtually an instrument of the cone type, and whatever method of manual dilatation is employed the force is essentially that of a cone or wedge. The methods of Edgar and Harris overcome this to a certain degree, but are not applicable to all cases nor is complete dilatation accomplished by these alone.

Bossi of Genoa several years ago brought out his mechanical dilator, although it is only within a year or two that it has attracted much notice. It has proved so far the most efficient instrument yet put before the medical public for rapid dilatation of the cervix. The instrument is of metal with four arms made to expand by means of a series of levers controlled by a single screw. The instrument is undoubtedly a powerful one and able, with the exercise of considerable force, to accomplish the object for which it was designed. The chief criticism to be made of the instrument is that its mechanism is very complicated and it is so put together with its numerous parts, many levers and screws, that it is practically impossible to take it apart for cleaning. This feature renders strict asepsis impossible and is, of course, a *sine qua non* in any surgical instrument at the present time. The instrument, being of metal, may be boiled, but its many slots and crevices will harbor surgical dirt, so that in a very short time mere boiling would be inefficient. It is surprising that this very objectionable feature of the instrument has not elicited criticism before now.

In my opinion, the best feature of Bossi's instrument is that of the removable metal tips, which have been adopted by others, myself included. These admit of an instrument with a small point for use at the beginning of dilatation, while as the os becomes larger and the tips are applied, the pressure is distributed over a broader space so that there is less liability of cutting or tearing the tissues.



Recognizing the need of a mechanical dilator for emergency use I have designed an instrument which I believe will ultimately be found to fulfill every purpose required in an instrument of this kind. It is a five-bladed instrument, the tips of which are made to spread by an advancing cone moved by a screw and a handle. The instrument is made in a thoroughly aseptic manner with a limited number of parts. Each part is easily detached for cleaning purposes and there is no opportunity for the instrument to harbor surgical dirt.

The instrument was first designed for six arms, but I believe five is a better number, for the reason that the pressure is better distributed in five than in six points, no two arms coming directly opposite one another and, therefore, there is less danger from lacerations laterally, where they almost always occur.

Instrumental dilatation is best performed with the patient turned across the bed or on a table in the lithotomy position. A weighted perineum retractor or a broad Sims speculum is used, the anterior lip of the cervix being seized by a double hook and brought into view. The instrument is then inserted without the broad metal tips and dilatation carried to about three centimeters, when the instrument is removed, the tips applied and dilatation completed with them in place. The dilatation should be completed to about four inches by the scale in order to allow sufficient room for the fetal head. A scale in centimeters and inches indicates the amount of dilatation.

The use of the instrument gives one the greatest feeling of security because of the comparative ease with which the work is accomplished directly under the eye of the operator, where the speed may be increased or diminished according to the readiness with which the cervix stretches. A moderate-sized Hanks dilator is sometimes necessary to start the dilatation before the cervix will admit the tips of the instrument, but this is rare in pregnancy. The unopened os can be fully dilated in from twenty to thirty minutes. With the instrument it is not so much a question of how fast the os may be dilated, but, on the contrary, it is altogether a question of how fast the cervix will admit of being stretched, and only so fast should the dilating arms be expanded.

The use of the instrument is indicated mainly when rapid delivery is necessary and chiefly in eclampsia. It should be used only with a rigid cervix. The dilator is also an excellent instrument for the induction of abortion or labor, acting with greater quickness and certainty than any method involving the introduction of a foreign body into the uterus. It will excite contractions in the presence of uterine inertia, and sometimes even when the patient is anesthetized.

In deciding on the propriety of the use of an instrument for rapid dilatation of the cervix one does not have to answer only the question whether or not instrumental dilatation causes lacerations of the cervix. We know that manual dilatation of the cervix frequently does produce extensive lacerations. The question at issue, then, is whether the instrument will generally produce more extensive lacerations than manual dilatation does. This question can not be answered at once, but so far the writer's experience leads him to believe that it does not. In any event, many cases are so difficult of dilatation that the instrument becomes practically a necessity and is a great boon to the operator.

This instrument was devised particularly for use in difficult dilatation in connection with the termination of pregnancy in emergency work. For a number of months, however, the writer has been using his dilator for all purposes of cervix dilatation, and it has been found very efficient for dilatation before curettage. With it wider dilatation of the multiparous cervix can be secured than by any other method, so that in certain cases where it may seem advisable, sufficient dilatation may be obtained to introduce the finger and explore the cavity of the uterus.

THE ETIOLOGY OF YELLOW FEVER.

AN ADDENDUM.*

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In a paper entitled "The Etiology of Yellow Fever, a Supplemental Note,"[1] the Army Yellow Fever Board (which was then composed of the late Major Walter Reed, surgeon, U. S. Army, and the writer) stated that no results worthy of record had been obtained from the examination of infected mosquitoes, either when dissected in the fresh state or when studied in serial sections after being hardened and embedded. They also reported that two out of three non-immunes had been infected with yellow fever by the subcutaneous injection of 1.5 c.c. of blood serum drawn from a yellow fever patient and subsequently passed through a new Berkefeld filter which was afterward found to be impervious to the *Micrococcus aureus*.

In the latter part of July of the present year there appeared from the Government Printing Office the Report[2] of Working Party No. 1 of the Yellow Fever Institute of the U. S. Public Health and Marine-Hospital Service. These observers (after repeating some of our experiments) presented additional confirmatory evidence in support of the mosquito theory of the transmission of yellow fever and in that respect as well as in the negative results of their blood examinations their conclusions agreed with those of the Army commission. They reported negative results, however, from two (subcutaneous?) inoculations with fresh yellow fever serum after it had been passed through a Berkefeld filter. The quantity of filtered serum injected in these experiments was in one instance one forty-fifth and in the other one-fifth of that used in our own cases.[3]

The most interesting and striking feature of the report was the description of a protozoan parasite to which the name *Myxococcidium stegomyiæ* has been given. This parasite was found with regularity[4] in the appropriate mosquitoes that had bitten patients affected with yellow fever, these mosquitoes after varying periods being killed, sectioned and stained. Simple staining with Bismarck brown or hematoxylin were the methods used by these observers for the demonstration of the parasite. Five forms are described: (*a*) fusiform bodies found in the stomach and ventral diverticulum;[5] (*b*) fragmentation bodies lying in an albuminoid mass within the same diverticulum;[6] (*c*) compact aggregations of spores (called oöcysts) occurring in spherical masses[7] in similar albuminoid material in the same location; (*d*) sporoblasts (?) appearing as single or aggregated spherical or ovoid cells in the albuminous material in the diverticulum and in the tissues of the thorax;[8] (*e*) spores (?) containing sporozoites (?) in the salivary glands.[9] One or more of these stages were said to have been found in a large proportion of the infected mosquitoes that were killed not earlier than the third day after being fed on the blood of patients during the second, third and fourth days of the disease. The cycle of development of these so-called animal parasites as given by the authors is about as follows: On the third or fourth day, after the disappearance of the blood, the stomach was found to contain varying numbers of small fusiform-shaped protozoa arranged singly or in groups and containing a central, oval nucleus. Certain of these forms (budding forms) were interpreted as indicating a terminal conjugation; after conjugation the resulting zygotes migrated through the stomach wall into the diverticulum and underwent further development in a mass of albuminoid material in the latter sac. Here were found also the fragmentation bodies and oöcysts (?), the latter represented by rather compact spherical aggregations of round or ovoid bodies, the sporoblasts (?). After their liberation these sporo-

* Read at the Thirty-first Annual Meeting of the American Public Health Association, held at Washington, D. C., October, 1903.

1. Read before the third annual meeting of the Society of American Bacteriologists, Chicago, Dec. 31, 1901, and published in Amer. Med., Feb. 22, 1902.

2. Report of Working Party No. 1, Yellow Fever Institute.—"A Study of the Etiology of Yellow Fever," by Herman B. Parker, Assistant Surgeon; George E. Beyer, Acting-Asst. Surgeon; O. L. Pothier, Act.-Asst. Surg., March. 1903, Washington, Government Printing Office.

3. Reed and Carroll: Amer. Med., Feb. 22, 1902.

4. Report of Working Party No. 1, Conclusion 3, p. 8.

5. Figure 15 of the report.

6. Figure 16 of the report.

7. Figures 17 to 24 of the report.

8. Figures 25 to 28 of the report.

9. Figures 29 and 30 of the report.

blasts wandered into the thoracic end of the diverticulum, passed through its wall and the tissues of the thorax until the salivary gland was reached. After penetration of the gland sporozoites were developed and liberated.

Availing myself of the announcement that type specimens were preserved in the collection of the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service, I requested permission to examine them, and I desire to acknowledge here the great courtesy and kindness extended to me on two such occasions by Dr. Herman B. Parker, the chairman of the working party. On subsequently re-examining our own sections

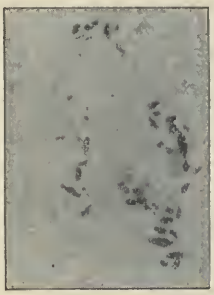


Fig. 1.—This is Figure 15 from the Report of Working Party No. 1, etc., and shows the fusiform bodies found in the stomach and diverticulum of infected mosquitoes.

of infected and non-infected mosquitoes which had already been studied more than two years before in conjunction with my honored colleague, the late Major Walter Reed, surgeon, U. S. Army, and Dr. William M. Gray,[10] microscopist to the Army Medical Museum. I was unable to satisfy myself that a single one of our infected mosquitoes contained any of the fusiform, round or oval bodies described in the report of the working party of the Yellow Fever Institute, but forms

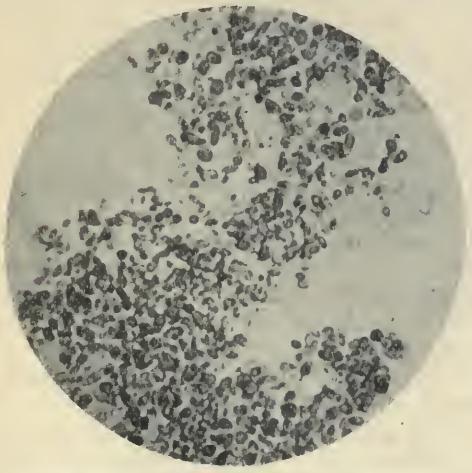


Fig. 2.—Photomicrograph, showing yeast cells in the diverticulum of a non-infected banana-fed insect from Havana. Spherical cells predominate, but fusiform and budding (conjugating?) cells are also shown. ×600.

similar in appearance to those shown in Figure 16 of the report were occasionally found in the stomach contents. From their striking inequality in size and the absence of any structural details in these "fragmentation" forms, I regarded them even in the type specimens above referred to as masses of amorphous granular material. The bodies containing sporozoites[11] (?) which were found in the salivary gland have been abandoned by these investigators because they no longer regard them as of importance.[12] It is noted that in a more recent article by the chairman of the working party all mention of these supposed sporozoites is omitted.[13]

The report does not state in what relative number of insects each of these forms was seen, but I learned from Dr. Parker, on inquiry, that the forms interpreted by

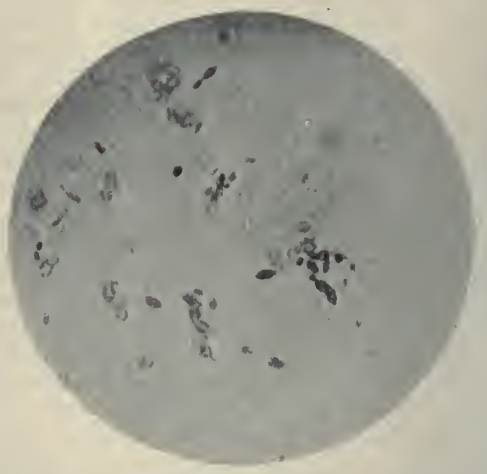


Fig. 3.—Photomicrograph, showing fusiform and budding cells in the diverticulum of another non-infected banana-fed insect from Havana. ×600. These mosquitoes were sectioned and examined early in 1901.

them as fusiform protozoa were the only ones found to be constantly present. These are described as 3 to 4 microns long by 1.5 to 2 microns broad, and containing a nucleus.[14] Appearances interpreted as evidence of conjugation are seen in certain of these forms where two of the ovoid bodies, varying more or less in size, are joined by a slender protoplasmic constriction[15] (see Fig. 1); others show a minute bud projecting from one or both poles. The nucleus appears as a small brightly refractive unstained spot when the bodies are stained with hematoxylin or Bismarck brown, either of which colors the whole cell. The bodies that impressed me as being of the greatest importance, if constantly present, were the

Fig. 4.—Photomicrograph, showing the ellipsoid yeast obtained from banana. Deep colonies in an agar culture two days old. Stained by Gram's method. ×600.

oöcysts (?) in the albuminoid mass[16] and the sporoblasts[17] (?) in the connective tissues of the thorax.

With these pictures fresh in mind, on re-examining our slides prepared from infected mosquitoes, I failed to find any of the forms described, excepting, of course,

10. Practically all of our insects were embedded, cut and mounted by Dr. Gray.
11. Figures 29 and 30 of the report.
12. Dr. Herman B. Parker, chairman of the party, is my authority for this statement.
13. "The Etiology of Yellow Fever," by Herman B. Parker, M.D., Jour. of the Assn. of Mil. Surg., vol. xiii, No. 4, Oct., 1903.
14. Report of Working Party No. 1, etc., p. 31.
15. Loc. cit., Figure 15.
16. Figure 23 of the report.
17. Figures 27 and 28 of the report.

the "fragmentation" bodies[18] to which I could attach no significance. On re-examining sections of normal (non-infected) mosquitoes the results were different, for in one of these, cut in cross section, the ventral diverticulum showed large numbers of spherical and fusiform cells, some of them corresponding in size and form to those described by the working party, but stained brilliantly with eosin (see Fig 2). The majority however, were spherical and a few were elongated into large rod forms resembling detached hyphæ. The smallest contained a single refractive spore, of minute size. The larger fusiform or flask-shaped bodies often contained several spores and in a few instances a single spore was seen to have passed into a projecting bud of protoplasm. A few hyphal filaments about 2 to 3 microns broad and 15 to 20 microns long exhibited a central row of spores arranged with a fair degree of regularity. The characters described justified the conclusion that these cells were blastomycetes that had gained access to the body cavities of the insect with food or water.

Fig. 5.—Photomicrograph, showing masses of yeast cells in the stomach and diverticulum of an insect fed on yeast culture and banana. Gram's method and Bismarck brown. Many of the yeast cells are decolorized and stained with Bismarck brown. ×50.

In another non-infected insect cut in longitudinal section, fusiform, ovoid and flask-shaped cells (see Fig 3) corresponding in every way with the fusiform stage of the *Myxococcidium stegomyiæ* as seen in their type specimens, were found throughout the ventral diverticulum, but were present in the upper portion of the stomach only and away from the blood mass. This insect had been permitted to take a meal of normal blood some hours before it died, and it is of interest to note that the organisms were found not within or near the residual mass of ingested blood, but only in the upper third of the stomach and associated with large numbers of bacteria. Their location suggests that instead of migrating through the wall of the stomach to the diverticulum[19] they were carried over mechanically from the diverticulum into the stomach.[20] The large majority of these cells showed a single central refractive vacuole (not spores in this instance) of minute size; a few contained two of them. Hyphal forms were not observed. The sections were stained originally with thionin and eosin on a number of slides and after decolorization the cells described were found also to stain perfectly with hematoxylin, Bismarck brown (these two were the methods used by Parker, Beyer and Pothier). and by Gram's method. Similar results were obtained

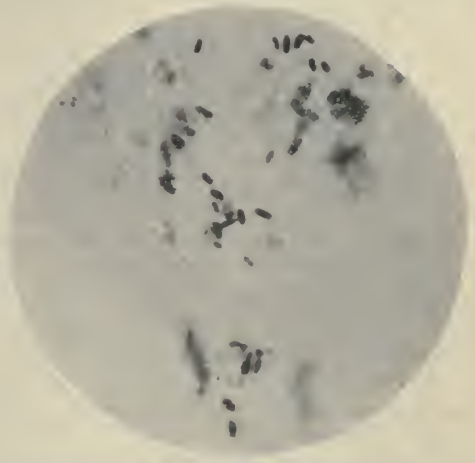


Fig. 6.—The same. A field from the diverticulum. ×600.

with smears from a culture of a white yeast kept in the laboratory. A week or so later I showed these slides to Drs. Parker and Rosenau of the Marine-Hospital Service and expressed the opinion that the fusiform bodies were yeast cells.

In the endeavor to account for the presence of these bodies in our non-infected mosquitoes and their absence from those that had been infected, it was recalled that the insects had been reared and kept in different buildings and fed differently for the greater part of the time at least. The non-infected mosquitoes were supplied

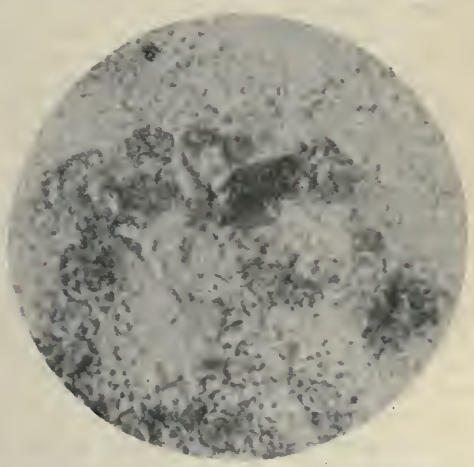


Fig. 7.—Colonies in the albuminoid mass in the diverticulum of a yeast-fed insect. Bismarck brown. ×600.

with banana; the infected insects referred to in this paper were at no time permitted to feed on fruit, but were given only sugar and water in separate vessels. Many of the infected insects were reared under these conditions. I can speak positively on this point, because from the establishment of Camp Lazear until its abandonment the infected mosquitoes kept there were under my exclusive charge and control.

To establish, if possible, the connection between overripe fruits and the presence of these bodies in mosqui-

18. Figure 16 of the report.
19. Report of Working Party No. 1, etc., p. 29.
20. Accompanying the residual food supply, as indicated by Nuttall and Shipley, "Studies in Malaria," Jour. of Hygiene, vol. iii, No. 2. April, 1903.

toes, I obtained some *Stegomyiæ* through the courtesy of Dr. Edmond Souchon of New Orleans and Dr. L. O. Howard of the U. S. Department of Agriculture, the latter kindly supplying me with fifty living insects, a large number of eggs and some insects preserved in alcohol. Fusiform yeast cells were found in the diverticula of a very small proportion of those that were received in alcohol. An ellipsoid wild yeast (see Fig. 4) was then isolated from an old banana and insects were subsequently fed on the fermenting fruit, to which this yeast in pure culture had been added. Previous sterilization of the banana was not considered necessary. As a result, I have brought about the presence of bodies identical in appearance with the fusiform stage of the so-called *Myxococcidium stegomyiæ* in nearly fifty insects that have never been in contact with a case of yellow fever, and have demonstrated them, in large numbers, in the diverticula of four *male* insects that have been hatched and reared in the laboratory of the surgeon-general's office in Washington. I have been able to demonstrate the passage of these organisms from the ventral diverticulum through the natural opening of communication to the esophagus and thence to the stomach, where they are found only in the upper part of the organ, and are absent from the blood mass below, which is of large size and recently ingested. I have obtained in one instance as the result of feeding a male insect on wild yeast and banana, sections which show these organisms among the muscular tissues of the thorax, many of them lying in close proximity to the gland. Several insects similarly treated show the same bodies in the stomach and diverticula. (see Figs. 5, 6 and 7). They have not been found in fifty-two *Stegomyiæ* fed on yellow fever patients and kept under my immediate charge, a number of them having been used in reproducing the disease. Many of these mosquitoes that were kept for inoculation purposes died in the jars and are poorly preserved, but a number were killed and preserved immediately. The state of preservation of the insect, however, does not materially affect the staining properties of the blastomycetes, for in non-infected insects that have died in the jars and are crowded with bacteria, they color brilliantly and sharply. This would seem to indicate that they still retain their vitality after the death of the mosquito containing them.

Dr. L. O. Howard informs me that Dr. J. W. Dupree of Baton Rouge, La., writes him that he also finds the "*Myxococcidium stegomyiæ*" in non-infected mosquitoes at Baton Rouge.

Indirect confirmation of my results is seen in the report cited,[21] where it is stated that the parasite was not found in *Stegomyiæ* that had been applied to a malignant case of malarial fever and were then fed on blood, sugar and water. If a sufficient number of insects had been used and they had been fed on overripe banana or other fruit, as the working party recommends for yellow fever mosquitoes,[22] the supposed animal parasites would in all probability have been demonstrated.

On close examination of the liberated sporoblasts (?) shown in Figures 25 and 26 of the report referred to, it will be seen that these bodies show the variations in size and form and the typical budding process of yeast cells. This is particularly well marked in the left central and lower portions of Figure 26.

21. Report of Working Party No. 1, etc., p. 30.
22. Report of Working Party No. 1, etc., p. 28.

That ellipsoid wild yeasts may be pathogenic for the lower animals is shown by the researches of Rabinowitch,[23] who states also that these cells are stained by all the usual anilin colors. In the course of my own observations it has been found that typical ellipsoid forms in one of the mosquitoes were stained equally well with eosin, Bismarck brown, hematoxylin and by Gram's method.

Similar forms of blastomycetes have already been isolated from the broken-down nodules of spurious glanders, and the statement is made by Italian investigators that several parasites which are classified under the sarco- or micro-spordia belong really to the blastomycetes.[24]

As the yeasts are universally disseminated in Nature (and there are many species of them, only a relatively small number being pathogenic), it is not surprising that experiments with a single species have failed to show positive evidences of invasion of the tissues of the insect. This was obtained by the working party of the Marine-Hospital Service in only a few instances, and is obviously of no importance from the point of view of the etiology of yellow fever. On the other hand, it is regarded as of the greatest importance that bodies identical with the fusiform stage of this supposed protozoön, the only form found to be constantly present, can be easily reproduced anywhere by feeding to mosquitoes a culture of an ellipsoid yeast.

The results of the observations here recorded are believed to justify the following conclusions:

1. The fusiform stage of the so-called *Myxococcidium stegomyiæ* of Parker, Bevor and Pothier (1903), is not connected in any way with the transmission of yellow fever.

2. This organism appears to be not a protozoan parasite, but a yeast fungus. In its fusiform stage, the only form in which it was constantly present, it shows the characteristic budding, staining affinities and vacuolation or spore formation of a blastomycete, and it is found with considerable regularity in both male and female mosquitoes that have purposely been fed on overripe banana to which a pure culture of a wild yeast had been added in the laboratory.

3. The organism has not hitherto been found in repeated examinations of mosquitoes of the genus *Stegomyia* that have bitten yellow fever patients in the early stages of the disease, when such insects had been fed only on blood, dry sugar and water. This statement applies also to mosquitoes that are known to have reproduced the disease in human beings.

23. Zeitschrift f. Hyg., etc., Leipzig, vol. xxi, 1896, p. 11.
24. "A New Pathogenic Species of Yeast," etc., Fermi and Aruch. Centralblatt für Bakt., etc., 1st Abt., vol. xvii, No. 17, May, 1895, p. 593.

HOW TO WRITE A MEDICAL ARTICLE;

A PLEA FOR PLAGIARISM.

G. FRANK LYDSTON, M.D.
CHICAGO.

One of the most galling experiences of the middle period of one's professional career is the discovery that he has been wasting his energies in ambitions which might have been easily gratified by a very modest expenditure of force. How sad the experience of the man who has been for years desperately striving to attain by his pen a certain degree of fame to discover that he has not had discernment sufficient to point out to him the direction of least resistance. How selfish the man who, having learned, alas! too late, the error of his ways, does not give his younger and more un-

sophisticated brethren the benefit of his experience. In endeavoring to aid my professional friends in securing the greatest amount of result from the least expenditure of time and the smallest possible wear and tear of gray matter, I feel that I am sowing seed that, beyond peradventure of doubt, must bear fruit.

The royal road to literary fame is plagiarism, a term which was originally invented for the protection of the hypersensitive feelings of certain giants of the ink bottle, who might have been shocked by the less euphonious term, literary theft. The plagiarist bears the same relation to the thief as does the master of shady business methods. We do not call the latter a thief, we call him a "financier."

The old methods of plagiarism are notoriously faulty. The strained efforts of the old-style plagiarist to be original have resulted in such a distortion of the plagiarized matter that its own father is wont to pass by his literary offspring without recognizing it. Such methods can only be deplored. The estrangement of literary families is cruel. To an author who takes pride in his original creations the sight of one that has passed through the sausage machine of old-fashioned plagiarism is well-nigh insupportable. Full many an author has had his life saddened by this experience.

Time was when plagiarism was sometimes condoned because of its skill and the beauty and value of the finished product as it issued from the plagiarist's mill. Shakespeare even has been accused of plagiarism, perhaps justly, but what a stately edifice was built on the matter plagiarized by the world's greatest master of word architecture. What though Boccacio's literary smut was composed chiefly of thrice-told tales from the Persian—he amplified and beautified them, and added a touch of salacity that required a higher civilization than the ancient Moslem for its production. Longfellow boldly "cribbed" the Kalevala, yet what well-regulated family can dispense with Hiawatha. The example of these shining lights of literature was pernicious, in that it led others into the error of believing that the soul of plagiarism lies in burying its victim a hundred fathoms deep beneath the plagiarist's own verbiage, it being, however, unnecessary to add to the value of the original production by a flavor of original thought. Out of the use and abuse of the good fairy, Plagiary, there has evolved a new school of plagiarists whom to know is to admire. The chief tenet of this new school is that plagiarism should be so conscientiously perpetuated that the most captious author can not accuse the plagiarist of mutilating his work nor of distorting the original matter. Still less could the rightful author fail to recognize his own. The new school has also exploded the fallacy that the quotation mark is a necessary feature of composition.

Strange to say, the new school is not without detractors. Indeed, I should have probably not felt compelled to rise in defense of the modern idea of plagiarism had it not been for one of these detractors, who saw fit to write me a letter calling attention to some of my stuff that had been recently presented in a new and attractive form by a distinguished exponent of the art of modern plagiarism. The letter reads as follows:

MIDWAY, PA., Oct. 11, 1903.

DR. G. FRANK LYDSTON, Chicago, Ill.

Dear Doctor:—Enclosed you will find an example of flagrant plagiarism. I believe the good of the profession demands the exposure of such men.

The article referred to was torn, unfortunately, from some medical journal whose title was not noted; but you can easily trace the article. It was published within the last four months. It is taken bodily from your article on "Gonorrhea in Women," published in your "Addresses and Essays."

I hope to learn that you have traced the article and required the editor to publish the facts. Respectfully yours, etc.,

A. L. RUSSELL, M.D.

The paper to which Dr. Russell alludes is entitled:

THE REMOTE EFFECTS OF GONORRHEA IN THE FEMALE.

BY W. E. FITCH, M.D.

Member American Medical Association, American Editor's Association, Medical Association of Georgia, Medical Society of the State of North Carolina, Chatham County Medical Association: formerly Editor *Georgia Journal of Medicine and Surgery.*

SAVANNAH, GA.

The article was read at the last meeting of the Georgia State Medical Society, and appeared in the *Annals of Gynecology and Pediatry,* September, 1903.

I have rarely been so pained as by the perusal of Dr. Russell's letter. I had considered him one of the discerning ones: his letter proves me in error. I trust he will not be offended at my taking him to task. In the first place, my correspondent is in error as to the work from which the marrow of Dr. Fitch's article was taken. It was chiefly my text-book on "Genito-Urinary Diseases," published in 1899, that gave him his subject-matter, as witness the new terminology which has come in vogue since my collection of essays and addresses was published, in 1892. It could not have been taken from my work on gonorrhea, published in 1892 (Davis' Leisure Library series), because of a similar slight lack of correspondence in the language, although the ideas were the same. As the essay alluded to by Dr. Russell was published eleven years ago and was a pioneer contribution to the subject, the assertion that Dr. Fitch's article was taken from it is by no means flattering to that gentleman. If the assertion were true and Dr. Fitch had slept a few years more, he would have given us a medical Rip Van Winkle.

No, my dear Dr. Russell, you must not allow your prejudices to blind you to the fact that Dr. Fitch is thoroughly up to date. He was manifestly fair to me primarily, for, save the first paragraph, he copied his article from my latest production on the subject.

There is one feature of Dr. Fitch's work that even so captious a critic as Dr. Russell must admire, viz., the accuracy of the copy. I was greatly delighted to find that even the style had not been impaired. Not that I plume myself particularly on my style, but it is nice to be able to recognize one's own children. They may be strabismic, carroty-haired, and lopsided, still they are one's own and ink is thicker than water.

As for the verbiage of the copy, it varies from the original only to the latter's advantage. It will be further noted that Dr. Fitch is consistent throughout. He launches boldly into his appropriation, demonstrates his unerring accuracy—for which the editorial habit must be thanked—and sustains the standard he has set for himself for pages and pages.

A comparison of the parallel columns will prove my point.

DR. LYDSTON'S TEXT-BOOK.	DR. FITCH'S ARTICLE.
Gonorrhea in the female as now understood is more often met with in the special field of gynecology than in that of venereal diseases. This would seem, *a priori,* a trifle paradoxic, yet if the more advanced views be correct, the correlatives of gonorrhea and gleet in the male are too frequently regarded as simple and non-venereal in the female. Then, too, the more serious results of gonorrhea in women are at the present time relegated to abdominal surgery; a field that the gynecologist would fain monopolize. A knowledge of these conditions in their various phases, and a just appreciation of their relation to venereal infection, are nevertheless absolutely indispensable to the genito-urinary surgeon.	Gonorrhea in the female, as now understood, is most generally found in the practice of the gynecologist, rather than in the work of the specialist in venereal diseases. This would seem, *a priori,* a trifle paradoxic, yet if the more advanced views be correct, the correlatives of gonorrhea and gleet in the male are too frequently regarded as simple and non-venereal in the female.

In my earlier papers on the subject, "Essays and Addresses," 1892, and "Monograph on Gonorrhea," 1892, the construction of the foregoing paragraph was as follows:

Gonorrhea in the female is perhaps more often met with in the field of labor of the gynecologist than in that of the venereal specialist. This would seem from *a priori* consideration a trifle paradoxical, etc.

Dr. Fitch has done me the honor of appropriating the first few lines of this.

DR. LYDSTON'S TEXT-BOOK.	DR. FITCH'S ARTICLE.
The special consideration of the effects of gonorrheal infection upon the female sexual organs is of great practical value, the more especially as the *matrics morbi* of the disease is primarily generated in women. It is a striking clinical fact that gonorrheal inflammation in the female rarely presents con-	The special consideration of the effects of gonorrheal infection upon the female sexual organs is of great practical value, the more especially as the *matrics morbi* of the disease is primarily generated in woman. It is a striking clinical fact that gonorrheal inflammation in the female rarely presents consid-

ditions physically analogous to those observed in the male. Vaginitis of venereal origin is exceptional, and urethritis, the only real analogue, is excessively rare in women, and, moreover, does not always occur when virulent vaginitis exists. The rarity of virulent vaginitis, even in that numerous class of unfortunates from whom the male acquires the disease, is only explicable by: 1. The existence of latent gonorrheal processes of a greater or less degree of virulency in the female. 2. The gradual acclimation of the vaginal mucous membrane to the toxic products of organic decomposition slowly formed in the female generative apparatus. If it be accepted that the urethra of the male may become acclimated to morbid conditions existing in the female, as is often seen in the husbands of women who are infectious to any strange male with whom they may sustain sexual relations, it must also be accepted that the vagina becomes inured to contact of the irritating products of morbid conditions of the mucous membrane higher up: i. e., becomes tolerant of autogenetic poisons. This same tolerance explains the resistance of such women to the disease when they are exposed to contagion. 3. The relatively inherent toughness of the vagina, as a consequence of which it may serve as a vessel in which toxic materials can be elaborated without itself becoming infected by them. This inherent resistancy does not extend to the endometrium—cervical or corporeal—Fallopian tubes, and peritoneum; hence women may be affected by more or less active gonorrheal processes in these parts while the vagina is apparently healthy.

erations physically analogous to those observed in the male. Vaginitis of venereal origin is exceptional, and urethritis, the only real analogue, is excessively rare in women, and, moreover, does not always occur when virulent vaginitis exists. The rarity of virulent vaginitis, even in the *demimonde*, and that numerous class of unfortunates from whom the male acquires the disease is only explicable by: First, the existence of a latent gonorrheal process of a greater or less degree of virulency in the female; second, the gradual acclimation of the vaginal mucous membrane to the toxic products of organic decomposition slowly formed in the female generative apparatus. If it be accepted that the urethra of the male may become acclimated to morbid conditions existing in the female, as is often seen in the husbands of women who are infectious to any strange male with whom they sustain sexual contact, it must also be accepted that the vagina becomes inured to the irritating products of morbid conditions, of the mucous membrane higher up: i. e., becomes tolerant of autogenetic poisons. This same tolerance explains the resistance of such women to the disease when they are exposed to contagion.

The relative inherent toughness of the vagina, as a consequence of which it may serve as a vessel where the toxic materials can be elaborated without itself becoming infected by them. This inherent resistancy does not exist in the endometrium, cervical or corporeal, Fallopian tubes, and peritoneum; hence women may be affected by more or less active gonorrheal processes in these parts while the vagina is apparently healthy.

[A long paragraph is here omitted to save space, being practically the same in both columns.—ED.]

Noeggerath's theory as originally formulated implies: 1. That nearly all individuals who have at a more or less remote period contracted gonorrhea and have apparently been cured are capable of imparting infection to the female. Thus, most men who have ever had the disease, according to Noeggerath, sooner or later infect their wives.

2. That this infectiousness on the part of the male is in many cases latent, but may possibly become perceptible by the occurrence of urethritis of greater or less degree of severity, as a consequence of sexual intercourse.

3. That consequent upon this latent condition of gonorrhea in the male there occurs a similar latent infection of the wives of those affected.

4. That the majority of women who marry men who have at one time or another had gonorrhea, become sooner or later the subjects of uterine and pelvic inflammations.

Noeggerath's theory as originally advanced teaches:

That nearly all individuals (men) have at a more or less remote period of their lives contracted gonorrhea; have apparently been cured, but are still capable of imparting infection to the female.

That this infectiousness on the part of the male is in many instances latent, but may possibly become perceptible by the occurrence of a urethritis of a greater or less severity, as a consequence of sexual intercourse.

That consequent upon this latent condition of gonorrhea in the male there occurs a similar latent infection in the wives of husbands thus affected. . . . .

[Another long paragraph is here omitted from each column, being practically the same in each.—ED.]

With regard to the frequency of gonorrhea among the inhabitants of cities, Noeggerath said some years ago: "I do not know what the state of matters in other cities is; I did not know how we stood in New York until I questioned the husband of every woman who came under treatment; but I believe we may apply here the dictum of Ricord, that 800 men in 1,000 have had gonorrhea." He goes further and says: "I believe that I do not exaggerate when I say that gonorrhea in 90 per cent. of cases remains uncured. Of every 100 women who have married men formerly afflicted with gonorrhea, hardly ten remain well, the others are afflicted by some of the ailments which I have attempted to describe."

Making due allowance for the possibility of statistic errors and exaggerations in the original assertions of Noeggerath, it must still be admitted that gonorrheal infection may cause any or all of a series of disastrous results in the female pelvic organs. Thus, metritis, endometritis, salpingitis, hydrosalpinx, pyosalpinx, ovaritis, parametritis, pelvic peritonitis, menstrual disorders and sterility may occur, according to the age and severity of the process and the character of the structures affected. . . .

Dr. G. Frank Lydson, in writing on this subject, says: "Eight hundred men in one thousand have had gonorrhea." He further states that 90 per cent. of cases remain uncured. This coincides, though a little conservative, with another prominent writer's views, who makes the statement, "Once a gonorrheic always a gonorrheic."

Of every hundred women who have married men formerly affected by gonorrhea, hardly ten remain well, the others are afflicted by some of the ailments which I have attempted to describe.

Making due allowance for statistic errors and exaggerations in the original researches of Noeggerath and other workers in this field, it must still be admitted that gonorrheal infection may cause any or all of a series of disastrous results in the female pelvic organs, viz., metritis, endometritis, salpingitis, menstrual disorders and sterility may occur, according to the age and severity of the process and the character of the structures affected. . . .

[Another paragraph is here omitted, being practically the same in each column. There is also omitted from each column some paragraphs which do not appear in the other and are therefore immaterial.—ED.]

The disease is normally self-limited, and if complications can be prevented, not only is recovery likely to be secured within a reasonable period, but prolonged infectiousness may be averted. The higher the process extends the more prolonged and insidious will be the infection. The chief aim of the surgeon should therefore be the prevention of the extension of infectious inflammation. Rest is the best means of accomplishing this, sexual rest, especially be quite as important in this respect as in the male when similarly infected. Vaginal douches of potassium permanganate, 1 to 2000 to 1 to 1000 are a *sine qua non*. . . . Mercury bichlorid and silver nitrate are valuable, but by no means to be compared with the permanganate, which is the nearest approach to a specific at our command.

Urethritis and vesical complications demand balsams and alkalies internally, with the permanganate irrigations. Later on silver nitrate irrigations may be substituted with advantage. Instillations of permanganate or silver solution with a syringe may be useful, especially when the process shows a tendency to become chronic.

Anodynes and sedatives may be indicated in some cases, especially if complications occur or sexual irritation be marked.

The disease is normally self-limited, and if complications can be prevented, not only is recovery likely to be secured within a reasonable period, but prolonged infection may be prevented. The chief aim of the physician should be to prevent the extension of infectious inflammation. Rest is the best means of accomplishing this, sexual rest especially is of the greatest importance. Vaginal douches of permanganate of potassium, 1 to 2000, or 1 to 1000, are indispensable. Mercury bichlorid and silver nitrate are valuable, but not so trustworthy as permanganate of potassium.

Urethritis and vesical complications demand balsams and alkalies with the permanganate irrigations Anodynes and sedatives may be indicated in some cases, especially if complications occur or sexual irritation be marked. If much pain and a frequent desire to void urine exist, urinary antiseptics and vegetable diuretics, as corn silk, triticum repens, etc., will give speedy relief. . . .

In the first paragraph of the parallel columns it will be noted that Dr. Fitch has substituted the word "practice" for "field of labor," and "specialist in venereal diseases" for "venereal specialist." The implied adverse criticism of my verbiage is accepted in the same spirit in which it is given. The delicate compliment to the specialist in venereal diseases implied in the intimation that Dr. Fitch does not consider him "venereal" is worthy of a Chesterfield.

The insertion of the word "*demimonde*" in the second paragraph shows a literary finish to which Dumas himself, the coiner of the word, were he living, could not take exception. The word lightens up the gloom of the otherwise turgid and heavy style for which I am noted, and illumines the pages with a brilliant forecast of future improvement in my composition for which I shall never cease to thank my confrère. I use the word confrère advisedly, not to be outdone in generosity, for I am sure my learned friend could ill spare the word *demimonde*, and I, therefore, reciprocate from my own scanty store of "furrin things."

Dr. Fitch has really gone out of his way to be generous to me. He has given me credit for views which I quoted from Noeggerath. There may be those who will suspect Dr. Fitch of a lack of good faith. He has misspelled my name, and, considering his accuracy as a copyist, that is a bit suspicious.

That Dr. Fitch is impartial is shown by the fact that he has appropriated a paragraph of Noeggerath's stuff. Perhaps this was to temper my self-conceit. I confess it was somewhat of a dampener to find that Noeggerath's verbiage was so essential a part of my original text that it could not be copied without it.

I was especially pleased to note that Dr. Fitch has quoted Bumm (Bumm is spelled "Burum," and Veit's "Handbuch" is presented as "Voit's") on the evolution of the gonococcus. Had he been alive to the possibilities, however, he could have found some ideas on this subject also in my text-book. He might have used these ideas as original matter, especially as my first papers on the subject were published about fifteen years ago, and appeared in my text-book four years ago. It would have been safe to use them, for they did not have a foreign label, and the American profession would have given such scant credit as it usually accords to home-raised ideas to Dr. Fitch. Taken all in all, Dr. Fitch's article is a most accurate presentation of the views and language expressed in my text-book. His conservatism in the matter of reconstruction of language is admirable. If his editorial training is responsible for his accuracy and conservatism, would that all editors used the same ink. The wisdom of conservatism as displayed by Dr. Fitch is especially evident if one considers how important it is not to garble another's statements on a scientific subject. Wisdom, accuracy, delicacy, good taste and—I was about to say, literary finish, but modesty forbids—what more would the critic have?

It occurs to me in passing that Dr. Fitch may have been actuated in part by the notion that I was dead. If so, his desire to perpetuate my work by putting it forth in such form as to be unmistakably mine, is highly commendable. He must, however, be more wary of accepting as authoritative rumors based on that fraternal wish which is father to the thought and a fungus on the sturdy old oak, competition. Prognoses given as a matter of professional courtesy and esteem are sometimes unreliable, not to say disappointing. It will, of course, be understood that I can not undertake to discuss Dr. Fitch's article. I can not attack it, because I have not yet changed the views expressed in the book from which the bulk of the article was taken. I can not particularly commend its scientific merits, lest I be accused of crass egotism.

If the easy road to medical writing pointed out in this article proves of value to any struggling aspirants for literary and scientific fame, I shall be well rewarded. If all who in the future copy the work of others are stimulated to emulate Dr. Fitch's example and copy so conscientiously that no quotation marks or allusion to the rightful author are necessary, medical literature will owe me much. My chief hope is that this communication may be incorporated in the history of American medicine as a clinical contribution to the study of —well, hypertrophy of literary gall.

New Appliance.

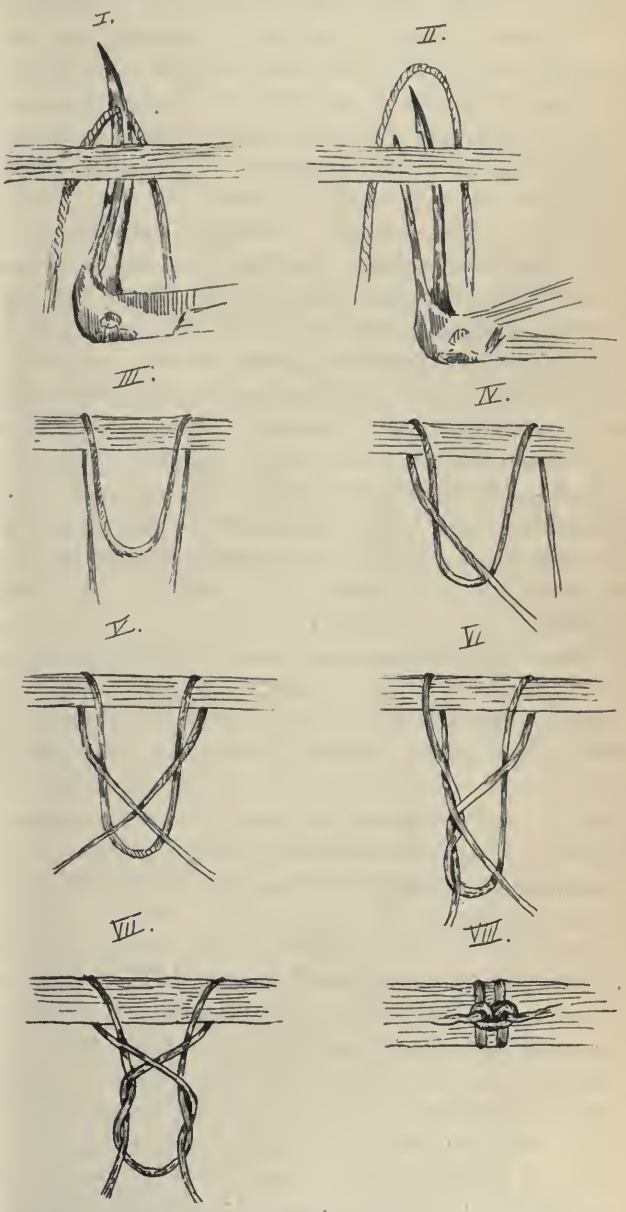
A SIMPLE AND EFFECTIVE KNOT.

H. L. NAHIN, M.D.
MILWAUKEE, WIS.

In tying the ovarian or uterine artery or any part of the broad ligament, the danger of secondary hemorrhage is always great. It is chiefly due to some defect in ligating the pedicle. The first loop formed in the reef or surgeon's knot is usually disturbed and loosened the minute the pressure of the surgeon's fingers is removed; while making the turn of the second loop the ends are made tense and the first loop is pulled up and consequently relaxed.

To overcome this difficulty I devised a knot which is simple in execution and safe in its not getting relaxed or loosened after it is secured in place, and which, if placed two centimeters from the cut end, will never slip off.

In tying the ovarian artery for instance, a loop of a double ligature is passed with the ligature carrier through the clear space in the broad ligament from before backward, as shown in Fig. 1; the loop is then released from the ligature carrier, as shown in Fig. 2; it is then brought forward by the assistant over the top of the broad ligament, as shown in Fig. 3; the free ends of the ligature are now separated by the surgeon holding the right end in the right hand and the left end in the left hand; he now crosses the left free end of the ligature to the right over and above the loop as shown in Fig. 4. Then he crosses in the same manner the right end of the ligature to the left over the loop as shown in Fig. 5. Now the free right end of the ligature is in the left hand, and the left end in the right hand *over the loop*. The surgeon now carries the right end of the ligature around behind the loop and forward *through* the loop to the left border of the inside of the loop, as shown in Fig. 6, and the left end in the same manner to the right border of the inside of the loop as shown in Fig. 7. The ends are now pulled snugly, separated, and with the ends of the index fingers pulled and at the same time pressed on the knot. An additional reef knot may be applied over this knot, but it can be dispensed with, as this knot is firmly interlocked and any



pressure or pulling up, down or sideways tends to bring the interlocked fibers of the ligature more snugly together.

Fig. 8 shows the knot complete after it is tied.

The same knot can be utilized with ease and safety when the broad ligament is to be ligated in sections. In such cases all it is necessary to do is first to bring out the loop with the ligature carrier, which is given to the assistant; then the free ends of the ligature are carried through another point embracing all the structures to be ligated, and the same procedure is followed as in the first description.

545 E. Water St.

Prophylaxis in Pediatrics.—There is no more promising field in medicine than the prevention of disease in childhood.—Holt.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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ACUTE PANCREATITIS.

The acute inflammations in the pancreas have been generally recognized as the source of trouble in the upper part of the abdomen only in very recent years, practically all important contributions on this subject having appeared since the publication of the lecture on this subject by Fitz of Boston in 1889. Interest in this affection has been specially stimulated since recent experimental studies have so definitely shown the connection between fat necrosis and pancreatic disease, for until this was recognized, fat necrosis was considered by many a distinct disease, instead of a pathognomonic symptom of pancreatitis. The evidence of association between gallstones and pancreatitis so clearly shown by Opie's observations, added another important reason for early operation in gallstone diseases, and attracted widespread attention, so that at present few surgeons would overlook the possibility of acute pancreatitis in any case in which acute symptoms were localized in the upper abdomen.

Most recent writers agree that the clinical picture is characteristic enough to make a probable diagnosis of acute pancreatitis quite within the range of possibility. The intense, colicky, epigastric pain which later becomes general; the intractable vomiting; the abdominal distention, particularly above the umbilicus; the tenderness and rigidity together with marked collapse, small and rapid pulse and often cyanosis are mentioned by all. The diagnosis is still more probable if this group of symptoms occur in a middle-aged man who is corpulent and has gastro-intestinal catarrh, arteriosclerosis or a history of alcoholism, gallstones or injury. The differential diagnosis, then, lies between pancreatitis and the other causes of acute abdominal symptoms in this region, as intestinal obstruction; perforating ulcer of the stomach or duodenum; ruptured gall-bladder or bile ducts, a phlegmonous cholecystitis and a gangrenous appendicitis; a positive diagnosis is generally admitted to be very difficult if not impossible in most cases.

With regard to the desirability of surgical treatment and the time at which it is best undertaken, there are wide differences of opinion. Some advocate immediate operation, others advise waiting until collapse passes off, while some even advocate waiting until a local abscess forms. Bearing on the question of treatment two recent papers are of considerable importance. Woolsey[1] reports three cases, all quite ill at the time of operation, but all of whom recovered after simple evacuation of a considerable quantity of fluid from the peritoneal cavity and drainage. Pels-Leusden[2] also reports three cases operated on in practically the same manner, with recovery of two and temporary improvement in the third case. Two of the patients were practically moribund at the time of operation, but improvement was immediate in all the cases after simple evacuation of the large accumulation of exudate and drainage. Both of these writers advocate early evacuation of the peritoneal fluid and the contained septic material and drainage. A small medium incision under cocain anesthesia is all that is necessary, and more extensive exploration is to be avoided in a patient in such a collapsed condition. Early operation, sometimes under cocain, is also recommended by Robson and Moynihan,[3] and was advocated by Hahn, who operated successfully in a case similar to those reported.

Unfortunately, a large proportion of patients who suffer from the severer forms of acute pancreatitis will die whatever method of treatment is adopted, but we believe that the early and simple operative procedure recommended above is the rational method to follow in these cases, for undoubtedly, as Woolsey says, a large percentage of the patients will die in waiting for a more favorable time for operation, just as would be the case if we were to wait to drain an appendix abscess rather than to take the disease in its early acute stage. Moreover, practically all agree as to the impossibility of making a positive diagnosis between acute pancreatitis and several other acute abdominal affections, all of which demand immediate operation if the life of the patient is to be saved. Quite probably the percentage of recoveries will be greater when such prompt and simple operative intervention is adopted as in the cases reported above.

1. Annals of Surgery, November, 1903, page 726.

2. Deutsche Zeitschrift für Chirurgie, September, 1903, vol. lxx. p. 183.

3. Diseases of the Pancreas and Their Surgical Treatment, 1903.

THE SIGNIFICANCE OF INFECTION, HEREDITY AND PREDISPOSITION IN THE DEVELOPMENT OF PULMONARY TUBERCULOSIS.

It is a well-known fact that pulmonary tuberculosis is more common among the poor, the careless, the ignorant and the depraved in a community than among those belonging to the opposite class. It is likewise an authenticated observation that the disease seems to exhibit a predilection for certain houses, or rather that a disproportionate number of cases occur in such houses. The natural inference is, therefore, that special opportunities for transmission exist under such conditions, but a question has been raised as to the part played in this connection by heredity and predisposition. It has, for example, been noted that not all persons equally exposed are attacked; that certain families especially suffer, and that women are often the victims of the disease in connection with the puerperal state and lactation.

Some observations have been made into the questions at issue, but they have principally related only to tuberculous patients. Accordingly, Dr. E. Schwarzkopf[1] studied 354 female patients over 13 years of age—160 with and 194 without pulmonary tuberculosis—presenting themselves at the medical clinic of the University of Marburg. Men and children were excluded because of the etiologic significance of occupation, change in residence and association with large numbers of persons in the former and the relative rarity and often the difficulty of recognition of the disease in the latter, while the conditions referable to the women could be better noted and controlled. Only cases were considered in which the diagnosis was clear, merely suspicious cases being rejected.

Of the total number, 145—40.96 per cent.—had been exposed to infection by association with tuberculous patients, sometimes for years, while in 209—59.03 per cent.—no such exposure could be made out. Of the women that had demonstrably associated with tuberculous patients, 98—67.58 per cent.—became affected with pulmonary tuberculosis, and 47—32.41 per cent.—remained well. Of those that had not associated with tuberculous patients, 62—29.66 per cent.—became tuberculous, and 147—70.33 per cent.—remained well. Of the tuberculous patients, 98—61.25 per cent.—had demonstrably associated with tuberculous patients, and of the non-tuberculous patients, 47—24.22 per cent. Those that had lived together with several tuberculous patients, at once or in succession, suffered in larger number than those that had been exposed to but a single source of infection. The danger of such association was found to be the greatest between the fourteenth and the fortieth year. Infection during childhood was responsible with comparative rarity for pulmonary tuberculosis developing after the thirteenth year.

The evidence of hereditary acquisition was, according to Schwarzkopf's findings, no greater in tuberculous patients than in non-tuberculous patients. In fact, he claims, it was actually a little greater in the latter than in the former. The greater danger from the mother than the father is due to the fact that the former is more in the house, and thus is a more prolific source of infection. Of pregnant, parturient and nursing women, while the number exposed to infection was the greater, as compared with those not so exposed, the difference was not so marked as with respect to other influences.

The results of these observations are summed up by him as follows: In the development of manifest tuberculosis of the lungs, infection with tubercle bacilli, such as is brought about by association with uncleanly tuberculous patients under unfavorable external conditions, plays an important part. In women suffering from tuberculosis antecedent, opportunity for infection could be demonstrated in 61.25 per cent. of the cases, and in only 24.22 of non-tuberculous women. Almost every person—at least in the unfavorably situated portion of the community—is afforded opportunity for the taking up of isolated tubercle bacilli. In order, however, that pulmonary tuberculosis may develop repeated infection is necessary in the majority of cases. The danger of acquiring tuberculosis increases with the number of patients in the vicinity and with the duration of the opportunity for infection. Infection in childhood gives rise with relative rarity to pulmonary tuberculosis developing after the thirteenth year of life. This takes place much more frequently if renewed infection occurs. The taking up of tubercle bacilli in the period between the fourteenth and the fortieth year of life is particularly dangerous, and the danger increases up to about the age of forty years. The danger of a tuberculous patient to those by whom he is surrounded disappears when the patient observes suitable precautions with respect to coughing and expectorating. Schwarzkopf holds that mere hereditary predisposition has not the slightest influence on the development of manifest pulmonary tuberculosis, a wholesale generalization that appears hardly justified by so limited a series of observations. The existing opportunity for infection is, in his opinion, the determining factor, and on it the development of the disease is dependent. (Why such respectable percentages of the non-exposed became tuberculous and of the exposed remained well is not explained.) A number of injurious influences, in women first and foremost parturition and sedentary occupation, in men especially, certain injurious influences relating to the occupation, are capable not alone of aggravating an existing tuberculosis, but also apparently of constituting a predisposing factor in the development of pulmonary tuberculosis.

Schwarzkopf's article is an interesting and valuable, but not a conclusive contribution to the literature of the still unsettled problems of the individual etiology of tuberculosis.

1. Deutsches Archiv für klinische Medicin, lxviii, No. 1-2, p. 73.

THE ETIOLOGY OF YELLOW FEVER.

Not long ago the Yellow Fever Institute of the U. S. Public Health and Marine-Hospital Service issued the Report of Working Party No 1, in which is described a protozoan parasite found regularly in certain mosquitoes that had bitten yellow-fever patients. This organism is described in detail and given the name of *Myxococcidium stegomyiæ*. On the face of it this report appeared to be one of the most important contributions yet made to the much-vexed question of the etiology of yellow fever. The question was, Would it stand the test of scientific criticism?

In this number of THE JOURNAL Dr. James Carroll of the U. S. Army brings forward certain facts that tend to weaken one's confidence in the soundness of the conclusions of Working Party No. 1. Dr. Carroll shows that the fusiform stage of the *Myxococcidium stegomyiæ*

can not be connected with the transmission of yellow fever, and that the organism is a yeast fungus found quite commonly in mosquitoes fed on overripe bananas purposely besmeared with yeast culture. Added to this we have the important fact that Dr. Carroll has not been able to find the organisms in mosquitoes known to have reproduced yellow fever in human beings after they had bitten yellow-fever patients early in the disease, the insects having been fed only on blood, dry sugar and water. Undoubtedly the members of Working Party No. 1 will not suffer Dr. Carroll's destructive criticisms to pass unchallenged, and their reply will be awaited with much interest.

There is another episode connected with the discovery of *Myxococcidium stegomyiæ* that adds further variety to the history of Working Party No. 1, and that is the assertion by J. C. Smith of New Orleans that he was "the first to have interpreted correctly and given value to the things found in the bodies of the mosquitoes infected from yellow-fever patients." Mr. Smith has submitted the assertion that in the Report of Working Party No. 1 he has not been given full recognition for his services in working out the history of the alleged parasite in the mosquito.[1] In order to vindicate fully his assertion, Mr. Smith, or some one else, must establish that the bodies seen in the infected mosquitoes are animal parasites. Mr. Smith and Working Party No. 1 should now join hands again, this time in the effort to meet Dr. Carroll's attack; then, in the event of successful defense of their assertions, they may turn to the less serious task of satisfactorily adjusting the dispute as to recognition. On the other hand, if the *Myxococcidium stegomyiæ* proves to be a harmless yeast, then this attempt to solve the etiologic problem of yellow fever, like so many others before it, will pass in silence into history.

A NEW DEPARTURE FOR CITY HEALTH BOARDS.

One of the most valuable contributions to the subject of municipal sanitation is the recent introduction by the Department of Health of New York City of trained nurses for public-school service and for visiting contagious disease cases. As is usual in public undertakings, the initiative and early experimenting were due to private individuals. The residents of the Henry Street Nurses' Settlement, situated in one of the most crowded quarters of New York City, became deeply impressed by the neglect of contagious cases, which naturally can not be treated in the ordinary course of district nursing.

In a report given in *Charities,* L. L. Dock, who is herself one of the nurses in this settlement, states that the supervision of the department of health is as complete and strict as is possible under the circumstances. Physicians are asked to immediately report contagious cases, and quarantine measures are adopted. Leaflets in several languages are distributed, giving explicit directions for domestic disinfection. In throat cases cultures are taken, and antitoxin is furnished free, and it is also administered by a physician from the department in response to calls from any part of the city. A medical inspector visits each contagious case regularly once a week to watch the progress and order disinfection. When the case terminates the rooms are disinfected, mattresses and bedding sterilized without cost to the patient's family, and the landlord is directed to clean and paint.

For three months last spring the nurses' settlement kept a nurse on contagious cases exclusively. Last June the department of health took over this service and organized municipal district nursing for contagious diseases throughout a definite area which could be managed by three nurses. A home was rented for them next the city diphtheria hospital, where they report daily. The department had six nurses at work among tuberculosis cases even earlier than this.

It is too soon to expect reports of large results; but no one familiar with tenement life in a great town can question the value of this service as an auxiliary to a general system of hospitals for contagious diseases. Such a system of hospitals is lacking in every American city so far as we are aware. It is still little more than planned in New York, and it will probably be long before the city possesses bed space for 75 per cent. of the cases, as we are told is the better fortune of London. The use of the visiting nurse is a unique and promising departure.

Even more unique and certainly more constructive is the use of the visiting nurse as an adjunct to the medical inspection of the public schools. Nurses are now attached to forty public schools in New York. Children who have trachoma, pediculosis, ringworm, eczema and other minor ailments which properly exclude them from school, are visited at home, mothers are instructed in caring for the diseases and the children are returned to school as promptly as possible. This service was begun when the alarming spread of trachoma among public-school children rendered necessary a school children's hospital for operative cases. Later the effort was directed to discovering the cases early enough to obviate the necessity for operation, and the system has gradually extended.

One of its best features is the early return of the children to school after absence for sickness and the consequent marked decrease in absenteeism and truancy. Under the usual system of medical inspection, the child is sent home with directions to have the scalp or eyes or ears treated. It is safe to say that in nine cases out of ten, the mother will not carry out the directions, and the case lapses into a sort of legalized truancy of indefinite duration justified by a more or less chronic ailment. Under the new system the nurse follows the child to its home, sees that the treatment is carried out

1. Science, 1903, xviii, 530-535.

and that the child duly returns to school. There is another large element of value in the hygienic instruction which the mother inevitably absorbs.

A RIGHTEOUS VERDICT AGAINST AN ANTIVIVISECTIONIST.

We have frequently called attention to the exaggerated statements and outrageous lies—no milder term will suffice—of the antivivisectionists, both in this country and in England, and to the uselessness, for this reason, of attempting to answer any of their so-called arguments. They make malicious and vindictive statements and these are reiterated in both countries, no matter who may be injured thereby, or whether or not they have been proved false. Without referring to more than one case, we cite that of Sir Frederick Treves, who has been, and still is, quoted as holding to views that he has repeatedly and publicly denied.

Last week in London, after a trial before Baron Alverstone, Lord Chief Justice of England, a verdict of $10,000 damages was rendered against one of the leading antivivisectionists of England—an event that, it is to be hoped, will have a tendency to check the zoöphiles in their "lust for slander." The defendant in the case was Stephen Coleridge, son of the late Lord Chief Justice Coleridge and a relative of the poet. He is the secretary of the London Antivivisection Society, and a leader in the perpetual antivivisection movement of Great Britain. At a public meeting held in London last May, he charged Dr. W. W. Baylis, a physiologist of London, with gross and deliberate cruelty while conducting experiments on dogs in his laboratory. It was alleged that no anesthetic had been administered, and that the struggles and sufferings of the animals were heartrending, etc. Dr. Baylis resented the imputations made against him, and did what it would be well for others in like circumstances to do, commenced proceedings for libel and slander. These have resulted in a verdict in his favor and the substantial damages of £2,000. In the trial it developed that Coleridge's only authority for his allegations were the statements of two young women who attended a lecture given by Professor Baylis at which demonstrations were made on a dog. The prosecution proved that the A. C. E. mixture was used through a laryngeal tube, and that the dog was thoroughly anesthetized.

According to cable reports, the verdict was a popular one, and was received with acclamation not only in the court room but throughout London. This is certainly gratifying, for experimental medicine in Great Britain has been practically throttled for years by absurd restrictive legislation. A man of Coleridge's social standing makes him more powerful for good or for harm than one of less prominence, but when he made public charges based on the statements of two women, without taking the trouble to verify the statements and without giving the one accused a chance to make an explanation, he was doing what the average antivivisectionist is in the habit of doing. Perhaps with prospective damages staring them in the face, Coleridge and his friends will be more chary in the future of making serious charges on evidence which will not stand legal scrutiny.

Professor Baylis is to be congratulated on having the courage to defend his good name, and should be thanked by all who have the interest of science at heart for the fight he made against these rabid and bigoted opponents of the splendid work that is being done in behalf of progressive medicine and for the relief of human suffering.

AN UNPROVED LIBEL ON THE PROFESSION.

During the first day's trouble with the Chicago striking street-car men, one of the Chicago papers printed a paragraph to the effect that when one of the non-union workers was injured and taken to a nearby drug store, the physician who was called to attend him refused to do so. The report stated that the physician asked the man for his union button and on being informed that he had none and did not belong to the union, the physician refused to do anything for him. We immediately made inquiry as to the truth of this and found that the information had been telephoned in by a reporter and that this reporter got his information from a druggist. The druggist on being questioned, acknowledged that he knew nothing about it. The probability is that the report was not true. We sincerely hope that no physician would so far forget himself and his duties to humanity as to refuse to render professional aid, no matter who the injured might be or what the circumstances. Some of the methods of the striking trades unionists are only worthy of the most sedulous avoidance—above all by honorable physicians.

A SUGGESTION REGARDING RECIPROCITY.

Elsewhere we print a communication from one of the members of the Board of Registration and Examination in Dentistry of New Jersey and also a resolution passed by the National Board of Dental Examiners, a voluntary body as we understand it, composed of members of the different state dental examining boards. The resolution contains a suggestion which we think might well be applied as one of the educational requirements for registration by those state licensing boards which are trying to arrange for reciprocity with others. The suggestion is that when an individual who is licensed in one state desires to move to another, he shall take with him a certificate from the registration board of his own state. If a man has a good standing among those with whom he has been living and can be vouched for by his state board as having conducted himself as he should and as being worthy to continue practice, a certificate of this ought to carry weight. We do not wish to suggest that this certificate alone should be all that is necessary, but it certainly would be a good thing to require on the part of the licensing boards. The proposition of having a sort of letter of dismissal from one state to another is a useful one in any case, but especially as a qualifying condition on which the applicant may be granted a license.

NEWSPAPER MEDICINE.

Newspaper medicine—of course we mean medical matters as described in newspapers—is sometimes correct, often startling and usually funny. Occasionally we find items that are both startling and funny, and last Sunday's Chicago *Tribune* contained one of these. It came in the form of a cable dispatch from the London correspondent. The item has several lines of display heads, the leader being: "Rivals Surgery Done by Lorenz." We are told that a Dr. Rabey of London contends that:

Numbers of hip disease cases are really nothing more than hip dislocations, which cause the leg to wither as the muscles become dry, and the natural oil which ought to feed the leg forms abscesses. When there are diseased bones, he admits he can do nothing. His method is to reset the dislocated bone after softening the tissues and ligaments around the affected part. Dr. Rabey, in contrast with Lorenz's half-hour performs the operation in from three to five seconds, and also instead of making his patients lie from six to twelve months in plaster paris Dr. Rabey promises to have them up walking about inside of forty-eight hours.

Further on we are told:

He operated yesterday on a youth of 18 who, when he was 11, was in the hospital for six months for hip disease, and since then he has walked on crutches. His left leg is four inches shorter than the right. Several weeks ago he commenced preparing for Dr. Rabey.

The preparation in this case consisted of the application of poultices of olive oil and mustard to the hip. With such preparations, of course the operation was greatly simplified, and so we need not be surprised when it is stated:

The operation yesterday lasted three and one-half seconds, immediately rendering the leg two and one-half inches longer. "He will be able to walk on Sunday" was Dr. Rabey's parting observation.

We are further told that Dr. Rabey "has dealt successfully with 154 similar cases and thrice failed, but in each instance the case proved to be genuine hip disease." Wonderful Rabey! poor Lorenz!!

Medical News.

ARKANSAS.

No Collusion Allowed.—The Government Medical Board at Hot Springs has authoritatively stated that any registered physician found to be assisting unregistered practitioners, by writing bathing directions or in any other way, will be rigidly dealt with.

Officers Elected.—At the annual meeting of the Pulaski County Medical Society, held at Little Rock, November 2, the following officers were elected: President, Dr. Strodder U. King; vice-president, Dr. John H. Kinsworth; secretary, Dr. Charles C. Stephenson, and treasurer and librarian, Dr. William C. Dunnaway, all of Little Rock.

Dr. Drennen Vindicated.—Immediately on the return of Dr. C. Travis Drennen from the East he demanded trial in the Circuit Court on the indictments recently returned against him by the grand jury, charging unprofessional conduct. The case was promptly dismissed by the court at the request of the prosecuting attorney on the ground that there was absolutely nothing in the testimony of the prosecuting witness which would warrant a conviction. The evidence was to be the same as that in the case of Dr. Thomas E. Holland, which was tried by jury a few days before, in which the judge instructed the jury to return a verdict of not guilty without leaving the jury box. These two gentlemen were indicted on the unsupported testimony of a man, confessedly in the nefarious business which they have been actively seeking to suppress. Hot Springs physicians are accordingly congratulating themselves on this signal victory over the "doctor-drummers," and on the complete exoneration of those who have been endeavoring to remove this reproach from the town.

CONNECTICUT.

Personal.—Dr. Charles S. Stern, Hartford, has sailed for Europe.——Dr. Charles W. Holbrook, health officer of East Haven, has resigned.——Dr. Henry Fleischner, attending physician at New Haven Dispensary for quarter of a century, has resigned.

Anti-Tuberculosis Lectures in Schools.—The members of the New Haven Medical Association and the superintendent of the public schools have arranged to give a series of lectures on tuberculosis, its cause and prevention. The first lecture will be given late in this month or early in December.

Eddyite Not Appointed Guardian.—Judge Cleveland of New Haven recently refused to appoint an Eddyite as guardian to the nine-year-old daughter of Isaac W. Stiles of New Haven. The judge made this decision after asking some questions as to prospective conduct in case of the serious sickness of the child.

October Mortality.—During October, 1,123 deaths occurred in the state, an annual death rate of 14.8 per 1,000. The deaths numbered 37 less than in September, and 10 less than in the same month of 1902, but 14 more than the average number of deaths in October for five preceding years. Infectious diseases, including diarrhea, caused 43.9 per cent. of the total mortality.

Infectious Diseases in October.—Smallpox—Putnam reports 8 cases; measles—255 cases are reported from 20 towns; scarlet fever—103 cases are reported from 32 towns; diphtheria—141 cases are reported from 36 towns; whooping cough—94 cases are reported from 13 towns; typhoid fever—168 cases are reported from 38 towns, and only 25 cases of consumption are reported during the month from 11 towns.

Dispensary Election.—At the annual meeting of the New Haven Dispensary, Dr. Charles A. Lindsley was elected president; Dr. John S. Ely, secretary; Drs. Francis Bacon, Charles A. Lindsley, Oliver T. Osborne, Louis S. De Forest, Charles J. Foote and Henry Fleischner, consulting physicians; Drs. William H. Carmalt, Henry L. Swain, Arthur L. Alling, John S. Ely, Robert E. Peck, Louis B. Bishop, Otto G. Ramsay, William Springer and Ralph A. McDonnell, attending physicians, and Dr. Thomas H. Young, apothecary.

ILLINOIS.

Infectious Diseases.—Diphtheria is said to be epidemic near Platteville, in Kendall County.——Typhoid is epidemic in Canton, where at least 60 cases exist.——In Streator there are said to be 6 or 8 cases of smallpox.——Dr. E. S. Baker of the State Board of Health has gone to Tuscola, Camargo, Pinkstaff and Mt. Carmel to inspect the sanitary arrangements with special reference to the reported cases of smallpox.——The smallpox situation in Belleville is encouraging. It is believed to be under control, and about 250 individuals are being vaccinated each day.

Chicago.

Fire in Dissecting Room.—A fire in the anatomic department of the building of the Northwestern University dental department, November 20, damaged the building to the extent of $35,000.

Dr. Musser at the Chicago Medical Society.—Dr. John H. Musser, President-elect of the American Medical Association, who was in Chicago at the conference of the officers of the sections of the American Medical Association, read a paper in the evening before the Chicago Medical Society, after which he was tendered a reception.

Personal.—Dr. E. H. Ruediger of the Memorial Institute for Infectious Diseases, Chicago, has been appointed assistant in the Serum Institute, Manila, P. I.——Dr. Albert C. Hemmett was thrown from his buggy and seriously injured in a collision with an electric car, November 8.——Dr. Chas. O. Young has severed his connection with Augustana Hospital.

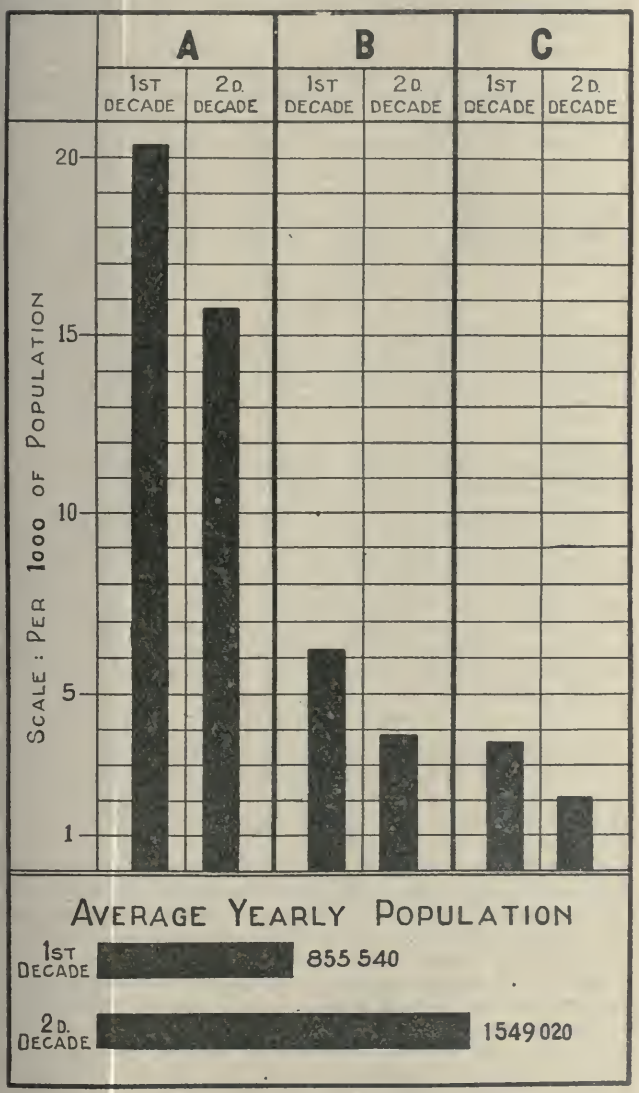
Examination for Assistant Warden.—Fourteen applicants took the examination for assistant warden of Cook County Hospital, and of these four were successful. Dr. John B. Colwell obtained the highest mark and received the appointment. The other three on the eligible list in order of excellence are Drs. Arthur W. McClave, Victor Lespinasse, Chicago, and Joseph M. Kearney, Elgin.

Probert Fined.—The notorious Arthur C. Probert, vice-president of the "Christian Hospital," who was arrested on complaint of Dr. John B. Murphy and others on the ground that

their names were being used without authority on certificates of the hospital to induce other physicians to become members of the staff on payment of fees of varying amount, was fined $500 and costs, November 21, for fraudulent use of the mails.

Reduced Mortality.—Excepting pneumonia, all the acute infectious diseases show marked reductions in the mortality returns for the week ended November 21. Deaths from diphtheria are fewer than in any week since the schools opened. The number of cases reported is 30 per cent. less than in the previous week and the scarlet fever cases 26 per cent. less. No new cases of smallpox were discovered during the week. The total deaths for the week were 467, an annual death rate of 12.91 per 1,000. Pneumonia still heads the list, with 70 deaths, and then follow heart disease, with 63, and consumption, with 45.

Chicago Mortality for Twenty Years.—Dr. Arthur A. Reynolds, health commissioner, in a recent talk before the Sociology Club on "Sanitary Conditions in Chicago," briefly



rehearsed the sanitary, or rather unsanitary, conditions as they existed 65 years ago and compared them with the conditions of the present day. He presented a chart, which is herewith reproduced, which shows graphically the death rates during two decades—the first from 1883 to 1892, and the second from 1893 to 1902. The chart is explained as follows:

A—The death rate at all ages: In the first decade it was 20.35 per 1,000 of population. In the second decade it was 15.77—a decrease of 22.5 per cent. At the earlier rate—20.35 per 1,000 of population—there would have been 315,225 deaths during the last ten years, or 70,867 more than actually occurred.

B—The death rate of infants under 1 year of age: First decade this was 6.15 per 1,000 of total population; in the second decade it was 3.93—an increase of 36.1 per cent. or an equivalent of 34,270 fewer infant deaths in the last ten years.

C—The death rate of young children, between 1 and 5 years of age: It was 3.58 per 1,000 of total population in the first decade; it was 2.06 in the second—a decrease of 42.4 per cent., or 23,537 fewer children's deaths since 1892.

The "Average Yearly Population" of the last decade was 81 per cent. greater than that of the first—855,541 in the first; 1,549,019 in the last.

These figures are due in part to the bettered milk supply, antitoxin treatment of diphtheria, prophylaxis of tuberculosis and the educational propaganda of the Chicago Board of Health.

MARYLAND.

The Baltimore County Medical Association met November 19 at Halstead's, Park Avenue Heights. "State Organization of the Medical Profession" was discussed by Drs. S. T. Earle, J. M. B. Rowland, William J. Todd, G. Milton Linthicum and Joseph Gichner.

Baltimore Personals.—Dr. H. Barton Jacobs has returned from Newport.——Dr. William Osler has been elected president of the new Sydenham Society of London.——Drs. W. Ruice and B. W. Briscoe, resident physicians at Bayview Hospital, have accepted positions in West Virginia and western Maryland.——Dr. Howard A. Kelly will spend his holidays in Florida, as the guest of the chief of the Seminole Indians.

MASSACHUSETTS.

Bequest.—By the will of Elizabeth A. Whitney the New England Baptist Hospital benefits to the extent of $5,000.

Insane Hospital Regulations.—At a meeting of the Massachusetts State Board of Insanity, November 17, the matters of employing female nurses for insane men and of permitting families of married employes to live in the institutions were both favored, provided the expense did not prove too great.

Compulsory Vaccination Held Legal.—The Supreme Court of Massachusetts has declared that the law governing compulsory vaccination is constitutional and confirmed the sentence of the Municipal and Superior courts against a man named Mugford, who refused to be vaccinated or to allow his child to be vaccinated.

Hospital Dedicated.—Mt. Sinai Hospital, the new institution supported by Boston Jews, located at 17 Stamford Street, was dedicated November 22. It is a large four-story building, which has been remodeled to accommodate the out-patient department formerly located on Chambers Street. There are both medical and surgical wards with rooms for house physicians, matron and nurses.

Newburyport Hospital.—The new hospital at Newburyport, to be known as the Anna Jaques Hospital, is nearly completed. It comprises a group of buildings which include an administration building, two large wards, laundry and boiler house, all of which are practically finished. Plans are ready and contracts let for the operating building, which will be of concrete, two stories, and 40 by 75 feet.

Typhoid at Williams.—The eight or ten cases of typhoid fever occurring among Williams College students have led to a careful examination of the conditions by a board of experts called by President Hopkins. They report inability to find any evidence of any local source of infection and believe the cases are all imported. The prompt action of the college authorities meets the commendation of all.

MICHIGAN.

Swindle Milford Physicians.—The well-worn collection agency frauds are abroad in Michigan and have secured the usual number of victims, who have signed contracts without first examining them closely to see what they contained. These swindlers have recently victimized three or four physicians in Milford.

Consumption Sure-Cure Factories Shut Down.—Several patent medicine companies in Kalamazoo which have manufactured and exploited alleged cures for consumption have recently discontinued business, the reason given for the closure being pressure said to have been brought to bear by the United States government, for fraudulent use of the mails.

Medical College Under Ban.—At the October meeting of the State Board of Examiners in Medicine and Surgery, the Michigan College of Medicine and Surgery, Detroit, was taken from the list of accepted schools, the reason given by Dr. Oscar LeSeure, the local member of the board, being that it did not come up to the requirements demanded of such an institution, and was lacking in general equipment. The college authorities claim that this decision is due to a misunderstanding.

Comparative Morbidity.—For October, compared with the average for October in the last ten years, scarlet fever was

more than usually prevalent; and influenza, dysentery, intermittent fever, cholera infantum, remittent fever, erysipelas, whooping cough and measles were less than usually prevalent. For October, compared with the preceding month, neuralgia, influenza, scarlet fever, pneumonia, diphtheria and measles were more prevalent; and diarrhea, dysentery, cholera morbus, pleuritis, inflammation of bowels, cholera infantum, whooping cough and smallpox were less prevalent.

Communicable Diseases.—Meningitis was reported present in Michigan during the month of October, 1903, at 8 places; whooping cough at 19 places; measles at 21 places; smallpox at 42 places; diphtheria at 83 places; scarlet fever at 111 places; typhoid fever at 185 places and consumption at 242 places. Meningitis was reported at the same number of places; whooping cough at 13 places less; measles at 3 places less; smallpox at 15 places less; diphtheria at 10 places more; scarlet fever at 8 places more; typhoid fever at 3 places more, and consumption at 9 places more, when compared with the preceding month.

Lecture on Tropical Medicine.—Major Frank S. Bourns, M.D., formerly health officer of Manila, gave a lecture to the fourth-year medical students at the University of Michigan November 12. Dr. Bourns detailed the more important tropical diseases encountered in the Philippines, including dysentery, cholera, leprosy, plague, malaria and beri-beri; described the measures that have been carried out to check the various diseases, explained some of the unusual difficulties in preventive medicine among a partly civilized, superstitious and fatalistic population, and mentioned the lines along which further work in medicine would be likely to be carried out.

October Michigan Mortality.—There were 2,624 deaths reported to the Department of State for October, or 98 less than the number returned for the preceding month. The death rate was 12.5 per 1,000. There was a considerable decrease in deaths of infants and children, and a slight increase in deaths of elderly persons as compared with September. Important causes of death were as follows: Tuberculosis, 225; typhoid fever, 90; diphtheria, 78; scarlet fever, 7; measles, 3; whooping cough, 16; pneumonia, 143; diarrhea and enteritis, under 2 years, 173; cancer, 129; accidents and violence, 202. There was 1 death from smallpox. Somewhat increased mortality was shown from tuberculosis, diphtheria and croup and pneumonia. Typhoid fever caused 90 deaths as compared with 74 during the preceding month. There was a very large decrease in deaths reported from diarrheal diseases of children and also a considerable diminution in the number of deaths from cancer.

MISSOURI.

Smallpox.—Milan is reported to have a number of cases of smallpox and one death has occurred.

St. Louis College News.—Barnes Medical College has added a dental and a pharmaceutical department and is now on a university basis. It has opened with an increased number of students and has no university affiliation.

In Memory of Pollak.—The St. Louis Medical Society of Missouri, at its meeting, November 14, adopted memorial resolutions, setting forth the sense of the society's loss in the death of Dr. Simon Pollak, its "oldest and most illustrious member."

St. Joseph Personals.—Dr. J. J. Bentley has been re-elected superintendent of the Ensworth Hospital.——Dr. Frank O. Reynolds has been adjudged insane and has been taken to the State Hospital for the Insane, No. 2. His condition is said to be due to the use of cocain and morphin.

NEW YORK.

Smallpox Bills Audited.—The town board of Perry has audited bills aggregating nearly $3,000 as a direct result of the smallpox epidemic of last fall.

Consumptive Hospital Will Soon Open.—Advices from the state capitol indicate that the State Consumptive Hospital in the Adirondacks will be so far finished by the early spring as to accommodate fifty patients and by the summer the complete institution will be ready.

Personal.—Dr. Reed B. Bontecou, Troy, was tendered a reception on November 18 by the Rensselaer County Medical Association, of which he is one of the oldest members.——Dr. Chauncey P. Smith has been appointed medical officer of the Lackawanna Steel Company at West Seneca.——Dr. Thomas G. Nock has been elected mayor of Rome.

Smallpox in Medina.—There is an epidemic of smallpox in Medina. There have been 92 cases since October 1, and now 37 houses are quarantined in which are 47 persons stricken with the disease. All the cases thus far reported are of a mild form. A strong anti-vaccination sentiment exists in the town, which is responsible for the spread of the disease. The state health department has warned all the surrounding territory to quarantine against Medina.

Diphtheria.—The disease is epidemic in the village of Suffern, Rockland County, where 21 cases have already been reported. The board of education has ordered that the schools be closed. ——Two public schools in Auburn have been closed indefinitely on account of the prevalence of the disease in the northwestern part of that city, where 30 cases are said to exist.—— An epidemic of diphtheria exists at the Elmira Reformatory and a number of deaths are reported. The disease must have been brought there by some prisoner, as no cases have been discovered in the city outside of the prison.

Buffalo.

Midwives Fined.—Two Polish midwives were each recently fined $25 and costs in the Municipal Court for practicing without a license.

Personal.—Dr. and Mrs. John V. Woodruff are in the Bermudas.——Dr. Lawrence Hendee, a graduate of the University of Buffalo, and for several years past an instructor in anatomy at Cornell University, has been appointed volunteer assistant in surgery at the University of Königsberg, Germany.

Hospital Alumni Meet.—The annual meeting and banquet of the General Hospital Alumni Association was held November 7, when a committee was appointed to draw up resolutions on the death of Cornelius C. Wyckoff, and the following officers were elected: President, Dr. Peter F. Van Peyma; vice-president, Dr. Charles G. Stockton; and secretary and treasurer, Dr. William I. Thornton, all of Buffalo.

Dr. Marcy Wins Suit.—In the suit for alleged malpractice brought by Fred B. Lamphere against Dr. William H. Marcy, Buffalo, in which $10,000 was claimed on the ground that the defendant declared the child dead, although the child was alive and lived for several hours, the court decided that there was no cause for action because the possibilities of life in a prematurely born child of that age were so slight that it eliminated the question of damages from the case.

October Deaths.—The monthly report of the department of health for October shows a death rate of 13.16 per 1,000. The principal causes of death were as follows: Consumption, 28; cholera infantum, 4; diphtheria, 10; typhoid fever, 12; debility. 42; alcoholism, 2; cancer, 11; apoplexy, 23; valvular disease of the heart, 37; pneumonia, 16; appendicitis, 4; cirrhosis of the liver, 6; enteritis, 11; diabetes, 6; nephritis, 20; abortion and violence, 36. Total deaths, 442, as compared to 393 for October, 1902.

New York City.

New Dispensary and Dormitory for Bellevue.—The old building formerly used as the Bellevue Medical College was opened November 17 as a dispensary for out-patients. The building has been entirely renovated and made fireproof at a cost of $53,000.

Would Destroy "Lung Block."—A public hearing was held November 13, at which the destruction of what is known as the "lung block"—because of the prevalence of consumption—bounded by Houston, Catherine, Cherry and Market streets, was urged by the board of estimate.

Personal.—Dr. M. Allen Starr has been elected a corresponding member of the Neurological Society of the United Kingdom, London, in recognition of his contributions to the study of nervous diseases.——Dr. Frederick W. Chapin, who was recently removed to the Insane Pavilion of Bellevue Hospital, is reported as improving.

PENNSYLVANIA.

New Hospital for Pittsburg.—A contract for the Eye, Ear and Throat Hospital for Pittsburg has been awarded. The building will be three stories in height and will cost about $75,000.

Addition to State Hospital.—Directors of the Lackawanna State Hospital, Scranton, have decided to make a four-story addition to the hospital building, which will be of brick, and fireproof, and will cost about $100,000.

Contagious Diseases in Pittsburg.—Pittsburg is suffering from typhoid fever, scarlet fever, diphtheria and smallpox. During the week ended November 14, the physicians of the bureau of health vaccinated about 16,000 individuals.

Dr. Ridenour Acquitted.—Dr. Samuel H. Ridenour, Pittsburg, who was charged with selling cocain without a prescription, was found not guilty. The defendant admitted that he had sold the drug and pleaded ignorance of the law restricting its sale.

Smallpox.—Two new cases have developed at Jeannette.——In Pleasant Valley, 13 cases are said to exist, and one patient has died.——Alliance has an epidemic of the disease and the health boards of Allentown and Catasauqua have adopted a resolution requesting the electric and steam railways to discontinue selling tickets to Cementon, Sigfried and Northampton until all danger of infection is passed.

Advisory Medical Board for Penitentiary.—Drs. William D. Robinson and Charles D. Hart, inspectors of the Eastern State Penitentiary, who were appointed a special committee to obtain the voluntary services of an advisory board of physicians and surgeons, have been successful in their endeavors. The members of the advisory board are: Dr. Robert G. LeConte, surgery; Dr. Judson Daland, medicine; Dr. George E. de Schweinitz, ophthalmology; Dr. Francis A. Packard, laryngology, rhinology and otology, and Dr. Horace Philips, neurology, all of Philadelphia.

Philadelphia.

Personal.—Dr. Alfred Heineberg has been appointed assistant demonstrator of gynecology in Jefferson Medical College.——The University of Toronto has conferred on Dr. W. W. Keen the degree of LL.D.

Woman's College Hospital.—The Woman's Medical College contemplates building a hospital and has issued a circular asking the alumnæ to subscribe to the project. About $75,000 is needed for the building and $425,000 for endowment. Friends of the institution will also be asked for aid.

Hospital Site Purchased.—The Mount Sinai Hospital Association, which was organized three years ago, and which has since maintained a large dispensary in the slum district, has recently purchased at a cost of $35,000 a site for a hospital. The project is supported by several benevolent and wealthy Jews of the city.

Weir Mitchell Guest of Honor.—At the regular meeting of the Medical Club of Philadelphia, November 20, which was of the nature of a smoker held four times a year at the Hotel Bellevue, Dr. S. Weir Mitchell was the guest of honor. Preceding the meeting the president, Dr. Edward E. Montgomery, entertained Dr. Mitchell and a few professional friends at dinner.

The Smoke Nuisance.—A subcommittee of the city councils has approved an ordinance to abate the soft coal smoke nuisance. This also provides that no sulphurous fumes or noxious odors shall be permitted to escape from any chimney or smokestack within the city limits. A penalty of $50 is fixed for each violation. Locomotives and steamships are exempted. The question of legality is to be determined by smoked glass of such a degree of darkness that any smoke visible through the glass is of illegal darkness in color.

The Contagious Disease Situation.—Of the 373 new cases of contagious diseases reported for the week ended November 21 34 per cent. were from wards surrounding the Municipal Hospital. The latter condition is due, Director Martin thinks, to a "leak" in the Municipal Hospital. The new cases of smallpox numbered 68, double as many as for the week before. Dr. Martin has no reason to think, he says, that smallpox will become epidemic. The chief reason assigned for its continuance is the fact that victims ignorantly or intentionally fail to call in a physician and therefore keep the health authorities from learning of the cases. Many of the recent cases have occurred among a religious sect of negroes who depend on prayer and incantations and resist medical treatment. The founder and head of the church is said to have fled the city to escape arrest. Some of the leaders are in quarantine and will probably be tried for practicing medicine without license. The health authorities, with a detail of police, recently made a raid on some four hundred of the congregated sect and forcibly vaccinated all who were not properly protected by vaccination.

GENERAL.

Tuberculosis Sanitarium on Isle of Pines.—The climate of the Isle of Pines, West Indies, is said to be as well fitted for the residence of consumptives as is that of Colorado and a tuberculosis sanitarium is projected.

The Phipps Institute Lectures.—The next lecture in this course will be given in Philadelphia, Thursday, December 3, by Dr. William Osler, Baltimore, the subject being "The Home and Its Relation to the Tuberculosis Problem." These lectures are semi-popular in character and all are invited to attend them.

Manila Medical Society.—At a recent monthly meeting of this society, Major J. M. Banister of the First Reserve Hospital read a very interesting paper on "The Treatment of Strangulated Hernia." Dr. R. P. Strong exhibited a collection of intestinal parasites. Capt. Edward L. Munson, acting commissioner of public health, read a paper on "The Movement of the Bubonic Plague in the Philippines." There was a good attendance and discussion was lively. The society is reported to be growing.

Conference of Section Officers.—A conference of the officers of the sections of the American Medical Association was held at Chicago, November 18, in response to an invitation sent out by the President-elect, John H. Musser. The various sections were represented as follows: Practice of Medicine, Alexander Lambert, New York; J. L. Miller, Chicago, and George Dock, Ann Arbor, Mich. Obstetrics and Diseases of Women, L. H. Dunning, Indianapolis; C. L. Bonifield, Cincinnati, and Henry P. Newman, Chicago. Surgery and Anatomy, E. Wyllys Andrews, Chicago; A. J. Ochsner, Chicago, and W. J. Mayo, Rochester, Minn. Hygiene and Sanitary Science, Arthur R. Reynolds, Chicago, and H. M. Bracken, Minneapolis. Ophthalmology, Albert E. Bulson, Jr., Ft. Wayne, Ind., and Frank Allport, Chicago. Diseases of Children, Charles G. Kerley, New York; C. F. Wahrer, Ft. Madison, Iowa, and John C. Cook, Chicago. Stomatology, Eugene S. Talbot, Chicago. Nervous and Mental Diseases, F. Savary Pearce, Philadelphia; David I. Wolfstein, Cincinnati, and Hugh T. Patrick, Chicago. Cutaneous Medicine and Surgery, Henry G. Anthony, Chicago, and R. R. Campbell, Chicago. Laryngology and Otology, J. F. Barnhill, Indianapolis, and Otto T. Freer, Chicago. Materia Medica, Pharmacy and Therapeutics, C. S. N. Hallberg, Chicago, and N. S. Davis, Jr., Chicago. Pathology and Physiology, L. Hektoen, Chicago, and Frank B. Wynn, Indianapolis. There were present also: J. H. Musser, President-elect, Philadelphia; George F. Jenkins, Fourth Vice-President, Keokuk, Iowa; M. L. Harris, Resident Trustee, Chicago, and George H. Simmons, Secretary, Chicago. A continuous day's session was held, and in the evening a dinner was tendered by the resident section officers to the visitors. Matters of special importance to the sections were discussed, such as places of holding section meetings, modes of election of officers, need of more or less permanency in the office of section secretary, need of collaboration in section work to the end that any given subject may be discussed in one section only, the advisability of the smaller sections having a shorter program and hold only half-day sessions each day, giving their members a chance to attend other sections, etc. It is believed that the conference was of great value and will result in much good and will make the section sessions of more practical value to all than has been the case in the past.

CANADA.

The New Hospital Opened at Moncton, N. B.—Moncton's new hospital building was formally opened November 11. The building is a modern one, and cost $20,000.

Personal.—Dr. Herald has resigned as secretary-treasurer of the faculty of Queen's University, Kingston, and Dr. W. T. Connell has been appointed to the vacancy; Dr. A. R. B. Williamson has been appointed lecturer on medical jurisprudence and toxicology.——Dr. Von Eberts, registrar of the faculty of medicine of McGill University, has resigned and will resume private practice.——Dr. D. A. Shirres, Montreal, who has been studying in Europe, has been appointed neurologist to the Montreal General Hospital.

Smallpox and Diphtheria in Ontario.—Dr. Hodgetts, provincial medical health inspector for Ontario, has been examining into the smallpox outbreak in Tweed, Hastings County, Ont., and reports that there have been 29 cases in 8 houses.——Dr. Bryce, secretary of the Ontario Board of Health, has reported that in August last 27 municipalities reported 122 cases of diphtheria, with 24 deaths; in September 38 municipalities reported 240 cases, with 30 deaths; in October 52 municipalities reported 464 cases, with 54 deaths, and returns so far for the month of November indicate that the disease is still spreading. In the City of Toronto alone in August there were 51 cases reported; in October the number had grown to 118 with 14 deaths. Out of 770 cases 445 have been treated in isolation hospitals.

Toronto University Seeks Better Hospital Facilities.—The medical faculty of the University of Toronto and the board of

trustees of the principal hospitals are at present negotiating with a view to arranging for accommodation and regulations to secure better hospital facilities for medical education. The committee appointed for the purpose from the university requires that the house staff of these hospitals be large enough to efficiently carry on the work, that one member of each staff be detailed to do clinical laboratory work exclusively, that the staffs be divided into seniors and juniors, the seniors to retire every six months, that no fees be paid any members of the house staff by physicians or patients and that each hospital board appoint an official anesthetist. With a view to increasing the material for clinics the committee urges that all patients in public wards be placed in charge of the clinical staff. They also require better facilities for the conduct of out-patient departments. Better facilities for the study of pathology were asked by the committee, increasing the number of autopsies and the keeping of proper records. In the Children's Hospital at Toronto, all these regulations have been in force for considerable time.

FOREIGN.

The Austrian Trouble.—Our Vienna exchanges state that the recent discussions in the Landtag on the subject of vivisection, with the insults to the medical profession mentioned in this column last week, are to be published in a separate pamphlet for distribution among the public. The resolution to publish the pamphlet was passed by the majority of the house. Our exchanges refer to this proceeding as presenting only too true a picture of the condition of ignorance and hostility to science prevailing throughout the masses in Austria at the opening of the twentieth century. The resolution adopted by the Vienna Medical Chamber calling on the members of the national board of health to resign, has not been complied with by the latter.

Quincke's Silver Jubilee.—October 29 was the twenty-fifth anniversary of the day on which Prof. H. Quincke assumed charge of the medical clinic at Kiel. He was previously at Berne, and was summoned to Kiel as the successor of Professor Bartels. His former assistants gathered from far and near to do him homage on his jubilee, and the attendance at the banquet was limited to those who had served as his aids at any time. The next day he invited them all to lunch at his home, and the festivities closed with a torchlight procession in his honor arranged by the students. The list of his assistants includes such names as Bertheau, Kirchhoff, Brockendahl, Hoppe-Seyler, von Starck and Glaevecke. Quincke is now in his sixty-first year.

LONDON LETTER.

Malaria: The Anti-Mosquito Campaign.

Reports from all parts of the British Empire show that the anti-mosquito campaign is being carried on with the most gratifying success. At the opening meeting of the Royal Colonial Institute Major Ronald Ross pointed out that in the once deadly colony of Lagos, thanks to the zeal of Sir W. MacGregor, the governor who is a doctor, malaria has lost its terrors. The difficulties to be contended with were great, for Lagos itself is built on a low and swampy territory, and surrounded by dense forests. In the medical report of Hong Kong for 1902 the deaths of the Chinese from malarial fever are stated to have been 887 in 1900, 541 in 1901, and 303 in 1902. But perhaps the most striking and rapid results have been obtained at Ismailia on the Suez Canal. In a little over 6 months one class of mosquito was practically banished from the town and coincidently the amount of malarial fever diminished. In the first 6 months of the present year there were only 3 cases in hospital against 52 for the same period of last year.

The King's Sanatorium.

The king has laid the foundation stone of the sanatorium for the treatment of consumption which is being built in Surrey. The cost is defrayed by the munificence of a private donor [Sir Ernest Cassel, according to press dispatches.—ED.] who wished to remain anonymous, and placed a large sum at the disposal of the king for the purpose. Sir W. Broadbent, Sir F. Treves, Sir H. Weber, and other members of the committee were present at the ceremony. The sanatorium will be replete with every convenience and invention, and will be one of the most perfect ever erected. It will be a long two-story building overlooking the Valley of the Rother to the South Downs. There will be accommodation for 100 poor and 12 well-to-do patients. Each patient will have a separate room, and there will be a balcony on which the patients can sit out and on which the beds can be wheeled. The site is ideal; there are sandy soil, southern aspect and pine woods, which protect against north and northeast breezes. The ground slopes gently to the south and is well wooded, the western border consisting of open moorland ending in a ravine. The climate is rendered mild and equable by proximity to the sea and shelter from the hills. The primary object is to provide accommodation for a class above the very poor (who are already provided for) such as teachers, governesses, clerks, shop assistants, etc.

Typhoid Fever in Glasgow Due to Contaminated Shellfish.

An outbreak of typhoid fever in London due to shellfish contaminated with sewage was recently described in THE JOURNAL. A similar outbreak has just occurred in Glasgow. The health officer has reported 18 cases, all giving the same history. The patients had been on a holiday at the same coast town at the probable time of infection and consumed uncooked shellfish (cockles or mussels). In addition 8 cases occurred in one family who had not visited the town in question but had eaten shellfish brought from it. The dates of sickening seemed to show that the mother of the family had contracted the fever from the shellfish and that the other members were infected through her. The shellfish were gathered by the visitors from an area of foreshore polluted by the sewage of the town. Bacteriologic examination of the shellfish showed evidence of fecal pollution in almost every specimen—the presence of the *Bacillus coli*. On the other hand, shellfish obtained at a distance of 1½ to 2 miles from the sewer outfall were entirely free from the bacillus. Only in the third series of specimens examined was any trace of an organism resembling the typhoid bacillus found and there it was very abundant. This bacillus was obtained in great numbers and almost in pure culture in one plate. The shellfish which yielded this was a cockle found on the surface about 200 yards from the sewer outfall. Surface cockles are regarded by cockle gatherers as sick and are avoided, but it is just these the inexperienced would pick up. The bacillus had all the microscopic and cultural characters of the typhoid bacillus and it gave the Widal reaction.

Correspondence.

One of the Causes of the Chaos in Posology.

NEW YORK, Nov. 21, 1903.

To the Editor:—In my communication, "Dose of Carbolic Acid and Dosage in General," which appeared in THE JOURNAL, November 21, I said that our so-called science of posology is in an uncertain, chaotic condition. There are many intrinsic reasons for this chaos and uncertainty, but I wish to call attention to one cause, which contributes toward that chaos, sows confusion in the physician's mind and not infrequently throws him off the track. Two or three days ago the question of dosage came up. A medical friend, a recent graduate, said that the dose of belladonna as given in the books is entirely too small. He has a child under treatment suffering with pertussis; he has been trying to put it under the influence of belladonna. He started with one-drop doses of the fluid extract, but as they had no effect, he began gradually to increase the dose, until now he is giving 8 drops three or four times a day. "And even under these doses the physiologic effect is very slight. There is hardly any dilatation of the pupils, flushing of the face or dryness of the throat," etc. Though I am rather used to large doses, this statement surprised me. I am familiar enough with belladonna to know that 8 drops of the fluid extract is a heroic dose for a child 8 or 9 years old. I suggested that the fluid extract must have been old and ineffective, or otherwise the child must possess a peculiar immunity toward belladonna. An examination at the drug store of the bottle of the fl. ext. belladonna showed a sediment at the bottom, and the appearance of the bottle indicated that it must have been on the druggist's shelves for a long time. An original bottle of the fluid extract of belladonna was obtained from a prominent manufacturer, and one drop of that produced a decided and unmistakable physiologic belladonna effect. I shudder to think what the result might have been if this physician, misled by his experience, had ordered for a child 8 drops of an efficient fluid extract of belladonna several times a day. The above is, I am sure, not a solitary

case. We very frequently deal with different galenical preparations of the same drugs, one of which may be twenty times stronger than another.

The above incident teaches us two important lessons: 1. In prescribing galenicals we should make sure that they are comparatively fresh and come from high-class manufacturers. 2. In the cases of drugs which contain active principles fully representing the virtues of the drugs, those active principles are by far preferable to the crude drug or to its galenic preparations. Atropin is always atropin, but belladonna is not always belladonna, and the same may be said of dozens of other important drugs.

WILLIAM J. ROBINSON, M.D.
119 East 128th Street.

Interchange of Licenses.

NEWARK, N. J., Nov. 20, 1903.

To the Editor:—At the meeting of the National Board of Dental Examiners, held at Nashville, N. C., last August, the following resolution was unanimously adopted after full discussion:

Resolved, That an interchange of license to practice dentistry be, and is hereby recommended to be, granted by the various state boards, on the following specific conditions:

Any dentist who has been in legal practice for five years or more, and is a reputable dentist of good moral character, and who is desirous of making a change of residence into another state, may apply to the examining board of the state in which he resides, for a new certificate which shall attest to his moral character and professional attainments, and said certificate, if granted, shall be deposited with the examining board of the state in which he proposes to reside, and the said board, in exchange therefor, may grant him a license to practice dentistry.

The above resolution has already been adopted by New Jersey, Ohio and Indiana. Medical men and dentists have been looking for a way to reciprocate in licensing. I think the above resolution comes very near the mark. The party desiring to locate in another state must get a certificate from his own state board first. It is presumed that if he is not all right he will not get such a certificate. The certificate under these conditions is like a letter of introduction. If the applicant is unworthy, his own board will know it, and will not grant the certificate. Such a certificate will be looked on as a kind of "letter of credit," and will not be given unless there is behind it a deposit that can always be drawn on. I think every state board of dental and medical examiners should adopt the principle.

CHAS. S. STOCKTON.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

WINKLEMANN'S OPERATION FOR HYDROCELE.

WASHINGTON, D. C., November, 1903.

To the Editor:—Will you kindly inform me what is Winklemann's operation for hydrocele? G. H. H.

ANSWER.—Winklemann's operation for hydrocele, which was referred to on p. 471 of this volume of THE JOURNAL, was first described in the *Centralblatt für Chirurgie*, Nov. 5, 1898, from which a description was taken, appearing in THE JOURNAL, Jan. 7, 1899. It consists in releasing the fluid through an incision 3 to 4 c.c. in length near the upper pole; then drawing the testis out of the scrotum outward as far as possible until stripped of its serous tunica vaginalis covering which is thus drawn wrong side out. A stitch or two is taken to prevent the testis from slipping back into its sac and the testis and tunica are replaced and skin sutured. Adherences soon form and the operation is asserted to be as effective as the more radical ones. The testis is left a trifle higher than normal and a slight edematous swelling may form for some time, but it is claimed there are no other inconveniences and the patient can be dismissed at once, as there is no danger of hemorrhage. The operation was performed by Winklemann under Schleich anesthesia.

Marriages.

WILDER TILESTON, M.D., Boston, to Miss Clare Williams of Chicago, November 18

GEORGE KRAMER HERZOG, M.D., to Miss Rae Cohn, both of San Francisco, October 7.

JOHN H. OLIVER, M.D., to Miss Nellie Northrop, both of Kewanee, Ill., November 11.

JULIUS ULLMAN, M.D., Buffalo, N. Y., to Miss Eugenia Platky of New York City, October 26.

WILLIAM T. MOFFETT, M.D., to Miss Myrtle M. Crow, both of Blue Mound, Ill., November 17.

CHARLES F. BLAKE, M.D., Baltimore, to Miss Adeline O'Bryon of Washington, D. C., November 10.

WILLIAM D. FERGUSON, M.D., to Miss Claudia Tallulah Irby, both of Laurens, S. C., November 18.

ROBERT E. MASON, M.D., Charlotte, N. C., to Miss Lucile McKie of Woodlawn, S. C., October 27.

JAMES WILLIAM LEWIS, M.D., Bowling Green, Ky., to Miss Susie Talbot of Valdosta, Ga., November 13.

SKOTTOWE BELLINGER FISHBURNE, M.D., to Miss Marion Lee Green, both of Columbia, S. C., November 11.

FRANK CLARENDON COOK, M.D., U. S. Navy, to Miss Eugenia Murdaugh Bain, at Norfolk, Va., November 11.

JOHN FRANCIS CORBIN, M.D., Knoxville, Ill., to Miss Marion Saybrook of Canada, at Knoxville, November 11.

JAMES H. HARGRAVE, M.D., Garysville, Va., to Miss Mary Elizabeth Peters, at Waverly, Va., November 11.

JOSEPH ALBERT CATLIN, M.D., of Church Hill, Md., to Miss M. Claiborne Grasty, at Baltimore, November 10.

WILLIAM M. COPENHAVER, M.D., Bristol, Va., to Miss Emma Charlsie Turner of Chattanooga, Tenn., November 25.

OLIVER WARDLAW LEONARD, M.D. Spartanburg, S. C., to Miss Corinne Louise Jones of Laurens, S. C., November 25.

JESSE HUGHES MABRY, M.D., Newport News, Va., to Miss Elizabeth Boatwright, at Mount Zion Church, Rockingham County, Va., November 10.

Deaths.

Joseph McFadden Gaston, M.D., was born Dec. 27, 1824, in Chester, S. C., the son of Dr. John Brown Gaston. He obtained his earlier education at South Carolina College, Columbia, where he received his A. B. degree in 1843. Immediately after receiving this degree he began reading medicine with his father, attended one course of lectures at the University of Pennsylvania and a second course at the Medical College of the State of South Carolina, Charleston, and received his medical degree from this institution, March 6, 1846. He practiced medicine with his father in the Charlestown District for six years, when he removed to Columbia. At the outbreak of the Civil War Dr. Gaston enlisted in the Columbia Grays and was soon appointed chief surgeon of the South Carolina forces. He was soon promoted to medical director under General Beauregard. He was then made chief surgeon of the third brigade of South Carolina Volunteers, and later participated in the Virginia and Pennsylvania campaigns as chief surgeon of division. Later he was ordered to report to the medical director of hospitals, and was sent to establish a general hospital at Fort Gaines, Ga., then at Fort Valley, where he remained on duty until the close of the war. At the cessation of hostilities Dr. Gaston went to Brazil, where he attended the lecture of the Imperial Academy of Medicine, and he was given the ad eundem degree in 1873. He practiced in Brazil for ten years, and then returned to America, locating in Atlanta. In 1884 he was elected professor of principles and practice of surgery in the Southern Medical College of Atlanta. He was a member of the American Medical Association and chairman of its surgical section in 1891 and 1892; president of the Southern Surgical and Gynecological Association in 1891; president of the American Academy of Medicine in 1895, and vice-president of the American Surgical Association in 1887. During his late years he was made honorary member of the Medical Society of Virginia; of the American Association of Obstetricians and Gynecologists of the Medical Association of Georgia; the Atlanta Society of Medicine and the Southern Surgical and Gynecological Association. Dr. Gaston had been in feeble health for a considerable time, and died at his home in Atlanta, November 15, from acute indigestion, aged 79. He was an authority widely known in this country and Europe in intestinal surgery and a pioneer in the surgical treatment of intestinal diseases. His contributions to literature were chiefly in the line of his specialty; those on yellow fever inoculation and surgery of the gall bladder and ducts are specially notable.

Cornelius C. Wyckoff, M.D. University of Buffalo, 1848, one of the most prominent medical men of western New York; the

only survivor of the original staff of the Buffalo General Hospital; president of the Board of Trustees of the Buffalo Eye and Ear Infirmary; a member of the American Medical Association; a charter member of the New York State Medical Association and sometime president of the Erie County Medical Society and the Buffalo Medical Society; at one time health officer of Buffalo and for many years a member of the board of censors of the New York State Medical Society, died at his home in Buffalo, November 7, from uremia due to kidney disease of long standing, aged 80. A special meeting of the Erie County Medical Society was held November 10, at which action was taken regarding the death of Dr. Wyckoff. The next regular meeting of the Buffalo Academy of Medicine, of which Dr. Wyckoff was a member, will be held in memory of him.

John K. Rainey, M.D. St. Louis Medical College, 1859, surgeon of the 111th Illinois Volunteer Infantry in the Civil War; chief surgeon of the first division, Seventh Army Corps in the Spanish-American War; department commander of the Grand Army of the Republic; surgeon of the Florida East Coast Railway; member of the St. John County Medical Society, and of the Florida Medical Association, died at his home in St. Augustine, November 9.

Robert D. Murray, M.D., surgeon, U. S. P. H. and M.-H. Service, stationed at Key West, Fla., who sustained severe injuries in a runaway accident at Laredo, Texas, November 15, died at that place, November 22. Dr. Murray was an old officer in the service, had been in charge of many stations in the department and, at the time his injuries were received, was engaged in the investigation of the yellow fever epidemic in Laredo.

James A. E. Steeves, M.D. University of Vermont, Burlington, 1884, of St. Johns, N. B., died at Phoenix, Ariz., November 14, from heart disease, aged 42. He was considered a leading authority on nervous diseases in the Province of New Brunswick, and for a number of years was assistant to his father, the late Dr. J. T. Steeves, who was superintendent of the New Brunswick Lunatic Asylum.

J. Frank Moore, M.D. University of New Orleans, 1858, member of the state medical societies of Mississippi and Texas, member of the Smith County (Texas) Medical Society, and of the Board of Medical Examiners for the Seventh District, a surgeon in the Confederate service during the Civil War, died at his home in Tyler, Texas, November 18, from bronchopneumonia.

Samuel S. Lathrop, M.D. College of Physicians and Surgeons, New York, 1900, pathologist to the William Backus Hospital, secretary of the Norwich (Conn.) City Medical Association, member of the New London County Medical Society and the Connecticut Medical Society, was killed by an automobile in Norwich, November 8, aged 39.

Archabale B. Temple, M.D. Western Reserve University, Cleveland, Ohio, 1883, a member of the Kansas State Medical Society, the International Association of Railway Surgeons, and first vice-president of the Southeast Kansas Medical Society, died suddenly in his office in Tulsa, I. T., November 11.

Sylvester J. Finley, M.D. Washington University School of Medicine, Baltimore, 1853, was overcome by paralysis while making a professional call in Lower Chanesford Township, York County, Pa., a few days before, died at his home in Castle Finn, November 12, aged 73.

James M. Mosgrove, M.D. Medical College of Ohio, Cincinnati, 1846, a member of the American Medical Association, a pioneer practitioner, and of late years a banker of Urbana, Ohio, died at his home in that city, from pneumonia, November 9, aged 78.

James Bond Read, M.D. University of Maryland School of Medicine, Baltimore, 1849, formerly of Savannah, Ga., died at his home in Greencove Springs, Fla., from pneumonia, November 10, after an illness of one week, aged 76.

William Ellery Channing Swan, M.D. Harvard University Medical School, Boston, 1865, for forty years a practitioner of Stoughton, Mass., died suddenly at his home in that city, November 10, from heart disease, aged 61.

Arthur E. Chatfield, M.D. Cleveland College of Physicians and Surgeons, Cleveland, 1896, of Cleveland, died at the City Hospital, Cleveland, November 10, from diphtheria, after an illness of three days, aged 43.

William Walker Duffer, M.D. Kentucky School of Medicine, Louisville, 1897, who practiced for some time in Knobel, Ark., died at his home in Louisville, November 10, after a long illness from tuberculosis, aged 40.

Edgar B. Lake, M.D. New York University, 1888, one of the city physicians of Amsterdam, N. Y., died at the Amsterdam Hospital, November 10, from burns received in some unexplained way.

Robert H. Peel, M.D. New Orleans School of Medicine, 1860, of Holly Springs, Miss., died suddenly from heart disease, November 6, while hunting in the Tallahatchie bottom, near Abbeville.

Thomas S. Cook, M.D. Howard University, Washington, D. C., 1894, died at his home in St. Paul, Minn., November 15, from acute gastritis, after an illness of only a few hours, aged 42.

James Zaimon Hunt, M.D. Long Island College Hospital, Brooklyn, N. Y., 1887, died at his home in Lowville, N. Y., November 13, from typhoid fever, after an illness of ten days, aged 42.

Samuel H. Headlee, M.D. Missouri Medical College, St. Louis, 1858, the oldest physician in Phelps County, Mo., died at his home in St. James, November 11, from paralysis, aged 80.

Richard E. Moody, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1872, mayor of Sweetwater, Texas, died at his home in that city, November 11, from heart disease.

Stephen Bennett, M.D. Dartmouth Medical College, Hanover, N. H., 1851, for 47 years a practitioner of Lithopolis, Ohio, died at his home in that place, November 15, aged 81.

Lucius B. Baker, M.D. University of Vermont, Burlington, 1872, died at his home in Russell, N. Y., November 2, aged 57.

James Cleveland Bivings, M.D. Medical College of Georgia, Augusta, 1868, died at his home in Dalton, Ga., November 12.

Deaths Abroad.

H. H. Hurdman, M.D., formerly in charge of the mounted police hospital at Dawson, N. W. T., died at his home in Johannesburg, South Africa, August 28, from pneumonia, aged 33.

Charles Marshall, M.D. University of Bishop's College, Montreal, 1879, of Huntingdon, P. Q., a member of the Medical Board of Governors of the Province of Quebec, died suddenly from apoplexy while visiting in New York City, November 13, aged 54.

State Boards of Registration.

COMING EXAMINATIONS.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1. Secretary, Geo. G. Gere, M.D., 825 Market St., San Francisco.

State Board of Examiners of Alabama, Montgomery, Dec. 1 to 10. Chairman, W. H. Sanders, M.D., Montgomery.

New Mexico Board of Health, Santa Fe, Dec. 7. Secretary, Dr. D. B. Black, Las Vegas.

Examining Board of Medical Society of Delaware, Dover, Dec. 8. Secretary, Dr. P. W. Tomlinson, Wilmington.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10. Secretary, Dr. Frank Winders, Columbus.

Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14, 15 and 16. Secretary, Dr. W. F. Morrow, Kansas City.

Medical Council, Philadelphia, Dec. 15. Secretary, Dr. Isaac B. Brown, Harrisburg.

Medical Examining Board of Virginia, Lynchburg, Dec. 15-18. Secretary, Dr. R. S. Martin, Stuart.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22, 23 and 24. Secretary, Dr. S. D. Van Meter, Denver.

Arkansas Report.—Dr. J. P. Runyan, secretary of the State Medical Board of the Arkansas Medical Society, sends a report of a recent written examination held at Little Rock. Ten applicants were examined, of whom 8 passed and 2 failed. Two of those who passed and the two who failed were undergraduates. The examination covered seven subjects, 70 questions were asked and a percentage of 60 was required for passing. The colleges of the graduates are given below:

Colleges.	Year Grad.	Per Cent.
Jefferson Medical College	1903	87
Rush Medical College	1877	73
College of Physicians and Surgeons, Chicago	1903	89
Chattanooga Medical College (Tenn.)	1903	80
Harvey Medical College, Chicago	1897	74
University of the South, Sewanee, Tenn	1903	68

Association News.

Place of Session of the American Medical Association for 1905.—Attention is called to the action taken at the last session of the American Medical Association to the effect that any city wishing to invite the Association to meet at that place should present the invitation, together with all available facts concerning hotel accommodations, number and seating capacity of halls available for section meetings, intramural means of transportation, railroad facilities, etc., at least three months before the annual session of the preceding year. In accordance with the above, it is hoped that those cities which desire the Association in 1905 will send their invitations, with all information possible, on or before March 1, 1904.

[Signed] M. L. HARRIS, M.D.,
Chairman Committee on Place of Session and Transportation,
100 State Street, Chicago.

The Senn Prize Essay for 1904.

The Committee on the Senn Medal begs leave to call attention to the following conditions governing the competition for this medal for 1904: A gold medal of suitable design is to be conferred on the member of the American Medical Association who shall present the best essay on some surgical subject. The award will be made under the following conditions: (*a*) The name of the author of each competing essay must be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the session at which the award is made, and the corresponding envelope is to be then and there opened and the name of the successful author announced. (*b*) All successful essays become the property of the Association. (*c*) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the Association. (*d*) The competition is to be confined to those who, at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. (*e*) The competition for the medal will be closed on, and no essays received after, March 1, 1904. Communications may be addressed to any member of the committee, which consists of the following: Dr. James H. Dunn, Chairman, Minneapolis; Dr. M. L. Harris, 100 State Street, Chicago.; Dr. Floyd McRae, Atlanta, Ga.

The Public Service.

Army Changes.

Changes of station and duties of medical officers of the U. S. Army for the week ending Nov. 21, 1903:

Church, Jas. R., asst.-surgeon, granted fourteen days' leave of absence.

Appel, Aaron H., surgeon, granted thirty days' sick leave of absence.

Shockley, M. A. W., asst.-surgeon, granted thirty days' leave with permission to apply for ten days' extension.

Rand, I. W., asst.-surgeon, left Fort Wright, Wash., on thirty days' leave.

Wilson, Compton, asst.-surgeon, now at San Francisco, is relieved from duty in the Division of the Philippines and will proceed to Fort Howard, Md., for duty.

Schreiner, E. R., asst.-surgeon, relieved from duty at Fort Howard, Md., and will proceed to Fort McHenry, Md., for duty.

Bispham, W. N., asst.-surgeon, relieved at Fort McHenry, Md., to proceed to Fort Logan, Col., for duty.

Ashburn, Percy M., Usher, F. M. C., Russell, Fredk. F., Wolfe, Edwin P., first lieutenants, ordered to Presidio of San Francisco, Cal., for examination for promotion.

De Shon, Geo. D., Ford, Joseph H., Dean, Elmer A., and Cox, Walter, captains, Steer, Saml. L., Truby, Willard F., Williamson, L. P., Marrow, Chas. E., and Greenleaf, Henry S., first lieutenants, ordered to Army Medical Museum Building, Washington, D. C., for examination for promotion.

Little, Wm. L., asst. surgeon, relieved from further duty in Division of the Philippines, and ordered to Camp George H. Thomas, Ga., for duty.

Halsell, John T., contract surgeon, relieved at Fort McIntosh, Texas and ordered to Eagle Pass, Texas, to relieve contract surgeon Victor E. Watkins, U. S. Army, who is ordered to San Francisco, Cal., to sail December 1 for Philippine service.

Treuholtz, Clarence A., contract surgeon, relieved at Fort Apache, Ariz., and ordered to duty at the General Hospital, Fort Bayard, New Mexico.

Hepburn, James H., contract surgeon, granted twenty days' leave of absence from Fort Douglas, Utah.

Newlove, George, contract surgeon, relieved from duty at Fort Wood, New York, and ordered to Fort Ethan Allen, Vt., to accompany troops of the 2d Cavalry to Philippine service on the *Kilpatrick*, sailing from New York about December 15.

Cooke, Robert P., contract surgeon, returned from temporary duty at Fort Screven, Ga., to his proper station, Camp George H. Thomas, Ga., and is now under orders for change of station to Fort Wood, New York.

Arwine, James T., contract surgeon, granted a month's leave of absence about November 20 from the Presidio of San Francisco.

Unger, Isedor M., contract surgeon, granted three months' leave of absence from the Division of the Philippines, with permission to visit the United States.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending November 21:

Freeman, G. F., P. A. surgeon, detached from the Naval Hospital, Chelsea, Mass., and ordered to the Naval Station, Guam.

Brownell, C. D., surgeon, detached from the *Alliance* and ordered home to await orders.

Fiske, C. N., P. A. surgeon, ordered to the Naval Hospital, Boston, Mass.

Angeny, G. L., P. A. surgeon, detached from the *Essex* and ordered to the Naval Home.

Dickson, S. H., medical inspector, ordered to the *Kearsarge* as fleet surgeon of the North Atlantic Station.

McClurg, W. A., medical inspector, detached from the *Kearsarge*, and ordered home to wait orders.

Gill, J. E., asst.-surgeon, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 19, 1903:

Williams, L. L., asst.-surgeon-general, to proceed to New York, N. Y., for special temporary duty and as inspector of the Purveying Depot.

Carmichael, D. A., surgeon, bureau letter of October 5 granting Surgeon Carmichael leave of absence for thirty days from October 16, amended so as to read twenty-four days from October 16.

Wasdin, Eugene, surgeon, granted leave of absence for one month from December 7.

Magruder, G. M., surgeon, granted leave of absence for two days from November 17.

Rosenau, M. J., P. A. surgeon, relieved from duty at Vera Cruz, Mexico, and directed to rejoin his station in Washington, D. C.

Parker, H. B., P. A. surgeon, relieved from duty at Vera Cruz, Mexico, and directed to return to the Bureau at Washington, D. C.

Lumsden, L. L., P. A. surgeon, granted leave of absence for ten days from November 15.

Ramus, Carl, asst.-surgeon, granted leave of absence on account of sickness for nine days from October 28.

Stansfield, H. A., asst.-surgeon, to report to the director of the Hygienic Laboratory for duty.

Goldberger, Joseph, asst.-surgeon, to proceed to Laredo, Texas, for special temporary duty.

Berry, T. D., asst.-surgeon, to proceed to Cleveland, Ohio, and assume temporary command of the service at that port during absence of medical officer in command; on completion of which to rejoin his station.

Francis, Edward, asst.-surgeon, granted leave of absence for fourteen days. Relieved from duty at Vera Cruz, Mexico, and directed to return to the Bureau at Washington, D. C.

Boggess, J. S., asst.-surgeon, granted leave of absence for one month from December 15.

Pierce, C. C., asst.-surgeon, detailed as inspector of unserviceable property on the steamer *Bratton*.

Ebersole, R. E., asst.-surgeon, to proceed to San Antonio, Texas, for special temporary duty.

Ashford, F. A., asst.-surgeon, to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters.

Roberts, Norman, asst.-surgeon, on being relieved from duty at Chicago, Ill., to proceed to San Diego, Cal., and assume command of the service at that port.

Frick, John, A. A. surgeon, granted leave of absence, on account of sickness, for thirty days from July 31.

Hallett, E. B., A. A. surgeon, granted leave of absence for four days from November 25.

Maguire, E. S., pharmacist, granted leave of absence for thirty days from December 5.

Southard, F. A., pharmacist, granted leave of absence for seven days from November 14, 1903, under paragraph 210 of the Regulations.

Neves, George, pharmacist, directed to proceed to Chicago, Ill., and report to the medical officer in command for duty and assignment to quarters.

APPOINTMENT.

Ashford, Francis Asbury, of the District of Columbia, commissioned (recess) as asst.-surgeon in the Public Health and Marine-Hospital Service.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 20, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Nov. 1-7, 1 case.
Louisiana: Baton Rouge, Oct. 24-Nov. 7, 2 cases.

Massachusetts: Lawrence, Nov. 8-14, 1 case.
Mississippi: Natchez, Oct. 25-Nov. 7, 3 cases.
Nebraska: Omaha, Aug. 1-31, 3 cases.
New Hampshire: Manchester, Nov. 8-14, 2 cases.
New Jersey: Camden, Nov. 8-14, 1 case.
New York: Buffalo, Nov. 2-9, 1 case.
Ohio: Cincinnati, Nov. 6-13, 9 cases; Youngstown, Nov. 8-14, 12 cases.
Pennsylvania: Nov. 8-14, Philadelphia, 34 cases, 1 death; Pittsburg, 49 cases, 5 deaths.
South Carolina: Charleston, Nov. 8-14, 1 case.
Texas: San Antonio, Oct. 1-31, 20 cases.
Utah: Salt Lake City, Nov. 1-7, 1 case.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Oct. 25-31, 11 cases.
Brazil, Pernambuco, Sept. 17-30, 15 deaths; Rio de Janeiro, Oct. 11-18, 40 cases, 38 deaths.
Chile: Antofogasta, Sept. 1-30, 23 deaths.
China: Hongkong, Sept. 27-Oct. 3, 1 case, 1 death.
Ecuador: Guayaquil, Oct. 11-31, 2 deaths.
France: Marseilles, Oct. 1-31, 21 deaths; Paris, Oct. 25-31, 4 cases.
Great Britain: Glasgow, Oct. 30-Nov. 7, 17 cases; London, Oct. 25-Nov. 7, 17 cases; Manchester, Oct. 18-24, 5 cases; Newcastle-on-Tyne, Oct. 25-31, 6 cases.
Italy: Catania, Oct. 29-Nov. 5, 1 death.
Malta: Oct. 18-31, 3 cases, 2 deaths.
Mexico: City of Mexico, Oct. 26-Nov. 1, 3 cases, 1 death.
Netherlands: Amsterdam, Nov. 1-7, 2 cases.
Porto Rico: San Juan, Oct. 31, 2 cases.
Russia: Moscow, Oct. 18-24, 2 deaths; Odessa, Oct. 11-18, 6 cases; St. Petersburg, Oct. 18-24, 27 cases, 1 death.
Spain: Barcelona, Oct. 18-31, 2 deaths.
Turkey: Constantinople, Oct. 26-Nov. 1, 2 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Oct. 11-17, 3 deaths; Madras, Oct. 3-9, 1 death.
Turkey: Siarbikir, Oct. 8-15, 5 deaths daily; Severek, Oct. 8, present.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, to Nov. 18, 19 cases; Laredo, Nov. 11-19, 195 cases, 17 deaths; Minera, Nov. 11-13, 9 cases; San Antonio, Nov. 12-14, 3 cases, 3 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 11-18, 2 cases.
Mexico: Oct. 11-24, Citas, 2 deaths; Cuidad Victoria, 23 cases, 18 deaths; Linares, 412 cases, 36 deaths; Merida, 20 cases, 7 deaths; Nuevo Laredo, Oct. 11-Nov. 14, 52 cases, 21 deaths; Oct. 11-24, Progreso, 1 case, 1 death; Salina Cruz, 8 cases, 2 deaths; Tehuantepec, 4 deaths; Vera Cruz, 66 cases, 32 deaths.
Venezuela: Barquisimeto, Oct. 12-13, 2 deaths; Cagua, Oct. 13, present; Maracaibo, Oct. 18-24, 1 case, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 4-7, 2 cases, 2 deaths.

PLAGUE—INSULAR.

Brazil: Rio de Janeiro, Oct. 11-18, 44 cases, 22 deaths.
British East Africa: Port Elizabeth, Sept. 20-Oct. 3, 3 cases, 2 deaths.
China: Hongkong, Sept. 27-Oct. 3, 2 cases, 2 deaths.
Egypt: Alexandria, Oct. 11-23, 16 cases, 11 deaths.
India: Bombay, Oct. 14-20, 60 deaths; Calcutta, Oct. 11-17, 17 cases, 17 deaths; Karachi, Oct. 4-18, 12 cases, 10 deaths; Madras, Oct. 10-16, 1 death.
Mauritius: Oct. 16-22, 100 cases, 66 deaths.

Medical Organization.

Florida.

SUWANEE COUNTY MEDICAL ASSOCIATION.—A number of physicians of the county met in Live Oak, November 2, and organized a county society with the following officers: Dr. Henry F. Airth, Live Oak, president; Dr. Gelon B. Smithson, Wellborn, vice-president; Dr. W. C. White, Live Oak, secretary; Dr. C. S. Brown, Live Oak, treasurer, and Drs. Silas T. Overstreet, Live Oak; F. E. Thomasson, Live Oak, and Adelbert D. Puterbaugh, Branford, censors.

Illinois.

LIVINGSTON COUNTY MEDICAL SOCIETY.—At the sixth semi-annual meeting of the society, held in Pontiac, November 12, the committee on affiliation with the Illinois State Medical Society reported favorably, and the changes in the constitution necessary to make it conform to that of the state society were adopted.

KANE AND MCHENRY COUNTIES MEDICAL SOCIETY.—At the seventy-seventh semi-annual meeting of the Fox River Valley Medical Association, in Aurora, November 10, after an exposition of the standard plan of organization by Dr. Malcolm L. Harris, Chicago, representing the state society, it was agreed that the society should ask for recognition from the Illinois State Medical Society as the official society of Kane and McHenry counties. The following officers were then elected: President, Dr. Henry J. Gahagan, Elgin; vice-president, Dr. Frank H. Jenks, Aurora, and secretary and treasurer, Dr. J. Forrest Bell, Elgin.

Indiana.

PORTER COUNTY MEDICAL SOCIETY.—Dr. George F. Keiper, Lafayette, councilor for the Tenth District, announces the reorganization of the Porter County Medical Society.

Iowa.

OSCEOLA COUNTY MEDICAL SOCIETY.—The physicians of Osceola County met at Sibley, November 10, and organized a county society with the following officers: Dr. William E. Ely, Ocheyedan, president; Dr. Clinton C. Cady, Harris, vice-president; Dr. Felix J. Langenhorst, Ashton, secretary, and Dr. Louis H. Heetland, Sibley, treasurer.

GREENE COUNTY MEDICAL SOCIETY.—A number of the medical fraternity of Greene County met at Jefferson, November 9, and organized a society with the following officers: Dr. Fred M. Dean, Jefferson, president; Dr. Geo. H. Grimmell, vice-president; Dr. George W. Kester, Grand Junction, secretary and treasurer, and Drs. J. Will Presnell, Scranton; Charles Enfield, Jefferson, and Fred. M. Dean, Jefferson, censors.

Kansas.

SMITH COUNTY MEDICAL SOCIETY.—This society was organized at Smith Center, November 16, as an auxiliary to the Kansas State Medical Society with the following officers: President, Dr. M. Francis Leary, Gaylord; vice-president, Dr. Bernard W. Slagle, Smith Center, and secretary-treasurer, Dr. Daniel W. Relihan, Smith Center. The society starts out with a membership of twelve.

Maryland.

CLARKE AND FREDERICK COUNTIES MEDICAL ASSOCIATION.—About fifty of the physicians of Frederick and Clarke counties have organized a medical society at Winchester with the following officers: Dr. William J. Best, Brucetown, president; Dr. P. Powell Page, Boyce, vice-president, and Dr. Samuel P. Latane, Winchester, secretary.

Book Notices.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Sixth Edition, Thoroughly Revised. Fully Illustrated. Cloth. Pp. 1,300. Price, $5.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

Anders' book has become recognized as one of the most practical works on the practice of medicine in the English language and no better proof of this is wanted than the fact that six editions have been called for in as many years. This edition is not simply a reprint of the former ones, but is rewritten in many parts. Especially is this true of the paragraphs relating to the etiology of malarial fever, yellow fever, and other diseases of presumed parasitic origin. The majority of the chapters show evidence of revision and every subject is brought thoroughly up to date.

THE MICROSCOPICAL EXAMINATION OF FOODS AND DRUGS. A Practical Introduction to the Methods Adopted in the Microscopical Examination of Foods and Drugs, in the Entire, Crushed and Powdered States. By Henry George Greenish, F.I.C., F.L.S., Professor of Pharmaceutics to the Pharmaceutical Society of Great Britain. With 168 Illustrations. Cloth. Pp. 316. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

The author makes a plea for the more general use of the microscope in the detection of adulteration of foods and drugs in the powdered form. Directions are given for the detection of the different starches and textile fibers; certain drugs such as lycopodium, ergot, etc., woody substances, leaves, barks, seeds, fruits, etc., of various kinds. The directions for mounting, preparing and examining are sufficiently elementary and full to satisfy every one who understands how to use the microscope. The book is well illustrated.

ELEMENTS DE SEMEIOLOGIE INFANTILE. Par le Dr. Fernandes Figueira, ancien chef de clinique pediatrique a la Faculté de Médecine, Rio de Janeiro, Preface de M. Le Dr. Hutinel, Professor a la Faculté de Médecine de Paris. Avec 78 figures dans le texte. Cloth. Pp. 632. Paris: Octave Doin, Editeur. 1903.

This work will fill a useful place in the hands of the practitioner who reads the language in which it appears. Though written by a Brazilian physician it is published in France and is, therefore much more accessible, as there are comparatively few readers of the Portuguese language. The author has brought together with much industry the principal symp-

tomatology and arranged it in a natural classification so that any particular symptom can be readily found. The book is fully illustrated and the cuts are generally good and instructive. Each chapter has attached to it a bibliography, and while we think more American authorities might have been quoted with advantage, nevertheless it shows that the author's reading has been very extensive and that he has taken his facts from all sources.

PHYSIOLOGICAL ASPECTS OF THE LIQUOR PROBLEM. Investigations Made by and Under the Direction of W. O. Atwater, John S. Billings, H. P. Bowditch, R. H. Chittenden and W. H. Welch, Sub-Committee of the Committee of Fifty to Investigate the Liquor Problem. Vols. I and II. Cloth. Pp. 396 and 379 Respectively. Price, $4.50 net Per Set. Boston and New York: Houghton, Mifflin & Co. 1903.

The alcohol question is one of the living issues of the day—a statement that can not be denied, whichever side of the question one may take. These two volumes form a valuable contribution to the literature of the subject and contain the testimony of perhaps the most competent experts on the various phases of the question. The general report of the subcommittee of the committee of fifty, consisting of Drs. J. S. Billings, W. O. Atwater, H. P. Bowditch, R. H. Chittenden and W. H. Welch, sums up the conclusions which were deduced from the various investigations reported elsewhere in the works. The rest of the two volumes is made up of separate reports on instruction in the physiologic action of alcohol, the effect of alcohol on digestion and secretion, the effects of the use of alcoholic drinks on brain workers and the relation of drink habits to insanity, the influence of alcohol on growth, the pharmacologic action of ethyl alcohol, the nutritive value of alcohol and its pathologic effects. The report on physiologic instruction gives the results of an inquiry by Drs. Bowditch and Hodge, who notice the opinions expressed in the text-books of this country and Europe and criticise the instruction manuals endorsed by the Woman's Christian Temperance Union for primary and grammar schools, giving also the answers of public school teachers as to their opinions as to the fitness and value of these works and the instruction they convey. The opinions expressed are naturally various, both those of physiologic experts as well as those of school teachers, and the condemnation, by some, of the text-books approved by the Woman's Christian Temperance Union is rather severe. We regret that the tone of this report is not a little more judicial. The report concludes with a summary of the state laws on physiologic instruction in regard to alcohol. The report on digestion and secretion by Dr. Chittenden is lengthy and complete, and may be taken as a very fair critical summary of our present knowledge of the subject as well as containing valuable original data. The data relating to the use of alcoholic drinks among brain workers and the relation of the drink habit to insanity are less valuable, it appears to us, as compared with certain other of the memoirs. The first consists mainly of the testimony of individuals and is, therefore, not entirely free from the possibilities of individual preferences or prejudices. That on the relation of the drink habit to insanity is necessarily incomplete and the statistics that can be obtained meeting all the requirements are rather limited. Dr. Hodge's memoir on the influence of alcohol on growth is interesting as well as that on the influence of alcohol on normal vital resistance of rabbits to infection. The experiments were naturally carried out on the lower animals, such as dogs and rabbits, and the facts are not necessarily applicable to the human species; still they are significant and interesting so far as they go. Perhaps the most valuable portion of the work is contained in the two principal memoirs of the second volume, namely, those on the pharmacologic action of ethyl alcohol, by Professor Abel, and on the nutritive value of alcohol, by Professor W. O. Atwater. Both of these are worthy of study by temperance workers and others. Considering the fact that Professor Atwater's assertion that alcohol as a food value has been largely utilized in some quarters, it is of interest to consider certain statements in which he speaks of alcohol as at best a very expensive sort of nutriment in healthy people and only valuable when the user is unable from disability or disease to obtain sufficient nourishment from ordinary food materials. The concluding passage reads as follows: "The reason for emphasizing these facts is that any statement which compares the nutritive value of alcohol with that of ordinary food is in danger of being used by interested persons or those who are inclined to self-indulgence without the quality needed to work out the whole truth." The memoir on the pathologic effects of alcohol by Welch, though short, is excellent, and the Woman's Christian Temperance Union can derive all the arguments that it really needs from its statements. We believe the two volumes will serve a very useful purpose, and be in every way a sort of landmark in the discussion of the alcohol question. As to the general conclusions of the committee, which condemn—or perhaps to use a less emphatic term, discourage—systematic instruction of children in the primary schools on the subject of alcohol, there will, of course, always be a certain amount of difference of opinion. The question whether it is better to instruct young children as to the evil of alcohol or wait until they are older is perhaps one that teachers can decide better than we. What is said, however, about the teaching of specially isolated matter now being overdone is correct. It is important that what is told should be within the range of accepted probability, if not absolutely of demonstrated fact, and too much zeal has overdone the temperance instruction. The fact that quite a number of foreign physiologists to whom we owe a large part of our knowledge on the subject signed with reservations the statement by Sir Michael Foster which was sent them, is a matter of some little moment. It is unfortunate that there is so much difference of opinion on the subject, though the reading of this report and its contained papers shows that as regards the main points the authorities agree on the principal facts.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Oct. 6, 1903.

Dr. A. C. Buckley in the Chair.

Pneumonia with Hemiplegia.

DR. HARRY LOWENBURG reported a case of lobar pneumonia with delayed resolution but recovery, complicated by hemiplegia with partial recovery.

DR. LUTHER C. PETER referred to the fact that hemiplegia occurs considerably in the infectious fevers, particularly typhoid, coming on usually during convalescence, when the circulation is exceedingly slow, and being usually due to a thrombosis. In the case described, however, he felt that the sudden onset pointed to an embolism.

DRS. M. P. WARMUTH and A. C. BUCKLEY reported cases.

A Case of Ludwig's Angina.

DR. C. M. HARRIS described this disease: A streptococcus infection about the submaxillary gland and alveolar tissue beneath the mucous membrane in the floor of the mouth, with cellulitis tending to sloughing rather than to pus. Symptoms: Local discomfort followed in from two to four days by swelling and pain, pressure causing considerable dysphagia and sometimes salivation and dyspnea; in some, septicemia or gangrene. Treatment: Prompt incision and removal of any gangrenous tissue, application of carbolic acid, constitutional treatment for septicemia. He reported a case: A patient remained in a public bath two or three hours; the following day there was pain in the right ear and swelling in the right submaxillary region. The symptoms increased, a hard tense swelling unattended by external redness or any heat developed, and on the fifth day began to diminish; on the seventh day disappeared, and the mouth could then be opened; on the ninth day pus was discharged from the affected ear; this continued for about a week, when it ceased and the patient has since enjoyed good health. The constitutional treatment consisted of ¼-

grain doses of calomel hourly for eight to ten hours during the first four days of the disease, and local applications of peroxid of hydrogen and other antiseptic solutions.

DISCUSSION.

DR. JUSTUS SINEXON reported a case of cervical cellulitis in an engineer. He was given 1/10-grain doses of calomel every hour for four or five days. On the fifth day an incision was made in the floor of the mouth without any result, which after the application of a belladonna ointment was followed by the discharge of a small amount of pus and the man made a good recovery.

DR. WILLIAM L. PEPPER referred to the frequency of the occurrence of cellulitis during epidemics of influenza, as well as in cases of peridentitis, which he ascribed to the infection traveling through the glands.

DR. T. TURNER THOMAS reported a case in which the incision had been made on about the seventh or eighth day of the disease, followed by hot applications of bichlorid. The patient had considerable dyspnea, which was increased after the operation, and during a severe attack a tracheotomy was attempted, but before it was performed the patient died. He felt that the danger in this condition was principally due to the fact that it involved the deep structures, the least resistance being in the direction of the mouth and throat. He recommended the employment of early free incision, and believed that the prognosis was also dependent on the kind of infection.

DR. HARRIS said that there was probably some danger in the conservative treatment, and that radical measures were probably the surest means.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Nov. 5, 1903.

The President, Andrew H. Smith, M.D., in the Chair.

Eye Lesions Occurring in Diseases of the Heart, Blood Vessels and Kidneys.

DR. CHARLES STEDMAN BULL presented this paper, and said that with obstruction to the return circulation a venous hyperemia of the retina is usually seen; in aortic insufficiency alternate reddening and blanching of the optic disc, frequently; in advanced heart disease, retinal pulsation, almost constantly; in fatty heart, as also in syphilitic, nephritic or diabetic degeneration of the blood vessels, numerous retinal hemorrhages, commonly. Thrombosis and embolism are common accompaniments of rheumatic endocarditis. Emboli of the choroid does not cause marked symptoms, but an embolism of the central trunk of the retinal artery causes sudden blindness, which is, with few exceptions, permanent. Occasionally a collateral circulation is established; this is favored by massage of the eyeball.

The most frequent lesions associated with disease of the kidneys are in the retina and optic nerve: (1) Degenerative inflammation of the retina with hemorrhages and whitish patches, and (2) an exudative inflammation, occurring with parenchymatous nephritis, and distinguished by whitish patches arranged in a stellate manner around the macula lutea, and usually accompanied by retinal hemorrhages and edema of the optic disc and surrounding retina. The disease is always bilateral, though it may appear in one eye before the other is affected. Retinitis albuminurica must be regarded as one of the terminal lesions of nephritis.

DISCUSSION.

DR. FRANCIS P. KINNICUTT said that amaurosis might occur in renal disease without the usual symptoms of nephritis. In some cases retinal changes are rather an indication of general vascular disease than truly albuminuric. With a well-marked retinitis and a history of chronic nephritis and of arterial disease death is probable in two years in hospital practice; but in private practice the prognosis is better.

DR. WARD A. HOLDEN considered the pathology of retinitis albuminurica, and the subject was further discussed by Drs. E. Gruening, J. W. Brannan and H. Knapp.

DR. THOMAS R. POOLEY said that too much stress should not be put on the occurrence of retinal pulsation, for, in a study of this subject in connection with heart disease, he had found it exceedingly difficult in many instances to detect any pulsation. He doubted very much if the ophthalmoscopic picture supposed to indicate embolism of the central artery of the retina was really dependent on this cause. In nearly all of the carefully observed cases a thrombosis had also been found. The typical appearance of Bright's neuroretinitis was not often seen; in many cases of granular kidney he had only observed petechial hemorrhages. As one of the earliest writers in this country who had advocated the induction of premature labor in cases of albuminuric retinitis, he wished again to enter a plea for such practice. If labor were induced early, it was probable that sight would be restored.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

To Kill Bedbugs.

A member writes asking the best way of disposing of bedbugs. He has been unsuccessful in his endeavor to assist some patients in getting rid of them by means of fumigations with sulphur and formaldehyd. He has also tried carbolic acid and bichlorid of mercury in the strength used in surgery, which have proved a failure. In answer to his inquiry we would suggest a strong solution of bichlorid of mercury in alcohol applied to the bed, the object being to leave a good deposit of the bichlorid after the alcohol has evaporated. We feel sure of his success if he will make the solution sufficiently strong. This could also be used with a syringe in the crevices about the room.

A Good Cough Syrup.

A subscriber recommends the following well-tried combination for the relief of the cough in bronchitis:

℞.	Codinæ sulph.	gr. iii	20
	Ammon. chloridi		
	Spts. chloroformi, āā	ʒiss	6
	Syr. tolutani		
	Ext. glycyrrhizæ flu., āā	ʒi	30
	Acidi hydrocyanici dil.	gtts. xv	1
	Aquæ q. s. ad	ʒiv	120

M. Sig.: One teaspoonful every four hours.

[This might be made more palatable by the omission of the glycyrrhiza or of the syrup of tolu, especially in cases with impaired digestion or appetite.]

High Arterial Tension.

According to an abstract in *N. Y. Med. Jour.*, M. Huchard lays but little stress on the value of the iodin preparations as reducers of arterial overtension. Iodin medication, however, is indicated when marked arteriosclerosis is present, in which case the resolvent action of the iodin preparations is explained by phagocytosis. In the period preceding sclerosis iodin preparations, according to the author, are valueless, and in their stead the essential vasodilators should be employed, such as amyl nitrite, trinitrine or sodium nitrite.

The following combination is recommended by him:

℞.	Sodii nitritis	gr. iii	20
	Pot. nitratis	gr. xv	1
	Sod. bicarb.	gr. xxx	2
	Aq. destil.	ʒii	60

M. Sig.: The entire mixture to be taken at one dose and repeated once or twice daily; or:

℞.	Sodii nitritis	gr. xxx	2
	Pot. nitratis	ʒiiss	10
	Sodii bicarb.	ʒv	20
	Aq. destil.	ʒx	300

M. Sig.: A dessertspoonful to a tablespoonful once or twice daily in half a glass of water. The advantages in the foregoing combination are that when the sodium nitrite is combined with the potassium nitrate and then rendered alkaline

with the sodium bicarbonate the sodium nitrite becomes less noxious and is of great value in lowering arterial tension, which remains low for some time after the preparation is discontinued.

Uremic Dyspnea.

The following method of producing profuse perspiration is recommended by *Jour. des Pract.* in the treatment of uremia:

℞. Pilocarpinæ nitratis .....gr. ¾ | 05
Vaselini .....ʒii 60 |

M. Sig.: To be rubbed into the chest and a bandage applied until profuse perspiration is produced.

A Tonic for Children.

Iodin, according to an abstract in *N. Y. and Phil. Med. Jour.*, is recommended as a tonic and alterative in poorly nourished children, combined as follows:

℞. Tinct. iodi .....gr. lxxv 5 |
Ext. catechu 3v 20
Alcoholis 3iiss 10
Glycerini .....ʒiii 90
Syr. idaei .....ʒvii 210 |

M. Sig.: One tablespoonful once or twice daily.

In rachitic children the following has been advised:

℞. Acidi calcii phos. .....gr. lxxv 5 |
Tinct. essentiæ anis 3iiss 10
Syr. simplicis .....ʒvi 180 |

M. Sig.: One tablespoonful every morning before breakfast.

Chapped Hands.

Brocq of Paris, according to an article in *Ther. Gazette*, recommends the following treatment for chapped hands:

℞. Glycerini .....ʒiss 45 |
Tinct. peru. .....ʒss 15
Sodii salicylatis 3i 4
Aq. lactucarii .....ʒvi 180 |

M. Sig.: Wash the hands with this solution twice daily; or:

℞. Acidi tannici .....gr. viiss | 50
Glycerini 3v 20
Aquæ rosæ .....ʒiii 90 |

M. Sig.: Apply locally to the hands.

And as an ointment one of the following combinations should be applied at night:

℞. Essentiæ rosæ .....gtt. i | 06
Vanillin .....gr. viiss | 50
Lanolini .....ʒiss 45 |

M. Ft. unguentum. Sig.: Apply locally at night; or:

℞. Menthol .....gr. xv 1 |
Salol .....gr. xxx 2
Olei olivæ 5iiss 10
Lanolini .....ʒiss 45 |

M. Ft. unguentum. Sig.: Apply locally at night.

La Grippe.

The following combination is recommended by *Rev. Francaise de Med. et de Chir.*, in the treatment of la grippe:

℞. Antipyrini .....gr. xxx 2 |
Sodii benzoatis .....gr. xxxvii 2 | 50
Aq. laurocerasi 3iiss 10
Syrupi codeinæ 3vi 24
Aquæ destil. .....ʒiii 90 |

M. Sig.: One to two tablespoonfuls every hour until the entire amount is taken.

The Vaginal Douche.

In giving directions for the use of the vaginal douche, F. B. Robinson, in *Ther. Gazette*, states that a fountain syringe holding fourteen quarts should be used, which can be made from such a sized pail to which a tube is properly attached. A siphon tube may be employed. The patient should be instructed to begin with two quarts at a temperature of 105 F. and increase the heat daily until it is as hot as can be borne, and at the same time increase the quantity one pint each day until the fourteen quarts are taken. The douche should be used twice a day, morning and evening, resting for at least three-quarters of an hour after the douche. It should require, according to the author, at least thirty minutes to take the douche of fourteen quarts. The patient while taking the douche should lie on her back with thighs flexed on the abdomen and legs flexed on the thighs. A handful of sodium chlorid and a teaspoonful of alum should be added to each gallon of water, the salt being used to dissolve the mucus and pus and the alum to act as an astringent, check waste secretions and harden the tissues. He condemns the use of carbolic acid as useless and the bichlorid of mercury as dangerous. Zinc and lead salts are not so valuable as alum as astringents, while mercurial salts, carbolic acid, boracic acid coagulate the discharge; however, the best disinfectants are carbolic acid and potassium permanganate. He recommends sodium sulphate as the best general solvent of the discharges, dissolving mucus, pus, leucocytes, etc. The best vaginal tube is the largest that can be conveniently used in order to distend the vaginal fornices and consequently allow the fluid to reach the upper end of the vagina. He employs a tube which is introduced in a closed state and expands after being so introduced. The value of the vaginal douche, according to the writer, consists in:

1. Contracting the muscle and connective tissue.
2. It contracts the lymphatics, veins and arteries.
3. It absorbs exudates.
4. It checks secretions.
5. It stimulates.
6. It relieves pain and cleanses the parts.
7. It checks hemorrhages and curtails inflammation and serves as a good drainage for the genital tract. Emphasis is also placed on the utility of the douche depending on the quantity, the temperature, its composition, the position of the patient and the systematic use. The douche, to be curative, should be continued for months.

Pains of Tabes and Neuritis.

Bouchard, in *Internat. Clinics*, recommends small doses of mercury and potassium iodid as a very efficient combination in the treatment of tabetic and neuritic pains combined as follows:

℞. Hydrarg. biniodidi .....gr. 1/6 | 01
Potassii iodidi 5i 4
Aquæ .....ʒiii 90 |

M. Sig.: Thirty drops to be injected locally about the seat of the pain.

The same treatment is also recommended in the obstinate late manifestations of syphilis. It aids in the rapid absorption of the gummatous lesion.

Chronic Eczema of the Scalp.

Shoemaker recommends the following combination in the treatment of chronic eczema of the scalp in children:

℞. Creosoti .....m. viii | 50
Hydrarg. chloridi mitis.
Camphoræ, āā .....gr. x | 65
Ung. zinci oxidi .....ʒss 15
Olei olivæ q. s. ad.....ʒiii 90 |

M. Sig.: Apply locally to the scalp once or twice daily.

Spasmodic Croup.

L. Boyer, in *Med. Rev. of Reviews*, recommends the following treatment of spasmodic croup:

℞. Hydrarg. chloridi mitis .....gr. iii | 20
Sacchari albi .....3ss 2 |

M. Ft. chart. No. viii. Sig.: One every two hours, alternating with the following:

℞. Apomorph. hydrochlor. .....gr. 1/6 | 01
Acidi hydrochlor. dil. .....m. ii | 12
Syr. simplicis .....3ii 8 |
Aq. destil. q. s. ad.....ʒiv 120 |

M. Sig.: One or two teaspoonfuls every two hours.

Syrup of the Iodid of Iron.

M. C. Hoge, in an article in the *Virg. Med. Semi-Monthly*, recommends the syrup of the iodid of iron in teaspoonful doses three times a day as an alterative. It acts as a diuretic and promotes secretions and produces an increase in the patient's weight. He advises it in the dry, rasping coughs and colds

where ordinarily codein and quinin are used improperly. He also employs it in the treatment of amenorrhea and dysmenorrhea in scrofulous women in half-teaspoonful doses three times a day. To anemic subjects suffering from rheumatic gout he administers it combined with pure cod liver oil.

Medicolegal.

Damages Allowed for Loss of Eyesight.—In the personal injury case of Vant Hul vs. the Great Northern Railway Company, where the party suing, a young man of 18 years, lost the entire vision of one eye, and, according to the testimony, the other eye was impaired to the extent of about nine-tenths, with a strong probability that the sight would ultimately be entirely lost, the Supreme Court of Minnesota holds that it could not be said that a verdict of $14,400 was excessive.

Seamen Entitled to Medical Care at Expense of Ship.—The Supreme Court of Washington says, in the personal injury case of Sanders vs. The Stimson Mill Company, that the authorities sustain the contention that under the maritime law a seaman who receives an injury while in the service of the ship is entitled to medical care, nursing and attendance, and to a cure, so far as is possible, at the expense of the ship, regardless of whether or not the condition of the seaman is brought about by the negligence of the owners of the ship, or is the result of disease or accident. But this does not go beyond expenses incurred in getting well. And it has been frequently decided that it makes no difference whether the medical attendance was on board the ship, or whether the party requiring the attendance had been removed to some other place. The action may be brought either in the federal or state courts. In the case of Holt vs. Cummings, 102 Pa. 212, the action was brought by the physician who waited on the disabled seaman, an engineer of a tugboat employed in the Delaware River.

Death from Appendicitis Caused by Bicycle Ride Not "Accidental."—The evidence of the party suing in the case of Appel vs. the Ætna Life Insurance Company tended to prove, what the Fourth Appellate Division of the Supreme Court of New York assumes for the purposes of the case, that the appendicitis which resulted in the death of the insured in this case was caused by a bicycle ride which he took. But the court declares that it can conceive of no theory on which it could be said, from the facts disclosed by the evidence, that the death of the insured resulted from "bodily injuries, effected . . . through external, violent and accidental means," within the meaning of the insurance policy sued on. The most, it states, that could be said was that the result was accidental, but the means which produced it were not accidental. The evidence wholly failed to show that the insured did anything which he did not fully intend to do, or that what he did was not precisely as intended; therefore, the result of such acts—his death—was not produced by "accidental means." The court's attention was not called to any case which holds, and it failed to discover any authority for the proposition, that a result which is produced by means all of which, and every detail of which, was intended, can be said to have been produced by accidental means, simply because the result which followed the employment of such means, exactly in the manner intended, was different from the result anticipated.

Failure to Use Tourniquet.—The Supreme Court of Pennsylvania says, in the malpractice case of De Long vs. Delaney, that the husband of the party suing had his leg badly crushed in attempting to board a railroad train and the party sued, a physician, was called in on the emergency to treat him. The physician rendered the first aids, washed and dressed the wound, bandaged the leg, and then relinquished the case to the family physician, who was expected, and arrived by the same train on which he (the first physician) left. The injured man remained under the care of the family physician for about two hours, and then was put on a train and taken to a hospital, where his leg was found to have bled profusely, and where he died a few hours later from loss of blood. At the trial the party suing proved the foregoing facts; gave some evidence that a tourniquet was an instrument in common use among physicians for stopping the flow of blood, and that it had not been used by the physician sued. She then rested her case, and the trial court entered a non-suit, which the Supreme Court holds was proper. It says that the negligence relied on was the failure to use a tourniquet. But there was no evidence at all, from any witness competent to express an opinion, that a tourniquet should have been used, or that the tight bandage applied by the physician sued was not fully equivalent—in short, that there was any negligence shown. The jury could only have made an uninformed guess. Negligence can not be found in that way.

Validity of Contract Not to Practice in Old Locality.—Two physicians practicing their profession at a certain place as partners entered into a written contract for the dissolution of the copartnership, one purchasing the property of the copartnership, and the other agreeing not to practice medicine in the vicinity of that place. Commenting generally, the Supreme Court of Oklahoma says, Hulen vs. Earel, that these contracts do not seem to be unusual. The books are full of such cases, and probably more of those between physicians than of any other profession or trade. They have been uniformly upheld by the courts of the several states, where they have not been controlled by statutory provision, and equity has always granted relief by injunction to restrain a breach, for the reason, principally, that the injury arising from such breach can not be estimated or repaired. A suit at law affords no adequate remedy, and, the damage being continuing, and accruing from day to day, the object of the contract can only be obtained by the parties to the contract conforming to its express terms. It is, therefore, very proper for a court of equity to enforce such a contract by granting an injunction to prevent a breach when it is within the rules laid down and within the rules of the controlling statute. One of the controlling features in all of the cases on this subject seems to be that, if such contracts are not upheld, the subject-matter would not be salable. But the court holds that this particular contract was in violation of the Oklahoma statute and invalid, although it says that it would have been an easy matter for the parties to have made a contract complying strictly with the provisions of the statute, one of which is that one who sells the good will of a business may agree to refrain from carrying on a similar business within a specified county, city or part thereof, so long as the buyer or person deriving title to the good will carries on a like business therein, whereas it will be observed the contract here was not to engage in the practice of medicine in the vicinity of a certain place, without any limitation.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

November 14.

1 *Gonorrhea in Infants with a Report of Eight Cases of Pyemia. Reuel B. Kimball.
2 *Terminal Syphilis and Tabes. William J. Dougherty.
3 *Traumatic Separations of the Lower Epiphysis of the Humerus and Their Treatment by the Extended Position. With Report of Two Cases. Gilbert G. Cottam.
4 *Emulsion-Albuminuria. Isador H. Coriat.
5 Report of a Needle in the Prostatic Urethra. B. B. Foster.
6 A Case of Lead Osteoperiostitis. W. Moser.
7 Abdominal Pain in Pneumonia. Charles S. Grabin.

1. **Gonorrhea in Infants.**—From experience in the Babies' Hospital of New York, Kimball finds absolute isolation the only recourse in these cases. It might be possible to keep older children in the general ward, but with babies that have to be constantly handled this is impossible, and the utmost precautions are taken in his service to keep apart the clothing, wash cloths, thermometers, nursing bottles, etc. He sums up his conclusions in the following:

1. Gonorrhœa prevails among infants and children to an extent not fully appreciated by the medical profession at large, and has become a common epidemic in institutions where numbers of children are placed together.
2. The ordinary clinical forms which the gonococcus infection assumes in children are ophthalmia, vulvovaginitis and pyemia.
3. A series of cases of pyemia, reported in this paper, occurred in infants, in whom no local lesion could be found to explain the mode of entrance of the organism to the general circulation.
4. The suggestion is made that from a stomatitis due to the gonococcus such a systemic infection may arise. Gonorrheal stomatitis in infants is a disease that needs further study.
5. Only by careful exclusion, by microscopical examination and by complete isolation can this disease be absolutely debarred from a hospital where infants are cared for.
6. There is urgent need of public enlightenment on this subject. Those in charge of institutions for children, trained nurses and even parents, should be taught the frequency and virulency of this infection and the ease with which it is spread. It should be the duty of health authorities to include gonorrhea among the acute infectious diseases of children.

2. **Tabes.**—The arguments for and against the syphilitic origin of tabes are reviewed by Dougherty, who concludes that in the great majority of cases at least, if not in all, the weight of evidence favors the late or terminal action of syphilitic poison.

3. **Separation of the Lower Epiphysis of the Humerus.**—The views of the various authors for the treatment of this condition are reviewed by Cottam, who points out their disagreements and then gives his own experience with the extension treatment in 2 cases. They are the only ones he has treated without loss of function to some degree, and he therefore feels encouraged to use the extended position in future, despite the weight of authority against it.

4. **Emulsion-Albuminuria.**—Cramer's type of albuminuria in urine with a milky appearance which is due to some proteid substance in a peculiar physical state is noticed by Coriat, who reports a fourth case in addition to the 3 already on record. Like Cramer's cases, it ended fatally. His case was one of alcoholic delirium with coincident parenchymatous nephritis, with anxiety, fear, cyanosis and suppression of urine. As in the other cases, the milky appearance only showed itself a few days before death and negative tests afforded proof of the absence of neutral fat. All the proteid reactions were present. He thinks we have here a new and hitherto undescribed form of albuminuria in which the proteid exists not in simple solution, but in an emulsion or rather a peculiar colloidal physical state, apart and distinct from the ordinary ones and one which widens our conception of albuminuria.

American Medicine, Philadelphia.

November 14.

8 *Chronic Malaria: Complications and Sequelæ, with Special Reference to Digestive Complications. John C. Hemmeter.
9 *Contribution to the Clinical Study of Cerebrospinal Meningitis. Thomas C. Ely and J. J. Snyder.
10 *The Gastrointestinal Disturbances Associated with Migraine. John A. Lichty.
11 *The Association of Valvular Heart Disease with Tabes. B. Franklin Stahl.
12 *Operation in Hip-joint Disease Without Shortening. R. Preston Robinson.
13 *Gallstones and Gastric Hyperacidity. J. Kaufmann.
14 Human Terata. Austin O'Malley.

8. **Chronic Malaria.**—By chronic malaria Hemmeter understands a condition in which the malarial parasite is continuously present in the blood and which is clinically characterized by relapses of fever, splenic tumor and various complications. Among the complications he notices particularly those of the gastro-intestinal tract and the so-called typho-malaria, coincidence with dysentery, the complication involving the spleen and liver and splenomegaly or Banti's disease. Gastric ulcer may be produced by the malarial parasite, as asserted by Bignami, and it is natural to presume that the same organism may produce lesions in the colon and intestine. The complications on the part of the nervous system are those of mania, as described by Yanarris, hysteria and possibly neuroses. Occasionally paraplegia and hemiplegia complicate malarial fevers, as also meningitis, and both lobar and lobular pneumonia may occur as complications. There is a form of estivo-autumnal fever in which the symptoms are chiefly referred to the lung, and are identical with those of lobar pneumonia, though microscopic examination shows that the lesions present differ widely from the typical pneumonia lesions. The prognosis in these cases is often bad: always grave. Recovery is slow. Empyema may be a complication. Acute bronchitis is very frequent. Tuberculosis and malaria may occur simultaneously. Pleurisy and malaria are occasionally met with. Quinin does not invariably relieve these conditions, for some cases of chronic malaria are not relieved by quinin. Endocarditis may follow, and the ulcerative form occur. Functional diseases are very common. Nephritis is one of the most common complications, usually acute; it generally subsides after the cessation of the malarial attack. It is as much a consequence of malarial infection as it is a complication. Orchitis and epididymitis are rare, and usually have a history of gonorrhea.

9. See abstract in THE JOURNAL of October 17, p. 981.

10. **Migraine.**—Lichty calls attention to gastro-intestinal disturbances occurring with migraine, and says he has tried treating the disease on all the theories that have been evolved, but has fallen back on his old method of leaving off specific treatment, removing reflex and avoiding exciting causes. In many cases attempts at specific treatment have been not only useless but damaging. He remarks that there is no doubt that sodium salicylate has a decidedly beneficial effect. He thinks this is not due to its elimination of uric acid, but that it and calomel have a decided cholagogic effect and have the most efficacy as intestinal antiseptics and stimulants of bile secretion. By correcting the gastro-intestinal disturbance he has been able to reduce the frequency and severity of the attacks of migraine in many patients, sometimes completely curing them. He reports illustrative cases.

11. **Valvular Heart Disease with Tabes.**—The following are Stahl's conclusions:

1. Disease of some part of the circulatory system is present in nearly all cases of advanced tabes.
2. Valvular heart disease occurs in a large percentage of the cases.
3. The intimate relationship existing between syphilis and tabes and the pronounced circulatory changes induced by the former make it reasonable to regard syphilis as the cause of the large percentage of cases of valvular heart disease which we find associated with tabes.

12. **Hip-Joint Disease.**—Robinson reports and illustrates a case, and recommends the method of thoroughly clearing away all diseased bone and débris, carefully preserving the periosteum and stretching it along the track of the old bone and attaching it to the lower margin of the acetabulum. Then he stitches the muscles and fibrous tissue over the periosteum and stretches the leg full length, applying 15 to 20 pounds weight for extension. The wound is allowed to heal by granulation. The patient is instructed to sit up in bed two weeks after the operation and keep the weight on for four months, or a Thomas splint can be used and the patient allowed up after six weeks, but is not allowed to walk for six months. The results in the case that he reports have been excellent. The bone seems to have been reformed, and the limb is restored with comparatively no deformity.

13. **Gallstones and Gastric Hyperacidity.**—Kaufmann first notes Riedel's statement that 97 per cent. of gastralgic cases suffer from gallstones, and that the so-called cases of gastric ulcer reported cured by regular treatment were not cases of ulcer at all. If without hemorrhage, he considers them due to gallstones which have been set at rest for a time by treatment. Kaufmann follows this up with the statement that he considers the examination of the stomach contents absolutely necessary in all cases with pain in the upper abdomen, and that hyperacidity and hypersecretion are closely connected with the formation of gallstones; much more so than generally considered. In looking over the history of his cases he finds that the patients had previously complained of milder disturbances that were attributed to gastric hyperacidity. The subject is one of more than theoretic interest, as a correct interpretation of the condition is necessary to carry out proper treatment. Gallstones do not always require operation; internal treatment often subdues the irritation. When hyperacidity and hypersecretion make it probable that the mucosa of the stomach and of the duodenum is chronicly inflamed, we get the best results by lavage. Nothing acts better than the agents which favorably affect the inflamed

mucous membrane and other organs, such as solution of zinc and silver salts. By improving the chronic gastritis associated with hyperacidity and hypersecretion we may be able to prevent the formation of stones and set those already present at rest.

New York Medical Journal.

November 14.

15 *Urinary Hyperacidity. Thomas R. Brown.
16 *A Plea for the More Frequent Use of Antitoxin. C. F. Welden.
17 Acute Intestinal Obstruction and Necrosis of the Bowel Caused by a Gallstone. F. L. Strauss.
18 *The Fable of the Egg. William S. Ely.
19 Prostatic Hypertrophy and Similar Conditions. William B. Jones.
20 A Case of Rupture of Quadriceps Extensor Femoris Muscle. A. J. Ronginsky.
21 *The Operative Treatment of Chronic Bright's Disease; a Second Communication Based on Reports of 120 Cases. (Concluded.) Ramon Guiteras.

15. **Urinary Hyperacidity.**—In a former article Brown called attention to the symptoms which he attributes to this condition and which he thinks should be recognized as a cause of the syndrome simulating cystitis. If the acidity of the urine were tested in such cases an early diagnosis could be made and appropriate treatment adopted. Much unnecessary discomfort and pain would be spared the patient, beside the avoidance of the possibility of an erroneous diagnosis and inappropriate treatment. Two cases are reported.

16. **Antitoxin.**—Welden advocates the more frequent use of antitoxin in smaller doses. He has of late reduced the dose to 2,000 units and made the intervals between the injections shorter; that is, he uses it every three hours until there is a decrease in the severity of the symptoms. In this way we can keep the activity of the organisms under control. He reports one of his worst cases thus treated.

18. **Value of Egg Diet.**—The use of raw eggs in large quantities in the treatment of neurasthenia and fevers marked by high temperature and rapid waste, is advocated by Ely, who reports cases in which he gave from 12 to 24 raw eggs with up to a gallon of milk per diem. In a few cases some nausea, vomiting and diarrheal troubles followed, in which case he gave only the white of the eggs. He has given as many as forty-eight daily for many days to patients in critical stages of typhoid. They are useful for their supporting and restorative influence. Stimulants are correspondingly decreased. While he has had some patients die while taking eggs, he does not think death was due to their liberal use. He says in giving eggs we should not be chicken-hearted as to their quantity, nor fear albuminuria. In one typhoid patient with acute nephritis the albumin and casts vanished from the urine while thirty-six eggs a day were being taken. He advises a raw egg, swallowed whole every hour, in severe cases, and cites numerous instances of what he calls "the resurrection power of the egg."

21. **Chronic Nephritis.**—Guiteras' article is concluded in this number. He gives an extensive tabulation of cases, and ends with the following conclusions:

1. Chronic nephritis should not be operated on until medical treatment has proved of no avail.
2. The time for operation is when it is noticed that the process is advancing rapidly and we fear that the heart will soon become overtaxed.
3. The operation for chronic Bright's disease which has proved least dangerous and which has shown the best results, is nephropexy performed on a single movable kidney.
4. The most unfavorable cases for operation are those of diffuse nephritis.
5. Cases of general anasarca with bad heart action should not be operated on; if the heart action is good an operation performed as a *dernier ressort* may give the patients a few extra months of life, provided they survive it.
6. Where there has been a marked destructive process in the kidneys as a result of a nephritis, the operation may relieve them for a number of weeks or months, but they generally fail again and die when the new capsule begins to contract.

Boston Medical and Surgical Journal.

November 12.

22 *Present Problems—An Address to the Nurses of the Lakeside Hospital. J. G. Mumford.
23 *Stomachal and Intestinal Derangements and Affections of the Fauces, Pharynx and Air Passages. Beverley Robinson.
24 *Routine Treatment in a Genito-urinary Clinic; Functions of Such a Clinic. F. J. Cotton and R. F. O'Neil.
25 Some Principles Involved in the Therapeutic Applications of Radioactivity. William Rollins.

22. **Nursing Problems.**—Mumford's address is in its way interesting as not being exactly of the ordinary type of such addresses. He calls attention to the trials nurses are likely to experience, the lack of progress which is one of the drawbacks of the nursing profession, the mistake of starting in as special nurses, the ethical desirability of making concessions to the poor and especially to those of the middle class whose resources are limited but who are not exactly charity patients, the avoidance of Chauvinism, that is, the setting up of themselves as better than their sisters from other institutions; the choice of work, the probabilities of marriage, and the consequent curtailment of duties of the nursing profession as a life-work, etc. He advises nurses to cultivate some hobby outside of their profession to keep themselves broader-minded and more in touch with the outside world, neglecting, of course, none of their hygienic or their nursing duties.

23. **Digestive Disorders and Affections of the Air Passages.**—Robinson calls attention to the association of digestive and intestinal disturbances with affections of the nose and throat and the possibility of relieving the latter by attention to the former.

24. **The Genito-Urinary Clinic.**—The methods and experiences of the genito-urinary department of the Boston Dispensary are first described by Cotton and O'Neil, as well as their routine methods. They advise the use of strong carbolic acid, followed by alcohol in chancroids, subsequent instructing the patient to remove the scabs at each of the frequent home dressings. A thoroughly drained wound of this kind will rarely give rise to serious glandular complications, as their experience has shown. As regard urethral infection, they believe that the best treatment in all acute anterior gonorrheas is with copious and frequent irrigations combined in favorable cases with the use of protargol and other silver germicides. Later in the disease, astringent irrigations, medication by the endoscope and graduated stretching have their place. Posterior infections do best under not too frequent local treatment, begun only after the stormy stage is past. In the second part of their article they discuss the question of the routine treatment of gonorrhea and its value, the education of the patient and the public, protection of the patient's family and of the public, the education of the practitioner, student, etc. They believe it would be for the best interests of all concerned that a special genito-urinary clinic should treat cases of gonorrhea only under such conditions as are, in the surgeon's judgment, consistent with appropriate treatment and good results, refusing to help those who will not co-operate loyally in the treatment. The difficulty of keeping the patients under treatment is very great.

Medical News, New York.

November 14.

26 *Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. (To be continued.) Charles F. Painter and William G. Erving.
27 *Treatment of Tapeworm. Samuel P. Gerhard.
28 *X*-ray Treatment of Cancer of the Uterus. Methods and Results. Sinclair Tousey.
29 *Why Not Absolute Precision in Chyme Analysis? Mark I. Knapp.
30 *Precipitins and Their Medicolegal Use. (Continued.) James Ewing and Israel Strauss.

26. **Chronic Villous Arthritis.**—Painter and Erving's article is mainly a report of cases. Their view is that many of these conditions considered as tumors or lipomata are really degenerated villi, but they give rise to rather different symptoms than the ordinary synovial fringe. (The article is to be continued.)

27. **Tapeworm.**—The various remedies employed for tapeworm, such as male fern, kousso, pomegranate, turpentine, kamala, pumpkin seed, etc., are noticed by Gerhard, who finds the combination of male fern and pelletierine the most suitable. There is no necessity for the patient to make several days' preparation. The loss of one meal, breakfast, is all that is required. The patient is instructed to clear out the bowels the day previous with one or two large doses of castor oil or salts. One dose may be given in the morning and one at night, an hour or so after a light supper. The next morning as early as possible—say at 6 o'clock—give a dose of

pelletierine tannate, 20 gr., in two capsules. When this has operated freely, in about two or three hours begin with the following:

℞. Olii resinæ aspidii.....3ii
Aetheris.....3ii
Hydrargyri chloridii mitis.....gr. xii
M. et div. in capsulæ No. xvi. Sig.: Two every ten minutes.

Of course, no food is taken during this time. In two or three hours the worm will be expelled whole with the head. It is well to instruct the patient to pass all bowel movements into a vessel of warm water. No traction on the protruding worm should be permitted. The patient can then rest, and if there is any depression light food can be given.

29. **Chyme Analysis.**—The points emphasized in Knapp's paper are stated in the beginning as: (1) No better indicator is known for free HCl than supersaturated alcoholic solution of tropeolin 00. (2) That the dimethylamidoazobenzol as an indicator for only free HCl acid in chyme is absolutely wrong and misleading, but that as it reacts also on very weak solutions of organic acids it can be used for the quantitative determination of such acids. (3) That by the successive use of tropeolin, dimethyl and phenolphthalein in the same specimen of chyme we can determine, quantitatively, free HCl, organic acids and general acidity. The tropeolin solution used is prepared by throwing into absolute or very strong alcohol an excess of the powder of tropeolin 00 and leaving it stand for two or three days, shaking it up a few times. It is a dark cherry-red color, resembling tincture of iodin. To 5 c.c. of filtered chyme are added two drops of the tropeolin solution. If free HCl is present the stomach contents are colored a purplish-red, the intensity depending on the quantity of HCl. The further technic is shown. His summary is given as follows:

I want to reassert that, while dimethyl reacts very sharply on free mineral acids, it also reacts on other very weak acids; it reacts on such degrees of acidities of acids other than hydrochloric acid as are absolutely within the bounds of even a subacid stomach. That the supersaturated alcoholic solution of tropeolin 00 stands in no way behind the reagents of Günzburg and Boas, but that it has the additional advantage over these, inasmuch as it can be used for titration, and this with absolute precision. That both free hydrochloric acid and organic acids very, very often exist simultaneously, in the same chyme; that the presence of free hydrochloric acid does not negate the additional presence of organic acids, but that the presence of relatively large quantities of organic acids are abnormal and produce symptoms; that the presence of relatively large quantities of organic acids, either introduced into or formed within the stomach, gives the symptom-complex described by me as "Organacidia Gastrica" [See THE JOURNAL, Sept. 20, 1902, page 719]. That the presence of organic acids can and should be tested for by my direct method—described by me as the floating test—a test very easily carried out in about a minute or two. That free hydrochloric acid, organic acid and the general acidity can be determined (and this has always been done by me) in one and the same specimen, thus enabling us to work with very small quantities and also to save time.

The floating test above alluded to consists in taking 1 c.c. of filtered chyme and 1 c.c. of ether and shaking them up to extract the organic acid. One drop of a 10 per cent. solution of the ferrichlorid is added to 2 c.c. of distilled water in a narrow test tube and on it is floated the clear ether extract. At the plane of junction of the ether with the iron solution a colored ring appears which varies with the different acids, as described in his original article. Care should be taken that only the clear ether extract is floated.

30. **Precipitins.**—Ewing and Strauss' article is continued. In this issue they give mainly the method and technic.

St. Louis Medical Review.

November 14.

31 A Case of Amebic Dysentery. R. M. Funkhouser.

Cincinnati Lancet-Clinic.

November 14.

32 Constipation. Frank L. Rattermann.
33 Carcinoma of the Breast. George J. Monroe.
34 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

Medicine, Detroit, Mich.

November.

35 *Should a Tuberculous Lung Be "Exercised"? Norman Bridge.
36 *Buccal Expressions of Constitutional States. Eugene S. Talbot.
37 *Neuroses of the Stomach and Intestines. Frank P. Norbury.
38 A Contribution to the Technic of Embryotomy as Applied in Transverse Dystocia. L. A. Hering.
39 *The Early Diagnosis of Mental Diseases. C. B. Burr.
40 *On the Mortality Due to Congenital Malformations, with Especial Reference to the Problem of the Relative Variability of the Sexes. Raymond Pearl.
41 Epidemic Influenza—A Historical Sketch. Q. W. Hunter.

35. **Should the Tuberculous Lung Be "Exercised"?**—Bridge argues against lung gymnastics in tuberculosis, claiming that quiescence of the diseased lung is desirable for the sake of its healing. He thinks it is impossible to demonstrate benefit from lung gymnastics in tuberculosis.

36. **Buccal Expressions of Constitutional States.**—The conditions noted by Talbot are pyorrhea alveolaris, dental caries, gingivitis, etc., that occur in connection with diabetes and other conditions. The condition of the mouth is an index of the general health. The toxins generated in the mouth rapidly pass into the general system and also produce their bad effects in that way. Neurasthenia may entail a predisposition to interstitial gingivitis, as he has shown, and it in turn aggravates the original condition.

37.—See abstract in THE JOURNAL of October 24, p. 1041.

39.—Ibid.

40. **Congenital Malformations.**—Pearl has studied the mortality returns of the last Census for the sake of determining the fact as to the frequency of congenital malformations in the two sexes, and draws the following conclusions:

1. The mean age at death from fatal congenital malformations of the sorts included under title No. 150, of the International Classification of Causes of Death, is essentially the same in men and women. Hence it may safely be concluded that the mean intensity or degree of the malformations is not essentially greater in one sex than in the other. 2. The variations in the age at death from such malformations, as measured by the standard deviation and the coefficient of variation, is significantly greater in women than in men, and hence we may conclude that in intensity or degree of the malformations woman is more variable than man.

He thinks it is impossible to formulate any general rule that either sex is more variable than the other in the human species.

Journal of the Michigan State Medical Society, Detroit.

November.

42 *Conditions that Influence the Use of the *X*-ray in the Treatment of Epithelioma and Other Skin Lesions. Wm. F. Breakey.
43 *The Treatment of the Hypertrophies of the Lymphoid Ring. B. R. Shurly.
44 *Movable Kidney. J. A. Attridge.
45 Report of Seven Rare Abdominal Sections. I. N. Brainerd.
46 *Surgical Treatment of Fractured Spine, with Report of Four Cases. C. Harvey Rodi.
47 *The Effect of Anesthesia on the Body Temperature. W. H. Morley.
48 Congenital Dislocations of the Hip Reduced by Forceful Manipulations. Angus McLean.

42. **The X-Ray.**—Breakey believes that the use of the *x*-ray is specially indicated in malignant disease where excision is impracticable. It should be employed after thorough curetting and removal of all crusted masses and of epitheliomatous growth on the floor of the ulcer and under the everted roll of border of rodent ulcer and all unhealthy granulations. This can be done under cocain anesthesia. Then after checking all hemorrhage and the application of a suitable chemical cautery, for which he usually prefers nitric, carbolic or pyrogallic acid, and the separation of the slight slough and beginning of granulation, the time has come when the conditions are most favorable for the therapeutic action of the *x*-ray. The occasional repetition of slight curetting or cauterization may be required. The use of the ray does not exclude other appropriate treatment.

43. **Adenoids.**—Hypertrophies of the "lymphoid ring," the faucial, pharyngeal and lingual tonsils, are considered by Shurly as causes of a large amount of the pathologic conditions and as entering points for infections. Chronic inflammations of these lymphoid tissues are of several varieties, such as the chronic lacunar, caseous or follicular inflammation of some authors, the chronic parenchymatous or the familiar enlarged tonsils. Polypoid hypertrophy is comparatively rare. There are many enlarged tonsils that are normal in structure and require no attention. Palliative methods, he thinks, as a rule, should be discouraged. Internal medication in the form of iodid of iron and hypophosphites is often exceedingly valuable. The question of hemorrhage must influence our choice of method and, therefore, the snare operation has many advocates. Sometimes ligation of the external carotid is re-

quired to stop the hemorrhage after other means of control have failed. The choice of the anesthetic is important. Nitrous oxid is usually enough, but may be supplemented by ether if necessary. Cocain infiltration is often very useful in office work. Objection to removal of the tonsils is sometimes made because singing teachers say it ruins the voice, and the laity believe this. Their complete removal may be followed by a temporary loss of the singing voice, especially several notes of the upper register, but this is due to the changed muscular movement of the pharynx. Where the operation is successfully performed and no ragged surfaces remain ,the voice is restored. Enlarged tonsils cause vocal fatigue and acute inflammation. He speaks well of the general plan of clearing out adenoid vegetation of the pharyngeal tonsil, and insists in conclusion on the danger that these structures involve as regard the development of infectious disease, diphtheria, scarlet fever, etc.

44. **Floating Kidney.**—Attridge describes the condition and its treatment, and concludes that nephropexy has not generally met with favor because of the number of relapses which are due to insufficient fibrous union between the kidney and the lumbar muscle. Further, that Edebohls' operation produces as nearly perfect results as is possible by any other method known to the writer.

46. **Fractured Spine.**—This article was noticed editorially last week. Rodi says considering the hopelessness of spinal fractures, almost any risk is justifiable, and we should operate in every case, seeing that we may possibly do some good and certainly, if proper antiseptic precautions be taken, we can do no harm. When traumatism of the spine is associated with paraplegia an operation is indicated to determine whether the paralysis is not due to bony pressure incapable of spontaneous relief. The operation should be deferred no longer than the recovery from the original shock demands. The earlier it is done the easier it is to reduce displacements and remove the broken pieces of bone.

47. **Anesthesia.**—Morley has investigated the effect of anesthesia on the body temperature, and gives the results of temperature studies of 46 patients operated on, showing the curves. From his study of previous work and his own observations he concludes that ether anesthesia lowers the body temperature on account of the increased heat output through the dilated vessels and the lessened heat produced from diminished muscular action. Stringent precautions are required to keep the body from losing heat during the operation by having the patient well protected with lint and bandages and by having a warm operating room. Many of the so-called post-operative pneumonias are due to the chilling the patient gets under anesthesia.

Ophthalmic Record, Chicago.

October.

49 *Idiopathic Myositis Involving the Extraocular Muscles. J. E. Gleason.
50 A New Chloroform Inhaler. P. A. Jordan.
51 *The Correct Use of Terms in Ophthalmology. W. N. Suter.
52 An Unusual Case of Ptosis. L. A. W. Alleman.
53 A Case of Ossification of the Choroid and Vitreous. Frank Allport.
54 A Case of Vernal Conjunctivitis. Frank Allport.
55 Some Forms of Irregular Astigmatism; Their Detection and Correction. F. B. Eaton.
56 Case of Traumatic Ptosis of the Left Eye Operated on with Most Satisfactory Result According to the Method of Dr. Gruening or Gillet de Grandmont. W. B. Marple.
57 Papilloma of the Cornea. David H. Coover.

49. **Idiopathic Myositis of the Extraocular Muscles.**—In the case here reported by Gleason there was an acute idiopathic interstitial myositis of the superior rectus which produced exophthalmos and irritation demanding enucleation of the eye. An examination showed that this muscle alone was involved, and the only cause that could be determined was rheumatism. The case is of interest as showing that idiopathic myositis may occur in the ocular muscles.

51. **Ophthalmologic Terms.**—Suter disagrees with Suker (see JOURNAL, September 26, p. 811) as to the use of the terms anisometropia and antimetropia, as well as those of brachymetropia, hypometropia and myopia.

Journal of Cutaneous Diseases, New York.

November.

58 *Paludides: with the Histo-Pathology of a Case of Malarial Purpura. Martin F. Engman.
59 Multiple Angiomata. Abner Post.
60 A Case of Creeping Eruption (Lee), Larva Migrans (Crocker), Hyponomoderma (Kaposi). Henry W. Stelwagon.

58. **Paludides.**—This term, borrowed from the French, is used by Engman to designate the eruptions associated with malaria, among the more frequent of which is herpes simplex. He thinks the herpetic lesions from this cause are more severe and painful than from others. The febrile form with general malarial symptoms is familiar to every one. The non-febrile type is especially noted. Herpes zoster has often been associated with malaria in connection with pompholix, which he considers a vasomotor disturbance of toxic origin. Urticaria is, according to Thayer and others, the most frequent eruption in malaria, and there are three types: that accompanying the malarial paroxysm and usually appearing during the febrile stage; that replacing the chill, the other features of the paroxysm remaining; that taking the place of not only the chill but of the entire paroxysm. The latter class is the one most frequently seen by the dermatologist. There is nothing peculiar or characteristic about this except its periodicity and evanescence. Erythema multiforme has been observed by Engman, and other authors have also noticed similar cases. Malarial infection is often complicated by kidney lesions and albuminuria with casts which, when an eruption is present, may lead to an erroneous diagnosis of both the skin lesions and underlying condition. Several of Engman's cases have had a marked nephritis which cleared up under antipaludal treatment. Eczema in its different forms is noticed. Purpuric eruptions, while rare, are sometimes observed. His own experience with them is limited to 2 cases which he reports. Ulceration and gangrene of the skin, associated with malaria, particularly of the estivo-autumnal type, have been reported by several authorities besides the author.

Buffalo Medical Journal.

November.

61 Our Relations to a Few of the Problems in State Medicine. John L. Heffron.
62 Bilateral Abductor Paralysis of the Larynx. Adolph H. Urban.
63 Diagnostic Palpation of Prolapse of the Kidney and Method of Fixation. Augustin H. Goelet.
64 Gastrojejunostomy for Pyloric Obstruction. William S. Cheesman.
65 *Squint and Its Modern Treatment. F. Park Lewis.

65. **Squint.**—Lewis argues for the early recognition and correction of squint and the use of glasses as soon as they can be worn. Fusion training should be at once employed under the direction of the surgeon to correct incipient amblyopia before the defect becomes fixed. Surgical intervention should be undertaken as soon as its necessity becomes established, and should consist of tenotomy or advancement, or both, at such time as will permit of perfect fusion if the correction by glasses and training does not suffice.

American Journal of the Medical Sciences, Philadelphia.

November.

66 Report of a Case of Sarcomatosis Cutis, Together with an Analytical Study of Fifty Other Cases Collected from the Recent Literature. J. C. Wilson and Frederick J. Kalteyer.
67 *Uncinariasis in Texas. Allen J. Smith.
68 *The Occurrence of Uncinariasis (Ankylostomiasis) in Soldiers of the United States Army. Charles F. Craig.
69 *Tuberculosis of the Tonsils and the Tonsils as a Portal of Tubercular Infection. Henry Koplik.
70 *The Etiology of Nasal Polypi, with Especial Reference to Their Association with Other Pathological Conditions. Francis R. Packard.
71 *Hypertrophic Tuberculosis of the Larynx. Clement F. Theisen.
72 Obstruction of the Bowels and Peritonitis Due to a Strangulated Meckel Diverticulum. John H. Gibbon.
73 Two Cases of Retroperitoneal Hernia. Louis J. Mitchell.
74 Splenic Anemia. A Report of Three Cases. J. A. Scott.
75 Spondylitis Deformans. John Ruhrah.
76 A Case of Osteitis Deformans, with Heart Complications. Charles J. Foote.
77 A Case of Aneurism of the Innominate Artery; Ligation of the Right Common Carotid and Subclavian Arteries, Followed by Secondary Hemorrhage and Death. John G. Sheldon.
78 An Improved Form of Stethoscope. Henry E. Wetherill.
79 The Fermentation Theory of Infection and Immunity. J. W. McLaughlin.

67. **Uncinariasis in Texas.**—Smith reports cases as he has observed them in students and gives a history of the disease since its discovery in this country.

68. **Uncinariasis in the United States Army.**—The same subject is taken up by Craig, who reports his military cases and analyzes the symptoms. He thinks the most important means of infection is by swallowing the worms, but attributes considerable importance to infection through the skin.

69. **Tuberculosis of the Tonsils.**—Cases are reported by Koplik illustrating infection of the tonsils by tubercle germs, showing that the tonsil is a seat of primary tuberculosis, though rarely as compared to the pyogenic forms of infection. The tubercular tissue appears in the form of giant cells and tubercular nodules; cheesy degeneration is not common. It is exceptional to find the tubercle bacilli abundant. Tubercular ulcerations are rare; as a rule, the lymph nodes leading from the tonsil are affected. Some of these tonsillar affections have been preceded by a simple catarrhal or diphtherial inflammation, and the tonsillar infection may be the source of the general tuberculosis. As far as tuberculosis of the cervical lymph nodes is concerned, when found isolated and of a primary nature, it can be justifiably claimed that the infection proceeded from the tonsil.

70. **Nasal Polypi.**—Packard found from his studies that nasal polypi are probably symptoms of underlying conditions, not tumors; that they are based on the existence of diseased bone, and if the latter is removed they do not reappear.

71. **Laryngeal Tuberculosis.**—The form of hypertrophic or hyperplastic laryngeal tuberculosis, of which a case is reported by Theisen, is considered by him as a distinct and unusual form of the disease. As a rule, there is no ulceration, but there may be some occurring later. It may be present at the same time as the hyperplasia of the tissues in some part of the larynx, but the characteristic circumscribed hypertrophies and tumor formations do not break down. It is practically always secondary to the pulmonary involvement, though there appears some evidence that it may occur as a primary affection.

Clinical Review, Chicago.

November.

80 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. Hamilton Levings.
81 Skiascopy in Refraction. F. W. Kettlestrings.
82 *On the Therapeutic Value of Bloodletting with a Report of Cases. G. B. Hassin.

82. **Blood-Letting.**—Hassin refers to the teachings of Botkin and Zakharin as regards blood-letting, pointing out where it may be of value as a revulsive measure. He considers Reyburn's paper in THE JOURNAL of June 6, 1903, as an important article on a subject which he thinks is too much neglected in modern practice. He reports 3 cases which illustrate the great value of venesection in the relief of hemorrhoids with periodic bleeding, in cerebral congestion and in a complication of symptoms associated with hemorrhoids which he diagnosed as hyperemia of the spinal meninges. He remarks that in Russia even at the present time there are people who are accustomed to being periodically bled by barbers and others.

The Physician and Surgeon, Detroit and Ann Arbor.

September.

83 *The Most Rational Method of Operation for Hemorrhoids. Emil Ries.
84 *The Dispensing Problem. Walter J. Wilson, Jr.
85 A Daily Study of Foods Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. (Continued.) Ephraim Cutter.

83. **Hemorrhoids.**—The operation by the clamp and cautery is criticised by Ries as being imperfect and tedious, painful and predisposing to infection. The ideal method should lead to primary union, be applicable in all combinations of hemorrhoids, should preserve the natural configuration and function, and insure quick and safe recovery with little or no pain. The only method which meets all these indications in his opinion is excision and suture of hemorrhoids, not the Whitehead operation, but cutting out of the hemorrhoid in the longitudinal axis of the intestine and sewing it up with continuous catgut suture. He has used the method for external and internal piles, in all combinations, and there has been no difficulty in taking care of the inflamed as well as the non-inflamed piles. The line of excision and suture being always in the long axis of the bowel, there is no danger of subsequent stricture. The amount of mucous membrane and skin to be removed is absolutely under the control of the operator, and the shape and configuration of the anus can be perfectly preserved. A safe and quick recovery and absence of pain are proved by his description of the cases. He keeps the patient on a light diet and advises him to be careful as to sitting down; moves the bowels on the third morning after the operation and keeps up the regular bowel movements afterwards at least every second day. When the patient leaves on the sixth or seventh day he is instructed to see that the bowels move once a day, to take two tub-baths a day for one week and one bath a day after that, and to use wet cotton or a bath for toilet purposes instead of paper. He says whoever gives this method a fair trial can see to his own and his patient's pleasant surprise how well it works.

84. **The Dispensing Problem.**—The conclusions reached by Wilson are that physicians should prescribe nothing which they do not thoroughly know. The prescription should be put up by a qualified pharmacist who makes a specialty of such work. There should be an understanding between physicians and pharmacists that no repetition of prescriptions is permissible without the consent of the physician. A pharmacist should be found who does not sell patent medicines or at least does not push them, and who as far as possible keeps them out of sight. The pharmacists and physicians of every locality should have a joint meeting of their respective societies at least once a year to exchange ideas, and there should be a uniform practice regarding the dispensing of prescriptions.

New Orleans Medical Journal.

November.

86 *Apomorphin Hydrochlorate and Its Use as a Sedative and Hypnotic in Acute Alcoholism, with Report of Cases. Paul E. Bechet.
87 Reports of Cases of, 1, Parasites in the Nasal Cavity; 2, Cockleburr in the Naso-pharynx of a Ten-Month-Old Child; 3, a Case of Anophthalmos. Oscar Dowling.
88 Hemophilia Complicated by Attacks of Multiform Erythema of the Hemorrhagic Type. T. H. Young.

86. **Apomorphin.**—A number of cases are reported by Bechet, who finds that strychnin counteracts the heart depression and the depression of respiration which follows the use of apomorphin in frequent doses, but that apomorphin acts as well in delirium tremens as in the other conditions of alcoholism, and is indicated in combating such a condition. It is better to begin with a small dose, about 1/30 gr. and increase it if necessary. In his case 1/15 gr. was the largest dose required.

Medical Review of Reviews, New York.

October 25.

89 *Food Adulteration: Its Nature and Extent, and How to Deal with It. Willis G. Tucker.

89. **Food Adulteration.**—Tucker, the director of the Bureau of Charity, New York State Department of Health, calls attention to the fact that food adulteration is not necessarily food poisoning. Much of the adulterated food is innocuous, and he goes over the various preparations pointing out that the great majority are fairly free from dangerous adulterants. Milk is often watered and preservatives added. Butter and cheese have been manipulated and sophisticated, but many of these evils have been checked. Canned goods are often poor in quality and preservatives have been used, but they are not necessarily bad from a sanitary point of view. He thinks that in this matter there is a disposition to respect the laws. Sophistication he thinks is little met with in the cereal foods, though some special foods like gluten breads and flour are not what they are claimed. Fresh vegetables and fruits are often sold in an unripe and rotten state, but that it not exactly adulteration. Sugars are generally pure. Jams, jellies and marmalades are often fictitious mixtures compounded with glucose, gelatin and artificial flavors, but not always necessarily unwholesome, and the purchaser can generally tell what he is getting. Tea and coffee are fairly pure. Chicory is often added to ground coffee, but generally in response to a demand rather than as an adulterant. When sold unground,

coffee is reliable. Spices, however, are quite generally adulterated. While the substances employed are usually harmless the practice is one that should not be condoned. Flavoring extracts are also adulterated, as are olive oil, vinegar, etc., but he says it is immaterial whether the vinegar used is made from cider, malt or whiskey. The dilute acetic acid of the U. S. P. containing 6 per cent. of absolute acid would perhaps be preferable to anything else, and Dr. Squibb once informed him that he used it in preference to vinegar on his own table. He mentions at some length the adulteration of liquors, and in conclusion makes some suggestions in regard to legislation. He thinks unnecessary legislation should be discouraged. We should set our own standards. We should endeavor to define articles precisely in framing food laws, and prescribe definite standards of quality or purity. This may be difficult, but often is quite practicable. There are very few articles employed in foods which should be absolutely prohibited; for example, he does not think the use of boric, benzoic and salicylic acid should be prohibited, but the articles in which they are employed should be labeled and the facts stated. The proper and honest labeling of all foods should be demanded and encouraged by the law. He thinks there is much more commercial honesty in the world than was formerly the case, and things are better than they were.

American Gynecology, New York.

October.

90 *Tuberculosis of the Vaginal Portion and of the Uterus, with the Report of a Case. Hiram N. Vineberg.
91 A Sketch of the History of Obstetrics in the United States up to 1860. (Continued.) J. Whitridge Williams.
92 *Thrombosis of the Femoral Veins Following Aseptic Laparotomy. E. R. Secord.
93 *A New Treatment of Dysmenorrhea. Emil Ries.
94 Report of Three Cases of Intussusception in Children. R. E. Skeel.

90. Tuberculosis of the Uterus.—Tuberculosis of the uterus is not uncommon, but is most frequently confined to the body of the uterus. When it appears in the cervix it occurs in several forms; in the form of a cauliflower growth showing a tendency to bleed, which is frequently mistaken for carcinoma but is less friable. The absence of the finger-like lesions characteristic of carcinoma will help to distinguish it. Microscopic examination will decide the diagnosis. In the ulcerative form the ulceration is usually well defined with sharp, undermined edges, and the surrounding tissue may be normal or studded with miliary tubercles. The ulceration may be covered with grayish exudate of broken-down caseous material, as in the case here reported by Vineberg. The diagnosis was reached by him by exclusion, and was not shaken by the report that no tubercle bacilli were found in the exudate. Microscopic examination of fragments of the tissue confirmed the diagnosis. The vaginal portion in the third form is studded with miliary tubercles, as may also be the cervical mucosa, and tubercles may penetrate the whole surface of the cervical wall (Vassmer). This form is easy of diagnosis. Lastly, the tuberculous portion may be localized to the superficial epithelium of the glands, the latter being filled with masses containing numerous tubercle bacilli. This is the bacillary catarrh described by Schütt. In the great majority of cases the cervical disease is secondary to disease higher up, and the treatment will be subsidiary to the treatment of other lesions. In primary disease of the cervix, amputation may be all that is required, as in the case reported by Frank. Vineberg thinks that more cases of cervical tuberculosis will be observed as the attention of the profession is more directed to the subject.

92. Thrombosis of the Femoral Vein Following Laparotomy.—From a study of the literature and of the case here reported, Secord concludes that no single etiologic factor is alone responsible for the occurrence of this complication, and that the rôle of infection in otherwise non-infective cases does not appear to be of chief importance. The conditions of sudden decrease of pressure depending on the operation probably have an active influence. The treatment should be prophylactic, avoiding unnecessary injury, hemorrhage, or sudden decrease in tension, and having the wound area supported by firmly applied dressings. As far as he has been aware, there has been no mortality in the cases but the occurrence of pulmonary embolism in some warns us that a fatal termination is not impossible.

93. Dysmenorrhea.—Ries calls attention to the suggestions of Fliess as to the genital spots in the nose and their local treatment by cocain as a relief for dysmenorrhea. He thinks it would be advisable to make a series of experiments to determine the nodus and the value of the treatment: 1. Use the method according to Fliess, that is, touching up the genital spots; 2, the use of cocain in the pharynx; 3, the use of cocain on the areas outside the genital areas in the nose; 4, the use of some astringent solution instead of cocain, and 5, the use of plain water at body temperature. Of course, the patient must be ignorant of what solution is being used. He suggests, however, a suspicion as to one point, that is, the possible encouragement of the cocain habit, and asks for testimony of whose who have had chances of observation, as to whether this habit has been thus aroused or whether cocain habitués ever suffer severely from the dysmenorrhea without relief from the cocain habit.

International Journal of Surgery, New York.

November.

95 *Diagnosis and Treatment of Injuries to the Spine. W. J. Means.
96 On Opening of the Pouch of Douglas and Separation of the Bladder from the Uterus. James H. Burtenshaw.
97 The Treatment of Prolapsus of the Uterus. Harvey P. Jack.
98 The Surgical Assistant. (Continued.) Walter M. Brickner.
99 A Unique Case of Hydrosalpinx. A. Palmer Dudley.

95. Injuries of the Spine.—Means reports a number of cases and sums up his conclusions that all spinal injuries, no matter how slight, should be carefully examined at first sight, and owing to the frequency of secondary developments a guarded prognosis should be given. There are no positive signs of complete severance of the cord in the primary stage of an accident. The treatment of spinal injuries other than operative consists, first, in rest in the horizontal position, application of cold, attention to the bladder and rectum, and, second, in massage, galvanism and stimulating solutions. Laminectomy performed after reaction from shock is not dangerous, and is the only rational treatment for pressure on the cord from a blood clot or a bone depression. Relief may often follow operation several months after the inception of injury.

Medical Standard, Chicago.

November.

100 The History of Nephritis. Arthur R. Elliott.
101 The Mechanism of the Accommodation of the Eye. J. F. Burkholder.
102 *Venesection; Its Use and Abuse. C. F. Wahrer.
103 Some Cases of Venereal Disease. Alexander Memelsdorf.
104 *"Physiological Aspects of the Liquor Problem"—A Criticism. Lawrence Irwell.
105 The So-called Antiseptic Treatment of Typhoid Fever. James G. Mastin.
106 Perineuritis of the Spinal Nerves. A. W. Baer.

102. Venesection.—Wahrer considers that venesection has its value and that those who are not afraid to face popular prejudice against it will meet with success when they employ it in properly selected cases. He reports a number of cases showing its utility. Certain cases, such as pneumonia, reflex hepatitis, congestive headaches, cerebral congestion, etc., are favorable for this treatment. He also mentions that in uterine congestion it is frequently useful as an adjunct. In dilated right heart and pulmonary congestion, eclampsia with high arterial tension, pulmonary emphysema and some cases of thoracic aneurism, iritis of the plethoric, in uremia with acute renal congestion, and especially maniacal uremia, as well as in the acute nephrites of the robust, bleeding is almost always useful. It is also of value sometimes in stout people in reducing a dislocation and rendering it possible when otherwise impracticable. Its action, he thinks, is chiefly mechanical. It should not be used as a routine measure, but its indications depend on the knowledge of the pathologic processes present.

104. The Liquor Problem.—The report of the committee of fifty on the physiologic aspects of the liquor problem, which has been noticed elsewhere, is severely criticised by Irwell. He accuses the compilers of using an antiquated authority because it specially emphasizes the food value of alcohol. He also criticises Dr. Atwater's work, which he thinks is

based on his "fad" of accepting oxidation as a test of food value. He considers the W. C. T. U. methods condemnable, but that does not excuse the method of handling the subject by the committee of fifty.

Medical Fortnightly, St. Louis.
November 10.

107 *Neuroses of the Stomach and Intestines. Frank Parsons Norbury.
108 The Card System in Medical Practice. Carl E. Black.

107.—See abstract in THE JOURNAL of October 24, p. 1041.

Northwestern Lancet, Minneapolis.
November 1.

109 Syphilis. John Sutherland.
110 A Case of Leukemia. C. H. Bradley.
111 Atypical Forms of Mastoid Disease. H. McI. Morton.
112 Iodipin. J. T. Moore.

Kansas City Medical Index-Lancet.
November.

113 Address, Jackson County Medical Society. W. S. Wheeler.
114 Electro-cautery Incision for Ectropion and Entropion. Flavel B. Tiffany.
115 Report of Cases, Appendicitis, etc. Thomas J. Beattie.
116 Treatment of Acute Bronchitis in Infants. J. B. Norman.
117 The Fundus Oculi in Hereditary Syphilis. J. W. Sherer.
118 Surgery of the Thyroid. (To be continued.) Benjamin M. Ricketts.

Canada Lancet, Toronto.
November.

119 *Inaugural Lecture, New Medical Building, Toronto. Charles S. Sherrington.
120 *The Master-word in Medicine. Wm. Osler.
121 An Address on Receiving the Degree of LL.D. (Honoris Causa) from the University of Toronto, October 2. W. W. Keen.
122 The Technic of Gastro-enterostomy. Theodore A. McGraw.
123 Conservative Gynecology. A. Lapthorn Smith.
124 *The Cardiac Complications of Influenza. E. G. Wood.
125 The Relation Between the General Practitioner and the Specialist in Regard to the Treatment of Intra-nasal Disease. J. Price-Brown.
126 A Provincial Sanatorium for Manitoba. J. O. Todd.

119.—This article appeared elsewhere. See THE JOURNAL of November 14, title 107, p. 1233.

120.—Ibid., November 21, title 127, p. 1303.

124.—See abstract in THE JOURNAL of September 12, p. 680.

Providence Medical Journal.
November.

127 Tent Life for Consumptives in Rhode Island. A Brief History of Pine Ridge Camp; Its Inception, Achievements and Plans. Henry B. Potter.
128 Electricity as a Therapeutic Agent. Marcus F. Wheatland.
129 Exclusive Milk Diet in the Treatment of Disease. Max B. Gomberg.
130 Rupture of the Uterus. G. Edward Buxton.

Merck's Archives, New York.
November.

131 Aconitum Napellus. W. H. Blake.
132 Pain in the Heart. G. Miller.
133 Syphilis and Scrofula. S. D. Warnock.
134 An Index of Diseases Alphabetically Arranged with Their Modern Treatment. (Continued.) G. Bjorkman.

Memphis Medical Monthly.
November.

135 *Masked Epilepsy. W. B. Fletcher.
136 Some Notes on Melancholia and Mania, with Differential Diagnosis. Ernest W. H. Booker.
137 Some Medical Notes of a European Trip. E. C. Ellett.
138 Delayed Secondary Hemorrhage Following Tonsillectomy. Report of Two Cases. Richmond McKinney.
139 The Etiology of Eclampsia. William A. Sim.
140 Pneumonia. W. S. Robinson.
141 A New Tonsil Forceps. Richmond McKinney.

135.—See abstract in THE JOURNAL of October 24, p. 1041.

Denver Medical Times.
November.

142 Causes of Epigastric Pain. J. N. Hall.
143 Pyloric Obstruction. A. C. Behle.
144 The Importance of More Careful Rectal Examination, and the Value of Proctoscopic Examination in Proctitis. Fred P. Tuxbury.
145 The Deleterious Effects of the Excessive Use of Salt—Chlorid of Sodium. (Continued.) W. B. Parsons.

Medical Summary, Philadelphia.
November.

146 Rheumatism in Children. Ira A. Marshall.
147 Exercise. J. L. Wolfe.
148 Neurasthenia Versus Spinal Irritation. F. B. Brubaker.
149 Rational Aphrodisiac Treatment. W. C. Buckley.
150 Linen and Woolen Underwear. N. B. Shade.
151 Abortion—Hemorrhage. J. S. Leachman.
152 The Rational Treatment for Tuberculosis. L. G. Doane.
153 Hemorrholds and Their Treatment. W. B. Wood.
154 The Treatment of Dyspepsia. L. Bennett.
155 A Chat with the Brotherhood. Luigi G. Doane.

Fort Wayne Medical Journal-Magazine.
October.

156 Some Points Concerning Arteriosclerosis. B. Van Sweringen.
157 Strapping the Breasts; Is It Right? H. V. Sweringen.
158 Biliary Obstruction as a Cause of Nephritis. Miles F. Porter.

Oklahoma Medical News-Journal, Oklahoma City.
November.

159 The Modern Non-surgical Treatment of Abscesses. William F. Waugh.

American Journal of Obstetrics, New York.
November.

160 *Address, American Association of Obstetricians and Gynecologists. L. H. Dunning.
161 *Relationship of the Colon to Abdominal Tumors. James F. Baldwin.
162 *The Value of Vaginal Cesarean Section, with Report of Two Cases. M. Stamm.
163 *The Limitations of Cesarean Section. E. Gustav Zinke.
164 *The Gilliam Operation: A Clinical Contribution. Edward J. Ill.
165 *Analysis of Common Causes of Death Following Pelvic and Abdominal Operations. Joseph Price.
166 *Report of a Fourth Consecutive Successful Operation for Acute Perforated Gastric Ulcer, with General Infection of the Peritoneal Cavity. H. Howitt.
167 *Should the Uterus and Ovaries Be Removed in Operating for Double Pyosalpinx? Carlton C. Frederick.
168 *The Indications and Technic of Vaginal Drainage for Suppuration in the Pelvis. A. Goldspohn.
169 *Shortening the Round Ligaments by the Blunt-hook Method, with Report of Cases. H. W. Longyear.
170 In Memoriam: William E. B. Davis. L. S. McMurtry.
171 *The Rational Treatment of Post-partum Infections of the Uterus. D. Tod Gilliam.
172 *Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen, with Report of Cases. John Young Brown.
173 *Infantile Uterus, Scanty Menstruation, Amenorrhea and Dysmenorrhea Cured by Stem Pessaries. J. H. Carstens.
174 Surgery of the Ileocecal Valve for Non-malignant Disease. N. Stone Scott.

160.—See abstract in THE JOURNAL of October 17, p. 979.

161, 162, 163, 164, 165.—Ibid., October 3, pp. 871 and 872.

166, 167, 168.—Ibid., October 10, p. 924.

169, 171.—Ibid., October 17, p. 979.

172. **Abdominal Wounds.**—Brown advocates prompt operative interference in these cases, notwithstanding the unfavorable experience in military surgery. At the St. Louis City Hospital the practice is to immediately prepare for laparotomy, enlarge the wound of entrance, and track the bullet with the sterile finger. The probe is never used except to complete investigation. Brown has repeatedly seen symptoms point to perforation, and has not found it on operation, and vice versa. There is only one safe course. The hydrogen gas test of Senn he considers not safe, as when it is used in case of perforation fecal extravasation is bound to occur. The extent of injury done by a bullet can never be determined until the abdominal contents have been thoroughly gone over. In stab wounds the location of the wound should govern us, both as regards the length and situation of the abdominal opening. The importance of a systematic search is emphasized, as to close some perforations and not all would defeat the whole object. Brown is a believer in the virtue of irrigation and drainage in the treatment of wounds of this character. He always uses normal saline solution with a flush tube and the funnel of Price to clean the cavity. The region of the liver, spleen, both iliac regions and pelvis are flushed until the fluid returns clear. This is as a rule done at the completion of the operation. In cases where shock is severe it is his custom to fill the pelvic cavity with salt solution as soon as the abdomen is opened; it is rapidly absorbed, and it is remarkable how quickly the pulse will respond. The greater part of the paper consists of accounts of individual cases.

173.—See abstract in THE JOURNAL, October 17, p. 980.

Medical Times, New York.
November.

175 The Special Qualifications of a Physician as a Life Insurance Examiner. J. T. Pratt.
176 Personal Identity. G. R. Johnson.
177 Pregnancy, Abortion and Infanticide as Related to Medical Jurisprudence. M. E. Fitch.
178 Narcolepsy. Q. W. Hunter.
179 Linguæ Pyramidalis Malariæ. Lucian Lofton.
180 Cerebral Syphilis. George P. Sprague.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 7.

1 *Science and Medicine in the Modern University. C. S. Sherrington.
2 *The Master-word in Medicine. William Osler.
3 *Tuberculosis of the Nervous System. E. F. Trevelyan.
4 The Institutional Treatment of Inebriety. W. J. Collins.
5 *The Overlaying of Infants. William W. Westcott.
6 Case of Puerperal Septicemia Treated with Antistreptococcus Serum; Recovery. W. J. Cale.
7 Case of Puerperal Septicemia Treated with Antistreptococcus Serum. Richard Jones.
8 Puerperal Eclampsia Before Delivery. John Lithgow.
9 The Treatment of Eclampsia by Hypodermic Injections of Morphin. W. Boxer Mayne.

1.—This article appeared elsewhere. See THE JOURNAL of November 7, p. 1233.

2.—Ibid., November 21, title 127, p. 1303.

3. **Tuberculosis of the Nervous System.**—Trevelyan's Bradshaw lecture enumerates the following as the principal forms of tuberculosis of the nervous system: Tuberculosis of the dura mater, tuberculous meningitis in its general and limited forms, tuberculous masses in the brain and cord, and possibly miliary tuberculosis of the brain itself. He thinks we can have tuberculous meningitis without the presence of tubercles, but proof is wanted. The limited meningitis described by French authorities consists of thickening with tubercle formation over a limited region, usually the motor cortex. It is said to occur in phthisis. Its symptoms vary from the ordinary tuberculous meningitis. Tuberculous areas in the brain are not infrequent; they were present in 33 of the 114 cases analyzed by him. In 15 they appeared to be but little antecedent to the existing meningitis. They were only seldom multiple, the largest number observed was four. They are usually well defined, shelling out with ease, and show little tendency to break down and still less to calcify. Tubercles of the spinal cord are not uncommon. A thorough examination in these cases almost invariably reveals an older focus somewhere else in the system; in only 6 of the 114 cases was this absent. In these the notes were incomplete. Direct infection through the nose is believed possible, as in Demme's case, and tuberculosis of the ear may extend; but the latter route is indirect, for the ear is usually infected through the lymphatics of the nasopharynx. In 28 of the 114 cases the lungs were normal. It has been proved that tubercle bacilli may pass through the lungs without leaving an obvious recognizable lesion. The joints and hips were affected in 23 cases, and in 4 the kidney was the seat of extensive tuberculous disease. Ordinary tuberculous peritonitis was noted in 8 cases and intestinal ulcer in 28. Records were incomplete as regards the relation of the lymphatics to tuberculous meningitis. Trevelyan remarks that the mobilization of the tubercle bacillus from the infecting focus is one of the puzzling questions. It has been suggested that tuberculin may produce this effect, as in Rutimeyer's case of phthisis, in which tuberculous meningitis appeared after tuberculin treatment, though Cornet denies this. Tuberculous meningitis occurred shortly after operation in 8 out of 114 cases, and the interval between the operation and the meningitis infection reminds one forcibly of the incubation period in experimental tuberculosis. The route by which the bacillus traveled is not worked out. It is either by the blood or lymphatic vessels, and the marked alteration in the blood vessels is a striking fact in connection with tuberculous meningitis. In one case he could see tubercle in the walls of the sylvian arteries. The examination of the spinal fluid is a matter of importance in diagnosis, and while he has never been able to find the tubercle bacilli in the deposit in tuberculous meningitis, inoculation tests gave satisfactory results in three out of four cases. The points of importance in the examination of the spinal fluid are the presence of tubercle bacilli and lymph in the deposit, and the results of inoculation test. Trevelyan regards cryoscopic and permeability tests as of small significance. He thinks his lack of success in finding the tubercle bacillus was accidental. In rare instances one has the good luck to see recovery from symptoms of grave tuberculous disease of the brain, but it is often incomplete, blindness remaining; and in considering recovery from tuberculous meningitis we must distinguish between the general form and the partial meningitis. Monnier and others recommend operation for the latter. Bacteriologic proof of the nature of meningitis has been provided in cases recorded by Freyhan, Henkel, Barth, Gross, Winter and Gohl, the tubercle bacillus being found in the spinal fluid in all these cases. The cases of Henkel and Barth were living and well in 1903. Notwithstanding these recoveries the prognosis, however, must be still considered as generally hopeless, and the prophylaxis is worthy of the closest attention. Trevelyan advises the isolation of consumptives in careless families, especially if children are exposed, and the notification of phthisis and disinfection.

5. **The Overlaying of Infants.**—This seems to be a comparatively common occurrence in England, and Westcott ascribes it largely to intoxication on the part of the parents and thinks that the laws should be more stringent. He says it is now impossible to secure conviction in England for the manslaughter of infants by overlaying.

The Lancet, London.

November 7.

10 Medicine and Science in the Modern University. C. S. Sherrington.
11 Some Observations on Tuberculosis of the Nervous System. E. F. Trevelyan.
12 The Relations of Ophthalmology to General Medicine and Surgery and to Public Health. John Tweedy.
13 *Some Points in the Operative Treatment of Tuberculous Disease of the Knee-joint. K. W. Monsarrat.
14 *The Borderlands of Diphtheria and Scarlet Fever. Hubert E. J. Biss.
15 An Obscure Case of Intestinal Obstruction Due to an Obturator Hernia; Laparotomy; Enterectomy; Death in 27 Hours from Cardiac Syncope and Peritonitis. John R. Lunn.
16 A Case of Retroperitoneal Pelvic Sarcoma. John McLachlan.
17 *On the Value of Aspirin in Acute Rheumatism. Edward Mackey.
18 The Prevention of the Recurrence of Nasal Polypi. Eugene S. Yonge.
19 *On the Nature of Curschmann's Spirals. E. E. Laslett.
20 Notes on a Case of Chronic Ulcer of the Stomach: Excision of Ulcer; Posterior Gastroenterostomy; Cholecystotomy. W. McGregor Young.

13. **Tuberculous Disease of the Knee-Joint.**—Monsarrat insists on the great value of early surgical interference. He gives the symptoms and describes his technic, and says that the indications for operative interference are as follows:

1. Cases of tuberculous foci in the neighborhood of the lower epiphysis of the femur should be operated on as soon as the diagnosis is established. 2. Cases of joint disease by extension from the femur should be operated on as soon as possible if this extension is recent, and if not recent, then when the disease does not definitely retrograde after about two months' fixation of the joint. 3. Cases of primary synovial disease should be operated on when after about three months of rest no distinct improvement has taken place.

14. **Diphtheria and Scarlet Fever.**—The gradations between diphtheria and scarlet fever are noted by Biss, who draws a schematic table of these complications. He claims that the shades of difference between scarlet fever, diphtheria and tonsillitis are so gentle and each grades into the other so much, not at one but at many points, that the diagnostician can seldom feel certain.

17. **Aspirin in Rheumatism.**—The advantages of aspirin in rheumatism are illustrated by cases reported by Mackey, who insists on the importance of using sufficient doses continued sufficiently long if relapses are to be avoided. His practice is to give it in 20-gr. doses or more, sometimes 30 grs., and he would alternate with the alkalies, though he has sometimes combined these with aspirin, notwithstanding the incompatibility that is claimed by some authorities.

19. **Curschmann's Spirals.**—Laslett suggests that Curschmann's spirals are in reality casts of the smaller bronchial branches similar in nature to the casts of true plastic bronchitis. In support of this he raises the following points:

1. Fibrinous casts frequently show spiral terminations; 2, these terminal spirals are practically identical in structure with the true Curschman spirals, also present in the sputum; 3, the spirals, at least in this case, owe their peculiar structure largely to the arrangement of the great number of cells present: and 4, some of the spirals terminate in two equal branches of smaller diameter

than the parent stem. This fact alone makes it difficult or impossible to believe that these structures are formed by a spiral movement.

The Practitioner, London.

November.

21 A Clinical Lecture on Extra-uterine Gestation. Halliday Croom.
22 *The Present Position of Our Knowledge with Regard to the Treatment of Uterine Fibroids. Alban H. G. Doran.
23 Complications Met with During and After Ovariotomy. Cuthbert Lockyer.
24 Two Lectures on the Diagnosis of Hysteria. Purves Stewart.
25 *Phthisis in Relation to Life Assurance. T. D. Lister.
26 Diseases of the Respiratory Tract. A Review of Recent Work. J. J. Perkins.
27 The Treatment of Nephritis: Some Recent Suggestions. Thomas J. Horder.
28 Two Obstetric Cases with Comments. W. E. Fothergill.
29 A Note on the Bacteriologic Diagnosis of Diphtheria. George Newman.

22. **Uterine Fibroids.**—Doran says fibroids need no treatment in many cases and quotes Murdoch Cameron that not more than one-third of the cases seen require surgical interference, and many fibroids are never recognized. The course of the fibroid, however, is uncertain; we can tell what a cancerous cervix and an ovarian cyst will do, but a fibroid's course can never be foretold. We must be wary about the opinions of others, however authoritative; a hysterectomy for fibroid may be followed by complications worse than the original trouble, and the impossibility of calculating the future growth of the fibroid is too much in the background with advocates of hysterectomy. The operation is not a slight one; the chances of hernia, intestinal obstruction and infection are always to be considered. The most serious of all possibilities is psychic disturbance. When operation does not seem urgent treatment should be symptomatic; when bleeding is present ergot is not to be despised, except when cardiac disease exists. An abdominal belt to support the tumor anteriorly is always advisable. A light nutritious diet and certain mineral waters are of service. Electricity is not in favor with Doran; the effects he has seen have in some cases been bad. As regards the ovary in hysterectomy, he thinks it is impossible to absolutely extirpate all ovarian tissue, and in many cases an ovary left behind has produced no trouble. The simplest and best operation for supravaginal hysterectomy is the retroperitoneal one; the stump, being placed behind, is under the peritoneum outside its cavity. He has found that his patients do very well when amputation is made through the cervix, and the uterine flap need not be cut long. We should carefully study the history of all patients as regards the possibility of mental disease, and while evidence is in favor of the conservative treatment of the ovary there are some disadvantages. The ovary left may become the seat of a new growth and pieces of the fallopian tube may inflame or even suppurate. The inflamed ovary and tube should be always removed. When it affects both of the appendages the operator should never scruple to remove them. As regards suture, he favors the deep interrupted suture instead of suturing in layers. The statistics of hysterectomy must be judged on their own merits, and should not induce us to operate on every fibroid that comes under our care. He says that in cases where operative interference is most necessary the mortality is still considerable, but they do show that recovery is almost certain if a fibroid of moderate size is removed by an experienced operator. In most cases the patient is in certain respects a gainer by removal.

25. **Phthisis and Life Insurance.**—Lister finds from a study and an analysis of statistics that vulnerability to phthisis is practically the same at all stages of life. The actual danger to insurance companies from phthisis is made up of three factors: inherited vulnerability largely diminished after middle life, acquired vulnerability increasing with age and infection alike at all stages. The sum of these three factors causes the actual danger of phthisis to be about the same at all ages.

Presse Médicale, Paris.

30 (II, No. 86.) *De la polyurie simple aux 2 premières périodes de la paralysie générale. E. Marandon de Montyel.
31 Traitement médicale de l'appendicite aigue. G. Lyon.
32 (No. 87.) *Treatment of Syphilis in the Newly Born by Injections of Soluble Mercurial Salts. Schwab and Levy-Bing.—Traitement de la syphilis chez les nouveau-nés par les injections mercurielles solubles.

30. **Polyuria in General Paralysis.**—The conclusions of examination of 54 patients with general paralysis indicate that simple polyuria is an early phenomenon in this affection, appearing before the onset of any other symptom. It was noted in about 16.66 per cent. of the subjects examined, but did not last longer than two months in any case, with one exception, in which it was manifest for five months.

32. **Mercurial Injections for the Newly Born.**—Schwab has treated 5 new-born infants exhibiting unmistakable syphilitic lesions by subcutaneous injections of an aqueous solution of the biniodid of mercury, averaging .5 mgm. of the mercurial salt a day. One infant weighed 3,160 gm. After two weeks of these injections it weighed 3,050, but the syphilitic lesions had commenced to subside, and in two more weeks had entirely disappeared, while the weight had increased to 3,410. A second infant presented generalized pemphigus and coryza, both parents syphilitics. He was treated by mercurial inunctions for six days after birth and then the subcutaneous injections were instituted, each .5 to 1 mgm., a total of 12 injections. The weight increased from 2,230 to 2,850 gm. in 24 days, and the child was in excellent condition, its skin all cleared up. It succumbed a few weeks later to an intercurrent pneumonia, and no syphilitic lesions could be discovered on the skin or internal organs at the necropsy. A third infant was apparently healthy at birth—the mother a confirmed syphilitic—and seemed to thrive well for a few days, when the weight began to markedly decrease. On the assumption that this was due to the syphilitic taint the injections were commenced, and after 9 daily doses of 1 mgm. the condition was again satisfactory and the weight continued its regular increase afterward. Another infant with marked pemphigus was injected with 1 mgm. the very evening of its birth, the injections continued for two weeks, the dose sometimes as large as 1.5 mgm. The results here were equally gratifying. The fifth child was three months old when the injections were commenced. He had been born at the seventh month, both parents victims of comparatively recent syphilis. He seemed to thrive at first, but then gradually declined. Under the injections of 2 mgm. of the biniodid he recuperated, and after 6 injections the improvement was remarkable. The number of injections in these 5 cases ranged from 6 to 16. The bowels were normal, and all the infants increased in weight. The injections were perfectly tolerated in every case. The formula used was .05 gm. mercury biniodid and the same amount of sodium iodid, in 10 c.c. of distilled water.

Semaine Médicale, Paris.

33 (XXIII, No. 43.) *At What Age Do Tabetics Die? P. Marie and P. Mocquot.—A quel age meurent les tabétiques?
34 Report of French Congress of Surgery. (Concluded from No. 42.)
35 (No. 44.) *Medical Instruction in the United States. F. Munch.—Les études médicales aux Etats-Unis.
36 L'accroissement de la population de France comparé à celui des principaux pays d' Europe.

33. **Age at Time of Death in Tabes.**—Marie and Mocquot do not believe that syphilis shortens life in the majority of cases. Their experience with 66 tabetic subjects dying at the Bicêtre during the last few years, demonstrates that tabes likewise does not have much influence on the length of life. They mention that these subjects exhibited no other indications of syphilis, aside from their tabes, sufficiently serious to shorten life. Among 20 blind tabetics 50 per cent. were more than 60 years old at the time of death and 17 were over 50. In the total 66 more than 83 per cent. were over 50 and 51.5 per cent. more than 60. The 7 who died under the age of 45 succumbed to an intercurrent disease or committed suicide. Of the 58 tabetics at present in the hospital more than 43 per cent. are over 55 and nearly 69 per cent. are over 50. The rapidly fatal form of tabes sometimes observed is probably in most cases merely general paralysis with the tabetic symptoms predominant, that is, an acute or subacute general taboparalysis. When tabes reaches a certain stage it seems to become stationary, and long survival in this phase is possible and probable.

35. **Medical Instruction in the United States.**—Munch compares the requirements for admission to our medical colleges and other details with those prevailing in Europe. He states that only one of the 154 medical schools in this country regards the clinic as of sufficient importance to impose a hospital course on the students. This same school is the only one in which the requirements for admission are approximately equivalent to the requirements of a French medical school. It is also the only one in which the number of students is kept down, and it thus answers the purpose of a hotbed for producing professors and scientists. As a rule, he remarks, the practical side of medical instruction here is always sacrificed to the theoretic side. The clinical side is absolutely neglected. He comments on the shortness of the terms, especially when the lack of previous training of the students is considered. Aside from a few schools which are an honor to the country and which may well bear comparison with similar establishments in the old world, there are too many others whose disappearance would add to the success and credit of the country.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 1054.

37 (LXXI, No. 1.) Origin of Inflammatory Foci in Bones and Their Relation to Ramifications of Arteries in the Bones. Lexer (von Bergmann's clinic, Berlin).—Die Entstehung entzündlicher Knochenherde und ihre Beziehung zu den Arterienverzweigungen der Knochen.

38 Experiences in Operating on Incarcerated Hernia. Weyprecht (Körte's clinic, Berlin).—Erfahrungen über die Operation des eingeklemmten Bruches.

39 *Successful *X*-ray Treatment of Sarcoma in Skull.—Krogius (Helsingfors).—Ueber einen mit Roentgenstrahlen erfolgreich behandelten Fall von Schädelsarkom.

40 *Subcutaneous Rupture of Biliary Passages. Lewerenz (Stettin).—Ueber die subkutanen Rupturen der Gallenwege traumatischen Ursprungs, nebst einem kasuistischen Beitrag.

41 *Zur Kasuistik der akuten Darm-Invaginationen. Barker (London).

42 *Antiseptic Dressings for Wounds. Noetzel (Frankfurt a. M.).—Experimentelle Studie zum antiseptischen Wundverband.

43 Experimentelle Untersuchungen und Erfahrungen über Leitungsanesthesie (Anesthesia by Conduction). Braun (Leipsic).

44 Zur Resektion des Thorax bei veralteten und tuberkulösen Total-Empyem. Ringel (Hamburg).

45 *Die Kardiolysis und ihre Indikationen. Brauer (Heidelberg).

46 Entstehung der Hygrome. Langemak (Rostock).

39. **X-Ray Treatment of Sarcoma in Skull.**—The tumor was the second recurrence of a large round-celled sarcoma of the occiput with metastatic nodules in the frontal bone. Under the *x*-rays all the lesions vanished in the course of two months and the patient has been cured to date, four months since. A hard tube was used, at a distance of 15 to 20 cm., the daily sittings ten minutes each. The hair fell out, but has grown again; no other by-effects were observed.

40. **Rupture of Biliary Passages.**—A boy between 2 and 3 years old was run over by a wagon and was brought to the clinic three weeks later with slight icterus, ascites and clay stools. Puncture allowed the escape of nearly three quarts of a bile-stained fluid. An operation was undertaken seven weeks later and revealed fibrinous peritonitis with numerous adhesions. The hole in the biliary passages was not discovered, but complete cure followed the establishment of an anastomosis between the gall bladder and duodenum. Lewerentz reviews 60 similar cases that have been published. When the bile escapes into the abdominal cavity in large quantities a fatal termination is inevitable partly on account of absorption of the constituents of the bile and partly from the loss of this important factor in digestion.

41. **Acute Invagination.**—Barker has operated on 25 cases and has had 7 deaths. He never attempts to correct the invagination by high injections, except in the very earliest stages. The invagination should never be reduced by traction on the invaginatum but only by pressure on the peripheral end, squeezing the intussusceptum out of its sheath.

42. **Antiseptic Dressings.**—Noetzel's experimental research indicates that the secretions of a wound are drawn up into a moist dressing better than into a dry one. Virulent anthrax bacilli placed on an artificial wound in rabbits were absorbed into these dressings and infection of the animals was prevented. Both the moist and the dry proved equally effective in this respect, but the germs were drawn up into the outer layers of the moist gauze while they were found only in the layers closest to the wound in the dry dressings.

45. **Indications for Cardiolysis.**—By this term Brauer means the freeing of the heart from rigid fixation by chronic mediastino-pericarditis. As persons in this condition are unable to bear a major operation with the necessary narcosis, he recommends removal of the bony wall over the heart, which frees the heart to a great measure. He has thus operated on two patients and the working capacity has been restored in each; the cyanosis, congestion of the liver and ascites have vanished, and the myocarditis has been improved, although not cured. The symptoms of chronic mediastino-pericarditis include congestions, progressive cardiac insufficiency, diastolic heart beat, etc., and the pulse curve is also characteristic, as he explains in detail. The most important of these symptoms, the insufficiency of the heart, is relieved by removal of the rigid chest wall to which the heart becomes more or less fastened by adhesions.

Berliner Klinische Wochenschrift.

Last indexed page 887.

47 (No. 35.) *Indications for Premature Delivery in Hyperemesis and Heart Disease. O. Tuszkal.—Ueber Indikation der Einleitung der Geburt bei Hyperemese und Cardiopathie.

48 *Ueber Cytodiagnostik. B. C. Schwarz and J. Bronstein. (Concluded.)

49 (No. 36.) *Oatmeal in Severe Diabetes. C. v. Noorden (Frankfurt).—Ueber Haferkuren bei schwerem Diabetes mellitus.

50 Origin and Composition of Alexins. R. Turro (Barcelona).—Ursprung und Beschaffenheit der Alexine.

51 Disturbances of Gait in Tetany. S. Kalischer.—Ueber Gangstörungen bei Tetanie.

52 Ueber das psychische und somatische Verhalten der Pygopagen Rosa und Josefa ("der böhmischen Schwestern"). R. Henneberg and H. Stelzner (Berlin). (Concluded.)

53 (No. 37.) *Fever and Elimination of Sugar. P. F. Richter.—Fieber und Zuckerausscheidung.

54 *Zur Pathogenese der Lungen-Tuberkulose. F. Welemínsky (Prague).

55 *Zur nasalen Dysmenorrhoe. E. Opitz (Berlin).

56 Toxic Components of Diphtheria Toxin. P. Ehrlich.—Ueber die Giftkomponenten der D.-Toxin. (Commenced in No. 35.)

57 *Hot Air in Treatment of Ear and Nose Affections. Warnecke (Hanover).—Zur Warmluftbehandlung von Ohr und Nase.

58 (No. 38.) *Ueber hysterische Autosuggestion der Kinder (of children). C. A. Ewald.

59 *Sensitive Iodin Tests. E. Rogovin.—Ueber die Empfindlichkeit der Iodproben.

60 *Action of Bile on Heart and Origin of Slow Pulse in Icterus. K. Brandenburg.—Ueber die Wirkung der Galle auf das Herz und die Entstehung der Pulsverlangsamung beim Ikterus.

61 *Vegetable Foods and Beverages in Case of Gout and Nephritis. J. W. Hall (Stockholm).—Vegetabilische Nahrung und Getränke bei Gicht und Nephritis.

62 *Sanoform as Substitute for Iodoform. G. Bamberg (Berlin.)—Sanoform als Ersatzmittel des Iodoforms.

63 Importance of Hypnosis as a Therapeutic Measure. H. Delius.—Die Hypnose in ihrer Bedeutung als Heilmittel. (Concluded.)

47. **Indications for Premature Delivery in Heart Disease and Hyperemesis.**—Tuszkai points out that many cases of the latter are due to hysteria, auto-intoxication, etc., and that interruption of the pregnancy would not remove the cause. He attributes essential hyperemesis to irritation of the perimetrium, and believes in terminating the pregnancy as a last resort after failure of all other measures, including opium, and progressing inanition is becoming a serious menace. Premature delivery is seldom necessary in case of a cardiac defect. The only indications for it are the early appearance of signs of disturbance of the compensation, especially irregularities in the pulse indicating increasing dilatation of the heart. He calls special attention from this standpoint to the lack of the normal difference between the pulse of the reclining and erect subject, and the exaggeration of this difference later as the pregnancy advances. He regards this as a valuable sign of incipient failure of compensation.

48. **Cytodiagnosis.**—Schwarz and Bronstein report trials of this diagnostic measure which have failed to demonstrate that it has much, if any, utility.

49. **Importance of Oatmeal in Diabetes.**—The oatmeal course of treatment outlined by von Noorden consists in daily ingestion of 250 gm. of oatmeal or rolled oats thoroughly cooked with 300 gm. of butter and 100 gm. albumin. The

last-mentioned may be in the form of a vegetable albumin cooked with the oatmeal, or the white of an egg may be added after it is partially cooled. The porridge thus made is taken at two-hour intervals. His experience with a hundred cases shows it is possible on this diet to partially or completely banish the sugar from the urine and likewise the acetone bodies. It is contraindicated in mild cases without diaceturia, as the oatmeal is not tolerated by such subjects. No theory has yet been advanced to explain the facts observed in regard to the benefits from a change to oatmeal in severe cases except that it may possibly be due to a difference in the kind of starch. They confirm the necessity for individualizing treatment in diabetes. He has been testing this oatmeal diet for more than a year and gives in tabulated form 5 typical cases illustrating the effects as observed in various groups. He allows at the same time a little brandy or wine and a little strong black coffee. The oatmeal he uses is Knorr's *Hafermehl* or the Hohenlohe *Haferflocken*. The first case is that of a young man, 18 years old, who had presented symptoms of diabetes for six months. Notwithstanding strict adherence to the usual antidiabetic diet he averaged from 20 to 96 gm. of sugar a day, with 1.5 to 2 gm. acetone and 1.5 to 3 gm. ammonia. These proportions were progressively increasing and a change was made to the oatmeal diet. The acetone vanished by the third day and the sugar dropped from 50.9 gm. to zero in a week. Von Noorden has had 10 cases of this type. After two months of the oatmeal diet, varied occasionally with a little bacon, eggs or vegetables, he was dismissed, with orders to keep to a modified form of this diet: For breakfast, tea or coffee, with cream, and 2 eggs; for early lunch, 20 gm. of oatmeal cooked with 30 gm. butter, 50 gm. bacon and 2 yolks of eggs. For the midday meal, 120 gm. meat, abundance of green vegetables and a salad, 50 gm. potato, 25 gm. cheese and coffee with cream. For the fourth meal, tea with cream and 2 yolks, and for supper, 80 gm. meat, green vegetables in abundance with an oil salad, 50 gm. potato, 25 gm. cheese, and butter. Every day a Rademann *Luftbrod* (aërated bread made from gluten free from carbohydrates) and 100 gm. of a "desugared fruit preserve," *entzuckertes Obst*. Every fifth day a "vegetable day" is interposed. Three-fourths of a bottle of light wine is also allowed daily. On this diet the patient's urine has been completely free from sugar since last April. Case 2 was a patient with diabetes for ten years, and the oatmeal diet restored the balance of toleration which had been lost for a time, as shown by increasing weakness, etc. It reduced the sugar from 131.8 to about 30 gm. and also reduced the acetone. In three weeks the patient was restored to his regular balance of toleration and has been in comparatively good health since. In a third group, the interposition of the oatmeal diet evidently warded off impending coma. In the typical case described the sugar was completely banished after it had reached 110.7 gm. a day, and the patient gained in weight on the oatmeal. In the fourth group of cases the oatmeal aggravated the condition. In the typical case tabulated the patient was a man of 27 who had shown signs of diabetes for more than two years, the first symptoms noted after a fall on the back of the head. When he entered the clinic the sugar ranged from 75 to 123 gm. and the oatmeal diet proved less effectual in reducing the sugar than the ordinary diabetic diet, and the acetone increased. In the fifth group the typical case was that of a man of 33 with 57.7 to 98.8 gm. sugar. On a strict diabetic diet the sugar had been banished from the urine, but it returned in nearly as large proportions as at first when an oatmeal diet was instituted. The effect on the sugar in the urine is never so pronounced with Winternitz's milk and Mosse's potato diet as is obtained in appropriate cases with the oatmeal.

53. **Fever and Glycosuria.**—Richter induced glycosuria in animals with adrenalin and then raised the temperature by irritation of the corpus striatum, without modifying the glycosuria. The elimination of sugar induced by the adrenalin was not affected by the subsequent high temperature. On the other hand, there was no glycosuria when fever was induced by injection of streptococci with subsequent administration of adrenalin. He assumes that the bacteria use up the sugar in the blood. This would explain the increased tolerance to sugar in alimentary glycosuria and diabetes during febrile affections.

54. **Pathogenesis of Pulmonary Tuberculosis.**—Weleminsky infected a number of animals with tuberculosis by way of the alimentary canal. He found that a number subsequently developed pulmonary tuberculosis, showing that the infection must have reached the lungs by way of the submaxillary and bronchial glands into the blood and thence to the lungs. The germs settle in the lungs, as they meet less resistance here.

55. **Nasal Relation of Dysmenorrhea.**—Opitz accepts the possibility that the uterus may be influenced by way of the nose. This assumption is sustained by the close connection between the sense of smell in animals and the sexual activity, which in the female probably leads to contractions of the uterus from stimulation of the olfactory nerves. Something similar possibly occurs likewise in human females. As dysmenorrhea in many cases is due to abnormally vigorous or abnormally perceived contractions of the uterus, it may be considered in many cases a reflex neurosis, and as such may be amenable to treatment through the genital points in the nose. His clinical experience sustains this assumption. It certainly affords the practitioner another weapon for combating dysmenorrhea.

57. **Hot-Air Treatment of Ear and Nose Affections.**—Warnecke uses an apparatus of his own devising, which is described and illustrated in this communication. He has found the hot air extremely useful after operations, also for empyema of the antrum of Highmore and in chronic otitis media.

58. **Hysteric Autosuggestion in Children.**—Ewald describes 3 cases in boys from 7 to 9 years old in which the hysteria was not pronounced. Removal to another environment or a sham operation cured the condition. The autosuggestion involved the abdominal organs in each instance and simulated a foreign body and appendicitis. The third child vomited and regurgitated constantly.

59. **Comparative Sensitiveness of the Iodin Tests.**—Rogovin has been testing the various reactions that have been published. He found that it was possible to detect the iodin in the urine even after ingestion of as small an amount as .005 gm. of potassium iodid. The Harnack reactions proved much more sensitive than any others. The Sandland test is also reliable, but Jolles' and the others failed when the proportions were small. He gives the technic of the various tests in detail.

60. **Action of Bile on the Heart.**—Brandenburg found that even a very small amount of bile injected into the circulation of frogs and dogs had an irritating effect on the sensory innervation of the heart and induced reflex irritation of the vagus with transient enfeeblement of the contractions of the auricles and slowing of the heart beat. This occurred in the experiments on animals much sooner than in icterus in man. Reflex irritation of the vagus seems to be an important factor in the development of the disturbances in the circulation observed in icterus. Its effect is supplemented by injury of the cells of the myocardium at the mouths of the large heart veins.

61. **Vegetable Foods and Drinks in Respect to Gout and Nephritis.**—Hall calls attention to the large proportion of the purin nitrogen which is contained in oatmeal, beans, peas, asparagus and onions, also in beer and ale. These articles of diet and these beverages should, therefore, be prohibited or restricted in gout and nephritis.

62. **Sanoform as Substitute for Iodoform.**—Bamberg has used sanoform in 225 cases, mostly gynecologic, and has been much pleased with this odorless combination of iodin and salicylic acid. It does not seem to have any direct bactericidal power and its therapeutic action is due to the liberation of the iodin and salicylic acid. He is now using it exclusively in the place of iodoform.

Deutsches Archiv f. klinische Medizin, Berlin.

Last indexed page 1237.

64 (LXXVII, Nos. 3-4.) *Ueber Leukanämie. H. Luce (Hamburg).

65 *Das Westphalsche Phänomen bei kruppöser Pneumonie im Kindesalter. H. Roeder.
66 *The Muscular Disturbances in Thomsen's Disease. P. Jensen.—Zur Analyse der Muskelstörung bei der T. Krankheit.
67 Zur Klinik und Pathologie der Biermerschen progressive Anämie. E. Bloch.
68 *Antiperistalsis in Stomach. E. Rautenberg.—Ueber antiperistaltische Bewegungen. im Magen.
69 *Behavior of Eosinophiles in Various Diseases. P. Reckzeh.—Das Verhalten der weissen Blutkörperchen, besonders der eosinophilen Zellen, bei einigen Erkrankungen der Haut, des Blutes und bei Infektionskrankheiten.
70 *Blood Pressure During Exercise in Health and in Heart Disease. O. Moritz (St. Petersburg).—Der Blutdruck bei Körperarbeit gesunder und herzkranker Individuen.
71 *New Theory of Circulation and Suggestions for Treatment Based Thereon. K. Hasebroek (Hamburg).—Versuch einer Theorie der gymnastischen Therapie der Zirkulations-Störungen auf Grund einer neuen Darstellung des Kreislaufs.

64. **Leukanemia.**—Luce applies this name to the rare blood affections characterized by the combination of the blood findings of pernicious anemia with those of lymphatic leukemia. In a case recently observed a woman, 40 years old, presented an acute angina followed by the gradual development of a hemorrhagic diathesis with hemorrhages into the retina, morbid heart sounds, and enlargement of the glands in the neck, the liver and spleen, proceeding to a fatal termination in six months. He regards the case as merely one form of the morphologic manifestations with which the blood-forming apparatus responds to a series of injurious influences. It is introduced by some lymphadenoid or myeloid metaplasia of the bone marrow of unknown etiology. The pernicious anemia is, therefore, myelogenic and not hematogenic in this leukanemia.

65. **Westphal's Sign in Croupous Pneumonia in Children.**—Roeder denies that the knee-jerk has any significance for either diagnosis or prognosis in croupous pneumonia.

66. **The Muscle Troubles in Thomsen's Disease.**—Jensen states that comparison of the muscle curve obtained with the Mosso ergograph in health and in myotonia congenita shows that the primary contraction occurs much more slowly in the latter. Instead of the normal 2 seconds, 8 are required for the contraction of the myoclonic muscle. He is inclined to attribute this and the other peculiarities observed to some anomaly in the muscle itself, possibly in the terminal ramifications of the motor nerves in the muscle. It is probably some nutritional disturbance in the assimilation of the contractile muscle fibers or sarcoplasma and defective disassimilation. He found in his experience with a case of this disease carefully studied that thyroid tablets and injection of orchitic extract induced a temporary improvement. He also imagined that benefit was derived from inhalation of oxygen, which he gave on account of its efficacy in promoting metabolic processes in general. The results observed justify further trials of oxygen.

68. **Antiperistalsis in Stomach.**—In 2 cases of gastric tumors Rautenberg noticed marked antiperistaltic movements in the stomach.

69. **Eosinophiles in Various Diseases.**—Reckzeh's investigations of 70 subjects showed that in scarlet fever the eosinophiles range from 0 to 23 per cent. of the white corpuscles; in measles from 0 to 5 per cent. None were to be found in erysipelas. In diphtheria the number corresponded to the normal figure. In leukemia there was a moderate increase; in pernicious anemia they were absent. In mercurial dermatitis the eosinophilia commenced at the point of irritation, but became general later.

70. **Blood Pressure During Exercise.**—Moritz remarks that a very slight increase in blood pressure during hard exercise indicates some severe functional heart trouble. In case of slight valvular defect the blood pressure may behave normally during exercise, but with serious valvular defect it varies as in case of myodegeneration, that is, the blood pressure is increased during the exercise, but never reaches the normal height, and is liable to drop even during the muscular exertion; afterward it returns to normal much more slowly than in health. The amount of disturbance in the circulation and the condition of the heart muscle are of greater importance from this point of view than the kind of the valvular affection. In health the Riva-Rocci apparatus shows that the blood pressure does not rise during mild exercise, but during vigorous muscular exertion it rises with the exercise, remains at a regular height and subsides to normal at the close. The more will power and exertion required for the exercise and to maintain it in spite of augmenting fatigue, the higher the blood pressure. In case of heart disease the blood pressure may fall below normal after the conclusion of the exercise, showing the fatigue of the heart. These statements are the results of tests according to Dehio's method on 6 healthy subjects, and on 23 with heart disease.

71. **Treatment on New Basis of Circulatory Disturbances.**—The favorable action observed under certain circumstances from therapeutic gymnastics in cardiac and valvular affections, is explained by Hasebroek on the basis of a new theory which he tentatively proclaims. The theory of the circulation as the result of the difference of pressure between the arteries and veins induced by the constantly recurring action of the heart, does not explain all the phenomena observed. He thinks that we can assume a further propulsive energy at the periphery independent of that in the heart. The periphery represents another, second, independent pumping apparatus, coupled with that of the heart. The periphery has not only its elastic contraction and expansion, but also its active diastole and systole in the arteries. This diastolic-systolic activity is manifested in the capillaries as a sucking in, an inspiration, while in the arteries it is more of a propulsive energy. Both these forces combine to compel an independent and vigorous flowing through of the blood stream into the veins. The latter are passive, serving as a passive reservoir for the blood stream, and thus the venous system is able to adapt itself at all times to the varying activity of the organs at either end. This peripheral diastolic-systolic, independent, propulsive apparatus may become impaired and entail various disturbances in the circulation. The heart by redoubling its efforts may compensate for a time the lessened activity of the peripheral apparatus, or the latter may compensate for deficient heart action. The beneficial effects of therapeutic gymnastics are restricted to those cases of circulatory disturbances in which the heart is still sound and the trouble is due only to some disorder in the peripheral pumping apparatus. If the heart muscle is already affected, benefit can be attained only when it is possible to stimulate the vitality of the peripheral tissue and by functional exercise of its vessels to exert a favorable influence on this independent peripheral circulation. When both heart and periphery are affected, no benefit can be derived from such exercises. The assumption that exercise strengthens the heart muscle is a mistaken one. The vitality of the heart is increased by sparing it unnecessary exertion, and by inducing compensation on the part of the independent propulsive force at the periphery. Therapeutic exercises are an important prophylactic measure in the early stages of chronic disturbances in the circulation and in well-compensated valvular defects. They prevent or retard the progress or inception of the vicious circle in the circulation, that is, the chain of sluggish current, increased resistance and diminished volume of blood sent forth at each beat, entailing a still more sluggish current, etc.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

72 (XXIX, No. 44.) *Fatty Degeneration. H. Ribbert (Göttingen).—Zur Morphologie und Chemie der fettigen Degeneration.
73 Ueber Herz-Bigeminie und Hemisystolie. F. Riegel (Giessen).
74 *Fragmentation of Feces. P. Grützner (Tübingen).—Ueber die Zerkleinerung menschlicher Fäces.
75 *Ueber die Excochleatio Prostatæ. Riedel (Jena).
76 Idiopathischer Priapismus, 9 Tage peristirend. Mainzer.
77 *Rapid Hardening and Embedding. A. Stein (Heidelberg).—Ueber Schnellhärtung und Schnelleinbettung.
78 By-effects of Mesotan. B. Aronsohn.—Unangenehme Nebenwirkungen des Mesotan.
79 *Zur Behandlung der Obstipation im Säuglingsalter (In infants). Clamann.
80 The Defects in the Darwinian Theory. A. Fleischmann (Erlangen).—Die Fehler der Darwin'schen Theorie.
81 Life Insurance Formulas. O. Schellong (Königsberg).—Die Formuläre der Lebensversicherungsgesellschaften.

72. **Fatty Degeneration.**—Ribbert argues to prove that fatty degeneration is essentially in all cases an infiltration of fat into previously injured cells. Fat enters into normal cells

and accumulates as deposits of fat, forming the adipose tissue. When it enters into pathologic cells we have fatty degeneration. The two processes may thus be regarded as a physiologic and a pathologic fatty infiltration.

74. **Fragmentation of Feces.**—Grützner has found that feces may be readily broken up if alcohol is poured over them. He uses an ordinary egg beater, the kind made with the wire wound in a spiral cone, the handle fastened to the tip of the cone.

75. **Intracapsular Resection of the Prostate.**—Riedel relates the details of 5 cases treated by excochleatio prostatæ. One patient had been using the catheter for two years. He was able to urinate spontaneously the evening after the intervention. As his bladder was sound and the urine had not putrefied, the benefit derived has been permanent. In another case the prostate was located at an unusual height and the bladder presented a diverticulum so large that it might be considered a supernumerary bladder. This anomaly was not discovered at the first operation, when the prostate was shelled out, and the patient did not survive the second operation, the obliteration of the diverticulum. He was a man of 61, a consumptive with contracted kidney, and his urinary disturbances were of three years' standing. The removal of the prostate restored spontaneous urination for several months, until the bladder became insufficient. The 2 other cases were successful, although the urethra was injured in each. Riedel's experience demonstrates that the operation should be undertaken while the bladder is still sound. When it is insufficient, the residual urine will collect and putrefy, and the patient's condition be actually aggravated, as before the intervention the residual urine had been evacuated with the catheter, which after the operation is discarded. He would be inclined to recommend the operation to younger men, even if he found it necessary to repeat it later on account of renewed growth of the prostate. He works through an incision curving from one tuber ischii to the other, a short distance in front of the anus, with a longitudinal incision to the scrotum.

77. **Rapid Hardening and Embedding.**—In brief, the modification of the Lubarsch method described consists in 5 minutes in 10 per cent. formalin; 5 minutes in 95 per cent. alcohol; 10 minutes in absolute alcohol changed once; 15 to 20 minutes in anilin oil until entirely transparent. During these maneuvers the specimen is kept in the incubator at 50 to 52 C. The temperature of the incubator is then increased to 58 or 60 C., and the specimen is placed in xylol for about 15 minutes, changing the fluid two or three times, and lastly in paraffin for 10 to 30 minutes. The entire procedure is complete in 75 to 90 minutes. It is applicable only to sections not more than 3 mm. thick. Specimens thus prepared eighteen months ago are still in perfect preservation. Gutmann and Stein both commend this method as preferable to all others for rapid, exact diagnosis from curettings, etc.

79. **Mechanical Treatment of Infants' Obstipation.**—Clamann introduces an oiled, medium-sized, Nélaton catheter into the rectum as the infant lies on his back. He works it in for 15 cm. or more and twists it gently to induce reflex expulsive action on the part of the intestines. This "oil catheter" has never failed him in several years' experience with it.

Münchener Med. Wochenschrift, Munich.

82 (L. No. 43.) Granular Synthesis of Fat in Migrating and Pus Cells. J. Arnold (Heidelberg).—Ueber granuläre Fettsynthese in Wanderzellen und Elterzellen.

83 *Hitherto Unknown Effect of Roentgen Rays on the Animal Organism. Albers-Schönberg.—Ueber eine bisher unbekannte Wirkung der Röntgenstrahlen auf den Organismus der Tiere.

84 Essence and Etiology of Contracted Kidney and Successful Treatment. P. Edel (v. Leube's clinic, Würzburg).—Ueber Wesen und Aetiologie der Schrumpfniere und ihre erfolgsprechende Behandlung.

85 *First Case of Successful Ligation of Hepatic Artery on Account of Aneurism. H. Kehr (Halberstadt).—Der erste Fall von erfolgreicher Unterbindung der Art. hepatica propria wegen Aneurysma.

86 *Tuberculin in Diagnosis. T. Grünenwald (Tübingen).—Ueber die Anwendung des alten Koch'schen Tuberkulins zur Erkennung der Lungentuberkulose.

87 Value of Tuberculin Diagnostics for Sanatoria. M. Pickert (Beelitz).—Ueber den Wert der Tub.-Diagnostik für die Lungenheilstätten.

88 Ueber Tuberkulin- und Heilstätten-Behandlung Lungenkranker. W. Freymuth (Breslau).

89 *Die Streptokokken-Serum-Behandlung der Tuberkulose-Mischinfektion. Menzer (Senator's clinic, Berlin).

90 Ship Sanatoria. G. Baer.—Beitrag zur Heilstättenfrage. Ueber "Schiffsanatorien."

91 Ueber Coltus-Verletzungen. T. Wertheimber (Nuremberg).

92 Zur Behandlung des Abortus. O. Knelse (Halle).

83. **Sterility and X-Rays.**—Albers-Schönberg reports experiments on animals showing that *x*-raying produces in them a marked inability to reproduce, whether transient or permanent is yet to be determined, and this without any decided interference with the general state of health. The consequences of the rays, sterility, is by the killing of the spermatozoa, which soon reaches the point of complete azoöspermia. He experimented effectually on 5 rabbits and 6 guinea-pigs with from 377 to 518 minutes of *x*-ray application in different cases. Exposure of 195 minutes did not produce a complete effect.

85. **Aneurism of the Hepatic Artery.**—In the case reported by Kehr there was an aneurism of the right branch of the hepatic artery which necrosed and connected with the cystic duct. The artery was tied with double ligatures and severed between them immediately below the bifurcation, and the aneurism, the size of a goose egg, was exposed and cleared out. Tamponade was applied without drainage. The stomach was found to be sound and no other lesions were discovered. The patient made a good recovery. A careful watch was kept during the first forty-eight hours for signs of liver necrosis but it did not appear. He remarks in regard to such cases that symptoms of gastric or intestinal bleeding with colic and icterus together, should lead to a suspicion of the possibility of aneurism of the hepatic artery.

86. **Tuberculin Diagnosis.**—Grünenwald believes that the diagnostic use of tuberculin is without danger, and gives the results of his own experiments. He used the old tuberculin of Koch, and employed about 1 mg. in the beginning, later increasing to larger doses in some cases where reaction was not prompt. The injections were made between the shoulder blades. In the 117 cases, 89, that is, 76 per cent. gave a positive reaction; 28, or 23.9 per cent., a dubious or negative reaction. In 103 cases presenting pronounced or suspicious symptoms of pulmonary tuberculosis, 88, that is, 85.4 per cent., gave a positive reaction; 7, or 6.8 per cent. dubious, and 8, or 7.8 per cent. negative. Out of 8 patients with bronchitis associated with chronic pneumonia and bronchiectasis, 2 reacted positively and 6 negatively. In 6 pleuritic cases, 2 gave a positive reaction and 4 a negative. The occurrence of these negative reactions in patients who exhibit decidedly marked symptoms of tuberculosis is remarked on, and it is admitted that there is much yet to be studied in regard to the working of tuberculin in this regard, though its value is not questioned.

89. **Streptococcus Serum Treatment of Mixed Tuberculosis Infection.**—Menzer has used antistreptococcus serum in 11 cases of Turban's first stage of tuberculosis. Of these, 8 recovered with an average increase of weight of 12 pounds in 3.2 months; 3 were perceptibly improved with an average increase in weight of 5 pounds in 1.4 months. In 3 cases in the second stage, 1 recovered with 10 pounds increase of weight in 3 months. One was perceptibly improved in the same time with a still greater increase of weight and one also improved in less than 2 months with a slight increase. Five cases in the third stage were perceptibly improved, and 3 were not. Recovery, as here understood, is a disappearance of all catarrhal phenomena, with still slight apical dullness and alteration of the respiratory sounds. The maximum of serum injected was about 5 c.c. in the first stage; the injections were made ordinarily in the upper thigh. He began with .5 c.c. and gradually increased the dose up to the above limit.

Therapeutische Monatshefte, Berlin.

Last indexed page 1308.

93 (XVI. No. 8.) *Choice of Method for Treating Retroflexion with Special Regard to the Subjective Disturbances. Winternitz.—Die Wahl der Behandlungsmethoden bei Retroflexio uteri unter bes. Berücksichtigung der subjektiven Beschwerden.

94 *Albumin Diet. P. Bernbach.—Natürliches Eiweiss und Eiweiss-präparate in der Krankenernährung: Eiweissdiät.
95 *Treatment of Fatigue Insufficiency of the Brain. L. Fürst. —Ueber Ernährungs- und Funktionsinsuffizienz des Gehirns.
96 Fall von hysterischer Blindheit durch hypnotische Suggestion dauernd geheilt. A. Crzellitzer.
97 Saline Baths at Inowrazlaw. Bergel.—Das Solbad I.
98 Zur therapeutischen Wirkung der Bier-Hefe (yeast). Goliner.

93. **Treatment of Retroflexion.**—Winternitz thinks that movable retroflexion without complications in nulliparæ does not cause any special nervous disturbances, and consequently does not call for treatment. If nervous disturbances are noted in child-bearing women, such as are especially liable after forceps deliveries, and also in case of complicating displacements of the vagina, a round ring pessary remedies the conditions better than any other. The symptoms will be improved to such an extent as to demonstrate in the latter case that the trouble was due to the sliding down of the vaginal walls rather than to the retroflexion.

94. **Albumin Diet.**—Bermbach is an earnest advocate of an abundant supply of albumin in all cases of myodegeneration of the heart, severe anemia, hysteria and stomach affections. He discusses various modes of providing the albumin, and expresses his preference for tropon or eucasin, two tablespoonfuls a day.

95. **Lecithin in Brain Fag.**—Fürst has witnessed most remarkable success from the administration of two lecithin pills three times a day in cases in which the brain was fatigued or exhausted from any cause. He thinks that we have in lecithin a most valuable agent for toning up the brain when suffering from overuse. It supplies the phosphorus in an active, organic form, and the entire metabolism soon shows the benefit derived. In six to eight weeks the brain becomes much clearer and more active. The favorable results of ingestion of eggs, milk, brain substance, spermin and cerebrin, are undoubtedly due to the large proportion of lecithin they contain.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed XL, page 478.

99 (XLVIII, No. 2.) *Structure and Histogenesis of Placenta Tumors. A. Dienst (Breslau).—Ueber den Bau und Histogenese der Plazentargeschwülste.
100 *Inoculation Metastases and Tardy Recurrence After Carcinoma Operations. R. Olshausen (Berlin.)—Ueber Impfmetastasen und Spätrezidive nach Karzinomoperationen.
101 *Study of Glands in 7 Cases of Uterine Carcinoma. F. Oehlecker (Berlin).—Drüsenuntersuchungen, etc.
102 Justification of Perforation of Living Child. M. Hofmeier (Würzburg).—Ueber die Berechtigung der Perforation des lebenden Kindes.
103 *Opposition to Drainage. R. Olshausen.—Wider die Drainage.
104 Spontaneous Vesico-Vaginal Fistula. G. Schmauch (Chicago). —Spontane Blasenscheidenfistel nach Total-Exstirpation des Uterus wegen Carcinom. Blasenblutungen und das Ulcus simplex vesicæ perforans.
105 Study of Mechanism of Birth. M. Henkel (Berlin).—Beitrag zur Lehre vom Geburtsmechanismus.
106 (No. 3.) Ueber Tumoren des Ligamentum rotundum uteri. R. Emanuel.
107 True and Simulated Tubal Pregnancy. C. Schambacher.—Ueber wahre und vorgetäuschte Tubarschwangerschaft.
108 Plastic Closure of Vesico-vaginal Fistula. O. Küstner.—Die plastische Verwendung der Portio supravaginalis zum Verschluss von Blasenscheidenfisteln.
109 *Zur klinischen Behandlung der entzündlichen Adnexerkrankungen (adnexitis). O. Nebesky.
110 Zur histologischen Diagnose des Abortes. E. Opitz.

99. **Tumors of Placenta.**—Dienst does not consider 3 of the 46 cases of tumors of the placenta on record as quite above criticism. He describes 2 personally observed, which brings the number of reliable cases to 45. All on record to date may be called choriomata, but there is both an angiomatous and fibrous variety. He attributes the origin to some congestion in the maternal organism.

100. **Inoculation Metastases.**—Olshausen has encountered 6 cases of metastases in the abdominal wall consecutive to ablation of a malignant tumor. They are always located on one side of the cicatrix. One proved to be an inoperable carcinoma, occurring two years after removal of a carcinomatout ovarian tumor; another developed likewise two years after bilateral ovariotomy, and another five years, and a fourth seven and one-half years afterward. In the other cases the carcinoma in the abdominal wall developed seventeen and twenty-one years after ovariotomy or extirpation of an ovarian tumor. He further reports 3 cases of tardy recurrence. In one a sarcoma recurred in the ovary four and a half years after ovariotomy. In another a carcinoma developed in the other ovary and uterus seven years after ovariotomy, and in the third, there was metastasis of a carcinoma twelve years after ablation of the primary growth. All these tumors developed in the vicinity of the cicatrix, and hence are undoubtedly due to inoculation during the operation, although the long latency of the particles of the carcinoma is very remarkable.

101. **Study of Glands in Case of Uterine Carcinoma.**—Oehlecker found microscopic metastases in some of the pelvic, lumbar or retroperitoneal glands in 2 out of 7 cases thus examined. No macroscopic evidences of cancerous degeneration were perceptible. He advocates removal of all the regional glands, irrespective of their size or consistency.

103. **Opposition to Drainage.**—Olshausen does not believe in drainage after gynecologic operations except those for paratyphlitic abscesses or suppuration in the broad ligaments or on the floor of the cul-de-sac. He drained in only 9 of his last 1,555 laparotomies. This series includes 113 cases of very extensive interventions in which subsequent sepsis would have been of the most serious import, and yet all progressed favorably without drainage. He regards it as more of a danger than a benefit, except for the conditions enumerated above.

109. **Clinical Treatment of Adnexitis.**—Amann is restricting more and more operative treatment of inflammatory processes in the adnexa in favor of expectant, conservative measures. He finds that persevering conservative treatment will in time restore the working capacity in nearly every case, mild or severe. The objective findings and complications are very rarely indications for operative treatment, but subjective troubles occasionally justify it after the failure of months of conservative treatment. Nebesky reviews 360 cases. The principles of conservative treatment are repose, good food and avoidance of possible sources of injury, supplemented by hydrotherapy and balneotherapy. Three to six months are generally necessary for a complete cure. A suspicion of the tubereulous nature of the process, however, always imposes speedy operation.

Riforma Medica, Palermo.

111 (XIX, No. 41.) La paraganglina Vassale nelle atonie gastro-enteriche. G. Manicardi (Modena).
112 Caso di carcinoma primario del pancreas con riproduzioni multiple ed embolismo cerebrale, seguito da necroscopia. G. Radice.
113 *Cura della rottura dell' uretra. F. Sorrentino.
114 (No. 42.) Behavior of Yellow Fever Bacillus in Peritoneum in Experimental Infection. G. Q. Ruata (Sanarelli's service. Bologna).—Il bacillo della febbre gialla nel peritoneo durante l'infezione sperimentale.
115 *Treatment of Varices by Circular Incision of Leg. U. Dall' Acqua.—Sulla cura delle varici e delle ulceri da varici mediante incisioni circulari della gamba.
116 *Sull ' infezione mista : tifosa e diplococcica. C. Quadrone and E. Cler (Turin). (Commenced in No. 41.)

113. **Rupture of Urethra.**—In the 2 cases described, Sorrentino incised the perineum and inserted an elastic catheter backward into the bladder, then bending it he was able to introduce the other end of the catheter into the peripheral stump of the ruptured urethra, the tip emerging from the external meatus. He then sutured the urethra and the wound in tiers, using catgut. The wounds healed by primary intention, and there has been no trace of disturbance since. He was careful not to include the mucosa of the urethra in the suture, and drained with a narrow strip of gauze for forty-eight hours, leaving the elastic catheter in the urethra for eight to ten days, changing it only once during this time.

115. **Circular Incision of Leg for Varicose Ulcers.**—Dall' Acqua aims to show by clinical experience, experimental research and theoretical reasoning that the results of this method of treating varices are far from good. The only benefits he derived were the temporary cessation of the pain and the rapid healing of the wound. The advantages claimed for it by its author, Moreschi, are not realized in practice, and recurrence is frequent afterward.

116. **Mixed Typhoid and Diplococcus Infection.**—In the 2 cases reported the Widal test was extremely marked.

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Address.

THE PROGRESS OF AMERICAN MEDICINE AND ITS RELATION TO PUBLIC AFFAIRS.*

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A brief allusion to history and to current medical literature is not without interest and instruction in the progress of medicine and surgery and their relation to public opinion and to the public service. In the determination of some such questions and matters we are forced to deal largely with the body politic. What the profession has done everywhere for the public good, and what it has accomplished even in our own country, may be in itself a sufficient answer to the political motives and aspersions, and the debauchery of science, in the name of humanity and personal rights, with which it has to contend and over which it ever has and will continue to triumph. In the cause of scientific truth and progress it is our duty to protect the people against their own ignorance and folly in matters of public health, as it is the duty of the state to make and enforce laws by appropriate legislation for the public weal. From the initiative of Mondini in human dissection in the fourteenth century to the more perfect establishment of it by the immortal Vesalius in the sixteenth, dates the beginning of the scientific study of medicine. This was the necessary fundamental step from that long period of priestcraft, sorcery and astrology, with here and there a spark of truth and light; the glowworm of the brighter day from the darker past. From that day to this, resplendent with new truths and benefits to humanity, the medical profession has contended with selfishness, ignorance and superstition in the discovery of new truths and in the enactment of every measure and law for the benefit of mankind, including every effort and measure for its own improvement, that it might the better meet the demands of humanity and a progressive civilization.

Jenner's discovery, and its application to the prevention of smallpox, has rendered the civilized world immune to its greatest plague, yet there are still anti-vaccination societies. Vivisection, generally painless, without which many of the most important truths of physiology would not be known or demonstrated, is still under the ban of much ignorance and prejudice. If these necessary acts were guided by liberal and beneficent laws, public illusions would more rapidly disappear, and "body-snatching" would only be a tradition.

One hundred years ago a distinguished English writer asked, "What does the world yet owe to an American physician or surgeon?" This is a partial answer: The first volume of medical transactions published in this country was in 1788. The first medical journal published was in 1820, and the use of American text-books was of a more recent date. Twitchell, New Hampshire, in 1805, was the first to ligate the common carotid and under most adverse conditions; Gibson, Maryland, the first to tie the common iliac; Valentine Mott the first to do it successfully (1827); Mott the first to tie the innominate, in 1818; amputated hip joint in 1824, and the first to amputate the entire clavicle, which was done in 1828, without anesthesia, of course, in four hours' time. Physick invented the tonsillotome, and was the first to apply rest in hip disease and in opposition to prevalent teaching. He was the inventor of absorbable ligatures and was a great lithotomist. In 1827, it is reported that he operated for stone on the venerable Chief Justice Marshall, who returned to his Virginia home on horseback in five weeks from date of operation.

Post and Rogers, New York, first ligated the subclavian in 1846. Deiderick, Tennessee, was the first to amputate the inferior maxilla, in 1810, and Jameson, Baltimore, the first to excise the superior maxilla, in 1820. Warren, Boston, was the first to extirpate the parotid, in 1804; Swift, Pennsylvania, the first to use extension in fractures; Harris, 1830, the first to excise the tongue; Knight, Connecticut, 1848, the first to use digital compression in the cure of aneurism; Walcott, Milwaukee, the first to perform nephrectomy, and Boggs, Indiana, cholecystotomy, while the original work of Christian Fenger will not be forgotten. The world pays its tribute to McDowell, the first ovariotomist. 1809. Joseph Pancoast was the first to operate for exstrophy of the bladder; Frank Hamilton the first to suggest skin-grafting, 1847; Bowditch, the author of thoracentesis, in 1850, and Warren of paracentesis. Professor Crosby of Dartmouth Medical College, 1838, was the first to amputate both clavicle and scapula, the interscapulothoracic amputation. Carnochan, 1858, was the first to resect the superior maxillary beyond Meckel's ganglion for neuralgia, and the recent Hartley-Krause operation on the gasserian ganglion is well known. Detmold was the first to trephine for brain abscess, in 1849. The great debt the modern world owes to the original work of Sims in gynecology needs only to be mentioned.

In intestinal surgery, the best methods of anastomosis, the Murphy button and the Connell suture being

* President's address at the twenty-third annual session of the Colorado State Medical Society, Denver, October, 1903. The introductory parts of the address relating to matters of local interest and the paragraphs concerning vital statistics, the examination of sight and hearing of school children, the appointment of a physician on the Interoceanic Canal Commission, the Tuberculosis Congress at Washington in 1905, and the organization of the National Auxiliary Committee on Medical Legislation are omitted in publication.

representatives of the class, and the more recent progressive work is chiefly by American surgeons; while we are the pioneers in appendiceal knowledge and operative work. Fitz wrote the first valuable paper on perforation of the appendix late in 1886, while the preliminary work of Barker and Sands fills an important place, and to an American surgeon belongs the honor of being the first to open the abdomen and remove the appendix, Jan. 4, 1885.

Morton of Boston was the first to publicly demonstrate ether anesthesia in 1846, but it is conceded that Crawford Long of Georgia first discovered and used it in a surgical operation in 1842.[1]

Notwithstanding the large number of public benefactors in the medical ranks, it has been a subject of comment and criticism that no portrait of a physician graces the "Hall of Fame," but we allude with professional pride and appreciation to the fact that of the two statues accorded to each state in Statuary Hall in the national capitol, Georgia recently selected, as one of the two, Crawford Long, the discoverer of anesthesia. This is the first and only state so far to justly pay a fitting tribute to a medical man for his contribution to the cause of humanity; for while vaccination has saved more lives, anesthesia has relieved more pain and suffering than any other discovery.

In American medicine we are not unmindful of the valuable original work of Gerhard, Dickinson, Parrish, Mitchell, Meigs and others, while to Oliver Wendell Holmes belongs the credit of establishing the infectious nature of puerperal fever. Dr. Nott and Dr. Charles Finlay were the first to claim that the mosquito was the bearer of the yellow-fever contagium, but the late lamented surgeon, Walter Reed, aided by Major Gorgas and Lieutenant Carroll of the medical department of the Army, in 1900 established the fact that a certain breed of mosquitoes was the inoculating agent. As a result, two striking facts are manifest in the short space of one year—one in Cuba, the gem of the West Indies, the other in Sierro Leone of West Africa, under English domination, and known, until these discoveries, as "the white man's grave." Now, with the simple application of drainage and petroleum to the stagnant, filth-breeding waters, the home of the plasmodia and mosquito, the two chief cities, Havana and Freetown, have been converted from pest-houses to pleasure resorts. One a menace to English civilization, the other to the health and commercial interests of our own country; now, under American medical investigation and the work of the Marine-Hospital Service, both safely opened to the industrial genius and commerce of the civilized world.

This is a brief and very imperfect summary of important original contributions of America to the progress of medicine and surgery, while the work of to-day excites the interest of the professional world and the pride of our own countrymen. Though the history of the "young republic" is brief, it is important and significant, and I fancy that no one would expose his ignorance by now asking, what has America done for medical knowledge and science?

But what of the future? The elder Gross, the Nestor of American surgery in his day, in his centennial address said: "It is doubtful if America will ever again produce at the same time four such brilliant surgeons as Physick, Mott, Warren and Dudley." In less than a quarter of a century from that time they were numbered by the scores. Observation, experience and history teach us how idle it is to indulge in prophecy as to the negative attainments of the human intellect. From the operation of laws and forces governing the past and the present, we have a reasonable basis for predicting the future. We know that the truths and acquirements of this generation are the natural endowments of the next. The ultimate fact or final reality beyond our ken is called the unknowable, but in presuming to place an absolute limit on mental capacity is itself an assumption of prescience that does not seem justifiable. "Unknown" is a better term, for it is constantly dispelled in the calcium light of a restless scientific age; though it does reveal the eternal truth that there are still "more things in heaven and earth than are dreamt of in our philosophy."

Many of the best surgeons believe that operative technic has now reached such a degree of perfection that there is little room for further improvement. In a general sense this is true. No modern surgeon now infects his patient, and in many respects it would be difficult to improve on present methods; but so long as we must adapt our procedures to new facts, improvement in technic will continue. For instance, it is only a short time since intestinal perforation occurring in 2 per cent. of typhoid cases was regarded as almost hopeless, and yet to-day from the first operative case by Mikulicz the percentage of recoveries is estimated at 25 per cent in adults and 65 per cent. in children. It is equally true that intestinal paralysis was looked on as the final stage of an abdominal disease, against which it was useless to contend; yet recent experience demonstrates that by aspiration or incision of the intestine and draining the canal, some, perhaps many, patients will be saved who certainly would have perished by ordinary methods. Our knowledge of pancreatic disease is recent. The surgery of the organ is necessarily limited, yet experience strongly indicates that its pathology is amenable chiefly to surgical procedures, and is but slightly influenced by medication. That the operative technic in these conditions will be improved there can be no doubt, as I am convinced will be the case in other diseased states whose pathology and treatment are not as yet well known. Still I believe that the professional mind of the immediate future will be occupied more with questions of preventive medicine and immunity—prevention by the formation of established medical opinion into rules and laws, and immunity through serum inoculation. Inoculation for smallpox was the beneficent beginning in 1798. The remedy for rabies, which we owe to the scientific genius of Pasteur, is the only treatment that bears good fruit, and it must be early. Since Behring produced diphtheria antitoxin in 1890, results have been revolutionized, and instead of fearing it as one of the most dreaded and fatal diseases, it is met in the confident belief, based on ample experience, that inoculation by antitoxin not only prevents, but its early use is practically a specific in the treatment of the disease. Experiments along this line to prevent typhoid fever are promising. Pneumococcic and antistreptococcic, cancer and antitetanus toxin medication are in a tentative state. The specific germs of all infectious diseases will yet be discovered; the remedy will follow, probably in serum therapy. Dun-

1. For many of the facts as to priority I am indebted to the address of Martin B. Tinker, M.D., before the Johns Hopkins Hospital Historical Club and to the American Journal of the Medical Sciences.

bar has, in the last year, demonstrated that the pollen of grasses and certain cereals is the active agent in the production of hay fever, and he has produced a serum which promises the most gratifying results in its treatment. We may hope, therefore, that in the not distant future these sufferers will not have to go to sea or climb mountain heights for relief.

With the exception of a very few diseases, we have no medical specifics, but in the future of medicine and in certain surgical states we have every reason to anticipate better results in serum inoculation.

In a brief allusion to medical education and preliminary requirements to its study, I do not intend to make invidious comparisons; but no man who is interested in his profession, its character and future, can be indifferent to the intense general interest manifested by the profession and educators at the present time. The subject, in all its phases, is most interestingly treated in the recent annual educational number[2] of The Journal of the American Medical Association, and in able addresses of physicians and educators, notably the address[3] of the President of the American Medical Association, Dr. Billings of Chicago, himself a distinguished physician and teacher. This is a plain, forceful discussion of the subject, specifically and generally, in its relation to the qualifications and motives of teachers, no less than of students, and ought to be read by all.

The Association of American Medical Colleges has recently made a high-school degree the minimum preliminary standard for medical study,[4] but as this standard varies in different communities, its value is somewhat uncertain, though it does indicate substantial progress. About one hundred of the one hundred and fifty medical schools in the United States are private. There was a time, not long ago, when the tuition of the students paid the salaries of the few teachers and the necessary expenses of these schools; but this is no longer possible in a modern school. The conditions are so different, the requirements and equipment necessarily so much more elaborate and expensive that the old era has passed away, and happily, not to return. Schools must be endowed by the individual or the state in order to meet the demand. The necessity and interests of the higher education in behalf of humanity and a more exalted professional standard should be the governing spirit and motive of those who receive, as well as those who give instruction. What shall be done to meet the recent just criticism of the long time required in getting a university or collegiate and professional education? One prominent college cuts the four years' course one year. Columbia proposes a two-year term, but it has not been accepted so far by any college. Four years in the high school, four years in the university or college and three in a law or four in a medical school is using too much time in preparation for practical business purposes. The high school and college courses are not as a rule taken seriously, and in the prevalent absence of a distinct purpose for the future, demoralization in spirit and in study and responsibility results, which further explains the idle talk that education unfits one for practical business. It would not be wise to curtail the medical course, neither is it necessary. Some of the universities propose, in the interest of medical students, to incorporate the fundamental branches of medicine in the junior and senior years, which would give two years only to the exclusive study of medicine, chiefly clinical, thus making the university and medical course six instead of eight years as at present. It is to be doubted if this is the best solution of the problem. There is a better and more practical way. In my opinion the high-school course should be cut two years. If not, any bright boy can take a preparatory course of two years and enter any college or university in America, where he may remain three or four years and enter, well equipped, on his professional studies. I believe it feasible and perfectly consistent with the future vocation of the student to cut the college or university course one, certainly, and possibly two years, thus enabling one, without a sacrifice of the classics, to get a splendid business and professional education in three or four years' less time than is required at present.

Medicine is a profession of peculiar responsibility, and requires great patience in study and preparation. No young man should wish to engage in its practice on his own responsibility under 25; but having clinical advantages, which is necessary to the best equipment, he may safely undertake it after. Johns Hopkins has the highest preliminary requirement of any medical school in the country—a bachelor's degree, with a certificate of proficiency in chemistry, physiology and physics. With this innovation a few years ago, other schools and some of its own friends predicted failure, thinking the standard too high; but under it we learn that 100 freshmen entered the school the past year. Its success was assured in a short time. There was never a substantial reform incident to human endeavor unattended with suspicion, incredulity and opposition. However costly, we know that the medical profession is ever stronger and better for them. Before seeking a medical education, it is important for the student to consider natural fitness, as well as inclination for the work; or some field of learning or labor will miss a brighter star and some man a better destiny, however seriously he may have struggled.

There are 27,000 medical students in the United States at the present time, and over 5,000 graduates annually, which, according to customary estimates, is 2,000 in excess of the requirements of population. Billings and other authorities assert that there are too many schools, too many matriculates and too many graduates. That these defects in our educational system will be corrected is manifest.

In a recent publication we find the interesting information, incident to the medical congress just held in Vienna, that in the Austrian Empire the number of medical students has decreased 60 per cent. in the last ten years, and young men are advised against the study of medicine, partly on account of the poverty of the country districts, which has forced all the best men into the cities, with consequent dissatisfaction due to overcrowding. The important fact is also mentioned that owing to sanitary and hygienic reforms instituted by the profession, the number of cases of sickness has diminished 50 per cent. in the last twenty years. This might be profitable reading for Colorado governors and aspiring statesmen interested in the organization of "medical trusts."

The laboratory, as the necessary foundation of scientific medicine and the instrument of its application to human ills, must ever fill a most conspicuous place in the medical curriculum. It was the laboratory and the scientific work of such men as Pasteur and Tyndall which appealed to the practical genius of a Lister and

2. The Journal A. M. A., Aug. 15, 1903.
3. Ibid., May 9, 1903.
4. Ibid., July 25, 1903, p. 274.

formed the basis of modern medicine and surgery. By such preparation and efforts, experimental and proved, the profession will rank second to none in scientific work and standing. More than ever a broad culture is justly deemed necessary to the best teaching and to the most accomplished work, both general and special.

The special knowledge and peculiar fitness of medical men for certain branches of the public service, both legislative and executive, is more than ever being recognized. The health of cities, communities, states and nation, food and water supply, and conditions of living are chiefly in their knowledge and keeping. Without their influence and action there can be no sound legislation affecting these interests. Without them disease would still ravage cities, schools, states and nation, and those engines of commerce and civilization, in peace and war, would turn back from every sea and every land. It must be admitted that where this influence is felt in the customs and laws of a people, there only will both health and business unite in safety, and social advancement and material prosperity reach the goal of a reasonable hope and a just expectation. The complete realization rests with the medical profession in unity of purpose and concentrated action. In Europe, if not in this country, physicians may aspire to be even statesmen. More than here they fill important offices in the suffrage of the people. Sir Frederick Treves, in the zenith of a brilliant surgical career, foregoes some of its responsibilities to enter parliament. Lister and Playfair have received its chief honors. In the present year eighteen medical men were elected to the French Senate and more were candidates. The list includes members of the French Academy of Medicine and such distinguished names as Cornil, Pozzi, Pèyrot and Jean Bayol.

We can not hope to pass good laws regulating the practice of medicine and conserving the public good without such effort on the part of the profession. Medical character, decent qualifications in those who practice and the public health demand positive and united action. No one who is fit to practice will object to it, and no enlightened citizen who respects knowledge and values character, can offer a reasonable objection. Yet we are treated to the humiliating spectacle of two governors of Colorado vetoing better laws than the one in force, and doing so practically in the direct interest of the most unadulterated charlatanism and in the spirit of that political Chauvinism, which, under the guise of personal liberty, is so often the cloak under which one hides ulterior motives and purposes; for that which is not for the good of the greatest number is usually not liberty but license. Only a Talleyrand can play this rôle successfully, and he would not employ the arts of the ward politician nor the sophistry of the demagogue. The pseudo Christian and scientist is one who, to my positive knowledge the past year (and he is representative of the class), is taken to the pesthouse and treated for smallpox, yet on returning denies positively that he has been sick. If such people are fit to make laws and to advise governors as to their duty in such matters, then, indeed, ought taxation for educational purposes to be abolished, for if ignorance is to be thus commended, we should have no use for schools and universities. But as a fact, from the office of bootblack to that of President of the United States a different rule prevails, except as to the study of medicine and the qualifications of a doctor in Colorado. If years of preparation, study and labor do not the better fit one for certain special work, then there is no virtue in knowledge, nor in the best and most humane endeavors. If utter ignorance of even the fundamentals of medicine, and the cyclical visitations of quackery, even though basking in the sunshine of science and a liberal Christianity, fits one to treat infectious diseases, and its legislative denial invites an executive veto, then where is the public safety and the vindication of learning, if not in the honor, the spirit, the conscience, the beneficent progress of modern medicine, and in that professional organization and action, state and national, now in progress, and whose influence is destined to be felt, even with those who only consider the question of votes in the determination of public questions. The governor vetoed the Sanford bill on the ground that it was in conflict with the "bill of rights" in preventing "christian" and other species of quacks from treating "contagious diseases," considering the practice by such people a religious exercise. The bill of rights guarantees freedom of speech, but holds the individual responsible for its abuse. It says that no person shall be denied any civil or political rights on account of religious opinions, but "it shall not be construed to justify practices inconsistent with the safety of the state." There is but one avenue to the legitimate practice of medicine, and that is a course of studies involving as essentials anatomy, physiology, chemistry, physics and clinical medicine. Without this preparation no person is fit to practice medicine, and no others deserve the protection of the laws. Any man who is competent to fill a distinguished public office ought to know this. The principle is recognized in the study and practice of law, of theology and of every other learned profession and practically in every known vocation except that of medicine. There is no reason and no excuse for the exception. It is a psychologic expression of conduct "that there is a natural tendency in the human mind to cast the burden of its doubts on a higher power and to relieve itself from the effort of decision and responsibility by seeking in mystery the solution of its difficulties." When a politician or official wants to do a thing for which he can give no valid reason, he appeals to the magna charta—to the bill of rights on religious freedom or to "trusts," seemingly, because one has the ring of casuistry and the other is an object of popular prejudice and distrust—as if society was not entitled to protection against vice and ignorance and the practices of those who, in the cause of mammon, usurp the sacred names of religion and science. In the ordinary business affairs of life people want those to serve them who are best qualified by study and experience. If health and life are valued as highly, one would think that the highest qualifications attainable would be as necessary and desirable. When those engaged in a calling demand the best preparation and the highest possible qualifications, it is in the interest of society and the state and should be welcomed by every enlightened people. "The safety of the state" demands a medical practice act and public health laws which are consistent with modern thought and progress.

Where enlightened medical opinion has been embodied into laws, sickness has diminished. This is the experience of the civilized world. When medical men are more numerous in legislative and executive offices, progress will be more rapid and satisfactory. The day is not distant when not only the food supply of the people but the water supply of cities and states, schools and public institutions, in fact everything that relates to the

public health, will be directly under the supervision of competent physicians. Four hundred children died in this country last July from tetanus due to accidents on the Fourth, chiefly from the toy pistol.[5] Officials and the public have for years been warned by the medical profession of this danger. When its advice and suggestions are put into laws, needless mortality will cease and the public health will be safely guarded.

Impurities and adulterations of water and foods are so common and so full of danger to the public that every good citizen should hasten and welcome the day. It is not a matter of guess work. The knowledge is at hand to control these evils and to prevent endemic and epidemic diseases, which to-day are a reproach to every civilized community, for the causes and facts being known, it is only necessary to apply them to the government of homes, cities and states, and to the conduct of life to prevent and control them.

The nation, through the United States Public Health and Marine-Hospital Service, has exhibited commendable zeal and interest in excluding and suppressing portable diseases. When officials and law-makers are made to see and admit the truth that those who speak and act from special study and experience are the most competent to judge of the conditions, and, therefore, of appropriate laws affecting the public health, then sickness will be less prevalent and will be better treated and less fatal. Then, too, the solidarity of a common citizenship, guided by enlightened opinion and just laws, will mark a new page in the cause of humanity and in the annals of medicine. If every profession does not hold up its own standard, others will not do it for it, even in a progressive age. If we are animated by the good of the many rather than the selfishness and interests of the few, opposition will wear away. The history and progress of medicine is a struggle against ignorance, superstition and cupidity. It is identified with the betterment of mankind—a profession in which is blended aspiration, ambition and the most worthy altruistic motives. Its cause is that of humanity and science, and though the few must handle the laboring oar, time will, as ever, vindicate the effort.

We appeal for just and liberal laws governing the study of medicine, and a higher, more uniform and exact standard in the requirements for study and in the qualifications to practice, knowing full well that this alone is for the general good and to the honor and dignity of a profession, whose whole life is one of labor and sacrifice for the welfare and ennoblement of man.

This was the dream of Hippocrates 2,500 years ago. Its realization is no longer a hope or a doubt. The struggle for the preservation and improvement of the best is ever on and will never end. As each heroic generation rounds out its day and enjoys its blessings, the next will take up the unfinished task and carry it on to still greater perfection. This is our heritage, our duty and our destiny. For since the sixteenth century we have not honored an idolatrous worship, but respect men for what they are and value them for what they do.

5. The Journal A. M. A., Aug. 29, 1903.

Experience with Morbid Minds.—The *Alienist and Neurologist* emphasizes the value to the general practitioner of medicine of an insane hospital experience in addition to a general hospital interneship. It is well to know abnormal and normal psychic symptomatology in their clinical aspects, when we go out to detect and combat the morbid enemies of mankind as they appear in the diseases that affect humanity.

Original Articles.

DEMONSTRATED PATHOLOGIC CHANGES FROM ALCOHOL.*

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Recently a new field has been opened for a study of the symptoms following the use of alcohol. The external phenomena of the functional and mental activities of the body can now be measured and tabulated with exactness unknown before. It is assumed that, if the current beliefs and theories are true concerning the tonic and stimulant action of alcohol on the organisms, it is possible to prove it by the more perfect instruments of precision. Also that theories and variable experience held so tenaciously by many persons can be tested by something more than experience, logic and intuition. The action of alcohol taken in the body can now be traced by a study of the functional activity of the senses, the movements of the heart, the muscular activity, mental vigor, temperature of the body and other conditions with a degree of accuracy unknown before. From this point of view a number of observers have taken up this problem and pointed out conditions clearly traceable to the action of alcohol about which there can be no question.

Professor Kraepelin of Heidelberg has for a long time made experimental studies with instruments of precision on the external phenomena of the body which were due to the action of alcohol. These studies have been going on for years, and recently the conclusions of some two thousand of these experiments have been published. Other observers during the last two years have repeated these experiments with newer instruments of precision, verifying Kraepelin's studies, and adding some new facts to the subject. I have made many of these experiments personally, and, in common with other observers, have been astonished that such work has not been done before. The uniformity of the conclusions indicate a range of facts that very largely explain many of the symptoms following the use of alcohol. In these experiments, only healthy, temperate persons are available. In Kraepelin's work they were generally university students and a few laborers whose lives were temperate, and whose occupation and living were uniform. Each person was examined at a certain time every day to determine the sight, hearing, taste, smell, muscular activity, heart's action, temperature, point of muscular fatigue, memory, time reaction and thought rapidity. These examinations were made daily for a period of ten or more days. The results were tabulated and the average of these examinations was put down as the normal equation of the man. Sometimes the experiments were carried on for a much longer period. The normal condition having been ascertained in this way, the person was given at a certain hour in the day midway between meals or after the time of eating, an ounce of ethylic spirits. Thirty minutes after very careful examinations were made of the senses and other conditions, and these examinations were repeated every forty minutes for a period of two or

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three hours. The second day after, a similar quantity of alcohol was given, followed by the same measurements and tabulation of all the symptoms following. This was continued every day or every second day, according to the susceptibility of the person, until ten or more examinations were made, the person in the meantime living with great regularity, both in exercise, diet and sleep. At intervals of four or five weeks, and sometimes two months, the subject was experimented on again. The results of these experiments on a large number of persons extending over several months indicated the following general conclusions:

THE ACTION OF ALCOHOL ON THE SIGHT.

If the normal vision of a healthy man will enable him to read letters a half an inch long thirty feet away, from thirty to sixty minutes after the use of an ounce of spirits these letters can not be seen at that distance, and must be brought up to within eighteen or twenty-five feet to be seen. The sight has diminished to the extent of from ten to twelve feet. The color sense was also disturbed. Colors that could be distinguished were obscured or lost altogether. The red lines had faded away and were totally obliterated. Forms and shapes were blurred and indistinct, except when seen very near. The expression of the eye was changed. Clinically, this palsy of vision so apparent in intoxicated persons, seen in the prolonged staring and efforts to concentrate the sight, is a very common symptom. This is confirmed in the experience of persons engaged in work requiring precision of vision, also in painters and photographers, who soon realize that the use of spirits seriously disturbs the accuracy of their work and hence never drink in business hours.

EFFECT ON HEARING.

The sense of hearing was markedly diminished. In health, where the sound of a watch could be heard clearly at thirty or forty inches from the ear, this distance was lessened in half an hour or more after spirits had been used. The watch must be moved to ten or fifteen inches from the ear to be heard. Thus the sense of hearing was diminished from a third to a half. Certain sounds could not be distinguished. Certain tones were confused or lost altogether. Musical sounds were greatly disturbed and confused. Extreme states of these palsies are commonly seen in the intoxicated man whose voice is always several keys higher than natural, simply because he is deaf and can not hear his own voice except by speaking in a higher key. Even the moderate drinker shows a failure of hearing in the changed tone of voice.

EFFECT ON TOUCH.

The sense of touch was also found diminished. The capacity to distinguish between heat and cold was impaired. Bulbs of iced and hot water which could be distinguished normally at a distance of an inch, after the use of spirits must be separated two or more inches to be recognized. Rough and smooth surfaces were equally confused. The distance at which they could be discriminated normally was enlarged by half or more. In some instances, hyperesthetic states of the skin appeared in the first half hour after the use of spirits, then anesthesia came on, remaining one or two hours before passing away. The first effect of spirits, giving an impression of warmth over the surface, was followed by a sensation of cold which remained a long time. The surface sensation of the body was found to be deranged a much longer time than that of sight or hearing.

EFFECT ON TASTE.

The sensation of taste was changed. Mixtures containing so many drops of bitters, salts or acids, which could be detected in health, after the use of spirits were not recognized. The quantity of flavoring substance used was increased from a third to a half more before it could be recognized. Tea-tasters and experts who depend on their ability to discriminate flavors find from practical experience that this sense is greatly disturbed and obscured by the use of spirits. The power to discriminate odors was equally disturbed, both as to quality and distance. Carbolic acid, which was readily discerned in health, was unrecognized at a short distance and only faintly perceived when brought up closely. Both the sense of taste and smell were profoundly depressed from the effects of an ounce of alcohol, this depression only passing away some hours after.

EFFECT ON MUSCULAR CAPACITY.

The effect of alcohol on the muscular capacity was tested by the dinometer and aërograph. The normal muscular capacity for lifting, pulling or pushing, also the point of fatigue, was determined in these cases. After the use of an ounce of spirits an apparent increase in this power appeared, but this always passed off in twenty to thirty minutes, followed by a marked diminution. The capacity to push with forearm seventy-five pounds or more was diminished to fifty, and sometimes more, within an hour. The power of pulling five hundred pounds dropped down to three or four hundred, also the ability to raise a weight twenty inches declined to fifteen inches in the course of an hour. The point of fatigue was marked. In a long series of experiments it was found that fatigue would follow after raising so many pounds so many feet. The arm or leg capacity having been ascertained, after the use of alcohol this was greatly diminished. Thus a person who could raise with his forearm 100 pounds in one-pound weights one foot in a limited time, utterly failed to raise half this weight in the same period an hour after alcohol was used. The fatigue point was reached in half the time and with half the work done.

EFFECT ON THE HEART.

The action of alcohol on the heart beat indicated two periods, a short stage of irritation and increased activity, followed by a long period of depression with slow recovery. Thus the heart's action was increased from ten to fifteen beats the first half hour, then there was a steady fall, in many instances the beat rate declining as far below the normal level as it had ascended above. In several instances this increased activity was very rapid. In others it was slow, but in from twenty to thirty minutes the maximum was reached, then followed a decline.

The temperature of the body showed slight fluctuations, never rising, but always falling, sometimes half a degree or less.

EFFECT ON MENTAL FUNCTIONS.

The action of alcohol on the mental functions was very marked. Thus on memory where from a series of experiments the natural equation indicated a range of 10 per cent. of failures in health, after the use of alcohol this percentage doubled. In the card test where a person seeing a set of cards was required to put down the duplicates, or where a list of names was given which the person was required to write out after seeing them a moment, a very marked palsy of this faculty appeared.

Thought rapidity and time reaction showed the same paralysis. With the aid of a battery and a clock marking the parts of a second the time was measured from the moment an object came into the field of vision to its record on a dial by the pressure on a button. This, in parts of a second, showed both the rapidity of sight and brain power of registration. If in health such impressions could be recorded in a fourth of a second from the time it was seen, after the use of spirits this time was lengthened to one or more seconds. Another experiment to show thought rapidity was to repeat words or short sentences uttered by others and registered in the same way by an electric clock. The health standard having been found, the action of spirits literally doubled the time in these cases. Numerous experiments involving reason and discrimination were made, one in which the person was asked to pick out pictures of animals and name them from a group in sight. After the use of spirits the time required was 40 per cent. longer, showing impairment both of the senses and the power of reasoning. In some experiments which I have made on simple mathematical calculations the percentage of mistakes was from 15 to 20 per cent. greater after spirits were used than before. Persons blindfolded and given tasks requiring consciousness, reasoning and correct thought were found to show very marked change and palsy after spirits were used.

These experiments may be carried on in a great variety of ways; having first found the normal condition of the person, the deviation from this can be ascertained and measured with great accuracy. During the past year Kraepelin has published some new studies, in which he has been able to recognize and measure the effects of half an ounce of ethylic spirits. This would be equivalent to an ordinary glass of one or one and one-half ounces of the common strong drink. One ounce of spirits is the ordinary equivalent of two and one-half ounces of whiskey containing from 40 to 50 per cent. of alcohol. These experiments are very significant, and seem to point out conclusively that alcohol in these doses is distinctly a paralyzer. In some work done in this country along this line where a single dram of alcohol is used, the effect on the sight and hearing was transient, but the effect on the higher brain was measurable. The difficulty in having a personal equation or normal standard from which to judge is a serious one. I have been able to point out in two cases very marked depression of the senses and brain activities from two drams of alcohol, but not having any knowledge of the person, the value of these experiments were limited.

These experimental studies are supported by clinical experience and fully illustrated in every person intoxicated by alcohol. The observations of a number of persons, including the writer, show that in all toxic states from spirits there is the same palsy of the senses and of muscular power, depressed heart's action and slowing up of the mental activities of the brain. Hence the researches of Kraepelin confirm these facts and show conclusively that the paralyzing action of alcohol begins at a very early period and from a very small quantity of spirits. It is difficult to believe that it has any other action on the nerve centers or protoplasm of the body than that of a narcotic and paralyzant.

Rice cooked with milk furnishes the most easily digested food with the largest amount of nutriment contained in moderate bulk.—*New York Medical Journal.*

THE LEGITIMATE THERAPEUTIC USES OF ALCOHOL.*

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In discussing this topic it is best to first state just what we have the right to expect from alcohol as a medicine. The desired action from a dose of whiskey or brandy or its equivalent is a warming of the surface of the body, an increased pulse tension, a moistening of the dry skin, absence of nausea, absence of much flushing of the face, absence of throbbing in the head, unless a case of syncope is treated by a large dose, when many of these primary undesired symptoms might occur. In giving alcohol continuously the dose should be regulated by the signs. If it causes flushing of the face, dry skin, dry tongue, a throbbing, bounding pulse, even temporarily, and the odor of alcohol is on the breath, the dose is too large.

Alcohol is by no means a cure-all, and, undoubtedly, in the past much harm has been done by its indiscriminate use. Perhaps, even to-day, it is used more frequently and more freely than its physiologic action warrants, and it should never be prescribed unless there is some definite indication for it. Indications for the use of alcohol may be divided into:

1. Local.
2. To stimulate the heart.
3. As a food.
4. To increase the appetite and aid digestion.
5. To relieve acute internal congestion.
6. To dilate and relax the peripheral circulation.
7. To produce sleep.
8. To combat poisons in the system.

THE LOCAL USE OF ALCOHOL.

The stronger preparations of alcohol may be applied to any part of the surface of the body as an astringent to stop secretion and to harden the tissues. For this purpose it may be used to harden the nipples to prepare for suckling, to stop profuse perspiration of the axillæ or feet, to prevent bed-sores, and weaker alcoholic preparations may enter into the composition of hair tonics to prevent too much sebaceous secretion and oiliness of the hair. Strong alcohol is hemostatic to capillary oozing. Absolute alcohol more or less constantly applied to the surface over a beginning boil, as in the ear for instance, may prevent its culmination and abort it. In concentrated form it will act as a rubefacient while being rubbed on the skin, but if allowed to evaporate it will cool the surface of the body. If diluted it evaporates more slowly and the cooling is prolonged, hence it is often used to reduce temperature. If the surface of the body is sponged with warm alcohol it is sometimes very soothing, quieting restlessness and producing mental calmness in a feverish patient. Probably a large part of the advantage of the different tinctures and extracts used for sprains, bruises, etc., is due to the alcohol which they contain. Alcohol diluted somewhat, depending on the thinness of the skin, applied on gauze or lint or lintine and covered with rubber tissue or other impervious dressing and changed every six hours, will remove the swelling

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and pain from a sprain and aid in the cure or prevention of synovitis, myositis or inflammation of the tendons quicker than most any other treatment we can institute. Diluted alcohol, one to four or five parts of water, or weaker, makes a good astringent and antiseptic mouth wash, hardening the gums and sweetening the breath. Flannel or towels wrung out of very hot water sprinkled with alcohol and placed on the abdomen or any other part of the body and changed every fifteen minutes for an hour or two causes a splendid rubefacient and counter-irritant action. A brick heated in the oven, wrapped with three or four layers of flannel dipped in boiling water and allowed to drain, and then a considerable amount of alcohol poured on it, placed beside a warmly covered patient in bed, will produce a splendid alcohol steam bath. Locally applied to the back in this form it is very efficient in the treatment of lumbago.

In the form of alcohol brandy is especially a carminative and an astringent for diarrhea, and markedly so in the form of blackberry brandy.

TO STIMULATE THE HEART.

There is a considerable difference of opinion to-day as to the value of alcohol as a cardiac stimulant. Its action on the vascular system, however, is marked and positive. The irritation which strong alcohol in any form causes on the mucous membrane of the throat, esophagus and stomach acts reflexly through the medulla to cause vasoconstriction and, hence, a rise of blood pressure, and increased blood pressure is always a stimulant to the heart. After alcohol is absorbed into the blood, where it circulates as alcohol, it can not, in my opinion, by its physiologic action on the vasomotor centers, on the blood vessels, and the heart, ever be a stimulant, although, as its secondary effect is to dilate the blood paths, this very effect of increasing the peripheral circulation may better the condition of the heart. Through, then, the irritant impact of the alcohol on the mucous membrane the blood pressure is first raised, but when it is absorbed the blood vessels dilate, especially those on the surface of the body. This relieves any spasmodic contraction of the peripheral blood vessels, whether from fear, from pain, or from chilling of the body, and this equalization of the circulation relieves any internal congestion that may be present. By this widening of the blood paths, provided no condition of shock is present, alcohol will relieve the laboring of a weakened heart. If too large doses of alcohol are given this vasodilatation goes on to partial paralysis of the blood vessels, and a weak action of the heart from this cause alone will occur. Hence, in shock where the blood vessels are widely dilated or perhaps paralyzed, either from chloroform or ether narcosis, or from morphin narcosis, or from injury or collapse, alcohol, except for its primary stimulant action in small doses, would do harm and is contraindicated.

The exact action of alcohol on the heart itself is not proved beyond a reasonable doubt. Certain it is that overdoses of alcohol after absorption are depressant to the heart muscle, to the muscle fibers of the blood vessel walls, and to the vasomotor center in the medulla. In sudden cardiac failure the reviving action of alcohol seems to me to be due entirely to the reflex stimulation of the mucous membrane of the throat and stomach. By this stimulation we cause an increased cardiac frequency and a slightly raised blood pressure from the contraction of the arterioles due to the reflex action on the medulla. This action, which occurs before much alcohol has been absorbed, may tide over the condition of acute cardiac failure, and if not much alcohol has been given there will be no future cardiac or vascular depression. If too much alcohol has been administered and absorbed the result will be to increase the previous depression unless more fresh alcohol is given for its continued stimulant reflex effect. If the previous doses are not too large and are, hence, rapidly burned or eliminated, the effect will be continued stimulation and not depression.

In conditions of high temperature where the heart is very rapid from the stimulation of the fever, from the irritation of the toxins in the blood, and from nervous irritability, alcohol, by quieting the nervous system, dilating the peripheral blood vessels, and possibly combating the toxins in the blood, generally reduces the temperature and slows the pulse. If the dose is properly regulated, this action will be found to be continuous for good. Too large doses or too frequent administration of alcohol may do one of two things: either stimulate the brain and cause more excitation, increasing the temperature by increasing muscular irritability and restlessness and causing enough of its local reflex irritation to make the pulse bounding and full, or, if it is too rapidly absorbed, it will give the symptoms of alcoholic depression on the circulatory system. Hence, in acute cardiac failure to get the stimulant effect of alcohol it must be given concentrated as exemplified by brandy, whiskey, gin, rum and champagne, and in small doses. To keep up this stimulation another dose must be given in from fifteen minutes to half an hour or an hour, depending on the continuousness of the heart weakness, in order to repeat the stimulation of the irritation. As just stated, the dose should undoubtedly be small, as the future depression from the absorption would be less than it would from large doses. If the frequency of the dose is such that alcohol piles up in the system and more is given before the previous ingested amount has been burned or eliminated, to obtain stimulation it will be necessary to give larger and larger doses, first to overcome the depression caused by the previous alcohol, and also to cause the usual stimulation. As more and more alcohol is absorbed whether from the stomach or from hypodermic injection, depression, vasomotor dilatation, cardiac weakness, and more or less paralysis of the nervous system are sure to follow. Hence, to combat continuous or persistent cardiac failure or depression, alcohol is the poorest stimulant we can use, and if much is given we are poisoning the system and adding depression to depression that is already there and the treatment is vicious.

In conditions of prolonged fever where alcohol is given no more frequently for any length of time than every three hours, one dose is probably eliminated or burned before the next one is given, and we get the primary stimulation plus the dilatation of the peripheral vessels, which equalizes the circulation and reduces the temperature.

Let me parenthetically say that I have often obtained the same good circulatory results in sthenic fever from small doses of nitroglycerin that I have obtained with alcohol.

In serious feverish conditions undoubtedly the narcotic effect of alcohol in quieting the patient, who is highly alert to his danger, may be of distinct advantage, as mental worry and anxiety are great disturbers of the

heart and circulation and should be overcome by any legitimate means.

The only time, then, that I believe alcohol can meet the indication for a cardiac stimulant is in acute cardiac failure, and then it is a stimulant to the heart only before its absorption, by the irritation which it causes the mucous membrane of the mouth, pharynx, esophagus and stomach, or the rectum, if it is given as an enema, or by the irritation of the tissues, if it is given hypodermically.

ALCOHOL AS A FOOD.

I believe that as a nutriment alcohol is uneconomical to the system and if long used is a positive disadvantage, probably even sugar being better where the amount of food obtainable is too small for the needs of the body. During feverish processes, however, as a nutriment to furnish material for the production of heat to save the tissues, fat and muscles it is of decided advantage and probably has no equal, if in such fevers not enough nutrition is taken. Undoubtedly at the present time many cases of fever are overfed. Whether whiskey or brandy should be given in every case of typhoid fever or diphtheria, or in the feverish debility of tuberculosis, or in other acute infections, is a question that each practitioner must decide for each individual case. Many such cases do well without it; many cases recover only by the use of it.

TO INCREASE THE APPETITE AND DIGESTION.

This is a very questionable indication to meet with alcohol. In occasional cases of neurasthenia, anemia, malnutrition, and inertia of the stomach, with imperfect gastric secretion, a small cocktail before meals may be justifiable and proper, but, rather than select a known alcoholic beverage for this purpose, some bitter dilute tincture will do as well, and will more readily preclude the possibility of acquiring the habit. Late in life some such stimulant to nutrition may be justifiable.

TO RELIEVE ACUTE INTERNAL CONGESTION.

After becoming chilled or getting wet or being subjected to other exposure, as the exposure of exhaustion, hot alcohol in some form combined with a hot general bath, or a hot foot bath and a warm bed, with or without a Dover's powder or quinin, is undoubtedly good treatment as tending to relieve or abort the internal congestion, whether it be nasal, pharyngeal, tonsillar, laryngeal, bronchial, pulmonary, pleuritic, nephritic, arthritic or intestinal.

TO RELAX THE PERIPHERAL CIRCULATION.

This indication for a vasodilator is present only in gouty or atheromatous conditions of the blood vessels or whenever there is too high blood pressure in the middle and late stages of life. Generally without any doubt this indication is better met by small doses of nitroglycerin, thyroid extract, potassium iodid or small doses of chloral, as well as by causing increased elimination from the skin and intestines. However, many cases occur in which alcohol has been more or less regularly taken and a small amount once or twice a day with the meals, provided the amount is such as not to cause flushing or a feeling of fullness in the head, may be of positive advantage.

TO PRODUCE SLEEP.

The use of alcohol for this purpose is only justifiable in exceptionally acute conditions or where the condition is probably not to recur, or in old people. A little nightcap of some alcoholic beverage, often, perhaps, beer, perhaps a spirit, diluted so as to prevent much stimulation, which would cause sleeplessness, just sufficient to dilate the abdominal and peripheral vessels and thus to depress the circulation in the brain, will act as a hypnotic. There are many other, perhaps, generally better methods of causing this sleep, but often the association of symptoms and conditions is such in elderly people that it is good treatment to use alcohol.

TO COMBAT POISONS IN THE SYSTEM.

It is difficult to discuss, with any reasonableness, this indication. It has long been stated, but often disputed, that alcohol in large amounts will prevent dire results from the bites of poisonous snakes. If alcohol is given in enormous amounts in the shape of whiskey or brandy the patient is soon in the first stage of alcoholic poisoning. Some acute infections in which death seems imminent have been said to have been stopped by enormous doses of alcohol, notably the final toxemia of pneumonias. The antitoxic power of alcohol in the blood against these toxins must be corroborated or disproved in the laboratory. Clinical experience in this line leaves so much room for doubt that the matter is still subject to proof.

DISCUSSION

ON THE PAPERS OF DRS. CROTHERS AND OSBORNE.

Dr. J. H. Musser, Philadelphia—I use less alcohol in my practice than I did in former years, particularly in fevers. I feel that we are employing a dangerous remedy when we use alcohol, and for moral reasons, as well as because of the doubtful pathologic results, I employ less and less of it. The indications for its use in acute diseases are those found in intoxications as arise in septicemia and for its narcotic properties. Under these circumstances patients seem to be able to stand enormous amounts, i e., in streptococcus infections, and in that type of typhoid fever seen in the aged—the septicemic type. In typhoid fever in the young, when the disease presents actual septicemic symptoms, I use it, but I prefer to use it in very small doses, and I give large doses only for a short period of time. I believe that if we withhold it and then for a short time give it in full doses we may possibly pull the patient through a condition to which he would otherwise succumb. Each year I use less alcohol, particularly in the two diseases in which we were wont to give it frequently—typhoid fever and pneumonia; here I use it only as an emergency remedy and for short periods of time. It is interesting for one to look back over his career and note any changes in his ideas. I am pretty well satisfied that I have more patients recover from typhoid fever now than ever before, and I believe this is largely due to the manner in which I handle stimulants. Of course, there are two periods in the management of this disease, in my career, the period before the bath and the period since the bath was instituted. In the latter period, in the cold water period, I find that patients get along better without alcohol than they formerly did with alcohol and no baths. Of course, this is to be expected. Moreover, under circumstances beyond our control baths can not be employed or are contraindicated. In this group of cases I use much less quantities of stimulants with better results—certainly at no disadvantage to my patients—than formerly. I believe I can say that without qualification as to the character of the disease. I think I have seen sicker people who are not put in tubs in typhoid fever in the latter period than in the time before the baths, and yet the mortality is less. I certainly can not attribute the lessened mortality to anything else because we do not use other drugs to any extent, and when we do use them it is only as we use alcohol, just as the occasion demands for a brief period and then stop.

Dr. J. A. Storck, New Orleans—We ought to try to find out the action of alcohol in carbolic acid poisoning. What is the rationale of the antidotal effect of alcohol in carbolic acid

poisoning? In a recent meeting of a medical society this question was threshed over, but no definite conclusion was arrived at as to whether its action was due to chemical change or to mere dilution. The fact remains, however, that alcohol is the ideal antidote for carbolic acid poisoning.

DR. W. J. ROBINSON, New York—In reference to the statement by many physicians that they are using alcohol less and less each year, I have no doubt that a good many do use less, but I come across some who think they use less, yet in reality they do not. For instance, a number will give liquid peptonoids and other preparations under the impression that they are not giving alcohol, and yet we know that these things contain from 20 to 25 per cent. of alcohol, so that when a physician gives 8 ounces of liquid peptonoids he gives about 4 ounces of whisky. This is, of course, not true of all physicians, but it is a fact in many instances. In reference to septicemia, especially puerperal septicemia, I do not believe there is any drug equal to alcohol. As to alcohol and carbolic acid, there is a true chemical reaction. This is a fact; it is not a simple dilution, because we can not get the same effect with water, even if the latter be used in 100 times the amount. Experiments have been made in this direction on the outside of the body, and it has been shown that alcohol completely neutralizes the carbolic acid, and probably the same effect is obtained in the body.

DR. J. H. MUSSER, Philadelphia—I do not bother with panopeptone and such preparations except in cases in which we can not give food by the stomach. It is a class of remedies that I consider pernicious.

DR. A. C. CROFTAN, Chicago—Few people realize that alcohol has been demonstrated to be a normal product in the disassimilation of sugar. I have done some work along this line. If you take a large quantity of human muscle, or pancreas, for instance, and, under certain technical precautions, distill it with water you will get an appreciable quantity of ethyl alcohol. The knowledge of this would probably horrify the temperance advocates. From a purely physiologic standpoint this may indicate that a small quantity of alcohol is probably a physiologic stimulant.

DR. S. SOLIS-COHEN, Philadelphia—Are the sulphates a better antidote to carbolic acid poisoning than alcohol?

PROF. C. S. N. HALLBERG, Chicago—The alkali sulphates have always been regarded as the chemical antidotes because the double decomposition forms sulphocarbolates, but alcohol has certain effects which can not be obtained by using the sulphates. In addition to alcohol, camphor has a modifying effect on the carbolic acid, so that their combination, as in spirit of camphor, would probably be more effective.

DR. S. SOLIS-COHEN, Philadelphia—I am one of those who, like Dr. Musser, do not use disguised forms of alcohol, and yet I am conscious that my resort to alcohol in acute febrile affections, and especially in typhoid fever, has been lessening steadily. In fact, I never think of prescribing it, unless some special condition calls for it; in other words, I use it as I would use opium or any other drug, in specified dose for a special purpose.

DR. T. D. CROTHERS, Hartford, Conn.—We have reached a point in experimental researches where certain facts can be demonstrated with a reasonable degree of accuracy. All assertions concerning the action of alcohol on the body should not be accepted to-day, unless they have been subject to some scientific test and critical examination. The clinical fact that alcohol is an excellent refrigerant in fevers when used externally can be confirmed with great exactness and traced to the rapid water-absorbing property of alcohol. When alcohol is used as a stimulant and tonic, scientific experiment fails to point out the evidence necessary to sustain this assertion, hence such theories are only vague unsupported inferences. While it can be shown that alcohol acts most positively on the heart and vasomotor centers, both increasing and slowing up the organ and the circulation of the blood, the effect of this peculiar action is unknown, and until more accurate researches are made we must regard this action as more or less dangerous. Any remedy which disturbs the nutrition and the rhythmic flow of blood through the brain should be used with great caution. The known effects of alcohol on the senses, blood vessels and heart are very limited compared with the unknown, and yet this little knowledge is startling in the clearness with which it points out the corroding action of this agent, together with other effects not yet studied. The toxic action of alcohol, either in small or large quantities, falls most seriously on the blood vessels and heart; beyond this stretches a wide unexplored country. My paper is simply a contribution to the work that is to be done in this direction, and also an indication of how wide the domain of exact studies are.

DR. O. T. OSBORNE, New Haven, Conn.—I wish to emphasize the fact brought out in the paper that we have been using alcohol during all of these years as a cardiac stimulant in fevers, and we come to find out that it never acts as a cardiac stimulant, but that it acts as a vasodilator, and hence is of value in sthenic cases. I have seen nitroglycerin effect the same good results as alcohol. Cirrhosis of the liver caused by overuse of alcohol simply bears out the fact that continued irritation of any organ sooner or later tends to produce connective tissue in that organ.

NASAL POLYPUS; ORIGIN AND TREATMENT.*

CHAS. H. BAKER, M.D.
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There is a variety of growths within the nasal chambers to which the name polypus has been given, and much confusion has arisen in consequence, both in regard to the origin and frequency of nasal polypus. Those who restrict the term nasal polypus to the gelatinous form find them comparatively infrequent compared to the total of nasal disorders, while others, like Zuckerkandl, who included posterior turbinate hypertrophies and fibro-adenomata, claim that they occur in every eight or nine autopsies.

It is my purpose to confine this paper to the discussion of the true nasal polypus or gelatinous myxoma, although what I shall say as to their causation will apply largely to the other growths which have been classed as polypi.

ORIGIN.

True nasal polypus has by different pathologists been classed among the adenomata or the myxomata according to whether one or the other elements predominated in the structure. The prevailing type is that of a pure myxoma with delicate connective tissue stroma, few vessels and made up principally of the characteristic stellate myxomatous cells imbedded in gelatinous intercellular substance, chiefly mucin.

There are certain variations according to location, life history and presence or absence of outside interference or irritations, and many are found with much connective tissue and glandular structure replacing the ordinary mucous contents. The fact that mucous polypi seem occasionally to undergo cystic degeneration indicates that they may be partly glandular in origin, but true cystic degeneration of the mucous polypus does not occur.

By far the majority of polyps spring from the anterior edge of the middle turbinate or from the edges of the hiatus semilunaris; next from the upper and posterior portions of the middle turbinate and, lastly, may be found in the interior of a bullous middle turbinal or about the outlets of the accessory sinuses. Very rarely they have been found in other localities, but when so

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found have belonged to the type which I have excluded from the designation of true nasal polypus.

Bosworth has said: "It is difficult to assign any definite cause for the occurrence of nasal polypus. They are certainly not due to any impairment of the general health or constitutional diathesis, for, as a rule, they occur in patients in vigorous health." Sajous says: "They are usually considered to be due to a chronic inflammation of the schneiderian membrane."

Mackenzie[1] has controverted this view on the ground that polypus is rare in children under the age of sixteen, while catarrh is very common during those years. This is a strong argument in favor of my contention that they are produced by suppuration in the accessory sinuses, which, as we all know, are rudimentary until that age.

Bosworth inclines to the view that as the middle turbinate is chiefly concerned in osmosis in the nasal chambers the membrane is liable to become water soaked from the action of gravitation and traction from the inspiratory effort. He says: "As to what peculiar nutritive disturbance in the meshes of this tissue predisposes to this form of degeneration I have no explanation to offer."

Billroth believed them to be due to the occlusion of the ducts of some of the glandular elements and consequent mucoid degeneration, which was the view adopted by Zuckerkandl. They all just miss of an explanation which explains the occurrence of polyps in the case of fracture of the vomer mentioned by Gerdy or the frequent occurrence in cases of syphilitic ulceration where polyps spring up along the edges of the lesions; or their growth from the edges of the healing stump of a middle turbinal after removal of the latter.

SYMPTOMS.

When first forming, polypus manifests its presence by intense irritation of the mucous membrane with usually a profuse watery discharge, but when well established the membrane often becomes so tolerant of the pressure that there are no symptoms except those due to the interference in respiration. This is due, I think, to the subsidence of the violence of the initial suppuration rather than to tolerance to the pus.

As the growth increases there is a sense of obstruction to respiration out of proportion to the interference with the passage of air, undoubtedly owing to the irritation in the region of the middle meatus, which is the principal respiratory channel. The sense of smell is early interfered with owing more to the degenerative changes than to any mechanical interference with the impact of odorous particles on the schneiderian membrane.

The stenosis varies considerably with the dampness of the weather, some have supposed owing to their being hygroscopic, a view which is hardly tenable. Is it not rather due to the difference in the total atmospheric pressure on the body surface and the slower adjustment to this pressure by tissue of such low vitality and without muscular elements?

The nasal mucous membrane is intensely irritable in the presence of polypus, one small growth often causing as severe a paroxysm of asthma as does a whole noseful. There is persistent hyperemia co-existing with nasal polypus which induces great sensitiveness in the nerve endings, making them extremely sensitive to temperature and barometric changes, which irritability is, in turn, reflected back onto the general nervous system, and patients suffering with polypus are, therefore, peculiarly subject to reflex disturbances with every change of the weather.

Polypus is accompanied by profuse nasal discharges which are chiefly mucoid when the causative accessory sinus inflammation is quiescent, but quickly become purulent on slight provocation.

This brings me to my chief contention that nasal polypus is the direct result of suppuration in the cells or sinuses communicating with the nose, or inflammation of the periosteum covering the middle turbinate dependent on previous purulent inflammation within the bone itself. Nasal polypus is like granulation tissue from any mucous surface differentiated by the local modifications of the membrane lining the nose. It is like granulations elsewhere—the expression of the natural efforts at repair of tissue under the stimulus of irritating pus discharges.

We are often first called to see polypus when fully developed and when the sinus inflammation has subsided and find only bland mucous discharges. Some have concluded that when pus does accompany polypus it is the result instead of the cause.

The only way to know what is the true connection is to study the cases of small and embryonic polypus and diligently inquire into the history of each patient with full-grown specimens, when it is often easy to trace the inception to some unusually obstinate cold with prolonged flow of pus or to some systemic disorder like typhoid fever.

Solutions of continuity of the mucous membranes are very common in these conditions, and the flow of pus from a diseased sinus over the raw surface is very apt to produce what a similar flow produces in other parts, as a discharging ear, a healing mastoid or wound in other regions, namely, excessive granulations. "Proud flesh" does not occur in all wounds; neither does polypus occur in all suppurating noses; but the latter happens in as fair proportion to nasal suppurations as does excess granulation in the former.

All noses are liable to purulent inflammations, but not all have polypus any more than all scarlet fever cases have nephritis, or diphtherias are followed by paralysis. Syphilitics, either primary or secondary, are more prone to polypus formations than are healthy subjects, and the lymphatic temperament also seems more liable than the other constitutions. I do not know whether my experience is unique, but I find the Germanic races oftener the hosts of polyps than others in about the proportion of two in three of my total cases, and I do not think this is due to any preponderance of these people among my patients, as this is not the case.

As has been stated, nasal polypus originates chiefly from the nasal portion of the ethmoid, and suppurations occurring as they do in the accessory sinuses and cells tend to produce irritation of this bone and the mucous membrane covering it, owing to its position in close apposition to the outlets of these sinuses where it is exposed to the emerging pus before it is diluted with the nasal mucus.

For these reasons polypus is chiefly found on the membranes most closely in touch with the outlets of the sinuses and cells, and the natural flow of pus and mucus being backward into the pharynx, both the inferior and superior turbinates are out of the way of the greater part of the irritation.

The upper turbinate lies too high to be reached by the downward flowing pus, and the lower turbinate seems

1. Bosworth, 1889, p. 391.

to be more resistant than the middle, although the rear end over which more pus flows is subject to a form of degeneration which simulates polypus as closely as the difference of structure permits.

Nasal polypus has been found on the septum and the superior portion of the middle turbinate, but so far as I have observed it never occurs in these localities except when there are masses of polypus filling all the available drainage spaces and damming the flow of pus back so that these parts which usually escape are bathed in the irritating secretions.

I have called attention to the fact that polypus is practically unknown before 15 years of age, not because suppuration does not occur before that age but because the sinuses are comparatively undeveloped before that time; the nasal chambers are much simpler and, therefore, drain much easier, and suppuration is oftener due to adenoids than to any other cause up to that time. The discharges from the nasal chambers of children are more mucus than pus, and we seldom see the clear pus of sinus disease issuing from their noses, which is so common in adult life.

Polypus causes a variety of disturbances both locally and of the general system. The gravest of these are asthma and hay fever, which follow up their unfortunate victims year after year and make life a burden to them. So common have I found polyps in asthma that I always feel a sense almost of personal injury when I run across a case in which they can not be demonstrated; for the relief and usually cure which follows their complete removal is so certain I feel as if deprived of part of my deserved gratitude and triumphs when they are not there to be removed.

DIAGNOSIS.

Of the diagnosis I should not feel it necessary to speak if I had not so often seen mistakes made by good men who were fairly well versed in diseases of the nose, and even mistakes by men one had a right to expect better things from.

The glistening whitey gray of a polypus is like nothing else which is to be found in the nasal chamber unless it might happen to be a smooth pledget of cotton covered by a thick flow of mucus. It is never so pink as the turbinates, and to the probe it has a soft elastic, slippery feeling which is quite *sui generis*. To examine a nostril satisfactorily for nasal polyps the surfaces need to be cocainized and adrenalin chlorid applied in order to give access to as much of the nasal chamber as possible and then a very flexible probe used in order to accurately locate the point of origin of each growth.

When this has been done the polypi stand out glistening white and can not in any case be mistaken. There is a condition of the lower turbinates which superficially resembles polypus, but if it is remembered that polypi do not occur on this part of the nose, and if the method outlined above is followed, no confusion need arise. In this class of cases the lower turbinate is unusually anemic and looks water soaked, but under the adrenalin it shrinks and tightly hugs the bone, while polypus is not much, if any, altered in size or appearance.

Beside the disorders already named, there is a peculiar bronchial reflex cough which resists all ordinary remedies and which is akin to the like cough occurring in children who suffer from adenoids. This cough resists all treatment except removal of the polyps, when it usually abruptly subsides.

The prognosis as regards life is not especially unfavorable, but many an unhappy victim of asthma would almost welcome death as a relief from the suffering when in the midst of a paroxysm. It is quite generally believed that polypus may undergo sarcomatous degeneration, but the most that can be said is "not proven."

TREATMENT.

I come now to the subject of treatment, and to my way of thinking there is but one method.

Having located the base of the growth with the aid of a head mirror and a good light, encircle the growth in the loop of a good snare, and with the cold wire cut it off as near the base as possible. It is sometimes necessary to cut through the middle of a polyp in order to secure room to work, but with a proper snare this is rarely necessary, as the loop can be insinuated up to the base in most cases and there is little or no hemorrhage excited. This is a distinct advantage, as it allows continuing work with slight interruption until the whole cavity is clear.

Adrenalin also prevents most of the bleeding and greatly facilitates the work. Working from below and from before backward the nose can usually be sufficiently cleared for fair respiration at a single sitting, and the patient experiences such relief as encourages him in continuing to the completion of the treatment.

Allowing three or four days to elapse after the first removal, on the second sitting one is often surprised to see the nose almost as full of polyps as at first: a number of them, which had been securely hidden in the recesses of the nose, coming down into sight as soon as pressure is removed. When all polyps have been removed which careful search with the flexible probe will reveal, if the patient is one who can be relied on to return for occasional examination, it is well to wait for developments to see if there is any return. But if there was a large number of the growths, especially of tiny ones all along the middle turbinate, and particularly if in the course of the removal you uncover a well of pus which flows out freely; or if the case is one in which there has been return one or more times after complete removal, it becomes necessary to resort to more radical measures.

Bosworth has said: "I can not think there is any condition which warrants removal of the middle turbinal for the cure of nasal polypus."

Had he done this as often as I have he would never have written thus, for in the kind of cases I have enumerated I have always found two or a dozen polyps in positions which were totally inaccessible until either the anterior or the whole turbinate had been amputated. No cure of asthma is to be expected so long as there is a single polyp remaining, and I hold it is better to do the harmless removal of a middle turbinate once in a while when it was not absolutely unavoidable than to err by allowing many patients to go uncured when failure lay in the undiscovered and, therefore, unremoved polyp hidden behind or within a diseased middle turbinate.

From observation of a very large series of cases I have reached the conclusion that it is impossible to cure a case of polypus so long as there remains a suppurating sinus to pour its pus over the site of their growth or a diseased middle turbinate on which the growth can occur. I therefore always remove the whole middle turbinate in cases of recurrent polypus suffering from any reflex disease.

Of other methods than the cold snare I do not care to speak except to condemn them as inefficient, and as for cauterizing the stumps after removal, it is not needed if the underlying cause is recognized and removed, and if not then it can do nothing but harm.

In conclusion let me say: Nasal polypus is in effect the same thing as granulation tissue, being produced in the same way and by the same causes as granulations elsewhere; complete and permanent removal is necessary to the cure of various reflex disorders induced by their presence; obstructed sinuses filled with pus are most commonly the cause of failure to cure, and to relieve these and secure proper drainage removal of the middle turbinate is often required; and lastly, the middle turbinate requires removal in all cases of persistent recurrence on its body.

DISCUSSION.

Dr. Robert C. Myles, New York—The name "polypus" is very unfortunate, and to change it would be an advantage for those who come after us, especially in regard to treatment. Nearly all of our distinguished writers assert that this is a myxoma, but I think it has been proven beyond any doubt that it is not; it is not neoplastic but is simply an infiltration. Then we approach the idea of it being a mere dropsical condition. Admitting that, how does the dropsy occur? It may occur from several different sources, but usually it is due to the pressure of some inflammatory deposit on the vein. A polypus is only an enlarged mass which has occurred in this way. I think we spend a great deal of time unnecessarily digging around without removing the middle turbinate in many of these cases. In the removal of the middle turbinal in a great many cases I have never seen any very serious evil consequences.

Dr. H. W. Loeb, St. Louis—Dr. Baker stated that the cold snare is the only efficient method of removal of polypi. Of course, the cold snare is highly efficient, but there are some other methods that are also of service. For instance, the electrocautery snare, with which I have removed 107 polypi at one sitting, should be considered efficient, at least to this extent. I agree that the middle turbinate must be eventually treated, and I meet the eventuation of treatment at the time I remove the polypi. I do not waste any time with the snares, either cold or hot, unless they are absolutely necessary, but I use the forceps and work as rapidly as possible. I think we must look on polypi as a surgical rather than a nasal condition. We do not waste time with a snare in taking off similar enlargements elsewhere.

Dr. S. G. Miner, Detroit—I must take exception to Dr. Baker's statement that polypi are rare under the aged of 15; in Detroit we often find them under 12. The method of operation just described is not always satisfactory. After removing the polypi we will frequently find a great deal of granulation tissue under the middle turbinate and a thorough curettage of that part with the subsequent application of trichloracetic acid is very advantageous. If the inflammation does not subside and there be any pressure from the lateral wall on the middle turbinate, then I think a turbinectomy is necessary. But I do not think a turbinectomy should immediately follow the removal of a polypus.

Dr. C. M. Cobb, Boston—This is a surgical condition and it is necessary to remove the tissue that is diseased. If the nasal polypi are an evidence that the sinus is diseased, which I believe is very often the case, then the granulation tissue in the infundibulum is also an evidence of disease. I want to take issue with Dr. Baker as to the positive association of sinus disease and adenoids. The sinus disease may be the cause of the adenoids and the removal of the adenoids may not suffice to cure the rhinitis. Indeed, I do not believe it will cure more than 50 per cent. of the cases.

Dr. F. W. Hilscher, Spokane, Wash.—I also look on this disease as a purely surgical one. I make the same preparation as Dr. Baker has described and then I attack it with whatever instrument is at hand. Sometimes I use the snare; frequently I do not. Often I reach in with the alligator jaw forceps and cut it off with a curved scissors and then with Dr. Myles' beautiful trimming forceps I trim it off very closely, frequently including the point from which it grows, and then cauterize the base with the electrocautery.

Dr. Charles H. Baker, Bay City, Mich.—I do not consider any method efficient that takes the time and fussing that the cautery takes, compared with the time the cold snare requires. We all know how very flexible the wire of the galvanocautery is and it is often impossible to insert the wire in these cases. A wire of some resilience must be used or we will be forced to waste time and do poor work by what I have called fussing. The polypus is a symptom, I believe, of a previous purulent inflammation in the nose. Detroit is rather uniquely situated, and it may be that polypi occur more frequently there in young individuals. but I have found mistakes made in cases that have come from Detroit, and they were not the kind that Dr. Myles referred to that may have a polypus in Buffalo but not in Pittsburg.

THE WINDOW RESECTION OPERATION

FOR THE CORRECTION OF DEFLECTIONS OF THE NASAL SEPTUM.*

OTTO T. FREER, M.D.
CHICAGO.

Since publishing my first paper on this subject in March, 1902,[1] I have added 36 operations to the 15 reported at that time, making a total of 51.[2] Of these patients, 31 were young adults, 10 people of middle age and 10 from 12 to 17 years old. There were 43 men and 8 women. In 25 cases the deviation was in the left naris, in 23 in the right, and in 3 in both, the deflection being sigmoid anteroposteriorly; 7 deviations followed the entire septum from the tip of the cartilage almost to the posterior border of the vomer; 19 deflections were purely cartilaginous; 28 required removal of both bone and cartilage; 4 were entirely or mainly bony; 23 were of even normal thickness, while 4 were evenly thin, the cartilage being as thin as a visiting card; 12 had a thick bony base, which projected upward and usually strongly outward toward the lower turbinal. In 13 cases the cartilage was thick, averaging one-fourth of an inch through. On 3 deviations only were there exostoses and ecchondroses. In 2 there was absence of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards. O. Joachim and G. V. Woollen.

1. The Correction of Deflections of the Nasal Septum with a Minimum of Traumatism, The Journal A. M. A., March 8, 1902.

2. Addendum. Nov. 12, 1903.—Since writing this article I have performed the operation in 9 additional cases, making a total of 60. Of these 9, 7 were angular deflection, 1 bowed and 1 crest-shaped. In 5 of these the obstruction in the nostril was complete, or nearly so; 4 deviations were cartilaginous, 4 osseocartilaginous, and 1 bony; 2 deflections were in the right naris. Two of the operations were performed on children aged 8 and 10 respectively. Combined local and chloroform anesthesia was used, the general anesthesia being carried only far enough to keep the child unconscious of its surroundings, so that it did not even reach the stage of half narcosis. The local anesthesia entirely controlled the pain, the chloroform being employed merely to keep the child quiet. The slight flow of blood was readily swabbed away and the little that flowed back into the pharynx was swallowed, as the superficial general narcosis did not abolish the reflexes. The use of the Kirstein light made the operation in the recumbent posture easy and a number of the later operations on adults have been done in this way for the comfort of the patient. One small perforation occurred. It was only of pinhead size, and was made in operating on a septum that had been subjected to operations by three rhinologists, the resulting cicatrices making the dissection of the mucous membrane very difficult. All of the cases recovered without complications and with perfect patency in the obstructed nostril. The new nasal speculum of Monosmith (described in The Journal A. M. A., April 4, 1903, page 916) has proven itself very useful as an adjunct to the retractors because the vertical opening of its blades lifts the nasal tip and leaves the operative field unobstructed.

cartilage over a small area, the mucous coverings being in contact. Thirty-seven deflections were of the type called angular, while but 6 were bowed, 5 atypical and 3 sigmoid. Thirteen presented a dislocation of the anterior inferior angle of the quadrangular cartilage from the cutaneous septum so that the anterior end of the cartilage lay across both nostrils. Six deviations seemed to be large exostoses, but proved to be hollow, bony deflections. Thirty-six deflections began in or near the front of the naris, while 15 began in or near the bone. There were 14 large bony deviations reaching nearly to the choanæ. In 5 cases the cartilage was removed extensively from the anterior inferior angle of the quadrangular cartilage to the bony septum.

The operations caused 9 perforations of the septum, 7 of about the size of a pea, and 2 as large as a 10-cent piece. They were all more than an inch back in the naris, and none caused the patients annoyance. Six of the perforations were made in the first 15 operations. Since then improved instruments and greater experience have reduced the number to 3 perforations in 36 cases. Secondary hemorrhage occurred in 2 cases, in one two hours after the operation, and in the other in one week. The bleeding in both cases was severe, but not dangerous.

This summary shows that a number of people at the end of childhood endured the operation, and in none of my cases was unusual fortitude required. A medical student told me that he suffered less from the removal of his bony and cartilaginous deflection than during dental operations lasting as long, and patients may be assured that the operation is but slightly painful. The cutting away of bone and cartilage is readily borne as long as no attempt is made to break them over. In my series the cartilaginous deflections were outnumbered by those containing bone in the proportion of 19 to 32. Classed with the latter are only those needing actual operation on the bone, and usually it was difficult to tell whether there would be need of this until removal of the cartilaginous part of the deflection exposed the bone to view. A merit of the resection operation is the possibility of clearing the nostril at one sitting of obstructing bone, as well as cartilage. In the 13 thick cartilaginous deflections mere straightening of these would have given but partial relief, as the thickness of the septum itself in these cases formed an obstruction. An advantage of the resection method is that at the point of greatest narrowing of the naris it creates the utmost possible space by not only straightening the septum, but reducing its thickness to that of the two layers of mucosa. This fact very often makes extensive resections unnecessary, as a small window in the cartilage or bone suffices to free the naris completely.

Exostoses and ecchondroses rarely—in but 3 of my cases—complicated the deflection which was, as a rule, of nearly even thickness. The skeletonizing of the deflection in the resection method gives a perfect insight into the structure of the septum, and many deviations that at first seem to be exostoses, or form their base, prove to be evenly hollow bony deflections when entered. Their concavity lies far back in the naris and may be invisible, so that should the surgeon saw off the supposed crest he will find that he has made a large perforation.

The angular far outnumbered the bowed deflections, and no matter what their form in the cartilage, the bony portion of the deviations nearly all had a typical shape, that of a wedge-shaped projection ascending upward and backward in the direction of the upper border of the vomer. The inferior wall of this hollow wedge anteriorly often lay so close to the nasal floor that it was liable to be overlooked in the operation, while in most cases posteriorly the deflection rose to above the level of the inferior meatus so that it pressed against the upper part of the lower turbinal and filled the middle meatus.

I found great variations in the thickness of the mucous membrane covering the septum. In some cases thick mucosa included cartilage no thicker than an egg shell, and in one case the mucous membrane proved to be the main obstruction to breathing, as it was three-sixteenths of an inch through. In other instances it was so thin that instruments could be seen underneath it.

In no case operated on, even when the deviation was removed from the anterior tip of the cartilage far back into the bone, was there any damage to the nasal profile, but where the nasal tip had a twist to one side this deformity was often lessened or removed. This proves that the external nose does not need the support of the septum, but that its own cartilages maintain its shape.

The operation as performed now by me is in principle unaltered, but many changes in the details have led me to describe it again. The patient is seated in a chair with an adjustable head-rest, so fixed that it advances his head within easy reach of the surgeon. The light preferred by me is the Kirstein electric headlight, as it makes the operator independent of a fixed light for reflection and because its rays are parallel to those entering the eye; hence it lights the naris to its deepest part. It permits the surgeon to operate with the patient lying down should he need to be placed on a table if he feel faint while sitting. It also makes operations on children in general anesthesia possible.

For local anesthesia I still use powdered cocain, applied to both sides of the deflection with a small damp swab, and toxic symptoms of consequence have never resulted from the drug. Faintness occurred in only 4 cases during the operation; happened early in its progress, passed off long before its end and was due to fear rather than cocain, as the use of this was continued. In most cases, adrenalin made the field of operation bloodless or nearly so, but often failed to act. Applied to bleeding wounds it was not as good a hemostatic as a fresh application of cocain. Before the operation the vibrissæ are cut away and the nasal vestibule is cleaned with a damp swab. In deviations far forward, the ordinary nasal specula can not be used, and instead an assistant lifts the rim of the nostril in the desired direction with a flat retractor or two retractors. For operations further back the regular specula are suitable. Blood is wiped away with cotton swabs on pointed applicators, numerous to avoid delay, for, though the bleeding is never great, a little blood obscures the field of operation.

The first incision cuts through the mucosa only, along the vertical angle or summit of the cartilaginous deflection, which is usually vertical in direction, but may extend obliquely upward and backward. The vertical incision is joined by a horizontal one beginning about three-fourths of an inch behind it and carried along the bottom of the septum forward to beyond the beginning of the deflection. In this way an anterior and short posterior flap are outlined to meet at the vertical crest of the deflection, the incision forming an inverted T (Fig. 1). These cuts are made with knives having small blades with half-round edges (Fig. 8, B, C, D). The blades are placed straight on the shank or at an angle on the flat to cut vertically deep in the naris and their

small size permits them to enter narrow spaces. It is important to outline an anterior flap large enough to completely uncover the cartilage of the deviation in front and above, and to be caught with and held out of the way by the retractor, or by a light catch forceps.

The mucous membrane can not always be separated from the cartilage by blunt dissection; and is usually most adherent in front. Where it is firmly attached it must be dissected off, and for this I use two small, flat knives with rounded, paddle-shaped, thin, sharp blades. One of these is bent on the flat in order to dissect from the vertical incision forward (Fig. 8, E—I.)

Fig. 1.—Lateral view of nasal septum with angular deflection. Dotted line a-a, vertical; b-b, horizontal incision through the mucous membrane.

The anterior flap should be detached to the limit of the outlining incisions, fully uncovering the front of the deflection. The posterior flap may also need to be dissected off for some distance back, but usually may be lifted from its attachment with a thin, dull-edged, steel dental spatula (Figure 8, M.). The separation should be carried under the mucosa as far back as the deflection reaches, behind the limit of the posterior flap. This detaches the mucosa completely from the convex side of the deflection, leaving

Fig. 2.—The same as Fig. 1, showing the anterior and posterior mucous membrane flaps reflected, exposing cartilage of deflection to view. a-a. Dotted line showing slit cut through cartilage at front of deflection. The separation of the mucosa from its attachment is continued as far as the limits of the shaded area, showing the extent of the deflection.

it only attached above and below, behind the limit of the horizontal incision. It may be necessary to continue the latter to the end of the deflection where this extends far back, and thus sever the mucous membrane from its attachment to the bottom of the septum along the whole length of the deflection in order to get room to work in. It is better to avoid this, however, as the mucosa applies itself much better during healing if left attached behind as much as possible at the bottom. The object in creating a short posterior flap by continuing the horizontal cut back of the vertical one is to gain room for manipulation.

When the entire deviation on the convex side is bared of mucosa a vertical slit is made through the cartilage in front of the beginning of the deflection, underneath the anterior flap, along its anterior attachment (Fig. 2). The cut must not pierce the mucous membrane in the opposite nostril. If it be made within, instead of in front of the anterior part of the deflection, that is, too far back, a portion of the deviation will be left to obstruct the foremost part of the nostril. This occurs most easily where the tip of the quadrangular cartilage lies across both nostrils as it usually does in deflections far forward. If not removed in the first place the obstructing strip of cartilage remaining in front has to be dissected out from behind toward the operator. This is so difficult that it may have to be removed from the other nostril by dissection at a later operation.

The anterior vertical slit in the cartilage is made with a round-edged knife (Fig. 8, D, or B, C), as the sharp-pointed knife I used formerly is prone to

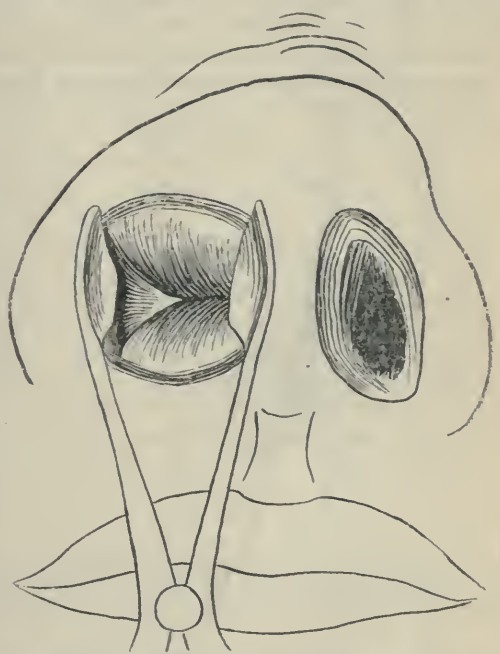


Fig. 3.—View of the concavity of a deflection.

prick through the opposite mucosa. The left little finger is introduced into the nostril opposite the deflection in order to feel the edge of the knife before it can cut through the mucous membrane after severing the cartilage. Should it make a little cut through the mucosa this will be closed when the anterior flap is replaced. Operating in the right naris is harder than in the left, as it is necessary to cross hands in order to place the little finger of the left hand in the left nostril, unless one can use the left hand for cutting.

The dental spatula (Fig. 8, M), is now pushed through the slit and under the cartilage, between it and the opposite mucosa, which it separates over the entire extent of the hollow of the deflection by severing its adherence submucously. The instrument may be watched from the naris of the concavity as it moves beneath the mucous membrane, and when this is completely lifted off the concavity appears effaced (Figs. 3 and 4). When the mucous membrane is too adherent punctures through it with the spatula occur when force is used to separate it. In these cases the posterior edge

of the severed cartilage in the slit should be seized with rat-toothed forceps, pulled outward and the mucosa of the concavity dissected from its attachment with the round, flat knives (Fig. 8, E, I), or sharpened dental spatula (Fig. 8, L) until a place is reached where the adherence is slight and the dull spatula may then be used again. If any mucous membrane remain attached it will tear through when the cartilage is removed, therefore it is important to lift all the mucosa from the concavity, especially at the thick bony base of the deflection where adhesion is greatest.

The deflection is now bare of covering on both sides or skeletonized. Ingals' pointed cartilage knife (Fig. 8, H) is now inserted in the slit and under the cartilage, passed to the back of the hollow of the deflection and with its point turned outward from the mucosa made to cut through the entire length of the cartilaginous deflection along its base. The deviated cartilage is now free at the bottom and in front, and to cut it away at the back and above it is firmly held with rat-toothed forceps, while one of the little sharp-pointed angular cartilage knives (Fig. 8, J, K) is passed under the cartilage to the very bottom of the pocket formed by the hollow of the deflection and its separated mucosa, its point also turned outward, away from the mucosa of

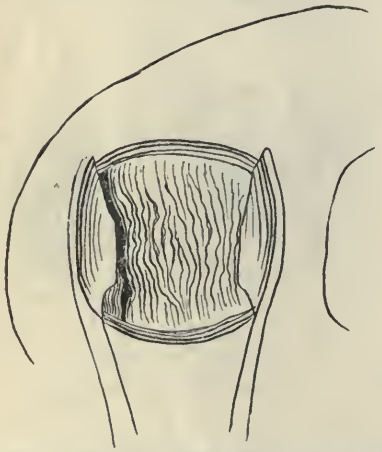


Fig. 4.—Same as Fig. 3, showing the disappearance of the concavity of the deflection from view after the mucous membrane has been separated from the cartilage through the slit made from the opposite nostril.

the concavity and the blade made to cut through the hindmost part of the cartilaginous deviation at one sweep from above downward (Fig. 5). The second little angular knife is passed in in the same way and made to cut through the limit of the deviation above from behind forward. In this way all or nearly all of the cartilaginous deflection may be removed entire, including the angle. For thick cartilage I use a pair of angular cartilage knives with longer blades (Fig. 8, F, G.).

After exsection of the piece of cartilage the inner surface of the mucosa of the concave side may be seen framed with white, cut edges of cartilage (Fig. 6). Remaining deviated portions of this are cut away with the little angular knives or the punch forceps of Gruenwald. All parts that jut out from above and keep the flaps from lying flat against the septum should be removed, and the base of the deviation, which usually projects upward and outward as a thick, partly bony ledge must be chiseled, gouged or trephined away or cut away with the punch forceps. The flaps may then be replaced if the deflection be purely cartilaginous and the operation is done; the turbinated bodies previously hidden by the deflection appear to view, the breathing through the nostril is noiseless and often the posterior pharyngeal wall may be seen.

Though ablation of cartilaginous deflections usually takes but little time, is often surprisingly simple and hardly hurts at all, removal of bony deviations requires more patience and causes moderate pain. The Roe forceps used in my earlier work often caused much suffering, and there was uncertainty as to what it would accomplish. In the not rare cases where the quadrangular cartilage is unusually large and extends far back, and

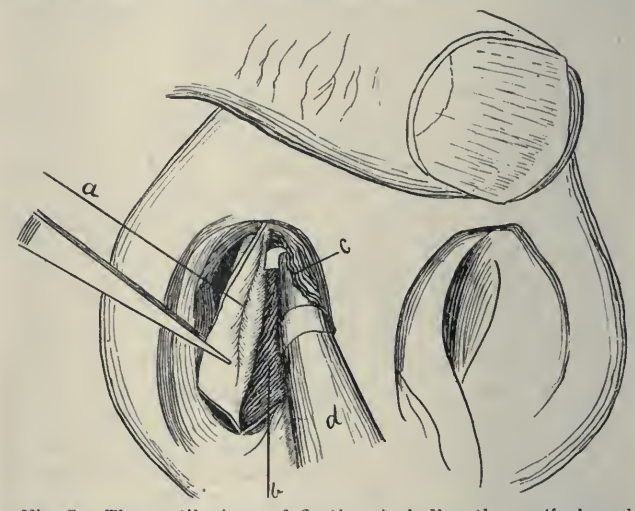


Fig. 5.—The cartilaginous deflection, including the vertical angle a, has been cut through at its base and in front and is being severed behind and above by the angular cartilage knives; b, inner surface of the mucosa of the concavity of the deflection; c, anterior flap folded out of the way; d, angular cartilage knife.

hence the septum is very elastic, the forceps often failed to fracture it, or it misplaced fragments and produced unwelcome prominences. Therefore, as I grew bolder in operating I discarded fracturing for the more precise method of cutting away the bone. I found that as long as I did not strain the septum by forcing it over I caused but little more pain when I cut the bone than when I cut cartilage. When

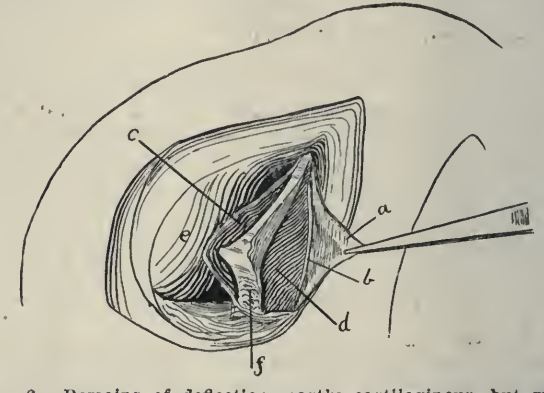


Fig. 6.—Remains of deflection, partly cartilaginous, but mainly bony, left after removal of major part of cartilaginous deflection. a, Anterior flap; b, anterior cut edge of cartilage; c, separated mucosa of convexity of deflection; d, inner surface of mucosa of concavity of deflection; e, inferior turbinal; f, bony base of deflection.

the bone is not too heavy it may be cut away piece by piece with the large Gruenwald forceps which follow it up between the two layers of the mucous membrane. Where the bone is too thick to cut through at the first bite it may be seized repeatedly with it until enough weakened in some place to punch through, or it may be prepared for cutting with forceps by short cuts into its substance with the chisel. After the

first piece is out the others cut through more easily. If the bone remaining at the base of the septum be too thick to cut away with the forceps or the gouge without forcible malleting the trephine should be used, driven by a strong, high-speed dental engine. In order to make sure that the trephine will bore into the bone without slipping at the start I use the Stacke gouge to start a chip and slip the trephine onto this as a guide. Once a core is cut out with the trephine the punch forceps usually readily trim off the rest of the bony deviation. If not, a second core may be cut out. I have employed the trephine in 17, or about one-third of the total number of my cases. Since I have obtained the later Gruenwald forceps with strong, large blades I have needed the trephine less, and this is an advantage, as the trephine causes more pain.

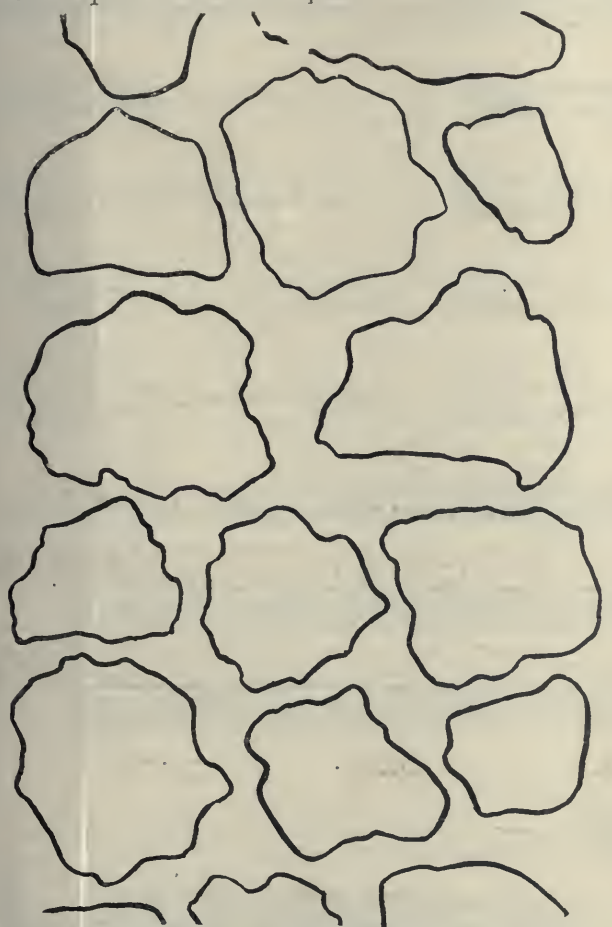


Fig. 7.—Outlines showing the amount of cartilage or cartilage and bone removed in a number of operations. (Actual size.)

In several of my cases the bony deviation extended back to near the posterior border of the vomer and so high up that it blocked the rear portion of the middle meatus, which must be cleared to give the patient the feeling of free respiration. The bony resection is not complete until the patient can breathe without stenotic sound through the operated naris when the flaps have been replaced. One can not always avoid tearing the posterior flap on the convex side when the deflection extends far back, but all torn portions should be preserved.

Oozing of blood is usually greater in the bony part of the operation so that frequent swabbing causes delay.

Perforations do no permanent injury to the patient, but retard healing, as secretions lodge in them until the wounds are well. The nasal saw is not as well fitted for the bony part of the operation as the punch forceps or trephine. Its use causes more pain, tears the flaps and removes the bone too superficially.

Bony deviations beginning far back are mistaken for exostoses by many operators who saw off the most projecting part with its covering of mucous membrane so that the piece removed frequently consists largely of the latter containing a thin crest of bone which is merely the apex of a deflection, as the saw often springs away from the septum and does not enter it deeply enough to cut away more. Prominences thus sawed off reform in great part when recovered with mucosa, as not enough bone is removed. In one of my cases the top of a deflection had been sawed away by another surgeon as an exostosis and the obstruction was completely reproduced. The resection operation gave radical relief. Crests and spurs nearly always, in my experience, rest on deflections of varying degree. Where the deflection is slight I think a better method than sawing off the crest or spur is to denude it and to gouge it out deeply, in the cartilaginous portion with the gouge and in the bony part with the trephine or burr. This will prevent its reforming. Where the deflection is of any consequence, however, it is better to exsect both deflection and crest from the bottom as described, in order to avoid imperfect results.

Deflections beginning far back are partly or entirely bony and may be entered by means of a vertical slit in the cartilage in front of them, followed by separation of mucosa and resection, as other deflections.

The amount of cartilage and bone cut out in a number of my operations is shown in outline (Fig. 7), and proves how little ordinarily need be excised to give relief, but no harm is done where much is removed, as the tissue ablated is of no physiologic importance.

When the operation is finished the flaps of mucous membrane are smoothed down with a damp cotton swab and the nostril is packed with a strip of lint one-fourth to five-eighths of an inch wide, rubbed full of subnitrate of bismuth. The packing must be done evenly and gently from the bottom with forceps with smooth, slender blades. I do not use the metal guard mentioned in my first paper, but steady the flaps with rat-toothed forceps while packing. One of the perforations was caused by too tight packing with a strip too broad so that it bunched unevenly and forced its way through the intact mucous membrane. The secondary hemorrhage in one of the two cases resulted from too loose packing. Beyond these two cases the tampons have caused no trouble. It is not safe to dismiss a patient unless the operated nostril be evenly filled with lint, as bleeding may occur within an hour or two when the effect of the cocain and adrenalin is gone. Sloughing of flaps I have never seen. In extensive resections it is sometimes well to support the bulging mucosa by a tampon in the other nostril. Bismuth tampons do not become putrid. As much of the strip as pulls out easily may be cut off daily until in about three to five days all of the packing is removed. If any of it catches on rough bone on the nasal floor it may be loosened by twisting the lint strip into a revolving rope.

The reaction and pain after the operation are so slight that patients do not need to go to bed, but should not work for from three days to a week. Fever with suppuration of the wound surfaces occurred in three cases. Both conditions subsided in a few days. In one of these patients a deflection of the perpendicular plate of the ethmoid bone, which caused distressing reflex symptoms by pressing into the right middle meatus in front, was

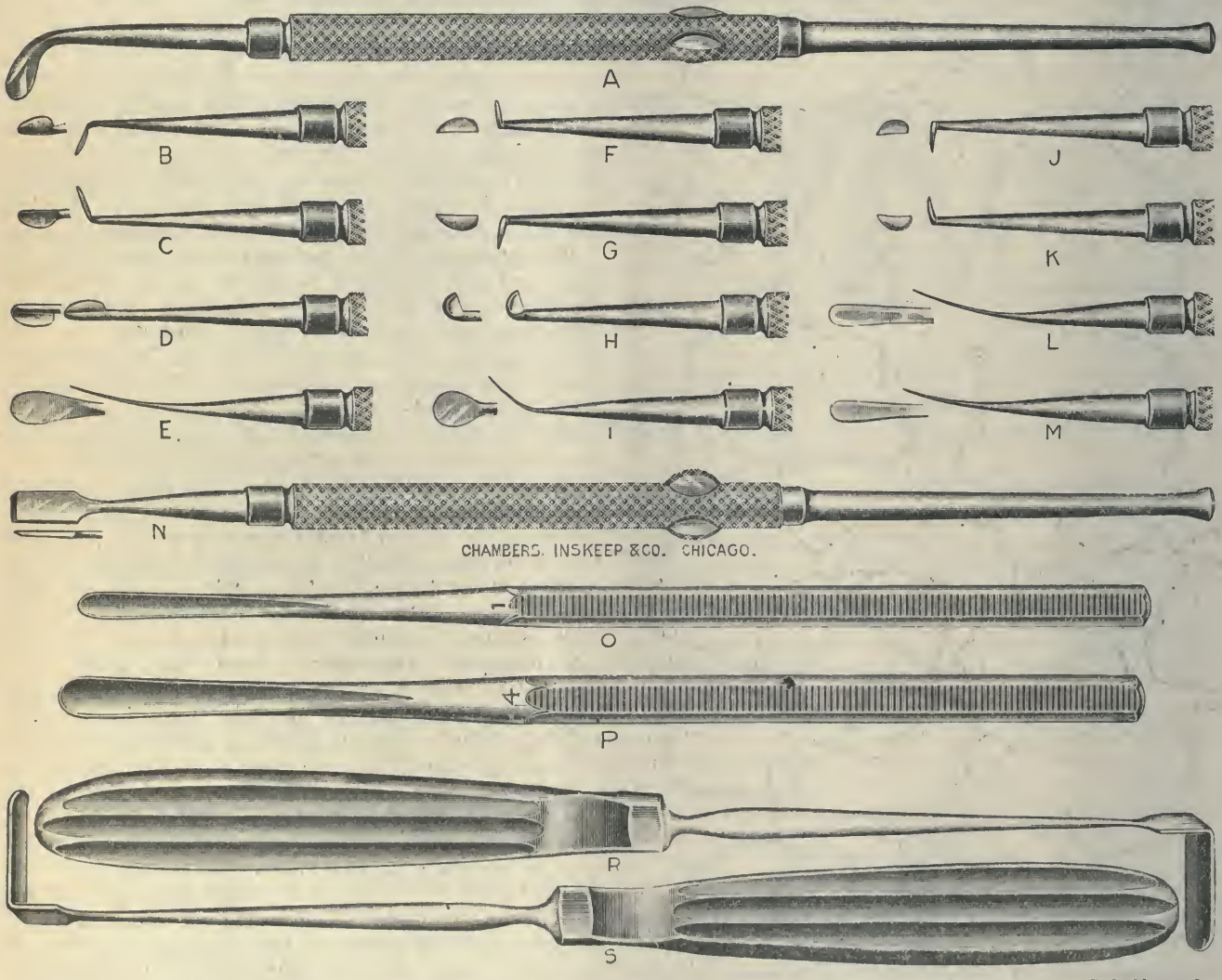
removed with permanent relief. No other complications than those mentioned occurred in my cases.

For after-treatment I have the patient spray his nose with normal salt solution and swab the nasal vestibule with an ointment of lanolin and vaselin to prevent crusting. For a week to six weeks after the operation the naris operated on is more or less obstructed by swelling, therefore the patient should be warned that for some time he will not breathe as well through the nose as he did when the operation was finished, but he may be assured of a perfect result, for in no case has the full capacity of the nostril failed to return when it was perfectly cleared at the time of the operation.

When bone needs removal the operation is sometimes long, from an hour to two hours, but the patient suffers mainly the discomfort of tedious sitting while the surgeon's loss of time is made up by the simplicity of the after-treatment.

The lumen of the opposite naris remains unchanged. It is not narrowed by crowding of redundant portions of the septum into the other naris as in fracturing methods.

The results in all of my cases but two were perfect, the obstructed nostril becoming completely clear. The two cases mentioned were among my first, and in one, through inexperience, I did not remove the obstructing bone completely. The second patient was a girl of 14 who had a bowed deviation of the entire septum of extreme degree. The operation entirely cleared the naris, but in the course of a year, as the septum grew in size with the girl's growth, the obstruction was partly reproduced. Such of my other patients as I examined long after the operation had even more patency than some weeks after it. I have not found proof of the reproduction of the removed hyaline cartilage, but the septum at the site of the resection becomes firm in some cases, while in others the window is filled with a tough strong partition.



Ffg. 8.—A, round-bladed knife, bent on edge, for dissection of mucous membrane from bony base of deflection; B and C, half-round-bladed angular knives for vertical incision in mucous membrane and first cut in cartilage, when deflection is far back in the naris; D, half-round-bladed straight knife for vertical incision in mucous membrane and first cut in cartilage when the deflection is nearer the front; E, flat, round-bladed dissecting knife; I, angular round-bladed dissecting knife; F, G, J and K, sharp-pointed, angular cartilage knives for cutting through back and upper part of cartilaginous deflection; H, Ingals' submucous cartilage knife; M, dull-edged dental spatula for uplifting of mucosa; L, sharp-edged dental spatula for dissecting up mucosa in concavity; N, Chisel: O and P, gouges; R and S, retractors for holding nostril open.

In one of my last cases I used a small guarded dental circular saw, driven by the dental engine. It makes vertical cuts through the bone where it is not over one-sixteenth of an inch thick, with great ease, and these cuts may be joined by horizontal ones from in front with the punch forceps to remove a piece of some size.

Fuller experience with the resection operation for septal deflections has given me confidence that there is no variety of deviation of the septum it can not remove in a neat and surgical manner without injury to the

patient. Even anteroposterior sigmoid deflections, blocking both nares, may be dissected out from the same nostril in one operation, including both bends. Dr. Charles H. Knight says that "such a sweeping operation as the window resection is only justified in extreme cases," giving the impression that the procedure is formidable. None of the operators has found it so. It is not "trying for the patient," and the after-effects are slight.

E. F. Ingals, in 1882, established the method of partial resection of septal deflections. In 1886, Krieg removed the entire deflection by his window resection. Without knowledge of Krieg's or Boenninghaus' later article, I developed my method of total exsection of deflections, so that my instrumentarium and technic are original and I have improved them as my work progressed. According to the needs shown by my operations I shaped the blades of the knives, which I made myself, and my present instruments are far better adapted to the work than the cruder ones described in my first paper. I can assure those who have found the operation tedious and difficult that by the use of the exact counterpart of the instruments (Fig. 8) which I use now, especially the knives, the operation may be done in a reasonable and often a short time and with a precision and ease much in advance of what was possible for a reader following my first paper. I hope that others will still further perfect the technic of this operation, which is so certain in its results and inflicts such slight injury on the patient.

288 E. Huron Street.

DISCUSSION.

Dr. O. Joachim, New Orleans—The essayist has undoubtedly operated on cases that had been unsuccessfully operated on by other physicians. I wish to know how he handles such cases, particularly those of cartilaginous deviations which have been unsuccessfully treated and in which cicatricial covering of the cartilage has taken place. How does he handle the cicatricial tissue?

Dr. O. T. Freer—As to those cases in which the mucous membrane is bound down by cicatricial tissue after the Asch operation, two Asch operations and one exostosis have given me opportunity to try the treatment of those cases. In two of the cases I avoided perforation in spite of the fact that there had been cicatrices. In one case there was an unavoidable perforation.

Dr. J. F. Barnhill, Indianapolis—We find the nasal septum deformed in so many ways that it seems to me probable that no one operation could ever prove sufficient for all, and I presume Dr. Freer does not claim that his method would be satisfactory in all cases.

Dr. O. T. Freer—I believe this operation is suitable for all cases.

Dr. J. F. Barnhill—I have seen cases in which only a very short time was necessary to set the septum into a new and better position by following the Gleason method, and I should not like to discard this method in such cases, because of its certainty of cure and ease of manipulation. After its performance the reaction is practically absent, and the pain is so slight that it seems almost an ideal operation. The array of instruments shown by Dr. Freer seems rather formidable, and would lead one to the belief that the operation is very complicated. Are most of these instruments required in doing the operation after the method described?

Dr. Sargent F. Snow, Syracuse, N. Y.—I arise to commend, perhaps, not the special method, but the proposition to resect portions of the septum in certain cases. I am not ready to use the Doctor's method exactly, for I have a method of my own that necessitates dissecting up the membrane only on one side, but it is perfectly practical to resect portions of the septum in selected cases, and Dr. Freer has opened up an important line of thought.

Dr. George E. Shambaugh, Chicago—I saw one of Dr. Freer's cases one month and another one week after the operation, and both were entirely successful.

Dr. B. R. Shurly, Detroit—Is Dr. Freer familiar with the work of Dr. Menzel of Vienna? His technic is largely the same, only it has the additional advantage of suturing the flap after the incisions. The flap is held back by a suture passed over the ear. The operation is completed by sewing down the flap dissected on the lower border.

Dr. Henry Gradle, Chicago—I would like to confirm Dr. Freer's statements. My own experience in this operation has not been as large as Dr. Freer's because nasal work is only a part of my work. However, my own limited experience confirms the good ultimate results of which he speaks. The operation, however, is not an easy one. It is difficult to save the reflected mucous membrane on either side. After one has done the operation a few times it becomes easier.

Dr. J. F. Hill, Memphis—I have had a number of cases in which there was a bony enlargement; it is very difficult to get rid of them, and the suggestions of the essayist seem very practicable. As to the cartilaginous portion of the septum, I don't want anything better than the Asch operation. The breaking up of the septum I do not think is practicable.

Dr. Otto T. Freer—Dr. Barnhill considers my instruments numerous. The reason for this is that many of them are little knives whose blades have varying shapes and attachments to their shanks to enable them to move in the proper directions on the field of operation, which all must reach by the same narrow passage—the nostril. There are 12 of these little knives; 3 forms are represented twice, as rights and lefts for each nostril. Their simple form and cheapness make up for their number. As in Dr. Myles' ethmoid work, a number of instruments is needed with slight change in shape, and I think this is true of many exact operations in narrow places. The Gleason and Asch operations possess the fault in common that they depend on fracturing to complete the work. This means more violence to the patient than by cutting methods, and uncertainty as to the result. The fracturing, if in bone, may create fissures that take dangerous directions. A double sphenoidal suppuration that I have seen follow an Asch operation seemed to me due to a fissuring fracture. Gleason himself advises fracture of the neck of his flap high up, if possible in the bone. From his description he must mean the perpendicular plate of the ethmoid bone, which I think it dangerous to break, considering its connection with the cribriform plate. A number of operators has spoken to me about the tendency to recurrence of the deviation after the fracturing operations. None seemed to feel sure of the perfection of the ultimate result. Fetterolf, in commenting on the Asch and Gleason operations, mentions the tendency to recurrence of the deformity in spite of tubes and pressure, though at the time of operation the result seemed ideal. I have never found suturing necessary, and it would needlessly prolong the operation. In operations on the extreme anterior end of the septum I have used a stitch or two, but they may be dispensed with even here. The credit for first establishing the principles of the complete window resection operation is undoubtedly Krieg's, and prior to his work Ingals describes the first partial resection of the cartilage. Doubtless Dr. Shurly has seen Menzel operate according to the description of the operation by Krieg and Boenninghaus. My methods of performance, especially the rapid exsection of the whole cartilaginous deviation by properly made knives instead of forceps or scissors, are original. The instruments I now use for separation of the mucosa of the concavity from its attachment, the round flat-bladed knives and the long sharp and blunt spatulæ, have shortened the cartilaginous part of the work very much. I do not expect the resection operation to supplant that of Asch. The latter will always be resorted to by the general surgeon who enters special fields without special skill, for the surgeon sins against us far more than the cautious general practitioner, anxious for his patient's welfare. Made bold by successful work in major operations, and a sense of superiority due to the cus-

tom which exalts surgery above the other branches of medicine, the busy general operator is apt to enter fields that belong to the specialties and to do some rather rough work there. While the resection operation will not displace easier methods, I think it should be the operation for the rhinologist, whose neat, exact surgery in the nose should distinguish him from those lacking his special skill.

GENERAL SURGICAL ANESTHESIA.*

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In the light of our present knowledge of practical anesthesia, it is not justifiable to employ any one anesthetic exclusively. The safest anesthesia depends on (1) the choice of the anesthetic best adapted to the individual case; (2) the technic of preparation for and administration of the anesthetic, and (3) a skilful anesthetizer. In a considerable proportion of operative cases the life of the patient depends on the proper choice of the anesthetic and the management of the anesthesia. The recent advances in our knowledge of local and neuroregional anesthesia have materially narrowed the field of general anesthesia.

Almost every kind of operation has been attempted, and more or less successfully performed, under local or neuroregional anesthesia. However, the mere fact that an operation can be performed under local or regional anesthesia is not sufficient justification to do it. The shock to some individuals from even trivial operations under local anesthesia is greater than that produced by a properly selected and administered general anesthetic. This is particularly true in some cases of heart disease, as well as in neurotics. It has been found also that postoperative complications occur fully as often after local as after general anesthesia. That, as a rule, a surgeon can do better work under general than under local anesthesia, there can be no question. Nor can there be much doubt that many of the postoperative complications (septic embolism, etc.) after local anesthesia are due to incomplete operating—unfinished work. In children the local method usually is inapplicable. Lastly, the time of the surgeon and the tax on his vitality deserve some consideration. It is not justifiable for a surgeon to fritter away his time on one or two operations under local anesthesia when he might be doing five or six under general anesthesia, with little or no more danger to the patients.

The general anesthetics which deserve special consideration are: ether, chloroform, nitrous oxid, ethyl chlorid, ethyl bromid and pental.

ETHER.

Physiologic Action.—Ether is primarily a diffusible stimulant, like alcohol in its effects. These effects are more quickly produced and more transitory than those of alcohol. It increases arterial tension and acts as a cardiac stimulant, the heart continuing to beat after failure of respiration, as a rule. On the nervous system it acts as a paralyzant, affecting, first, the cerebrum; next the cerebellum; then the sensory, and later the motor functions of the spinal cord; then the sensory centers in the medulla oblongata; and, finally, the motor centers in the medulla.

Ether is eliminated chiefly by the lungs and kidneys unchanged, and, to some extent, by the liver and skin.

Postanesthetic Effects.—By this term is meant the conditions which become manifest from the time of awakening from the anesthesia until recovery or death.

Blood.—The hemoglobin percentage is practically always lowered by ether, which means that the oxygen-carrying capacity of the erythrocytes is reduced. John Chalmers Da Costa and Frederick J. Kalteyer[1] studied the blood changes induced by the administration of ether in fifty cases. The average count of erythrocytes before operation was 143,360 less per cubic millimeter than after operation. This was undoubtedly due mostly to the blood concentration caused by preparatory treatment (hot bath, active purgation, withholding all food and liquid for some hours preceding operation) and to sweating during anesthesia. The hemoglobin percentage was apparently increased in nineteen cases—the average gain being 8.05 per cent.—and decreased in twenty-eight cases—an average of 7.25 per cent. The average hemoglobin percentage in all the cases preceding anesthesia was 89; the average percentage following anesthesia was 86, showing an average loss of 3 per cent. The color index was reduced an average of over 8 per cent. The average gain in the number of leucocytes per cubic millimeter after anesthesia was 4,586. It is altogether probable that the apparent gain in hemoglobin in nineteen of the cases was due to the blood concentration, and that the whole amount of hemoglobin was reduced in every case.

Kidneys.—There is a difference of opinion as to the effect of ether on the kidneys, but the consensus is that, while it causes more or less irritation during the administration, this effect is of short duration in the kidney not seriously diseased.

By the administration of methylene-blue, it has been demonstrated that ether diminishes the permeability of the kidneys, and it is quite probable that toxic substances are eliminated less rapidly after ether narcosis than occurs with kidneys unaffected by ether.

Clinical experience along this line is conflicting. In a former article[2] I noted that albumin was found in 6 per cent. of 1,500 cases after ether narcosis, where none had been present before. Casts, hyaline, granular and epithelial, were found in a large proportion of the cases, unaccompanied by albumin. The casts and albumin disappeared rapidly. Wunderlich found that albuminuria and casts may be caused by ether, and that both when present before are increased by ether. According to Carl Beck of New York, out of 300 non-albuminuric ether cases 9 per cent. subsequently had distinct albuminuria. Trieber and Roux examined several hundred cases and failed to find albuminuria in any. Körte found albuminuria in 1 per cent. of 600 cases, and Butler once in 500 cases. Robert F. Weir[3] believes that ether has no marked effect upon healthy kidneys, that it is safe in slight kidney disease, and that circulatory disturbance which may arise in the kidneys quickly subsides. Leppman,[4] after an experimental research, confirms the conclusions of Lengemann and others that ether has no special degenerative action on the healthy kidneys. At any rate, such changes occur very seldom and only to a slight degree. The same may be said regarding the liver. I have records of 100 cases where the urine was tested before and after etherization. In one of these a trace of albumin was found after anesthesia where

* Author's abstract of a paper read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

1. Annals of Surgery, September, 1901, vol. xxxiv, p. 329.
2. Medicine, November and December, 1899.
3. New York Med. Jour., Nov. 16, 1895.
4. Mitthellungen aus den Grenzgebieten der Med. und Chirurgie, 1899, Bd. iv, Heft. 1 (quoted by Joseph C. Bloodgood, Prog. Medicine, December, 1901).

there was none before. In no case out of several hundred ether anesthesias was there any noticeable post-anesthetic renal trouble. In my judgment, practically all of the especially unpleasant effects of ether on the kidneys have been due to careless selection of cases or bad technic. Cases of anuria have followed ether narcosis in persons suffering from chronic nephritis. In such cases general anesthesia is contraindicated. In advanced nephritis local anesthesia should be employed in preference to general, but if a general anesthetic must be given, nitrous oxid or ether are probably the safest of any. Much depends on the management of the case before, during and after the anesthesia.

Respiratory Tract.—Ether is distinctly irritating to the membrane of this tract and markedly increases the secretion of mucus, the degree of irritation depending much on the technic of administration.

Lung edema is present during the administration of ether and for several hours after, and it increases the possibility of hypostatic and aspiration pneumonias. The danger of aspiration pneumonia is greater where there are suppurative lesions in the mouth and pharynx.

The cases of lung complication following local anesthesia demonstrate that the nature and extent of the operation, especially celiotomies and operations on the mouth, neck and thoracic cavity, contribute to the production of these complications.

Cardiovascular System.—Ether causes a temporary rise in the carotid blood-pressure, followed by a moderate and gradual fall. The capillaries are dilated; the vascular tension increased. It produces no marked degenerative changes in the heart.

CHLOROFORM.

Physiologic Action.—After a brief period of stimulation it acts as a sedative and, in overdose, as a cardiac poison. It was demonstrated by Prof. John A. MacWilliam of Aberdeen that, even when slowly inhaled in moderate quantities and with a good admixture of air, chloroform causes an appreciable dilation of the heart.

Chloroform is eliminated chiefly in the form of chlorids by the kidneys; about a third is excreted as chloroform by the lungs and kidneys. It may also be found in the milk of nursing women and in the fetal blood. Owing to its destructive action on the erythrocytes it produces hemoglobinuria and bilirubinuria. As demonstrated by K. Buedinger,[5] chloroform elimination continues for several days after administration. He found it in the sputa as much as 5 days after administration. Much mucous secretion means slow elimination, the chloroform evidently combining with the mucus.

POSTANESTHETIC EFFECTS.

Blood.—There is little room for doubt that chloroform combines with the erythrocytes, causing death of a considerable proportion of them, and marked lessening of the hemoglobin—the oxygen-carrying element. In 1890, Mikulicz noted that the administration of chloroform may reduce the hemoglobin from 5 to 10 per cent. In 1893, Garrett and Oliver concluded, as a result of experiments, that anesthetics, particularly chloroform, deoxidize the blood and the tissues, thus producing malnutrition and the formation of quantities of waste products, the elimination of which causes a severe, and possibly a fatal, strain upon the excretory glands.

5. Wien. Klin. Woch., Aug. 1, 1901 (quoted in THE JOURNAL Am. Med. Assn., vol. xxxvii, p. 608).

Kidneys and Liver.—Experiments on healthy animals and autopsies on man prove that chloroform produces fatty degeneration of the kidneys and liver. The experiments of Thompson and Kemp apparently indicate that the immediate effects on healthy kidneys are slight, as albuminuria when present during narcosis was slight, and the secretion of urine continued up to the last moment of life. Fränkel called attention to the fact that chloroform sometimes gives rise to fatty changes in the kidneys and liver from which death may result. Wunderlich found, from investigation in 125 cases, that albumin when present was not increased by chloroform, but that albuminuria and casts were not seldom caused by it; that chloroform nephritis occurs. In 70 cases of chloroform anesthesia reported by Patein, 12 per cent. showed albuminuria before, 15 per cent. during, and 73 per cent. after anesthesia. As a rule the albumin disappeared within 48 hours, and the length of the anesthesia seemed to bear no relation to the albuminuria. D. N. Eisendrath[6] reported that albuminuria was present in 15 per cent. of 650 cases after chloroform anesthesia where there was none before, and in 6 per cent. of 1500 cases after ether where none had been present before. Casts were found unaccompanied by albumin more frequently after ether. In over half of the cases there were casts where no albumin was found. Casts and albumin disappeared rapidly, more so after ether than after chloroform. L. Wechsberg of Vienna[7] tested the urine in 100 cases of chloroform anesthesia, finding biliary pigments in 16, and in most of these there was icterus, probably indicating some abnormal condition of the liver.

Respiratory System.—The first effect produced by chloroform is reflex irritation of the vagus through the terminals of the fifth nerve in the nose. The after-effects on the lungs and bronchi are similar to those of ether, only less pronounced. A large proportion of the chloroform taken into the system is eliminated by the pulmonary mucous membrane, and, being heavy, it is eliminated slowly. Besides its direct irritating effect during inhalation and elimination, it undoubtedly lowers the physiologic resistance and leads indirectly to the occurrence of bronchitis and pneumonia.

Cardiovascular System.—Fränkel[8] proved beyond a doubt that fatty degeneration and fragmentation of the heart muscle, both in man and animals, follow the administration of chloroform as an anesthetic. Previous to Fränkel's publication, several observers had noted similar changes in animals after chloroform inhalation. Since then, Ambrosius, Mathen, Bastianelli, Heinz and others have reported cases of the kind in man. Lengemann,[9] experimenting on dogs with definite amounts of chloroform, found that the amount of chloroform given made very little difference in the extent of the fatty degeneration of the different organs. While a certain amount of chloroform must be in circulation before fatty degeneration can be produced, he found that this quantity was always present when sufficient chloroform had been given to produce narcosis. Repeated narcoses increased the extent of the degeneration. A large proportion of the cases where fatty degeneration of the heart was found in man occurred after anesthesias, prolonged for 2 or 3 hours, and this accords with *a priori* reasoning.

6. Chicago Medical Recorder, June, 1897.
7. THE JOURNAL Am. Med. Assn., vol. xxxviii, p. 1340.
8. Virchow's Archiv, 1892 (quoted by Bloodgood, Progressive Medicine, 1901).
9. Beitrage zur Klin. Chir., 1900, Bd. xxvii, Heft 3, p. 805.

NITROUS OXID.

Physiologic Action.—Formerly it was thought that nitrous oxid was merely an asphyxiant, that its anesthetic properties were due entirely to its exclusion of oxygen. It is, however, a true anesthetic, and may be given with an admixture of air or oxygen with the result of producing quiet anesthesia without asphyxial phenomena.

Nitrous oxid is non-irritant, or nearly so, to the respiratory mucous membrane. It causes a positive and rapid rise in the blood-pressure, while there is slowing of cardiac action. Soon the heart beats faster and there is a fall in arterial pressure, due to vasomotor paresis. The respiration is labored and may be arrested by obstructive stertor or spasm of the respiratory muscles. When given without admixture of oxygen it produces asphyxia, manifested by stertorous respiration, cyanosis and dilation of the pupils—and in these cases the anesthetic effects are due largely to the asphyxia. In deep narcosis from nitrous oxid the renal vessels are contracted, the secretion of urine is diminished, and albumin may be found. The gas is eliminated unchanged by the kidneys and lungs.

The after-effects of nitrous oxid are, as a rule, transient; limited to slight dizziness, nausea or headache, lasting a few hours. Occasionally there may be albuminuria or dilation of the heart, the latter continuing for several days.

Nitrous oxid has until recently been employed for short anesthesias only, chiefly for tooth extraction. In 1899 Frederick W. Hewitt[10] published his deductions from observation of 231 cases of nitrous oxid narcosis. Pure nitrous oxid was given in 22 cases; nitrous oxid mixed with different percentages of air, 107 cases; nitrous oxid mixed with different percentages of oxygen, 102 cases. He concludes that when pure nitrous oxid is given the most conspicuous of the anesthetic phenomena are embarrassed and deeply stertorous breathing, cyanosis, and anoxemic convulsion. Other less obvious asphyxial phenomena are dilation of the pupils, swelling of the tongue and adjacent structures, and rapid cardiac action. All these may be eliminated or greatly modified without interfering with the anesthetic effects of the gas by administering it with certain proportions of oxygen, either pure or atmospheric. If the administration be pushed far enough, breathing is arrested by obstructive stertor, by anoxemic convulsion attacking the respiratory muscles, or by both combined. Paralytic cessation of breathing is very rare, and when it occurs is dependent quite as much on cerebral anemia from defective circulation as on the presence of unoxygenated blood in the vessels supplying the respiratory center. The deep and obstructive stertor of pure nitrous oxid narcosis is not met with when employing mixtures containing moderate percentages of air or oxygen, and when the percentage of oxygen is considerable—30 per cent. air or 13 per cent. oxygen—respiration becomes noiseless and free from obstruction.

Nitrous oxid is by far the safest general anesthetic we have. According to H. C. Wood[11] there were but 4 recorded deaths up to 1900 which could be certainly attributed to the drug. Hewitt,[12] however, records 17 deaths positively due to nitrous oxid, and 6 others probably due to it. Obviously, it is not entirely without danger. It is probably within the bounds of fact to estimate the death rate as low as from 1 to 3 in 1,000,000 narcoses.

10. British Med. Jour., Feb. 18, 1899.
11. H. C. Wood, Text-Book on Therapeutics, 1900.
12. F. W. Hewitt, Anesthetics and Their Administration, 1901.

ETHYL BROMID.

Ethyl bromid is almost non-irritant to the respiratory mucous membrane—by some it is believed to be sedative to this membrane. H. C. Wood found that its action on the heart was about the same as that of chloroform, and death occurs usually from cardiac paralysis. During its administration the skin and lips should not change color, nor the pupils become dilated.

The after-effects are generally limited to slight vertigo, nausea or headache. There is a garlicky odor to the breath for from one to three days after administration.

It is not at all safe to give ethyl bromid for more than 2 or 3 minutes, as longer administration is very liable to cause circulatory and respiratory failure. It is administered in 4 to 12 gram doses without admixture of air.

ETHYL CHLORID.

My experience with ethyl chlorid as a general anesthetic is *nil,* but from the data at hand I am inclined to class it with the more dangerous anesthetics, and would expect it to be especially dangerous in cardiac and respiratory troubles. Benjamin W. Richardson has asserted that an anesthetic is dangerous in proportion to the chlorin it contains, and it may be that his belief was founded on sound principles. Almost every reporter on ethyl chlorid anesthesia mentions a death in the literature. Although several deaths have probably occurred, it is likely that repetitions have occurred in the reports. Lotheisen (1900) reports 1 death in 2,500 cases, while Ware (1902) says that but one death has been reported in over 13,000 cases. He places its safety between that of ether and that of nitrous oxid.[13]

PENTAL.

Administered by inhalation, 8 to 12 grams are usually sufficient to produce anesthesia. Loss of sensibility occurs within 50 to 90 seconds without entire abolition of consciousness, but the effect may be pushed to profound anesthesia. The pupils sometimes dilate widely. Return to consciousness is gradual. Pental has been used little or not at all in the United States, but in Europe it was tried quite extensively some years ago. It has been almost discarded as a practical anesthetic.

EFFECTS OF ANESTHETICS DURING NARCOSIS.

As to ether there is little difference of opinion, nearly all agreeing that in almost all cases its dangerous effects are manifested primarily by disturbances of the respiratory system.

In the case of chloroform the diversity of opinion is great. N. Senn agrees with the second Hyderabad Commission (superintended by Lauder Brunton), that chloroform kills by its effect on the respiratory system. My belief has always been that the bad effects of chloroform were, as a rule, exerted primarily on the circulatory system, and increasing experience and observation go to confirm that belief. The circulatory and respiratory systems are very greatly interdependent, consequently that which affects one will also affect the other. This fact partly accounts for many erroneous interpretations of anesthetic narcosis phenomena. The majority of reports of deaths from anesthetics show evidences of inaccurate observations. Many times this is excusable, because when accidents occur the prime consideration

13. American Medicine, vol. iii, p. 1043.

is for the life of the patient and no time can be spared for technical observations. However, the majority of accidents might be avoided by closer attention to details and early recognition of conditions present.

Chloroform Syncope.—Leonard Hill[14] shows that there are two forms of chloroform syncope—primary and secondary—both forms being due to circulatory depression. Practically all observers agree that chloroform causes lowering of blood-pressure at all stages of the anesthesia, excepting momentarily at the beginning. The tracings of the Hyderabad Commission show that blood-pressure falls greatly before respiration ceases, but the Commission claims this has nothing to do with the heart, and that failure of respiration is the primary cause of death. If this be true, artificial respiration should be successful always, for it is well known that if the respiratory center be excised an animal can be kept alive for hours by means of artificial respiration. Lessening of blood-pressure is attributable partly to vasomotor paralysis and partly to cardiac failure. In rapid administration of an anesthetic the circulatory organs are in danger, and in slow administration the respiratory. Ether produces a slow fall of the blood-pressure, and chloroform a rapid.

MIXTURES AND SEQUENCES OF ANESTHETICS.

Both of these have their advocates, and with good reason in selected cases, especially as regards the sequences. These seem to be gaining prestige, especially the preliminary administration of one of the quick-acting and less disagreeable anesthetics—nitrous oxid—and continuing the narcosis with ether. A large number of combinations of ether and chloroform; ether, chloroform and alcohol; ether and alcohol; chloroform and alcohol, etc., have been used and warmly advocated. Morphin given before or during anesthetic inhalation produces mixed anesthesia; as do chloral, chloretone, cocain and other drugs. The weight of opinion is against the use of mixed anesthetics for routine work.

Schleich's Mixtures.—Dr. Carl Ludwig Schleich of Berlin[15] recommends for general anesthesia a mixture consisting of:

℞. Ethyl chlorid .....½ part to 2 parts.
Chloroform .....4 parts.
Anesthetic ether ..... 12 parts.

He records that he has used this mixture in about 5,000 cases without any bad results.[16] Some years ago Schleich gave it as his belief that mixtures of anesthetics of different boiling points are safer than the different anesthetics alone, on the assumption that the absorption of an anesthetic as to quantity depends on its boiling point. The more volatile an anesthetic the slower will be its rate of absorption. Ether, which boils at about 36 C. (97 F.) will be absorbed less rapidly than chloroform, the boiling point of which is about 61 C. (142 F.). He believed that if an anesthetic could be produced with a boiling point the same as the normal temperature of the blood, the exact amount absorbed with each inspiration would be eliminated with each expiration. He thinks that by producing mixtures with maximum evaporation points at different degrees above the blood temperature, we can regulate at will the excess which the expiration would not remove, and thus the amount of anesthetic retained in the blood. In order to accomplish this he added petroleum ether or benzine (boiling point 60 to 65 C.) to ether and chloroform in different proportions. His mixtures for inhalation consisted of three solutions:

No. 1, Boiling Point 38 C. (for Brief Anesthesia).

℞.	Ether	℥vi	186
	Petroleum ether	℥ss	15 5
	Chloroform	℥iss	46 5

No. 2, Boiling Point 40 C. (for Medium Anesthesia).

℞.	Ether	℥v	155
	Chloroform	℥iss	46 5
	Petroleum ether	℥ss	15 5

No. 3, Boiling Point 42 C. (for Prolonged Anesthesia.)

℞.	Ether	℥2 2/3	83
	Petroleum ether	℥ss	15 5
	Chloroform	℥i	31

Schleich claimed for these solutions that the anesthetist might be guided, as to the effects of the anesthetic, by the respiration alone; that there was no excitement, no tendency to irritate the bronchial tubes; the pulse had good tension and was never increased, but might be decreased, in frequency; that consciousness was regained more quickly than from ether or chloroform narcosis; and if the solution with a boiling point at about blood temperature were used, only a few respirations were taken before the patient became conscious.

These solutions were received with considerable enthusiasm by a number of American surgeons, among them Henry J. Garrigues, H. Rodman, and Walter Lathrop, the latter using them in 700 cases. Schleich's claims were not sustained in any very important respect, and so far as I know the solutions are not used here. My own experience with them was limited to 15 consecutive anesthesias, in 1898, when I encountered a case which convinced me that the solutions were at least as dangerous as chloroform. I believe the ethyl chlorid mixture will not stand the test of time better than his old mixtures.

Schleich's reasoning, that if an anesthetic could be produced with a boiling point the same as the normal temperature of the blood, the exact amount absorbed with each inspiration would be eliminated with each expiration, is fallacious, because a certain amount of the anesthetic would be retained in the blood and eliminated in part through the kidneys; and, moreover, the temperature of the body tends always to become reduced during anesthesia. In other words, the temperature of the body is not a constant quantity during anesthesia.

I do not believe that any form of chloroform mixture can be made as safe for routine use as ether.

Willy Meyer[17] reports his experience with "anesthol," a new anesthetic which he and H. P. Weidig, Ph.D., of Newark, N. J., have evolved out of the Schleich mixtures. He bases his recommendation of the use of anesthol on his experience with it in "many hundreds of cases operated on during the last 4 years." In this series of cases there was one death on the table directly attributable to the effects of the anesthetic. In this case it appears that respiration and circulation ceased suddenly, as in some forms of chloroform syncope. Meyer states that in all of the surviving cases in which dangerous symptoms occurred, it was the respiration and not the circulation which was especially affected. The anesthesia under anesthol is said to be tranquil, the circulation excellent and, when carefully administered, the respiration easy—much the same as with the original Schleich mixtures.

In my judgment, the great objection to the use of anesthol is that it contains chloroform—and a large proportion of it. Whether the ethyl chlorid contained adds to its toxicity must be decided by further experi-

14. Brit. Med. Jour., April 17, 1897.
15. Berliner Klinische Wochenschrift, vol. xxxviii, p. 269.
16. E. H. Squibb's Ephemeris of Materia Med., January, 1901.
17. The Journal Am. Med. Assn., Feb. 28, 1903, vol. xl, p. 553.

ence with ethyl chlorid as a general anesthetic. Theoretically, I would consider Schleich's ethyl-chlorid-chloroform-ether mixture, above mentioned, decidedly less dangerous than anesthol, owing to the vastly smaller amounts of chloroform and ethyl chlorid contained in the former. Schleich's statistics with his latest mixture show far better results than do Meyer's with anesthol. I do not expect either of these mixtures to attain and maintain the high regard of surgeons in general, nor do I believe that any form of chloroform mixture can be made as safe for administration in routine work as ether.

The administration of morphin before or during an anesthesia by ether or chloroform to produce a mixed anesthesia is sometimes a distinct advantage. Morphin given before chloroform is likely to prevent the dangerous nasolaryngeal reflex and the "stage of excitement." Atropin given before ether administration very materially reduces the excessive secretion of mucus produced by the ether and is a distinct advantage. A hypodermic injection of morphin and atropin, then, before ether or chloroform anesthesia is good practice. Atropin as a cardiac stimulant tends to counteract chloroform depression.

SUCCESSIONS OF ANESTHETICS.

By this term is meant the induction of anesthesia with one anesthetic and its continuance with another.

Ether-Chloroform.—This method of anesthesia is often employed in operations about the face and its cavities, where partial or "talking anesthesia" is desirable. Giving the ether first reduces the amount of chloroform required, and the narcosis is more readily maintained with chloroform than with ether.

Chloroform-Ether.—This method is a favorite with a large number of surgeons. Primary anesthesia is induced with chloroform, which saves time and is less disagreeable to the patient, and the narcosis continued with ether.

Nitrous Oxid-Ether.—This method has become popular in both the United States and Europe, especially in England. The advantages of the method are: 1, the time required to produce anesthesia is reduced to from 2 to 5 minutes; 2, the discomfort to the patient is reduced to the minimum; 3, the nausea and vomiting following etherization are reduced. About the only real disadvantage has been that, on account of the apparatus required, the method was practically limited to hospital practice. However, its mode of administration has been so simplified that the cumbrous inhaler can be dispensed with.[18] An ordinary paper and towel cone open at both ends may be used instead of the closed inhaler. This reduces the danger of asphyxiation and is cleanly and inexpensive. This method of producing anesthesia approaches the ideal when the open method of administration is employed and the ether given drop by drop. With this method there is less change in the conditions to which the body is normally subject than results from any other form of anesthesia.

Nitrous Oxid-Ether-Chloroform.—This method of anesthesia is advised by Frederick W. Hewitt.[19] He bases his recommendation on these grounds: The gas makes the anesthetization easier and pleasanter for the patient; the ether can be administered during the chief part of the operation, and gives the anesthetist little concern, whereas chloroform produces greater quiet and muscular relaxation, and during the administration there is also a comparative freedom from venous engorgement. The danger from chloroform is during the second stage—that of excitement—which is avoided by the employment of this method. The disagreeable after-effects of ether are also avoided. This method is highly commended in operations about the mouth, throat and nose.

Ethyl Bromid-Ether.—This method is being tried somewhat extensively. The chief advantage of the method over the nitrous oxid method is that no special apparatus is required. Four fluid grams (1 fluid dram) of ethyl bromid is poured into a folded piece of gauze held in the palm, over which the fingers are partially flexed, forming a cone, and this is applied closely over the patient's nose and mouth so as to exclude air. Unconsciousness occurs on an average in 40 to 60 seconds. Ether is then substituted, and there is usually little disturbance when the change is made. In from 2 to 4 minutes more the anesthesia will be complete. Less ether is required than in pure ether narcosis, by the amount necessary to produce unconsciousness.

I have tried ethyl bromid-ether anesthesia in a few cases, with results about like the above mentioned. I am, however, unable to convince myself that ethyl bromid is not much more dangerous than nitrous oxid, consequently do not expect to employ the method again unless many thousands of administrations by others shall have demonstrated beyond reasonable doubt that it is as safe as nitrous oxid. There is not sufficient advantage in the ethyl bromid-chloroform method to warrant its employment.

Chloroform-Oxygen.—This method is probably safer than the ordinary chloroform method, but it is difficult to believe it is as safe as Heinz Wohlgemuth[20] implies when he says that he thinks overdose with this method is impossible. He reports 300 narcoses by the method. He uses an elaborate apparatus—in itself an objectionable feature.

CHLOROFORM AND AMYL NITRITE.

During the Civil War this mixture was used very extensively. Four grams (1 dram) of amyl nitrite is added to 1 pound of chloroform. The object is to reduce the danger of chloroform narcosis. The amyl nitrite perceptibly diminishes the cardiac depression of chloroform and improves the capillary circulation, as shown by less pallor. Cyanosis is less frequent than when pure chloroform is used. After observing its use by another surgeon (N. Senn) in a large number of cases I decided to try it. Its use in a few cases convinced me that the mixture is very much less safe than ether, though probably safer than chloroform alone.

PARTIAL OR TALKING ANESTHESIA.

This method is employed in bloody operations about the nose and mouth, instead of complete narcosis and Rose's (head down) position, to prevent blood from entering the trachea. A half hour before beginning the administration the patient is given 2 ounces of whisky or brandy in water, or 15 minutes before, a full dose of morphin hypodermically. The patient is placed with the head and shoulders somewhat elevated and the anesthesia carried only far enough to blunt or abolish the pain-sense, but the patient should remain sufficiently conscious to respond to questions and co-operate with the surgeon in clearing the mouth and throat of blood. This method does away with the necessity for preliminary tracheotomy in certain operations above the larynx.

Primary anesthesia may be advantageously employed for short operations—like the removal of adenoids,

18. Albert H. Miller: Annals of Surgery, 1899, vol. xxx, p. 709.
19. Gould's American Year Book of Med. and Surg., 1902, p. 48.
20. Interstate Med. Jour., St. Louis, October, 1901.

breaking up of ankyloses, thoracotomy, etc. Ether, and not chloroform, should be used, since in chloroform narcosis the time of greatest danger is during the moment when relaxation is occurring, just previous to the beginning of surgical anesthesia.

Nitrous oxid is the best anesthetic for short operations, but it should not (as is often done) be administered with the patient in the upright position, especially for operations about the pharynx, where blood or tissues are liable to be aspirated into the trachea.

ANESTHESIA IN HEART DISEASE.

As a rule, it is only in myocardial affections that anesthetics produce any markedly bad effects. In myocarditis ether is badly borne, and chloroform is dangerous in the extreme. In valvular disease, while there is appreciable disturbance, it generally is not great, and in functional affections the effects of anesthetics are insignificant.

In cardiac disturbances after anesthetics it is often difficult to determine whether the result is due to the anesthetic or to the operation. In some cardiac diseases ether has a temporarily beneficial effect, although the secondary effect may be unfavorable, the symptoms occurring after a lapse of days, perhaps. Ether is contraindicated in the presence of arteriosclerosis and high arterial tension. Nitroglycerin would tend to counteract this danger.

The effect of an anesthetic may, of course, show itself as a postanesthetic edema or pneumonia in these cases. No condition of the heart is an absolute contraindication to the use of an anesthetic, and ether is the anesthetic of choice.

TEMPERATURE CHANGES DURING ANESTHESIA.

All anesthetics tend to lower the body temperature, and the longer the narcosis the lower the temperature and the longer in recovering to normal. Depression of the nervous system and lowering of blood-pressure correspond closely to loss of heat. Ether causes profuse sweating, which, of course, lowers the temperature, the temperature also being lowered by evaporation of the ether. Atropin is useful in these cases as a vasomotor stimulant. The temperature may be lowered by anesthetics over 3 F. Loss of heat may be, to a great extent, prevented by properly covering the patient, by surrounding him with hot bottles, and by being careful to have the operating room at the right temperature (75 to 85 F.)

INHALERS.

There is a multitude of ether and chloroform inhalers on the market, some modeled for the "open method," others for the "closed method" of administration. The Esmarch chloroform mask and the Allis ether inhaler are types of the former, and the Clover and the Ormsby ether inhalers and the Junker chloroform inhaler of the latter.

The asphyxial element enters largely into the production of anesthesia when the "closed" kind of inhaler is used. I believe this adds to the danger. I discard this class of inhalers, as they are dangerous, cumbrous, expensive, and filthy. Take the Clover inhaler, for example. The patient's microbe-laden breath, to say nothing of its other constituents, is passed through the entire apparatus repeatedly, the face-piece is befouled with mouth secretions, stomach contents, etc., and this process is repeated time after time indefinitely. It is practically impossible to asepticize these inhalers, and even if this can be done, certain disagreeable odors can not be eliminated. Possibly, some of the pneumonias attributed to ether can be accounted for in this way. The Junker inhaler is so constructed that the inspired air is charged with chloroform vapor by being forced, by means of a hand-bulb, through the liquid chloroform, after which it reaches the face-piece through a rubber tube. The percentage of chloroform in the inspired air is regulated by the depth of chloroform through which the air passes. Some 12 years ago I employed this apparatus in a few cases—and it has ever since been an especial source of comfort to me that none of the patients died from its use. Only an expert can use the elaborately constructed appliances, and with some of them, like the Junker inhaler, two persons are necessary in order to conduct the anesthesia properly. The paper and towel cone, closed at one end, is open to the following objections: The supply of ether can not be properly regulated; the patient is apt to be asphyxiated into insensibility; the ether vapor is not sufficiently nor constantly diluted with air, and the method is wasteful.

The best type of inhaler, for ether and for chloroform, is one made on the principle of the Esmarch chloroform mask. Lawrence H. Prince of Palmyra, Wis.,[21] introduced this method in Chicago in 1895. It answers the purpose in most cases where ether can be used. The evaporating surface should be somewhat larger for ether than for chloroform, and the covering of gauze should consist of fully twice the number of thicknesses. In high altitudes and when the atmosphere is very warm, the mask should be modified, so as to allow its sides to be covered with a less pervious material—as in the mask devised by Nicholas Senn. Ernest Laplace has still further modified the Esmarch inhaler by covering the cone with metal, leaving ample opening at the top for air. All things considered, the Laplace inhaler is, perhaps, the best on the market. This kind of inhaler is cleanly, since fresh gauze is supplied for each case; it is efficient and safe, and the admixture of air can be easily regulated. I have modified the Laplace inhaler by having attached to the left side a ring for the thumb, which makes it easier to retain in place. The Esmarch or the Schimmelbusch masks can be made practically like the Laplace mask by covering the gauze with oiled silk or other impervious tissue, leaving an opening at the top.

TONGUE FORCEPS AND GAG.

A medium-sized double vulsellum will do less harm if properly used than the ordinary tongue forceps. The former simply makes two punctures, while the latter frequently lacerates and contuses the tongue. N. Senn has devised a tongue forceps, consisting of a lower, flat, fenestrated blade, with an upper, single tenaculum blade. I have modified this forceps by having a double tenaculum blade above and a heart-shaped blade below, instead of the pointed one. (Senn has recently changed his forceps to a double vulsellum.) I want to emphasize the fact that an expert anesthetizer seldom uses the tongue-holding forceps or the gag.

(To be continued.)

21. Chicago Medical Recorder, April, 1897.

Injection of Vaselin in Arthritis.—Delagénière of Mans recently treated a case of painful arthritis without effusion, involving the shoulder, by injecting vaselin. He hoped that it would act as a lubricant and keep the parts from painful contact. His hopes were realized as all pain vanished at once and there has been no recurrence during the three months since. Spontaneous physiologic movements of the joint were possible at once and all trouble from this source has ceased.

VAGINAL EXPLORATORY PUNCTURE AND CELIOTOMY;

THEIR ADVISABILITY IN DOUBTFUL DIAGNOSIS IN DISEASES OF THE FEMALE GENITAL ORGANS; REPORT OF CASES.*

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MILWAUKEE, WIS.

When some time ago in a discussion on the differential diagnosis of appendicitis, pyosalpinx, extra-uterine pregnancy, tuberculosis of the right tube and exudates in the right iliac region, I heard the opinion expressed by a teacher of gynecology: "What is the use of going into minute details of differential diagnosis in such cases? The abdomen has to be opened anyhow," I was unwillingly reminded of the general who without sufficient reconnoitering led his troops into an unknown valley, and afterward, encountering insurmountable difficulties, met terrific defeat. Though without question the advancements of modern surgery in the last twenty-five years have made an exploratory laparotomy a relatively safe procedure, so far as the immediate and probably the remote safety of the patient is concerned, yet it must not be forgotten that all therapeutic actions ought in every medical as well as surgical case to be based on a strict and correct diagnosis, and that all means and methods of diagnosis ought to be exhausted before reaching definite opinions and conclusions in regard to the therapeutic methods and routes to be employed in the individual case. "Not the idea of making large incisions to overcome difficulties in diagnosis, but the idea that when a surgeon makes a so-called explorative laparotomy he thereby confesses his ignorance, is real surgery and surgery of the future"—these words of Mikulicz[1] ought to be a *mene-tekel* in the operating room of those who, carried *furore operationis* on the diagnosis of a tumor in the abdomen, perform celiotomies regardless of the nature and operability of the disease in question.

In gynecology, bimanual, vagino-abdominal or recto-abdominal examination or a combination of both, enables us to make a diagnosis usually with more accuracy and more ease than in other regions of the abdominal cavity. But there are cases—and every gynecologist of larger experience has seen them—where the differential diagnosis between two or three diseases can only be made with approximative certainty or is even utterly impossible. In many of such cases, chiefly when the Douglas pouch is the seat of the disease, vaginal exploratory puncture, with or without vaginal posterior celiotomy, can not only affirm our up-to-this-point doubtful diagnosis, but at the same time further our decision, first, in regard to the operability of a case; second, concerning the advisableness of the vaginal or abdominal route as operative procedure.

I think nobody questions any more nowadays that vaginal incision and drainage in cases of abscesses of the pouch of Douglas, whether they originate from an infectious process in the uterus following abortion or birth or from a pyosalpinx or an appendicitis, is the method *par excellence;* nobody questions, furthermore, the advisability of the vaginal route for retro-uterine hematocele when infected either by way of the uterus or by way of adherent bowels. So long as we do not know whether the pus in an abdominal abscess is *pus bonun et laudabile;* so long as we are not in the possession of measures to determine the virulence of the bacteria and of the toxins present in the pus focus before operation, so long it must be our duty to open abdominal abscesses —where there exists a possibility—by an extraperitoneal route, that is, in women the Douglas abscesses by posterior vaginal celiotomy.

The diagnosis of such inflammatory exudate masses in the pelvis is, as already pointed out, not always easy. When they lie quiescent for a longer period of time they are often surrounded by a hard and thick shell of tissue, which not so seldom gives the impression of fibroid or, because of their irregularity, of malignant tumor. I observed two cases of retro-uterine exudate, in which the diagnosis of malignant tumor in one and fibroid in the other was made by other colleagues. Vaginal explorative puncture revealed a pus focus in the depth of six respectively of eight centimeters and the therapy; vaginal incision and drainage brought about a perfect cure within from six to eight weeks. It is the hardness and irregularity of such masses which can mislead to the diagnosis of malignant tumors.

That in cases where fluctuation is present in the posterior cul-de-sac, vaginal puncture may be of vital importance, I could demonstrate lately on three cases:

Mrs. R., 24 years of age, nullipara, states that she menstruated regularly and without discomfort since her fourteenth year. Fourteen days ago the menstrual flow was three days overdue and was connected with a sharp pain in her right side.

As the flow continued for more than nine days her physician was led to believe that an abortion had taken place and curetted the uterus. Very severe symptoms of peritonitis followed a few days after this procedure: pain in the lower region of the abdomen, elevation of temperature to 103 and pulse 140-150, together with frequent vomiting. When I was called into consultation to this—as the physician stated—absolutely hopeless case, I found the symptoms as above stated, the abdomen was tender all over, but chiefly in the lower portion. Bimanual examination revealed a fluctuating tumor of the size of a man's head in Douglas' pouch, pressing the somewhat softened uterus against the symphysis. As the woman showed no signs of anemia, I was inclined to the diagnosis of pelvic abscess following an abortion, though the irregularity in her menstrual period aroused my suspicion of possible extra-uterine pregnancy. Vaginal explorative puncture, followed immediately by vaginal incision, performed in the so-called exciting stage of ether anesthesia, revealed a large infected hematocele, resulting from a right-sided extra-uterine pregnancy. The patient made a perfect recovery.

Fever in case of ruptured extra-uterine pregnancy does not necessarily include that the hematoma or hematocele is already infected. It is a well-known fact that fever often follows severe hemorrhage, as for instance, hemorrhage from a puerperal uterus, without infection being present. This by the way.

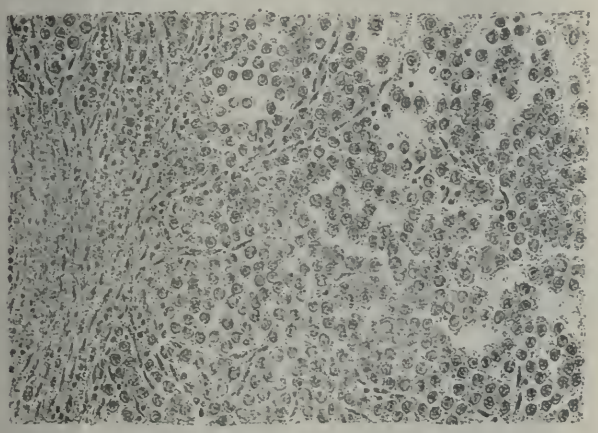
In some cases the diagnosis between an unruptured extra-uterine gestation sac, chiefly when as far advanced as the third month of pregnancy, and pelvic abscess together with pyosalpinx, shows difficulties which can easily be overcome by vaginal explorative puncture.

The experience in a case five years ago, in which all the clinical symptoms, such as irregularity in the menstrual flow, absence of fever, etc., together with the findings by bimanual examination led three diagnosticians of reputation to the diagnosis of extra-uterine gestation of five months' duration, has taught me a lesson which I can never forget. After opening the abdomen in this case a pyosalpinx connected with an enormous abscess was found. In freeing a part of the adherent sigmoid

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

1. Handbuch der practischen Chirurgie, by Von Bergmann, Brune and Mikulicz.

flexure, the abscess ruptured. General peritoneal infection followed the operation, to which the patient succumbed after forty-eight hours. Vaginal explorative puncture would have revealed the true nature of the disease and thereby indicated the vaginal route for operative procedure. Would vaginal incision and drainage have saved the life of the patient? It is my firm belief it would. Examples of this class have been very numerous, but are usually, unfortunately, not cited in literature. Many have been misled by the somewhat sweeping statement before the American Medical Association at St. Paul[2] that the vaginal operation for abscesses in Douglas' pouch was a dismal swamp procedure, and that vaginal opening was not a surgical operation. The free admission of Noble at Saratoga Springs one year later that through this error many a patient had lost her life which could have been saved by vaginal incision brought surgery back from the "bolder, more spectacular, but deadlier enucleation by the abdominal route," to use Reuben Peterson's words,[3] to the channels of logical sense and logical principles, that is, simple vaginal incision. The following case, in which a diagnosis without explorative celiotomy was absolutely impossible, shows that vaginal posterior celiotomy may in some cases



Round-cell sarcoma of the ovary. (Mrs. W.)

give evidence of the operability or inoperability of a tumor in question.

Mrs. W., 43 years of age, states that she gained in flesh in the last half year and that she felt perfectly well in every respect up to the last three months. At that time she felt a slight pain in the right iliac region, which she attributed to rheumatism. Four weeks ago the pain, accompanied by a slight rise of temperature, increased to such a degree that the family physician was called in. On examination he found three irregular hard tumors varying from the size of a goose egg to that of a small fist, originating from the uterus. Diagnosis: Subserous fibroids of the uterus. After examining her in consultation I confirmed this diagnosis, but suggested in regard to the rise of temperature, that an inflammatory condition, probably originating from the left tube and ovary and lying behind the uterus, complicated the condition.

Abdominal hysteromyomectomy was advised, to which the patient consented about eight days later. After transportation to the hospital, however, symptoms of peritoneal irritation with rise of pulse to 120 and temperature to 102 developed. An examination immediately before operation revealed that the entire situation had changed to a marked degree. The tumors attached to the uterus seemed enlarged considerably and could be outlined on the outer side of the abdomen. On bimanual examination a mass was found in the posterior cul-de-sac pressing down the rectum and bulging into the vagina. Apparent fluctuation was perceivable on one point of this mass. What was the cause of this change?

Three things had to be taken into consideration: First, a pus tube could have ruptured and produced a Douglas pouch abscess bulging into the vagina. This was the most probable explanation because of the rise of temperature. Second, rupture of a blood vessel in a tumor, or in a pregnant tube could have occurred, producing a hematocele. Third, a tumor mass could have broken down. As by explorative, vaginal puncture, no fluid of any kind could be aspirated, the third cause was the only one possible.

Vaginal explorative incision revealed a soft, friable tumor mass originating from the left ovary, which was enlarged to the size of a man's fist and broadly attached to the posterior wall of the uterus. The microscopic examination, as shown in the accompanying drawing, revealed a small round-cell sarcoma of the ovary. It was evident that the other tumors, which had grown so rapidly in the last five weeks and which were adherent everywhere to the surrounding organs, were of the same nature as the specimen examined. As hereby the inoperability of the tumor was demonstrated I pronounced the case as hopeless and advised strongly against further operative procedures.

Dr. Reuben Peterson saw the case later and confirmed in every way my statements. As the family and the patient insisted on giving her a last chance by abdominal operation he operated and found the condition beyond hope. The patient died 52 hours after operation.

It is here not the place to go into details of the pathology of this interesting tumor, as this will be published elsewhere. I would only like to point out here that it is a well-known fact that round-cell sarcoma of the ovary usually affecting both ovaries belongs to the most malignant diseases of the female generative organs, and that the rapidity of their growth is sometimes startling. Chroback[4] observed a case which grew within twenty-three days from the region of the navel to the border of the ribs. A similar case has been described by McBurney.[5]

At the close of my paper I would like to emphasize once more that, as shown on these instructive cases, vaginal explorative puncture and celiotomy is a valuable aid in the differential diagnosis of certain diseases of the female generative organs and may even be oftentimes of vital importance for the surgeon who bases his therapeutic actions on the old Hippocratic law: *Primum nil nocere.*

By its advocation is furthermore demonstrated the wisdom of the old, but in our days, unfortunately, too often violated law: Not to be carried away by every new idea, but to accept only that what appeals to judgment, and I would like to close with the precautionary words often cited by Gaillard Thomas[6] of New York, who, by the way, was one of the first advocates of vaginal celiotomy, as cited by Mackenrodt[7] in his paper: *Ueber den hinteren Scheidenbauchschnitt:*

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

Post-Graduate Hospital.

DISCUSSION.

Dr. H. J. Stacey, Leavenworth Kan.—We see many cases in which a vaginal puncture or free opening would relieve the condition and is without danger, whereas an abdominal section is out of the question. The occasional operator would take a chronic case and perhaps do well by the abdominal route; but the patient is frequently in too dangerous a condition for a major operation, at least in our hands, because we operate too slowly; but by draining first we can very

2. The Journal A. M. A., July 6, 1901.
3. Amer. Jour. Obstet., 1902, p. 810.
4. Wiener med. Blätter, 1898, No. 23.
5. Annals of Surgery, June, 1895,
6. Amer. Jour. of Obstet., 1903, p. 504.
7. Sammlung klinischer Vorträge, No. 156.

safely and easily do the major operation later by the abdominal route and save many lives in that way.

DR. D. H. CRAIG, Boston—I think cutting through a wall 8 to 10 cm. in thickness should be kept distinctly out of the field of vaginal opening. When we have pus so firmly walled off as that it is perfectly safe to go through the abdominal wall, then we can clean it out thoroughly and make a complete cure instead of leaving the patient with a lot of material to absorb. As regards the occasional operator, I think the vaginal route is better for him, providing he is sure of his technic. But no man can do more harm than the occasional operator going through Douglas' cul-de-sac into the abdomen. The posterior or anterior cul-de-sac operations are not, as a rule, curative. They are palliative, and if the occasional operator will take that route and do these operations it is incumbent on him to advise his patient of the fact that he is doing a palliative operation and that other work may be required by some one who is not an occasional operator.

DR. J. H. CARSTENS, Detroit—I wish the essayist would say "opening" instead of "puncture." A "puncture" means a little bit of an opening, and to my mind the opening can not be too big. A little one closes up right away, and you must do your work again. Make a good, big opening, and give Nature a chance.

DR. C. O. THIENHAUS—When I have a hard mass lying in the cul-de-sac of Douglas, and the diagnosis, whether or not this hard mass contains a focus of pus, can not be ascertained by other means, I advocated in my paper exploratory vaginal puncture for this purpose, and if I find pus I drain by way of the vagina. Dr. Craig says it is better to open the abdomen in such cases. Clinical experience has shown evidently that it is not. When you can not before operating determine the virulence of the bacteria present in the pus, you are liable, when a little of this pus contains highly-virulent infectious material, to see your patients die promptly. When bacteriology is so far advanced that we can determine with absolute certainty the grade of virulence of the bacteria in the pus focus, then we can differentiate and state in what cases abdominal section may be done without fear of infecting the general peritoneal cavity. But up to this time it is always better to be on the safe side and to open intraperitoneal abscesses, where there exists a possibility, by an extraperitoneal route. When the speaker says that cases of double pyosalpinx of gonorrheic origin do not heal by simple vaginal drainage, I would like to cite the statistics of Treub, who states that from 79 cases 44 were radically cured by simple vaginal drainage without further interference. I am sorry that Dr. Carstens misunderstood me. Naturally, when the puncturing needle has demonstrated the presence of pus, the vaginal incision must be as large as possible to establish free drainage.

CARCINOMA AND TUBERCULOSIS TREATED BY THE ROENTGEN RAYS.

G. E. PFAHLER, M.D.

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PHILADELPHIA.

As a basis for the conclusions to be drawn in this paper, I have selected nine cases, each illustrating some special point of interest. I have omitted many of the details which would be of little interest to the general practitioner.

CASE 1.—Mrs. K. E., aged 84 years. Referred by Dr. Ulrich of Chester, Pa. The diagnosis was carcinoma of the right breast. Operation was contraindicated on account of the patient's age and on account of the condition of her heart. The growth was of one year's duration. There was a distinct retraction of the breast below the nipple, making a groove about two and a half inches in length. In connection with this there was a hard mass about the size of a hen's egg. Surrounding this central mass there were other masses of lesser size and of less density. The overlying skin was healthy. There was no axillary or supraclavicular involvement. Treatment was begun April 20, 1903, and exposures were given daily for two weeks. Each exposure was of ten minutes' duration, at a distance of 15 inches, with a high vacuum tube and 3 to 4 ampères' current. The treatments were then given three times a week for six weeks, then twice a week for ten weeks, and once a week for 2 weeks. She had 57 treatments in all. The length of each exposure was gradually increased from 10 to 25 minutes. After the first week there was improvement in that the semi-solid masses disappeared. At the end of two weeks the central mass seemed to be a little softer. From this time there was

Fig. 1.—Case 4. Before treatment by *x*-ray, May 25, 1903. Sarcoma of orbit. Scar due to an operation.

constant improvement, the mass gradually became softer and smaller until it disappeared.

The points of special interest in this case are the early and constant improvement, and the absence of any dermatitis in spite of the unusually long exposures. In no other case have I been able to give nearly so long an exposure without producing a marked dermatitis. As a whole, it is one of the most remarkable cases that I have seen.

CASE 2.—Mrs. K. J., aged 40 years. Diagnosis, recurrent carcinoma of the left breast. She had been operated on twice by Dr. Sanford of Memphis, Tenn. The first operation was performed one month after the growth was first noticed, May 7, 1900. A growth reappeared one year later and was removed December, 1901. A recurrence developed in July, 1902. *X*-ray treatment was begun in October, 1902, at which time there was

an induration involving the entire scar and about one inch on either side, with nodules in the axilla and the left supraclavicular region. There was also an induration in the right breast. Both mammary, axillary and supraclavicular regions were treated. Seventy-five treatments in all were given, between October 11 and May 31, when the carcinomatous tissue seemed to have disappeared. Treatments have been given since that time at intervals of two to four weeks for the purpose of preventing any recurrence or any involvement of the mediastinal glands. The patient's general health before treatment was failing and she was not expected to live six months. Her general health improved while under treatment. A dermatitis was produced on two occasions, each of which seemed to be followed by distinct improvement.

CASE 3.—Mrs. J. W., aged 48 years. Recurrent carcinoma of the left breast. She was operated on by Dr. Wharton in

Fig. 2.—Case 4. After thirty-four treatments. July 16, 1903.

June, 1902, one month after the growth was first noticed. The whole breast and axillary glands were removed. A recurrence was first noticed in November, 1902. *X*-ray treatment was begun Jan. 22, 1903. At this time nodules from the size of a pea to that of half a walnut were found scattered through the field of operation. A small indurated gland could be felt in the left supraclavicular region. Twenty-six treatments were given between Jan. 22 and April 7, 1903, when a burn of the second degree had been produced. The growth had lessened very much, both in size and induration. Treatment was discontinued. The thyroid gland, which was large at the beginning, now grew rapidly and the patient developed the symptoms of exophthalmic goiter. She was taken to the Presbyterian Hospital, where the burn healed, the thyroid gland decreased rapidly in size, and the general health improved. The patient then developed pain in the axilla, and Dr. Newcomet reapplied the rays, which produced another burn that developed after leaving the hospital. I advised her to go to the seashore and allow the burn to heal. While there a recurrence developed on the site of the burn without the burn healing.

This case to all appearances was similar to Case 2, but the results have been very different. It is an instructive case, because of the idiosyncrasy against the rays, since less rays were used than on either of the two previous patients. It also shows that a severe burn is no proof against carcinoma; also, that it is wrong not to keep a case under observation while a burn is healing, and that even when a good result is obtained the case should be watched.

CASE 4.—Miss D. B., aged 16 years. Referred by Dr. L. Webster Fox. This was a case of retrobulbar sarcoma, the diagnosis being confirmed by microscopic examination. The antrum of Highmore had been previously curetted by Dr. E. B.

Fig. 3.—Case 4. After forty treatments. Aug. 27, 1903. Scar due to an operation. Sight not disturbed.

Gleason. The growth again rapidly infiltrated the sinuses. The patient had been examined by Dr. Walter Freeman. She had also been examined by Dr. W. L. Rodman, who refused to operate and advised *x*-ray treatment. No one expected the patient to live. At the time of beginning treatment the patient was too weak to stand, complained of severe headache and pain in the eye. There was a marked bulging of the eye from the orbit and a protrusion of the conjunctiva. The case was treated daily with five-minute exposures, with a high vacuum tube, and 3 to 4 ampères of current, at a distance of 12 inches. At the end of a month the swelling had almost disappeared, the pain was less, and the patient was well able to walk around and left the hospital. There had been an erythema present for two weeks. She was then treated twice a week for a month, at the end of which time she could open her eye slightly, and felt fairly well. She was then treated once a week for two

months, when she was apparently well, except for occasional pain in the region of the inner canthus. She is still being kept under observation and occasional treatment. There was no loss of sight.

This case is important (1) because it was a sarcoma; (2) because of its extensive infiltration; (3) because of its prompt and constant improvement; (4) because there was no injury to the organ of sight as a result of the treatment.

CASE 5.—Mrs. A. S., aged 69 years. Epithelioma of the face. Referred by Dr. J. M. Anders, July 3, 1903. During the previous two months an epithelioma had been developing on the right side of the nose, and extended on the bridge of the nose. It was completely removed by 20 exposures, covering a period of two months. The cosmetic result is perfect. There is no scar, and the skin is smooth and of a pink color.

CASE 6.—Mr. S. G., aged 60 years. Epithelioma of the mucous membrane. Referred for *x*-ray treatment by Dr. Hollopeter. Ten years ago a warty growth developed on the lower lip. He began treatment at a sanatorium near Boston, July, 1900, where caustics were used. He remained there 18 months, at the end of which time he came to Dr. Hollopeter and was referred to me. His mouth could then not be opened except to admit the little finger, and this gave him severe

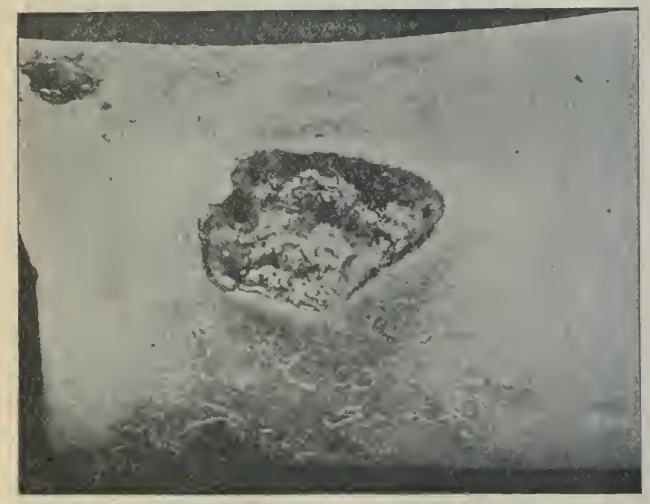

Fig. 4.—Case 8. Tubercular ulcers of the leg, March 3, 1903, before *x*-ray treatment.

pain. The growth involved the right angle of the mouth and the greater part of the cheek. There was an enlarged gland in the right submaxillary region. The gland disappeared in about a month under treatment, but the growth itself, being mostly in the mouth, slowly but gradually increased in size and the amount of pain increased. The case was inoperable from the first, but the rays had little influence except perhaps to slightly retard the growth. Ninety treatments were given.

Cases 5 and 6 are important because of their differences. In Case 5 the epithelioma was entirely superficial, involved the skin, had never been tampered with by caustics, was treated early with the *x*-rays and yielded promptly with perfect results. In Case 6 the epithelioma was not entirely superficial, involved the mucous membrane, had been tampered with by caustics for eighteen months, *x*-ray treatment was begun late, after the growth had started to spread, and a long course of treatment was given with practically no results.

CASE 7.—Miss A. N., aged 20 years. Tuberculous adenitis. Referred by Dr. Ernest La Place. She had had tubercular adenitis for nine years and had been operated on by Dr. La Place three years ago, and again one year ago. She was referred for *x*-ray treatment Feb. 9, 1903, on account of swelling of the glands on both sides of the neck and because of an indurated scar on the right side of the neck. After 10 treatments the scar and the glands were softer. After six weeks and 15 treatments the scar had almost faded and the glands were almost imperceptible. After 5 months and 34 treatments the glands were imperceptible, and the scar was soft, pink and barely noticeable.

CASE 8.—Miss J. F., aged 16 years. Referred by Dr. W. L. Rodman, March 3, 1903. Diagnosis, tuberculous adenitis and tuberculous ulcers of the legs. She was operated on by Dr. Rodman one year ago, when the glands were completely removed from the left side of the neck, from the lower portion of the right side of the neck and from the right axilla. At time of beginning treatment there was enlargement of the posterior cervical glands and a distinct enlargement just below the right ear. There were also three ulcers on the right leg, varying in size from one inch to two inches in diameter. She has been given 40 treatments covering a period of eighteen weeks. The two smaller ulcers on the leg healed within a month. In six weeks the largest gland had ruptured and healed. At the end of four months the enlargement of the glands had disappeared. The largest ulcer on the leg had

Fig. 5.—Case 8. Oct. 12, 1903. Ulcer healed, scar still red.

been reduced to one-third its original size, and had a healthy appearance, but needed support of the circulation. Dr. Burns then applied an elastic cast and the ulcer healed in three weeks.

The above two cases are important because they show undoubtedly a good influence of the rays on the tuberculous glands and ulcers.

CASE 9.—Miss K. B., aged 30 years. Referred by Dr. La Place, under whose care she had been for fifteen years. Diagnosis, lupus vulgaris. At the time of beginning treatment, the diseased area covered the greater part of the anterior portion of the face and the entire nose. A distinct reaction was produced in two weeks by 7 exposures. Following this reaction the tubercles were leveled to the skin and desquamation took place. She has been given 18 treatments in four months, and is practically well.

I report this case because of a very interesting and remarkable coincidence. For eight years previous to beginning treatment, the patient had been very deaf, so that it was difficult to make her hear. At the end of the course of treatment, she could hear ordinary conversation. This remarkable result was unthought of and, therefore, no accurate observation had been made before treatment; but eight years ago a specialist in

New York had examined her and pronounced her deafness incurable. This result suggests that the rays may be of value in some forms of deafness.

In conclusion, I am convinced that:

1. The *x*-rays are of undoubted value in the treatment of certain cases of both superficial and deep-seated carcinoma and tuberculosis.

2. The more a case has been tampered with, the less likely it is to yield to the influence of the *x*-rays, *e. g.*, Case 6.

3. Daily treatments carefully and properly given will produce the best results, *e. g.*, Cases 1 and 4.

4. We should try never to produce a dermatitis beyond a simple erythema.

5. There are idiosyncrasies in certain people which render them most susceptible to the *x*-rays, and in these people deeper burns may occur in spite of the most careful treatment, *e. g.*, Case 3.

6. Epithelioma involving the mucous membrane is much less likely to yield to the effect of the *x*-rays than when it simply involves the skin, *e. g.*, Case 6.

7. There is not likely to be any interference with the sense of sight, even though the *x*-rays are used directly over the eye, *e. g.*, Case 4.

8. Tuberculosis, whether of the skin or of the glands, will yield at least in certain cases to the effects of the *x*-rays, *e. g.*, Cases 7, 8 and 9.

9. The *x*-rays may be of value in certain cases of deafness.

10. The *x*-rays will give better cosmetic results than any other form of treatment in simple epithelioma of the face, *e. g.*, Case 5.

11. Epithelioma of the mucous membrane should be removed as early as possible by the knife, and this followed by *x*-ray treatment.

12. Operable cases should be operated on and in each instance followed by a course of *x*-ray treatment, and *x*-ray treatment should be given at the first sign of a recurrence.

13. Inoperable cases should be given a trial with the *x*-rays, since even hopeless cases sometimes yield to this form of treatment, *e. g.*, Case 4.

14. It is desirable to produce a distinct reaction in the treatment of lupus, *e. g.*, Case 9.

Clinical Reports.

TWO CASES OF TRANSITORY COMPLETE BLINDNESS OF BOTH EYES.*

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IDIOPATHIC OPTIC NEURITIS.

Case 1.—Mrs. K. S., aged 32, has been married eleven years, and is apparently in robust health. She has given birth to two children, both of whom are living and in good health; the younger is 4 years old. Patient has always been in good health. No history of syphilis. For some weeks she has suffered more or less from frontal headache.

She came to the Newark Eye and Ear Infirmary for the first time Dec. 22, 1901, complaining of loss of vision of left eye and impairment of vision of right eye. The examination made at this time showed that the exterior parts of the eye were perfectly normal in appearance, and that the movement of the eyes were unimpeded in any direction. On closer examination it was found that the left eye was blind; this eye could not distinguish between light and darkness. The pupil of this eye was larger than that of the right eye and it did not react to light. It did, however, respond to light thrown in the right eye. The ophthalmoscope showed clear media and a well-marked papillitis. The optic disc was swollen and apparently enlarged. The retinal veins were full and tortuous, while the arteries were of about normal caliber. The retina immediately surrounding the disc was hazy, but otherwise it was normal. The right eye also showed swelling and enlargement of the optic disc, but not quite so marked as that of the other eye. The retina was transparent except very close to the optic disc. The pupil of the right eye was of normal size and responded readily to light. The sight of this eye was reduced to 5/12. An examination of the urine showed it to be free from albumin and sugar. Close questioning failed to reveal disease in any other part of the body.

She was given iodid of potassium in small doses. She was seen again the next day, when it was found that both eyes were now totally blind. She could not recognize the light of a candle held close to her eyes. The swelling of the optic discs had increased. Their surfaces were best seen with a +3 dioptric glass. The pupil of the right eye was now as large as that of the left eye, and neither pupil reacted to light.

She remained in this condition until December 28, when she could distinguish between light and darkness. December 30 it was found that the pupil of the right eye responded very sluggishly to light, but contracted in convergence. The pupil of the left eye responded even more sluggishly than the right eye to light, but also contracted in convergence. She can see movements of hands in front of her eyes, but can not yet count fingers close to her eyes. She was at this time taking fifteen grains of the iodid of potassium three times daily.

Jan. 8, 1892, it was found that the pupils of both eyes reacted to light in convergence fairly well. The vision of both eyes remained about the same as at last, January 14. Can now count fingers with either eye at four or five feet. She still has frontal headache. The optic discs are less swollen and the retina adjoining the disc is more transparent.

January 22: Her vision is now 5/18 in the right eye and 5/36 in the left. The visual field is intact in both eyes. She is taking twenty grains of the iodid three times daily. After this time her vision gradually improved so that on February 5 it was 5/9 in either eye. The discs were now almost flat and quite white. The headache had subsided.

March 15 her vision was about normal in both eyes and the visual field intact in both. During the following five years I saw the patient at intervals of several months and always found her in good health. Her vision when I last examined her five years after the attack was normal in both eyes and so were the visual fields. Her health was excellent. I have been trying to find her since, but have not succeeded in so doing.

The absence of the pupillary light reflex for a while made it probable that the seat of the lesion was in the visual tract, this side of the corpora quadrigemina.

The visual centers may also have been involved, but this can not be proved, as the conduction of visual impressions was interrupted by disease of the tract. The ophthalmoscope showed the existence of a marked optic neuritis in both eyes. Cases in which an optic neuritis has caused total blindness of both eyes and in which the pupillary light reflex was absent for a time, with subsequent restoration of normal vision, and very seldom encountered. With the exception of a frontal headache my patient was in excellent good health at the time the optic neuritis developed, and as she remained in good health during the next five years it seems reasonable to assume that the eye disease was not the result of a general affection which was latent when she became blind.

AMAUROSIS, PROBABLY FROM AUTOINTOXICATION.

Case 2.—Mrs. S., aged 52, stout, of typical bilious temperament, is subject to frequent attacks of headache; is constipated most of the time; is fond of rich food and indulges freely in eating.

July 27, in the evening, she was attacked with a sudden intense pain in the head, with nausea and vomiting. The attack was so severe that her attending physician was obliged to give her ¼ grain of morphin hypodermically. She was re-

* Read at the one hundred and thirty-seventh annual meeting of the Medical Society of New Jersey.

lieved in about half an hour. Calomel and Warburg's tincture were given next morning, but did not act well. In the evening of this day, at about the same hour as on the previous day, another severe attack of headache came on and another dose of morphin was given her, which gave her some relief.

On the morning of the 29th she was given one ounce of Warburg's tincture, and in the evening she received ten grains of quinin. She had no attack of headache on this day.

On the 30th, in the evening, she had another very severe attack of headache. In the morning of this day she had taken ten grains of quinin and ten more in the evening. During the night of the 30th she noticed that her vision was becoming impaired, and on the morning of the 31st she was totally blind in both eyes. Pupils reacted but feebly to light. I saw her for the first time shortly after noon on this day. She acted like a person who was absolutely blind and was quite self-possessed. I found that the movements of the eyeballs were unimpeded in any direction. She was unable to recognize the position of a lighted candle held but a short distance from her eyes. The pupils of both eyes responded readily to light and in convergence. The ophthalmoscope showed absolutely normal eye grounds. In one of her eyes she had a patch of opaque nerve fibers such as is frequently seen in eyes with good vision. There was absolutely nothing hysterical about the woman. I feel very confident that she did not exaggerate her impairment of vision. The hearing was normal. I made a favorable prognosis. An examination of her urine showed it to have a specific gravity of 1030; it contained a trace of sugar, but no albumin. The quantity of urine passed during the day preceding the blindness is not accurately known, but it was said to have been of the usual amount. The bowels had not moved freely for some days, although sulphate of magnesia in large doses had been administered at frequent intervals. A high enema was given shortly after I saw her, which brought away a quantity of fecal matter, in which, on examination, were found seeds of berries eaten two weeks before. The total blindness continued for thirty-six hours, and then gradually her vision returned in both eyes. There was no rise in temperature during the attack, but on the day following her temperature rose to 102. A week after the attack her vision was as good as before the attack, and the visual fields were of normal extent for white and colors in all directions.

All our efforts to find a cause for the sudden blindness was fruitless. She has no disease of the kidneys. Habitual constipation, for which she always was taking cathartic mineral waters, was about the only abnormal condition which we could discover at the time. She has been in her usual good health ever since.

That this was a case of amaurosis from some kind of intoxication there can be no doubt. But as to whether it was due to a poison introduced into the body from without or whether the poisoning was the result of an inadequate physiologic elimination of the product of the tissue metamorphosis or of the formation of a poison in the intestinal tract due to abnormal processes of decomposition or fermentation, must remain in doubt. That the poison was not introduced from without seems, however, pretty certain. Neither the food of which she had partaken nor the drugs which had been administered can be held responsible for the eye affection. We know that quinin in comparatively small doses will occasionally produce blindness, but both the clinical features and the absence of all change in the backgrounds of the eyes, as well as the subsequent history of the case, show that this drug was not the cause of the blindness. The absence of disease of the kidneys probably eliminates uremia as the cause of the amaurosis, though it must be admitted that this attack closely resembles in all its features the blindness known to occur in this affection. In one of the examinations of the urine a trace of sugar was found, but only once, and none has been found since the attack. With the exception of habitual constipation, there is no evidence of the presence of a morbid affection of the digestive tract, and yet the most plausible explanation seems to me to be that the toxin which caused the amaurosis was formed here through putrefactive changes of the contents of the intestinal tract. As to the part of the visual apparatus affected in this case, there can be no doubt. The blindness with prompt pupillary reaction to light established the fact that the optical centers were the seat of the lesion. But as to whether it was an edema of the meninges or an affection of the brain itself no one can tell. There are very few cases on record similar to the one here described, and in most of these the absence of albumin in the urine was not positively excluded. I am indebted to Dr. Cladek of Rahway for notes of the previous history of the case.

To recapitulate: In both of the cases above reported the blindness was due to an affection of the nervous visual apparatus. In the first the seat was in the conducting apparatus, as was manifest from the fact that the pupillary light reflex was absent during a part of the time that the blindness existed. In the second the seat of the lesion must be looked for in the optic centers, as the pupils reacted promptly to light while total blindness was present. In both cases the vision was completely restored. It is doubtful that the treatment adopted had anything to do with the restoration of the sight in either case.

I. PROLONGED INTUBATION. II. ESOPHAGOTOMY FOR A DENTAL PLATE. III. LARYNGECTOMY FOR CARCINOMA.*

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I.—A CASE OF PROLONGED INTUBATION.

One of the rarest accidents following intubation for diphtheria is stenosis, which results from pressure ulceration of the subglottic region and is very difficult to remedy. There are, perhaps, half a dozen cases on record; several made complete recoveries. One of these is as follows:

Intubation.—Rosa McGlynn, aged 6, was taken sick with diphtheria in December, 1901, and in a very few days required intubation. Being otherwise engaged, I sent my assistant, Dr. James E. King, to perform the operation. A week later the tube was removed, but had to be replaced immediately. Several days thereafter I removed the tube, but within a very few minutes had to replace it. This occurred frequently for several weeks. In order to keep better watch of the child I had her removed to the Riverside Hospital, and there the tube was removed and replaced off and on for several months.

Excision of Stricture.—Being satisfied that intubation would do no further good, especially since it had become necessary to use a one-year tube, I split the larynx completely and found a fibrous stricture below the vocal cords in the subglottic tissue. This was cut out and considerable granulation tissue removed with a sharp spoon, and a silver tube passed up from the tracheal wound between the vocal cords and the larynx, and a tracheal tube downward through which the child breathed. These tubes were left in for some time, when intubation was again resorted to, but gradually the lumen was again diminished until it became very difficult to insert a one-year tube. The larynx was opened a second time and the stricture removed as before. The upper or laryngeal tube was not replaced, but the lower or tracheal tube was allowed to remain for several weeks. Intubation was intermittently performed during this time.

Course.—After a while the tracheal tube was removed and the child allowed to go several days without a tube, but occasionally she had to be intubated, on very short notice. The interne was instructed to be on his guard either to intubate or to do tracheotomy on a moment's notice. About 2 o'clock one morning he was suddenly summoned and found the child suffocating. Dr. Weed hurriedly opened the trachea and the danger was tided over once more. After that I opened the larynx for the third time, removed the stricture again and

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continued to intubate with a large tube at lessened intervals until June, 1902. The child had now been intubated, during six months, over fifty times by Dr. King, Dr. Weed and myself, and tracheotomized half a dozen times. She was retained at the hospital several weeks after the last time the tube was removed, when her mother took her home.

After we had not heard from her for six months, we called on her, and found her in good health, grown fat, and her voice in perfect condition.

The patient came under my care while I was city physician. The family was poor and the surroundings very unclean, so she was removed to the hospital. We had several times intended to send her home with the tracheal tube, but for one reason or another she was kept at the hospital until finally it was thought safe to let her go with her mother.

Comments.—This case is another illustration of what perseverance may accomplish. Ordinarily after two or three months such a case would have been abandoned as positively incurable, and the child would have to wear a tracheal tube all her life. Dilatation certainly would have been practiced, but without avail. The stricture was altogether too firm to yield to pressure. Each time after the radical treatment the child reacted remarkably, in fact was up and playing the very next day.

We had all sorts of tubes made, of different sizes and shapes, without the slightest benefit. It is very seldom that intubation can be shown a class of students. I therefore thought this a good opportunity to demonstrate the operation, the little patient always being in readiness. Tubes were tried from six years down to one, but to my chagrin, and apparently to the students' amusement. The smallest tube could not be forced through the larynx. The result was more trying because I had told the class (about forty in number) how simple an operation it was. Not until long after the boys were being entertained by another teacher did I succeed. Two men from out of the city were in attendance at the lecture; after watching the performance a while they finally left in disgust. Failure to replace the tube, however, was a common experience to Dr. King and myself. We sometimes tried ten or a dozen times without accomplishing our object, only desisting when the child became exhausted.

This case is worth reporting on account of its rarity, as well as showing the recuperative power of the larynx.

II.—ESOPHAGEAL OBSTRUCTION CAUSED BY SWALLOWING AN UPPER ALVEOLAR PLATE.

History.—Woman, aged 35, had worn an upper alveolar plate of hard rubber containing on one end one, and on the other end two teeth. The outer one of the two had been separated from the plate leaving the two pins which held it exposed. The plate had sharp edges throughout. It was worn by the woman continually day and night for fifteen years without ever becoming displaced.

One day while at dinner the plate suddenly became loosened and was carried down the esophagus with a bolus of food. It caused her considerable pain, for the relief of which she sent for her physician, Dr. Hugh McIntyre, after having ineffectually tried to dislodge it. He called me in consultation. I advised having the plate located by means of the *x*-rays, which was done by Dr. Fred Preiss. The plate was found immediately behind the sternal notch. The center of the plate was two and one-quarter inches below the thyroid cartilage. The teeth in the plate were anterior; curve of plate was downward; ends of plate were lateral; higher on the right side than on the left by one quarter of an inch.

Operation.—Dr. Kenerson, a surgeon, was asked to see the patient, and the woman was informed that the plate would have to be removed by operation, to which she readily consented. She was removed to the Riverside Hospital. I made an incision on the outer side of the trachea and separated the tissues between the muscles and carotid sheath until I came down to the esophagus, which was properly located and opened. Dr. Kenerson then introduced through the esophageal opening a pair of forceps and gradually and carefully drew the plate into view, which I then grasped and rotated through the wound. The esophageal opening was then sutured and the rest packed with gauze. We anticipated a fistula, therefore did not entirely close the outer wound. Two days after the operation saliva passed out of the wound, which continued for nine days, when the wound closed. No food had passed down the esophagus during that period.

Course.—The patient was very much emaciated at the time of the operation, having had the care of four little children, one of which she was still nursing. There was, of course, some doubt about the woman's recovery because of her extreme debility. She was nourished by rectal injections and cod-liver oil baths until the esophageal fistula closed. It was carefully dressed after the second day, to heal it up as rapidly as possible. She took very kindly to nourishment. At the end of three weeks she was discharged cured, vowing never again to wear another plate.

III.—PARTIAL EXTIRPATION OF THE LARYNX FOR CARCINOMA.

History.—Mrs. S., aged 55, complained of hoarseness for the past year, breathing then became so oppressive that she finally sent for Dr. Weil, who treated her for two weeks, when he sent for me to examine her throat. I found a large growth involving the entire left lateral thyroid cartilage and infiltration of the right arytenoid.

Tracheotomy.—The examination produced a spasm of the glottis and I thereon proposed tracheotomy, but the patient's son being informed of the necessity of cutting a hole in her throat, positively refused to have this done. I therefore left word to send for me when they were ready to have the windpipe opened. The next day I was summoned, and, after injecting a small quantity of a 1 per cent. solution of eucain, opened the trachea without much difficulty.

Up to the time of the operation she had had seven or eight spells of suffocation every night for two weeks, her pulse was very rapid and she was extremely weak and emaciated. A week after the tracheotomy she had improved so much that I was enabled to remove a small piece of the growth for microscopic examination. This was made by Dr. Bentz of the Pathological Laboratory of the University of Buffalo, and he reported as follows:

"*Microscopic Examination.*—Parts of the tissue are covered by stratified squamous epithelium. The epithelium dips down deeply into the tissue (fibrous) beneath. The epithelial cells have broken through the basement membrane and infiltrated the tissue, along the lymphatic clefts. These infiltrations are in the form of columns or groups of small and large spherical cells, atypical epithelium. Hyperkeratosis, hyperchromatosis, and mitosis were found in the cells. In some groups the cells show cornification and flattening and are arranged concentrically forming so-called 'pearly bodies' or 'cell nests,' characteristic of epithelioma. There is a marked inflammatory process in the tissue between the groups of atypical cells, as is shown by round cell infiltration.

"On these histologic findings an anatomic diagnosis of squamous celled carcinoma epithelioma was made."

I informed the patient of the serious nature of her trouble, and that the only possible chance of a cure was excision. Arrangements were made for operation four days later.

Operation.—August 5 an incision was made three inches in length, the thyroid cartilage was separated from its attachments, anticipating the removal of the entire larynx. After the larynx was opened for inspection, it was found that the swelling on the right side had entirely disappeared.

Being satisfied that only the left side was involved the thyroid and part of the cricoid cartilage were removed. The wound was then packed and a tracheal tube inserted. The operation took 50 minutes. No glandular structures were found enlarged.

Course.—The patient made a speedy recovery and was walking about the hospital in three days. Owing to the separation of the thyroid attachments there was so much narrowing that it became necessary for the patient to wear the tracheal tube permanently. Four months after the operation the patient complained of difficulty in swallowing, and for two weeks this continued with more or less severity, forming

a large swelling in the neck. From the amount of involvement of this secondary invasion, I was satisfied that removal was out of the question.

Recurrence was hardly expected so soon after operation. No glands were felt nor was there any indication that the disease had gone beyond a limited area. There had been up to this time a few cases recorded of successful treatment of carcinoma by the Roentgen rays. I therefore recommend that treatment, telling her at the same time that further operation was worse than useless. She went to the Buffalo General Hospital and there received treatment every other day. After the eleventh treatment I saw her again, and the growth had entirely disappeared, the parts looking normal. She had in all 16 treatments, and now, May 1, so far as outward appearances go, is entirely well.

DISCUSSION.

DR. B. R. SHURLY, Detroit—In looking over the literature of this condition throughout the world, I find that some observers report a 1 per cent. difficulty in removing the tube. While the tube is ordinarily removed in four days, we sometimes find it necessary to retain the tubes in place as long as a year. There are two cases in the Willard Parker Hospital now wearing the tubes more than a year. The etiology must be explained largely from the standpoint of traumatism. We have through traumatic conditions, which are frequent, an ulceration in the subglottic tissue due to the pressure of the tube in that region, or an ulceration in the anterior tracheal wall in the region of the lower border of the tube, or along the epiglottis at the head of the tube. A method of extraction which I find obviates much of the difficulty is the application of astringents to the intubation tube before again introducing it into the larynx. The spasmodic condition is due to an irritation of the laryngeal nerve endings, and we have frequent intubations and extubations with consequent injury. By applying ichthyol around the tube, alum gelatin or ointment the tube may be removed with comparatively little difficulty. This opens up a wide field for the treatment of the larynx in these conditions. We can use ichthyol, alum, argyrol, nitrate of silver, protargol, or suprarenal extract. An anodyne should be administered a half hour before extubation, thus keeping the child at perfect rest, and there will be comparative ease in removing the tubes. Ordinarily tracheotomy should not be performed. As O'Dwyer stated in a paper written shortly before his death, a condition of subglottic stenosis is almost certain to occur.

DR. D. A. KUYK, Richmond—I wish to report a case that shows how possible it is to make an error, especially without the desirable apparatus. I was called to see a woman who said that she had swallowed a set of artificial teeth. She had swallowed nothing for several days, was pale and nervous and had slept neither day nor night. At that time, ten years ago, we did not have the *x*-ray apparatus. I used an esophageal tube to ascertain the location of the foreign body. The esophageal bougie passed on down to the stomach without difficulty. I assured her that there was nothing in the esophagus, and that there was nothing but fear and fright. It was a case of autosuggestion about which Dr. Loeb will tell us. Afterward we found the teeth beneath the refrigerator, and in a few days the woman had entirely recovered.

DR. OTTO T. FREER, Chicago—The choice of esophagotomy for removal of the foreign body mentioned was, I think, a wise one. If a substance with sharp, jagged edges has been impacted for some time in the esophagus, extraction by the natural passages becomes hazardous, as it is impossible to tell how much damage has been done by ulceration or even by perforation of the esophageal walls by the pressure of the pointed prominences of the foreign body. Attempted removal through the mouth is apt to tear or perforate the ulcerated and softened esophageal wall with consequent peri-esophagitis, deep phlegmon of the neck, dangerous hemorrhages and mediastinitis. The patient encounters less risk in these cases from external esophagotomy, which does no violence to the esophagus and provides free drainage for peri-esophageal septic processes.

DR. GEORGE F. COTT, Buffalo, N. Y.—These stenotic conditions after diphtheria are almost always due to traumatism. There may be some exception in constitutionally weak children, when the tube presses on the muscles forming the vocal cords so much that they suffer collapse and sudden death follows, as I have seen in perhaps a half dozen cases. The percentage of stenosis is no doubt as high as Dr. Shurly mentions, but the percentage of these extreme cases is very minute. I have had a patient in whom granulation tissue formed almost throughout the trachea. A boy aged 2½ years at first had worn a tube suitable to his age, but having coughed up successive tubes, by the end of four weeks he was wearing one for a seven-year child. The trachea was then opened, and intubation practiced intermittently. The trachea was opened radically several times by Dr. Roswell Park at the General Hospital, but reproduction rapidly followed and tracheotomy had always to be resorted to. At the age of 10, seven and one-half years after the first intubation, he coughed up the tracheal tube and suffocated before aid could be rendered. These are the only really severe chronic stenoses I have met in 108 intubations.

TRIPLE MAJOR AMPUTATION WITHOUT LIGATION OF THE BLOOD VESSELS.

WILLIAM B. PATTON, M.D.
SPRINGFIELD, OHIO.

The following unusual case has proved interesting to the local profession and may therefore be of general interest:

M. B., aged 8, was run over by the steam cars, Sept. 16, 1903. He was taken to the Mitchell Thomas (City) Hospital, where Dr. F. P. Anzinger and I examined him. The right hand was crushed and the arm was hanging by the skin three inches above the wrist; the right foot was crushed to the ankle; the left foot was hanging by shreds three inches above the ankle. There was also a laceration of the scalp as well as a number of contusions on the back and thighs. There was no evidence of any considerable loss of blood and the boy suffered comparatively little from shock. Dr. Anzinger amputated the right leg while I removed the left. To secure sufficient flaps it was necessary to reamputate each limb far enough above the point of the injury so that the vessels could not have escaped being cut. After completing the flaps, we each proceeded to look for the blood vessels. The larger vessels not being in evidence the tourniquets were slowly removed, but there was no hemorrhage. After searching for some time for the vessels we covered the stumps and proceeded with the arm. Here we found and ligated two small superficial spurters, but neither the radial nor ulnar arteries were found. We completed the dressing of the arm, suturing the flaps and again examined the legs, but found neither hemorrhage nor signs of pulsating vessels. We packed the stumps without suturing the flaps and put the patient in bed. Forty hours later we removed the dressings and found no more oozing than is usually found in such cases, if as much. We sutured the flaps on the legs at this time. There has never been a sign of hemorrhage. All the flaps became infected, but have healed nicely by granulation. Two large abscesses formed on the patient's back and one on his thigh at sites of contusion. Barring these complications, he has made an uninterrupted recovery and is now sitting up in a wheel chair apparently in good health.

New Instruments.

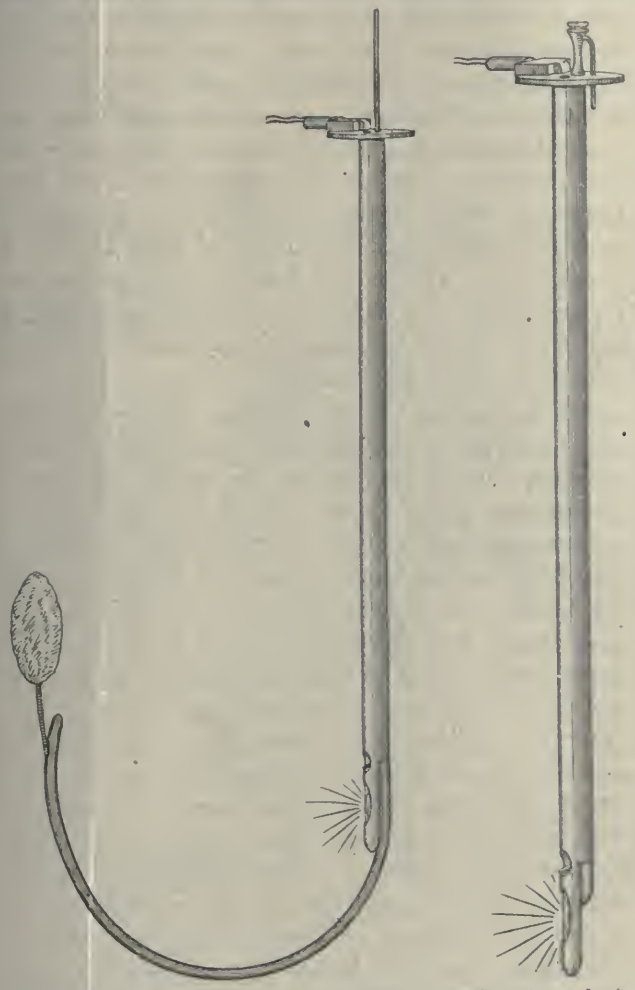
A COMBINED GASTROSCOPE AND GYROMELE FOR DIAGNOSTIC AND THERAPEUTIC PURPOSES.

FENTON B. TURCK, M.D.
CHICAGO.

Gastroscopy is used to determine the condition of the mucous membrane of the stomach by inspection. For this purpose a stiff tube is used with an electric light at the end and a reflector to carry the image to the eye through a system of lenses within the tube.

The method of such examination demands the use of a long, straight, rigid tube reaching far into the stomach. The possibility of introducing a long, stiff, straight instrument has been shown to be possible in the exhibitions made by sword swallowers. Leube[1] recommended a stiff sound introduced into the stomach to be palpated through the abdominal wall for the purpose of determining dilatation of the stomach. When it was found practical to introduce a stiff, straight instrument into the stomach the idea of inspection of the gastric cavity through a hollow, straight tube naturally presented itself.

Mikulicz[2] was the first to illuminate the stomach and make the mucosa visible by the use of the gastroscope. Mikulicz[3] showed that it was practical and useful in the diagnosis of ulcer and carcinoma of the stomach. Owing to the technical difficulties, the high price of the instrument and the great discomfort to the patients, Mikulicz's instrument has not been much employed. With more familiarity with intra-



gastric work inspection of the interior of the stomach is more easily accomplished. Thus Rosenheim[4] asserted that in 80 per cent. of the cases it was possible to introduce the gastroscope and inspect the stomach without great difficulty. Kuttner made some modifications in an instrument which was presented before the British Medical Association, Edinburgh, 1898, by Professor Ewald. Careful inspection of this instrument at that time by the writer convinced him that the large round caliber (1.5 cm.—9/16 inch or more), which was necessary under such construction, added much to the difficulty of using this class of apparatus, which at best is an inconvenient method and not devoid of danger.

When we remember that a sword swallower may repeatedly swallow a sword without apparent difficulty and rarely with any harm there must be some reason other than familiarity with the procedure. Patients become inured to the passage of intragastric instruments depending on the shape and size of the caliber. The shape of the esophagus is flattened anterio-posteriorly to that a flat, sword-shaped instrument, even though rigid, can be readily introduced into the stomach. There is in a flat instrument less pressure exerted on the cricoid cartilage, the laryngeal nerves are not so much excited, and less tension is produced.

The instrument which I have devised is composed simply of a flattened double tube 65 cm. in length. The optical tube is slightly larger in caliber than the other, or carrying tube, being 5 mm. in diameter. The two tubes side by side form a width of 14 mm. Beyond the tip of the optical tube is inserted the electric lamp which requires no cooling apparatus. Above this a prism and reflector is adjusted at an angle. The outer, or ocular, end is provided with the usual prism set before the objective. The other tube is to carry the gyromele cable, which can be used to sound the pylorus or duodenum by inspection instead of by palpation as I first recommended[5] in 1894. The gyromele cable may be curved by a simple mechanical contrivance previously recommended[6] in any direction desired. Thus the pylorus may be explored by the very soft flexible cable covered at the end with wool tampon encased by a soft rubber finger cot. As will be seen in the illustration the flexible curve, the soft rubber tube carrying the flexible cable, acts as a protection to the stomach during any sudden contraction of the abdominal walls, preventing the gastric wall from being suddenly thrown against the end of the upper and rigid portion of the gastroscope. It will be seen briefly this apparatus is a combination of the principle of my double stomach tube and the gyromele with the addition of an improved gastroscope.

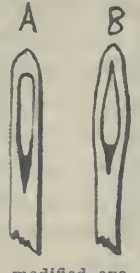
I have been able with this instrument to inspect the pylorus, and under the direction of the eye watch the gyromele cable pass through the pyloric orifice into the duodenum. Withdrawing it back and forth one can readily watch the distance it passes into the intestines. The measurement can be made by small nodes on the cable set 10 cm. apart. I hope in a later communication to present the practical use of this instrument not only as a diagnostic aid but also in making application to specific points on the gastric mucosa.

1. Deutsch. Arch. f. klin. Med., vol. xl.
2. Ueber Gastroskopie und Oesophagoskopie. Wiener Medizinische Presse, 1881, No. 43.
3. Wien. Med. Wochenschr., 1883, Nos. 23 and 24.
4. Gastroskopie Berliner klin. Wochenschr., 1896, No. 13.
5. Proc. Intl. Med. Congress, Rome, 1894.
6. "The Gyromele," THE JOURNAL A. M. A., May 4, 1900.

A MODIFICATION OF THE EYE OF THE NEEDLE.

JAMES P. MARSH, M.D.
TROY, N. Y.

During the process of suturing I have been frequently very much annoyed by the needle unthreading. To obviate this difficulty I have had needles made with eyes differently formed from the ordinary, the object of this modification being to so join the suture material into the narrow part of the eye that



A, Ordinary eye; B, modified eye, enlarged 2½ times.

it will not become unthreaded by reason of any ordinary traction and at the same time to so leave it that it can be readily loosened at the end of the suturing for the purposes of tying. The drawing presented will best show the modification made. It is possible that the same means has been previously resorted to, but not to my knowledge.

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THE DETECTION OF TYPHOID BACILLI IN WATER.

Although the evidence that connects sewage-polluted water supplies with outbreaks of typhoid fever is entirely convincing both in character and mass, there have been relatively few instances in which bacteriologists have succeeded in isolating the specific typhoid bacillus from suspicious waters. In view of the insufficiency of the data relied on for identification, most of the early statements concerning the finding of the typhoid organism must be regarded as of exceedingly doubtful value. The criteria on which up to a very few years ago such identification was based could by no means be accepted by bacteriologists at the present time. Especial uncertainty again has been recently introduced into the subject by the discovery of the group of dysentery and "pseudo-dysentery" bacilli, of *B. fecalis alcaligenes* and of a host of related organisms.

A survey of the literature shows that there are very few reported cases of the detection of typhoid bacilli in water which conform to present-day requirements. Lösener,[1] working in the Hygienic Institute at Berlin, isolated from the laboratory water supply an organism that agreed culturally with the typhoid bacillus in all respects, and that also responded favorably to Pfeiffer's immunity test. Remlinger and Schneider[2] found in various natural waters organisms that possessed the biologic qualities of the typhoid bacillus, and that agglutinated with typhoid serum and also conformed to Pfeiffer's immunity test. Some conservatism is shown, however, in accepting the work of these latter authors at its face value, both because of their rather sweeping statements with regard to "the ubiquity of the typhoid bacillus" and because of certain other internal evidence in the paper referred to. Hankin,[3] working in India, found typhoid-like bacilli in samples of water derived from various sources, and substantiated his cultural examination with the observation that agglutination occurred with a 1-600 dilution of anti-typhoid serum. Kübler and Neufeld[4] relate a particularly interesting case of the finding of typhoid bacilli in the water of a shallow well to which infection had been traced. In the course of the investigation it was noticed that no colon bacilli were present in the water, a fact that in the opinion of the authors points to infection with typhoid urine rather than with fecal discharges, and that explains the relative ease with which the typhoid bacillus was isolated, as well as the unusually long persistence of the organism in the water. Both the agglutination test and Pfeiffer's test were employed to establish identification. Genersich[5] isolated eleven cultures of typhoid-like bacilli from the water of incriminated cisterns. These organisms agglutinated in a dilution of 1-50 with typhoid serum obtained from a human patient, but the serum of animals inoculated with the water cultures failed to agglutinate a control typhoid culture except in a single instance. Fischer and Flatau[6] have reported an apparently unimpeachable case of the isolation of the bacillus from the water of a well at Rellingen. Both the agglutination test and Pfeiffer's test were applied with positive results.

There are, therefore, perhaps six cases where undoubted typhoid bacilli have been isolated from ordinary drinking water. If the evidence adduced by Remlinger and Schneider and by Genersich is not regarded as wholly convincing, the number of such cases is reduced to four. On the other hand, the finding of a paratyphoid bacillus in water by Sion and Negel[7] may be put practically in the same category with the discoveries of genuine typhoid bacilli.

The meagerness of the findings, despite the thousands of examinations that have been made by skilled bacteriologists in every part of the world, can probably be explained partly by the difficulties of the technic of isolation and partly by the relatively short duration of life of the typhoid bacillus in water. The period elapsing between the moment of infection and the initiation of bacterial investigation is usually at least several weeks, owing chiefly to the time occupied in incubation and in the insidious development and perhaps tardy recognition of the disease. Some time is also ordinarily consumed by the preliminaries necessary for the setting on foot of competent investigation. It is apparently only under exceptional conditions, such, for instance, as obtained in the instance reported by Kübler and Neufeld, that the life of the bacillus can extend throughout any considerable period. The history of most outbreaks of typhoid fever shows that the bacilli have disappeared from the water by the time the search is inaugurated, and it is for this reason that a negative finding is the usual result of bacterial examination.

Considerable interest attaches to the possibility of a diminution in the virulence of the bacillus through a sojourn in water. The scanty evidence that exists on this head indicates that some decline in virulence probably occurs. Hankin mentions that on a number of occasions he has found typhoid bacilli in waters at a time when these waters were being used for drinking, and that in several instances no cases of fever developed among the users of such water. Indeed, he specifically

1. Arbeiten a. d. kais. Gesundheits., 1895, 11, p. 207.
2. Annales de l'Inst. Pasteur, 1897, 11, p. 55.
3. Centralbl. f. Bakt., 1899, 26, p. 554.
4. Zeitschr. f. Hyg., 1899, 31, p. 133.
5. Centralbl. f. Bakt., 1900, 27, p. 241.
6. Ibid., 1901, 29, p. 329.
7. Ibid., Orig., 1902, 32, p. 480.

takes the ground that "my finding typhoid microbes in a water supply gives no proof that the microbes were there present in a condition in which they could produce infection." Remlinger and Schneider also encountered typhoid bacilli in waters that were not giving rise to the fever and that were designated by them as being chemically "very pure." Kübler and Neufeld state that the typhoid bacillus that was first isolated by them from well water would kill a guinea-pig in a dose of one-fifth of a loop, whereas a culture isolated from the water of the same well four weeks later did not prove fatal to a guinea-pig in a dose five times as great. There thus seems to be some reason for believing that by prolonged aquatic life typhoid bacilli may be rendered innocuous or at least less virulent, even where they are enabled to survive at all. The likelihood of attenuation appears to have been singularly neglected on the experimental side and is deserving of further investigation.

PROPHYLACTIC DISINFECTANT INHALATIONS IN MEASLES AND SCARLET FEVER.

At present the chief measure for the prevention of the spread of the acute eruptive diseases is the isolation of the patient. This form of prophylaxis is based on rather rude empirical ideas. Nevertheless, this is undoubtedly a most excellent method, provided the patient can be isolated from the beginning of the disease; but this is often difficult, if not impossible. This delay leads to infection of the surroundings, and thus the value of a later isolation is materially reduced. Then, again, the prolonged isolation at present in vogue, especially in the case of scarlet fever, is, to say the least, irksome and at times seriously taxes the capacity of the hospital to care for the acute cases that stand in greater need of the advantages of hospital treatment. There is consequently great need for an efficient prophylaxis based on more rational principles than the purely empirical now in vogue. But we can not look with much hope for a rational prophylaxis so long as we are ignorant of the etiology of these diseases, and of the point or points of entrance into and departure from the body of the infecting agents as well as of the places in the infected body in which the virus accumulates and probably multiplies.

Egart,[1] in discussing this question, is inclined to assume that in measles and scarlet fever the earliest local symptoms indicate the point of localization of the specific virus, that is, at the upper end of the respiratory tract. If this be the case it should be possible by means of suitable anti-infectious agents to prevent generalization of the virus and thus lighten the attack. Furthermore, it should also be possible by such measures to prevent the development of diseases in exposed persons. On account of the lack of facilities for proper isolation, outbreaks of measles and scarlet fever were frequent in the hospital under Egart's care at Brünner. He therefore set about to introduce a method of prophylactic disinfection of the respiratory tract by means of sprays and inhalations, most of the patients being children. Non-toxic and non-irritating substances, such as limewater mixed with equal parts of water, boric acid solution of 3 per cent., trichlorid of iron solution, .05 per cent., and sodium chlorid solution, 3 per cent., were used. He used all these four solutions alternately for five minutes, twice daily. His comparative statistics appear to show that by these methods measles and scarlet fever are held in check much better than before the effort of disinfection of the respiratory tract. He believes that he is justified in ascribing to disinfecting inhalations distinct value in lessening the severity of the attack in the individual patient and in preventing attacks in exposed persons,

The method introduced by Egart is surely worthy of the consideration of physicians. It should be given further trial in hospitals for eruptive diseases so that it may be possible to form a more definite opinion as to its real value than is justifiable from the experience of a single observer. The methods advocated are certainly simple and harmless.

1. Zeitschr. f. Hyg. u. Infektionskrankh., 1903, xliv, 196-217.

LATENT SYPHILIS.

There are often expressions of surprise on the part of general practitioners when the neurologists insist on the possibility of syphilis running its course in absolute latency, and without giving any manifestations by which an ordinarily careless patient would be bound to recognize it. The general rule in the development of the disease is that patients are so anxious as to the possibility of its occurrence that they actually anticipate symptoms, and some of them at least become confident that they have the disease when it does not exist. There are too many cases on record now, however, of undoubted tertiary lesions of syphilis without any history of previous stages of the disease to leave any room for doubt that the disease may, exceptionally at least, run its earlier course without attracting the patient's attention. This is all the more important, since many of the supposed nervous sequelæ of the disease are known to develop with more frequency in patients that have been insufficiently treated or that have been negligent of treatment from the beginning.

In two lectures recently delivered in London,[1] Jonathan Hutchinson, whose experience in syphilis amply justifies the acceptance of his opinion as of great value, dwells with considerable insistence on the teaching that the two earlier stages of syphilis may run a practically latent course. He emphasizes the fact that the primary sore of syphilis is not necessarily indurated in all cases, and that those who judge of it entirely by this characteristic may be deceived. As a matter of fact, the primary syphilitic lesion may be so small, so little complicated by inflammatory reaction in the surrounding tis-

1. The Clinical Journal, Aug. 5, 1903.

sues, so painless and indolent in its course as not to attract any unusual attention, especially if it should occur in the neighborhood of the nails where slight sores that run a slow course are not unusual.

Dr. Hutchinson even claims that the infection of syphilis may enter in certain cases without any breach of the cutaneous surface, and certainly without any obvious chancrous induration. He refers to instances of surgeons who have acquired the disease from a slight needle prick in operating on syphilitic patients, or in midwifery practice, without the occurrence of any local sore sufficient to arouse suspicion of its nature. As a chancre will disappear spontaneously, as a rule, in a little over four weeks, it is perfectly possible that this stage of the disease should be entirely missed. Anyone familiar with the treatment of syphilitics knows that at times the secondary symptoms are so slight and so few that they may well escape ordinary observation. It is not an unusual thing for a patient to assert positively that he has no cutaneous eruption, when the removal of his clothing discloses a blooming macular syphilid.

It is evident, then, that the possibility of latent syphilis will have to be accepted, and that certain of the nervous and other lesions which are usually connected with this disease, but which occur not infrequently in persons with regard to whom no history of syphilitic infection can be obtained, may yet be considered to be of syphilitic origin, or at least to have developed on a syphilitic basis. Visceral lesions of suspicious character occurring in individuals without a syphilitic history, must on this principle be treated first by antisyphilitic remedies, since, after all, the therapeutic test is the best possible diagnostic sign, and the therapeutics of syphilis is so hopeful as compared with any other pathologic condition as to make the trial justifiable.

ANTITYPHOID SERUM.

It is comparatively easy to immunize laboratory animals against a virulent typhoid bacillus by injecting them intraperitoneally or subcutaneously with gradually increasing doses of young, living cultures. These animals soon become resistant toward many times the minimum fatal dose of the organism, and their sera acquire high agglutinative and bacteriolytic properties. Small doses of serum of the immunized animals protect other animals against several times the minimum fatal dose of typhoid cultures, even if the serum is injected several hours after the inoculation.

Although the laboratory experiments are very encouraging, it has been found that the clinical results from these antityphoid sera are practically nil. Stokes and Fulton, for instance, immunized a hog and got very good results in laboratory animals with this serum. Half a cubic centimeter protected a guinea-pig against seven times the minimum lethal dose of a virulent culture. They treated five typhoid fever patients with this serum and noticed no special results in two. In the other three it is supposed that the serum treatment shortened the disease somewhat. Chantemesse immunized a horse with the filtered cultures and claims to have obtained slight clinical results with this serum. The unsatisfactory clinical results may be due to several causes: (1) The antisera thus far prepared may not be strong enough; (2) it is said that highly immune sera contain little or no complement, and as the human complement often disappears in the course of the disease,[1] the injection of immune bodies alone can be of no value; (3) it is also possible that the human complement does not fit into the immune bodies that have been injected.

Recently Macfadyen and Rowland[2] have obtained very encouraging results from laboratory experiments. They prepared a powerful extract of typhoid bacilli by grinding up a large quantity of organisms at a very low temperature (obtained with the aid of liquid air), and exhausting the mass thus obtained with physiologic salt solution. This extract is highly toxic for guinea-pigs, proving fatal in doses of .003 to .05 c.c. of a 10 per cent. extract. It is also toxic for monkeys. The experimenters successfully immunized a rabbit and a monkey against this extract and got agglutination of the living cultures with the serum after one injection. The animals soon tolerated larger doses, and their sera protected other animals against several times the fatal dose of the extract and of the living typhoid cultures. These sera also possess curative properties, as is shown by the fact that an animal can be saved when the serum treatment is instituted eight hours after the inoculation with living cultures.

Horses are now being immunized with this toxin, and it remains to be seen what will be the clinical results with serum thus prepared. The most interesting feature of this work is that an attempt is here made to produce an antiserum which shall be at one and the same time antitoxic and bactericidal.

THE FINANCIAL WANING OF DOWIEISM.

Dowieism has reached a crisis that may be fatal. As a religion, like its congeneric delusion, Eddyism, it has depended altogether too much on filthy lucre, and the methods of the "profit" have apparently failed to meet the requirements of honorable business. Dowie's luxurious tendencies and the late fiasco of his New York crusade have, it seems, overtaxed the resources of his credulous followers, of whom he takes such shrewd advantage. He has been the defendant in a number of suits for debt, and now a receiver has been appointed by the U. S. courts. He may weather the storm, but the probabilities are that we have seen the end of Dowie as a financier, and the end of him as a prophet is a necessary consequence. What will become of his dupes is not a pleasant thing to contemplate. Many of them, we understand, have been exhausted of all their means through his demands, and their faith will almost certainly receive a rude shock, which is likely to be more or less serious in its effects on their moral and mental future.

1. Richardson: Jour. of Med. Research, vi, No. 1.
2. Centralbl. f. Bakt., 1903, xxxiv, 765.

THE ABUSE OF HELPLESS CHILDREN IN OHIO.

A society for the prevention of cruelty to children is much needed in Ohio. In that state, human sacrifices in the name of religion are apparently authorized by law. A man allowed his 8-year-old daughter, who had been badly burned, to die without medical treatment, save that administered by Eddyites, and we know what that means. The grand jury naturally indicted the parents for manslaughter. In the trial the judge charged the jury to bring in a verdict of acquittal on the ground that no law existed in Ohio under which the parents could be prosecuted. The jury did so and the Supreme Court, to which the case was carried, ruled that the charge and the verdict were without error. It would seem that the State of Ohio is in bad shape as regards its laws protecting infant life; legislation in this regard is one of the present needs of that community.

LEGISLATION ON SANATORIUMS—PRO AND CON.

Considerable comment has been caused by the passage of an act[1] by the last New York legislature making it essential that before any hospital, camp or other establishment for the treatment of patients with pulmonary tuberculosis be established, the county board of supervisors and the town board shall both authorize such establishment and describe the limits or locality in which it may be established. This practically means a prohibition of the establishment of sanatoriums over a large section of the state, and restricts to a considerable extent the benevolent intentions of various individuals. The peculiar regulations adopted by the town of Liberty in regard to the Loomis Sanatorium are well known. All these are evidences of the irrational fears that have been excited by statements as regards the contagiousness of consumption and the dangers to the well from association with those affected by it. It is very unfortunate that the medical profession as a whole has not given out a judicial opinion on this subject or perhaps rather that so many members of it are constantly giving out injudicious statements. The public is easily misled and it takes some time for it to get its right mind in regard to questions that excite public apprehension and terror. As a contrast to this state of affairs in New York, we may notice the action of the late New Mexico legislature which offers a premium in an exemption from all taxes for sanatoriums for consumptives that may be established within a certain period and with the expenditure of a certain amount of money.[1] This, of course, is a business proposition, but it shows that the panicky fears as regards the communicability of tuberculosis have not seriously affected the legislators of New Mexico. They are willing to have consumptives come among them, and for the good of the state will take whatever risks there may be. The basis for the liberal action of the New Mexicans is not pure philanthropy, probably, but in so far as it is an index of enlightenment the "wild and woolly West" is ahead.

GERMANY'S IGNORANCE OF AMERICAN WORK.

We have on more than one occasion called attention to the persistency with which foreign investigators and writers ignore American work. The Germans have been and are, we think, the greatest offenders in this respect, and some of the most decided protests against such omissions have been made by the German-American physicians in this country. American work has been rediscovered repeatedly by Germans, and with the common reverence for the "made-in-Germany" mark, the credit has been attributed to Germans by the mass of the medical profession of the world, sometimes even after a thorough exposure of the real facts. It is a little refreshing, therefore, to read a foreign showing up of this same German ignorance of American literature. Such a satisfaction can be derived from the recent leading article in the *Semaine Medicale* (November 11), which points out that the spondylitis typhosa of Quincke, which is accepted by the Germans as a clinical discovery due to German research, was well described in all respects by an American years before Quincke's publications. Cheinisse, the author of the article, makes this very clear, and proves that Gibney pointed out the same facts and gave a correct interpretation of them ten years before Quincke's publication. Although Osler disagreed as to the spondylitic nature of the lesions which Gibney, Lovett, Withington, Cutler, Ely and others in the United States pointed out, yet the disorder is one that clearly belongs to the same category as the so-called discovery of Quincke. Cheinisse further shows that Germans also ignore the Swiss authors and refers to the work of Pallard on the same subject as evidence. Apparently, there is not a point made by Quincke and his German followers in regard to this disease that has not been previously made by American authors. Whether the Germans will at once accept this correction or not perhaps makes little difference. In the long run they will have to admit the facts. In the meantime, however, a certain amount of credit is wrongly attributed, and it is well to call attention to this state of affairs. As Cheinisse says, the saying of Solomon is still true: "There is nothing new under the sun." This especially applies to several German medical discoveries of recent years.

CIRCULATION IN THE NERVOUS SYSTEM.

At the October meeting of the New York Society for Experimental Biology and Medicine, Dr. S. J. Meltzer, the president, demonstrated some interesting specimens which seem to throw a new light on the circulation in the peripheral nervous system. His paper was on the effect of ligation on the vital staining of nerves. He demonstrated a series of pieces of dried sciatic nerves of rabbits which had received during life intravenous infusions of methylene blue. As is well known, this substance is carried all over the system by the circulation and stains all tissues, even the most delicate parts of the nerve centers, with a distinct blue tinge. By this means the course of the circulation in the nervous system and even certain peculiarities of the anatomic finer structure have been demonstrated. Dr Meltzer found that when single ligatures are applied to the trunks of sciatic nerves in animals intravenously injected with methylene blue, they are without any influence on the color of the nerve that develops after the use of methylene blue on both sides of the ligature.

1. See page 1432 of this issue.

When the sciatic nerves are ligated at two places, however, the section lying between the two ligatures remains free of color, though the central and peripheral ends of the nerves turn blue in the usual manner. This effect is produced, no matter how far apart the ligatures are applied. It is clear, then, that during life the nerve receives its circulation only from its central and peripheral ends. This seems to demonstrate how important is the influence of the circulation on the outside of the body as regards the blood supply of the nervous system. When the peripheral circulation is weak or seriously disturbed for any reason, the nerves must fail to get their due proportion of nutritious material and must serve rather to exhaust the central nervous system by draining away some of the nutritious material intended for it. This set of experiments is also wonderfully suggestive as regards the relationship of the skin and nervous systems to one another. Probably nothing that has been discovered in recent years illustrates better their interdependence.

Medical News.

CALIFORNIA.

Personal.—Dr. George S. Harkness, Stockton, whose appendix was removed November 9, is making a good recovery.——Dr. F. Henry Ottmer has succeeded Dr. O. W. Sinclair as physician-in-charge at Murray's Hospital, Eureka.

Spitting Ordinance.—The Oakland City Council has passed an ordinance prohibiting spitting on the floor or steps of any public car or conveyance, or on the floor or steps of any public building, or on any sidewalk or crosswalk, under penalty of a fine not to exceed six dollars.

Late, Yet Timely.—At a session of the California Northern District Medical Society recently held at Sacramento, where there has been a mild epidemic of smallpox, a lay journal solemnly announces the physicians "decided that the Manila itch, Cuban scratch and prairie dig, which has been afflicting the country for two or three years, and is still with us, resembles smallpox so exactly as to be smallpox, and nothing else."

More Plague.—The secretary of the State Board of Health reports a death from plague, November 6. The patient was a Chinaman, and died on the river steamer *J. D. Peters* between Bouldin Island and San Francisco.——Two deaths among Chinese women in San Francisco were reported during November. The last case was No. 109, and was reported to the San Francisco Health Office November 13. The patient died the next day.

DISTRICT OF COLUMBIA.

Personal.—Dr. William Richardson of the resident staff of St. Elizabeth's Hospital, Washington, has been appointed to a similar position at the Columbus (Ohio) State Hospital for Insane.

Kappa Psi Fraternity.—The annual convention of this society was held in Washington under the auspices of Zeta Chapter, medical department of Georgetown University, November 26 and 27. The meeting was successful, and the reports from the various chapters showed increased interest in medical fraternalism. The visiting delegates were entertained at a theater party and a banquet, which was presided over by Dr. F. H. McKeon as toastmaster. Philadelphia was chosen as the next place for meeting.

Report of Health Officer.—The report of the health officer for the week ended November 14 shows the total number of deaths to have been 121, of which number 74 were white and 47 colored. There were reported 24 new cases of typhoid fever, 10 of diphtheria, and 5 of scarlet fever. The health officer calls attention to the fact that there were reported 75 white births and 74 white deaths, 34 colored births and 47 colored deaths. There are 1,257 registered physicians in practice in the District of Columbia, while only 84 births were reported by physicians. There are 136 midwives registered and during the week only 23 reported births.

GEORGIA.

Hospital Loss Adjusted.—The loss in the recent fire at Grady Hospital, Atlanta, has been adjusted at $6,200.

Johnson Monument Unveiled.—The shaft erected in Oakland cemetery in memory of the late Dr. Walter K. Johnson, Atlanta, was unveiled November 15.

Personal.—Dr. Obadiah C. Gibson, for many years city physician of Macon, has been appointed by the State Board of Health to manage all epidemics in Bibb County.

Smallpox.—The disease is causing such alarm around Albany that the municipality has instituted compulsory vaccination. More than 200 cases exist, mostly among negroes.——Several cases are reported in Collins, Tattnall County.

ILLINOIS.

Smallpox Increases.—Smallpox has been reported in twenty counties and thirty localities. About 300 cases are said to exist at present.

Membranous Croup is Diphtheria.—In the future all cases of membranous croup in Rockford must be reported to the health officer and treated as a form of diphtheria, according to a ruling of the city health department.

Fire at Insane Hospital.—A live wire set fire to a college at the Illinois Hospital for the Incurable Insane, Bartonville, November 27. Until all danger was past Dr. George A. Zeller, the superintendent, took the 60 occupants of the cottage to the library.

Typhoid at Canton.—Canton has nearly 100 cases of typhoid fever and 5 deaths have occurred. The majority of cases are among the employes of the Parlin and Orendorff plow factory. The State Board of Health has been requested to send an official to investigate the sanitary conditions at the factory.

St. Mary's Hospital Staff.—The newly-appointed medical staff of St. Mary's Hospital, Quincy, is made up as follows: Drs. Joseph Robbins, Robert J. Christie, Sarah Vasen, John H. Rice, Henry Hatch, E. B. Montgomery, Ernest Zimmerman, William S. Knapheide, Robert J. Christie, Jr., L. H. A. Nickerson, William W. Williams, Charles E. Center and H. L. O. Whipple.

Chicago.

Bequest.—The endowment fund of St. Luke's Hospital is given $3,000 by the will of Mrs. Annie J. Tree.

More Money for Hospital.—The net proceeds of the fifth benefit concert for the Presbyterian Hospital were $8,083.

Personal.—Dr. Joseph E. Raycroft has been appointed director of the physical culture exhibit at the Louisiana Purchase Exposition.——Dr. John C. Outhet has sailed for the Orient.

City Bacteriologists' Examination.—Nine candidates for the position of superintendent of the city laboratory, vacated by the resignation of Dr. William K. Jaques, took the civil service examination November 17.

Dr. Senn's Illness.—Dr. Nicholas Senn, who was reported as seriously ill with septicemia from an infected operation wound of the right hand, has returned to Chicago and is reported much improved and progressing rapidly toward recovery.

Herzog to Manila.—Dr. Maximilian Herzog, for more than seven years professor of pathology and bacteriology in the Chicago Policlinic, has been appointed pathologist in the Bureau of the Government Laboratory, Manila, and will sail from San Francisco about December 30.

Addition to St. Luke's Hospital.—A plot of ground 40 by 161 feet, adjoining St. Luke's Hospital, has been purchased for $28,000 and will be used as a site for an addition, to cost about $300,000. It will consist of rooms and suites to be occupied by patients and possibly by their relatives, thus combining the idea of a hospital and a hotel.

Deaths of the Week.—Barely half a dozen diseases together with suicide and violence contribute 309 out of the total 512 deaths reported last week, while the same causes contributed 215 out of the total 467 reported the week before. Deaths from nervous diseases increased from 19 to 32; pneumonia from 70 to 94; and violence, including suicide, from 29 to 50. The mortality was at the annual rate of 14.15 per 1,000.

INDIANA.

Nearly Seven Thousand.—The report of the State Board of Registration will be issued in a few days. It will contain the names of nearly 7,000 physicians, 600 of whom are registered in Marion County.

Hospital Dedicated.—The Flower Mission Hospital for Incurables, Indianapolis, was formally dedicated, November 25. Morris Ross made the presentation address, and the mayor accepted the hospital on behalf of the city.

Gifts to Richmond Hospital.—William B. Leeds has given $10,000 toward the new public hospital at Richmond and Daniel G. Reid has given $50,000. The building will probably be known as the Reid Memorial Hospital. The Morrison bequest of $10,000 was turned over to the hospital trustees, November 18.

Health Officers' School.—The legislature of 1903 authorized the State Board of Health to require a certain sanitary training of health officers and also authorized the holding of a school for health officers. The health officers of the state number 516, and two schools are held annually to accommodate this number. The first school was held in June, and to it were summoned all county and city health officers. The second school, which is exclusively for town health officers, will be held December 16 and 17 at Indianapolis. Among the teachers for this school are ex-Surgeon-General George M. Sternberg, U. S. Army; Surgeon-General Walter Wyman, U. S. P. H. and M.-H. Service; Dr. Frank G. Novy, University of Michigan; Dr. Charles O. Probst, secretary American Public Health Association and secretary Ohio State Board of Health; Dr. Frank Allport, Chicago; Prof. David Dennis of Earlham College and Prof. Coulter and Prof. Burrage of Purdue University. The lectures will all relate to subjects pertaining to the practical application of disease-prevention measures. The Hon. William L. Taylor, ex-attorney-general, who has written and revised the health and medical laws of the state, will expound the state and national laws relating to public health and quarantine.

Sickness and Death in October.—The health in October, 1903, was not as good as in the same month last year. It was better, however, as compared with September. Typhoid fever is reported as being the most prevalent disease, 78 counties reporting the disease present, deaths being reported from 64 counties. It was also the most prevalent malady last month. Rheumatism was reported as second in area of prevalence, while diarrhea occupied this position last month, but it has fallen this month to seventh place. The order of prevalence was: Typhoid fever, rheumatism, intermittent fever, bronchitis, tonsillitis, scarlet fever, diarrhea, diphtheria, pneumonia, influenza, pleuritis, erysipelas, measles, dysentery, cholera morbus, inflammation of bowels, whooping cough, cholera infantum and cerebrospinal meningitis. During the month 324 cases and 1 death from smallpox in 38 counties were reported. This is a decided increase in the number of cases and area as compared with the preceding month, but a decrease as far as deaths are concerned. In the corresponding month last year 298 cases were reported, with 19 deaths in 35 counties. We have, therefore, to record an increase so far as cases and area covered is concerned, but a decided decrease in deaths. The total number of deaths from all causes reported was 2,572, a rate of 12 per 1,000 per annum. The city death rate was 15.4 and the country death rate was 10.3. Tuberculosis claimed 256 victims; 160 typhoid deaths were reported; diphtheria caused 63 deaths; pneumonia deaths numbered 132; influenza, 8; cerebrospinal meningitis, 25; puerperal septicemia, 10; cancer, 105; and violence, 146.

IOWA.

Smallpox at Corning.—It is reported that there are twenty cases of smallpox at Corning and that schools and churches are to be closed.

Acquitted.—Dr. B. A. Wilder, Sibley, charged with having caused the death of Anna Gedneka by a criminal operation, was found not guilty November 9.

New College Building Dedicated.—The new medical college building of Drake University, Des Moines, was formally dedicated December 3. The building has been completed and in use by the students for some time.

License Revoked.—The State Board of Medical Examiners, on November 14, considered the case of Dr. R. A. Snook of Sandyville, Warren County, who plead guilty of immorality. He promised not to offend in future, but the board decided not to accept his offer of reformation and his license was revoked.

MAINE.

Bangor Personal.—Dr. Galen M. Woodcock has resigned as member of the board of health.——Dr. George L. Hilton has been elected city physician, vice Dr. Edson E. Goodrich.

Smallpox.—Keeneville has been found to be the center of a fresh outbreak. Cases were discovered in Skowhegan and traced to Keeneville, where several families were found to be infected.——Fifty cases of a mild type are reported in Bangor. General vaccination has been ordered, but neither schools nor public places have been ordered closed.

"Holy Ghosters" Quarantined.—The State Board of Health has put the Bible School of the Holy Ghost and Us Society under strict quarantine. So many cases of smallpox have developed there that it has been made the pesthouse for the surrounding country. These "Sanfordites" protest against any medicinal aid, and through their belief that the Lord will heal, have been the means of disseminating the disease widely in that region.

MARYLAND.

Baltimore Personal.—Dr. N. G. Keirle, Jr., left London last week for Paris to study at the Pasteur Institute. On his return he will be assistant of the Pasteur department at the City Hospital, which is under the charge of his father.

Deaths in Baltimore.—For the week ended November 28, 177 deaths and 79 births were reported. The annual death rate was 16.50 per 1,000. Among the causes of death were consumption, 23; Bright's disease, 21; pneumonia, 14; cancer, 6, and typhoid fever, 5.

Section Officers Elected.—At the inaugural meeting of the section on ophthalmology, otology and laryngology of the Medical and Chirurgical Faculty of Maryland for 1903-4, held November 27, at Baltimore, Dr. Harry Friedenwald was elected chairman, and Dr. James J. Carroll, secretary-treasurer.

House Staff Appointed.—The following have been appointed house staff of the Frederick County Emergency Hospital recently established at Frederick by the county medical society: Drs. Franklin B. Smith, William C. Johnson, Henry P. Fahrney, Ira J. McCurdy, Samuel T. Haffner, Wilson A. Long and Harvey Getzendanner.

Charges Dismissed.—The county commissioners of Baltimore county dismissed the charges against Dr. John C. Schofield, health officer of the Twelfth District, preferred against him by Dr. John S. Fulton, secretary of the State Board of Health. It was alleged that Dr. Schofield neglected his duty in allowing suspects to escape from the camp of detention at Hombergville during the late smallpox epidemic, and had not reported deaths at Bayview Asylum in the proper form to the health office in Baltimore.

NEW YORK.

Diphtheria in Auburn Abating.—The epidemic of diphtheria in the western portion of Auburn is abating, and schools were reopened this week.

Convicted of Attempted Abortion.—Dr. Henry C. Chapin, Findley Lake, was convicted, November 22, of attempted abortion. This is a compromise verdict, as he was charged with manslaughter in the first degree.

Smallpox at Corinth.—Dr. Frederick C. Curtis, Albany, medical officer of the State Department of Health, reports that he found several mild cases of smallpox at Corinth, Saratoga County, and that all are properly quarantined.

New York City.

Nurses of St. Luke's Hospital.—The Alumnæ Association of this hospital has realized about $4,000 from a fair to endow a room for the use of the nurses when sick.

Fewer Deaths from Tuberculosis.—According to a circular just issued by the health department the death rate from pulmonary tuberculosis in New York City has fallen from 4.2 per 1,000 in 1881 to 2.29, or a reduction of more than 40 per cent.

Personal.—Dr. John W. S. Gouley is giving a course of lectures on Wednesday evenings at Bellevue Hospital on "The Principles of Conduct Adapted to Medical Students and Physicians."——Dr. and Mrs. William T. Bull have sailed for Europe.

Family Exterminated by Pneumonia.—It is reported that a whole family has been wiped out by the ravages of pneumonia. The disease first attacked a young girl, who died in St. Peter's Hospital. Her father, mother, sister and uncle called at the hospital to see her, and all of them, as well as a brother, died of the same disease within a few days.

Abortionist Arrested.—Through the combined efforts of the New York County Medical Society, the health commissioner and the Society for the Prevention of Cruelty to Children, Dr. Francis Gray Blinn was arrested in his own sanitarium, charged

with attempting to perform an illegal operation. A medical student named Edwin Watkins, impersonating "Dr. J. Sterling Loomis" of Bayonne, took a prominent part in the procedures leading to this arrest. Dr. Blinn agreed to pay "Dr. Loomis" a commission of $100, the fee asked for the operation being $500. Dr. Blinn was arrested in January, 1893, and in March, 1902, on similar charges, but was discharged for lack of evidence. He has now fled from the city, forfeiting his bail of $1,000.

OHIO.

Sisters' Hospital Soon to Open.—The building at Clifton which the Sisters of Charity have remodeled and equipped as a hospital, is now almost ready to receive patients.

Medical Libraries Consolidated.—The books formerly in the medical department of the Cincinnati Public Library have been removed to the City Hospital, and, with the library already accumulated there, will make a large and useful library.

Personal.—Dr. Charles H. Willgohs, Akron, celebrated his centenary on November 20.——Dr. Dudley P. Allen, Cleveland, gave a dinner, November 21, in honor of Dr. William Mayo, Rochester, Minn.——Dr. Adam H. McCullough has been inducted into the office of health officer of Mansfield, vice Dr. J. Harvey Craig.——Dr. Walter W. Brand was re-elected health officer of Toledo, November 24.

Epidemics.—MEASLES at Columbus Barracks, 22 cases; SCARLET FEVER at the Institution for the Blind, Columbus, 25 or more cases; at Bowling Green and at McArthur the public schools have been closed; SMALLPOX, 13 cases at Steubenville, 40 cases at Cambridge, 3 cases at Washingtonville, schools and churches closed; Marysville has quarantined against Union County and has prohibited public gatherings; Youngstown has 21 cases.

PENNSYLVANIA.

Trained Nurse Convicted.—Daisy Goeing, a trained nurse, was recently sentenced to five years' imprisonment on pleas of guilty to robbing the safe of the West Philadelphia Hospital for Women, and obtaining goods by false pretenses.

The Typhoid Situation at Butler.—On November 28 the State Board of Health held an adjourned session in Butler, Pa., to investigate the cause of an epidemic of typhoid fever at that place, which has affected more than 1,200 people. The cause is charged to polluted water furnished by the Butler Water Company. It is claimed that because of the loss of a dam the company for a time pumped water directly from a creek when there were many typhoid cases on the tributaries of the stream. Because of the epidemic many families are in destitute circumstances, and a public meeting has been held to raise a fund to support emergency hospitals and to aid other relief work. Later information has been received to the effect that diphtheria has made its appearance among the fever-stricken children in St. Paul's Orphan Home. A physician and four nurses have been detailed for the institution and strict quarantine has been established. So far 3 cases have been discovered. Six physicians and more than 50 nurses have come to Butler to aid in care of the sick. Twenty-five new cases of typhoid fever were reported December 1, with 4 deaths.

State Board Meets.—The State Board of Health met in Pittsburg, November 27. Dr. Benjamin Lee, secretary, in his annual report gave particular attention to the status of smallpox in Pennsylvania. During the year ending November 1 there were 6,504 cases of smallpox and 503 deaths from the disease. The largest number occurred in Pittsburg, where there were 1,234 cases and 238 deaths. In Philadelphia, up to October 1, there have been 948 cases and 138 deaths. A careful calculation leads to the conclusion that outside of the large cities about 1,500,000 school-days were lost because of the disease, while the inclusion of the large cities would swell the figures enormously. In Philadelphia, for example, seven elementary schools, with an enrollment of more than 5,000 pupils, were closed in a single day. The report deals also with measures taken to prevent the pollution of streams, tuberculosis, tetanus and proposed legislation to stop the sale of toy pistols and dangerous explosives. Chairmen of the standing committees are as follows: Charles H. Harvey, Philadelphia, executive; Benjamin Lee, Philadelphia, registration and vital statistics; George G. Graff, Bucknell College, preventable diseases; A. M. Embrick, Boiling Springs, adulteration, etc.; John Fulton, Johnstown, water supply and sanitation; Samuel T. Davis, Lancaster, public institutions and school hygiene; H. J. McClelland, Pittsburg, sanitary legislation.

Philadelphia.

The Muetter lecture on surgical pathology, College of Physicians for 1903, was delivered in the lecture hall of the college, December 1, by Dr. Charles N. B. Camac of Cornell University, New York City, the subject being "Some Observations on Aneurism and Arteriosclerosis."

Smallpox and Deaths.—For the week ended November 28, new smallpox cases were reported from 26 of the 42 wards of the city. There was a total of 70 new cases with 11 deaths. Deaths from all causes numbered 495, compared with 409 the week before and 454 for the corresponding period of last year.

Dispensary Burns.—On the evening of November 29 a building used by the Children's Homeopathic Hospital for dispensary purposes and for sleeping apartments for servants was destroyed by fire, involving a loss of some $4,000. A threatened panic of the inmates was prevented by the prompt and cool action of the nurses.

City Not Responsible.—A man recently brought suit against the city to recover damages because of the illness of members of his family asserting that they had contracted typhoid fever as a result of foul gases arising from garbage. Attempt was made to hold the city responsible for the deposit of this noxious matter. The plaintiff lost the suit, the defense producing expert testimony to prove that typhoid germs can not be introduced into the system by breathing impure air.

RHODE ISLAND.

Typhoid at Brown.—Brown University, Providence, is having a small epidemic of typhoid fever. Nine cases have so far developed, but the source of infection has not been discovered.

Personal.—Dr. Craig Cameron, Olneyville, was seriously burned about the face by carbolic acid.——Dr. Lucius F. C. Garvin, Lonsdale, has been re-elected governor of the state by 5,000 plurality.

Verdict Against Physician.—A Providence jury has given a verdict for $2,375 against Dr. J. Leroy Fisher of that city in favor of a boy whom he treated for a fracture of the leg, which the complainant claimed was not properly treated, as ulceration and shortening followed.

Vanderbilt Donation to Hospital.—Mrs. Cornelius Vanderbilt, Sr., has transferred to the trustees of the Newport Hospital the memorial edifice to her husband which she has erected and equipped on the grounds of the institution, at a cost of $250,000. It is to be known as the Cornelius Vanderbilt Pavilion.

TEXAS.

Quarantine Raised.—The quarantine maintained by Denison and McKinney against Sherman, on account of smallpox in the latter city, has been raised on the advice of the state health officer.

Increases Scope and Stock.—Dallas Medical College has filed an amendment to its charter, adding to its purpose clause the right to maintain a medical dispensary, and also increasing its capital stock from $3,000 to $6,000.

State Health Officer Supreme.—The attorney general has rendered an opinion that all county and city quarantine authorities are subordinate to the state health officer and that health certificates issued by him must be respected by local authorities.

Laredo Fever-free.—Laredo has had no case of yellow fever since November 25, and should this favorable condition continue, the health authorities will soon give the city a clean bill of health and raise the quarantine. The total cases have numbered 1,022, with 99 deaths, a mortality of 9.7 per cent.

To Decrease Degeneracy.—Dr. Marvin L. Grayes, San Antonio, superintendent of the Southwestern Insane Asylum, in his annual report says there are 3,200 insane persons in asylums and 2,000 at large in Texas. He believes the time is near when some humane means, surgical or otherwise, will be demanded to prevent the continuation of a race of degenerates and dependents.

FOREIGN.

Santiago, Chili, Sewer System.—The government of Chili has provided for the appropriation of $5,000,000 to establish a drainage and sewage system in the city of Santiago.

Sleeping Sickness at Paris.—The three negroes from the Congo exhibited at the Paris Académie de Médecine, as mentioned on page 1335, are attracting much interest. They spend most of their time in bed, but do not suffer at all, and are confident that they will soon be cured. Each has a remarkable appetite and digestion is good. The Association des Dames Françaises has placed its small hospital at the service of the Institute of Colonial Medicine, and the negroes are cheerful in their new surroundings.

Italian Regulations for Notification of Disease.—The Italian government has recently ordered that when the authorities are notified in regard to the presence of a case of contagious disease in a house the notice must state whether the patient is attending school and mention the school and also whether there are other school children in the family or house or persons employed in a school. The local authorities will then notify the principal of the school mentioned so that he will debar persons from the infected home in case they come to school. Another regulation is to the effect that children with chronic affections such as trachoma, impetigo, tinea and tuberculous affections of the skin or bones, may attend school, but must sit apart from the other children, without any possible contact between them and their mates. Children with suppurating tuberculous lesions of the skin, bones or glands, are also allowed to attend school if their lesions are kept covered and if they are seated at isolated desks.

Marmorek's Antituberculosis Serum.—Dr. Marmorek has long been connected with the Pasteur Institute at Paris as chief of the chemical laboratory. During the past year he has been experimenting with an antituberculosis serum whose effects on lower animals have been so good that he is encouraged to propose it for the treatment of humans. The other scientists connected with the institute refused to sanction its publication at this early date and wished to wait for further experience. Marmorek has consequently withdrawn from the Pasteur Institute, and read a communication before the Académie de Médecine, November 17, describing his technic and results to date. The *Bulletin* for that meeting has not yet been received. His communication had been announced for November 10, but Roux of the Pasteur Institute secured its withdrawal. On deliberation, however, the Académie gave audience to Marmorek at the following meeting. Roux stated that the results of control tests at the Pasteur Institute were entirely opposite to those which Marmorek asserts to have obtained. A cable dispatch from Paris in the daily press December 2, announces that Prof. G. Dieulafoy reported to the Académie that he had tested the Marmorek serum on seven patients, Marmorek operating. Instead of becoming better, he says, they became worse and five died. Le Dentu made a similar report.

Tuberculosis Conference at Berlin.—The physicians in charge of the tuberculosis sanatoriums in Germany meet annually at Berlin to discuss matters connected with their specialty. This year all medical men officially engaged in the campaign against tuberculosis were invited to the meeting, which was, therefore, an exceptionally interesting one. B. Fraenkel, in his opening address, considered it necessary to defend the sanatoriums against certain aspersions. He stated that the influence of climate is not important as more than 30 per cent. of the patients treated in sanatoriums at the ordinary altitude have had their working capacity restored for more than four years. He referred to immunization against tuberculosis as a dream for the future without practical value for the present, and offering no prospects as yet of rendering the sanatoriums superfluous. Their value as a means of educating the people in the prophylaxis of tuberculosis can not be overestimated. Treatment with tuberculin was discussed at great length, the general opinion seeming to be growing more and more favorable to it, especially for tuberculosis in children. Sanatorium treatment for tuberculous children was qualified as indispensable and blessed in its results. Children need especial care when they are leaving school to enter apprenticeships, also during convalescence from infectious diseases. Heubner made an impassioned appeal for more convalescent homes and sanatoriums for children, and it was decided after long discussion that the expense of such institutions ought to be borne by the community or group of communities. Brandenburg already has organized an association for the purpose. Germany also has one or two sanatoriums for tuberculous children, recently opened, and the gain in weight of all the children has been remarkable. One of the sickness insurance societies has opened a home at Berlin for incurable consumptives, with accommodations for 20. It is designed for those whose home environment favors contagion of others. The inmates are allowed to see their friends every day at certain hours, and are given leave of absence for half a day twice a week. Only 8 of the 35 taken in have died; 2 others have left to resume work.

LONDON LETTER.

The Etiology of Sleeping Sickness.

We have recently referred to the "progress report" of the commission appointed by the Royal Society to investigate sleeping sickness (The Journal, October 10, p. 918). Their provisional conclusion—that sleeping sickness is caused by the entrance into the blood and thence into the cerebrospinal fluid of a species of trypanosoma which is transmitted from the sick to the healthy by a species of tsetse fly—is now fully borne out by the complete report and constitutes a discovery which ranks with those of the mosquito origin of malaria and yellow fever. Some conception of the ravages wrought by this disease among the native population in Uganda may be formed from the condition of the Buvuma Island, where a population of 22,000 has been reduced to 8,000 since the outbreak of the disease, while the province of Busoga has been almost depopulated in the southern parts. Colonel Bruce was dispatched by the government to superintend a further investigation into this disease, on which some work had already been done by the previous commission sent out by the Royal Society. He was accompanied by Dr. Nabarro as bacteriologist, and while in Uganda was joined by Captain Grieg, I. M. S., who had been sent out by the Indian Government to study the disease. Colonel Bruce and his party reached Entebbe on March 16, and found that Dr. Castellani, a member of the previous commission who had remained at work on the investigation, had observed in 5 cases of sleeping sickness trypanosomes in the cerebrospinal fluid, and in one case in the blood. At that time Dr. Castellani did not consider that this parasite had any causal relationship to the disease. As soon as it was reported to Colonel Bruce, whose investigations into the tsetse fly disease in South Africa are well known, the whole party, with the assistance of Dr. Moffat, the principal medical officer, and his assistant medical officer, addressed themselves with ardor to this line of investigation with the result that by the first week in April, out of 34 cases of sickness examined, 70 per cent. were found to have this parasite in the cerebrospinal fluid, whereas control cases of patients under treatment for other diseases in the native hospital, when examined in the same way, showed no trypanosomes in their cerebrospinal fluid. The further progress of the investigation increased this proportion to 100 per cent. of cases examined, in all of which the parasite was found not only in the cerebrospinal fluid, but also in the circulating blood. A series of experiments was carried out in which it was discovered that monkeys inoculated with cerebrospinal fluid from sleeping sickness patients, or with blood from natives not as yet showing symptoms of sleeping sickness, but containing a similar parasite, sickened and died, with all the symptoms of sleeping sickness. From the analogy of the closely related disease in cattle, the nagana or tsetse fly disease of South Africa, it was suspected that in sleeping sickness a like method of infection took place. Along the lake shore numbers of tsetse fly (*Glossina palpalis*) were found, and it was demonstrated by experiment that not only were these flies, fed on sleeping sickness cases, capable of conveying the disease to healthy monkeys, but that the freshly-caught flies from an infected area, without any artificial feeding, were also capable of conveying the disease. It was further discovered that this fly, like its congener the tsetse fly of South Africa, is confined to well-defined areas, which correspond absolutely with the distribution of sleeping sickness, whereas, in regions where no *Glossina palpalis* is found, although other biting flies abound, there is no sleeping sickness. Moreover, a large percentage of the inhabitants of the sleeping sickness areas have in their blood the trypanosoma, but in not a single case taken from inhabitants of non-sleeping sickness areas was this parasite found.

Correspondence.

American and International Congresses on Tuberculosis and Tuberculosis Exhibits for the Years 1904 and 1905.

New York, Nov. 27, 1903.

To the Editor:—During the past few months I have received many inquiries concerning the various tuberculosis congresses (American and international) which have been projected for the years 1904-5. The multiplicity of these various congresses and the similarity of their names lead naturally to great confusion.

It is announced that a congress on tuberculosis is to be held in St. Louis in October, 1904, under the name of "International Congress on Tuberculosis." On careful inquiry I learned the following facts about this congress: Mr. Francis, the president of the St. Louis Exhibition, has been approached by the officers of the "American Congress on Tuberculosis,"

which was founded some years ago by Clark Bell, a lawyer of the city of New York, to sanction the holding of an international congress on tuberculosis in connection with the Louisiana Purchase Exposition. From a letter received from Dr. E. J. Barrick of Toronto, Canada, the president of this congress, I learn that Mr. Francis has appointed the above-mentioned Mr. Clark Bell chairman of the committeé on organization. Mr. Clark Bell is also the treasurer and chairman of the executive committee of the "American Congress on Tuberculosis," season 1903-1904; a Mr. Samuel Bell Thomas of 290 Broadway, New York, is the secretary of the latter. The officers of the international congress are not yet elected. I was desirous to learn the names of other medical men interested in this congress, and Dr. Barrick very kindly wrote me November 16, that he had asked Mr. Bell to furnish me the desired additional information, but nothing has thus far been received.

The other international tuberculosis congress announced is the one to meet in Washington, D. C., April, 1905. It is to be held under the auspices of "The American Congress on Tuberculosis for the Prevention of Consumption," of which Dr. Daniel Lewis, New York, is president, and Dr. George Brown, Atlanta, Ga., is secretary.

I want to call attention to the difference in name of the two American congresses, one is "American Congress on Tuberculosis," the other "The American Congress on Tuberculosis for the Prevention of Consumption."

The congress which was to meet under the name of "Congrès International de la Tuberculose" at Paris from Sept. 26 to Oct. 1, 1904, has been recently postponed to the year 1905. The president of this congress is Professor Brouardel, honorary dean of the Faculty of Medicine of Paris. The general secretary is Dr. M. Letulle, professor agrégé of the Faculty of Medicine, residing at 7 rue Magdebourg, Paris.

There will be held during the coming year independently of the above-mentioned congresses two tuberculosis exhibitions, one in Baltimore, and the other in St. Louis. The Baltimore Tuberculosis Exhibition will be held in January, 1904, under the combined auspices of the tuberculosis commission, the Maryland Board of Health, and the Maryland Public Health Association.

The other tuberculosis exhibition will be held in St. Louis, in connection with the Exhibition of Social Economy and under the subsection of hygiene, of which Dr. J. N. Hurty of Indianapolis is superintendent.

All indications point toward success of both exhibits, and it is to be hoped that they will fulfill their high purpose and at the same time be a credit to American physicians and hygienists.

Considering the various congresses I do not hesitate to express a feeling of deep anxiety. The first one mentioned, which for reason of brevity I will call "The Bell Congress," because it owes its inception to Mr. Clark Bell, has, to my knowledge, not the support of our best men. The second congress in point of time, which again, for the sake of brevity and clearness, I may call "The Lewis-Brown Congress" (names of the president and secretary), while it has many distinguished men of various state and provincial boards of health among the members, has, like the Bell congress, thus far not among them the men we are wont to look up to as leaders in movements of this kind.

What are our confrères across the water to think if they hear of two American congresses on tuberculosis and each having an international one under its auspices? The European authorities found it best, instead of having a triennial congress, to have one more year to intervene. This will make the congress in Washington and the one in Paris convene in the same year (1905).

If President Francis of the St. Louis Exposition desires that a tuberculosis congress shall be held in St. Louis, let him call to his aid some of the men who are recognized as leaders in our profession. They will counsel with him on the advisability of such a congress, and if it is decided that one should be held, Mr. Francis can be assured that the best element of Europe and America will come to St. Louis to contribute to its success.

The officers and members of the Lewis-Brown congress must realize that they can not expect to have their international meeting in Washington to be successful, when, six months later, there will be an international congress in Paris. I hope that there will be enough patriotism and national pride for all interested to realize that two American congresses on tuberculosis is an anomaly, and that, if the St. Louis congress is to be a success, it must be in the hands of medical men well and favorably known in this country and abroad.

As a solution of the problem I beg leave to suggest the following: During the Tuberculosis Exposition in Baltimore next January all interested should meet on a certain date on this neutral ground for the purpose of coming to an agreement about a single representative national or international tuberculosis congress to be held in America. There, too, should be formed a national committee on tuberculosis which is to be in touch with the international tuberculosis congress which will convene in Paris in 1905.

S. A. KNOPF, M.D.

16 West Ninety-fifth Street.

Mercuric Cataphoresis.

PHILADELPHIA, Nov. 25, 1903.

To the Editor:—I wish to correct a mistake which I allowed to remain when correcting the report of my remarks on the papers of Drs. Dunning and Bovée. This discussion appeared in THE JOURNAL, November 14, page 1194. I was reported as speaking of a method of diffusion of mercury through the "abdominal wall" for chronic inflammation of the uterine appendages. It should have been "vaginal wall." The method referred to is described in a paper in THE JOURNAL, Aug. 30, 1902, and I will be glad to send reprints to those who wish them.

G. BETTON MASSEY.

Marriages.

EMMETT M. HARRISON, M.D., to Miss Salome Bradley, both of Knoxville, Tenn., September 7.

ARTHUR GILBERT BARRETT, M.D., to Miss Alice Hollander, both of Baltimore, November 18.

OMAR H. REES, M.D., Ogden, Ill., to Miss Lydia Matilda Georg of Indianapolis, November 11.

FRANK H. THOMAS, M.D., Valdosta, Ga., to Miss Ann E. McKay of Riverton, Va., November 18.

SAMUEL H. NEAL, M.D., Elkhorn, W. Va., to Miss Bertha M. Jones of Philadelphia, November 18.

JAMES MORRISON BODINE, M.D., to Mrs. Laura M. Williams, both of Louisville, Ky., November 25.

JULIA SEATON KAPP, M.D., Denver, Colo., to Frank W. Sears of Lynn, Mass., at Boston, November 15.

FRANK CLINE FERGUSON, M.D., Spartansburg, S. C., to Miss Edith Seward, at Baltimore, November 18.

EDWIN ELLIOTT ARMSTRONG, M.D., Sylvania, Ohio, to Miss Myrtle Demuth of Toledo, Ohio, October 21.

JAMES R. RICHARDS, M.D., Thermopolis, Wyo., to Miss Edith M. Blatchford of Terry, S. D., November 14.

ROBERT A. MARTIN, M.D., Pell City, Ala., to Miss Mary Lee Campbell of Birmingham, Ala., November 18.

GEORGE C. MOREY, M.D., Remsen, N. Y., to Miss Edna Richards of Steuben, N. Y., at Remsen, November 10.

GEORGE LAWRENCE STEVENSON, M.D., Sacramento, Cal., to Miss Frances Burt of San Francisco, November 14.

JESSE NEWMAN REEVE, M.D., Washington, D. C., to Miss Ashley Macon Miller of Richmond, Va., November 17.

THEOPHILUS LACY MASTIN, M.D., Huntsville, Ala., to Miss Mary Cyrene Burch, at her home near Versailles, Ky., November 17.

Deaths.

Horace C. White, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1859, one of the most prominent physicians of Somerville, Mass.; assistant surgeon of the Eighth Maine Volunteer Infantry during the Civil War; a member of the American Medical Association, Massachusetts Medical Society,

Maine Medical Association, ninth International Medical Congress, and sometime president of the Boston Gynecological Society, and the Somerville Medical Society, for two terms a member of the state legislature and a trustee of the Somerville Hospital since its organization, died at his home, November 26, after a long illness, from heart disease, aged 67.

Henry Eugene Winslow, M.D. College of Physicians and Surgeons, New York, 1894, surgeon U. S. Constabulary in the Philippine Islands, formerly of West Oakland, Cal., at one time medical inspector of the Manila Board of Health, and a medical officer of great promise, died from amebic dysentery in the Civil Hospital, Manila, October 8. The council of the Manila Medical Society, at a meeting held October 10, adopted resolutions eulogistic of the ability, modesty and simplicity of the deceased officer and deploring his untimely death.

Hawkins Brown, M.D. University of Louisville, 1854, a venerable and honored practitioner of Kentucky; once president of the Kentucky State Medical Society; a member of the American Medical Association, died at his home in Hustonville, December 1, aged 73. He was surgeon of the First Kentucky Cavalry, and served on General Stoneman's staff during the Civil War.

Charles Schaeffer, M.D. University of Pennsylvania, Philadelphia, 1859, the well-known scientist, and member of many learned societies, who devoted himself especially to botany, died at his home in Philadelphia, November 23, from heart disease, aged 65. He was in active practice until 1898.

Frank L. Swallow, M.D. University of Pennsylvania, Philadelphia, 1900, of Pittsburg, Pa., died suddenly, November 17, at Manor, Pa., whence he was to be taken to the West Penn Hospital to be treated for neurasthenia, aged 27.

Allen Hazen, M.D. College of Physicians and Surgeons, New York, 1895, of New York City, a member of the Society of Alumni of the City Hospital, died at Jericho Center, Vt., November 17, after an operation for appendicitis.

John W. Van Osdol, M.D. Miami Medical College, Cincinnati, 1879, of Dillsborough, Ind., died at the home of his son in Rushville, Ind., November 2, from paralysis, after an illness of 11 days, aged 58.

Charles A. H. De Szigethy, M.D. University of Giessen, Germany, 1867, a member of the American Medical Association, died at his home in Brooklyn, November 17, from heart disease, aged 65.

Theodore A. Trulson, M.D. College of Physicians and Surgeons of Chicago, 1885, died from paralysis of the heart following diphtheria, November 18, after an illness of thirteen days, aged 42.

Carrie L. Heald, M.D. Northwestern University Woman's Medical School, Chicago, 1897, died at her home in Osceola, Neb., November 18, from typhoid fever, after an illness of four weeks.

William Hutton, M.D. University of Michigan, Ann Arbor, 1874, was drowned November 22, by breaking through the ice while crossing Apple River at his home in Elizabeth, Ill., aged 58.

Louis H. Dravo, M.D. Jefferson Medical College, Philadelphia, 1881, who had suffered from asthma for several years, was found dead at his home in Pittsburg, November 18, aged 50.

Samuel Talmage, M.D. New York University, 1870, a member of the Kings County (N. Y.) Medical Society, died at his home in Brooklyn, November 20, from paralysis, aged 72.

Thomas A. Barr, M.D. Eclectic Medical Institute, Cincinnati, 1864, died at his home in Lebanon, Mo., November 15, after a lingering illness, from Bright's disease, aged 62.

Alphonse J. Mervy, M.D. Cooper Medical College, San Francisco, 1876, of San Francisco, died at San Diego, Cal., November 17, after an illness of three months, aged 56.

Benjamin F. Sippy, M.D. St. Louis College of Physicians and Surgeons, 1884, died at his home in Belle Plaine, Kan., November 19, from cancer of the stomach, aged 55.

John Tascher, M.D. Eclectic Medical Institute, Cincinnati, 1878, formerly of Chicago, died at Albuquerque, N. M., November 16, from nephritis, after a long illness.

Henry T. Templeton, M.D. Medical College of Georgia, Augusta, 1867, died suddenly at his home in Laurens, S. C., November 10, from heart disease, aged 62.

Raymond P. Eddy, M.D. Eclectic Medical Institute, Cincinnati, 1860, died at his home in Providence, R. I., November 11, after an illness of about one year, aged 80.

Douglas W. Tice, M.D. St. Louis Medical College, 1860, a practitioner in Troy, Mo., for more than 40 years, died at his home in St. Louis, November 11, aged 70.

B. Brown Henry, M.D. University College of Medicine, Richmond, 1900, of West Newton, Pa., was struck by a train at that place, November 17, and instantly killed.

James G. Dickson, M.D. Jefferson Medical College, Philadelphia, 1851, died suddenly from heart disease at his home in Canonsburg, Pa. November 14, aged 78.

Jefferson K. Heltman, M.D. Medical College of Indiana, Indianapolis, 1875, died suddenly from heart disease, November 8, at his home in Oaklandon, Ohio.

Herbert A. Starkey, M.D. Medico-Chirurgical College of Philadelphia, 1889, died suddenly at his home in Kingston, N. Y., November 21, aged 35.

Willard L. Collins, M.D. Western Pennsylvania Medical College, Pittsburg, 1892, died suddenly at his home in Girardville, Pa., November 2, aged 38.

T. Clayton Williams, M.D. University of Maryland, Baltimore, 1868, died at Winchester, Va., October 29, from acute Bright's disease, aged 59.

John L. Watkins, M.D., assistant surgeon in the Confederate Army during the Civil War, died at his home in Milton, N. C., October 24.

Matthew A. Schweeters, M.D. Western Reserve University, Cleveland, 1890, died suddenly from heart diseases at his home in Leesville, Ohio.

John A. Hickman, M.D., surgeon in the Confederate service, died at his home in Cynthiana, Ky., November 18, after a short illness, aged 76.

Daniel J. Turner, M.D. University of Maryland, Baltimore, 1894, died at his home in Front Royal, Va., November 10, aged 38.

Thomas J. West, M.D. Charity Hospital Medical College, Cleveland, 1868, died at his home in Tiffin, Ohio, November 18, aged 68.

Zera W. Monroe, M.D. Rush Medical College, Chicago, 1890, died at his home in Monroe, Wis., November 20, from tuberculosis.

Edward E. Smart, M.D. Tulane University, New Orleans, 1856, died recently at his home in Leesville, La.

William Joseph von Mitden Einerhand, M.D., died November 10 at his home in Newport, Ky., aged 81.

Orion M. Cox, M.D., died from pneumonia at his home in Cox's Creek, Ky., November 21, aged 74.

L. F. Watson, M.D., died at an advanced age at his home in Springfield, Mo., November 18.

Book Notices.

PRACTICAL GYNECOLOGY. A Comprehensive Text-Book for Students and Physicians. By E. E. Montgomery, M.D., LL.D., Professor of Gynecology, Jefferson Medical College. Second Revised Edition. With 539 Illustrations, the Greater Number of Which Have Been Drawn and Engraved Especially for This Work, for the Most Part from Original Sources. Cloth. Pp. 900. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

While it is only three years since the first edition of this book was issued the author has found it necessary to revise many parts so as to bring it well up to date, and to include all the later important operative procedures. Several changes have been made in the arrangement. In our review of the book on its first appearance we criticised the classifying of the various lacerations of the pelvic floor, vaginal fistula, etc., under malformations; in this edition these and similar conditions are grouped under a new general division of traumatisms. Other minor changes are also to be observed, all bettering the book. Many new illustrations have been added, and not a few of the old ones have been redrawn. The book is unusually well gotten up and the binding has been especially improved. As we said in noticing the work on its first appearance, the author is neither too radical nor too conservative in the consideration of the conditions that may need radical operations. In the introduction he tells us that the true gynecologist must be "so conservative that he will sacrifice no organ whose physiologic integrity is capable of being restored; so bold and courageous that his patient shall not forfeit her opportunity for life or restored health through his failure to assume the

responsibility of any operative procedure necessary to secure the object." This is the basal idea that permeates the book; the ultraradical operator will find no endorsement, and the "tinkering" gynecologist—he who treats all diseases of women by means of a pledget of cotton and a speculum—no encouragement in its pages. The book is one that we can recommend to the student, to the general practitioner—who must sometimes be a gynecologist to a certain extent whether he will or not—and to the specialist, as an ideal and in every way complete work—a practical work for practical workers.

A DICTIONARY OF MEDICAL SCIENCE. Containing a Full Explanation of the Various Subjects and Terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Pathology, Bacteriology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc. By Robley Dunglison, M.D., L.L.D., Late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. Twenty-third Edition, Thoroughly Revised, with the Pronunciation, Accentuation and Derivation of the Terms. By Thomas L. Stedman, A.M., M.D., Fellow of the New York Academy of Medicine. Cloth. Pp. 1212. Price, $8.00. Philadelphia and New York: Lea Brothers & Co. 1903.

For seventy years Dunglison's Dictionary, like Gray's Anatomy, has been a standard. It has held first place—and the only place for many years—as the medical dictionary of our country. Others have appeared and held high rank for awhile, and then have vanished. But Dunglison's still hung on and became an institution in medicine. And now we have the twenty-third edition "thoroughly revised," as the title-page says, which examination shows to be a fact. It is the old standby with all its old associations clinging to it, but nevertheless it is a thorough exemplar of twentieth century medicine. A critical examination for the discovery of the omission of recently created words has resulted in a failure to find the omission; the new words are there. Over 1,500 new definitions, according to the preface, have been introduced in this edition. A few of the old definitions have been rewritten in a more concise form, but most of the old ones have been left as they were originally. The illustrations are more of a feature than in previous editions. Many are in colors, and those illustrating the arteries (19) and the veins (10) are especially to be commended. Those of us who in our younger days dug out of "Dunglison" not a little of medical lore will welcome the old book made new again and will thank Stedman and Lea Brothers for making it possible still to refer with confidence and satisfaction to the friend of our youth.

PSYCHOTHERAPY in the Practice of Medicine and Surgery. By Sheldon Leavitt, M.D. Cloth. Pp. 247. Price, $2.00. Chicago: Gardner-Taylor Press. 1903.

The principles of psychic healing as laid down by Leavitt seem to be very near to the teaching of Mrs. Eddy, divested, however, of their pseudo-religious and other fraudulent accessories. He believes in subjective and objective minds; the former controlling the vital action being in itself controllable to some extent by the objective mind. In his treatise he says that "all disease has its origin in the mind, the subjective taking its cue from its environment" and that "the prevention of disease consists in keeping the subjective mind under the power of wholesome suggestion." "The cure of disease consists in the use of suggestion running counter to disease and the establishment of subconscious thoughts of health inculcated by unconscious volition." "All cures are essentially self cures." This is pretty near pure Eddyism. The author believes, nevertheless, in the use of drugs and thinks that they are practically only aids to suggestion. The book is a readable one, and has, it seems to us, some literary pretensions, but as a scientific work we would not give it a very high place.

HUNTINGTON'S ABDOMINAL ANATOMY. The Anatomy of the Human Peritoneum and Abdominal Cavity Considered from the Standpoint of Development and Comparative Anatomy. By George S. Huntington, M.D., Professor of Anatomy in the College of Physicians and Surgeons, Columbia University, New York City. Pp. 590, Including 300 Full-page Plates in Colors and Monochrome. De Luxe Edition. Price, $10.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

In this work the author says: "An attempt has been made to emphasize the value of embryology and comparative anatomy in elucidating the difficult and often complicated morphologic problems encountered in the study of human adult anatomy." The first chapter, or introduction, contains a concise statement of the main facts of vertebrate embryology in so far as they relate to the abdominal cavity and its contents. The work is then subdivided into four parts: "Anatomy of the Peritoneum and Abdominal Cavity, Comparative Anatomy of Foregut and Stomach"; "Anatomy of the Peritoneum in the Supracolic Compartment of the Abdomen"; "Large and Small Intestine, Ileocolic Junction and Cecum"; "Morphology of the Human Cecum and Vermiform Appendix." Of course, no attempt is made to cover the entire subject of comparative anatomy, but such examples are considered as may lead to a clearer and better understanding of the human adult form. The author shows not only a thorough knowledge of the entire subject from a scientific point of view, but has presented the matter in such an attractive and instructive form as to enable the surgeon and physician to make many deductions of the greatest practical value. It is seldom that one has the pleasure of reviewing a work which is so thoroughly scientific and so replete with the practical and important. It is an excellent work and can be heartily recommended.

VEASEY'S OPHTHALMOLOGY. A Manual of Diseases of the Eye. For Students and General Practitioners. By Clarence A. Veasey, A.M., M.D., Demonstrator of Ophthalmology in Jefferson Medical College, Philadelphia. 12mo. Pp. 410. With 194 Engravings and 10 Full-page Colored Plates. Cloth. Price, $2.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

Dr. Veasey has given us a most valuable text-book, which will be useful to both student and practitioner. Veasey has had a long experience as a teacher, and consequently is capable of producing, in a condensed form, an excellent volume on the subject of ophthalmology. The volume is made attractive as well as more valuable by the color plates and by the two hundred engravings which are well executed. The publishers have presented the book in an attractive form and free from typographic errors. The chapter on the affection of the ocular muscles is one of the best, clearest and most concise that has yet been written. The author has evidently made a careful study of sympathetic ophthalmitis, as he has under that head given a condensed but at the same time a careful and thorough description of this most interesting disease.

THE MEDICAL NEWS VISITING LIST FOR 1904. Weekly (Dated for 30 Patients); Monthly (Undated, for 120 Patients per Month); Perpetual (Undated, for 30 Patients Weekly per Year); 60-Patients (Undated, for 60 Patients Weekly per Year). The Weekly, Monthly and 30 Patient Perpetual Contain 32 Pages of Data and 160 Pages of Classified Blanks. The 60-Patient Perpetual Consists of 256 Pages of Blanks Alone. Bound in Flexible Leather, with Flap and Pocket, Pencil and Rubber, and Calendar for Two years. Price, $1.25. Thumb-letter Index, 25 cents Extra. Philadelphia and New York: Lea Brothers & Co. 1903.

This excellent pocket companion comes to us in practically the same form as in former years. The matter has been revised and brought thoroughly up to date. It is one of the most useful pocket visiting lists that is issued and contains important tables, poisons and antidotes, etc., in a compact form.

PHYSICIANS' POCKET ACCOUNT BOOK. By J. J. Taylor, M.D. Leather. Pp. 200. Price, $1.00. Philadelphia: Published by the Medical Council.

This is a neat, compact, easily kept account book that can be carried in the pocket without inconvenience and contains a large amount of information for the general practitioner. The form of keeping the accounts is in compliance with the legal requirements of practically all the states, making it especially valuable on this account.

SUCCESS IN DENTAL PRACTICE. A Few Suggestions Relative to the Most Approved Methods of Conducting a Practice. By C. N. Johnson, M.A., L.D.S., D.D.S., Professor of Operative Dentistry in the Chicago College of Dental Surgery. Cloth. Pp. 159. Price. $1.25. Philadelphia and London: J. B. Lippincott Co. 1903.

This little work is full of useful hints to the dental practitioner. Written by a man of years of ripe experience, it can not but be of great benefit to the dentist, especially to those about to begin practice. Every dental practitioner should have it conveniently at hand to peruse at his leisure moments.

ELECTRO-STATIC MODES OF APPLICATION, THERAPEUTICS AND THE USES OF THE RÖENTGEN RAY. By William Benham Snow, M.D., Professor of Electro-Therapeutics and Radiotherapy in the New York School of Physical Therapeutics. Second Edition. Revised and Enlarged. Contains More Than 100 Illustrations. Including Ten Full-page Half-tones, Showing the Various Methods of Posturing and Treating Conditions. Cloth. Pp. 302. Price, $3.00. New York: A. L. Chatterton & Co.

This work first appeared about two years ago, and has now been corrected and brought up to date.

Miscellany.

We need to educate the medical profession at large as well as the public on the extreme value of postmortem examinations. These examinations . . . would help us at every step of our work and do more to advance our profession than any other one thing.—*Journal of the Kansas Medical Society.*

The local medical society ought to know all about the doings of its local board of health, about its community water supply, the sewerage system, the sanitation of its school houses. It ought to lend its influence toward making clean, beautiful streets, regulating various nuisances, smoke, unnecessary noises, etc. The local society ought to have something actively to say and to do about the grossly immoral advertising and the nauseating patent medicine notices that appear in the local papers.—*Iowa Medical Journal.*

A Useful Discovery.—For 40 years physicists have been seeking some substance to serve as a screen, cutting off all the light and heat-giving rays of the spectrum, while allowing the invisible ultra-violet rays to pass. Finally, Prof. R. W. Wood of the Johns Hopkins University, has discovered the long-sought substance, which bears the name of nitrosodimethylanilin. When combined with cobalt glass, this substance furnishes a screen which allows only ultra-violet rays to pass through. The discovery is of importance for some difficult scientific investigations.—*Carolina Med. Jour.*

Opium in Infantile Diarrhea.—Kerr, in the *Brooklyn Medical Journal*, gives these rules: Use opium "always alone, never in combination." The indications for its use are: "1. When the evacuations are large and watery. 2. When they are small and nagging. 3. When, late in the disorder, the taking of food causes an almost immediate evacuation. Its use is contraindicated in the stage of active diarrhea before the bowel has been cleared out, or where the passages are foul smelling. It should never be used in the presence of high temperature and cerebral symptoms."

Physiologic Importance of Abundant Light.—The habit of keeping the window-shades down, which is so common a practice even when there is no direct sun-glare on the window, is a direct setting at naught of physiologic principles, which teach the importance to health of both body and mind of an abundance of light. Sir James Crichton-Browne, in an address on "Light and Sanitation" delivered at the jubilee conference of the Manchester and Salford Sanitary Association, said: "I have spoken of light as purifying our atmospheric environment and as freeing us from certain superficial parasitic distempers, and I wish now to remind you that it has still more deep and intimate human relations of a sanitary nature; for light is a necessary condition of mental and bodily well-being. Its tonic psychical effects are everywhere recognized. All properly organized men and women love the light, and it is not merely to children that darkness brings with it a sense of powerlessness, danger, and alarm. Essential for all the purposes of life, for the supply of oxygen on which existence depends, light is a universal stimulus."—*N. Y. Medical Journal.*

An Aseptic Newspaper.—The Huron (S. D.) *Journal-World* and its managing editor, Mr. W. E. Holbein, deserve great credit for a clean sheet, and a refreshing freedom from offensive advertising. This paper does not carry in its columns the advertisement of a patent medicine or a medical faker. A country newspaper that has the courage to exclude such matter and the moral strength to decline a source of revenue from such advertising should receive applause, commendation and support from every right-minded physician. The people of Huron are to be congratulated on the presence of such a man as Mr. Holbein, and Mr. Holbein is to be congratulated for living in a community that will support a clean and reputable paper. The *Lancet* extends its compliments, and expresses the hope that more country papers will follow this good example. It is vain to expect that the city dailies will follow this twentieth century leader—the revenue is too great from photographically illustrated testimonials, fakers of nauseating fame, and luring advice for criminal acts. Let us look forward to the time when the people shall be educated to read the news and not to waste their gray matter on useless, nasty and body-destroying advertisements.—*Northwestern Lancet.*

No Contract Practice.—The following resolutions were adopted by the Hillsborough (Fla.) County Medical Society, at its November meeting:

WHEREAS, Some of the principal objects of our organization are to enable its members to receive just and full compensation for their services, and to maintain fair and equal ethical relations among its members, and to maintain dignified professional relations toward each other, and to promote the practice of more scientific medicine, and to protect its members from unjust discriminations in acquiring practice;

WHEREAS, There are present among us certain companies or societies conducted on the mutual benefit plan, which make and offer to make exclusive contracts with physicians and surgeons wherein the compensation for their services is less than the conventional fees for such services, and

WHEREAS, These societies have come to be recognized the world over as being demoralizing and baneful to the interests of the profession of medicine; therefore, be it

Resolved, That it is the sense of this society that entering into contracts to do medical and surgical service with any society, company, corporation or association, to the exclusion of any other physician or physicians or for compensation less than the conventional fees for such services, is undignified and unprofessional conduct and is injurious to the profession, and that the members of this society shall not enter into such contracts, *Provided*, That this resolution does not apply to United States Army surgeons, United States Marine-Hospital surgeons, United States Navy surgeons, nor to any city, county, state or national health officer nor to railroad surgeons.

Resolved, That we send a copy of these resolutions to each physician in Hillsborough County, requesting his co-operation in carrying out the same. Be it further

Resolved, That this resolution shall be and is by its adoption a part of the constitution and by-laws of this society, the same to be known as Amendment 1 of the by-laws.

Mrs. Eddy As She Really Is.

CLARENCE L. WHEATON, M.D.
DENVER.

A well-known lay journal* recently published an article under the above caption, referring to incidents in Mrs. Eddy's home life, in which appears the following:

Promptly at 2 o'clock the carriage appears every day, a handsome turnout; but unless it be for the heavy silver mountings of the harness with the small ornamental letter E here and there, there is nothing whatever about to attract special attention. It is a closed carriage and the driver himself wears no livery other than the silk hat and black coat. Her secretary always sits on the seat by the driver.

This brief description of Mrs. Eddy's livery is preceded by an account of her palatial home. Mrs. Eddy has indeed sown well the seed that could bring forth this luxurious harvest. I was not blinded, however, by the glare and glitter of it all; I thought of other things. I thought of the ignorant multitude who daily worship at the shrine of this self-appointed goddess of a new faith. I thought of the millions of homes on which the shadows nightly fall and the thousands of weeping mothers with broken hearts whose loved ones have journeyed thither "across the black interminable ocean, unfluctuating and voiceless, which perchance stretches between these earthly coasts and those invisible shores," a sacrifice on the altar of the new faith.

I could see the empty trundle-bed, which so often lulled to sweet dreams the little boy blue of that home, and I thought of the countless thousands of innocents sacrificed to this delusion of the Twentieth Century, that stalks about in the garb of a "Christian" science. I thought of the millions and millions of followers of a faith that belongs to a voiceless age; to an age of darkness, ignorance and superstition; to an age in which there shines no star, where laws were neglected, an age of injustice and agony. I thought of this faith that offers a hope to the weary invalid, a hope that must fade away as the dew on the sun-kissed petals of the meadow flower, a hope that must vanish like the Magic Lake in mirage, above the silent and lonely sand-shrouded desert.

The Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service.

In August, 1887, the Hygienic Laboratory of this service was established in New York at the Marine Hospital, Staten

* The Ladies' Home Journal, November. The standing of this magazine would lead one to expect better things of it than endorsing this idiotic travesty on religion and lending its columns to help on such money-making schemes. The article should have appeared in the advertising pages: it was accompanied by an editorial note stating that it was approved for publication by the "profitess."—Ed.

Island. It was transferred to Washington, with headquarters on the upper floor of the Butler Building, on June 11, 1891. Five acres of the reservation of the Naval Museum of Hygiene were set aside for a site, and an appropriation of $35,000 was made by Congress, March 3, 1901, for a new building. This building is now completed and is being equipped. It will be occupied about Jan. 1, 1904.

The building is constructed of dark, hard-burned brick, with a basement, two stories and an attic. On the first floor are located the general office, the private offices of the director and assistant director, the zoologic laboratory, and the private office of the chief of that division. At the western end of this floor is the room devoted to photography. In this room will be placed the microphotographic apparatus, cases for the preservation of negatives and for the storage of special apparatus. This room is provided with a roll curtain, for lantern exhibitions to be given in connection with the instruction of student-officers. South of the main entrance, on this floor, is the library, which will contain shelf room for about 10,000 volumes. This room is provided with a long table in order that it may be used for board meetings.

The second floor has in the center, facing north, three rooms devoted to the private offices of the chiefs of the divisions of chemistry, pharmacology, and pathology and bacteriology, respectively. The west room is for the division of pathology and bacteriology. This room has benches so arranged that nine officers may be accommodated, each with an entire window for his own use. The small sterilizers, postmortem table, tables for the microtomes and the paraffin bath are placed in this room. By an ingenious arrangement, at each desk there is delivered a solution of trikresol, distilled water, tap water, and gas for a Bunsen burner. The east room on this floor is for the use of the divisions of chemistry and pharmacology. Benches, with necessary lockers, drawers, hoods and sinks are provided. This floor also contains the incubator and cold rooms. The incubator is maintained at a uniform temperature by means of an electric heater. The cold room is cooled by means of a special system of cold-air pipes.

In the basement are located the heating plant, necessary storage for coal and the large sterilizers. The building is provided with two elevators running from the basement to the attic.

An Act of Congress, approved July 1, 1902, provided that there should be an advisory board for the Hygienic Laboratory; this board to consist of three competent experts detailed from the Army, the Navy and the Bureau of Animal Industry, respectively, together with the director of the laboratory and five additional members on said board, to be appointed by the surgeon-general of the Public Health and Marine-Hospital Service, with the approval of the Secretary of the Treasury, who shall be skilled in laboratory work in its relation to public health. This act also provided that there shall be appointed, whenever in the opinion of the surgeon-general commissioned medical officers are not available for duty on this detail, competent persons to take charge of the divisions of chemistry, zoology and pharmacology. These chiefs of divisions shall be men skilled in their respective lines of scientific research work, especially in relation to the public health.

The results of the researches in the laboratory are published in laboratory bulletins. During the past year nine bulletins have been issued from the laboratory. Some of them, on account of their great importance from a public health standpoint, have attracted wide attention.

Plans are now under way for the production in the laboratory of a standard diphtheritic antitoxin for distribution to manufacturers, those engaged in research work, and others.

Officers of the service are detailed to the laboratory from time to time for special instruction in bacteriology and pathology. The course given is very complete, extending over a period of about twelve months. When these officers have completed the course they are competent to do independent research work.

The Act of Congress, approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes," and regulations approved in accordance with said act, placed the supervision of plants manufacturing these products under the Public Health and Marine-Hospital Service. The laboratory examination of these products is conducted in the Hygienic Laboratory.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Examiners of Alabama, Montgomery, Dec. 1 to 10. Chairman, W. H. Sanders, M.D., Montgomery.

New Mexico Board of Health, Santa Fe, Dec. 7. Secretary, Dr. D. B. Black, Las Vegas.

Examining Board of Medical Society of Delaware, Dover, Dec. 8. Secretary, Dr. P. W. Tomlinson, Wilmington.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8-10. Secretary, Dr. Frank Winders, Columbus.

Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14, 15 and 16. Secretary, Dr. W. F. Morrow, Kansas City.

Medical Council, Philadelphia, Dec. 15. Secretary, Dr. Isaac B. Brown, Harrisburg.

Medical Examining Board of Virginia, Lynchburg, Dec. 15-18. Secretary, Dr. R. S. Martin, Stuart.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22-24. Secretary, Dr. S. D. Van Meter, Denver.

Louisiana Report.—Dr. Felix A. Larue, secretary and treasurer of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 26 and 27, 1903, as follows: Number of subjects, 10; questions, 50; percentage, 75; candidates, 30; passed, 22; failed, 8. Following are the colleges of the candidates, the years of graduation and the grades attained:

PASSED.

Tulane University, (1901) 82.6,* 88.4; (1903) 84.4, 75.2, 80.8, 78.2, 79.6.		
Memphis Hospital Med. Coll., (1903) 75.8, 77.2, 75.6, 75.		
Univ. of the South, Sewanee, Tenn., (1903) 75.6;* (1899) 77.		
Baltimore Medical College	(1903)	84.2
Jefferson Medical College	(1902)	92.8
University of Tennessee	(1903)	81.2
University Medical College, Kansas City	(1903)	78.0
Louisville Medical College	(1886)	76.6*
Fort Worth University	(1903)	86.6
New Orleans University	(1903)	77.2*
Walden University	(1903)	79.6*
Illinois Medical College, Chicago	(1903)	75.2

FAILED.

Memphis Hospital Medical College, (1903) 67.4; (1896) 66.0.*		
University of Brussels (Belgium)	(1872)	58.2
University of the South (Sewanee)	(1903)	69.0
Kentucky School of Medicine	(1898)	64.2*
Vanderbilt University	(1894)	71.0
Walden University	(1903)	71.8
New Orleans University	(1902)	69.0†

* Second trial. † Third trial.

District of Columbia Report.—Dr. William C. Woodward, secretary of the Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, D. C., Oct. 9 to 14, 1903, as follows: Number of subjects, 17; questions, 80 written; percentage, 75; candidates, 28; passed, 23; failed, 5. Following are the colleges of the candidates, the years of graduation and the grades attained.

PASSED.

Bellevue Hospital Medical College	(1897)	82.62.
Chicago Homeopathic College	(1888)	75.03.
Columbian University	(1901)	86.84; (1902) 90.37, 88.93; (1903) 86.09, 86.31, 89.21, 86.18
Georgetown University	(1901)	92.00, 82.34, 82.68, 85.62, 88.81.
Howard University	(1902)	81.62; (1903) 79.21, 78.09.
Johns Hopkins Medical School	(1901)	86.62; (1902) 91.09, 84.25.
Tufts Coll. Med. School, Boston	(1897)	85.12.
University of Maryland	(1899)	88.03.
University of Pennsylvania	(1902)	77.15.

FAILED.

Cleveland Medical College	(1893)	56.50.
Coll. of Phys. and Surgs., Baltimore	(1893)	71.90.
Columbian University	(1903)	71.34.
Howard University	(1903)	72.12; (1902) 69.71.

The secretary does not send the questions asked at the examination because "the board," he says, "does not consider the publication of such questions compatible with the best interests of medical examining and licensing boards."

Illinois October Report.—Dr. James A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, October 21 to 23, 1903, as follows: Number of subjects examined in, 11; total questions, 110; percentage required to pass, 75; candidates examined, 49; passed, 43; failed, 6. The following were the colleges represented, with year of graduation and the grade attained:

PASSED.

Northwestern Univ., Chicago.....(1903) 86, 88, 84, 86, 86.
Rush Medical College, Chicago.....(1902) 85; (1903) 83, 85, 86, 90, 85, 84, 78, 86, 88, 86.
University of Michigan.....(1888) 75; (1898) 88.
Johns Hopkins Univ., Baltimore.....(1899) 85; (1903) 87.
Illinois Medical College, Chicago.....(1903) 86, 85, 83, 83, 82, 85.
Baltimore Medical College.....(1903) 85.
Marion-Sims-Beaumont Medical College..(1903) 77.
Barnes Medical College, St. Louis.....(1900) 76.
University of Iowa, Iowa City.....(1903) 84.
Baltimore Univ. School of Medicine.....(1903) 78, 82.
Chicago Homeo. Medical College.....(1903) 80, 81.
National Med. Univ., Chicago.....(1901) 80.
Meharry Med. Coll., Nashville.....(1903) 79.
Coll. of P. and S., Chicago.....(1903) 80; (1902) 88; (1903) 83, 88.
Denver and Gross Medical School.....(1903) 83.
Hering Medical College, Chicago.....(1903) 81.
Georgetown Uni., Washington, D. C.....(1896) 89.

FAILED.

Hahnemann Med. Coll. Chicago.....(1884) 56.
Baltimore Univ. School of Medicine.....(1898) 64.
Illinois Medical College, Chicago.....(1903) 74.
National Med. Univ., Chicago.....(1903) 71.

In addition to the above, one candidate withdrew on account of sickness and another was suspended for dishonesty in the examination.

Washington Report.—Dr. P. B. Swearingen, Tacoma, secretary, Washington State Board of Medical Examiners, reports a written examination at Spokane, July 6-7, 1903, as follows: Subjects covered, 16; questions, 139; candidates, 85; passed, 76; failed, 9. The percentage required of recent graduates was 75, of old practitioners, 70. The following is a summary by colleges:

PASSED.

Northwestern Univ., Chicago, (1893) 92 3/7; (1898) 90 3/7; (1902) 85 2/7.
Keokuk Medical College, (1901) 70 4/7.
Kansas City Medical College, (1903) 82½; (1899) 83; (1903) 77 1/21; (1900) 77.
Louisville Medical College, (1901) 78 9/14; (1890) 70 9/14.
Harvard Medical College, (1903) 81 6/7.
Boston University, (1903) 83 5/14.
Detroit Medical College, (1902) 86 13/14; (1902) 77 13/14; (1902) 83½; (1895) 78 3/14.
Ann Arbor Medical College, (1868) 73 3/7.
University of Michigan, (1886) 73 11/14.
University of Minnesota, (1892) 83½; (1903) 84 2/7; (1902) 90¼; (1902) 91 3/7; (1901) 77; (1894) 76 3/14.
University of Maryland, (1893) 85 2/7.
Medical School of Maine, (1879) 73 2/7.
Barnes Med. Coll., (1903) 81 1/84; (1897) 79 2/7.
Marion Sims Medical College, (1892) 74½.
Homeopathic Medical College, St. Louis, (1898) 78 5/14.
Missouri Medical College, (1899) 77 11/14.
St. Louis Medical College, (1873) 70 5/7.
Washington University, St. Louis, (1901) 83¼.
Bellevue Medical College, (1897) 84 1/7.
Ohio Medical College, (1901) 74 15/28.
Cleveland Medical College, (1883) 72 3/14.
Cincinnati Medical College, (1902) 75.
Eclectic Medical College, Mancelona, Mich., (?) (1879) 70 1/7.
Eclectic Medical College, Pennsylvania, (1868) 82.
University of Pennsylvania, (1895) 80 1/18; (1868) 72 1/14.
Hahnemann Medical College, Philadelphia, (1899) 93 3/14.
Cooper Medical College, (1903) 81 13/14; (1903) 87¾.
University of California, 85 3/7.
College of Physicians and Surgeons, Chicago, (1901) 85 5/7; (1903) 78 4/7; (1901) 79 1/14; (1903) 75 2/7; (1903) 91 3/14; (1896) 83 9/14; (1902) 83½.
College of Physicians and Surgeons, San Francisco, (1902) 84 3/7.
College of Physicians and Surgeons, St. Louis, (1903) 83 5/7.
Illinois Medical College, (1902) 79 5/7.
Rush Medical College, (1881) 69 9/14; (1888) 72½; (1903) 77 9/14; (1902) 85 5/7; (1901) 82 3/14.
Chicago Homeopathic Medical College, (1896) 82 4/7.
Hahnemann Medical College, Chicago, (1903) 78 6/7.
Woman's Medical College (place not given), (1903) 76 6/7.
Tennessee Medical College, (1895) 75 3/14; (1901) 75 2/7.
Washington, D. C., College (?), (1902) 81 5/7.
National University, Washington, D. C., (1901) 81 3/7.
McGill University, (1874) 82½, 85; (1902) 85 6/7; (1901) 84.
Central Medical College, St. Joseph, Mo., (1900) 89 5/7.
Trinity Medical College, (1892) 70 5/7; (1894) 82¼.
Manitoba Medical College, (1899) 96.

FAILED.

Louisville Medical College, (1898) 60 13/14; (1900) 50 1/7.
Kentucky School of Medicine, (1897) 73 1/7.
St. Joseph's Medical College, (1887) 56 6/7.
New Hampshire Medical College, (1875) 63 1/28.
Eclectic Medical Institute, Cincinnati, (1900) 65 4/7.
California Medical College, (1902) 58 4/7.
Cooper Medical College, (1897) 71 4/7.
Rush Medical College, (1896) 62 5/21.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers of the U. S. Army for the week ending Nov. 28, 1903.

Torney, G. H., deputy surgeon-general, appointed a member of examining board at San Francisco for promotion of medical officers.

Kilbourne, H. S., deputy surgeon-general, relieved as member of examining board at San Francisco for promotion of officers of the medical department.

Grubbs, R. B., asst.-surgeon, relieved from duty at General Hospital, Presidio of San Francisco, and ordered to Fort Wright, Wash.

Rand, I. W., asst.-surgeon, relieved from duty at Fort Wright, Wash., and ordered to Ord Barracks, California.

Adair, Geo. W., deputy surgeon general, having reported his arrival at San Francisco, Cal., is ordered to St. Paul, Minn., for duty as chief surgeon, Department of Dakota.

Byrne, Charles B., asst.-surgeon-general, relieved from duty as chief surgeon, Department of Dakota, and ordered to proceed to Omaha, Neb., for duty as chief surgeon, Department of Missouri.

Girard, J. B., asst.-surgeon-general, relieved from duty as chief surgeon, Department of Missouri, and ordered to San Antonio, Texas, for duty as chief surgeon, Department of Texas.

Kilbourne, H. S., deputy surgeon-general, relieved as chief surgeon, Department of California, and ordered to proceed to Manila, about Dec. 1, 1903.

Girard, A. C., asst.-surgeon-general, relieved from duty in the Division of the Philippines on the arrival of Colonel Kilbourne, and ordered to San Francisco, Cal., and on arrival to report by telegram to the Adjutant General of the Army.

Brechemin, Louis, surgeon, relieved from duty at Ord Barracks, Monterey, Cal., and ordered to San Francisco, Cal., to assume charge of the medical supply depot in that city.

Torney, G. H., deputy surgeon-general, relieved from duty at medical supply depot and to report to the commanding general, Department of California, for temporary duty as chief surgeon of that department.

Hoff, Jno. Van R., deputy surgeon-general, granted thirty days' leave, to take effect in December, 1903.

Webber, H. A., asst.-surgeon, relieved from duty in Division of the Philippines, now at San Francisco, Cal., will proceed to Fort Walla Walla, Wash., for duty.

Morse, Arthur W., asst.-surgeon, relieved from duty at Fort Walla Walla, Wash., and ordered to Vancouver Barracks, Wash.

Brooks, William H., asst.-surgeon, relieved from duty at Vancouver Barracks, Washington, and ordered to U. S. General Hospital, Washington Barracks, D. C., for duty.

Jean, Geo. W., asst.-surgeon, relieved from duty in Division of the Philippines and ordered to Fort Adams for duty.

Bushnell, Geo. E., surgeon, granted seven days' leave, with permission to apply for twenty-three days' extension.

Richards, Alfred, contract surgeon, granted one month's leave of absence and relieved from duty at Fort Hunt, Virginia.

Bailey, Edward, contract surgeon, relieved from duty at Fort Columbia, Washington, and ordered to San Francisco, Cal., to sail January 1 for Philippine service.

Turner, Samuel S., contract surgeon, ordered from Chicago, Ill., to Fort Columbia, Washington, for duty.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending Nov. 28, 1903:

Huntington, E. O., surgeon, sick leave extended for three months.

Fauntleroy, A. M., asst.-surgeon, when discharged for treatment, ordered to the *Scorpion*.

DuBose, W. R., medical inspector, ordered to duty as assistant to the Bureau of Medicine and Surgery, Navy Department.

Urie, J. F., surgeon, detached from assistant chief Bureau of Medicine and Surgery and ordered to the *Missouri*.

Grayson, C. T., A. A. surgeon, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the Naval Hospital, Washington, D. C.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 26, 1903:

Sawtelle, H. W., surgeon, granted leave of absence for two days from November 27.

Gassaway, J. M., surgeon, department letter granting him leave of absence for one month, amended so that said leave shall be for twenty-five days from October 12.

Stoner, G. W., surgeon, leave of absence for five days from Nov. 24, 1903, under paragraph 189 of the Regulations.

Wickes, H. W., P. A. surgeon, granted leave of absence for five days from November 28.

Clark, T., P. A. surgeon, to proceed to St. Johns, N. B., and assume temporary charge of service during absence of A. A. Surgeon W. C. Billings.

Lumsden, L. L., P. A. surgeon, on expiration of leave of absence to remain at New Orleans and await assignment.

Billings, W. C., Corput, G. M., and Kerr, J. W., asst.-surgeons, to proceed to Washington, D. C., and report to chairman of examining board to determine their fitness for promotion to the grade of passed assistant surgeon.

Robinson, D. G., asst.-surgeon, to report to chairman of examining board, Port Townsend, Wash., to determine his fitness for promotion to the grade of passed assistant surgeon.

Currie, D. H., asst.-surgeon, to proceed to San Francisco Quarantine, and assume temporary charge of service during absence of P. A. Surgeon H. S. Cumming.

Manning, H. M., asst.-surgeon, relieved from duty at Stapleton, N. Y., and directed to proceed to Honolulu, T. H., and report to chief quarantine officer for duty.

Maguire, E. S., pharmacist, department letter granting leave of absence for thirty days from Dec. 5, 1903, amended so that said leave shall be from December 1.

BOARDS CONVENED.

Board to meet at Washington, D. C., Dec. 7, 1903, for examination of Asst.-Surgeons W. C. Billings, J. W. Kerr and G. M. Corput, to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Asst.-Surgeon-General L. L. Williams, chairman; Asst.-Surgeon-General W. J. Pettus; Asst.-Surgeon-General G. T. Vaughan, recorder.

Board to meet at Port Townsend, Wash., Dec. 14, 1903, for examination of Asst.-Surgeon D. E. Robinson, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board: P. A. Surgeon J. H. Oakley, chairman; P. A. Surgeon H. S. Cumming; P. A. Surgeon M. H. Foster, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 27, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Nov. 8-21, 21 cases.
Colorado: Denver, Oct. 18-31, 10 cases.
Illinois: Belleville, Nov. 8-21, 11 cases.
Louisiana: New Orleans, Nov. 15-21, 1 case.
Massachusetts: Lawrence, Nov. 15-21, 1 case.
Michigan: Detroit, Nov. 15-21, 4 cases.
New Hampshire: Manchester, Nov. 15-21, 3 cases.
New Jersey: Camden, Nov. 15-21, 4 cases, 2 deaths.
New York: New York, Nov. 15-21, 4 cases.
Ohio: Nov. 15-21, Cleveland, 1 case; Youngstown, 11 cases.
Pennsylvania: Erie, Nov. 8-21, 3 cases; Nov. 15-21, Altoona, 1 case; Carbondale, 2 cases; Johnstown, 3 cases; Philadelphia, 68 cases, 7 deaths; Pittsburg, 32 cases, 6 deaths.
Tennessee: Memphis, Nov. 15-21, 3 cases.
Utah: Salt Lake City, Nov. 8-14, 3 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Nov. 1-7, 9 cases.
Brazil: Rio de Janeiro, Oct. 19-25, 40 cases, 34 deaths.
Canada: Manitoba, Winnipeg, Nov. 8-14, 1 case.
Colombia: Barranquilla, Nov. 2-18, 1 death.
Ecuador: Guayaquil, Oct. 18-31, 2 deaths.
France: Paris, Nov. 1-7, 3 cases.
Great Britain: Glasgow, Nov. 7-13, 7 cases, 1 death; Manchester, Oct. 25-Nov. 7, 7 cases; Newcastle-on-Tyne, Nov. 1-7, 6 cases.
Java: Batavia, Oct. 11-17, 21 cases, 6 deaths.
Mexico: City of Mexico, Oct. 8-15, 1 case.
Netherlands, Amsterdam, Nov. 8-14, 3 cases.
Russia: Odessa, Oct. 19-25, 5 cases, 1 death; St. Petersburg, Oct. 25-Nov. 7, 126 cases, 2 deaths; Warsaw, Oct. 18-24, 2 deaths.
Spain: Barcelona, Oct. 25-Nov. 7, 2 deaths.
Turkey: Smyrna, Oct. 19-Nov. 1, 68 deaths.

SMALLPOX—INSULAR.

Philippine Islands: Cebu, Sept. 1-30, 5 cases, 1 death; Manila, Sept. 27-Oct. 10, 1 case.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, Nov. 19-23, 4 cases; Laredo, Nov. 20-23, 68 cases, 5 deaths; Minera, Nov. 14-23, 6 cases; San Antonio, Nov. 15-23, 7 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 19-25, 1 case.
Mexico: Ciudad Victoria, Oct. 25-Nov. 7, 14 cases, 8 deaths; Coatzacoalcos, Nov. 1-7, 2 cases, 2 imported; Oct. 25-Nov. 7, Linares, 86 cases, 17 deaths; Merida, 4 cases, 2 deaths; Tampico, 3 cases; Tehuantepec, 2 deaths; Vera Cruz, Nov. 7-14, 17 cases, 5 deaths.

CHOLERA—INSULAR.

Philippine Islands: Sept. 27-Oct. 10, Manila, 90 cases, 84 deaths; Provinces, 952 cases, 750 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Oct. 3-10, 7 deaths.
Japan: Magasaki, Oct. 20-26, 49 cases, 27 deaths; Yokohama, Oct. 4-10, 1 case, 1 death.
Straits Settlements: Singapore, Sept. 1-30, 9 deaths; Singapore, Sept. 27-Oct. 3, 1 case, 1 death.
Turkey: Syria, Alexandretta, Oct. 18-24, 2 cases, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Cebu, Sept. 1-30, 11 cases, 8 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Oct. 19-25, 54 cases, 20 deaths.
China: Newchwang, Sept. 26-Oct. 3, 144 cases, 142 deaths.
India: Bombay, Oct. 20-27, 64 deaths; Calcutta, Oct. 18-24, 13 deaths.
Japan: Yokohama, May 10-Oct. 17, 29 cases, 23 deaths.

Medical Organization.

California.

MERCED COUNTY MEDICAL SOCIETY.—The physicians of the county met at Merced, November 12, and organized a society on the standard plan with the following officers: Dr. Edward S. O'Brien, president; Dr. Hiram N. Rucker, vice-president; Dr. Walter E. Lilley, secretary; Dr. Herbert De Loss, treasurer, and Drs. A. M. Smith and William A. Whitlock, censors, all of Merced. Dr. Philip M. Jones, San Francisco, trustee of the state society, was present and aided in the work of organization.

Louisiana.

ST. MARY PARISH MEDICAL SOCIETY.—Dr. William M. Perkins, New Orleans, secretary of the Louisiana State Medical Society, and Dr. G. L. Williams, Oak Ridge, councilor for the Fifth District, met with the physicians of the parish, October 24, and organized a county society on the standard plan with the following officers: President, Dr. Sterling J. Gates, Franklin; vice-president, Dr. William J. McLennan, Morgan City, and secretary-treasurer, Dr. Gustave A. Sigur, Glencoe.

BI-PARISH MEDICAL SOCIETY OF ST. JOHN THE BAPTIST AND ST. CHARLES PARISHES.—The physicians of these two parishes met at Edgard, November 2, and organized a bi-parish society with the aid of Dr. Andrew G. Friedericks, councilor for the Second District, and Dr. Louis G. Le Beuf of New Orleans. The following officers were elected: President, Dr. Louis T. Donaldson, Reserve; vice-president, Dr. Newton C. Stevens, Ama, and Dr. Norbert J. Simon, Wallace, secretary and treasurer. The society includes in its membership all the physicians in these two parishes.

North Carolina.

WAKE COUNTY MEDICAL SOCIETY.—In accordance with the standard plan suggested by the American Medical Association, the physicians of Wake County met with Dr. Hubert A. Royster, councilor for the Sixth District, and organized a county society. Dr. Albert Anderson, Wilson, councilor for the Fourth District, was present, and addressed the assembly on the subject of organization. The initial membership was 24. The following officers were elected: Dr. J. J. L. McCullers, McCullers, president; Dr. Lawrence B. Young, Rolesville, vice-president; Dr. Harry G. Utley, Apex, secretary; Dr. Kemp B. Battle, Raleigh, treasurer, and Drs. James M. Templeton, Carey; Robert S. McGeachy, Raleigh, and Benjamin S. Utley, Holly Springs, censors.

Oregon.

LANE COUNTY MEDICAL SOCIETY.—At the annual meeting held in Eugene, November 14, the society decided to reorganize on the standard plan.

Washington.

PACIFIC COUNTY MEDICAL SOCIETY.—This society, of which Dr. George W. Overmeyer, South Bend, is president; Dr. Wilson Grewell, South Bend, secretary; Dr. William Klamke, Ilwaco, vice-president, and Dr. Kennedy, South Bend, treasurer, has received its charter from the State Society.

Wisconsin.

WESTERN WISCONSIN DISTRICT MEDICAL SOCIETY.—This society, which includes the physicians of Eau Claire, St. Croix, Chippewa, Pierce, Dunn and Pepin counties, was organized at Eau Claire, November 17, with Dr. Eugene L. Boothby, Hammond, as president.

Texas.

FAYETTE COUNTY MEDICAL ASSOCIATION.—On November 11 the physicians of Fayette County met at La Grange and, after Dr. Walter Shropshire, Yoakum, councilor for the Eighth (DeWitt) District, had explained the standard plan of organization, perfected the organization of a county society with the following officers: President, Dr. Henry A. Tutwiler, Flatonia; vice-president, Dr. Otto Ehlinger, La Grange; secretary, Dr. P. Chapman, Winchester, and censors, Drs. W. Allen, Flatonia; A. Posch, Round Top, and John S. Zvesper, Ammannsville.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Atlanta, Ga., Dec. 15-17.
Western Surgical and Gynecological Association, Denver, Dec. 28-29.

ACADEMY OF MEDICINE OF CLEVELAND.

Twelfth Regular Meeting, held Oct. 16, 1903.

The President, Dr. Harris G. Sherman, in the Chair.

Importance of the Etiologic Factor in the Treatment of Cystitis.

DR. WILLIAM E. LOWER, the author of this paper, deplored the fact that so many cases of cystitis were treated symp-

tomatically for long periods without having recourse to a cystoscopic examination which would often clear up the exact cause and lead to appropriate treatment and a speedy cure. Many physicians did not realize the ease and safety of this procedure in the hands of a specialist. In an extended series of cases he had failed to see any bad results from such an examination, one of the requirements, however, being an accurate knowledge of the appearance of the normal bladder. In nearly all instances bacteria are causative agents, the principal offenders being the colon bacillus, the staphylococcus, either the albus, aureus or citreus, the streptococcus, the tubercle bacillus and the gonococcus, the last two being rarely found alone. He insisted on the importance of treating urethral strictures, which often caused diverticula in the thickened bladder wall forming pockets of pus which often defied evacuation by simple vesical irrigation. When an insuperable obstacle to free drainage from below exists he advises suprapubic drainage. The value of cystoscopy in case of calculi or foreign bodies in the bladder was instanced by cases in which repeated sounding had failed to locate a stone which was at once revealed by cystoscopic examination.

Fourth of July Wounds.

DRS. DUDLEY P. ALLEN and A. I. LUDLOW presented a paper entitled "Wounds from Blank Cartridges, Observations on Sixteen Cases Cared for at Lakeside Hospital about July 4, 1903." The injuries were located in the abdominal wall once, in the scrotum once, and in the hand fourteen times; in the abdominal case the external wound was very small, but increased in size deeper down, the whole thickness of the wall was penetrated and the wad was found imbedded in the intestinal wall; on admission to the hospital several days after the accident the patient was suffering from septic peritonitis, to which he speedily succumbed. Of the remaining 15 cases, 10 were treated as soon as admitted by free opening of the wound under anesthesia, excision of the badly torn fragments of tissue, removal of the particles of wad, irrigation and packing with iodoform gauze. All of these recovered. Three had been admitted within 12 hours of the injury, 6 within 2 days, and 1 within 9 days. The remaining 5 cases, 4 of which were wounded on the hand and 1 in the scrotum, were suffering from tetanus on admission, the symptoms having appeared in 1 case within 6 days of the injury, in 2 cases within 7 days, and in 2 cases within 8 days. All had been incised and cleansed before coming to the hospital, but in no instance had this been thorough, portions of the wad being found in all of them on further exploration and cleansing. Antitetanic serum was given to all, in one case by injection into the lateral ventricles; antispasmodics and anodynes and even chloroform inhalations were also administered, but all died.

Dr. Allen was prompted to read this paper both on account of the professional interest of the subject and also by a sense of its public importance. The toy pistol of to-day is a much more dangerous weapon than that of a few years ago, which used paper caps. The injuries caused by these blank cartridges are even worse than those caused by bullets. He felt that the increasing mortality demands prohibition of the toy pistol. Dr. Ludlow presented the results of cultural and animal experiments from this series of cases. In 5 of the 10 cases of wounds of the hand primarily treated at the hospital cultures in 3 were sterile, in 2 streptococcus and staphylococcus albus were found. In the 5 cases with tetanus one proved sterile, possibly from the free use of bichlorid in the wound; 2 showed the *Bacillus aerogenes capsulatus* and the *Bacillus mucosa capsulatus;* the two just mentioned occurred with the streptococcus and a pseudotetanus bacillus in one case and in another with the tetanus bacillus. In the animal inoculations from the case showing tetanus one guinea-pig died with tetanic symptoms, but only the *Bacillus aerogenes capsulatus* was recovered from the site of inoculation. A number of dogs and guinea-pigs were experimentally shot with blank cartridges, and in others subcutaneous implantations of the contents of cartridges were made, but so far none had developed tetanus. The time elapsed has not yet been sufficient to bar the possibility of its development in some of these. Dr. Ludlow thinks the occurrence of the *Bacillus aerogenes capsulatus* in all these fatal cases may be of value in suggesting further research along this line.

The paper was discussed by Drs. Briggs, Ladd, Hansom, Lincoln, Bunts, Friedrich, Rossenwasser, Wirt, Baker, Searl, Ballard and Moorehouse, some of whom quoted from the extensive article on this subject in THE JOURNAL, Aug. 29, 1903, entitled "The Fourth of July, 1903, Casualty List."

A resolution calling on the city council to prohibit the sale of toy pistols was then discussed and passed unanimously.

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Oct. 8, 1903.

Dr. H. Brooker Mills in the Chair.

SYMPOSIUM ON SYPHILIS.

Recognition and Treatment of Acquired Syphilis.

DR. S. LEON GANS read a paper in which he called attention to the importance of always bearing in mind the essential pathologic lesion—the round-cell infiltration. The chancre, he stated, was rather a building-up than a breaking-down process, and pus is not always present. They usually appear only singly, and careful attention should be given to the mixed sore of Rollet in order to avoid further skin complications. The condition of the epitrochlear and postcervical ganglia should be carefully noted, as should also the history of susceptibility to rheumatism, headache, follicular tonsillitis, cephalgia, and all mouth and throat conditions; and all the superficial lymph glands should be carefully examined.

The cases which are particularly apt to be overlooked are those in which the syphilides are manifested by only one or two erythematous spots, the subsequent eruptions being delayed for months, or probably never appearing.

As to treatment, excision was not recommended. The sore should be kept clean, quiet and dry, and iodoform should be employed twice daily after immersion of the organ in hot water for ten minutes. For the treatment of the secondary lesions, the stomach and skin were thought to be the preferable routes of administration, although in selected cases hypodermics and vapors might be used; the author believed that the proper course was to wait for the full development of the disease as signified by the early syphilides, in the interim correcting any gastro-intestinal or nervous conditions. Tobacco, whiskey and champagne must be eliminated. The patient should be warned of his condition and the necessity for strictly following directions, and taking plenty of sleep and careful attention to hygiene.

Hereditary Syphilis.

DR. HOWARD S. KINNE read this paper, in which he stated that the manifestations are usually worse in the first child, thus showing that the tendency to transmission is less as the time goes on. It differs from acquired syphilis in that there is no chancre, nor can the symptoms be classed under distinct periods. The chief differential point is the alteration which inherited syphilis impresses on the nutrition and development, as is evidenced by the fatal marasmus, or acute inflammation of the epiphyses or chronic osteoperiostitis, producing deformity of the bones. The family history should be carefully considered, although the symptoms are varied and usually appear about six weeks after birth, consisting of coryza, erythematous or, in some instances, papular rash, soreness of the corners of the mouth, irritation of the laryngeal mucous membrane, and, unless the infection is very light, marked anemia, interference with the digestion and wasting of the body. Antisyphilitic treatment of the pregnant mother will reduce very materially the chances of the offspring being infected. The child should be carefully nourished, preferably breast-fed, and proper hygienic measures should be observed. Mercury and iodid should not be given unless symptoms require.

Diagnosis and Treatment of Syphilis of the Central Nervous System.

DR. LUTHER C. PETER considered only those conditions which were due to the direct action of the infection and not the symptoms due to organic changes following long after the disease has disappeared, in which he stated that variability in symptoms, absence of systematic grouping of symptoms, paralysis of cranial nerves, Argyll-Robertson pupils, irregularity of pupillary margin, inequality of pupils, apoplectiform and epileptiform attacks, recurring palsies, usually without loss of consciousness, numbness in extremities, increased reflexes, headache, vertigo and altered mental states, are symptoms which point to syphilis of the brain and its coverings. He reported the case of a man aged 39, the disease first developing several years after the appearance of the chancre, commencing with recurring numbness in the extremities, impairment of the bladder function, diplopia, headache, vertigo, difficulty in speech at times, spastic palsy of the left leg, partial palsy of the left arm, Argyll-Robertson pupil, impairment of sensation to the touch. He died six years after coming under observation from pneumonia, and postmortem examination revealed syphilis of the brain and cord and their coverings. The intermittent treatment with potassium iodid and mercury, the latter preferably by inunctions, was recommended, and it was felt that it should be persisted in for several years.

The Recognition and Treatment of Some of the Pharyngeal Lesions of Syphilis.

DR. LEWIS S. SOMERS considered: (1) The erythema; (2) the mucous patch, and (3) the ulceration. Erythema, he believed, was frequently mistaken for catarrhal pharyngitis or tonsillitis, especially in private practice. An examination of the erythema, however, will reveal a copper hue, and a marked tendency of small irregular patches of cloudy swelling to enlarge and present a bluish-white color; this is the mucous patch, the most frequent site of which is on the soft palate, pillars and tonsils, being oval, circular or stratiform in shape. In ulceration, the parts are covered with a thick, mucopurulent, offensive secretion; there is marked tendency to osseous destruction, particularly when the palate is involved. Tuberculosis, lupus, carcinoma and diphtheria may all conflict with this disease, although the former three would usually manifest prominent symptoms in other parts of the body, and the latter can easily be recognized by the presence of the specific organism. Three important diagnostic aids are: history of the initial infection, evidences of the disease in other parts of the body, and the response to specific treatment. Unless one of these is obtained one can not be perfectly sure of the diagnosis. Dr. Somers had obtained the best results in the erythema with proto-iodid of mercury in one-fourth to one-third grain doses two to three times daily; the disappearance of the congestion being accelerated in occasional cases by an astringent gargle. The same form of mercury, aided in some cases by the application of 20 to 50 per cent. solution of nitrate of silver, locally in some cases, and in others by the local application of a solution of chromic acid, has given the best results.

Syphilis of the Eye.

DR. WENDELL REBER said the most usual site for the primary sore is at the margin, or just without the margin, of the lids. The secondary phase is most frequently in the uveal tract. Records show 50 per cent. of all cases of iritis to be specific; this fact he believed was sufficient ground for suspecting every case of iritis until trauma, tuberculosis, microbic infection or the rheumatic diathesis has been shown to be causative. Choroiditis is as frequently of specific origin as iritis and is a valuable adjunct to diagnosis. The most frequent tertiary involvement are the intra-ocular and extra-ocular palsies, and these conditions, in the absence of diabetes or trauma, are usually of specific origin and the forerunners of locomotor ataxia or general paresis.

DISCUSSION.

DR. F. SAVARY PEARCE felt that the presence of diplopia should always be suggestive of specific disease, especially when in conjunction with headache, which is usually worse at night and with increased reflexes. The reflexes are usually out of all proportion to the spasticity, which is due to the fact that the tertiary symptoms encroach on the nerves and irritate the motor cortex of the brain without destruction.

DR. A. BERN HIRSH believed that the patient, when apparently cured, should be instructed to inform any physician who might in the future treat him for a return of such symptoms that so many years ago he had had similar symptoms.

DR. S. L. GANS felt that the physician was sometimes misled by the patient's social standing; he directed particular attention to the necessity of recognition of slight throat lesions.

DR. L. C. PETER felt that as good results could be obtained from small doses of potassium iodid as from the larger ones. Nervous syphilis he believed occurred within six months after the initial lesions, although there are exceptions, one of which had come under his notice in the case of a man suffering from hereditary syphilis, who was entirely free from symptoms from 6 to 45 years of age, at which time he had severe meningitis and cerebral ataxia.

DR. LEWIS S. SOMERS called particular attention to the necessity for impressing on the patient the exceedingly infectious character of the disease, and emphasized the value of tonic treatment in addition to the specific remedies.

Drs. Frank White, William H. Good, L. Sharp, A. Bernheimer and Carl Lee Felt also took part in the discussion. Cases were reported to show the obscurity of the syphilitic factor.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Eczema of the Eyelids.

Brocq, in *Med. Press*, recommends, in the treatment of eczema of the eyelids, first a dietary excluding wine, alcohol, pork, cheese, fish and spicy food. Laxatives and cod-liver oil are advised in the general treatment. Locally he applies compresses of a warm boric acid solution morning and evening, after which the following application is applied locally:

℞. Zinci oxidi
Pulv. amyli, āā 3iiss 10
Lanolini
Vaselini, āā 3iv 15

M. Ft. unguentum. Sig.: Apply locally. After the inflammatory period has subsided the following ointment is applied:

℞. Ung. hydrarg. oxidi flavi ..... gr. x 65
Liq. petrolati 3vi 25

M. Ft. unguentum. Sig.: Apply locally night and morning.

Barber's Itch.

The following combinations are recommended by *Merck's Archives* in the treatment of barber's itch:

℞. Resorcin 3i 4
Glycerini 3ii 8
Ung. aq. rosæ q. s. ad 3ii 60

M. Ft. unguentum. Sig.: Apply locally several times a day, first removing the crusts with sweet oil; or:

℞. Naphthol resublim. 3ss 2
Saponis mollis
Cretæ prep.
Sulphuris loti
Lanolini, āā 3iii 12

M. Sig.: To be applied on the face at bedtime.

Furunculosis.

In furunculosis the same author recommends strong purging by administering a glass of some mineral water daily for three or four days, when a teaspoonful of fresh beer yeast is ordered given in teaspoonful doses before each meal in a glass of water. This should be continued for eight days.

Wine, alcohol and pork must be excluded from the diet. If the digestive tract is in good condition, cod-liver oil, arsenic and iron may be given with benefit. Locally an effort should be made to arrest the development of the boil by the application of the tincture of iodin or lint moistened with spirits of camphor or a mixture of both in equal parts. The following has also been recommended:

℞. Iodi 3i 4
Acetone 3iii 12

M. Sig.: The boil should be touched lightly with this mixture and usually it is dried up the following day. This preparation is very caustic and should be applied with care.

Gastric Neurasthenia.

Blackburn, in the *N. Y. Med. Times*, recommends, in the treatment of gastric neurasthenia, physical rest, specific instructions to the patient as to hours for sleep and for rest during the day and a demand that they be closely followed. Patients should be warned against overexercising.

The Weir Mitchell rest treatment may be instituted for a time, but as a rule is not necessary in the gastric form. Hydrotherapy in the form of sponge, shower or cold douche in the morning is of service. The diet should be nourishing and non-stimulating. As to the medicinal treatment, he recommends proper elimination, the relief of constipation by a laxative containing aloes. As a tonic he recommends the syrup of hypophosphites with strychnia. One of the following combinations may be of service to relieve the constipation in such cases, as recommended by *Rev. Française de Med. et de Chir.*

℞. Tinct. gentianæ
Tinct. calumbæ, āā 3i 4
Tinct. nucis vom. 3ss 2

M. Sig.: Twelve to fifteen drops in water before each meal; or:

℞. Pulv. nucis vom. .....gr. ss 03
Ext. gentianæ .....gr. iss 09
Pulv. gentianæ q. s.

M. Ft. cap. No. i. Sig.: One such capsule once or twice daily.

Alcoholic Excess.

The following combination is recommended by O. H. Snider, in *Med. Bulletin*, in the treatment of excessive use of alcohol followed by extreme depression, irritable nervous system and cerebral disturbances:

℞. Sodii brom. 3ii 8
Ext. hyoscyami flu.
Ext. lobeliæ flu., āā 3i 4
Ext. pulsatillæ flu. .....gtt. xx 1 30
Ext. lupulini flu. 3ii 8
Aquæ menth. pip. q. s. ad .....℥ii 60

M. Sig.: One teaspoonful and repeat in four hours if necessary. The patient must be given rest and comfort. During convalescence strychnia or nux vomica should be given with the bitter tonics.

Administration of Digitalis.

In an abstract in *Ther. Gazette*, Barié of Paris points out errors which may be committed in giving digitalis without having first thoroughly cleansed the digestive tract. He therefore recommends a purgative such as the compound jalap powder in preference to castor oil or salines previous to administering digitalis. He also emphasizes the importance of absolute rest in bed and a milk diet. In some cases the presence of edema and ascites and effusion into the pleural cavity is such an obstacle that the digitalis can not have much effect until the excessive venous pressure is relieved. Under such circumstances venesection should be performed, removing about 300 grams to relieve the stasis. He also states that digitalis should not be begun in large doses when tricuspid insufficiency is present, as this is a sort of safety valve. Aged persons and those suffering from arteriosclerosis are to be given digitalis with care as the kidneys are apt to be deficient and the arteries bad. It should never be given to patients suffering from anemia, dyspepsia, Basedow's disease, tuberculosis in its initial stage or to those who are addicted to smoking. It should never be used in aortic insufficiency in its initial stage owing to the fact that it increases the length of diastole. Such drugs as opium, the iodids, alcohol, and tannic acid should not be used at the same time with digitalis.

Antiseptic and Cleansing Sprays.

The following combinations are recommended by Shurly in his "Dis. of Throat and Nose":

℞. Sodii benzoatis .....gr. v 30
Acidi carbol. .....gr. i 06
Glycerini 3i 4
Aq. destil. 3vii 28

M. Sig.: To be used in the atomizer as an antiseptic spray.

In all forms of acute coryza the following is recommended:

℞. Sodii benzoatis .....℥ss 15
Aq. calcis .....℥viii 240

M. Sig. As a nasal spray or douche.

In syphilitic lesions and ulcerations the following is of service:

℞. Hydrarg. bichloridi .....gr. i 06
Aq. cinnamomi .....℥viii-xvi 250.-500

M. Sig.: Locally to the pharynx and larynx.

As an astringent to the throat the following is advised:

℞. Sodii bicarb. .....gr. xxv 1 65
Ext. hamamelidis destil. .....℥i 30
Aq. destil. .....℥v 150

M. Sig.: As a cleansing and astringent spray.

As an anodyne the following:

℞. Menthol .....gr. i 06
Alcoholis .....m. v 30
Calc. phos. precip. .....gr. v 30
Aquæ q. s. ad .....℥ii 60

M. Sig.: Locally as an anodyne.

The following containing alumnol is serviceable as an astringent and anodyne to the tissues of the throat:

℞. Cocainæ .....gr. v 30
Alumnol .....gr. x 65
Aquæ menthol .....℥i 30

M. Sig.: Locally as an astringent; or:

℞. Menthol .....gr. v 30
Glycerini .....℥ii 60
Cocainæ .....gr. xx 1 30
Aquæ .....℥ii 60

M. Sig.: Locally as an astringent and anodyne.

Vomiting During Administration of Chloroform.

According to Stuver, in *Denver Med. Times*, painting the mucous membrane of the nares with a 2 per cent. solution of cocain will prevent, in the majority of cases, the vomiting which so frequently accompanies chloroform anesthesia. He has employed this method in about twenty cases with splendid results. In several of the cases in which the patients had suffered a great deal from vomiting during previous operations, this method had prevented all such symptoms. He applies the solution thoroughly to the mucous membrane by means of a cotton-wrapped applicator, ten or fifteen minutes before starting the anesthetic. The cocain inhibits the reflex action and irritation of the stomach which, if present, frequently inhibits the heart's action. According to the author observations have been made which show that irritation to the nasal mucous membrane may affect the heart's action through irritation of fibers of the pneumogastric, consequently by the above procedure the danger of cardiac and respiratory failure, as well as shock, are decidedly lessened.

Medicolegal.

Keeping Registry of Births and Deaths Without Pay.—Sections 2582 and 2583 of the Kentucky Statutes of 1899 make it the duty of all physicians, surgeons and midwives to keep a registry of all births and deaths which they have professionally attended, and to report them to the county clerk. In the case of Commonwealth vs. McConnell, where there was an indictment for non-compliance with these requirements, it was urged that the statute was unconstitutional because

it required physicians to perform a service without compensation, and that the legislature had no power so to do. But the Court of Appeals of Kentucky does not think the statute unconstitutional on that ground and affirms that the legislature has authority to require said duties.

Minnesota—Restricts Commitment of Harmless Insane.—Chapter 106 of the Laws of Minnesota of 1903 provides that no harmless person, who can not be benefited by hospital treatment, shall be committed to any hospital for the insane merely because he is suffering from idiocy, epilepsy, imbecility or infirmity of old age. Every jury appointed to examine an alleged insane person, in addition to the facts by law required to be ascertained, shall ascertain and determine whether or not such patient can be benefited by hospital treatment. The superintendent of any hospital for the insane, with the approval of the board of control, may at their discretion discharge or parole any inmate of such institution who is capable of caring for himself or can be cared for by relatives, and who is not dangerous to himself or the community.

Minnesota—Puts Check on Compulsory Vaccination.—Chapter 299 of the Laws of Minnesota of 1903 provides that hereafter it shall be unlawful for any board of health, board of education, or any other public board or officer, acting in the state under police regulations or otherwise, or under any general law or city charter however adopted, to compel or require the vaccination of any child, or to make vaccination a condition precedent to the attendance at any school in the state, or to exclude any child or other person from attendance on any school on account of such child not having been vaccinated; except that, in epidemics of smallpox, such boards of health and boards of education may, by joint action, require such vaccination by a duly licensed and practicing physician, to be selected by the person to be vaccinated; provided, that any child may be exempt from the provisions of this act where a reputable physician certifies in writing that on account of said child's physical condition such vaccination would be dangerous to the child's health.

Minnesota—Establishes Sanatorium for Consumptives.—Chapter 316 of the Laws of Minnesota of 1903 provides for an advisory commission of five physicians (one a homeopath) and the establishment of a sanatorium for consumptives near Walker, in Cass County. The commission shall appoint in each county from one to three reputable physicians who shall examine on the presentation of orders from the superintendent of the sanatorium all persons applying for admission and determine whether such persons are suffering from incipient pulmonary tuberculosis, and forthwith report the result of such examinations to the superintendent of the sanatorium. Only persons suffering from incipient pulmonary tuberculosis shall be received as patients in the sanatorium. One of the prescribed duties of the superintendent shall be to oversee and secure the individual treatment and personal care of each patient while a resident in the hospital and to keep a proper oversight of all inhabitants thereof. He must also maintain a salutary discipline among all employes, patients and inmates and enforce strict compliance with his instructions and obedience of all rules and regulations; he must cause full and fair accounts of the conditions and prescriptions of the patients to be kept regularly from day to day in books provided for that purpose. The inmates must pay when able to do so, but any person unable to pay the charge for support determined by the board of control may be admitted on the request of the county commissioners of the county whereof such person is a resident, and the charges for the board of such person shall be paid by such county.

New Mexico—To Encourage Establishing Sanitariums.—Chapter 17 of the Laws of New Mexico of 1903 provides that any company or corporation which shall, within one year from the passage of this act, commence and within two years after the passage of this act shall have expended at least $100,000 in the construction of a sanitarium in New Mexico for the care of invalids and persons with tuberculosis and other pulmonary diseases, shall thereafter be exempt from taxation on all property actually used in connection with such sanitarium for a period of six years after the expiration of two years after the passage of this act.

New York—Ban on Careless Distribution of Medicines.—Chapter 494 of the Laws of New York of 1903 provides that any person, corporation, etc., who distributes or causes to be distributed, any free or trial samples of any medicine, drug, chemical or chemical compound, by leaving the same exposed on the ground, sidewalk, porch, doorway, letter boxes, or in any other manner, that children may become possessed of the same, shall be guilty of a misdemeanor, etc.

New York—Requires Consents for Tuberculosis Camps.—Chapter 638 of the Laws of New York of 1903 provides that a hospital camp or other establishment for patients with pulmonary tuberculosis shall not be established in any town unless the board of supervisors of the county, and the town board of the town, shall each adopt a resolution authorizing the establishment thereof, and describing the limits of the locality in which the same may be established.

New York—Creates Office of Medical Inspector.—Chapter 221 of the Laws of New York of 1903 amends Section 4 of Chapter 545 of the laws of 1896, by providing that the commission in lunacy may appoint a medical inspector, who shall be a well-educated physician, a graduate of an incorporated medical college, and who shall have had actual experience in an institution for the care and treatment of the insane. Such inspector shall receive an annual salary of $3,500, and traveling expenses. He shall, subject to the direction of the commission, inspect the state hospitals and other institutions for the insane which are subject to the supervision or visitation of the commission, and shall make an examination, so far as circumstances may permit, of the patients therein confined, especially those admitted thereto since his preceding visit, giving such as may request it suitable opportunity to converse with him apart from the officers and attendants. He shall perform such other duties as may be prescribed and directed by the commission.

North Dakota—Prohibition on Distribution of Drugs.—Chapter 81 of the Laws of North Dakota of 1903 provides that any person who shall by himself, his servant or agent, or as the servant or agent of any person, leave or deposit on the doorstep or premises owned or occupied by another, or who shall deliver to any child under 14 years of age, any patent or proprietary medicine or any preparation, pill, tablet, powder, cosmetic, disinfectant or antiseptic, or any drug or medicine that contains poison or any ingredient deleterious to health, as a sample, or in any quantity whatever for the purpose of advertising, shall be deemed guilty of a misdemeanor. The terms used in this act shall include all remedies for internal or external use, either in packages or bulk, simple, mixed or compounded.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

November 21.

1 *Experiments to Determine the Value of Formalin in Infected Wounds of the Eye. J. H. Claiborne and Edward B. Coburn.
2 *"The Heart Cure"; Its Terminology, Purposes and Achievements. Including the Etiology of Fatty Degeneration. Homer Wakefield.
3 *The Relation of Mild Types of Diphtheria to the Public Health. Thomas W. Salmon.
4 *Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. (Continued.) Charles F. Painter and William G. Erving.
5 Eclampsia Hemorrhagica. Report of a Case. Ralph W. Lovenstine.
6 Who May Benefit by Altitude Treatment? J. N. Hall.

1. **Formalin in Infected Eye Wounds.**—The experiments of Claiborne and Coburn were made on rabbits' eyes, and are reported in detail. They find that formalin, 1 to 500, can be injected into the vitreous of rabbits without producing more than momentary disturbance. It is possible to cause panophthalmitis and destruction of the eyes by injecting 3

minims of a turbid solution of streptococci into the vitreous. It is also possible to produce the same result by infection in the ciliary region caused by penetrating wounds with infected pointed instruments. Infections of the vitreous and ciliary region do not necessarily cause destruction of the eye. At times the inflammatory symptoms gradually subside and the eye recovers spontaneously. Formalin, 1 to 1,000, when injected into the vitreous has no influence on streptococcus infection. The results of these experiments warrant the treatment of commencing infections of the eye by injections into the capsule of Tenon of 1 in 1,000, or even 1 in 500, formalin solution.

2. **"The Heart Cure."**—This method, which is not properly designated as the Nauheim or Schott method in Wakefield's opinion, is described at length. He first considers the pathologic conditions, and holds that the two principal degenerations of heart disease, namely, gelatiniform and fatty metamorphosis, are entirely due to and dependent on suboxidation from cardiac and blood deficiencies, and are preventable, arrestable and restorable in the great majority of cases. His own plan of treatment is to restore oxidation and to lighten the heart's load and clear out the vascular system. He uses oxygen by free inhalation through a tube of an abundance of nascent oxygen gas, or the whole atmosphere of a small room is impregnated with it. He administers iron and enemas of a 50 to 100 per cent. saturated solution of sodium bicarbonate, sometimes adding hydrogen peroxid, all at a temperature of blood heat. He always gives glycerophosphates or phosphorated oil internally. To clear out the portal and vascular system in general he uses very small doses of calomel and a saline cathartic, supplemented by warmth to the extremities and drinking cold water between meals. But the restoration of oxidation is by far the best remedy for the clearing of the circulation, the relief of resistance to arterial flow and consequent relief to the heart. He finds that a teaspoonful dose of hydrogen peroxid every three hours has restored the twenty-four-hour urine to about 50 ounces in cases of serious anuria, where one-twenty-fifth-grain doses of nitroglycerin had singularly failed. He has repeatedly promptly arrested cardiac hemorrhages with immediate inhalations of nascent oxygen gas and, combined with soda colon injections, they have promptly controlled and entirely reduced marked thoracic and abdominal dropsies. As the patients improve he gives light frictional brushings and massage, and begins the bath treatment by immersing the feet in a carbonic acid or a capsicum bath. He thinks the real secret of the bath cure lies in its physiologic effect as a cold bath, and that carbonic acid and alkalies simply counteract the cold by stimulation. Among the drugs, he specially mentions ergot and adrenalin in well-adapted cases. The last one, however, is dangerous for careless prescribing. Arsenic, phosphates, lead, etc., even mercury in large doses, are contraindicated. For beverages he disbelieves in the free administration of liquor, but when not continuously given it is a valuable stimulant for emergencies. He often institutes the full bath before the patient is able to walk to and from the baths or from one room to another. In using the glycerophosphates he warns against proprietary preparations containing an abundance of alcohol and sugars.

3. **Diphtheria.**—Salmon calls attention to the occurrence of catarrhal diphtheria, as he calls it, in which there is no false membrane. He urges the necessity of its isolation.

4. **Chronic Villous Arthritis.**—Painter and Erving's article is continued with reports of cases. The etiology is also discussed; trauma, infections, diathetic conditions, etc., and the clinical history described. The treatment varies with the cause. Very many of the early cases when caused by pronated or flat foot, where the condition in the knee joint is that of a passive hyperemia due to the malposition, are promptly and permanently cured by appropriate support, adhesive plaster strapping, etc. Where due to diathesis such treatment is only palliative and in these cases where it fails operative measures should be taken. The technic of the operation is described. (The article is to be continued.)

Medical Record, New York.

November 21.

7 *Traumatic Locomotor Ataxia. Allan M. Hamilton.
8 *Intravenous Injections of Colloidal Silver in the Treatment of Erysipelas. Warren Coleman.
9 Chronic Cyanosis of the Extremities Associated with Polycythemia and Splenomegaly. Joseph Collins.
10 *The prognosis and Treatment of Chronic Deafness. Philip D. Kerrison.
11 *Internal Administration of Ichthyol in Pulmonary Affections. Maurice Rosenberg.
12 An Extreme Case of Bradycardia. L. E. Norfleet.

7. **Traumatic Locomotor Ataxia.**—The conditions here described are chiefly the hysterical results of traumatism though other conditions are recognized as possibly suggesting permanent injury in the posterior columns. Hamilton also relates cases of traumatic neuritis with recurrent hyperemia and pressure, and cases illustrating different types of pseudotabes.

8. **Erysipelas.**—Coleman reports 5 cases of erysipelas treated by intravenous injections of colloidal silver. The method is harmless, and he describes the technic. He uses a hypodermic needle and injects as near as possible in the long axis of the vein, if necessary withdrawing a little blood to be sure that it is properly inserted, avoiding all chance of introducing air. The contents of the syringe should be injected slowly and none allowed to escape into the tissues where it would produce burning pain which might last for hours. He injects 5 to 10 c.c. of 1 per cent. solution. While not venturing to draw conclusions too positively, he is convinced from his experience with some 20 cases of the harmlessness of the method, and recommends it in appropriate conditions. If the injections do not benefit the patient, he says, they will do no harm.

10. **Chronic Deafness.**—Kerrison notices the various forms of chronic deafness due to tubal catarrh, hypertrophic catarrh, suppurative processes and chronic hyperplastic otitis. He concludes that there are certain cases of advanced catarrhal deafness, even without evidence of serious labyrinthian involvement, that do not respond to treatment, but that in a large proportion of cases the power of audition can be distinctly improved. In the early stages of catarrhal or tympanic deafness the majority of cases are susceptible to practically complete cure. In the advanced stages of catarrhal deafness rational treatment often results in improvement, which adds to the pleasures of life, though the normal hearing power may never be regained. Where a slight improvement of hearing is brought about, the result is often of value to the patient in arresting a process that may otherwise lead to pronounced or total deafness.

11. **Ichthyol in Pulmonary Affections.**—Four cases are reported by Rosenberg, who administers the drug in water, never in capsules, giving it before meals. In no case was there any digestive disturbance except a slight diarrhea, with some eructation, which stops when the patient becomes accustomed to the drug. He finds it increases assimilation, improves nutrition, checks pain, increases the body weight and acts as a germicide against the tubercle bacillus. Though he does not put it before the profession as a specific, he has found that much good can be derived from its use.

New York Medical Journal.

November 21.

13 *Ocular Headache and Other Ocular Reflexes; a Statistical Study. (To be continued.) M. W. Zimmerman.
14 *A Clinical Study of the Use of Antitoxin Serum (Dunbar's) in Hay Fever During the Season of 1903. A New and Distinct Advance in Its Management. Alexander W. MacCoy.
15 *The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver. (To be continued.) Hermann G. Klotz.
16 *The Early Operative Treatment of Tuberculous Osteitis of the Knee. (To be concluded.) Bernard Bartow.
17 Brain-fag, and Its Effects on Health. John Knott.
18 The Course and Diagnosis of Variola.—Based on Its Last Outbreak in New York City. William L. Somerset.
19 *The Effect of Lemon Juice in the Mixture Known as Lemonade on Typhoid Polluted Water. William G. Bissell.

13. **Ocular Headache.**—Zimmerman has investigated optical errors as related to the production of headaches, and gives the results. In 1,000 private cases he found frontal headache in 279; no details in 257, and small numbers with headaches localized elsewhere. In 1,000 hospital cases the proportion

of frontal headache was still greater, being 391. The similarity between the two series was very marked. As regards the conditions of sight and muscular errors, he found hypermetropic astigmatism to predominate in the production of headaches or co-exist with such. In 277 cases of heterophoria without headache there were 129 cases of hypermetropic astigmatism with small numbers of other types. In heterophoria with headache the hypermetropic astigmatism occurred in 356 out of 550 cases. (The paper is to be continued.)

14. **Hay Fever.**—MacCoy has used Dunbar's serum and reports 6 cases. In a total of 15 cases with which he experimented the effect was promptly manifested and relief complete. They appeared to confirm the contention of Professor Dunbar that cases of hay fever are dependent on toxins resident in the pollens of various grasses. MacCoy thinks this opens up a new field in serum therapy, being, as far as he is aware, the first instance of the production of antitoxin serum or fluid where the animal product has been crossed with the vegetable product.

15. **Gonorrhea.**—Klotz has employed deep injections of silver solutions, passing the injection syringe back to the bulbar region and there injecting from a side opening in the nozzle, and gradually withdrawing it, the meatus being closed. After two minutes or more the fluid is allowed to escape, and usually another syringeful is injected. Finally, some absorbent cotton is placed in front of the meatus to absorb the excess. The burning sensation produced is of short duration. An increased discharge appears, almost cheesy looking, which diminishes or disappears after ten to twelve hours. At this time the patient begins in the usual way to use some of the common antiseptic or astringent solutions. If an increase in the discharge appears in four or five days the silver injections should be repeated, usually in stronger solution than at first, and in this way the treatment is continued. Finally, a test of the effects of beer and whisky is allowed. He has been surprised with the good results in some of these cases. As to the solutions used, he has tried ichthargin, argentamine, albargin, protargol and argonin. After an extensive trial he has been very well satisfied with albargin which acts mildly and is clean. He uses a strength of from 1 to 5 per cent. He finds that, after all, the solutions of nitrate of silver have sometimes proven most reliable, the more so the longer the disease has lasted. (The article is to be continued.)

16. **Tuberculous Osteitis of the Knee.**—The method advocated by Bartow is an operative procedure, trephining the condyle in the suspected locality and removing any local focus of infection, followed by a correction of the knee malposture. The employment of this operation when tuberculous osteitis has advanced too far has led to a discrediting of its value. The presumed impossibility of locating the focus, with the possible presence of multiple foci, have also had their effect. He thinks, however, from his own experience, that the method deserves further employment. (The paper is not completed in this issue.)

19.—See abstract in THE JOURNAL of November 21, p. 1293.

American Medicine, Philadelphia.

November 21.

20 *The Treatment of Surgical Shock by Adrenalin. Edward Martin and M. E. Pennington.
21 Nine Cases of Resection of the Intestine. George Tully Vaughan.
22 A Unique Case: Molluscum Fibrosum of the Rectum in a Patient with the Typical Skin Lesion. A. B. Cook.
23 *Growth and Development of Children in Colorado. Charles F. Gardiner and Henry W. Hoagland.
24 The Use and Abuse of Fresh Air and Over-feeding in Tuberculosis. W. H. Prioleau.
25 A Consideration of General Anesthesia with a Presentation of Instruments. Frederick Griffith.
26 The Influence of the University of Maryland on Medical Education. John C. Hemmeter.

20. **Adrenalin in Surgical Shock.**—The action and outcome of adrenalin in the system is discussed by Martin and Pennington, who report the results of experiments and also 5 instances of the clinical use of the drug in shock. All the cases were practically moribund, and there was not one in which there was a fair chance of recovery. The clinical evidence is therefore inconclusive. Laboratory experiments apparently show that the intravenous injection of adrenalin is the most powerful, practicable cardiac and vasomotor stimulant yet presented to the profession. It also stimulates the respiratory center and increases metabolism and body temperature, but it is inert so far as its systemic effect is concerned when given either by the mouth or by the rectum on account of its rapid alteration in the body. The toxic dose for man is not known, but is probably over a hundred times greater than that usually employed. The dilution, on account of the tendency to abscess formation, should be at least 1 to 10,000 when given hypodermically, but he thinks it is safe to give an initial dose of 10 c.c. of 1 to 1,000 in 90 c.c. of normal salt solution. In cases of urgency adrenalin chlorid should be given intravenously in a dilution of 1 to 10,000, injected slowly to prolong the effects of the drug, and should be pushed up to 100 c.c. of the strong solution or until the heart clearly and unmistakably responds. As yet there is no convincing clinical proof that it is as efficacious when used on man as laboratory experiments would lead us to believe. On account of its power of lessening the bacteriolytic power of the blood of animals, its use in cases of infection in the human should be with great caution until wider experience has proven its safety or danger.

23. **The Development of Children in Colorado.**—Gardiner and Hoagland have tested the lung capacity and respiratory movements of children at Colorado Springs as compared with those of Chicago, St. Louis and other Eastern cities; also the growth at various ages, chest measurements, average weight, etc. They find that there is a climatic factor in Colorado that favors the development. Native-born Colorado children are taller and weigh more, as well as have greater respiratory capacity than those of Eastern cities.

Boston Medical and Surgical Journal.

November 19.

27 *Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelonephritis. Arthur T. Cabot.
28 *Unclean Milk, Bovine Tuberculosis and the Tuberculin Test—Their Relation to the Public Health. (To be continued.) E. R. Larned.

27. **Catheter Drainage in Pyelonephritis.**—Cabot has treated a certain proportion of his cases of kidney disorder connected with prostatic obstruction by the installment of permanent catheter drainage, the urine being removed as rapidly as it flows in. The relief of pressure, he thinks, extends even through the uriniferous tubules into the malpighian bodies. He puts a soft catheter into the bladder and arranges it so that it draws the urine steadily without irritating the vesical walls. It should be watched so closely as to insure that it shall never stop running for more than a few minutes at a time. This is no new method for bladder trouble, but he has not seen it mentioned for kidney troubles. The only explanation for the good effects on the kidneys that he has observed is that the ureters gradually contract somewhat when internal pressure is relieved, and the bladder being no longer stretched, its muscular coat recovers its tone and restores the valvular condition at the ureteric orifice. He gives water freely at the same time, and has noticed a decided increase in the quantity of urine passed. His conclusions are that the relief of tension in kidneys which, owing to long obstruction, are exhibiting the clinical phenomena of interstitial nephritis, usually brings about a return of normal function, thus indicating that the renal condition is directly due to the obstruction and increased tension. It seems probable that with dilated ureters, permitting regurgitation of urine into the kidney pelves, long drainage of the bladder will permit such a shrinkage of the ureters and ureteral orifices as to restore the normal valvular action of the ureters, and the retro-flow of urine will thus be stopped.

28. **Milk.**—Larned advocates all the precautions to insure pure milk, free from infections, the use of the tuberculin test to eradicate tuberculosis in herds, and careful milk inspection in cities. He has made cultural experiments in the city of Joliet and finds no samples entirely satisfactory. He notices the improvement in the milk supply of Chicago owing to the efforts of the department of health of that city.

Cincinnati Lancet-Clinic.

November 21.

29 The Lateral Pelvic Segment of the Ureter (The Parietal Fixed or Descending Segment). Byron Robinson.
30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

American Journal of Insanity, Baltimore.

October.

31 Extracts from the Writings of Wilhelm Griesinger. A Prophet of the Newer Psychiatry. (Concluded.) Translated by Frank R. Smith.
32 Hydrocephalus Internus in the Adult. Henry J. Berkley.
33 *The Pathology of Acute Delirium. H. A. Tomlinson.
34 *Recognition of the Insane in Penal Institutions a Factor in Diminishing Crime. Frank W. Robertson.
35 *The Fluctuation of Insanity in Connecticut as Shown by a Study of Cases Admitted to the Connecticut Hospital for the Insane. Rollin H. Burr.
36 *The Study of Non-dementing Psychoses by Laboratory Methods with Remarks on the Localization of the Disorder. Charles L. Dana.
37 Status Epilepticus: A Clinical and Pathologic Study in Epilepsy. L. Pierce Clark and Thomas P. Prout.
38 The Object to be Attained by an Organization of Assistant Physicians. A. P. Ohlmacher.
39 Report of Observations Made in the Clinic of Dr. J. Babinski, Paris. With Special Reference to Some New Aids in the Diagnosis and Treatment of Nervous and Mental Disease. Charles Gilbert Chaddock.

33. **Acute Delirium.**—Tomlinson describes cases and discusses the pathology of the condition. He holds in substance that it is due to an exhaustion, only differing in degree and the fact that it is based on intoxication from the normal fatigue conditions. The disintegration in either case, he says, is the result of an excess of activity of the cell.

34. **The Insane in Penal Institutions.**—Robertson thinks that the earlier recognition of the insane in penal institutions would prevent the turning out on the public of a class of degenerates that are a peril to society. He asks how the recognition of the insane in penitentiaries can be thus made a factor in the diminution of crime, and answers it: (1) By the establishment in every state of separate institutions for the insane and defective who exhibit criminal tendencies, where they can be held in custody until a competent medical tribunal shall determine that they are fit to return to society. (2) By examination by competent alienists, prior to sentence by court, of those accussed of crime, the report of the physician to be laid before the court to assist in reaching a proper determination of the case. (3) The appointment on staffs of all penal institutions of competent alienists, whose duty it shall be to recognize and secure the transfer to hospitals of those so markedly defective as to require such treatment. If it is not practicable to appoint an alienist for each institution he suggests that one be appointed in each state whose duty it shall be to visit and inspect the inmates of the penal institutions. The warden or officer in charge of such institutions should keep a careful record of each prisoner known to show any mental peculiarities, and furnish information to the alienist on each visit. We should not attempt in our social organization to make the punishment fit the crime, but should study each prisoner to seek out those who should be treated as defectives apart from those who should be treated according to the old lines in state penitentiaries, or those believed to be susceptible of improvement by means of the more modern treatment afforded by the reformatory.

35. **Insanity in Connecticut.**—The summary of Burr's article is given as follows:

A study of the histories of 7,657 cases of insanity covering a period of thirty two years may be summarized briefly in the following general observations: 1. The ratio of the insane to the general population is much larger than most statisticians have estimated it to be, but the increase in the proportion of the insane is very much smaller than has been determined heretofore. 2. The foreign element of our community shows much the larger proportion of insane than does the native. The native insane, however, have increased to a considerable extent, but not in the same proportion as the foreign insane. 3. The cities show a much larger percentage of insane than do the counties, but the counties show an increasing proportion of insane in the later years. 4. We have also seen that the large proportion coming from the cities is due to the larger percentage of the foreign element in the city, also that with increase of the foreign element in the country there is an increase in the insane. 5. The Irish show the largest percentage of the insane. The Germans are next in proportion. The native Americans show the least insane to population. In general the middle period (1880-1890) shows the largest proportion of the foreign insane. 6. In proportion to population the Irish lead all other nationalities in the production of insanity. 7. The cities, as a whole, send much larger numbers of foreign insane in proportion to the population than the counties. 8. As compared with the whole state, Hartford and New Haven have larger proportions of foreign insane than the cities, as a whole, over the counties of the state. 9. Fairfield, Litchfield and Windham counties show the lowest proportion of native insane.

36. **Non-Dementing Psychoses.**—Dana's article is explained in its title. The patient was one in whom an absolute arrest was observed in the course of a distinctly degenerating insanity, and he considers the report as of value on account of the psychic methods and examinations made at three different periods of time. He thinks they can be applied in other cases where a positive prognosis is desirable. The account is interesting, and it would appear that there had been absolutely no change in the man's condition between the last examination and that of three years previously.

Annals of Gynecology and Pediatrics, Boston.

November.

40 *The Pathology and Surgical Treatment of Bright's Disease. S. C. Gordon.
41 Some Personal Experiences in Abdominal Surgery. Arthur C. Heffinger.
42 Two Unique Malformations of the Female Generative Organs; Absent Vagina with Atresia Uteri: Uterus Didelphis with Left Hematometra. Emery Marvel.
43 Hypophosphites of Calcium, Sodium and Potassium in the Prevention and Treatment of Abscess. Sinclair Tousey.

40. **Bright's Disease.**—Gordon has studied the surgical treatment of Bright's disease, and concludes that it is primarily an acute inflammation of the kidney structure, not dependent on any specific infective germ. If early recognized and properly treated it will terminate by resolution. But if neglected or not recognized, repeated acute attacks may occur, each one leaving products of the inflammatory process, which may organize or even suppurate. The acute attacks are always short, but leave more or less products which interfere with the circulation, finally producing a chronic passive congestion. The result of these attacks is an enlargement of the organs, causing pressure of the fibrous capsule. Complete decapsulation relieves this pressure, depletes the distended vessels by more or less bleeding, and allows the circulation to resume its normal conditions and absorb the exudate. Even when one kidney alone is involved, operation on that kidney may relieve the symptoms. The surgeon is justified in operating in advanced cases when the suffering is great, simply to relieve this.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

October 31.

44 *Six Years' Experience with Tuberculosis in the West. Earl S. Bullock.
45 The Necessity for an Early Diagnosis in the Prevention of Deformities. Reginald H. Sayre.
46 A Case of Stammering Treated by Hypnotism. G. Hudson Makuen.

44. **Tuberculosis in the West.**—Bullock gives his experience as a health seeker, and as a physician in New Mexico and adjoining regions. He thinks the accommodations in most places are comparatively poor. There are a number of excellent places open to individuals, but they are generally expensive. Everywhere one is impressed with the fact that individuals are doing what they ought not to do for their health. The climate is expected to do everything. One of the first lessons he drew from his experience was that most patients are disappointed for this reason. The majority of patients are past the point when climate could be an aid to them. There are undoubtedly many old chronic cases who live long and useful lives in this western country, and there are a great number of genuine cured cases who illustrate the best results. There are also the climate seekers who go traveling around and vary their residence with every season; he would not send a patient to a place where conditions were only propitious part of the year. He would not send a tuberculous patient to a city in search of health. He criticises the early management of the Government Sanitarium at Fort Bayard, where he served as pathologist for a season. Changes in authorities and so on have been unfavorable to the best management, and a large proportion of the cases are not hopeful at the start. He analyzes the experience there as he observed it, and remarks that while there he was in a position to obtain conclusive evidence that the tuberculin test is not a justifiable procedure in the human being; also that it can not be depended

on as completely demonstrating the presence or absence of a tuberculous process. Of the St. Joseph's Sanatorium at Silver City, N. M., of which he is medical director at the present time, he speaks favorably as regards the climate and facilities. He ends with the conclusion that we are not justified in sending patients with a high grade of mixed infection away from home, certainly not across the continent. It is little short of criminal to send one, even of the most favorable class, into the West either to shift for himself under conditions that may prove inimical to his moral as well as his physical welfare, or to bring poverty on those near him. A climate at which an individual may remain comfortably out of doors all the year through and in which the dryness of the air prevents colds and cures a catarrhal disposition; in which the natural healthfulness prevents intercurrent diseases, and in which the altitude checks a hemorrhagic tendency; this for selected cases with little or no mixed infection is the most favorable environment to be found anywhere in the world.

Detroit Medical Journal.

November.

47 *The Surgical Treatment of Exophthalmic Goiter. Max Ballin.
48 The Essential Nature of Reflex Acts and Instincts. A. W. Ives.
49 Eye Clinic at St. Mary's Hospital, Oct. 22, 1903. Eugene Smith.

47. **Exophthalmic Goiter.**—Ballin holds that exophthalmic goiter is successfully treated by operation in about 75 per cent. of cases, and while the mortality from operations has been high, it is reduced in the hands of a skilled surgeon to about 6.3 per cent. or still lower in cases operated on early. The principal dangers are from the anesthetic, hemorrhage and postoperative thyroidism. They can be avoided by local anesthesia, skilled manipulation and the proper preparation of the patient, as well as early operation. The question whether operations on the thyroid are preferable to sympathectomy can not be decided until we have fuller statistics as to the results of the latter operation.

Annals of Surgery, Philadelphia.

November.

50 *The Surgical Problem in Prostatic Hypertrophy. George Waller Hawley.
51 *On the Treatment of Fracture of the Mandible. Stewart L. McCurdy.
52 Traumatic Aneurism of the Left Subclavian Artery Produced by Fracture of the Clavicle. William Taylor.
53 *Report of a Case of Recurrent Dislocation of the Ulnar Nerve Cured by Operation. Farrar Cobb.
54 *One Thousand Abdominal Closures by a New Method Without a Known Hernia. James Fairchild Baldwin.
55 Splenectomy for Banti's Disease. Charles G. Levison.
56 On the Pathology and Classification of Intussusceptions, with a Résumé of Those Arising from the Appendix Ceci. Efred M. Corner.
57 *The Diagnosis and Treatment of Acute Pancreatitis. George Woolsey.
58 Idiopathic Dilatation of the Colon. R. W. Murray.
59 *A Contribution to the Study of Intestinal Suture, with a New Method of Intestinal Union. J. Shelton Horsley.

50. **Prostatic Hypertrophy.**—From a general review of the subject the following conclusions are reached by Hawley as regards the problem of prostatic hypertrophy: (1) That it is not the prostate but the adjacent urinary tract that demands relief. (2) That the direct cause of interference with micturition is the displacement of the outlet and floor of the bladder due to enlargement of the retro-urethral portion of the prostate. (3) That until the precise cause of this overgrowth is known and successful preventive measures found we can only hope to relieve by correcting the displacement. (4) That until an effectual method sufficiently safe and simple for application before infection and disorganization of the urinary tract has resulted, surgery can not effectually relieve. (5) That the logical mode of correcting vesico-urethral displacement is by reduction is shown by the fact that operative methods improve urination by virtue of their power to reduce more or less this displacement. (6) While some of these methods partially or sometimes completely accomplish reduction with comparative safety and others entirely reduce the displacement, but at considerable risk, none does so with both safety and success. (7) That since the reduction of the vesico-urethral elevation is essentially a mechanical problem, a reduction based on anatomic and mechanical principles would be the safest and simplest. (8) That the method he describes is based on such reasoning and has received satisfactory confirmation by experimental work. Whether it will prove sufficiently safe and effectual in application, clinical results must decide. In his operation above alluded to, the Zuckerkandl bi-ischial perineal incision was made, exposing the bulb of the urethra and the posterior half of the perineum. The support of the latter was released by dividing the recto-urethral muscle just behind its attachment to the bulb. This enlarged the operative field, allowing the rectum to drop backward. The levators were then divided, still more enlarging the operative field and facilitating exposure, and the prostatic sheath opened under the surface of the prostate from the apex to the base. The sheath on each side was separated from the lateral and under surface of the retro-urethral prostate by the finger (as in prostatectomy). In 2 cases the bladder was opened above, but only to confirm the extent of the reduction of the neck. After freeing the sheath, the prostate was dislocated downward, and in each case the reduction of the elevated neck of the bladder was very plain but insufficient. In each case sections were removed from the outer and lower portion of each lateral lobe, resulting in still greater reduction. In one case where enlargement was almost entirely of the middle lobe with marked upward projection of the bladder floor, the latter disappeared entirely. In each case the reduction seemed complete; the retroprostatic pouch was obliterated and good bladder drainage restored except in one subject where the pouch was large and trabeculated. In each case the urethra, bladder and ejaculatory ducts were uninjured, and enough of the prostate remained untouched to perform its functional purposes in all probability. The steps were easily performed, and the operative damage was slight as compared with prostatectomy with its unavoidable injury of the urethra. The resulting wound was superficial and capable of being made surgically clean. He thinks this method which was tried on cadavers is appropriate in early cases of prostatic hypertrophy before the urinary tract has become infected and disorganized, and while it can be carried out as an aseptic operation.

51. **Fracture of the Mandible.**—The method here proposed by McCurdy consists in drilling through the mandible from the external surface of the bone into the sublingual cavity, drilling between the apices of the second and third teeth from the lines of fracture, when possible, so as to guarantee a firm anchorage for the wires. After the drill holes are made they are threaded with a notched drill. The wire is passed through from without into the mouth on one side, and with the thread through the drill hole on the other side it is drawn out. The two ends of the wire are now drawn out firmly, and the loop on the inside of the bone is molded to the surface of the mucous membrane. The free ends are twisted so as to bring the ends of the bones in perfect apposition. Then the wire is turned up along the remaining teeth, so that the sharp end may not irritate the mucous membrane of the lip. When one side tends to drop the drill holes should not be made on the same plane. In some instances it will require but one hole, the teeth being used for anchorage. This is usually the case in fractures near the angle. He allows the wires to remain in position for six weeks or longer if union has not taken place, and they cause no irritation or sloughing. If necrosis of the bone ever occurred it was too slight to be noticed in his cases. Bandages, etc., are not required. The patient soon learns to hold the teeth together. If infection occurs he uses the ice cap. The mouth should be cleansed with some strong antiseptic, as borolyptol, every hour or so. Before adjusting the fragments the field should be thoroughly cleansed with a 50 per cent. alcohol solution. Iron wire is used, as tougher, less irritating and superior in every way to silver wire. The feeding in the cases where no tooth is missing is by passing a curved glass tube back of the back teeth into the mouth; a fountain or other syringe can be used to force liquids into the oral cavity. In many cases the patient can suck the liquid from a glass with ease. The bulk of the paper is made up of accounts of cases thus treated.

53. **Dislocation of the Ulnar Nerve.**—From the case here reported and a summary of other cases, Cobb concludes that operation for this condition has every chance of perfecting a cure. Only the severe cases, few in number and generally traumatic, need ever be operated on. The operation is only for the symptoms, not for the dislocation, and only in those cases where symptoms are severe and disabling. The steps of the operation are simple and necessarily the same in all cases.

54. **Abdominal Closures.**—The new method here described by Baldwin consists in exposing the bellies of both recti muscles so that they can be brought into direct apposition when the sutures are tightened. Through-and-through silkworm gut is then introduced from within out, the needle being so introduced as to catch merely the edge of the peritoneum, and passed well back through the muscle and fascia and out at a suitable distance from the skin margin. The fascia is next brought together by an over-and-over stitch, using a double thread of coarse silk or cotton. This is introduced so as to give a loop about two feet long. To the end of this loop is attached a wire which is sharply bent on itself so as to be readily drawn through the tissues, the loop being merely a guide. The over-and-over stitch is so passed as to take in about a quarter of an inch of the edge of the fascia and includes no other tissue. It is introduced very loosely so that each turn can be caught later with the finger. As it reaches the end of the incision it is passed from within out through fat and skin so as to make its exit an inch or more above the end of the incision. By means of this guide thread the wire is introduced loosely so that it lies in the wound as a helix, the end of the wire appearing through the skin as the last of the thread is withdrawn. The fascia should be carefully cleaned of fat. A handled needle with an eye at the point is then introduced through the skin and fat about an inch from the other end of the incision, and brought out just above the fascia so as to engage the other end of the wire which is then withdrawn. This needle has been previously passed through two pads about an inch square, made of six or eight thicknesses of gauze. Before withdrawing the wire from the needle one of these gauze pads is slipped down over the wire so as to rest next the skin. The other end of the wire is then threaded through the needle and the other gauze pad placed in position, and a perforated shot placed outside of each pad. The incision is then, carefully dried if there has been any oozing, and while an assistant draws up the ends of the silkworm gut so as to secure apposition of the peritoneum throughout, the wire helix is drawn straight by traction with forceps on each end, care being taken to see that no kinks are formed. The wire should be drawn back and forth once or twice to be sure that there are no kinks. The perforated shot are now pushed down against the pads and clamped. The fascia is thus held in absolute contact. The silkworm gut is then tied as usual, care being taken that it is not drawn too tight, as this is the commonest cause of stitch abscess. If the abdominal wall is enormously thickened from a deposit of fat this method can not be used, since the pressure of the silkworm gut would be too great. In such a case he usually closes the peritoneum, including the transverse fascia, with fine catgut, and the muscle and fascia in two layers with chromicized catgut, No. 1, and then the skin and fat with through-and-through silkworm gut. Gloves are always used in closing an incision in this way. To drain the dead space between the fascia and fat he uses a wick of iodoform gauze, wrapped in gutta-percha tissue, extending from the upper end of the wound through its entire length and brought out at the lower end, introducing it before the silkworm-gut stitches are tightened. Any oozing will be absorbed by this drain which is withdrawn next morning. Where the recti are widely separated, he does not try to bring them together, but takes extra care to bring the fascia together. The line of incision is supported by a many-tailed snug binder of canton flannel. If the case does well the dressings are not removed until the tenth day. Of course, the bandage can be removed at any time. The dressing is then removed and all the sutures withdrawn. The wire is easily withdrawn. A bandage is reapplied and the patient directed to wear it day and night for a month except when bathing, wearing it during the day for a second month. It is not necessary to keep it up longer than the total of three months from the operation.

57. **Pancreatitis.**—Woolsey concludes his paper as follows:

1. In the severe acute cases of pancreatitis, the symptom complex, in connection with some predisposing factor or factors and perhaps some other early signs, renders it possible to make a probable diagnosis. 2. The diagnosis is easier than in the less acute cases. 3. It is only likely to be mistaken for conditions which also require early operation. 4. The finding of fat necrosis at the operation confirms the diagnosis. 5. The treatment should consist of early operation, including infusion for collapse, evacuation and drainage. This may be done under local anesthesia. 6. Extensive or prolonged operations are not justifiable.

59. **Intestinal Suture.**—Horsley's method of intestinal suture here described requires the illustrations to fully explain it. It consists in using a suture that passes through the whole of the intestinal walls, sewing together with a continuous overhand stitch a crescentic area excised, then changing the stitch to a Cushing right-angled continuous suture, penetrating all the coats, and inverting the remaining margins of the wound. When the first knot is reached in the suture it is invaginated and the suture continued by two or more insertions of the needle. With these last two insertions of the needle as secure a hold as possible is obtained without penetrating the mucosa. The very last insertion of the needle is in the inverse direction of the other insertions, so that when the knot is tied it is partially buried. After this suturing is completed scarcely any of the thread can be seen, except a portion of the knot, unless the bowel ends are pulled on. The bowel is then turned to its natural position and the mesentery sewed up with a continuous stitch. He claims that his method is efficient, as shown by experiments on dogs. It requires no complicated apparatus or special mechanical device. It can be quickly performed, is easy to learn and hard to forget.

Bulletin of the Johns Hopkins Hospital, Baltimore.

November.

60 An Epitome of the History of Carcinoma. Roswell Park.
61 Governor John Winthrop, Jr., of Connecticut as a Physician. Walter R. Steiner.
62 Pneumococcic Arthritis: Report of Three Cases. Campbell P. Howard.
63 *The Plague in India. A Study of the Results of the Haffkine Prophylactic. B. Rosalie Slaughter.

63. **Plague in India.**—The subjects covered by Slaughter in her paper are the special protective action of the Haffkine prophylactic, which is usually given in India in doses of 5 c.c. or even more. She thinks that the larger dose given there is perhaps the reason for its better success than that of the same material put up at the Hygienic Laboratory at Washington, the dose of which is given as 1 c.c. It has been found that it begins its protective action within twenty-four hours. It is not harmful, even in the incubation stage, and we can set aside Calmette's warning against using it in this stage and inoculate all persons whether they have been exposed to plague or not. The plague serum is harmless, from Indian experience, to those incubating the disease. When a person, however, already has severe headache, tenderness in the glandular region, a temperature of 100 F. or over, its usefulness as a prophylactic is past, because plague has already developed. The reasons for the incomplete success of the English efforts to terminate plague in India are mainly because of the comparatively small area out of an immense population that can be treated, and the fact that villagers neglect the hygienic precautions as soon as their fright is over. The constant pilgrimages and changes of residence, moreover, are decidedly against the extirpation of the scourge. The greater activity and virulence of plague germs at a low, moist temperature has been clearly demonstrated in the Indian experience, and it is a fact worth noting that crocodiles and vultures who feed on plague victims are absolutely immune. The struggle against plague in India is carried on under conditions that we will never be obliged to face in America, but in India the efforts of physicians and their assistants have been successful whenever they have been able to handle small bodies of the people systematically, unhampered by native prejudice. A

number of interesting illustrations of the protective effect of the Haffkine inoculation are reported, showing that it renders a person immune for three months and acts within twenty-four hours of its administration. When given in the incubation stage it has in many cases aborted the disease, but has no effect on other diseases except possibly eczema, which appears to be benefited by it. It confers a high degree of immunity and greatly reduces the number of plague attacks. If in spite of it a person is attacked his chances of recovery are greatly increased.

Brooklyn Medical Journal.

November.

64 The Twentieth Century Practice of Medicine. John R. Stivers.
65 *Fistula in Ano. Walter C. Wood.
66 *Head Injuries: Their Diagnosis. Alexander Rae.
67 *The Treatment of Hemorrhoids in Injections. Arthur H. Terry.
68 A Case of Multiple Lipoma. C. F. Barber.

65. **Fistula in Ano.**—Certain common errors in regard to this disorder are noticed by Wood, such as failure to appreciate the exact pathology of the individual case, the origin of the abscesses, the superficial or the deep nature of the disorder, etc. Tegumentary abscesses are comparatively unimportant, but the subtegumentary inflammations cause a special type of fistula. They are generally lymphatic infections and open externally or just above the mucocutaneous junction and not into the rectum proper. They seldom follow a straight line and are not easily followed with the ordinary probe. He takes exception to the statement of Mathews that it is of slight importance to determine the internal opening of these and other fistulas. Wood remarks that when he finds the internal opening he cures the fistula, and when he does not he sometimes fails. A remnant of the diseased tract continues the infection. In some tubercular cases office treatment may be successful, using cocain and peroxid of hydrogen and following the tract up to its termination, but if the operation is done under anesthesia a much more certain and rapid cure can be obtained by dissecting out the fistula than by incising it. He emphasizes the value of Salmon's back-cut. It is on the same theory that we incise the edge of a chronic ulcer to permit healthy granulations to arise through the indurated tissue. While he favors excision instead of incision in subtegumentary fistulas, in deep cases he thinks the old method of incision is preferable. Such a fistula is more branched than the superficial, and to excise all the ramifications would be a formidable procedure. In doing an ordinary operation, unless it is very evident that the tract is straight, it is better to cut from above downward, making sure that the exact and entire course of the fistula is laid open, rather than by the quicker method of the older authorities. Incontinence following operation is an important matter. If both sphincters are cut once across at right angles, it is safe, but the exact direction of these fibers must be considered for the anal sphincters are not circular but elliptical. It is therefore sometimes necessary to make an incision from the external opening parallel to the fibers until such a point is reached that a line from it to the internal opening will cross the sphincter fibers at a right angle. When required, there is safety in cutting the external sphincter more than once, provided the internal one does not share in the double injury. The after-treatment is important. If we leave the care of the case to one who will use only superficial applications we may expect a large percentage of failures. At least twice a week the bottom of the wound must be examined in a good light, pockets be broken up and exuberant granulations cut down with iodin, chlorid of zinc, etc. He thinks after the first week these cases do better with fresh air and moderate exercise than if confined to the bed. As regards tuberculosis and fistula he is more hopeful than many. There is the possibility of fistula with phthisis as well as tubercular fistula. Phthisis is a less frequent accompaniment than is often supposed. Less than 10 per cent. of the 139 cases of fistula at the Mount Sinai Hospital in four years had phthisis. In cases of true tubercular fistula he thinks general surgery holds rather than any special rule. If the patient's general condition warrants operation he would not hesitate to operate any more than he would with hemorrhoids, and he considers local anesthesia best. Any fistula that can be excised without too formidable a procedure had best be so treated. If incision seems best it is wise to do it with a cautery instead of with a knife, and thus destroy the organisms and avoid infection.

66. **Head Injuries.**—Rae insists that the presence or absence of infection determines the outcome in these cases. The soft parts can be readily examined. In injury to the bones of the cranium, change of contour can be determined, but the possibility of fracture of either or both tables without change of contour must be borne in mind. Closed injuries may have to be converted into open ones to determine the exact condition, and the escape of cerebral tissue and cerebrospinal fluid means fracture of the base. Hemorrhage from the ear or nose should be interpreted with care, although the probability of fracture is great. The symptoms of injury to the brain are the diffuse lesions of concussion and compression; the former marked by a brief period of unconsciousness, the latter by a recurrent or continuous period of insensibility. The appearance of localized loss of function or symptoms of irritation means a local lesion and points to the seat of it according to our ideas of localization. If depressed bone causing pressure be the cause of the loss of function, the function will be restored on elevating the bone. If this does not restore it, the fact of contusion to the brain is emphasized. Considerable damage to the brain tissue, however, can exist without any local symptoms.

67. **Hemorrhoids.**—Terry has used injections in some of his cases with success. He advises the following prescription for the injections, quoting from an unnamed medical journal: "Rub together 1 dram of salicylic acid and 1.5 drams of glycerin, add 2 drams of carbolic acid. To this add 1 dram of borax and 1.5 drams of glycerin. Let stand until clear, and inject 3 to 5 drops into small piles and 5 to 8 into large ones." This injection should be repeated every ten days, and he has used it exclusively in appropriate cases. He remarks on the harshness of treatment of hemorrhoids sometimes by the introduction of the speculum, etc., and the advantages that quacks gain by their easier methods. Four cases are reported. He does not know that there is any special advantage in the prescription he has employed, though it has been satisfactory to him. He has never used more than 2 minims at any one point, but often injects several points at one visit. He has never seen any sloughing, and only rarely any painful inflammation. He thinks the injection method has a certain utility for patients who will not submit to the knife. The chief danger lies in attempts to make the injections compete with operative surgery in range of application and in promptness of results.

Atlanta Journal-Record of Medicine.

November.

69 A Plea for the Microscopic Examination of the Blood in the Continued and Remittent Fevers Common to Our Southern States. Louis M. Warfield.
70 *Some Remarks on Diagnosis and Treatment of Venereal Ulcers. W. B. Emery.
71 *Report of 150 Cases Receiving the Pasteur Treatment at the Georgia Pasteur Institute. James N. Brawner.

70. **Venereal Ulcers.**—Emery describes the method of diagnosis of chancre, chancroid, abrasions, etc., and his methods of treatment. Simple ulcers require only protection and cleanliness. In herpes and ulcerated balanitis he insists on circumcision, thus removing the cause in most cases. For chancroids he employs carbolic and nitric acid. Swab the surface of the ulcer with pure carbolic acid for the anesthetic effect; then apply nitric acid with a cotton swab. A 40 per cent. formalin solution has been suggested, but he has never tried it. After thoroughly applying the nitric acid he uses a moist dressing of absorbent cotton saturated with bichlorid, 1 to 10,000. This serves to protect the ulcer and absorbs the secretion. Powders are mechanical irritants. He only uses them when the ulcer is very large, irritable and painful. Then he uses the formula of orthoform one part and bismuth subnitrate three parts; this secures almost perfect local anesthesia for twenty-four hours. He has discarded all ointments, except mercurial, and this only in certain cases to stimulate resolution and check phagedena. In many of these cases potassium iodid or

proto-iodid of mercury are useful. For chancre he would use nothing but a 1 to 5,000 bichlorid bath and a moist protective dressing. As regards the diagnosis of chancre he favors waiting until secondary symptoms appear, giving a placebo if necessary and postponing specific treatment until the diagnosis is certain.

71. **The Pasteur Treatment.**—Of the 150 cases treated there has been only one failure, that of an old man, who was bitten severely in the eye, through the nose. Another patient, a small negro boy, developed the disease on the tenth day after commencing treatment and died five days after the symptoms first developed, before immunity could have been established, and the case can not be regarded as a failure. Two patients came after the symptoms had fully developed, and, of course, succumbed. During the last year Brawner treated 36 cases from Georgia; none of them developed hydrophobia. During the same period about 20 were bitten who did not take the treatment, and 4 deaths have already occurred among them. Out of 250 southern cases of mad-dog bite of which he has the record, 170 were treated by the Pasteur method with only one death—that above reported. Of the remaining 80, 16 have succumbed to rabies, or about 20 per cent.

Medical Age, Detroit.

November 10.

72 The Modern Treatment of Epilepsy. William F. Waugh.
73 The Significance of Eye Symptoms to the General Practitioner. E. H. Porter.

American Practitioner and News, Louisville, Ky.

September 15.

75 Management of the Third Stage of Labor and the Proper Care of the Mother and Baby for the Next Few Succeeding days. Hugh D. Rodman.
76 Surgical Aspects of Typhoid Fever. A. D. Willmoth.
77 Medicine and Surgery in the Philippines. Walter D. Webb.

Virginia Medical Semi-Monthly, Richmond.

November 13.

78 The Therapeutic Uses of the X-rays with Report of Cases. Ennion G. Williams.
79 Secondary Enlargement of the Prostate. William L. Peple.
80 The Accurate Estimation of Pulse Tension. Henry W. Cook.
81 Rheumatism in Children. J. P. Williams.
82 Case of Fracture of the Skull in an Infant Four Months Old; Operation; Recovery. Israel Brown.
82½ Sloughing and Discharge by Bowel of 32 Inches of Colon. J. M. Shackelford.
83 Case of Morphoea. A. F. Finch.

California State Journal of Medicine, San Francisco.

November.

84 Tuberculous Infection of the Peritoneum and Adnexa. Andrew S. Lobingier.
85 The Correction of Refractive Errors. W. S. Fowler.
86 Nature and Treatment of Obesity or Corpulence of the Middle-aged. A. W. Perry.
87 The Common Rat; with Some Suggestions as to the Best Methods for Its Destruction. Donald H. Currie.
88 The Practical Value of the State Medical Law. W. W. Cross.

Illinois Medical Journal, Springfield.

November.

89 Anemia Infantum Pseudoleukemica. Maximilian Herzog.
90 Tuberculosis of the Vestibule of the External Genitals in Women. J. H. Stealy.
91 Treatment and Cause of Death in Placenta Previa. P. M. Burke.
92 The Secondary Results of Cardiac Disease. John A. Robison.
93 *Cockroaches as Conveyors of Typhoid Infection. Rosa Engelmann.
94 *The Dangers of an Exclusive Milk Diet in Nephritis. Alfred C. Croftan.
95 Breast Versus Bottle in Infant Feeding. Alfred C. Cotton.
96 Hereditary Tendency to Refractive Errors in a Family. Mortimer Frank.
97 Treatment of Typhoid Fever. William F. Waugh.

93.—This article appeared elsewhere. See THE JOURNAL of July 11, p. 133, 44.

94.—Ibid., abstract 43, p. 133.

Chicago Medical Recorder.

November 15.

98 Adiposis Dolorosa—Dercum's Disease. Frank Billings.
99 Nephrotomy, Nephrectomy, Ureterectomy, Double Epididymectomy and Orchidectomy for Tuberculosis. Alex. Hugh Ferguson.
100 Obstetrical Emergencies. C. E. Paddock.
101 Interesting Cases (Congenital Dislocation of Hip, etc.). Rosa Engelmann.
102 The Relations Between Peritoneal Adhesions and the Functionating Uterus. Charles B. Reed.
103 The Student Physician in Vienna. Julius Grinker.
104 Cambridge Springs, Pa.

Occidental Medical Times, San Francisco.

November.

105 The Care of the Eyes During School Life. J. R. Walker.
106 Membranous Dysmenorrhea. H. B. A. Kugeler.
107 A Diphtheria Epidemic. J. L. McClelland.
108 Hyoscin Hydrobromate as a Specific for the Cure of the Morphin and Whisky Habit, with Report of Cases. R. E. Bering.
109 Practical Value of the State Medical Law. W. W. Cross.
110 Uric Acid in Its Relation to Bodily Ailments or Disease. W. E. Lilley.

The Post-Graduate, New York.

November.

111 The Syphilitic Affections of the Heart and Aorta. Leonard Weber.
112 Regeneration and Inflammation. Robert Langerhans.
113 The Management of Exacerbations in the Course of Pulmonary Tuberculosis. John F. Russell.
114 Adeno-carcinoma of the Liver in Childhood. Stephen S. Burt.
115 Notes from the Clinics. Wendell C. Phillips.

Vermont Medical Monthly, Burlington.

August 25.

116 Adiposis Dolorosa (Dercum), with the Report of a Case. H. C. Gordinier.
117 Two Cases of Normal Pregnancy Following Operations for Extrauterine Pregnancy. Francis D. Donoghue.
118 Later Observations on the Treatment of Rheumatism. W. C. Barnes.
119 Cough in Pulmonary Phthisis. J. Leffingwell Hatch.

New England Medical Monthly, Danbury, Conn.

November.

120 Emergency Character of Railway Surgery and the Extent of Local Disorganization Resulting from Injury. Thomas H. Manley.
121 Surgical Infections and Collargolum. Paul Coudray.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 14.

1 *The Conditions that Simulate Pernicious Anemia. Thomas Houston.
2 *Note on the Bodies Recently Described by Leishman and Donovan. R. Ross.
3 Filariasis in Man Cured by Removal of the Adult Worms in an Operation for Lymph Scrotum. A. Primrose.
4 *Bubonic Plague ("Kaumpuli") in Central East Africa. Cuthbert Christy.
5 A Note on the Differential Leucocyte Count in Worm Infections. A. E. Boycott.
6 The Etiology of Beri-beri. W. Gilmore Ellis.
7 The Physical Factors in Phototherapy. J. E. Barnard and H. de R. Morgan.
8 A Case of Double Gangrene of Legs Following a Mild Attack of Enteric Fever. A. Dodds.

1. **Pernicious Anemia.**—Houston reports a case of malignant disease in which the blood findings and symptoms were characteristic of pernicious anemia, but a partial autopsy revealed a general malignant disease of the viscera and involvement of the bone marrow. The special points in the case which deserve attention were the condition of the blood and of the bone marrow. The red cells were greatly diminished in number and ran as low as one million per cubic centimeter, showing a marked poikilocytosis, and many of them were of large size (megalocytes). The blood was megaloblastic in type. The red cells showed signs of degeneration. The color index was always high, increasing during observation, and the number of leucocytes was about, or slightly under, the normal. He has been able to find the account of but one similar case. His experience in other cases affords no justification of the attempt that has been made to show that it is impossible to differentiate between the anemias of the pernicious type and grave secondary anemias. He tabulates a large number of cases in which hemoglobin was below 50 per cent. In nearly all it was possible to differentiate between the secondary anemias and the pernicious anemias by the lower color index and generally by the absence of megaloblasts, the one case which he details standing out as an exception. The contention of Stockman, therefore, that pernicious anemia is always the result of repeated small hemorrhages is not supported. Houston notices other conditions which have been described by some as liable to be confused with pernicious anemia, such as changes in the blood in ankylostomiasis, pregnancy, cancer, etc., and points out the differences that exist. The case reported, he thinks, has an

important bearing on the question as to the pathology of progressive pernicious anemia, for by inference we are forced to conclude that the changes found in the bone marrow in cases of progressive pernicious anemia are generally the result of disease directly accounting for the condition of the blood and not secondarily the result of the anemia itself.

2. **Leishman and Donovan's Bodies.**—Leishman and Donovan recently reported finding small oval bodies in the spleen in cases of low fever, chronic dysentery and cachexia, and in July Donovan also found similar ones in chronic malaria. Ross has investigated these forms, studying the type specimens of Donovan, and finds that it is hardly possible to doubt that these are parasites of some kind, probably protozoan, and that we have to do with some novel organism in these findings, and it promises to be a common and important one. The fever charts of Donovan's cases recall the chronic pyrexia with enlarged spleen frequently observed in India, and are not a little suggestive of kala-azar.

4. **Bubonic Plague in Central East Africa.**—The disease known among the natives as kaumpuli which from time to time has decimated the population of Uganda, East Africa, is defined by Christy as bubonic plague, and seems to have been known to the natives for ages, but for the first account of the disease we are indebted to Koch, who, with Zupitza, a German physician, proved it to be genuine bubonic plague. Christy has investigated the matter further, talking with missionaries and others who have observed it, and confirms Koch's original opinion.

The Lancet, London.

November 14.

9 The History of Medicine as Illustrated in English Literature. Norman Moore.
10 *Occupation as a Cause of Lung Disease. Thomas Oliver.
11 *The Operative Treatment of Tuberculous Glands of the Neck. W. Greenwood Sutcliffe.
12 The Successful Treatment of a Few Cases of Lupus. C. Stanser Bowker.
13 On Suppuration of the Bursa Over the Trochanter Major and Its Occasional Imitation of Hip Disease. T. Pridgin Teale.
14 A Group of Cancer Cases. W. Gifford Nash.
15 A Case of Lupus of the Forehead, the Right Arm and the Elbow Treated by Excision. Cecil H. Leaf.
16 A Case of Congenital Heart Lesion. Walter Broadbent.

10. **Occupation Diseases of the Lungs.**—Oliver's lecture reviews these diseases, especially the dust disorders, such as pneumoconiosis (which has been specially observed in French millstone builders and basic slag workers) and ganister-, coal- and gold miners' phthisis. The latter form has been studied in South Africa, and indicates the necessity of hygienic regulations such as have made coal mining in Great Britain a comparatively healthful industry. Metallic trades, such as file cutting and potters' asthma, which seems to be a serious disorder, are also discussed, as well as the dangers from inhalation of gases. In conclusion, Oliver notices the pathology of pneumoconiosis which often leads to fibrosis from which later destructive conditions and secondary infections may arise. It is not always easy to see whether the mischief is due to the direct action of the dust itself or to superadded infection.

11. **Tuberculous Glands.**—The operation for tuberculous glands of the neck is described by Sutcliffe, who insists on the importance of avoiding the internal jugular vein and the spinal accessory nerve. He holds that if operation is decided on, the glands should always be removed with their surrounding cellular tissue, and that instead of tying the internal jugular as a routine measure it should be avoided. The drooping of the shoulders caused by division of the spinal accessory nerve is a serious deformity and causes considerable loss of power, and in children is the cause of almost certain lateral curvature. He has seen many old cases where the sternomastoid and trapezius have atrophied, which served as an object lesson to him not only to treat the nerve with the greatest respect, but to put the incision in the least visible region.

Journal of Tropical Medicine, London.

November 2.

17 Note on "Mansonia" Anopheloides. G. M. Giles.
18 *A Rare Cerebral Complication in Malaria. P. A. Nightingale.
19 Municipal Sewerage. (Continued.) Fred Smith.

18. **Malaria Embolism.**—Though malarial embolisms are not uncommon during the paroxysm of fever, they usually prove fatal, as Nightingale says, from their lodging in some capillaries of the more important cerebral nerve centers. In the case he reports, however, there was simply paralysis of the velum, with some paresis of the vocal cords, followed by slow recovery, as the result of this accident. The patient was an army officer, 32 years of age, who was on the way home from Sierra Leone, the embolism occurring after some days at sea. He thinks, considering the favorable conditions surrounding the patient, that the occurrence indicated a special susceptibility on his part to cerebral embolism; therefore, the question of the safety of a return to a malarial climate for at least some time ought to be seriously considered.

Bulletin de l'Académie de Médecine, Paris.

20 (LXVII, No. 34.) *Potable Water for Garrisons. Committee Report.—Sur l'allmentation des garnisons en eau potable.
21 *Gastrotomie pour l'extraction de 25 corps étrangers, dont 8 cuillères à café et 1 fourchette. Guérison. Monnier.
22 *De la dégenerescence maligne du moignon cervical après l'hysterectomie subtotale pour fibrome. L. G. Richelot.
23 *De l'ulcère externe de l'estomac. G. Hayem.

20. **Potable Water for Garrisons.**—The committee emphasize the necessity for the protection of the sources of the water supply. When this can be done efficiently it is unnecessary to resort to sterilization of the drinking water, except possibly temporarily in case of accident.

21. **Gastrotomy for 25 Foreign Bodies in Stomach.**—Eight teaspoons were included among the foreign bodies taken from the stomach of a would-be suicide. Recovery was rapid. Monod, in describing the case, stated that it was the seventy-eighth on record of gastrotomy for a foreign body. In 17 the latter had been multiple. The tolerance of the stomach has always been extraordinary. In 2 cases the foreign body had perforated into the peritoneal cavity without inducing inflammation. The interval before operation was from a few hours to six months in more than half of the cases, and from one to sixteen years in the remainder, with only 2 deaths in this series, a total mortality of 9. Hair balls were found in 9 of the cases. In the case described in detail radioscopy had been negative, and although some of the foreign bodies had been in the stomach for nearly six months, there were no gastric symptoms. The existence of multiple intestinal symptoms and crepitation in the left hypochondrium led to the erroneous diagnosis that the assumed foreign body had passed into the intestines and the operation was commenced at this point.

22. **Malignant Degeneration of Stump of Cervix.**—Richelot has observed 3 instances in which the stump of the cervix left after subtotal hysterectomy had become affected with malignant disease. He knows of 3 other cases, and has found 10 more in the literature. The hysterectomy had been undertaken on account of fibroma in the majority of cases. Hyperplasia of the uterine glands shows a tendency to epithelial malignant proliferation, and this hyperplasia of the glands is an invariable accompaniment of uterine fibromata. He therefore urges total instead of subtotal hysterectomy, whenever possible, and proclaims that fibromatous degeneration should no longer be regarded as a benign process. He admits that a fibroma is a benign tumor, but it is the manifestation of a nutritional disturbance affecting the parenchyma of the uterus and likewise its mucosa, the latter preparing the soil for malignant degeneration later. Besides this, there is always the possibility of phlebitis and complications on the part of the viscera. The general hypertrophy which accompanies fibromatosis is liable to degenerate into epithelioma, either of the fundus or of the stump left after a partial operation.

23. **External Ulcer of the Stomach.**—Hayem describes a lesion on the outer surface of the stomach which he thinks has hitherto escaped attention. It resembles a round ulcer, only that it faces outward and leaves the mucosa of the stomach intact. It may be called an external ulcer, gastric mal perforans or a mixed internal aneurism. In its course it passes through three phases, first resembling a vaccine pustule, then a kind of sac, and finally, a cupola projecting around a defect in-

volving all the layers of the stomach wall down to the mucosa. He has observed it in 8 cases, and always coexisting with chronic ulcers on the inner surface of the organ. This coincidence seems to demonstrate that it is due to the same causal pathologic process, and that abnormal gastric juice can not be the principal factor in the evolution of an ulcer in the stomach wall. The facts observed incriminate nervous influences as more probably responsible for the lesions than any cause inside the organ.

Presse Médicale, Paris.

24 (II, No. 88.) Au congrès national contre l'alcoolisme. 26-29 Octobre, 1903. Le rôle du médecin. H. Triboulet.
25 Les conditions habituelles de l'intoxication belladonnée. A. Martinet.

Archiv f. path. Anatomie, etc. (Virchow's), Berlin.

Last indexed page 938.

26 (CLXXIII, No. 3.) Zur Lehre von den Oesophagus-Divertikeln, mit bes. Berücksichtigung ihrer Anatomie und ihrer Pathogenese. G. Riebold (Dresden).
27 Changes in Spinal Ganglion Cells After Division of Peripheral Nerves and Posterior Roots. K. Kleist.—Die Veränderungen der Spinalganglienzellen nach der Durchschneidung des periph. Nerven und der hinteren Wurzel.
28 Die morphologischen und tinktoriellen Veränderungen nekrobiotischer Blut-Zellen. K. Bodon.
29 Lienale Leukämie bei einem 5 Wochen alten Kalbe (in calf). D. A. de Jong.
30 *Behavior of Suprarenals in Inherited Syphilis. N. Guleke (Berlin).—Zur Frage des Verhaltens der Nebennieren bei congenitaler Syphilis.
31 Zur Kenntnis des Myeloms. S. Saltykow (Basle).
32 Struma ovarii colloides. R. Meyer.
33 Case of Rupture of Gall Bladder. B. Huguenin (Geneva).—Fall von Gallenblasenruptur mit tödlicher Blutung infolge eines Carcinoma hematodes an der Vereinigungsstelle der 3 Hauptgallengänge, nebst Bemerkungen über einige gleichzeitige Leber- und Pankreas-Veränderungen.
34 Fall von Agenesie der Milz (of spleen). C. Sternberg.
35 History of Recurrence of Smallpox. W. Ebstein.—Zur Geschichte der Rezidive bei den Pocken.

30. Suprarenals in Inherited Syphilis.—Guleke has noticed in 3 out of 8 cadavers of newly born syphilitic infants that the suprarenals exhibited peculiar wedge-shaped or oval foci of necrosis. He found nothing of the kind in 15 non-syphilitic infant cadavers. He relates the particulars of one case. The infant of a prostitute had succumbed two days after birth, and the necropsy showed gummatous hepatitis, interstitial splenitis and intense osteochondritis. In the cortical substance of the suprarenals miliary gummata were numerous, accompanied by interstitial fibrous induration and the necrotic foci mentioned above.

Beiträge z. Geb. und Gynäkologie (Hegar's), Leipsic.

Last indexed page 584.

36 (VII, No. 3.) *Indications for Forceps Operations. H. Fehling (Strasburg).—Ueber die Anzeigen für die Zangenoperation.
37 Case of Cleft Pelvis. M. Muret.—Fall von Spaltbecken.
38 *Abnormal Site of Afterbirth. H. Bayer (Strasburg).—Ueber fehlerhaften Sitz der Nachgeburt und die Analogien zwischen Placenta previa und Tubenecken-Placenta.
39 *Recovery from Tuberculous Peritonitis. H. W. Freund.—Zur Heilung der tuberkulösen Bauchfellentzündung.
40 *Studien zur Bakteriologie des Genital-Kanales in der Schwangerschaft und im Wochenbette. M. Stolz.
41 *Zur Diagnose und Therapie der Genital- und Peritoneal-Tuberkulose des Weibes. H. Pape (Giessen).
42 Stiel-Torsion bei Hydrosalpinx. A. Funke (Strasburg).
43 Historical Sketch of the Lying-in Rooms in Previous Centuries. R. Müllerheim.—Zur Kulturgeschichte der Wochenstuben vergangener Jahrhunderte.

36. Indications for Forceps Operation.—Fehling thinks that injury of the soft parts would not occur if students were trained in forceps operations and repair of injuries by careful suture under the eye of the professor. He adds that no "practicant" is allowed to leave his clinic without having sutured a perineum once or several times. He thinks that there is nothing to prove that the application of forceps leads to hemorrhage from atony. Hemorrhage from lacerations can be easily controlled. Slight lacerations of the cervix occur in nearly every normal birth, and Emmet's operation is usually superfluous. He states that in 815 forceps operations he has held the forceps himself in only 10, and thinks that by thus entrusting them to the assistants he has done more for the education of his pupils than if he had denounced and banished forceps from his practice. He regards feeble contractions as an indication for their use and advocates resorting to them when all the conditions are favorable and the delivery stage lasts more than three hours.

38. Abnormal Site of the After-birth.—Bayer calls attention anew to the fact that the cervix does not behave the same in all pregnancies. In some it develops by unfolding irregularly, and the physiologic stricture becomes spastic in labor accompanied by spasmodic contractions. The after-birth in placenta previa is inserted in the lower pole of the uterus but not in a correctly regular segment, and hence it develops abnormally. A woman who has had considerable hemorrhage during the pregnancy but who arrives at term without much loss of strength stands a better chance of recovery with a living child, from the placenta previa, than one whose labor commences at term without any hemorrhage during the pregnancy. The same conditions prevail when the placenta is located in the tubal angle. The uterus forms a "tubal segment," as the walls of the tube expand under the placenta. In case of placenta previa it becomes more or less detached and hemorrhages occur, simulating the phenomena of premature detachment of a normally located placenta. The various conditions are shown in cuts. With a placenta located in the tubal angle the uterus becomes saddle-shaped. No special treatment is required for it, except that the possibility of a pathologic process must be borne in mind.

39. Healing of Tuberculous Peritonitis.—Freund describes several cases to show the phases of the healing process in case of tuberculous serous or ulcerative, suppurative peritonitis or peritonitis with adhesions. Each of these three varieties is amenable to operative treatment. This relieves the abdomen of the presence of the effusion, with or without its specific disease germs, and the intervention is followed by proliferation of connective tissue which destroys or encapsulates the morbid products. Mild cases may be treated conservatively, but severe ones require surgical aid. Freund describes 15 cases which emphasize the remarkable benefits derived. In some the cure has persisted for years. Concomitant tuberculous lesions in pleura or lungs healed with the healing peritoneum. Experiences of many surgeons to date show that 65 per cent. have been cured by operative intervention, and 25 per cent. permanently for years to date.

40. Bacteriology of Genital Canal in Pregnancy and Parturition.—Stolz does not regard the presence of bacteria in the uterus as necessarily entailing infection. He thinks that this follows only when the germs are extremely virulent and very numerous.

41. Tuberculosis of Female Genitalia and Peritoneum.—Pape advocates excision of tuberculous lesions in the portio and cervix, but not in isolated tuberculosis in the endometrium until after the ordinary measures have been tried and failed, such as abrasio, injection of iodin and general treatment. In recent cases of general genital tuberculosis radical operations are indicated, but in the chronic cases only symptomatic treatment.

Berliner Klinische Wochenschrift.

Last indexed page 1374.

44 (No. 39.) Modification of Chemical Property by Partial Decomposition of Albumin in the Body. F. Umber.—Ueber Abanderung chemischer Eigenart durch partiellen Eiweissabbau im Körper.
45 *Weitere experimentelle Untersuchungen über Alopecie und die Lokalisation von Hautkrankheiten. A. Buschke.
46 *Value of Soxhlet's Sugar Food in Infant Therapeutics. H. Brüning (Leipsic).—Ueber die Verwertbarkeit des S. Nährzuckers in der Säuglings-Therapie.
47 *Zur Klinik der Tumoren der Hypophysis. H. Rosenhaupt.
48 Sociologic Study of Venereal Diseases. E. Saalfeld—Zur sozialen Fürsorge für Geschlechtskranke.
49 (No. 40.) *Immediate and Permanent Action of Heat and Light Rays on Cutaneous Temperature. F. Sommer.—Ueber die unmittelbare und Dauerwirkung der Licht- und Wärmestrahlung auf die Hauttemperatur.
50 *Experimental Research with Subcutaneous Feeding with Nutrient Solutions of Albumin. Trolldenier (Dresden).—Tierversuche über subkutane Ernährung mit eiweisshaltigen Nährlösungen.
51 *Ueber orthotische Albuminurie. O. Jacobson (Berlin).
52 Sun and Air Baths. E. Singer.—Ueber den Einfluss von Luft- und Sonnenbädern auf den menschlichen Körper.
53 (No. 41.) Radioscopy of Bone Sarcomata. Lessing.—Knochensarkome im Röntgenbild.
54 *Ueber Cardioptose und ihren Zusammenhang mit Hepatoptose. M. Einhorn (New York).
55 *Zur Lehre vom Magensaftfluss (gastrosuccorrhea). A. Albu (Berlin).
56 Urtikaria nach endonasalen Anwendung von Nebennieren-Extrakt (suprarenal extract). A. Rosenberg.
57 *Ueber die Komplikation der Angina mit akuter Thyreoiditis. W. Lublinski.

58 *Paralysis of Accessorius in Tabes. W. Seiffer (Berlin).—Die Akzessoriuslähmungen bei Tabes dorsalis. (Commenced in No. 40.)
59 (No. 42.) Versuche über die Theocin-Diurese am gesunden Menschen. H. Dreser.
60 *Displacements of Liver and Thoracic Organs from Meteorism. A. Oppenheim.—Die Lageveränderungen der Leber und Brustorgane bei Meteorismus, ihre Verwertung für Diagnose und Therapie.

45. **Alopecia from the Use of Thallium.**—Buschke's further experiments have established that the alopecia has nothing to do with the decrease in the secretion of sweat which thallium induces. Also that the alopecia is due to a specific medicinal action on the part of the drug, and that this action can not be diverted elsewhere by producing a superficial lesion at another point.

46. **Soxhlet's Sugar Food in Infant Therapeutics.**—Brüning states that his experience with this substance, added to the milk, has been extremely favorable in the case of 37 infants, some of them very sick. Even those with severe gastro-intestinal trouble gained in weight as well as the others on this diet.

47. **Symptomatology of Tumors of Hypophysis.**—At the necropsy of a woman 39 years old a sarcoma of the thyroid gland was found and also one in the hypophysis. The symptoms were great thirst, fever and polyuria, with spasmodic sneezing. Rosenhaupt gives further particulars of the case and reviews the symptomatology of such tumors in detail. The fever paralleling the polyuria suggested a central process, as also a suspicion of choked disc. Death followed in six weeks after the first symptoms.

49. **Influence of Heat and Light Rays on Cutaneous Temperature.** The action of blue, yellow and green incandescent electric light was studied in this research. Under the influence of the light the part gradually becomes warmer. This direct action of the rays is most marked with the short-wave rays. After two to four hours the radiated side is colder than the other, which fact Sommer explains as due to a reactive rise in the temperature on the other side.

50. **Albumin for Subcutaneous Feeding.**—Trolldenier reports experiments on dogs and 2 clinical cases, in which nutrient injections of a 10 per cent. solution of albumin were applied. None of the albumin appeared in the urine, and he consequently assumes that it was assimilated in the organism. The amount that can be thus given is very small, and the points of the injections were liable to suppurate or at least show a painful tumefaction. He used a manufactured product, midway between genuine albumin and albumose.

51. **Orthostatic Albuminuria.**—Jacobson accepts this form of albuminuria as an indication of degeneracy. He applies the term only to those cases in which the albuminuria ceases after a day's rest in bed, and there is no albumin in the night urine. The proportion of albumin is not dependent on the specific gravity. He considers the albuminuria of puberty as its prototype, both a token of exceptional susceptibility to fatigue.

54. **Cardioptosis and Its Connection with Hepatoptosis.**—Einhorn's communication is based on examination of 926 persons. He found in 22 pronounced cardioptosis, all but 4 being men. In about half of these cases there was concomitant hepatoptosis, probably owing to the downward displacement of the diaphragm. Treatment should be addressed to the general nervous system, with avoidance of positions bending the trunk forward, and of high pillows at night. Drugs are of little if any use, but a mechanical support might be tried, a pad in the corset, for instance.

55 **Gastrosuccorrhea.**—Albu regards the presence of gastric juice in the fasting stomach as pathologic in every instance. He distinguishes between chronic and intermittent gastrosuccorrhea, ascribing the latter to incipient tabes in most cases. It usually begins suddenly, with violent pains and vomiting of gastric juice, and the affection then subsides, sometimes for months at a time. Chronic gastrosuccorrhea is usually found in neurasthenic subjects and in cases of atony, ectasia or ulcer, and is always preceded by some motor disturbance. Corresponding to these fundamental affections the secretion may be hyperacid or not, and the dilution of the juice may mask its acidity. The secretion of urine and of gastric juice are usually in inverse relation to each other.

57. **Complication of Angina with Acute Thyroiditis.**—Kublinski's 4 patients were women, and the sudden onset of the thyroiditis convinced him that the angina was due to rheumatism. Instead of localizing in the joints the affection settled in the thyroid gland. The course was febrile, but there was no suppuration and recovery was complete in 2 to 8 weeks. The pulse was accelerated in each case. He found applications of ice the most effectual treatment. In one case recurrence of the angina six months later was accompanied by recurrence of the thyroiditis.

58. **Paralysis of the Accessorius in Tabes.**—Seiffer has encountered 3 cases of this paralysis among 400 tabetic subjects, and has found 6 recorded in the literature. He describes and illustrates his cases, adding that the tabic neuritis is generally a peripheral or root affection, probably at the point where the root fibers of the vagus and accessorius mingle, as the symptoms of paralysis of the latter are accompanied by others indicating involvement of the vagus.

60. **Diagnostic Import of Displacement of the Liver, Etc., by Meteorism.**—Oppenheim states that when the liver is pushed up by meteorism below it turns on its frontal axis upward and backward and the dulness vanishes. The disappearance of dulness may therefore indicate the first phase of pronounced meteorism not otherwise revealed. It may prove an early sign of progressive peritonitis originating from appendicitis, long before the pulse shows anything wrong. Opium may induce meteorism in the large intestine. The above displacement of the liver does not occur when the entire mass of the intestines is distended, and may thus differentiate the part of the intestine affected. Artificially produced experimental distension of the intestines, even of the rectum alone, is liable to arrest the heart-beat by mechanical action. This effect is still more marked in man on account of the unyielding nature of the walls of the thorax. Relief may be obtained from a fistula opening into the small intestine better than from one in the less elastic large intestine. The displacement of the liver also pushes up the lung.

Deutsches Archiv f. klinische Medizin, Berlin.

Last indexed page 1375.

61 (LXXVII, No. 5-6.) *Exophthalmus und Hirndruck (brain pressure). G. Flatau (Quincke's clinic. Kiel).
62 Healing Processes in Nephritis. C. Thorel (Nuremberg).—Pathologisch-anat. Beobachtungen über Heilungsvorgänge bei Nephritis.
63 Metabolism in Chronic Leukemia. J. Schmid (Breslau).—Zum Stoffwechsel bei der chronischen Leukämie.
64 Zur Frage der Ammoniakausscheidung im menschlichen Urin. A. Schittenhelm.
65 *Sputum as Culture Medium for Tubercle Bacilli. W. Hesse (Dresden).—Die Bedeutung des Auswurfs als Nährboden für den Tuberkelbazillus. Ein neuer elektiver Nährboden für die Tuberkelbazillen im Auswurfe. Beitrag zur Erklärung der Ursache für Lungentuberkulose.
66 *Diagnosis by Blood Findings of Marrow Involvement in Malignant Disease. O. Kurpjuweit.—Zur diagnose von Knochenmarksmetastasen bei malignen Tumoren aus dem Blutbefunde. Ueber myeloide Umwandlung der Milz, Leber und Lymphdrüsen.
67 (LXXVIII, No. 1-2.) Ueber Pneumokokken-Lokalisationen. O. Wandel (Basle).
68 *Neue Beobachtungen über Herzjagen (paroxysmal heart galloping). A. Hoffmann (Dusseldorf).
69 *Bedeutung von Infektion, Heredität und Disposition für die Entstehung der Lungen-Tuberkulose. E. Schwarzkopf.
70 Fat Formation in Normal and Pathologic Organs. A. Rosenthal.—Fettbildung in norm. und path. Organen.
71 *Ueber Physiologie und Pathologie der fliegenden Mücken (Muscæ volatiles, Mouches volantes, Myodesopsie). M. Buch (Helsingfors).
72 Klinische Beobachtungen über ventrikuläre Extrasystolen ohne kompensatorische Pause. O. Pan (Prague).
73 *Very Sensitive Test for Biliary Pigment in Urine. A. Jolles (Vienna). Eine sehr empfindliche Probe zum Nachweis von Gallenfarbstoff im Harn.
74 Diverticula and Sound Injuries of Esophagus. B. Fischer (Bonn).—Ueber Sondierungsverletzungen und Divertikel des Esophagus.
75 *Zur Kenntnis der Alkaptonurie. L. Langstein and E. Meyer (Basle).
76 Study of Action of Local Hydrotherapy on Vessels. F. Lommel (Jena).—Ueber den Tonus der grossen Gefässe und über das Verhalten der peripher gelegenen Gefässgebiete bei lokalen Wasserprozeduren.
77 Die Ausnutzung der Pentosen im Hunger. E. Bendix and K. Dreger (Ebstein's clinic, Göttingen).

61. **Exophthalmus and Pressure on Brain.**—In 5 cases personally observed by Flatau, and in 10 reported in the litera-

ture, the cerebral affection accompanied by edema of the lids or decided exophthalmus proved to be a tumor in most cases, in others an abscess, hydrocephalus or chronic serous meningitis. He recommends measuring the eyeballs with the exophthalmometer before and after lumbar puncture. These disturbances are probably due to interference with the circulation in the basal sinuses, especially the cavernosus. The effect is not only mechanical congestion and eventual transudation into the orbital cellular tissue, but the innervation of the orbit also suffers from compression of the sympathetic ganglion. This in turn causes an excessive flow of blood into the retrobulbar tissue. In acute suppurative or inflammatory conditions and in case of a tumor the process is liable to invade the orbit and induce the exophthalmus by direct propagation.

65. **Sputum as Culture Medium for Tubercle Bacilli.**—Hesse has found that scraps of human sputa placed on agar form an elective culture medium for any tubercle bacilli contained therein. The essential requisite for their development is that the alkalinity of the medium must be identical with that of the sputum. This varies with each case. The bacilli in the sputum are almost invariably alive and able to multiply and colonies rapidly develop. He thinks that the facts observed indicate that when the bronchial secretions happen to be of the same degree of alkalinity as the sputa, the lodgment of scraps of sputa in sheltered nooks in the lungs offers unusually favorable conditions for the proliferation of the bacilli *in situ*, which otherwise does not occur. The different degrees of alkalinity of the mucus in man and animals may be the reason why the lesions produced by infection from the other species have so little pathologic importance. He inoculates tiny scraps of fresh sputum on a mixture of 10 gm. agar, 10-25 gm. glycerin and 1,000 gm. distilled water, boiled one-half to one hour and filtered twice, and then poured into tubes in quantities of 25 c.c. in each. One-tenth normal alkaline solution is then added to each tube in varying amounts, ranging from .2, .5 to 1, 2 and 5 c.c. The mixture is then poured out on six plates, and when it has solidified and can be turned upside down the agar is inoculated with a scrap of sputum. The bacilli develop sufficiently for differentiation in one to three days; after one or two weeks the colonies can be differentiated by the naked eye. When this test results positively inoculation of animals is superfluous.

66. **Diagnosis of Marrow Metastases of Malignant Tumors by Blood Findings.**—Kurpjuweit's clinical observation of 6 cases and analysis of 13 that have been published by various writers, have demonstrated that it is possible to diagnose malignant metastasis in the bone marrow even before the discovery of the primary tumor. The diagnosis is based on the finding of large numbers of myelocytes in the blood, accompanying signs of anemia. These changes in the blood are not the result of the cancer cachexia, but are due to the pathologic condition of the bone marrow which becomes transformed into lymphoid marrow in response to the increased demands on it.

68. **Paroxysmal Tachycardia.**—Hoffmann gives the particulars of a later series of 5 cases, 3 of which were under observation for a long time. During the abruptly-commencing and abruptly-ending attacks of tachycardia the heart contractions rose to 140, 200 or even 300 in a minute, and the heart action was somewhat irregular during the intervals. The polyuria observed with the onset of the attack and persisting through it unmistakably indicates nervous influences on the entire heart emanating from the medulla. None of the cases presented any evidence of organic disease. One of his patients had the first attack at 58, and has been in continuously robust health during the fifteen years since. The attacks commenced at the age of 9 in another case. The patient is now a man of 52, and has risen to eminence in his profession. In another, the attacks have always been slight, and of late years the subject has been able to abort them every time by holding his breath or lying down and breathing deep. In a number of cases it has been possible to abort the attacks of "heart galloping," as he calls them, by applying pressure to the vagus. One patient is able to ward off an impending attack by squatting down (Niederhocken). The chief measures for prophylaxis are avoidance of injuries, refraining from smoking and drinking, and overexertion, mental or physical, leading a tranquil life in general.

69.—This was noticed editorially. See page 1348, issue of November 28.

71. **Muscae Volitantes.**—One of Buch's eyes is normal and the other myopic, 4 D. He has been studying this optic phenomenon of muscæ volitantes on himself, as his astigmatism caused exceptionally favorable conditions for such investigation. He found that the floating particles were most numerous after the eyes had been resting at night, and for this and other reasons which he enumerates he concludes that they are formed anew each day, and probably have some intimate connection with the functional activity of the vitreous body. It is possible that they serve as centers of growth. They are seen more distinctly the more myopic the eye, but are essentially a physiologic phenomenon.

73. **Sensitive Test for Bile Pigment in Urine.**—Jolles has found that by the technic described it is possible to detect even very small proportions of biliary pigment in urine, and the reaction is not affected by the presence of hemoglobin or indican. About 10 c.c. of urine are placed in a test tube and 2 or 3 c.c. of chloroform are added with 1 c.c. of a 10 per cent. solution of barium chlorid. After thorough shaking the mixture is centrifuged and the supernatant fluid above the chloroform is decanted. The tube is then refilled with distilled water and centrifuged again. In deep colored urine it may be necessary to repeat this application of the water. After decanting the fluid above the chloroform and sediment the latter is treated with 5 c.c. alcohol, shaken up well, and then two or three drops of an iodin solution is added and the mixture is filtered into a conical glass. The presence of even the slightest trace of biliary pigment will cause the fluid to assume the characteristic green color, as it stands, and the change in color may be hastened by warming. The solution of iodin for the test is made by dissolving separately in 125 c.c. of alcohol each .63 gm. of iodin and .75 gm. of mercuric chlorid, then mixing the two and adding 250 c.c. of concentrated hydrochloric acid. Jolles recommends this test as exceedingly simple and delicate.

75. **Alkaptonuria.**—Alkapton is the product of some anomaly in the intermediate metabolism, according to the conclusions of Langstein and Meyer. In isolating homogentisinic acid from urine containing alkapton a between body is obtained, the lakton of this acid, which responds to the Millon test.

Deutsche Medicinische Wochenschrift, Berlin and Leipsic.

78 (XXIX, No. 45.) *Physical Diagnostics of Kidney Functioning. H. Koeppe (Giessen).—Physik. Diagnostik der Nierenthätigkeit.

79 *Ueber 100 poliklinisch beobachetete Fälie von Diabetes mellitus; insbes. ihre Beziehung zur Tuberkulose und Arteriosklerose. W. Croner (Senator's clinic, Berlin).

80 *Syphilis and Kidney Surgery. M. v. Margulies (Odessa).—Ueber die Beziehungen der Syphilis zur Nierenchirurgie.

81 Ophthalmia neonatorum und der Gonococcus. F. Schanz.

82 *Changes in Bladder in Case of Uterine Cancer. W. Hirt and R. Sticher (Küstner's clinic, Breslau).—Ueber cystoskopisch nachweisbare Blasenveränderung bei Uteruscarcinom. (Commenced in No. 44.)

83 Apparatus for Making Glycerin Soap Suppositories for Use in the Family as Needed for Constipation in Infants, Adults, etc. H. Steinheil (Kochendorf).—Apparat zum Formen von Stuhlzäpfchen.

84 Die Dispensaires in Belgien und Frankreich. P. Jacob.

78. **Functional Diagnostics of the Kidneys.**—Koeppe's researches and reasoning apparently establish that the osmotic energy influences the concentration of the urine, but is not directly responsible for the excretion of urine, which depends on the hydrostatic pressure. The latter is also responsible to a certain extent for the degree of concentration, as it determines the amount of the urine, that is, of the water in the urine. The molecular concentration of the urine, and thus its osmotic pressure, are dependent on three factors: 1. On the blood pressure, which determines the amount of water in the urine; 2, on the walls of the glomeruli which are theoretically assumed to be permeable on one side only, and when intact allow the excretion of extremely diluted urine. That

is to say, they control the function of producing a very diluted urine, and 3, on the kidney function involved in the production of a concentrated urine. This latter function we at present locate in the epithelium of the kidney and its vacuoles. A single determination of the freezing-point of the urine is not able to enlighten us in regard to the workings of all three of these factors. Repeated investigation is necessary to determine this, and only when certain values remain approximately the same during the most diverse conditions are we justified in drawing practical conclusions from the findings. If the lowering of the freezing point of the urine is never less than that of the freezing point of the blood, even under conditions such as copious ingestion of fluids inducing the production of a diluted urine, then we may safely assume some disturbance in the apparatus in the kidney, which has charge of the production of diluted urine. On the other hand, we may assume some disturbance in the apparatus which has charge of the concentration of the urine when the variation in the freezing point of the urine is never greater, or only very little greater, than that of the blood. This apparatus, as mentioned above, we assume to be the epithelium of the kidney. Two determinations of the freezing point are sufficient for the diagnosis from segregated urine when the difference between the freezing point of the urine from the two kidneys shows that one is functioning less perfectly than the other. The diseased kidney is always the one which excretes a urine in which the variation in the freezing point most closely approximates that of the blood. When the variation in the freezing point of the urine from both kidneys is greater than that of the blood, then the kidney with urine exhibiting the least variation is the abnormal organ. On the other hand, when the variation in the freezing point of the urine from both kidneys is less than that of the blood, then the kidney excreting the urine with the greatest variation of the freezing point is the diseased kidney. This latter condition has not been pointed out before, but it will be encountered during unusually intense diuresis. To insure an accurate diagnosis the urine should be segregated and investigated both during artificially induced diuresis and during conditions in which a somewhat scanty but concentrated urine is usually excreted. This will afford insight into the capacity of the morbid kidney to excrete diluted as well as concentrated urine. In functional tests of both kidneys at once we have likewise to distinguish between the faculties of excreting a diluted or a concentrated urine. After ingestion of 1.8 liters Salvator water the freezing point of healthy urine ranged from .09 to .26 C., while the amount of urine during the three hours after the test ranged from 1,020 to 2,170 c.c. In compensated heart defects these figures were, respectively, .16 to .17 and 1,187 to 1,822. In genuine contracted kidney .12 to .38 and 609 to 1,543 c.c. In chronic parenchymatous nephritis .35 to .53 and 339 to 1112 c.c. In uncompensated heart defects .59 to .77 and 373 to 413 c.c. In subacute parenchymatous nephritis .83 to .87 and 180 to 217 c.c. Uncompensated heart defects and subacute parenchymatous nephritis thus induce somewhat the same changes in kidney functioning, but in the former it is due to the weak heart action, while in the latter it is the result of some defect in the walls of the glomeruli which prevents their delivering diluted urine. [These researches by Kövesi were described in THE JOURNAL, xxxviii, page 1335, title 36, 1902.] Koeppe thinks that perfection of this method—the "dilution test"—will be an important aid in differential diagnosis. He does not know to date of any means by which to test the functioning of the kidney in respect to its capacity of inducing concentration of the urine. We must bear in mind also that the concentration of the urine will differ after long abstention from fluids, and also after ingestion of salt foods and drinks. The concentration of the urine is due to the presence of organic, as well as of anorganic molecules, and the freezing point indicates the values for each. The electric conductibility of the urine is a convenient and valuable method of estimating the anorganic molecules ,and should supplement cryoscopy.

79. **Diabetes in Relation to Tuberculosis and Arteriosclerosis.**—In Croner's 100 cases of diabetes, tuberculosis was noted in 47, either in the patient or his immediate family, and in 32 free from tuberculosis there were evidences of arteriosclerosis. He comments on the frequency of the coincidence of tuberculosis and diabetes in the same family or subject, and suggests that the development of diabetes in a person with a tuberculous inheritance may be regarded as a sign that the individual has escaped the danger of tuberculosis. The constantly progressive increase of diabetes may possibly have some connection with the decrease of tuberculosis. The well-to-do show the larger proportion of cases of diabetes and lesser of tuberculosis, while in the poorer classes there is more tuberculosis and less diabetes. In regard to alcoholism, he remarks that his experience has been that when associated with severe physical labor, as in the case of men driving beer wagons, stonecutters, etc., diabetes is very rarely entailed, while alcoholism in persons under nervous or mental strain is particularly liable to develop diabetes. In cases of associated diabetes and arteriosclerosis, the former may be due to some nutritional disturbance or irritation of the part of the brain involved in the sugar economy of the body. This view is sustained by the tendency to apoplexy frequently noticed in such cases. There may be absolutely nothing to indicate the participation of the pancreas in the morbid process, while everything suggests a cerebral origin. His detailed analysis of his cases can not be condensed into an abstract.

80. **Relations of Syphilis to Renal Surgery.**—Margulies adds a third to Israel's two cases in which syphilis simulated a surgical kidney affection. Israel removed the kidney in each of his cases, but Margulies recognized the syphilitic character of the lesions after exposing the kidney, and refrained from operating. The complete recovery of the patient after vigorous specific treatment confirmed the diagnosis. The palpation findings and the general appearance of the patient, a woman of 26, suggested a malignant tumor in the left kidney, but functional tests showed that it was working nearly normally, with no hematuria.

82. **Cystoscopic Findings in the Bladder in Case of Uterine Cancer.**—The findings in a number of cases described corroborate the assertions of other writers to the effect that papillary proliferations, nodules, flat elevations and ulcers in the bladder do not contraindicate total extirpation of the uterus for cancer. True carcinomatous infiltration and metastases are very rare and occur mostly at a very late stage.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 754.

85 (LXIX, No. 2-4.) *Perforating Gastric and Duodenal Ulcers. F. Brunner (Zurich).—Das akut in die freie Bauchhöhle perforierende Magen- und Duodenal-Geschwür.
86 *Zur Kenntnis des Tetanus traumaticus. Elsässer.
87 *Zur Kenntnis der Myositis infectiosa in Japan. Ito and Sinaka.
88 *Male Urogenital Tuberculosis. Kraemer.—Ueber die Ausbreitung und Entstehungsweise der männlichen Urogenitaltuberkulose.
89 Dislocation of Metatarsus. Bannes.—Ueber Luxationen im Lisfrancschen Gelenk.
90 Fall von Luxatio pedis sub talo nach hinten und innen. Bertelsmann.
91 *Necrosis of Skull from Pressure of Bandage. Springer (Prague).—Schädel-Nekrose durch Verbanddruck.

85. **Perforating Ulcer in Stomach and Duodenum.**—Brunner has collected from the literature nearly 600 cases of acute perforation in which an operation was performed, and reviews the various details summarizing them in groups. Only 10 per cent. of the cases progressed to the perforation without symptoms suggesting the presence of an ulcer beforehand. Statistics show that 95 per cent. of the unoperated patients die and more than 50 per cent. within the first twenty-four hours. The gastric ulcers are located on the anterior wall in the proportion of 7 to 1 on the posterior, and nearer the cardia in the proportion of 5 to 3 near the pylorus. They are more frequent in the lesser curvature than in the greater. 122 to 16. The pain after perforation is generally correctly localized. Most of the perforations occurred during November. the fewest in July and August. His records show 265 perforations operated on in England and only 31 in Germany. 58 in America, 17 in Sweden, and 41 in France. In America. Switzerland and France the number of duodenal ulcers nearly

equals that of the gastric ulcers, but in general it is only one-fourth. The ulcer should be excised, and as promptly as possible. Only in the absolute impossibility of excision is it permissible to freshen the edges and suture the perforation. Brunner advises flushing the abdominal cavity with 40 per cent. salt solution when it is very much soiled. In recent cases the abdominal cavity can be entirely closed after thorough cleansing. The best results were obtained when the operation was performed during the first eight hours. The general results have been that one-third of the patients operated on have recovered. In a personal experience with 3 cases, one an ulcer of the stomach, with operation in four and one-half hours after the perforation, and an ulcer of the duodenum, with operation in six and one-half hours, both patients recovered. Another gastric ulcer was not operated on until the eighth hour and the patient succumbed. In 6 other cases in Switzerland in which intervention was not possible until the eighteenth hour none of the patients recovered. The monograph fills 133 pages.

86. **Traumatic Tetanus.**—Less than half of the 24 cases reported were seen before the second week after the accident. Ten of the patients recovered. The incubation was less than a week in a third of the cases. The treatment pursued at Berne is iodin, carbolic acid and the thermocautery for the wound, applied with great energy and as early as possible, immediate injection of serum, in particularly urgent cases directly into the brain or dura, narcotics in abundance and an injection every hour of 1 c.c. of a 3 per cent. solution of carbolic acid, supplemented by subcutaneous saline infusion, nutrient enemata and isolation of the patient in a quiet room.

87. **Myositis Infectiosa.**—Ito has observed 10 cases in Japan in which a benign cutaneous suppurative affection was followed by acute inflammation of the striated muscles. In every case except one, the inflammation progressed to abscess formation, requiring incision. The staphylococcus was isolated in each case. He regards the affection as hematogenic, similar to osteomyelitis, a "pure-culture pyemia."

88. **Origin and Mode of Propagation of Male Urogenital Tuberculosis.**—The experimental research described and the writers' clinical experience apparently establish that tuberculous infection always spreads in the direction of the outflowing secretions, never against the current. The prostate may become infected from the testicles, but the ureters and kidneys never from the bladder. This view is confirmed by the efficacy of extirpation of the testicles in case of tuberculous lesions in them, and also by the arrangement of the lesions in the kidneys and ureters, which always indicates a descending affection. The testicles and the kidneys are liable to infection through the blood or lymph or from congenital infection. The kidney process may spread to involve the ureter and bladder and the prostate, but not to the other kidney nor to the testicle. Tuberculous infection of the testicles from coitus is impossible according to Kraemer's views, as it would have to occur against the current of the secretions. He also excludes the possibility of direct propagation from one testicle to the other. When the second testicle becomes affected it is by the same mode of infection as the first, through the blood or lymph. Tuberculous lesions in the bladder, seminal vesicles and prostate almost invariably proceed from the kidneys or testicles, and this may occur even in the absence of lesions in these organs, or else they may be of independent origin, congenital or hematogenic.

91. **Necrosis of Skull Under Bandage.**—Subsequent to the removal of an angioma on a babe 13 months old, a band of dry gangrene developed on the skull, corresponding to the dressings, involving the skin and periosteum. The gangrenous tissues sloughed off and with them eight flat sheets of bone, some as long as 6 cm. Recovery was not complete until after thirteen months. The band of gangrene almost completely encircled the head, extending from side to side of the brow, and nearly its entire width. The patient presented an enteritis at the time the gangrene developed. The bandage was a "miter," stiffened with starch, and the decubitus developed in three days.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed page 1378.

92 (XLIX, No. 1.) *Unusual Causes for Repeated Interruption of Pregnancy. L. Kleinwächter.—Ueber wiederholte Schwangerschaftsunterbrechung seltener Aetiologie.
93 *Zur Therapie der Gynatresien. J. Halban (Vienna).
94 Adenomatous Proliferation of the Serosa in an Abdominal Cicatrix. R. Meyer (Berlin).—Ueber eine adenomatose Wucherung der Serosa in einer Bauchnarbe.
95 *Zur Aetiologie der Tubar-Gravidität. Micholitsch (Vienna).
96 Ueber Chorio-Epithelioma malignum. O. v. Franqué (Würzburg).
97 Study of Birth Mechanism. S. Gottschalk.—Zur Lehre vom Geburtsmechanismus.
98 *Composition of Blood in Pregnancy and Parturition. W. Zangemeister (Leipsic).—Die Beschaffenheit des Blutes in der Schwangerschaft und der Geburt.
99 Embryologic Study of Placenta in Case of Twins, etc. Schnell (Frankfurt).—Eine seltene Zwillingsplazenta, etc.

92. **Unusual Causes of Abortion.**—Kleinwächter found that laceration of the cervix was the cause of the habitual abortion in 2 out of his 11 cases. After the tears had been sutured there was no further disturbance from this cause. In 3 or 4 other cases the habitual abortion was due to relics of preceding inflammations in the pelvic peritoneum. In case of an exudate near the uterus conception seldom occurs and rarely proceeds to its normal termination. In 12 cases he noted habitual abortion as due to fibromata of the uterus, heart affections, diabetes mellitus, hydramnion and emphysema of the lungs, the latter once, the others in 2 to 4 cases each.

93. **Treatment of Gynatresia.**—Two cases with complete absence of any cervix were treated by Halban as follows: The first patient was a young woman presenting a hematometra. He made an opening into the fundus and placed the uterus in extreme anteversion, suturing the opening into the fundus in the roof of the vagina. He calls this intervention elytrohysterostomy. The patient menstruated thereafter regularly. The second patient was relieved of a hematoma in left round ligament and ovary, and a hematometra in a rudimentary accessory cornu. The more usual methods of treatment of gynatresia are reviewed.

95. **Etiology of Tubal Pregnancy.**—Anomalies were found in the tube in every one of 10 cases examined, and the nidation in the tube is explained by the irregularities or processes mechanically arresting the ovum.

98. **The Blood During Pregnancy.**—Zangemeister's research confirms the assertions of Nasse that the blood is hydremic during pregnancy. The plasm and the serum must be examined separately. The specific gravity, albuminoid content and molecular concentration are less than normal in the serum during pregnancy, while the proportion of chlorids is higher than at other times. The plasm seems to contain more water than under other conditions. The actual condition is that of a hydroplasmia instead of hydremia, although for certain reasons the latter name is preferable. He found the alkalinity of the blood rather diminished, the red corpuscles somewhat more concentrated than usual, as well as more numerous.

Riforma Medica, Palermo.

100 (XIX, No. 43.) Studii sperimentali e clinici sulla tubercolosi praticati nel corso dell' anno scolastico, 1902-1903. E. Maragliano (Genoa).
101 Surgical Treatment of Infected Wounds of Kidneys. F. Sorrentino.—L'intervento nelle ferite infette del rene.

Russkii Vratch, St. Petersburg.

Last indexed page 1057.

102 (No. 16.) *Contagiousness of Leprosy. D. F. Ryeshetillo.—Zarazitelna- li nervnaya lli pyatnisto-anestetitcheskaya forma prokazy?
103 O vulvo-vaginitis u dyetei (in children). V. Y. Dukelski. (Concluded.)
104 Principal Properties of Pancreatic Juice. L. B. Popelski.—Ob osnovnykh svoistvakh podzheludotchnago soka.
105 *Preservation of Anatomic Specimens. L. L. Heidenreich.—O naikutchshei zhidkosti dlya sokhraneniya anatom. preparatov.
106 (No. 17.) Radioscopy and Other Means of Differentiating Early Phases of Pulmonary Tuberculosis. D. I. Yveryuzhski.—Roentgen'oscopiya i drugie sposoby raspoznavaniya bugortchatki legkikh.
107 *The Tuning Fork in Differential Diagnosis. F. N. Ivanhoff.—Ob oshtchushtchenii peripherlei tyela ritmitcheskikh kolebanii. Znatchenie v raspoznavanii.
108 *Value of Copper Citrate in Ophthalmology. A. G. Krotoff. O dyestvii limonnokisloe myedi (cupri citrici) pri nyekotorykh glaznykh zabolyevaniakh.
109 (No. 18) *Ligation of Lower Third of Ulnar Artery. K. I. Susloff.—K. kazuistikye perevyazki loktevoi arterii v nizhnei 1/3 predpletchya.

110 New Form of Granular Degeneration of Striped Muscle Fibers. G. P. Zeleny.—Novy vid zernistago pererozhdeniya poperetchno-polosatykh myshetchnykh volokon.
111 *Concentrated Diphtheria Antitoxin. S. V. Korshun and others (Charkow).—O. prigotovlenii silnoi protivodiphtherlinoi syvorotki.
112 Micro-physiology of Lachrymal Gland. A. I. Voronoff.—K microphys. sieznoi zhelezny.
113 *Photospeculum dlya primyeneniya svyetolyetcheniya v gynecologii. I. I. Makavieff.
114 Treatment of Reflex Anuria. M. L. Kreps.—K lyetcheniyu t. naz. calculeznoi anurii.

102. **Contagiousness of Leprosy.**—Ryeshetillo thinks that the frequent finding of the lepra bacillus in the throat and nose of subjects with the maculo-anesthetic, the nervous form of leprosy, indicates that there can be no doubt as to the contagiousness of this form. Dehio has recently announced the contrary, but the frequent occurrence of this form in some members of a family while others exhibit the tubercular form is certainly significant.

105. **Fluid for Preservation of Anatomic Specimens.**—Heidenreich discusses the various preserving fluids in use, commenting on the fine appearance of the specimens exhibited at the last Paris exhibition which had been treated by the Riche-Godard technic. They had been soaked twenty-four to forty-eight hours in a fluid consisting of 150 parts formalin, by weight, 1,000 parts distilled water, 10 parts potassium nitrate and 30 parts potassium acetate. They were then drained and transferred to 80 per cent. alcohol for twelve, and then to 95 per cent. alcohol for two hours, after which they were placed in a mixture of 100 parts each of glycerin and distilled water and 30 parts potassium acetate. Equally fine results are obtained with the Melnikoff-Razvedenkoff technic, which includes a bleaching fluid, a mixture of 10 parts formalin, 100 parts water, .5 parts potassium chlorate and 3 parts potassium acetate. The specimens are then transferred to weak alcohol, gradually increasing the strength to 95 per cent. After a few days the color is restored by a bath fluid consisting of 30 parts potassium acetate, glycerin 60 parts and 100 parts water. Heidenreich has found a less expensive and simpler technic to be fully as effective. His method is based on the use of a cheap commercial embalming fluid, holzin, which is a combination of 3 parts formalin and 2 parts methyl alcohol. He used a mixture of 7 per cent. of this holzin in 2 parts of glycerin to 1 of water, to which was added 10 to 20 per cent. of chloral hydrate. A human hand, for example, treated by this technic retained its tints and aspect perfectly for several months exposed to the air in the warm laboratory, without a trace of decomposition. He therefore recommends this technic for general adoption on account of its simplicity and inexpensiveness.

107. **Tuning Fork in Diagnosis.**—Ivanoff proclaims that it is possible to utilize the tuning fork for percussion, and that the findings are more delicate and accurate than by the ordinary methods of percussion in vogue. He describes the theoretical grounds for this assertion, and also gives his experience. He first tried various stringed instruments, etc., but found nothing so well adapted for the purpose as the tuning fork, the handle placed on a flat or curved plate resting on the part to be examined. One of the vibrating prongs is then touched with the percussion hammer, and the vibrations imparted to the palm of the hand holding the hammer appeal to the muscle sense in a characteristic way, besides the information derived by the ear from the musical tone. This mode of percussion will be found useful in outlining certain organs, especially in cases in which ordinary percussion is contraindicated by hemorrhage or extreme sensitiveness to contact, and for children. The ear perceives the strength of the musical note, its pitch, the difference between the pitch as the tuning fork is moved, and the harmony or discord between the tones. The palm learns to perceive the strength of the vibrations, and also the pitch of the tone, and recognizes something analogous to harmony and discord in the regularity of the vibrations. Interfering overtones may be suppressed by damping the prongs at certain nodes, as he shows in 4 cuts.

108. **Copper Citrate in Ophthalmology.**—Krotoff has found a pencil of copper citrate a valuable means of treating certain eye affections, especially pannus. Only 4 out of 39 cases of pannus tenuis were not improved, and only 5 out of 17 with pannus crassus. Chronic conjunctivitis was not affected except in 1 out of 10 cases, and trachoma in only 3 out of 12. He has applied it in 109 ophthalmic cases.

109. **Ligation of Ulnar Artery.**—Susloff warns that an accessory muscle sometimes occurs abnormally in the forearm, and might interfere with ligation of the ulnar artery.

111. **Concentrated Diphtheria Antitoxin.**—Korshun's experiences demonstrated that small, frequently repeated injections of the diphtheria toxin were better tolerated by the horses and resulted in the production of a more concentrated serum than when larger amounts were used. Horses between the ages of 4 and 9 were the best subjects. By reducing the doses and repeating the injections every day they finally succeeded in producing an antitoxin that represented 1,000 units to the cubic centimeter. The local and general reaction bear no relation to the elaboration of the antitoxin, and, in fact, the latter proceeds better when the former are minimal.

113. **Phototherapy in Gynecology.**—Two instruments are described and illustrated devised for the purpose of applying the benefits of electric light treatment directly to the internal genitalia. The first is an incandescent lamp fitted in an ordinary glass speculum, designed for a current of 10 volts. The second apparatus is more complicated, and will bear a current of 50 volts. A continuous flow of water circulates around the lamp to prevent burning the parts. He reports 3 cases rapidly cured by the use of these instruments.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE MEDICAL NEWS VISITING LIST FOR 1904. Weekly (Dated for 30 Patients); Monthly (Undated, for 120 Patients per Month); Perpetual (Undated, for 30 Patients Weekly per Year); 60 Patients (Undated, for 60 Patients Weekly per Year). The Weekly, Monthly and 30-Patient Perpetual Contain 32 pages of Data and 160 Pages of Classified Blanks. The 60-Patient Perpetual Consists of 256 Pages of Blanks Alone. Bound in Flexible Leather, with Flap and Pocket, Pencil and Rubber and Calendar for Two Years. Price, $1.25. Thumb-letter Index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co. 1903.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noorden, Physician in Chief to the City Hospital, Frankfurt a. M. Authorized American Edition Translated under the Direction of Boardman Reed, M.D., Professor of Diseases of the Gastro-Intestinal Tract, Hygiene and Climatology, Department of Medicine, Temple College. Part IV. The Acid Autointoxications. By Prof. Dr. Carl von Noorden and Dr. Mohr. Cloth. Pp. 80. Price, 50 cents. New York: E. B. Treat & Co. 1903.

NORMAL HISTOLOGY. A Manual for Students and Physicians. By John R. Wathen, A.M., M.D., Professor of Surgery, etc., formerly Professor of Histology and Pathology, Kentucky School of Medicine, Louisville, Ky. 12mo. Pp. 220; 114 Illustrations. Cloth. Price, $1.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

INFECTION AND IMMUNITY, with Special Reference to the Prevention of Infectious Diseases. By George M. Sternberg, M.D., LL.D., Surgeon-General U. S. Army (retired), Ex-president of the American Medical Association. Cloth. Pp. 293. Price, $2.00. New York and London: G. P. Putnam's Sons. 1903.

INFECTIOUS DISEASES. Their Etiology, Diagnosis and Treatment. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris, etc., Translated by M. S. Gabriel, M.D., New York. With 43 Illustrations. Pp. 864. Cloth. Price, $5.75 net. Philadelphia and New York: Lea Brothers & Co. 1903.

ANNUAL REPORT OF THE HEALTH DEPARTMENT OF THE CITY OF LOUISVILLE, KY., for the Fiscal Year Ending Aug. 31, 1903. M. K. Allen, M.D., Health Officer, Louisville. Paper. Pp. 77. Louisville: The Bradley & Gilbert Co. 1903.

CLINICAL TALKS ON MINOR SURGERY. By James G. Mumford, M.D., Assistant Visiting Surgeon to the Massachusetts General Hospital. Cloth. Pp. 115. Price, 75 cents. Boston: The Old Corner Bookstore.

THE WORTH OF WORDS. By Dr. Raicy Husted Bell. With an Introduction by Dr. William Colby Cooper. Third Edition, Revised and Enlarged. Cloth. Pp. 307. Price, $1.25. New York: Hinds & Noble.

THE ANTISEPTIC AND GERMICIDAL PROPERTIES OF GLYCERIN. Hygienic Laboratory—Bulletin No. 16. By M. J. Rosenau. Paper. Pp. 30. Washington: Government Printing Office. 1903.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1902. Volume I. Cloth. Pp. 1176. Washington: Government Printing Office. 1903.

THE JOHNS HOPKINS HOSPITAL REPORTS Vol. XI. Nos. 1-9. Paper. Pp. 555. Baltimore: The Johns Hopkins Press. 1903.

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Address.

THE TREND OF GYNECOLOGIC WORK TO-DAY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN, AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS, MAY 5-8, 1903.

A. PALMER DUDLEY, M.D.

Professor of Gynecology, New York Post-Graduate Medical School. New York; Professor of Gynecology, Dartmouth Medical College, Hanover, N. H.; Surgeon to Harlem Hospital.

NEW YORK.

An honor unsolicited extended to a member of this body should certainly be most highly appreciated, and I wish to express my most sincere gratitude to you for the honor of being chosen to preside at this meeting, an honor which I never for a moment even dreamed would fall to my lot. And if, as I proceed in the discharge of my duties, you are made painfully aware of my incompetency to occupy such a position; if you murmur regrets for your act of last year in electing me to this honorable position, I shall feel that it is but just.

I will be candid in saying that when in the small hours of the morning, nearly a year ago, I received a telegram announcing my election, accompanied by congratulations, my pleasure was marred by a feeling of regret, for I had promised to attend the meeting at Madrid, and I knew that it would be impossible, unless I deserted my post and confrères here. But, having the interest of our national body at heart, and unsolicited being one of its officers for the present year, I forwarded an apology to the committee at Madrid for my absence, and put my longings for the ocean aside. Why? Because I instantly realized that a visit to this ancient and delightful city of the south would be attended with equal pleasure and profit; and I am sure that ere this meeting adjourns my prophecy will be fulfilled.

Therefore, anticipating pleasure for you all for the next few days, I know that you will indulge me, if I inflict on you for a short space of time the necessity of listening to a review of what is already ancient literature in gynecology and obstetrics.

If I at the close of my remarks look wise and offer you advice for the future, be it ever so erratic, which is the customary duty and privilege of your chairman, you will realize that I am only following in the footsteps of my predecessors. But, instead of trying to interest you with ancient literature and paint glowing pictures for you for the future, I prefer to tell you of what I have accomplished in the past year in my effort to place before you at this meeting a just and unbiased expression of the best men in the country (whose lives have been devoted to our chosen specialties) concerning the trend of gynecologic work to-day, which, I am sure you will agree with me when I am finished, shows a marked tendency toward conservatism rather than radicalism in operative work.

A quarter of a century ago, he who would have advocated conservative surgery on the uterine appendages of woman would have been considered by the profession at large, the world over, a fit subject for an asylum.

How the lapse of time, study and experience has changed every feature of this picture of the past, until at the present time he who would cling to the traditions of that period would be looked on as antiquated even in his youth. The necessary courage required by the operator of a quarter of a century ago to withstand public opinion against his invasion of the abdominal cavity of woman, would be looked on at the present time, even by laymen, as an evidence of cowardice or ignorance on the part of even the family physician, if he hesitated for a moment to advise that his patient, be it child or aged person, should receive the necessary and expected relief attendant on prompt invasion of the abdominal cavity for pathologic changes from whatever cause, and to the average physician or surgeon so easily demonstrable at the present time.

What a panorama a review of the past quarter of a century presents to those who are familiar with these changes. The names of the star actors in this domestic drama—in which tragedy has played no little part—are already recorded in history as masters of their art and profession. But, even though nothing shall be taken from them, to their students, their national professional heirs, must be given the credit of at least making the effort of rescuing womankind from the ravages of an enthusiastic aspirant for surgical honors, who could only see radical removal of all in his path as his license to success. What a parody! How many thousands of suffering, misguided women have offered up their pelvic organs as a sacrifice, for the simple promise from such an ambitious aspirant for professional preference, that such sacrifice would immune them from all future unpleasant conditions peculiar to their sex. And how bitterly have these poor misguided women regretted in the years that followed their misplaced confidence so generously bestowed, when the knowledge was forced on them by sad experience that they had changed one condition of suffering for another equally as disagreeable.

But such is life in all things experimental, and our profession has never been an exception to the rule. These sacrifices, so far offered up by woman to her suffering kind, are bearing fruit for good, as I shall hope to demonstrate with the consensus of opinion expressed by the leading operators of the United States. You, gentlemen, are as familiar with the history of the evolution of gynecology and abdominal surgery during the past quarter of a century as I am. It is, therefore, un-

necessary for me to do more than call your attention to the names of those who have been pioneers in this process of transition from sacrifice to conservatism.

During this period electricity played a prominent rôle in an effort to conserve the pelvic organs, and was championed by Apostoli of France, and Cutter of New York; but this method of treatment was of short duration, and passed rapidly into oblivion, while conservatism of whatever nature was for a time lost sight of, in the smoke of battle, fought out between members of our profession as to whether it should be complete hysterectomy or suprapubic; whether it should be abdominal or vaginal, or the combined method. These men were so anxious to work and had struggled so energetically with every phase of the argument that they forgot apparently that woman in the future might return and demand something more. It was not until the nerve specialists called attention to the fact that we were sowing the wind and reaping the whirlwind for these poor women, that many of us realized what we were doing—prematurely endowing them with hot flashes, the rapid taking on of fat, the loss of their generative function and regrets for their unsexing.

To Robert Battey of Georgia and his followers in this country; to Lawson Tait and his followers in England, and to the many German and French operators, whom it has been our pleasure to know and respect, should the credit be given.

It was my privilege to see Sir Spencer Wells do his twelve hundredth abdominal section in the Women's Hospital of New York in 1881 or 1882. The technic of that operation was the forerunner of the coming of Lister. With the advent of the latter, the Mephistopheles of surgery vanished from view. Fear no longer haunted the mind of operator or patient, and the peritoneum, the bugbear of former years, seemed to readily acquiesce in the evolution. With this confidence in the restorative powers of human nature came the reckless disregard of the consequences in the future. And she who dared to complain of symptoms referable to her pelvis, be they minor or major, which rendered her more or less an invalid, was at once condemned to the operating table, and the sentence—ablation of her pelvic organs—immediately carried into execution. Ere by delay in many cases (from my standpoint of view, be it honestly stated) the patient might recover from her fright and change her mind before the dawn of another day.

During this time, covering a period of about twelve years, woman, the unprotected, has been the victim of professional opinion, and God knows she has paid the penalty. But when they had returned in an unlimited number to the shrine at which they had formerly worshipped with every conceivable form of discontent and domestic unhappiness as the only fulfilled promise of absolution from their former disabilities, given to them under a solemn promise, the eyes of the profession (who claim the honor of practicing our specialty) opened wide with astonishment, coupled with regret (in the heart of every honest man) who saw by after-experience that his promise had reacted to his own discomfiture. The dire consequences of this wholesale ablation of the generative organs of woman and the apparently sympathetic tolerance evidenced by the peritoneum led the writer of this paper, in 1887, to begin a series of experimental operations on the uterine appendages, which, strictly speaking, was more radical than a hysterectomy, because it trusted such surgical work on the appendages to the efforts of nature for a cure, while the ultimate results were more conservative to the woman, because by the skill of the surgeon and the aid of nature she had been restored to health, and could still consider herself a woman.

I do not claim to be the first to have performed conservative surgery on the ovaries of woman. I desire to give full credit in this report to every man, and his work, from whom it has been my privilege to glean. From their writings, and knowledge in reference to this matter, and in so far as I have been able to discover, I give to Carl Schroder the honor of being the first to practice and publish conservative surgery on the uterine appendages, who, in 1885, published the report of five cases, the after-results of which are not known to us in America.

It was in 1887 that I published the result of my first case, which was followed by pregnancy in three months, and, from fear of a return of her former trouble, a criminal abortion resulted. In 1889, August Martin of Greifswald published ten cases; in 1891, eleven more, and in 1893, six additional. One of the 27 cases died; 24 cases were observed for a prolonged period. Of these, two had recurrent disease, and eight became pregnant. Among 41 salpingectomies reported by Martin, only one became pregnant; a point which I desire to emphasize thus early in this report, with reference to the much more frequent occurrence of pregnancy, providing the tube is not mutilated.

You will readily understand, and I think the conclusions you may be able to draw from the summing up of this report will be evidence sufficient that I am not finding fault with the past, and the brilliant work that has been accomplished, but rather that I am looking to the future, and hoping that progress will be made in the direction that I have chosen to believe it will be in the next decade.

I am not, of course, as familiar with the work of my confrères in Europe as I am with those I am in touch with in my own country, but those I have come in contact with, during my sojourns in various parts of the old country, prove to me that our confrères abroad get up very early in the morning. Von Winckel, Hofmeier, Schatz, Zweifel and P. Muller approved this method of procedure as early as 1893. In the same year Pozzi published twelve cases. Hegar, Leopold and Fritsch opposed it, but I am sure if they are not already converts to conservatism rather than radicalism, they will give the subject serious thought, for they are wise and fair-minded men.

From 1887 the work of reform, so to speak, began in an active manner, and hysterectomy "from whatever excuse could be plausibly given," received and felt the desire among certain members of the profession to break away from the cold-blooded method of ablation of the woman's pelvic organs, and if possible seek a higher sphere of work in her behalf—that of checking disease, which would ultimately result in her unsexing, and by skill and careful treatment secure the restoration to her (with an ability to perform their functions) her pelvic organs that had been so ruthlessly sacrificed in the past. This seemed to be a world-wide desire, for the work was simultaneously undertaken in this country and abroad. But little attention was paid to it by the profession at large until 1891, when Polk in his masterly address before the American Congress of Physicians and Surgeons, held in Washington, championed the preservation rather than the sacrifice of woman's pelvic organs, if by skill, perseverance and courageous surgery this could be accomplished in the future.

In very many of the cases we meet with it is necessary to do triple operations on the genital tract, such as curettage, trachelorrhaphy and perineorrhaphy before it would be justifiable to attempt conservative work on the appendages, with any prospect of a cure, or even the prevention of a return of the pelvic trouble. Even then the pelvic work must in many cases be accompanied by uterine and ovarian suspension in order that the function of menstruation should not be interfered with, or the possibility of pregnancy removed.

Dr. S. C. Gordon of Portland, Me., reports two cases where complete oöphorectomy was performed and within three years each patient became pregnant and went through full time and delivered a well-developed child. Of course, some very small portion of one or both ovaries was left, and perhaps included in the ligatures. Catgut was used, and to this may be due the result, inasmuch as the tube may have become patent after absorption of the ligature. He has used only catgut for ligatures or sutures since 1884. In another case he removed one ovary, resected the other, did a ventrosuspension, and after a lapse of two years the woman conceived and bore a child at full time. In several other cases puncture of one or both ovaries has been done with relief to the most obstinate and troublesome symptoms.

This method of procedure was not resorted to by the older operators. That was before the days of antisepsis and the mortality rate for even simple ovarian tumors ran high, so much so that we members of the house staff would lay wagers with one another as to how long a patient would live after such an operation.

Mark the difference in my own experience in a lapse of five years from that time (1882). A patient with pelvic disease which indicated operative procedure came to me for relief, but begged that I would not remove her tubes and ovaries. I opened her abdomen, broke up the adhesions in the pelvis, split her ovaries in half, took out portions of them that were diseased, slit up the tubes, washed them out, put them back, and closed the abdominal wound. This patient was relieved of her symptoms and retained her normal functions. Three months later she conceived. However, she was so afraid that pregnancy and labor would undo the good work I had done for her that she had an abortion performed. Then she conceived a second time. Since then I have continued to do conservative work on the tubes and ovaries. My work in this direction has differed somewhat from the work of other men, in that I have not tried to save everything, but I have tried to save what I thought would perform its function normally. In all I have operated on 269 cases in this way, and without a death, until Christmas week of December, 1902, when I promptly lost two from violent general septic peritonitis, introduced into the women's abdominal cavity by the hands of a septic house surgeon who unconsciously infected a number of others in the hospital for other operators at the same time.

In doing conservative surgery on the tubes and ovaries the first thing to do is to endeavor to put the inside of the uterus into a condition to become healthy. If plastic work on the genital canal is necessary, this must be done also. Then open the abdomen and do what work is indicated in each individual case.

In deciding what to do, the age of the patient is an important factor, as is also her social position. The domestic relations of the woman should also be considered. The after-effects of radical work and the dangers to which the patient is to be subjected should also carry weight. These five cardinal points should always be borne in mind. If the patient is a girl, anemic, with cystic ovaries and displaced uterus, whose future is just beginning, you would not like to unsex her if you could save her appendages. Dr. William D. Howard of Baltimore, one of the nestors of gynecologic surgery in our country long years ago, opposed such work, and cites many cases where his opinion was substantiated. He is still to the fore at the age of 82.

Then her social position. If the patient is a hard-working woman whose life is one of toil and who possibly would not be benefited by conservative work, you would not want to subject her to the hardship of a possible necessary secondary operation. If she is a society woman, floating about half the day and half the night, and neurotic because of her dissipations, I should not so regret it if I did unsex her. If the domestic relations of the patient were such that a radical operation would give an excuse to her husband to run around after half a dozen more, I would rather not give him the excuse. Then, again, if the work I should like to do would necessitate a prolonged anesthesia and the woman not able to stand it, I would prefer to do any operation that would not take so much time.

If the patient is over 40 years of age, I would not be so anxious to do conservative work, although Kelly goes so far as to advocate the removal of fibroid tumors from the uterus of a woman who has passed the menopause by a number of years. I deem it advisable to do your plastic work first, unless you have to do a good deal in the pelvis that may make peritoneal drainage necessary, in which case it is better to make two distinct operations, at different sittings.

I do not hesitate to remove small fibroids from the uterus. I have removed as many as sixteen from one woman and left her appendages. I would not hesitate to open up a hydrosalpinx, wash out the tube and drop it back. I would not hesitate to open up a hematosalpinx, providing the tube was patent at the uterine end. If the tube is occluded at the uterine end, and if it was not the result of sepsis from abortion or gonorrhea, I would not hesitate to open it and wash it out. If I found an ovary with a cyst, no matter what size, I would not hesitate to remove it and leave what healthy tissue I could find. There is one condition that may exist within the woman's pelvis, however, that requires the most radical and careful treatment, and that is dermoid cyst of the ovary—the most deadly thing in a woman's pelvis. Therefore, let me entreat you, when you get a case of dermoid cyst, not to let one drop of its contents touch the other pelvic organs.

If it be the question of an heir to inherit a large property, or if husband and wife were very anxious for offspring, I would do any amount of conservative surgery compatible with their wishes and safety.

Professor Polk and myself have discussed this subject thoroughly. We would open the abdomen of any woman to make sure of the cause of sterility, if this be requested, and that is not the least of the conditions for which I would operate. I would go still further and say that if there were certain forms of pyosalpinx which are non-septic, in which the tube has not been destroyed, but is patent, I would wash out the tube and try to save it, provided it was not of recent date. (See cases of pyosalpinx in table of various operations.)

Individual judgment must decide whether or not an ovary or tube can be saved. (See consensus of opinion of operators.) After resecting whatever portion of the ovary is necessary, I close the ovarian wound with fine

silk, the ordinary floss silk No. 00, such as is sold by the dry-goods stores. I never use catgut for this purpose, because I can not be positive that catgut is absolutely aseptic, and I have no wish to introduce sepsis with my suture material. Moreover, catgut that would last twelve days in the tissues, the time necessary for healing, would oblige me to use a very large size and a very large needle, and the result would be troublesome oozing from the needle punctures. Therefore, I use a very fine silk and cambric needle, and carefully approximate the parts. The silk will last as long as you want it to. Two years ago there came into the hospital a woman with a retrodisplaced, bound-down uterus. The tubes were also bound down. At her request I did not remove the appendages, although the condition was not as good as in many other cases. I broke up the adhesions, resected a half of each ovary and tube, and did a ventrosuspension. The woman recovered perfectly. She came occasionally to the clinic, as requested for observation, and one day a very large speculum in the hands of a student caused her much pain. At that time she was a few days passed her period and she at once began to bleed. We operated on her expecting to find an ectopic gestation, but instead I found a blood-vessel in the broad ligament had been ruptured and there was a large hematoma. At the second operation I found that the silk which I had used at the first operation, four and a half months previous, which was a twisted Japanese silk, although fine, was still unabsorbed at the tip of the tube. A year ago the woman again presented herself, seven and a half months pregnant. In this case only one-half of one tube and one-half of one ovary had been saved.

The surgeon who now does radical work in all cases, and I mean by that removal of organs that could possibly be saved to the woman, is open to the criticism of not being a conscientious man. He may be looked on as not even a good mechanic, for skilful men are now doing myomectomy for fibroid tumor in suitable cases with conservatism as their goal, and a large number of pregnancies have followed their work, whereas but a short time ago complete hysterectomy seemed to be their only recourse. Of the 269 patients from whom I have removed portions of tubes and ovaries, coupled with various forms of plastic operations, including ventrosuspension and ovarian suspension, I have so far been able to trace 43 pregnancies, 35 going to full term and 8 abortions. Many of the 269 cases have, of course, been lost sight of, as is inevitable in hospital practice.

Now, take, for instance, a case of salpingitis pure and simple. The fibriated extremity is closed, dilated and club-shaped. The tip should be opened with scissors and the contents evacuated. It should then be washed out. If the tube contains pus it is best to wash it out before probing, in order that we may not carry septic material further into the tube. The tube should be aspirated, then washed out with one of these four solutions: (1) Normal salt solution; (2) 20 per cent. carbolic acid; (3) 1/5,000 bichlorid; or (4) a very weak solution of permanganate of potassium. After this is done, open and probe the tube. Catch up the tube and straighten it out, bearing in mind the direction of the uterine portion. Introduce the probe gently, and if it passes into the uterus, we will know that the tube is patent. Then, if the tube has not already been washed out, this is done. If the uterus has not been packed previously, it will be noted that some of the irrigating solution will be noticed in the vagina. If so, what excuse have we for removing the tube? None. Our aim is to keep that tube open so it will not close again; therefore, you do a phimosis operation on the end of the tube. Split up the dilated portion and roll it out. Then with fine silk and cambric needle, with over-and-over stitch, you go all around the tip of the tube, until you come to the place you started from, the probe being still in position. The fimbriæ have been used up and absorbed and you have got to have something to aid the passage of the ova into the uterus. The canal of the tube is lined with ciliated epithelium. These cilia are constantly waving back and forth and it is this wave-like motion which carries the ovum into the uterus.

In hematosalpinx (dilatation of the tube with blood), the same condition exists, except that instead of being filled with serum or seropus, the tube contains blood that should have been carried off through the uterus at the menstrual period. It is usually due to displacement or twisting of the tube causing a damming up of the blood. This condition is not septic and tubes thus affected can be saved. As the condition is usually due to displacement of the uterus, this must be remedied. The adhesions must be broken up and the uterus replaced and kept in position by ventrosuspension and the tube treated in the same manner as for salpingitis.

Hydrosalpinx, a dropsical condition of the tube, due to repeated congestion and arrested drainage from any cause, is usually the result of displacement of the uterus. It should be treated as a salpingitis and hematosalpinx.

In all these cases it is necessary to have a full history in order to determine the different varieties of tubal disease. A history of gonorrhea, or abortion, or puerperal infection will at once put us on our guard, for in such cases the affection is usually septic. One word in regard to pus: It is well to remember that non-septic pus, formerly called "laudable pus," is free from odor, while septic pus is very foul. If the pus of pyosalpinx is septic, beware of it. In 95 out of 100 cases occlusion of the tube is present after septic abortion. In the other cases the pus will flow into the uterus. The latter cases are favorable. In all pyosalpinx cases the field of operation must be carefully protected with gauze packing in order to prevent peritoneal infection, be the method used abdominal or vaginal. It is well to have at hand a large hypodermic syringe or an aspirator and to tap the pyosalpinx before you open the tube, in order to ascertain the character of the pus. If septic, inject the tube with a 1/1,000 bichlorid solution and withdraw the fluid, repeating this procedure a number of times, in this way avoiding possible infection of the surrounding parts by evacuating the contents before splitting up the end of the tube. If it is difficult to get the tube into view we must place the patient in the Trendelenburg posture so that we can see the tube *in situ*. After we have made sure that the tube is patent, we need not hesitate to drop it back into the peritoneal cavity. If it is not septic, the peritoneum will take care of it. Moderate oozing will also be taken care of by the peritoneum, but we must guard against any distinctly bleeding point at the end of the tube.

Now, respecting complications and after-treatment of these cases. One complication is fibroids, small or large. If possible, myomectomy should be done. In doing this one point is to be remembered; we must not take the fibroid off too close to the uterus, for in that case we will leave a gaping wound. Enucleate the tumor in such a way as to leave sufficient peritoneal covering to be able to close the wound without traction. Split the capsule and take the fibroid out and remove the tumor by morcellement if necessary. Then with catgut No. 1,

chromic—I do not use silk in the fundus, because the uterine tissue will contract and leave the sutures loose—bring the flaps of peritoneum together with a continuous suture. Good drainage is essential in these cases. If the fibroid is buried deep in the uterine tissue, it is well to make an opening into the uterine cavity to provide for drainage. This will guard against a collection of blood or pus within the muscular structure of the womb. Two or more rows of sutures are sometimes necessary to close the uterine wound left by the removal of a fibroid. If there are several fibroids, never mind how small, repeat the procedure, removing all. Cul-de-sac drainage is sometimes necessary.

In order to hold the uterus up in these cases, I do ventrosuspension by means of two salmon-gut sutures inserted through the fundus and abdominal wall, and leave them there three weeks. At the end of that time a firm suspensory ligament will have formed, and that will hold the uterus up. This is essential in conservative surgery on the tubes.

I never do ventrofixation. There is a marked difference between that and ventrosuspension. Fixation is a pernicious procedure. It immobilizes the uterus and interferes with diaphragmatic action of the pelvic structures. Rather than do fixation I would suggest knuckling the round ligaments and in this way shorten them and hold the uterus forward, by the operation of Ferguson, McGannon or Byford. The latter operates somewhat as I do. Bear in mind that the object is to suspend the uterus so that it can not become retroverted and again drag down the tubes and ovaries.

After the patient has been put to bed you may be nervous about the case for the first 24 or 48 hours, but the patient will usually get well. If you close the abdominal wound properly, there is no reason why the patient should have a hernia; neither is there any danger of intestinal paresis if the patient is properly treated. As soon as she comes out of ether she should be given a saline, to increase the vermicular action of the intestines, empty the stomach and carry away gas. Three, four, five or six Sedlitz powders should be given. Do not let the patient lie all the time on her back, but have the nurse move her first on one side and then on the other. This will prevent the formation of adhesions by changing the position of the intestines. The bowels should move at the end of 24 hours. This is important. The intestinal canal is the best drainage-tube you can have. Do *not* give morphin, for morphin will mask every symptom that can possibly arise; it will stop peristalsis; it will stop all secretions; it will permit sepsis; it will produce nausea which can not be distinguished from the continued nausea of ether or from the nausea of intestinal obstruction. No food should be allowed until after the bowels have moved. Then you can begin with milk and Vichy. You will find that this treatment will produce good results.

It is well to keep the patient in bed for fourteen or sixteen days. If you have made ventrosuspension I advise you to allow the stitches to remain in for twenty-one days. They may possibly cut into the abdominal wall and make it sore, or even cause a small stitch abscess, but this will do no harm. The first menstruation may be delayed. As soon as the first symptoms appear it is my practice to put the patient to bed and keep her there until two days after the flow has ceased, for she has not fully recovered from the operation, and the parts are not yet able to bear the distension and engorgement. (A mild cathartic should also be given.) If the ovary enlarges during this temporary stage of congestion, put the icebag on the abdomen, and keep it there day and night until the fever following the congestion has subsided. I give hot, vaginal douches at a temperature of 116 F. four times a day for such a condition. If this is unpleasantly hot to the external genitals, I apply an ointment of aristol or zinc. I do not poultice the abdomen. The icebag is better. Intercourse should be forbidden for two months after the operation.

Since 1887 many operators have taken up this conservative work and excellent results have been recorded. The work has advanced to such an extent as to revolutionize pelvic surgery and save to thousands of women appendages that would formerly have been sacrificed. The operative mortality is significant, sex is maintained, the subjective and objective symptoms are relieved in the vast majority of cases, and over 10 per cent. of the women are known to have continued to bear children. When we bear in mind that the majority of these cases can not be followed up it is reasonable to suppose that the number of parturients is much in excess of 10 per cent.

The following material, which I have secured by correspondence, is appended in alphabetical order:

W. H. BAKER, BOSTON.

One case. Removed one ovary and tube. Resected other ovary. Woman became pregnant.

This case is peculiarly interesting because the patient with one-half of one ovary gave birth to twins.

H. J. BOLDT, NEW YORK.

Total number of cases	82	Which ovary not stated	1
Left ovary diseased	32	Left tube resected	20
Right ovary diseased	33	Right tube resected	19
Which ovary not stated	13	Which tube not stated	1
Left tube diseased	24	Left ovary removed	0
Right tube diseased	23	Right ovary removed	4
Which tube not stated	1	Left tube removed	3
Left ovary resected	26	Right tube removed	4
Right ovary resected	26	Ventrosuspensions	7
Which ovary not stated	12	44 patients, average age	30
Left ovary punctured	4	Pregnancy	1
Right ovary punctured	3	Died	0

Dr. Boldt adds:

My opinion, based on numerous observations, is that whenever possible a part of the pelvic organs should be saved by plastic surgery instead of being removed by radical operation. I have not found that conservative operations done on patients who have suppurative disease of the adnexa have been productive of subsequent pregnancies, but the menstrual function has been retained, which is very essential because of the nervous system.

My invariable rule when operating on ovarian tumors has always been to leave whenever possible a part of the ovarian stroma, not so much in the hope that pregnancy will follow, but in order to maintain the function of menstruation.

I hardly think ignipuncture of the ovaries justifiable or conservative; best left alone.

J. BRETTAUER, NEW YORK.

Total number of cases	31	Right tube resected, etc	7
Left ovary diseased	12	Which tube not stated	10
Right ovary diseased	11	Left ovary removed	3
Ovary diseased not stated	13	Right ovary removed	4
Left tube diseased	11	Which ovary not stated	3
Right tube diseased	13	Left tube removed	3
Tube diseased not stated	12	Right tube removed	6
Left ovary resected or punctured	7	Which tube not stated	2
Right ovary resected or punctured	7	Pregnancies	3
Which ovary not stated	11	Ventrosuspensions	2
Left tube resected, etc	8	Appendectomy	1
		Vaginal section, at least	17

A. BROTHERS, NEW YORK.

Total number of cases	50	Pregnancies	8
Vaginal sections	18	Ventrosuspensions	6
Laparotomies	25		

Dr. Brothers, in reporting the 50 cases, regrets his inability to give fuller details concerning the occurrence of pregnancy, because the majority of his cases were

hospital patients whose after-history could not be traced. So far as known to him, his results were satisfactory.

W. L. BURRAGE, BOSTON.

Total number of cases	187	Anatomic recovery, per cent.	64
Symptomatic recovery, per cent.	73	Died	3
		Pregnancies	23

The summing up of Dr. Burrage's statistics readily evidence the fact that he is one of the most successful operators of whom it is my privilege to quote. I wish I could publish his paper in full, as it is a most convincing argument in favor of the work of which my paper is the subject.

A. P. CLARK, CAMBRIDGE, MASS.

Total number of cases	13	Average age, over	30
Pregnancies	3	One or both ovaries diseased	5
Recovery	12	One or both tubes diseased.	8
Improved	1	Resection of tubes or ovaries, per cent.	100
Married (date for 3 only)	8		

HENRY C. COE, NEW YORK.

He has had five cases of pregnancy following conservative surgery of the ovaries, etc.

E. B. CRAGIN, NEW YORK.

Total number of cases	33	Right tube resected	13
Left ovary diseased	26	Left ovary removed	16
Right ovary diseased	27	Right ovary removed	17
Left tube diseased	32	Left tube removed	17
Right tube diseased	29	Right tube removed	15
Left ovary resected	10	Implantation of ovary	1
Right ovary resected	10	Died	1
Left tube resected	16	Married	33

Dr. Cragin reports that in only one of his cases was second operation required.

He reports only one pregnancy because of inability to trace his cases, they having been hospital cases only.

C. G. CUMSTON, BOSTON.

Total number of cases	47	Bilateral resection of ovary.	31
Married	20	Unilateral resection of ovary	16
Single	27	Pregnancies	12
Age, from 18 to	35	Recovery	25
Ovarian dysmenorrhea, per cent.	100	Improvement, decided	12
		Unknown	10

In all of Dr. Cumston's cases we find that fine catgut was used as suture material in the ovary with good results. He reports among the number one most interesting case where with only half an ovary remaining the patient gave birth to a healthy child two years after operation.

RICHARD DOUGLAS, NASHVILLE, TENN.

Total number of cases	30	Resection of tubes	7
Married	5	Resection of ovaries	23
Salpingitis	7	Pregnancies	5
Cystic ovaries	23	Died	0

In summing up his report Dr. Douglas is of the opinion that many of the small cystic ovaries formerly resected do not need anything but puncture of the cysts. He is also convinced that either gall bladder or appendiceal operations should have accompanied the work. He is not in favor of resecting the tube.

A. PALMER DUDLEY, NEW YORK.

Total number cases	269	Left tube removed	29
Left ovary diseased	204	Right tube removed	26
Right ovary diseased	188	Ventrosuspension	99
Left tube diseased	59	Appendectomies	32
Right tube diseased	53	Pregnancies (to term, 35; abortions, 8)	43
Left ovary resected	130	Implantation of ovary	7
Right ovary resected	141	Vaginal section	11
Left ovary punctured	25	Kidney suspension	1
Right ovary punctured	30	Married or single (data on)	198
Left tube resected	28	Married	154
Right tube resected	22	Single	44
Left ovary removed	41		
Right ovary removed	26		

These operations were performed at the following places: Private sanitarium, New York City, 101; private cases elsewhere, 41; Mary Hitchcock Hospital, Dartmouth College, 14; Mary Fletcher Hospital, University of Vermont, 5; Harlem Hospital, New York City, 32; Post-Graduate Hospital, New York City, 76.

SHERWOOD DUNN, LOS ANGELES, CAL.

Dr. Dunn read a paper before the American Association of Obstetricians and Gynecologists, Aug. 18, 1897, on conservatism in ovarian surgery.[1]

J. G. EARNEST, ATLANTA, GA.

Total number of cases	8	Cured or much improved	7
Resection of ovaries	8	Not improved (ovaries afterward removed)	1
Bilateral oöphorectomy (2d operation)	1	Pregnancy	0

Dr. Earnest favors conservative work, and from his own successes is encouraged to continue.

ALEX. HUGH FERGUSON, CHICAGO.

Total number of cases	69	Pregnancies	12
Left ovary diseased	46	Ventrosuspension (Kelly)	5
Right ovary diseased	23	Anterior transplantation of round ligaments (Ferguson)	17
Left tube diseased	22		
Right tube diseased	17	Appendectomies	30
Left ovary resected	26	Cholelithotomies	13
Right ovary resected	16	Nephrotomies	5
Left ovary removed	20		
Right ovary removed	7		

Dr. Ferguson also describes six additional cases of surgery on the tubes with or without participation of the ovaries. Owing to the complicated character of the intervention these cases are not enumerated with the preceding. No pregnancies followed.

C. C. FREDERICK, BUFFALO, N. Y.

Total number of cases	125	Right ovary removed	25
Right ovary diseased	48	Left ovary removed	47
Left ovary diseased	65	Number of pregnancies (one woman pregnant 3 times since operation)	8
Right tube diseased	60		
Left tube diseased	73	Ventrosuspensions	12
Right ovary resected	23	Appendectomies	8
Left ovary resected	18		

J. RIDDLE GOFFE, NEW YORK.

Total number of cases	115	Laparotomies	4
Vaginal sections	111	Pregnancies	10

Professor Goffe is one of the most earnest advocates of the vaginal route (through the anterior fornix) for this form of work that we have in America. The above statistics evidence that fact. He has many followers, and the question is still debatable with us in America, viz.: Abdominal versus vaginal route.

A. GOLDSPOHN, CHICAGO.

Dr. Goldspohn is justly entitled to rank as one of the pioneers in conservative surgery of the ovary. On June 5, 1901, he read a paper[2] before the American Medical Association in which he reported 97 cases of cystic degeneration of the ovary treated conservatively by incision and ignipuncture. Pregnancy followed in 10 cases. In all laparotomies results were satisfactory two years after intervention. In one-half the vaginal sections, results were unsatisfactory. Results were good after inguinal section.

S. C. GORDON, PORTLAND, ME.

See text of my article, in which two cases are mentioned.

J. D. GRIFFITH, KANSAS CITY, MO.

Cases of resection of ovary.	4	Ventrosuspensions	4
Age, all under	28	Pregnancies	3

WILLIAM H. HUMISTON, CLEVELAND, OHIO.

Total number of cases	5	Right ovary resected or punctured	0
Pregnancies	5	Left ovary removed	1
Left ovary diseased	4	Right ovary removed	5
Right ovary diseased	5	Left tube removed	1
Left tube diseased	1	Right tube removed	5
Right tube diseased	5	Ventrosuspensions	3
Left ovary resected or punctured	3		

According to Dr. Humiston's report, one woman became pregnant after both ovaries and tubes were supposed to have been removed. Evidently some portion of ovarian structure must have been left. See quotation from Dr. Gordon's report.

(To be continued.)

1. Med. Record, Oct. 2, 1897.
2. THE JOURNAL A. M. A., Aug. 24, 1901, p. 489.

Original Articles.

CO-OPERATIVE WORK IN REGISTRATION METHODS AND VITAL STATISTICS.*

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WASHINGTON, D. C.

The subject of vital statistics, or rather of mortality statistics, which is the only branch discussed in this paper, is perhaps more interesting to members of this Association than to any other class, inasmuch as in certain particulars they are responsible for the returns on which these statistics are based, and because such statistics furnish the means by which progress in medical science is measured.

To accurately serve this and other purposes, however, it is necessary that all statistics of this kind—national, state and local—shall be compiled under a definite system of general application, and that the data shall be collected under a similarly definite system, having direct reference to the exact statistical and other uses for which they are designed.

Many systems of collecting the data have been experimented with, but to all persons of extended practical experience it has become a settled principle that no adequate results can be secured except through compulsory laws requiring the registration of each death and the obtaining of an official burial or removal permit before the body is interred or otherwise disposed of. It may safely be said that unless this is made the fundamental requirement, the registration of deaths will be incomplete, and any statistics based on the recorded data will be defective.

Under our form of government all legal provisions on the subject must be left to the individual and independent action of the several states, or of the cities organized under state laws, and while many of the states and most of the principal cities have laws or ordinances providing for the registration of deaths, they differ widely in their requirements and results. A good many of them have been futile from their inception because the proper fundamental principles have not been observed.

The greatest utility of registration to the general public, and as still more particularly affecting the medical profession, consists in the availability of the data for tabulation and analysis of the agencies affecting health and disease. As stated by Dr. Elisha Harris: "The practical relation of well-kept and complete records of mortality to the correct estimation of sanitary experience and prevention of diseases and premature death is so important that sanitary authorities and the wise and effectual application of public health measures demand that the mortality registration shall be both complete and accurate." The statistical treatment of the data also demands that they shall be uniform, so that the tabulated results may reach their highest value for comparative and analytical purposes. They are not so now.

The great desirability of uniformity in the general provisions of law, of system, and of methods of securing and tabulating results has long been recognized by all persons who have either attempted to make original compilations of the returns from different places, or to extract comparable figures from the various statistics published, and frequent efforts have been made to bring about a more satisfactory condition of things in this respect.

Success in this direction, however, depends on many other things beside a general sentiment in its favor. It requires a vast amount of hard, continuous and persistent work, time and money, that can be effectually supplied only by some body that has a permanent organization and a paramount interest in the general—as distinguished from the local—results, and can become the active agent of the various interests in determining proper lines of action, forms and methods; in publishing and distributing the necessary documents to all parties whose approval and co-operation are necessary, and beyond this in keeping all of the machinery up to the mark after it is put into operation.

Fortunately, this work can now be performed by the United States Census Office, which has been made a permanent bureau of the government and is charged with the preparation of an annual report on vital statistics of all states and cities that maintain a complete and satisfactory system of registration. Considerable progress has already been made in this work, and it is the purpose of this paper to explain what has been done, what is being done, and what is contemplated in this line, and the relation of the various agencies in promoting the extension of the registration system and the improvement of its dependent statistics.

The plan for extension and improvement of registration methods and results developed by the census office, as the central compilation bureau and the active agent in carrying it into effect, in co-operation with the authorized representatives of the principal organizations interested—so far as such bodies have acted in the matter—and the principal registration officials, may be stated as follows:

1. To determine the reasons for failure of so many of the laws providing for registration, and to formulate the principles on which legislation must be based to avoid failure.

2. To construct and recommend for general adoption as a standard form for reporting deaths a certificate or return, of convenient size and arrangement, that shall provide for all of the details required for legal, statistical and other purposes.

3. To outline certain correct methods of practice with respect to the examination, filing and preservation of certificates and of making returns to state officials, for the guidance of local registrars who receive the certificates and issue burial or removal permits.

4. To decide on a satisfactory system of classification of causes of death for statistical purposes and to furnish compiling officials a comprehensive statement of the details of the classification, with a working index by which the deaths reported in thousands of different terms can be uniformly compiled under the proper titles.

5. To furnish all practicing physicians a descriptive statement of the classification adopted, with an explanation of its practical application in statistical work, and a list of terms very frequently used by them in reporting causes of death concerning which more definite information is necessary to permit proper classification.

6. To advise medical colleges of the nature and scope of the movement undertaken, and to suggest a course of instruction for medical students in registration methods and statistics.

7. To make a study of the forms of statistical tables published by local authorities in annual reports, and

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

monthly or weekly bulletins, with the view of formulating a uniform series of tables considered desirable for this purpose.

8. To determine what forms of tables should be included in the annual reports of the census office in order to furnish the greatest practicable amount of information for general purposes.

9. To enlist the assistance and co-operation of all organizations, societies, or persons interested in the subject of registration or its results, in reaching satisfactory conclusions regarding each projected step in the proceedings, and, finally, in carrying each step into practical effect.

A beginning was made with the publication of Census Circular No. 71, containing a paper prepared by the experienced and capable registration officials and statisticians constituting the committee on demography and statistics in their sanitary relation of the American Public Health Association, which paper outlines the essential requirements of a law for the registration of deaths and prescribes a standard form of death certificate, with an explanation of the use and importance of the items of information called for.

Following this general plan, the international classification of causes of death, then coming into general use in the United States, was adopted by the census office for its annual reports, and work was at once commenced to make the extensive labor involved in classifying the returns received from all registration areas available for the benefit of local statisticians, by preparing a comprehensive index to the classification as applied in practical work.

The subject of uniformity and progressive action was presented to the consideration of the Conference of State and Provincial Boards of Health of North America, at its meeting in 1902, and that body gave its approval to the movement by the appointment of a committee to co-operate in its advancement and by the adoption of the following resolution:

RESOLUTION OF THE BOARDS OF HEALTH CONFERENCE.

Resolved, That a committee be appointed by the Conference of State and Provincial Boards of Health of North America to co-operate with the United States census office and with similar committees from the American Public Health Association, American Medical Association and from other organizations, in the promotion of the uniformity and comparability of mortality and other vital statistics and their satisfactory presentation in statistical reports and bulletins.

The "Manual of the International Classification of Causes of Death" was then printed and distributed by the census office. This explains the titles of the classification—their application is statistical work—compares the classification with that previously used, and gives an alphabetical index showing to which titles nearly 2,000,000 deaths reported at the censuses of 1890 and 1900, in thousands of different terms, were referred. This is fully cross-referenced, and the terms are also rearranged in a tabular list showing exactly what terms are included under each title. Certain general rules for the disposition of cases in which two or more causes of death were jointly reported are included. Further work is in progress for deciding a satisfactory method of disposing of jointly returned causes of death adaptable for general use. This very difficult problem appears to have been solved by Dr. Cressy L. Wilbur, medical referee for the census vital statistics, in his plan of numerical rating, on which he has prepared a special paper to be presented to the consideration of this Association. So far as tested here the plan promises admirable results attainable by a simple and easy method.

The general adoption of the international classification and the use of the "Manual" referred to will insure a comparability in the various mortality statistics published that can not be secured in any other way, and the notes and memoranda expressing the opinions of all persons using the classification on the merits of the classification itself will be filed and arranged for presentation to the commission of revision, which holds its next meeting in 1910. In this way the united opinions of all American users of mortality statistics can be made most effective in securing desirable modifications in the classification. All persons who make use of the international classifications are invited to file any notes, criticisms or suggestions for this purpose that appear pertinent to them.

The work of the census office and of the committee on demography, also the "Manual" and the "Standard Certificate" referred to above, were specially endorsed and approved by the American Public Health Association at its last annual meeting (Dec. 8-12, 1902) in this city, and the committee was authorized to represent that association in further work on the same lines. As a very complimentary recognition of the work of the census office the chief statistician for vital statistics was appointed chairman of the committee for the present year. The following resolution was adopted by the association:

RESOLUTION OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

Resolved, That the efforts of the committee on demography and statistics of this association, in conjunction with the United States census office, to secure the extension of the registration area by the enactment of suitable laws and the use of a standard form of certificate of death, as shown in Census Circular No. 71, be heartily commended and that the committee be further authorized and directed to co-operate with the census office, the United States Public Health and Marine-Hospital Service and other departments of the Federal government interested in vital statistics and with similar committees from other associations in the work of promoting the adoption of suitable registration laws and the extension of the registration area, the proper compilation and presentation of vital statistics by states and cities in weekly or monthly bulletins and annual reports, and also in further work relating to the extension and practical use of the international classification of causes of death, the disposition of jointly returned causes and all preliminary work relating to the next decennial revision.

A resolution was drafted and presented to Congress reciting the condition of registration in the United States; the necessity for registration under uniform laws; describing the movement initiated by the census office in conjunction with the American Public Health Association; expressing approval of the movement, and requesting "the favorable consideration and action of the state authorities, to the end that the United States may attain a complete and uniform system of registration." This resolution passed both houses of Congress, and was approved by the President Feb. 11, 1903. The text of the resolution is given below:

RESOLUTION BY CONGRESS.

Whereas, The registration of births and deaths at the time of their occurrence furnishes official record information of much value to individuals; and

Whereas, The registration of deaths, with information on certain points, is essential to the progress of medical and sanitary science in preventing and restricting disease and in devising and applying remedial agencies; and

Whereas, All of the principal countries of the civilized world recognize the necessity for such registration and enforce the same by general laws; and

Whereas, Registration in the United States is now confined to a few states, as a whole, and the larger cities, under local laws and ordinances which differ widely in their requirements; and

Whereas, It is most important that registration should be conducted under laws that will insure a practical uniformity in the character and amount of information available from the records; and

Whereas, The American Public Health Association and the United States census office are now co-operating in an effort to extend the benefits of registration and to promote its efficiency by indicating the essential requirements of legislative enactments

designed to secure the proper registration of all deaths and births and the collection of accurate vital statistics, to be presented to the attention of the legislative authorities in non-registration states, with the suggestion that such legislation be adopted; now, therefore,

Resolved, By the Senate and House of Representatives of the United States of America in congress assembled, that the Senate and House of Representatives of the United States hereby expresses approval of this movement and requests the favorable consideration and action of the state authorities, to the end that the United States may attain a complete and uniform system of registration.

(Approved Feb. 11, 1903.)

Following this action, a circular (No. 100) was prepared containing the resolutions adopted by Congress and the American Public Health Association, the paper of the committee on "The Essential Requirements of a Law for the Registration of Deaths and the Collection of Vital Statistics," and a specimen form of an adequate law, drafted in accordance with the principles laid down by the committee. This circular has been sent to the governors of all states that do not now have an effective system of registration. It has also been sent to all medical societies, medical journals, registration officials, and other persons known to be interested in the subject.

The form of law presented in this circular is an improvement in many respects over any of those now in operation. The ideas governing its construction may be stated as follows:

1. The creation of a state registration service, fully authorized to carry out the purpose of the law.

2. The prohibition of burial or removal of dead bodies without a properly authorized permit, based on a complete and satisfactory certificate of death.

3. The use of a uniform certificate for obtaining the information desired as a precedent to issuing the permit.

4. The fixing of the responsibility for making the certificate and filing it with the local registrar, and the obligation to make the return complete in all of its details.

5. The fixing of responsibility on the local registrar for a critical examination of the return and for seeing that all of the information required is properly stated before accepting it.

6. The fixing of responsibility on the state registrar, or chief administrative officer under the law, for examination of all returns made by local registrars, and for immediate action in case of delinquencies, or to obtain data, corrections, etc.

These provisions are based on the theory that the purpose and intent of any such law is to secure a complete and properly executed return of every death that occurs —that the form of certificate adopted indicates what constitutes a complete and proper return—and that no return is complete and proper that does not supply the data desired for all purposes of registration as fully and circumstantially as is possible, by searching inquiry, under the conditions of the case.

Replies so far received from governors show that many of them are favorably disposed toward recommending such legislation at the next session of their legislatures, indicating a probable extension of the registration area that is most gratifying. To insure such action the medical societies, journals and physicians in each state should unite to exert their powerful influence. State and county medical societies, in particular, should adopt some concerted plan of action by which the cooperation of the legislative authorities can be secured. Probably all of the members of this Association are also members of state or local societies, and, therefore, each one can contribute materially to the success of this movement by his personal efforts.

The most perfect laws, however, do not execute themselves, and to reach, interest and instruct those persons whose duty it is to administer the laws or to make reports under them, other circulars have been prepared, as follows:

No. 101, on "Practical Registration Methods," designed for the guidance of local registrars, describes the "Standard Certificate" and explains the necessity and use of the various details required concerning each death; outlines a simple system of filing and preserving the records and of making returns to state officials; gives the titles of the international classification and explains the relation of causes of death as reported to classification for statistical purposes. It also gives a long list of indefinite or unsatisfactory terms frequently used by physicians in reporting deaths, that should not be accepted in such shape, with explanatory notes showing what further information should be required in such cases. This circular will be sent to all registration officials.

No. 102, on "Relation of Physicians to Mortality Statistics," is issued for the use and benefit of physicians who have to make out certificates of death in compliance with registration laws, by acquainting them with the scope and requirements of the international classification, which has been adopted by all of the registration states and by most of the principal registration cities for the compilation of their mortality statistics. Such statistics, to be comparable, must be uniform; and to be valuable for scientific purposes they must be accurate. Their chief value is in the distribution of deaths by causes, but the cause of death must be properly stated before it can be properly classified. In this particular the entire value of the statistics depends solely on the lucidity and certainty with which the physicians supply the information.

In all statistics of deaths by causes there is much too large a proportion of unknown or indefinite items for which the physicians alone are directly responsible and which they alone can remedy.

It is probable that the defect in this particular is largely due to the fact that there has heretofore been no general and comprehensive plan to direct the attention of all physicians to the use of their certificates for statistical purposes, and to exhibit the necessities and requirements in this respect by explaining the classification used, and by specifying wherein certain returns are incomplete, indefinite, or unsatisfactory. This circular is designed to furnish such information. It will be sent to every physician in the country, and it is confidently expected that they will appreciate the importance of the matter—the purpose for which the circular is issued—and will manifest their appreciation by making their certificates conform to the suggestions noted, as far as possible.

It should be considered that the classification, in itself, is but a selection and arrangement of titles only, under which deaths reported in thousands of different ways must be compiled, and that the assignment of any death to the proper title requires a definite statement of the course of disease or the sequence of causes resulting in the death.

Following the detailed list and explanation of the titles is a list of indefinite and unsatisfactory terms very frequently used by physicians, with similar explanatory notes. The terms in this list can not be properly classified as given, and should never be used without further explanation.

It is not to be expected that an entirely definite and accurate statement of the cause of death can be made in

every case. There will undoubtedly be cases in which the exact cause can not be ascertained and others in which an accurate diagnosis is impossible, but an observance of the suggestions made in this circular will very largely reduce the number of cases that must necessarily be classed as unknown or ill defined.

What has been said above relates wholly to the statement of the cause of death, which is always furnished by the physician. But while this is the most important item, a complete return of any death requires a statement of other personal and statistical particulars concerning the death, and the blank certificate or return used for reporting deaths should be regarded as simply a specification, in convenient form, of the legal requirements in the case, all of which are intended to be observed.

The relation to and influence on the mortality from different diseases, of age, sex, color, conjugal condition, nativity, parent nativity and occupation, are of the utmost importance, and the preparation of uniform statistics for all registration states and cities requires that these items, and others necessary for record, shall be given just as fully and as accurately as the cause of death.

The making out of a certificate of death should not be considered a perfunctory matter. A complete and accurate certificate is required of physicians as a legal obligation, under the law—as a moral obligation to their clients for the protection of the rights and interests of those dependent on them—and as a professional obligation, to further the advancement of medical science. In the last respect it should be regarded as one of the highest duties of physicians, as scientific, professional observers, to record their experience in individual cases in accordance with some definite and general system so that the whole result of such professional observations may be properly classified, tabulated, analyzed and made to contribute in the greatest possible degree to the sum of knowledge essential to material progress in medical and sanitary science and public hygiene. In this respect registration is only an intermediary process—a means of adapting a mass of observed facts to systematic treatment and their reduction to numerical standards for analysis and comparison. There can be no doubt that if physicians will take this view of the subject, and act accordingly, they can make the statistics derived from their returns much more accurate and valuable.

Circular No. 103, on "Medical Education in Vital Statistics," gives a synopsis of the circulars previously described; explains the movement for the extension and improvement of registration data and statistics on uniform lines, and suggests to medical colleges and schools the desirability of initiating a course of instruction for students on registration methods and vital statistics. This circular has been sent to all medical colleges and schools.

All of the circulars and the "Manual," referred to above, relate to different phases of the same general plan. By means of them it is sought to convey to all persons interested a comprehensive knowledge of the details of the plan and of their relation to the same, in accordance with the ideas and opinions of the experienced registration officials and statisticians who have joined in the movement. The census office has cheerfully assumed the labor and expense of preparing, printing and distributing these documents and of the correspondence incidental thereto, so as to enable all those interested to get together and to co-operate effectively in the movement for uniformity and accuracy.

The sole object of these circulars is to promote uniformity in laws, forms and methods, for mutual advantage, and to do so in accordance with the opinions expressed by authorized experts. The form of law given in Circular 100 is designed, primarily, to apply to states which do not now have effective laws on the subject, and the other circulars have been framed to assist in carrying out laws constructed on the lines indicated. Some of the provisions of law specified and of the suggestions made as to forms and methods might be adopted to advantage in all of the states and cities now classed as "registration," and it is hoped that whenever changes in existing laws, methods or forms become necessary or convenient they will all see the advantage of uniformity, and will adopt measures in harmony with those described.

The circulars on "Practical Registration Methods" and "Relation of Physicians to Mortality Statistics" are in many respects applicable, whatever the provisions of existing laws, forms of certificates, or methods of practice may be, but they will not be sent to any local registrars or physicians in registration states or cities until such action is approved by the local registration officials. So far as heard from, such officials have given their hearty approval and consent, and have expressed the opinion that the circulars will prove of great value in securing more complete and accurate returns.

The preceding statements describe the movement for the extension and improvement of the registration system and for increasing the value of the recorded data, principally with reference to their use for statistical purposes—representing the ultimate stage of mortality registration as here considered.

In the practical work of compiling and presenting such statistics there is also room for improvement in order to make them more complete, more accurate, and more thoroughly comparable. This is recognized and provided for in the general plan, as stated in the first part of this paper.

This subject was discussed at the last meeting of the Conference of State and Provincial Boards of Health of North America, and was covered in the resolution then adopted (q. v.), and will be taken up by the committees of the various associations which join in the movement for uniformity.

The general adoption of the "International Classification of Causes of Death" and the use of the "Manual" insures a much greater degree of accuracy and comparability in the statistics of deaths by causes, but there are other important factors the relation of which to the cause of death and to each other should be shown in a more uniform manner than at present. The action of the committee will, therefore, be directed toward formulating a series of uniform tables to be recommended for use in all annual reports and monthly or weekly bulletins published by registration state or city offices. To assist the committee in this direction the census office is now collecting and arranging all forms of statistical tables published in the local reports or bulletins.

It is the desire of the census office that its annual reports relating to mortality statistics in registration areas shall supply the greatest possible amount of information desired by all persons who make any practical use of the data. In order to develop ideas and opinions on this subject a series of tentative tables has been prepared,

showing what forms have been selected as a basis for consideration. These will be sent to all of the principal registration officials who compile statistics, committees of representative bodies, etc., and suggestions will be invited concerning changes or additions necessary to adapt them to the widest uses. Within the limitations imposed by the character of the data available, time and space in publication, the effort will be made to supply what is wanted.

The first annual report is now being compiled. It will, necessarily, form the model which subsequent annual reports will follow until the next census is taken in 1910, in which year also the international classification will be revised. This makes it particularly desirable that the ideas of officials and statisticians as to the contents of these reports be communicated promptly.

One observation which has a bearing on this matter and which also shows how improved methods in the census office have been of advantage to users of these statistics, may be permitted here; the census reports are generally distributed through the members of Congress, in the same way as other public documents, and heretofore senators and representatives have been notified that certain reports had been placed to their credit, leaving the public and persons interested to find out that the reports had been issued and to make application therefor to their member of Congress. Under this system many persons interested in particular reports did not discover that they had been published until it was too late to make use of them, and many other persons received copies of reports in which they had no particular interest.

When the "Twelfth Census Report on Vital Statistics" was published (July, 1902) it was determined to remedy this condition as far as possible, and as soon as the volumes were available for distribution a circular letter was prepared and sent to all registration officials, members of scientific societies and persons known to be interested, notifying them of the fact and advising them how the reports could be secured. This made it certain that all such persons would promptly receive the report —if they wanted it. And the demand has been such that a third edition is now being printed.

In the circular letter referred to, announcing the publication of the report, criticism and suggestions were invited, and this statement was included: "Under the permanent census organization, annual reports will be made for registration areas, and I will be particularly obliged for practical suggestions as to forms of tables, etc., that you think should be included in order to make the statistics of the greatest value to all concerned."

Many complimentary acknowledgments were received, but no "practical suggestions as to forms of tables" for the annual reports have yet come to hand.

As a general thing, statisticians compiling such reports are anxious to give the public what it wants, when it is possible for them to ascertain what is wanted.

If the movement described in this paper meets with the approval of the Association, it is hoped that a committee will be appointed to act in co-operation with the committees of other bodies. Its assistance will be most valuable and most welcome.

DISCUSSION.

DR. SENECA EGBERT, Philadelphia—I think the duties of all men in my profession have been increased since the beginning of this work of which Mr. King so interestingly speaks. We ought to do all we can to further this work of registration and to increase the registration area. The great difficulty is going to be in the rural districts. We have a large number of our cities fairly well registered, in comparison with our rural districts. If I am not mistaken, only 14 per cent. of our rural population have anything like well-kept statistics; and that is mainly in the New England states. As to other cities, a much larger proportion have fairly good registration, although the methods of collecting and recording statistics have not been at all uniform; and, as we see to-day, the labor devolving on the Census Bureau has been materially increased by this irregularity and lack of uniformity in registration. Now, the Census Bureau is sending to every physician in the country information about the international classification, and they are also urging our various registering officers to adopt the necessary forms and data, so that eventually there shall be no difficulty at all in securing accurate returns. In Philadelphia we average from 400 to 450 deaths a week and, with a properly instructed clerical force, we should have no difficulty at all in getting proper returns, according to the forms agreed on, as to practically every death. For years, every month that I was at all dilatory in the matter, I have had a man come to my office to obtain my birth reports for the preceding month. Now, this could be done just as easily with regard to the reports of deaths. If such an employe were to call on physicians with the proper blanks and explain the importance of the matter it would not be very long before we would be getting an almost perfect return of deaths in the city. But this can not be done so readily in the country, and it will be more difficult to obtain the data than in the cities. I do not think the average physician to-day is impressed with the importance of this matter as he should be. In regard to my own instructions to students, I have not properly appreciated it, but hope to do better hereafter. Nor do I think that the sending out of a letter or circular to every physician of which we have been told to-day is going to be sufficient. I think it is going to be a matter for the state municipal and governmental authorities to take up and drill into the profession at large, until we all come to a thorough appreciation of it; and I think few things will help to educate a thinking man as to the importance of this matter so much as the data given in the last Census Reports. It was a revelation to me to see how progressive science has cut down our death rate in the last decade. It gives me more hope in my personal work than I ever had before. I think it would be a good thing if some of the most striking parts of these data could be condensed and sent to every professional man in the country, along with these circulars of information and forms, to impress on him the value of the work being done, and how much greater that value would be if he did his share. The physicians of Philadelphia were recently notified not to use the old-fashioned death certificates, and were requested to make our reports according to the new forms, which call for the same data as the standard certificate of death, though not exactly like it in detail. That was within the last three months, I think. Our municipality has practically adopted the suggestion of Mr. King.

DR. CRESSY L. WILBUR, Lansing, Mich.—Did Philadelphia do anything with reference to international classification?

DR. EGBERT—I understand that the city will soon endeavor to adopt the international classification of causes of death.

DR. C. L. WILBUR—Philadelphia is probably the oldest city in the country to use the alphabetical system, and I was in hopes that it would join with Boston, Washington and other cities in using the international classification. We are using the standard blank in Michigan. It is adopted by law, I think, in Vermont, and it is used in Indiana, New York and Colorado. I like it better than our old form. As to the country districts, I think in Michigan we have reports from the township clerks of every township in the state. Some of them in the upper peninsula do not average five inhabitants to the square mile; nevertheless, they all report either that no deaths have occurred, or give the names of those who died, sending in the detailed certificates. We never have a

district delinquent for more than two consecutive months. If they do not make reports promptly we get after them; and they all take pains—as far as they are able (some of them, of course, not being educated men medically)—to send in the returns in correct form. If any items of special importance are omitted we mark a red cross at the place and then send a duplicate certificate, with a cross at the corresponding place, to the registrar, with a circular letter explaining the uses of the information specially desired, pointing out the items omitted, and asking him to see the undertaker, or whoever had charge of the body, get the data that was omitted, and send it on with the next report. We also call his attention to the fact that he should not accept an imperfect report or certificate, and that if he does not supply the missing items, or give good reasons why they can not be secured, deduction will be made from his compensation as provided by law; that is, 25 cents for each certificate. We also write the physicians when necessary. When one sends in a return of death from, say heart failure, or cancer, without specifying the part of the body, we write him a personal letter telling him why we need the information, and that his return is incomplete. We are also going to take the pamphlet that the Census Bureau distributes, print a short list of the most unsatisfactory returns, mark them with an index finger, and send them to all these physicians; so that they will always have their attention more or less directed to the fact. The registrars will also be instructed to refuse to accept (as they have done in a number of cases) grossly unsatisfactory returns such as "heart failure." Unfortunately, our registrars are changed often. If we could only keep them in office for longer terms we could accomplish better results. This pamphlet I regard as one of the most important actions ever taken for the improvement of registration. We send it out to all our physicians, with a circular commending it to them. We also sent a circular to all our registrars, with a special pamphlet of that sort. I believe that by referring the physicians from time to time to this pamphlet, and with the co-operation of the registrars, we will work out great improvement in the accuracy of our statistics. It seems difficult for some of them to comprehend what ought to be said and what ought not to; and sometimes they leave out the main thing.

DR. EGBERT—Dr. Wilbur has shown the essence of the whole matter. There is a head in his state that follows up every man in the state. Unfortunately, however, our registrars are too apt to be changed about for political reasons. For many years I had considerable intercourse with reference to this matter with our former registrar, who was heartily interested in this subject. He went into it almost as Dr. Wilbur has gone into it here, because it was of much real importance to him; and he was always pleased to enter into the details of the subject and give any one whatever information he could. But he was deposed by a change in the political administration, and the city lost a valuable servant. As for Philadelphia, we have recently had a bill passed providing for a Department of Public Health and Charities, to be in charge of a physician who will appreciate the importance of the work. I would like to ask Dr. Wilbur to give us roughly the cost of maintaining the system in his state.

DR. WILBUR—The compensation is 25 cents per certificate of death, which is paid by the county, and is the only fee connected with the system. We exempt from that payment cities of 10,000 inhabitants and over, where the salary of the clerk is supposed to compensate him for the service. We have no birth certificates, though we have had a bill reported by the committee on state affairs of the legislature that provides for the registration of births. It was reported unanimously by the committee, but I do not know how much further it will go. It provides for a certificate of birth similar to that used in New York. There will be a fee of 15 cents to the registrar and 25 cents to the physician, making a total of 40 cents. This may be thought a little high by the legislature; but if they cut it down too much I fear that we shall not obtain satisfactory results. If we pass this law we may not get all the births, but I think we shall register about 95 per cent. of them.

DR. J. N. HURTY, Indianapolis—In the collection of mortality statistics in Indiana we follow pretty closely the system in use in Michigan; and we pursue the same method of keeping each individual certificate that Dr. Wilbur has described. After three years of this work we have no difficulty now in getting the number of deaths, ages, sexes, etc. The great trouble is to learn the correct cause of death. We have thought a great deal of how this is to be remedied. In many instances the physicians are not well enough educated to know what the cause of death is; and in other instances, despite their education, they do not know. So we thought for a while that it would be better for them to write in the word "unknown" when they did not know. We subsequently changed that opinion, however, when we began to get in numbers of certificates showing that nobody knew what the cause of death was, making the confusion worse than it was before. We have had many examples of that character. A state senator died. The cause of his death was declared to have been grip, and the immediate cause hemorrhage. That was the report of a practicing physician who was also a member of the legislature; but we subsequently found, on examining the corpse and taking the testimony of the doctor himself and of the embalmer who prepared the remains, that it was black smallpox, beyond question. Now, when we have such gross errors what are we going to do? We know we are getting the number of deaths, with locations, ages, sexes, etc., but we realize that our returns are woefully deficient as to the causes of death. We see no way out of the dilemma except through the better education of physicians. The teachers of hygiene, as Dr. Egbert has said, must dwell more particularly than before on this matter. They must pound it in and let the oncoming generation know how very important it is to be able to state definitely and exactly the chief and the immediate causes of the deaths that occur in their future practice. Now, when we receive a certificate that is not full and complete we do as Dr. Wilbur related. We do not send the original back, because we would have trouble in recovering it, but we send a duplicate printed in different ink; and we never let up until the physician or officer sends us an answer. We have complete control over our officers, because they can be discharged at any time for not performing their duty. They are on salary, and receive no fees whatever for collecting statistics. Out of our 675 reporting stations, we do not have an average of 12 that fail us each month. We get after them when they are delinquent, and eventually get a report from them before the month is half over. They must report by the fifth of each month, whether they have any deaths in their districts or not. I want to say something about Mr. King's sample law, which I read with some care. It is a most admirable law as a whole. I note he provides penalties for the interment of the dead without a permit, etc. The penalty is a fine of from $5 to $50 on the undertaker or other person who may bury the remains. I do not think that clause is going to make the returns even approximately perfect. A widow's child may die away out in the country. The neighbors come in and lay the body out, some one makes a coffin out of a pine box, and the child is buried without a permit. In such a case you could never enforce the penalty in any justice of the peace's court in the country. In the Indiana law we have a clause that usually brings a report. It provides that in the event of a burial without a permit the coroner must disinter the remains, hold an inquest, secure all possible data, enter the same on the blanks of the board of health, and report the result to the health officer having jurisdiction. There is also a fine of $10 to $100 on any undertaker or other person burying a body without a permit. That can readily be enforced against the undertaker, but not so in the instance I related; though the other clause can be and is enforced. We have had trouble in only a few instances, so severe is the penalty. Let it be done in one county, and the other counties within a radius of five will hear of it and learn the lesson. Then, the coroner is after a fee, and is

likewise in a position where he can plead that he must disinter, that he has no help for it under the law. They get the body out of the ground, summon the physicians who failed to make the report, summon all parties concerned; and after one experience that community never has any more burials without permits. However, as I have said, it is the cause of death that we have trouble with, and I am satisfied we will have that trouble for many years to come.

DR. J. S. FULTON, Baltimore—Many sanitarians dread the difficulties of rural registration. That fear seems to me somewhat exaggerated. What is wanting is a due appreciation on the part of cities and close communities of their dependence, for their own sanitary safety, on the sanitation of rural districts. In Pennsylvania probably 75 per cent. of the entire population are living under registration laws, more or less effective. It is municipal registration, however, leaving the rural districts wholly out of the mortality account. There is an ancient registration law still on the statute books of that state, but useless for want of a burial permit provision. Now, suppose the cities of Pennsylvania should realize that they owe their bad eminence in typhoid mortality to the rural districts. Suppose that Pittsburg and Allegheny, for instance, the worst typhoid cities in their latitude in 1900, should have a strong suspicion that their sources of infection lie in the perennial typhoid of the unregistered adjacent rural districts, could the villagers and rustics possibly defeat a bill which proposed to compel every part of the state to render monthly a full account of its mortality? This consideration would prevail, I fancy, even in Philadelphia, a city which is notorious in its class, but which is in typhoid mortality far exceeded by a dozen lesser cities in the same state. When the cities discover that they draw on the country districts for their supplies of typhoid and intestinal disorders as regularly as for their supplies of food and drink, the demand for registration of mortality in rural districts will be irresistible. Nor do I believe that rural communities object seriously to registration. In Michigan the registration law is not mandatory in areas of less population than 15 per square mile, but such areas are registered nevertheless, and are registered because they desire it. If all the registration data now regularly collected in such states as Pennsylvania and New York were assembled and properly displayed, I believe that 75 per cent. of the population would be found included, and that the advantages of registration would appeal effectively to a majority of the remaining 25 per cent. Such instances as have been cited by Dr. Hurty will inevitably arise. They have no numerical importance. They are easily met by administrative tact, and they need have no influence on the reliability of mortality returns in general. Another point about rural registration is that it is a very good check on municipal registration. Municipal registration is subject to many abuses that would be controlled if it were necessary to record every death somewhere, either where it occurred or at the true residence of the person who has died.

DR. CRESSY L. WILBUR—The question of density of population is most important in drafting the registration law of a state. If you do not have a sufficient supply of local registrars, so people can easily get to the local office, there will be an explosion. In some parts of Illinois, especially the southwestern part, which is sparsely settled, the present law, which was passed in 1890, has proved very obnoxious to the people. The law provides for only six registrars in the counties, in addition to the county clerk. This has proved to be the cause of so much trouble that there are now two or three bills pending to repeal the law for the whole state. The average population to the registrar should not be much more than 500, and the distance should not be over six miles, so that the people can easily get permits; and in that way we will have no violations of the law. I presume this will have to be taken into consideration in Pennsylvania, of which some parts are sparsely settled. It can be done in sparsely settled as well as in well-settled communities.

DR. H. M. BRACKEN, Minneapolis—We have found in Minnesota that it is not much harder to get statistics from the rural districts than from the small urban communities. We have registrars for each township, and many of them make good returns. Minnesota, unfortunately, is not classed with the registration states, although we have laws meant to be complete and thorough. Last winter we asked for a law requiring a burial permit in all cases of death, but the committee on public health was composed of men from the country, and they objected, using the same argument that Dr. Hurty mentioned, with reference to neighbors helping to bury the dead, without the usual formula of undertaker.

THE LIMITATIONS IN THE USE OF ACONITE AND VERATRUM VIRIDE.*

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Too much has been written on the possibilities or probabilities of the therapeutic value of drugs and not enough regarding the limitations of their use. It is only within a comparatively short time that physicians have relied on their knowledge of the pharmacodynamics, rather than on tradition based on empiricism, to guide them in their use of drugs. Like the rest of mankind, physicians are prone to follow the calf paths of tradition; and the works on therapeutics are full of references to the success of remedies used by individuals of repute, regardless of the known physiologic action of the drugs in question.

A few years ago I was much impressed by a remark of our eminent therapeutist, Dr. John V. Shoemaker, when he said that he had written so much on the therapeutic value of drugs and had taken so much for granted on hearsay evidence that he felt it a duty he owed the profession to write a book on the limitations of the use of drugs.

The size of our pharmacopeia and of our text-books on materia medica and therapeutics seems to be proof that we know too little about a great many drugs and not enough about a few. I quote from a recognized authority regarding the uses of aconite:

Dr. Murchison regards aconite as a remedy of great value for reducing the pulse and temperature in fever, and especially in the pyrexia resulting from inflammation. . . .

Dr. Bomford bears witness to the value of aconite in the remittent fevers of India. . . .

Dr. W. Dobie details four cases of pneumonia in which aconite, in small, frequently repeated doses, apparently cut short the attack. . . .

In puerperal fever, Dr. Playfair (Vol. II, p. 328) regards aconite in minute doses as a most valuable remedy. . . .

In tonsillitis, acute sore throat and in acute catarrh of children, Dr. Ringer strongly recommends the tincture. . . .

In acute rheumatism, aconite at one time was held in high esteem. . . . In rheumatic pains occurring in gouty subjects, Professor Graves has found it very serviceable. The same remark applies to lumbago. . . .

In neuralgia, aconite is a remedy of great value, but its use appears to be restricted mainly to those cases in which all signs of active disease are absent or have been subdued by other means. . . .

In sciatica, Dr. Fuller concludes that it proves a valuable and efficient remedy in many obstinate forms of the disease. . . .

Toothache is sometimes speedily cured by rubbing the gums with a few drops of the tincture. . . .

In tetanus the use of aconite in large and repeated doses was first proposed by Mr. De Morgan, who relates several cases illustrative of its efficacy. . . .

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

In diseases of the heart, in which the chief indication is to diminish vascular excitement or irritability of that organ, aconite proves in the highest degree serviceable. . . . Even in pericarditis, when the heart throbs violently and thus produces extreme pain, aconite, according to Dr. Ringer, will quiet the heart and speedily ease the pain. . . .

In erysipelas, aconite was a favorite remedy of Liston. . . . To painful sprains and bruises and chronic arthritic swellings, lin. aconiti, locally applied, often affords speedy relief. . . .

In amenorrhea, Dr. Copeland prescribed the extract with decided benefit; and Dr. Ringer states that in sudden suspension of the menses, as from a cold, it may be employed with advantage; he likewise states that the acute stages of gonorrhea may be well treated with gtt. j. of the tincture every hour, and that the same treatment will often remove chordee. For the relief of severe uterine pains lin. aconiti externally applied occasionally affords relief when other remedies fail. . . .

Thus you see the novice might imagine that he was fairly well equipped to deal with nearly all human ills with this single drug. Is it strange, then, that with such brilliant promises, and after disappointments that must surely come, he should become a skeptic in medicine, and declare that he does not believe in the use of drugs?

Aconite and veratrum viride are old drugs and came into use when disease was little understood, when fevers were regarded as diseases and not mere symptoms of disease. The high temperature and rapid pulse were the abnormal conditions to be remedied, and it appeared perfectly rational to employ aconite and veratrum viride. They headed the list of drugs employed in the treatment of sthenic fevers, such as pneumonia, and it was thought that a great stride had been made in medicine in the supplanting of blood letting by the internal use of aconite and veratrum viride. And it was a move in the right direction, not because there was any real advantage in depressing the heart by the use of aconite, or of depressing it by venesection, but because it called the attention of the profession to the fact that it was necessary to conserve the energy of the patient in order that recovery might be insured. While, since the days of antiseptics, we have sometimes wandered away from that truth and have destroyed our patients in our attempts to exterminate microbes, we have always returned; and to-day it remains one of the fundamental principles in the practice of therapeutics.

PHYSIOLOGIC ACTION.

I know of no recent work having been done with aconite or veratrum viride and will, therefore, not go into the physiologic action any more than to summarize what is already well known.

The primary action is stimulation of the peripheral nerve endings; causing a tingling sensation, produced either locally or systemically; stimulation of the vasomotor mechanism, resulting in arterial constriction and slight diuretic effect; powerful stimulation of the respiratory center.

The secondary action is paralysis of the over-stimulated peripheral nerves, causing anesthesia; pronounced depression of the heart, which is augmented by the effect on the vagus; lowering of the blood pressure; and reduction of temperature, which is due at least partly to increased evaporation from its diaphoretic action.

The promptness of the secondary effect is dependent on the size and concentration of the doses given. A very little aconitin is eliminated, as such, from the system, the greater portion being decomposed or burnt up in the system.

The action of veratrum viride is so similar that it does not call for a separate recital.

The indications, then, for the use of these drugs are: To relieve pain, reduce temperature, promote diaphoresis, slow the heart and reduce blood pressure.

As the analgesic properties of the aconite are not manifest until after the appearance of the secondary or toxic symptom of the drug, it is a dangerous remedy to use, and we have such remedies as phenacetin, which is more powerful and less dangerous. As a diaphoretic it does not compare with Dover's powders or pilocarpin. As an agent to slow the heart it is far inferior to digitalis, strophanthus or sparteïn, as they slow the heart by lengthening the diastole, thus favoring the recuperation of that organ.

Blood letting is probably a more efficient remedy for the lowering of arterial tension than either aconite or veratrum viride, as by this process the toxins are diluted and the volume of blood may be readily restored by saline transfusions.

Finally, I do not believe that we are justified, with out present knowledge of the etiology of disease, to apply remedies solely for the reduction of fever. If the cause of the fever is not known or can not be directly attacked, our efforts should be directed toward supporting the patient, the stimulation of those cells which are potent in the production of antitoxins, etc., or the lessening of oxidation and waste by lowering metabolism; and then if it becomes necessary to reduce the temperature *per se*, hydrotherapy has proven itself to be a safe and efficient agent.

In conclusion, I would say that I do not wish to be understood as saying that aconite and veratrum viride are absolutely useless or prohibitively dangerous, but that there are other remedies which may be used with greater safety and with equally good or better effect.

Should one wish to use aconite or veratrum viride, however, for the primary action, it should be given in exceedingly small doses, well diluted and repeated at short intervals.

DISCUSSION.

Dr. F. R. Weber, Milwaukee, Wis.—There are portions of the United States in which these two drugs are used, but in the northern part of the country they are hardly known in the shops. They are depressants, and that is their limitation. To-day we go back and study the heart more than the old physician used to do—we study the heart as a muscular organ. That grand old physician of Dublin who first introduced the knowledge of the heart muscle as an organ of itself is a man we must consider to-day. The acute diseases, such as typhoid and pneumonia and septicemia, in which it takes weeks and months for the patient to recover, are the diseases in which aconite used to kill. We have toxins which have their effect primarily on the heart muscle; we have degeneration going on which is peculiar to the heart muscle, a degeneration that extends beyond the muscular fiber and goes into the intracellular tissue; it is an interstitial inflammation of the heart which weakens the patient to such an extent several weeks after typhoid or pneumonia that we have to look very carefully to the conservation of the heart. The infectious diseases have a tendency to weaken the heart in the third week of convalescence. If, then, we weaken the heart during any period of the disease what shall become of the heart during convalescence? I think we do harm, not in the stage of action, but when the heart needs all of its recuperative power.

Dr. H. A. Moody, Mobile, Ala.—I am surprised to hear the action of veratrum viride and of aconite described as identical. In the southern part of the United States veratrum is more popular than anywhere else, and we consider that

there is an immense difference between the action of veratrum and aconite. I am tempted to ask the question whether any one here can tell me the fatal dose of veratrum viride. Can any one here point to the record of a death from that so-called poison? Do any of the text-books mention the fatal dose or tell of a death? There may be such, but it has escaped my attention. We have in veratrum viride a depressant which can be given in small doses of two or three drops until the number of pulsations and the force of the heart are reduced and the patient is relaxed and in perspiration. On the other hand, it is a demonstrated fact that you can administer twenty or thirty drops of the same drug hypodermically, and repeat in an hour or two in cases of puerperal eclampsia and yet not poison the patient. That is on record. You can handle veratrum that way, and, therefore, I do not think you should bring it under the same indictment as aconite. I do not consider it the most desirable form of treatment in wasting diseases, and only rise to insist that there shall be a difference drawn between the two drugs.

Dr. W. J. Robinson, New York—While aconite and veratrum viride are not used as much as formerly, they are very valuable drugs. For instance, in the first stage of sthenic pneumonia there is nothing to equal a few doses of aconite. I make the same objection as does Dr. Moody to classing them together. Aconite is a very dangerous drug, while veratrum has nothing on record against it. In large doses it produces emesis, but that is the worst it does. The value of veratrum in puerperal eclampsia can not be overestimated. I have collected a very large number of cases, and the best results are obtained by giving veratrum in large doses, and this without any bad effects. This question was brought up last year and the same objection was made that these two drugs should not be classed in the same category. While both are cardiac depressants, veratrum is a much safer drug. Gilardoni's clinical and experimental reports show that in veratrum viride we have the safest drug when we wish to reduce arterial tension and keep it reduced for a considerable length of time.

Dr. W. W. Tompkins, Charleston, W. Va.—I am somewhat of a "middle-of-the-road" man on this particular question. I think, however, that in a large measure we allow our prejudices to influence us in the use of drugs. When I was a student my materia medica teacher did not like aconite because it was used by a homeopath. I believe that aconite is a depressant of the respiratory center more than of the heart. However, it is a mistake to prescribe it in small quantities for any length of time, though it is not my observation that aconite exercises influence for any length of time. I have not looked into the statistics of the mischief done by these two drugs, but aconite poisoning is not infrequent. In the Virginia Lunatic Asylum at Stanton some 12 or 15 patients were poisoned by aconite and died, and it is still an unsolved mystery. On the other hand, I believe each of these drugs has its limitations and its uses. I do not know from experience much about veratrum; it seems to be less frequently used than aconite. I do not know of any fatal cases from its administration. I know those who use it often speak in extravagant praise of its efficacy in certain diseases. I hope the remarks made here will result in a more thorough study of the drug.

Dr. C. S. Chamberlin, Cincinnati—Dr. A. B. Isham[1] has reported a large number of cases of eclampsia, pneumococcus infection, convulsions, uremia, carbolic acid poisoning, etc., in which he used veratrum viride as an eliminant hypodermically and in very large doses. If emesis or relaxation did not occur within 15 minutes, the dose was repeated, sometimes a second time. Veratrum viride in large doses produces copious diuresis, emesis and catharsis.

Dr. G. D. Kahlo, Indianapolis—It is my understanding that the essayist did not intend to classify the two drugs as having identical effects. In my part of the country both drugs are used to a limited extent, but they have been recommended too indiscriminately. We find, too, that the revised authorities recommend them in smaller doses.

Dr. Hugh N. Leavell, Louisville, Ky.—Taking into consideration the manner in which Dr. Hill presented this paper, it is not surprising to know that the homeopaths selected this remedy as one on which to build a reputation. I am glad Dr. Hill presented the matter in just that way: "The limitations in the use of" the drugs. I believe we should specialize as much as possible and try to draw a line in each particular case and administer the drug to meet the indications as they arise, taking into consideration any idiosyncrasy shown by the patient. The effect on the blood pressure is well shown, and here we find the best use for aconite and here we get the best results. We must take into consideration the probable absorptive power of the epithelium to which it is applied and we must not lose sight of the fact that it is a very toxic drug and can produce death by its toxic effect on the heart muscle.

Dr. Solomon Solis-Cohen, Philadelphia—When Bartholow came to Philadelphia, twenty-odd years ago, he was very much laughed at because he advocated the use of nitroglycerin: but nitroglycerin has saved a great many lives since Bartholow began to force it on the attention of the profession. There certainly must be some foundation for the general advocacy of veratrum. I agree with Dr. Robinson that there is a time, in the very beginning of sthenic pneumonia, when aconite will do more good than anything else in the pharmacopeia, but we do not often see cases at that time. From the reports quoted by the essayist it would appear that aconite is to be used in the beginning and also at any other time. It is just such careless statements, which he properly reprobates, that mislead us and shock our faith. A routine use I have for aconite—I have not seen it mentioned in the text-books—is in the treatment of many cases of mitral stenosis, in which the heart is pumping tumultuously, trying its best to push the blood through a narrow mitral opening, and yet the effort is ineffectual, the pulse being thin and weak. In such cases it is well to depress the overexalted function to the level of the impaired function in an effort to re-establish physiologic equilibrium. With an overacting heart and a weak and thready pulse, aconite given in very small and successively diminishing doses, continued over a long period of time, has, in my observation, done much good. I have in mind two boys who came under my care at the same time—about twelve years ago. They are now grown, active men, students and teachers. They are not conscious that their hearts are impaired, and for many years have taken no medicine. It is true that iron was administered in conjunction with and after the aconite, and that their general hygiene was regulated.

Dr. W. B. Hill—I call attention to the fact that I changed the title of the paper purposely. The subject was chosen for me, otherwise I would have preferred to take one drug only. I did not regard aconite and veratrum viride as dangerous from the viewpoint of acute poisoning, but in just the conditions which Dr. Weber brought out: that the heart is ultimately poisoned, not by the aconite or the veratrum itself, but by the lack of proper blood pressure which is the life of the heart, and therefore I say that those drugs which reduce the blood pressure in disease unnecessarily, while they may have no immediate bad result, must ultimately bring about a diseased condition to a greater or less extent. I did not intend to take up all the uses of these drugs, as that was not within the scope of the paper. The use of veratrum in eclampsia has been spoken of and recommended, but one so doing gave the physiologic reasons for it. The criticism is, although you use it successfully, why did you use it? In eclampsia it is used because of its power to relax and lower the blood pressure. In this connection I will call your attention to pilocarpin which, in addition to lowering blood pressure, causes a greater elimination of retained products than any other remedy. The only trouble with the use of pilocarpin is that it is not used in sufficiently large doses, and yet if a death occurs after the use of pilocarpin the death is attributed

1. "Veratrum Viride as an Antitoxic," Medical News, Jan. 10, 1903.

to pilocarpin when, in fact, the death followed because not enough pilocarpin was used. I was taught to give Norwood's tincture in pneumonia because there was little danger of acute poisoning. I got over that. Opium will relieve the patient by producing a diaphoresis, yet we do not always give opium simply because we want to render the patient more comfortable. So I believe that aconite in the beginning of pneumonia, where the heart has more than double its burden, is contraindicated because of the ultimate effect of the drug on the heart.

NON-TUBERCULAR HEMORRHAGES OF THE AIR PASSAGES.*

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The great vascularity of the mucosa lining the respiratory tract, with its delicate epithelial coverings and its close sympathetic connections through its vasomotor system with the rest of the organism, renders it exceedingly vulnerable to atmospheric conditions and to blood changes and blood pressure from within the organism. The blood vessels supplying this great stretch of mucous membrane are affected by every atmospheric condition, such as thermic and barometric changes, parasitic irritations, dusts and pollens, noxious gases, and all the filth that saturates the atmosphere from many sources. All these forms of irritation disturbing the normal functions of the membrane produce hyperemias, destroy the epithelial coverings and set up morbid processes which weaken the vessel walls and are thus important etiologic factors in the production of hemorrhage. In addition to these atmospheric causes from without, we have the various forms of traumatism to which the anatomic structure of the respiratory tract is exposed, such as concussions, contusions, fractures, dislocations and the many kinds of surgical procedure for the correction of abnormalities, deformities, removal of growths and mechanical irritation of foreign bodies lodged in the respiratory tract. Severe hemorrhages which often result from surgical operations are usually due to some constitutional diathesis or to some anomaly of the circulation in the part operated on.

CONSTITUTIONAL CAUSES OF HEMORRHAGE.

On account of the close reflex relationship between the upper respiratory tract and the pelvic organs it has often been observed that any changes taking place in the latter produce vasomotor changes in the nose and throat. The rapid development of the larynx at puberty is always attended by marked hyperemia. The erectile tissues of the nose show marked engorgement at this period and are especially prone to hemorrhage. Since J. McKenzie, Hack and others have called attention to the close blood relationship of these parts in their physiologic and pathologic changes, we are enabled to treat many cases of hyperemia of the nose and throat with a greater degree of success.

Fleiss has shown by an extensive series of investigations in the gynecologic clinic of the University of Berlin that there are certain points on the anterior extremity of the middle and inferior turbinate bodies, designated by him the "genital areas," through which influence can be exercised in pathologic conditions of the female pelvic organs. By cocainizing the genital areas the pains which accompany or follow the menstrual flow can be relieved, and labor pains can be reduced to a minimum, while by cauterizing these areas a permanent cure of many cases of dysmenorrhea may be achieved.

The writer has had an opportunity of observing in several cases the effect on dysmenorrhea of treatment administered through the genital areas of the turbinates, and also two cases of vicarious hemorrhage, one from the erectile tissues of the nose and the other from the larynx, as the result of sudden arrest of the menstrual flow. There are many interesting cases reported of vicarious hemorrhage from the nose and throat in the literature of the subject. The case of Alibert, in which sudden stoppage of the menstrual flow caused a fatal hemorrhage from the nose, and the case of Kussmaul, quoted by Bosworth, in which there was a periodical nasal hemorrhage in a woman with total absence of uterus; also one by Fricher of a girl of 19 who had never menstruated, but who had violent hemorrhages from the nose at regular intervals of six weeks, which finally proved fatal.

There are a few reports of cases of vicarious hemorrhage due to the arrest of long existing bleeding from rectal hemorrhoids, and from sudden checking of the functions of skin and the cure of certain skin diseases. Bleeding from the nose or larynx during pregnancy is a not uncommon occurrence, probably due to the pressure of the uterus on the large abdominal veins. All of the diseases of the liver, spleen, kidneys, heart and brain which obstruct the return flow of the blood, produce engorgement in the respiratory tract and tend to produce hemorrhage. "We often see persistent hemorrhage from the nose and larynx in cirrhosis of the liver and in renal disease, and it is often associated with the cardiac disease in the venous stases due to failure of compensation in mitral diseases and in aortic insufficiency." (Friedreichs.)

Edgren says that hemorrhages of the air passages are frequent in the presclerotic period and, in the elderly, point to incipient arteriosclerosis. In these cases the bleeding comes on without apparent cause, or it may follow any violent emotion. Any increase of blood pressure is liable to cause rupture of the weakened vessel walls in this disease. The association between the veins of the interior of the skull and the venous sinuses of the nose is so intimate that all the congested states of the cerebrum and meninges are liable to produce epistaxis. Tracheal hemorrhages are comparatively rare. We have an occasional case of fatal hemorrhage from this source due to rupture of an aneurism of the aorta into the trachea. This is due to ulcerations between the rings from pressure of the aneurismal sac. Five cases of tracheal hemorrhage following influenza are reported by Donelan.[1]

HEMORRHAGE DUE TO THE ACUTE FEBRILE DISEASES AND HEMORRHAGIC DIATHESIS.

Hemorrhages occur as a premonitory symptom or as a concomitant of many of the epidemic fevers, such as typhoid and remittent fever, scurvy, diphtheria and the exanthemata. The cause of the hemorrhages in these fevers is yet obscure. They usually occur from the respiratory tract in the initial stages of these affections, and it is the accepted opinion among pathologists that they are due to yet undiscovered changes in the blood and blood vessels of toxic origin.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

1. Jour. of Laryngol. and Otol., January, 1901.

Nichols claims that in some cases the appearance of hemorrhage corresponds to secondary infections and in others to the cachectic state to which patients are reduced. In the early stages of these affections we find the membrane of the nose and throat intensely hyperemic, and in the later stages a breaking down of the epithelium and vessel walls, with small ulcerations and extravasations of blood.

The hemorrhages of typhoid fever, according to Friedreich, show a predilection for the septum, but may occur in other parts of the mucous membrane. Superficial ulcerations causing hemorrhages are very common in certain regions of the pharynx and larynx. They are commonly found on the faucial pillars, the free border or laryngeal surface of the epiglottis, the aryepiglottic folds, and often occur below the glottis. They are rarely seen on the vocal cords.

Millet observed: "Epistaxis associated with malarial infections is intermittent or periodical, and may be controlled by quinin."

Of all the predisposing causes of hemorrhages hemophilia occupies the first place. It is the "bête noire" of the laryngologist. There are but few of the operators in this department of surgery who have not had sad experiences with this class of patients known as "bleeders." Reports of fatal hemorrhages from excision of the tonsils and adenoids in patients unsuspected of having this predisposition come up before almost every meeting of laryngologists.

The cause of this diathesis is yet undetermined. Statistics show that it has a decided preference to lay its mark on the males. Among the "bleeder" families the females are usually exempt. Among the spontaneous hemorrhages due to hemophilia, epistaxis is by far the most common form. According to one authority, among 236 hemorrhages of various kinds 122 were from the nose, and Eichhorst says: "These hemorrhages are usually preceded by perversion of the senses of taste and smell. One patient could smell, another taste, the approach of his hemorrhage." Ecchymosis and submucous hemorrhages in the larynx, as well as ulcerations of the pharynx and larynx, are very common in purpura hemorrhagica.

SYPHILIS AS A CAUSE OF HEMORRHAGES.

Syphilis is not regarded by most of the authorities on the subject as a frequent cause of hemorrhage. In the primary and secondary stages hemorrhages are very rare. In the tertiary and hereditary forms they are much more frequent and are often very severe. It would seem that syphilis would play a most important rôle in the production of hemorrhage from the respiratory tract on account of its predilection for these parts and the destructive changes which are so often wrought here by this disease. It seems that the ulcerative processes rarely invade the blood vessels in syphilis.

LOCAL CAUSES.

Among the local causes of epistaxis, deflections of the septum should occupy first place. The irregularities on the deformed septum expose the superficial capillaries to many forms of irritants in the air current which denude the vessel walls and thus bring about more or less violent attacks of hemorrhage (Bosworth).

The various forms of neoplasms of the nose, pharynx and larynx, such as fibroma, sarcoma and carcinoma, are often the source of most alarming and difficult hemorrhages to control.

THE MOST FREQUENT LOCATIONS.

"Since the time of Valsalva, a point on the anterior portion of the cartilaginous septum has been known as the most common site of hemorrhage from the nose." Bleeding from this point is rarely dangerous, and is usually easy to control. In hemophilia and purpura the bleeding comes from various points on the mucous membrane. In profuse hemorrhage the bleeding point is difficult, and sometimes impossible, to discover. The ethmoidal veins are often the source of violent hemorrhage, probably on account of their close connection with the cerebral circulation. Other points on the posterior ends of the lower turbinates, the venous plexus in the vault of the pharynx and the venous plexus at the base of the tongue, are frequent seats of hemorrhage. Bleeding from the larynx is comparatively rare, and is not often of a dangerous character from the loss of blood. "Laryngeal hemorrhages are dangerous only when they are beneath the mucous membrane, thus producing hemorrhagic edema and impending asphyxia." They may easily be mistaken for hemorrhage from the lungs or hematemesis.

PROGNOSIS.

Bleeding from the nose is rarely fatal. In many cases it seems to be Nature's method of relieving overdistended blood vessels. There is no doubt that many cases of cerebral apoplexy are averted by nasal hemorrhage, and it is quite common for some patients to experience immediate relief from a severe congestive headache by a free nose bleed. Spontaneous hemorrhages are more dangerous in young children and the aged on account of the friability of the vessel walls. Fatal hemorrhages of the upper respiratory tract are reported in children under a month old from hereditary syphilis. "Swoboda reports four fatal cases of nurslings from hemorrhages of the upper air passages. In all of his cases the bleeding had not appeared externally, but had passed by the nasopharynx into the stomach." (Sajous' Annual.)

J. N. McKenzie says: "Persistent and recurrent epistaxis is much more frequent between the ages of 15 and 25 years." The greatest number of fatal hemorrhages come, perhaps, from the removal of the tonsillar and adenoid tissues among those of the hemorrhagic diathesis and those with anomalies of the circulation in these tissues.

DIAGNOSIS.

The importance of a correct diagnosis in hemorrhage of the upper air passages can not be overestimated. Every mechanical means should be exhausted in determining the exact location of the bleeding point. Modern apparatus has been so perfected for diagnostic purposes that no one is justified in assuming to give an opinion in these cases who has not availed himself of the best apparatus and acquired the best skill possible in their use. The laryngeal mirror and palate retractor are invaluable aids in locating and differentiating diseases of the whole respiratory apparatus, and in many cases of the digestive apparatus as well.

ILLUSTRATIVE CASES.

Hemorrhages of the larynx, the nasopharynx, the tonsillar tissues, and the region about the base of the tongue are often mistaken for pulmonary hemorrhage, or hemorrhage of the stomach. The following cases in the writer's experience would tend to emphasize the importance of a patient effort with these instruments (the laryngoscope and palate retractor) in the search for the bleeding point.

CASE 1.—A young attorney of splendid physique called on me for what he supposed were hemorrhages from the lungs. He had been spitting blood for two or three weeks. I could discover no evidence of lung disease by the most careful examination. There was slight hyperemia of the larynx, but no sign of hemorrhage from that source. The anterior ends of the turbinate bodies were considerably engorged, producing occlusion of the nares. The first examination of the post-nasal space, on account of the patient's excessively sensitive reflexes, was unsuccessful. On questioning him he most skilfully evaded any history of syphilis. I remained in darkness as to the source of hemorrhage until I succeeded in examining the post-nasal space with the use of the palate retractor. The posterior portion of the septum was completely necrosed, the ulcerated process having extended to the veins in the vault of the pharynx. The hemorrhage that had persisted and was apparently from the lungs soon yielded to syphilitic treatment.

CASE 2.—I obtained the following history from Dr. Graham of Indianapolis:

"I was called to see Mr. E., aged 24, at St. Vincent's Hospital, Oct. 10, 1902. He had suffered a profuse hemorrhage from the mouth and nose as he was about to alight from a train at the Union Station. I obtained the following history: The patient, so far as he knew, had enjoyed good health until two months previous, when, while in a New York theater, there occurred without any premonition whatever a hemorrhage, the blood flowing from both the nose and mouth. He was removed to the New York Hospital, and one week later suffered a similar hemorrhage. He stated that it became necessary for the physicians to resort to intravenous injections of salt solution. . . . His case was there diagnosed as one of gastric ulcer, and laparotomy was performed for the same. One week later a third hemorrhage occurred. It was one hour after the fourth hemorrhage occurred that I was called to see this patient. It was stated that this hemorrhage filled a large cuspidor, and I am inclined to believe that this statement is not an exaggeration because of the hemorrhages which I saw at a later period.

"The diagnosis of gastric ulcer was not clear to me in this case and yet I placed my patient at complete rest, withheld all food by the mouth, and placed an ice bag over the epigastric region. . . . Dr. Page was called in consultation, and will give the further history and treatment of this most interesting case. I might add that I wrote Dr. J. H. Lewis, hospital surgeon at the New York Hospital, regarding this case, stating in my letter that I did not think there were any signs or symptoms of gastric ulcer, and received the following letter in reply:

" 'Mr. E. was a patient at this hospital and was operated on, as he stated to you. His stomach was opened by a two-inch incision in the anterior wall very near the pylorus. A bleeding surface one-half by three-fourths of an inch was found about the middle of the anterior wall and united by mattress sutures of chromated gut. It was thought it had probably been caused by instrumentation, and was not the cause of the previous hemorrhages. Apart from this no ulcer was found. One week after the operation he vomited about one quart of blood. He was discharged in fair condition with the diagnosis still in doubt. One remarkable feature at the operation was profuse and persistent bleeding in the wound through the abdominal wall.' "

I was called in consultation by Dr. Graham to locate, if possible, the seat of hemorrhage in this case. He had suspected that the bleeding was from the throat. Owing to the nervous and exhausted condition of the patient from the great loss of blood, and to the narrowing of the isthmus of the fauces from adhesion of the anterior pillars of the fauces to the dorsum of the tongue, I found it very difficult at the first examination to get a satisfactory view of the larynx and post-nasal space. We put the patient on strychnia and after a few days' training I succeeded in getting a good view of the throat in the laryngeal mirror. I discovered at the base of the tongue two deep fissures about an inch and a half long, extending from either side of the epiglottis and cutting the venous plexus about the base of the tongue, coming together and forming an acute angle about an inch above the free border of the epiglottis. The tissue included in this triangle about the root of the tongue was considerably excavated. In examining these fissures with a probe a profuse hemorrhage was started and I had to resort to the suprarenal extract and chromic acid to arrest it. I was satisfied from this examination that this had been the seat of the previous hemorrhages which had so greatly exsanguinated the patient. On discovering these ulcerated fissures and the adhesions between the pillars of the fauces and the tongue (which caused the patient to talk tongue-tied), I concluded that syphilis was the cause of the trouble, although there was absolutely no history to confirm it. I placed the patient on antisyphilitic treatment and applied chromic acid and later nitrate of silver to the ulcerated surfaces. The hemorrhages ceased at once and there was a rapid gain in strength and weight from the start.

CASE 3.—Miss C., aged 23 years, a singer, called on me in June, 1895, for what she supposed were pulmonary hemorrhages. She said the sputum had been examined and that her physician found tubercle bacilli in abundance, and ordered her to Colorado at once. Laryngoscopic examination revealed a small angioma on the left vocal chord surrounded by dried blood. I cleansed the larynx with the spray and could see that the blood vessels about the small growth were dilated and partially denuded of epithelium. She said her hemorrhages usually came on after singing. I requested her to sing, and could detect the blood flowing from the growth and the dilated vessels. I destroyed the distended vessels and the growth with the electro-cautery and there was never any further hemorrhage. The subsequent history of this case and the lack of abnormal temperature, as determined by several tests with the thermometer, convinced me that this patient never had tuberculosis, notwithstanding that tubercle bacilli were reported to have been found in the sputum.

TREATMENT.

It is the intention of the writer to only refer in a few words to some of the numerous methods of treating hemorrhages of the respiratory tract. With our modern method of illuminating the air passages the bleeding point should be located before any efforts at plugging or hemostatics are resorted to for the checking of the hemorrhage. In only exceptional cases where the bleeding is from several different points on the membrane and in those cases where gagging and vomiting render the parts inaccessible should we try to check the flow of blood temporarily until its source can be determined.

The cocain spray and suprarenal extract have proved to be invaluable aids in checking the flow of blood and diminishing the reflexes, thus enabling us to make a diagnosis. The ordinary surgical measures for checking hemorrhages in other parts, such as the use of the ligature and artery forceps, are rarely of service to the laryngologist. Probably in no department of surgery is the operator so handicapped in the treating of hemorrhages as in the nose and throat. Large blood vessels emerge from bony or cartilaginous walls to be distributed to parts accessible only by the most delicate instruments and visible only by artificial lights. To cut down on a vessel and ligate it is out of the question in the majority of cases. In a few cases this has been done successfully in the violent hemorrhage that sometimes follows the removal of the tonsils or adenoids. Keane reports two cases of ligation of the external carotid artery for severe hemorrhage following slight operations in the nose and pharynx. He says this is a simple operation, and every nose and throat surgeon should be prepared to perform it when life is threatened.

For the ordinary hemorrhages of the respiratory tract our resources are ample and effective. Suprarenal or adrenalin extract has proved invaluable in the writer's operative work.

Some laryngologists claim that it is deceptive in that it is apt to be followed by intense reaction and secondary hemorrhage several hours after an operation.

GENERAL SURGICAL ANESTHESIA.

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EL PASO, TEXAS.

(Concluded from p. 1403.)

SELECTION OF AN ANESTHETIC.

In order to receive favorable comparative consideration, an anesthetic should possess these qualities: Immediate and remote safety; least disagreeable to take; best calculated to quickly produce and maintain muscular relaxation, followed by the minimum of ill effects, as vomiting, depression, respiratory troubles, renal disturbance; minimum influence on the question of hemorrhage; best adapted to the individual case. In the vast majority of cases the choice lies between ether and chloroform. It has been proven beyond reasonable doubt that, all things considered, chloroform is more dangerous than ether, both immediately and remotely. The immediate safety (during administration) is so overwhelmingly in favor of ether that I do not hesitate to assert that those who hold to the contrary can not be fully acquainted with the facts. There are really very few contraindications to the use of ether when skilfully administered by the "open" method. It is not strongly contraindicated, even in ordinary cases of chronic nephritis, nor in any but acute or severe bronchial affections. In the presence of asthma or of acute bronchial affections, marked arteriosclerosis or atheroma, ether is more dangerous than chloroform, as a rule. Atropin will, to some extent, prevent the danger in the first two conditions, and amyl nitrite or nitroglycerin in the last two. Although formerly (for ten years) a chloroform advocate, I have learned from experience, careful observation, and the study of recent investigations, to use chloroform only where it is especially indicated—and that is extremely seldom. The safety margin between sufficient ether for anesthesia and the lethal dose is much greater than with chloroform. Ether is much safer for indiscriminate use, in that most physicians who administer anesthetics are relatively unskilled in their use. In order to reduce the bad effects of an anesthetic to the minimum, it must be skilfully administered; and when the anesthetic is badly given, the dangers from chloroform are very much greater than those from ether. Ether kills slowly, generally by its effects on respiration, and usually gives ample warning of danger, since the heart continues to beat long after respiration ceases. Chloroform kills quickly, generally by its effect on circulation, and is very likely to afford no warning of danger. Ether is safer in healthy persons than in the weak and prostrated, while chloroform is often as dangerous in the vigorous as in the debilitated. Treatment usually promptly overcomes unfavorable symptoms from ether, and often does no good in those from chloroform. Public opinion in most parts of this country is overwhelmingly in favor of ether, as compared with chloroform; hence, if an accident happens with ether the surgeon is much more likely to escape blame. As mentioned by Treves,[22] the objection urged against ether, that it produces venous engorgement, and, consequently, too much oozing from the field of operation, is not well founded, the question being chiefly one of administration.

22. Practitioner, London, October, 1896.

General Statistics.—The statistics of deaths from anesthetics can not be relied on as indicative of the actual dangers encountered. They represent the deaths only, and not the narrow escapes. Moreover, in this country, and in some others, it is probable that not half the deaths from anesthetics are reported.

The statistics presented at the Thirtieth German Surgical Congress, Berlin, May, 1901, credit chloroform with a death rate of one in 2,023; ether, one in 5,090; ethyl bromid, one in 5,228.

Gurlt's statistics up to 1893, based on 157,815 war cases, give a death rate for chloroform of one in 2,899; chloroform with ether, one in 41,181; ethyl bromid, one in 4,588; pental, one in 199. No deaths from ether or A.C.E. mixture reported.[23]

A. I. Bouffleur[24] quotes statistics of over 1,000,000 chloroform and over 500,000 ether anesthesias, in which the average chloroform mortality is one in 3,355, and the average ether mortality one in 16,768.

In considering statistics, we find that the personal equation is of the greatest importance. One man has 15,000 chloroform cases, with only one death, while another has three deaths in less than 1,000 cases. One selects his cases for chloroform, while another gives it indiscriminately. One administers an anesthetic carefully by the open method; another gives it carelessly by the closed or the smothering method. It is notable that by far the greater number of deaths are reported from localities where chloroform and pseudo-scientific, complicated inhalers are extensively employed. I quote from an article in *The British Medical Journal* of the late '90's: "In a certain institution in Great Britain, in the course of a recent year, there were, out of some 3,000 or 4,000 administrations, no fewer than twelve fatalities from chloroform." Taking the higher number of anesthesias, this means one death in every 333 administrations.

German statistics during the decade 1890 to 1899, show deaths about as follows:

Ether, one in 7,000; chloroform, one in 2,000; ethyl bromid, one in 4,000; pental, one in 2,000; chloroform-ether, one in 9,000; A.C.E., one in 6,000.

Ziegler's statistics give the death rate of chloroform as one in 1,900 and of ether as one in 26,000.

Chaput gave it as one in 2,000 and one in 13,000, respectively.

Foy's statistics, based upon 877,507 chloroformizations and 314,738 etherizations, give a mortality of one in 4,301 and one in 14,987, respectively (Sajous' Annual).

Poncet had but one death in 29,000 ether anesthesias. He believes the danger is from asphyxia.[25]

In the presence of postnasal adenoids, especially if hypertrophy of the faucial tonsils also be present, I consider chloroform extremely dangerous. Nitrous oxid—with the patient in the recumbent posture—is the best anesthetic for these cases, and ether, to the stage of primary relaxation, the next best.

Many of the sudden deaths under anesthesia, especially of children and young persons, have occurred in the presence of a persistent, or even hypertrophic, thymus. In most of such cases the spleen and tonsils are unusually large, and enlargement of the follicles at the base of the tongue is constant (L. Laquer, Strassburg).

23. Practical Surgery, Senn, 1901.
24. Chicago Medical Recorder, May, 1897.
25. Progressive Medicine, December, 1902, p. 78.

Preparation.—All patients who are to be subjected to anesthesia should, if possible, have the benefit of at least two or three days' preparatory treatment and observation. The organs of elimination—the bowels, the kidneys and the skin—should be put in the best possible condition. The urine should be examined carefully for evidences of nephritis or diabetes, so that precautions may be taken where necessary. The condition of the cardiovascular system and of the lungs should be carefully determined, and the patient's habits, as to alcohol, tobacco, and narcotics, inquired into. In patients with any pronounced symptoms of anemia a blood examination should be made. When the percentage of hemoglobin is under 40, no operation should be performed save in great necessity, on account of the destructive action of anesthetics on the erythrocytes. The food for as long a time as possible before the operation should be of the most nutritious and easily digested kind suitable for the patient, and the feeding should be rather forced than otherwise, especially in delicate persons, up to the day preceding the operation, in order to bring the vitality to the highest available point, thus enabling the patient to better withstand the shock of the operation and the anesthetic. The day preceding the anesthesia the diet should be nutritious and light—either liquid or semiliquid. No solid food or milk should be given within several hours of an anesthesia, but water should be allowed to within say two hours preceding it; and a cup of beef tea or one of coffee, or both, taken from one to two hours before the administration, are valuable for their stimulating and sustaining effects. The system should be well supplied with fluids before and after anesthesia. "All the functions of the body are carried on in a fluid medium." Without abundance of this medium, we may not expect as rapid recovery from the effects of the anesthetic and operation as can be obtained with plenty of it.

W. A. Briggs[26] advocates the use of oil of peppermint or menthol preliminary to etherization. About a dram of the oil or of a 50 per cent. alcoholic solution of menthol is sprinkled in the inhaler and the patient allowed to inhale freely for three minutes, then etherization is pushed as rapidly as is consistent with safety. The seeming advantages, as compared with the usual method, are: 1. The anesthesia may be more easily and quickly induced, and more smoothly maintained; 2, entire absence of coughing and suffocation, and comparative freedom from nausea, vomiting and retching; 3, suppression or marked abbreviation of the period of excitement; 4, profounder first anesthesia, which permits minor operations with greater certainty; 5, less post-anesthetic nausea.

During the past few months this method has been followed in my practice with excellent results. It deserves extensive trial. In etherizing a 4-year-old boy, recently, the transition from peppermint to ether was unnoticed, and there was no stage of excitement.

Administration.—It is of the utmost importance that before beginning the administration of an anesthetic the anesthetizer gain the confidence of the patient, and thus be enabled to allay fears which have been conjured up perhaps days or weeks in advance. In persons of average intellect and education the difficulties are not generally great, but in the ignorant, especially if very nervous or hysterical, it is occasionally impossible to allay the apprehensions of real or imaginary dangers. I find that the greater the fear preceding anesthesia, the greater the danger during the narcosis. It is best to anesthetize the patient in a room free from noise, and do no talking, excepting to the patient, while inducing the narcosis; and the anesthetizer should invariably have someone within easy reach to aid him in case of emergency. There should be as little disturbance and lifting of the patient as possible after the anesthesia has begun, so as to avoid disturbing the anesthesia in its early stages. During the past two years I have followed the custom of William J. and Charles H. Mayo of Rochester, Minn., of having patients anesthetized in the operating room on the operating table.[27] I then have them under my own eye from the beginning of anesthesia, and there is no disturbance or loss of time due to changing from cart to table. It is seldom that quiet, almost noiseless breathing can not be maintained throughout a narcosis. The yielding of the jaw is a trustworthy indication of the approach of surgical narcosis. If the jaw is rightly managed the gag and the tongue forceps will very seldom be needed. When the forceps are used it is seldom necessary to lacerate the tongue or to nearly amputate it by pulling it constantly downward across the lower incisors. The administration of the anesthetic, whether ether or chloroform, should begin gradually.

There are two ways of avoiding overdosage, which are too often neglected: 1, expedition in getting the patient on the table and ready for the surgeon after narcosis is complete; 2, as rapid operating as is consistent with thoroughness and safety. In fewer words, avoid giving the anesthetic a moment longer than necessary.

Danger Signals.—There is no one signal that is an infallible early guide. The pupillary reflexes are the best single guide to impending danger. A rapidly dilating pupil means danger, and a fixed, dilated pupil means extreme danger. A contracted, immobile pupil usually indicates safe surgical anesthesia; a pupil oscillating between contraction and dilation, diminishing anesthesia. The pupil is sometimes modified by the nature of the operation, as by manipulation of extremely sensitive tissues, or by suddenly changing the patient's position. The color of the face, lips, ears, and nose should be constantly observed. An ashen hue of any of these parts should create apprehension. Blueness of the skin is generally due to asphyxiation, and is much less dangerous than abnormal paleness, which generally indicates gradual poisoning of the circulatory mechanism, including the center in the medulla. To emphasize these conditions, Wm. Mitchell Banks[28] speaks of the "blue" man and the "white" man. The latter is in great danger. A. P. Ohlmacher[29] maintains that in the condition of lowered vital resistance known as the lymphatic constitution there is a strong tendency to sudden death in anesthesia. The respiration and pulse should be watched in all cases with the greatest care, no matter what anesthetic is being administered. The reflex rigidity occasioned by manipulation of sensitive tissues often demands temporary withdrawal of the anesthetic, whereas the temptation is to "crowd" it. Likewise, great vigilance should be exercised by the administrator when the surgeon is severing large nerve trunks.

Respiration during anesthesia should, as a rule, be easy and quiet. Snoring or stertor suggest either partial obstruction or too much anesthetic. When the epiglottis drops back it is necessary to introduce the finger into the mouth and lift it away from the glottis. If these maneuvers fail, artificial respiration by the

26. Occidental Medical Times, April, 1902.

27. Alice Magaw, "The Administration of Anesthetics," St. Paul Med. Jour., January, 1902.

28. THE JOURNAL Am. Med. Assn., Dec. 7, 1901, vol. xxxvi.

29. Philadelphia Med. Jour., March 10, 1900.

Sylvester method should be instituted. If then no air enters the lungs, the trachea should be opened. If the heart becomes weak during the anesthesia, it is well to inject subcutaneously a cardiac stimulant, as nitroglycerin, digitalis, spartein, strychnin. If amyl nitrite be given, remember it is only the temporary vasomotor dilator action that is wanted. If pushed beyond this not easily determined limit it may cause cardiac paralysis. The head-down position, by determining more blood to the circulatory center, aids in strengthening a heart which has become gradually weak.

TREATMENT OF EMERGENCIES.

Methods of treating emergencies may be thus summarized:

1. Reflex excitation of respiration by external application—for example, cold or cautery to the epigastrium, ammonia vapor to the nostrils.

2. Reflex excitation of respiration by mechanical means—as rhythmic traction on the tongue (Laborde), or divulsion of the sphincter ani.

3. Artificial respiration. Tracheotomy (when other means fail).

4. Measures counteracting circulatory failure—like posture or rhythmic compression of the chest or abdomen.

5. Cardiac stimulants—as amyl nitrite, nitroglycerin, strychnin, atropin, spartein, aromatic spirits of ammonia.

6. Bleeding from a large vein to relieve the over-distended right heart (when other means fail).

In the majority of cases oxygen, either pure or atmospheric, is the best resuscitant; but in some instances well-selected drugs are beneficial.

It should be kept in mind that in the first and second classes the nerves must be sufficiently alive to convey stimuli.

VOMITING DURING AND AFTER ANESTHESIA.

Serious or persistent vomiting, either during or after anesthesia, can nearly always be prevented by right management of the patient and of the anesthesia. In the first place, the patient must be properly prepared for the administration, and an anesthetic selected which is suitable for the particular case in hand.

Postanesthetic vomiting can be reduced almost to insignificance, if the patient is properly prepared for the anesthesia; if the anesthetic be carefully selected and skilfully administered; if the patient be transferred from the operating room to bed without much jarring, and kept perfectly quiet and free from disturbance in bed; and, finally, by freeing the stomach of accumulated mucus or bile. During the past five years I have practiced gastric lavage, as suggested by I. P. Gunby of Sherman, Texas.[30] Physiologic saline solution may be used, and from one to two quarts is usually sufficient. A medium-sized or small soft rubber stomach tube is introduced, through the nose, as soon as administration of the anesthetic is suspended, and the stomach washed while the dressing is being applied. During the procedure the patient's body should be sufficiently inclined head downward to prevent fluid from entering the trachea. This procedure aids materially in reducing vomiting to insignificance.

Another method for the prevention or control of postanesthetic nausea, introduced by Mackenrodt, is the inhalation of vinegar. It is supposed to be equally efficacious after ether or chloroform. After trying it in several hundreds of cases, I have concluded that this method is of little value.

30. Medical News, Jan. 21, 1899.

DEDUCTIONS.

1. It is not justifiable to employ any one anesthetic exclusively. The safest anesthesia depends on: 1, the choice of the anesthetic best adapted to the case in hand; 2, the best technic of preparation, administration and general management; and, 3, a skilful anesthetizer.

2. The recent advance in our knowledge of local and neuroregional analgesia has materially narrowed the field of general anesthesia, but the local method can not supercede the latter.

3. Cases for anesthesia should be divided into three groups: 1, cases in which the indications for local anesthesia are absolute; 2, cases in which the indications for general anesthesia are absolute; and 3, doubtful cases. If in doubt, use the general anesthetic.

4. The mere fact that an operation can be performed under local anesthesia is not sufficient justification for its employment. As a rule, better work can be done under general narcosis, and, especially in septic cases, postoperative complications are less likely to occur after a skilfully conducted general anesthesia than after local.

5. Both ether and chloroform exert a destructive effect on the erythrocytes and reduce the amount of hemoglobin (chloroform having the greater destructive action), hence, in anemic patients at least, the blood should be examined before administering an anesthetic. When the percentage of hemoglobin is below 40 an anesthetic should not be given when it can be avoided. Even with a hemoglobin percentage of 50 the danger is great.

6. Chloroform tends to cause fatty degeneration of the heart, liver and kidneys, while ether has very little effect in this direction. On the kidneys the effect of ether properly administered is usually transient; that of chloroform is likely to be more serious and prolonged.

7. Ether is a respiratory depressant, and usually exerts its bad effects primarily on the respiratory system. Chloroform is a circulatory depressant, and usually exerts its bad effects primarily on the circulatory system.

8. Nitrous oxid is a true anesthetic, and can be employed for prolonged operations (where complete muscular relaxation is not essential) when administered with certain proportions of oxygen, either pure or atmospheric. Its use is satisfactory only in skilled hands.

9. Ethyl bromid and ethyl chlorid are convenient for primary anesthesia and for short operations. They are probably less dangerous than chloroform. Both are circulatory and respiratory depressants.

10. Chloroform can not be made as safe as ether by admixture with other drugs, although the danger in its administration may be somewhat reduced by this means.

11. As a rule, strychnin or other heart tonic is indicated in the debilitated or preliminary to chloroformization, and morphin and atropin preliminary to etherization. Oxygen and posture are the best resuscitants.

12. Ether produces less circulatory depression than chloroform. It causes dilation of the arterioles and increased capillary circulation, thereby insuring a good blood supply to the circulatory and respiratory centers and to the heart muscle; consequently these systems are in less immediate danger than with chloroform.

13. On account of the reduction of body heat by anesthetics, they should be administered in a warm room; and the patient should be protected from loss of heat by proper covering of the body, by keeping it dry so

far as practicable, and by application of artificial heat when necessary. The temperature of the operating room should not be above 85 F. In changing the patient from operating room to bed, beware of cold halls or drafts.

14. Compression of the phrenic nerve will, if properly managed, usually control retching and kindred symptoms occurring during narcosis.

15. Postanesthetic nausea is best prevented by preparation and after-treatment which favor physiologic tonus, with especial reference to the emunctories, and by gastric lavage at the termination of anesthesia. Troublesome vomiting is in most instances quite unnecessary, no matter which anesthetic has been given. Chloroform is likely to cause more persistent nausea and vomiting than ether.

16. Patients should be well fed with easily digested and non-bulky food to within a few hours preceding anesthetization, and should be allowed water to within 2 or 3 hours of it. This plan reduces shock, favors elimination of the anesthetic and other waste products without undue irritation of the emunctory organs, and the patient will not suffer much from thirst and nausea. For the same reasons water should be given as liberally as practicable after anesthesia.

17. The danger from hemorrhage is no greater with ether than with chloroform, if as great, since the bleeding which occurs from the effects of ether is primary and is more certainly provided against; while the circulatory depression and vasomotor constriction due to chloroform to a great extent prevent primary bleeding and lead indirectly to later hemorrhage.

18. The safety margin between sufficient chloroform for anesthesia and the lethal dose is much narrower than it is with ether.

19. Anesthetic mixtures are in general less safe than the "straight goods." It is impossible to know the relative proportions of the different components of a mixture that the patient actually inhales; and when accidents occur the anesthetizer is hampered in his treatment by not always knowing which constituent is causing the trouble.

20. Ether-oxygen narcosis is safer than ether alone, by the "closed" method, but the oxygen gas is superfluous in most cases where ether is properly administered.

21. The ethyl bromid-ether method is a time saver, but is not safe. Ethyl chlorid-ether is probably still less safe.

22. Morphin-ether-chloroform anesthesia is of positive advantage in operations about the face, where it is difficult to maintain surgical narcosis by the ordinary means. Souchon's special inhaler is a valuable adjunct in these circumstances.

23. As a rule successions of anesthetics should be avoided, with the exception of nitrous oxid-ether.

24. Ether given alone is especially dangerous in the presence of arteriosclerosis, and chloroform especially so in anemia and where there are degenerative changes in the vital organs.

25. Partial or "talking" anesthesia is best in some cases, but should be avoided in prolonged operations unless taken quietly and with apparent abolishment of pain sense.

26. Primary ether narcosis stands next to nitrous oxid for short operations.

27. Hypnotic anesthesia should be employed only exceptionally, if at all.

28. In a patient liable to recurrent insanity, anesthesia is dangerous, but not so in one already insane.

29. Paralysis following anesthesia is almost always a pressure paralysis and is preventable.

30. In myocardial disease all anesthetics are especially dangerous, while in purely valvular disease they usually create but little disturbance. Ether is the anesthetic of choice, and is safer for many major operations in these cases than local anesthesia. Asphyxiation should be especially avoided in administering an anesthetic in the presence of heart disease. The use of chloroform is entirely out of question in myocardial disease.

31. In the plethoric and the obese, especial care must be exercised in the selection and administration of anesthetics, the chief danger encountered being from respiratory disturbance (often due to turgescence and consequent swelling of the boundary parts of the upper air passages).

32. Ether is the best anesthetic in obstetric practice. Chloroform is more dangerous to both mother and child.

33. Rectal etherization is feasible, but too dangerous to be employed in a routine way in any class of cases.

34. Any anesthetic, but especially ether, should be given with the greatest caution in the presence of special susceptibility to acute bronchial affections. Great care should also be exercised in the presence of asthma, and chloroform is in some cases preferable to ether.

35. Patients with peritonitis require a dangerous degree of anesthesia to produce relaxation of the abdomen. The anesthetizer should be extremely careful about "crowding" the anesthetic to overcome the rigidity brought about by the manipulation of sensitive or inflamed tissues, since handling such tissues often causes a dangerous degree of shock.

36. The best type of inhaler, for both chloroform and ether, is one made on the principle of the Esmarch chloroform mask.

37. The tongue forceps and the gag are seldom required, and the latter often endangers life, as ordinarily used. The right management of the jaw during narcosis will nearly always render these instruments superfluous.

38. The anesthetizer should gain the confidence of the patient as to his carefulness and ability, so that the mind may be at rest on these points. Patients who greatly fear anesthesia are the ones liable to cause the anesthetizer the most trouble.

39. The patient should be kept as free as possible from noise and other disturbances during the induction of anesthesia.

40. "Crowding" an anesthetic is usually not justifiable, as it adds materially to the danger. The necessity for "crowding" is the chief objection to the use of the nitrous oxid-ether method as ordinarily carried out.

41. No time should be lost in getting the patient in the hands of the surgeon after narcosis is complete; and the surgeon should operate as rapidly as possible consistent with good work.

42. In administering an anesthetic the dose should be regulated by the effect. The elaborately constructed pseudo-scientific apparatus for accurately measuring the dose is dangerous, cumbrous and expensive.

43. When chloroform is used, administer it slowly, especially in the early stages of anesthesia. The amount of anesthetic needed for the average subject varies with climatic conditions.

44. The pupillary reflexes constitute the best guide to the presence or absence of surgical anesthesia, and the best danger signal. Touching the cornea with the finger to determine the presence or absence of surgical anesthesia is unwarranted. The anesthetizer should watch

carefully the pupils, pulse, respiration, and the color and condition of the skin, depending on no single symptom as a danger signal. The patient should be carefully watched from the beginning of the anesthesia until fully restored to consciousness.

45. When anesthetics are properly administered the patient seldom struggles. Noisy respiration during anesthesia should be the exception, as it generally means faulty management.

46. The minimum amount of anesthetic should be given which is consistent with the production and maintenance of the desired degree of anesthesia.

47. The weight of evidence is overwhelmingly in favor of ether rather than chloroform. There are very few contraindications to ether when it is properly managed.

48. Statistics do not sufficiently represent the dangers encountered, as the hair-breadth escapes far outnumber the deaths.

49. The skilful anesthetizer is never at a loss to know what to do in emergencies—and he does the necessary thing instantly. Most of the deaths occur in the hands of the relatively unskilled.

50. The greatest danger from chloroform is during the second stage of narcosis. Profound chloroform narcosis should not be induced within five minutes, nor should it often require more than ten minutes to produce it.

51. Chloroform is nearly or quite as dangerous in the vigorous as in the debilitated, because the vigorous circulation takes it up and distributes it rapidly. Often it is the concentration of chloroform in the system, rather than the amount, which kills.

52. In the treatment of anesthetic asphyxia, tracheotomy should be resorted to when other means fail.

53. In anemia of the medulla the patient should be placed in the head-down position. In sudden paralytic dilation of the right heart, as after several deep inhalations of chloroform, the heart should be rhythmically compressed by squeezing the chest; or the patient placed temporarily in the feet-down posture to empty the heart, artificial respiration being constantly maintained.

54. The safe anesthetic will probably never be found, as the production of unconsciousness has an element of danger associated with it. Nitrous oxid-oxygen anesthesia is the safest anesthesia known.

55. It is more the method employed and skill displayed in administering anesthetics than the particular anesthetic used that in most cases lead to favorable termination and rapid recovery from an operative procedure.

56. The surgeon is frequently more concerned about the anesthetizer's work than about his own, as in over half the cases the anesthetic is more dangerous than the operation. The surgeon can not do his best operating while devoting half his attention to the anesthetic.

57. When possible, anesthetics should be administered by those especially skilled in their use. The specialist in anesthesia is a necessity of the times, and in order to become a first-class anesthetist special aptitude is required.

58. The subject of surgical anesthesia should be taught as a special branch in medical colleges, and each senior student should have practical experience along this line, under the supervision of a skilled anesthetist.

59. If all physicians and surgeons could be made to realize the fact that chloroform is vastly more dangerous than ether, then chloroform would be discarded as a routine anesthetic and used only in exceptional cases.

Note.—At the meeting of the American Surgical Association, held in Washington, May 12-14, 1903, John C. Munro, Boston, reported a series of 500 surgical patients showing albumin and casts in the urine, without evidences of renal degeneration before anesthetization. Nearly all of these patients were anesthetized with ether, and in none of them was any noticeable renal damage inflicted. Most of these patients were of the poorer classes and entered the hospital poorly nourished and debilitated.

DISCUSSION.

Dr. James E. Moore, Minneapolis—I dissent from the last statement the gentleman made. I have been doing surgery for the past thirty years, and have done a lot of it during the past twenty years. I have used chloroform in 95 per cent. of all my operations, and I have never had a death, either at the time or subsequently, due to the anesthetic. The author says that when a patient dies from ether anesthesia it is usually due to faulty administration. That remark, gentlemen, applies eminently to chloroform. His third conclusion is worth discussion, if he had made no other remark during his whole paper. He says a competent anesthetizer is necessary. With a competent anesthetizer I have no fear of chloroform, save in cases where its use is contraindicated, and the longer I use it the more convinced I become of the truth of this principle. It is not the anesthetic that is dangerous so much as the unskilled anesthetizer.

Dr. A. J. Ochsner, Chicago—The statement made by Dr. Moore concerning the anesthetist who understands his business thoroughly is absolutely correct, but we must remember that more than one-half, and possibly more than three-fourths, of all the anesthetics are administered by anesthetists with very little experience, consequently, with the conditions as they exist, I believe that the last conclusion of the author will still stand. In my own practice I use chloroform to anesthetize the patient regularly and change to ether before the operation is begun, unless there is a distinct contraindication, and I do it because I have a competent anesthetist. I would not do so unless I had. So, taking the conditions as they should be, I believe that Dr. Moore's point would be perfectly right, but taking the conditions as they exist, I believe that the author's conclusion is absolutely correct. There is always a feeling of confidence in the operator, if his anesthetist is not experienced in giving ether, because the more he gives the better it is for the patient, while, if the same anesthetist should give too much chloroform it would be very bad for the patient. I would say that if either of these anesthetics give trouble to the patient, then that anesthetic should not be used again during the same operation. If chloroform be given and the patient shows any bad symptoms, the chloroform should be abandoned throughout the operation, because the second or third time that trouble comes it may be fatal. In the administration of chloroform one point to be borne in mind which very frequently is overlooked, is that when trouble comes it is important to get rid of as much of the chloroform as possible. In making artificial respiration for the purpose of resting the patient, as a rule, the first thing done is to lift the arms and fill the lungs, presumably with air, but as a matter of fact with the chloroform, which is in the upper part of the lungs, and therefore, instead of giving the patient air you give him a very large dose of chloroform on top of what he already has. Therefore, the first thing to do is to make a number of very rapid and complete compressions of the chest in order to force out as much of the chloroform as possible. Aside from artificial breathing, I believe there is absolutely no use in all the methods which have been recommended for the purpose of reviving patients who have gotten into a dangerous condition during the administration of an anesthetic. There are but very few minutes to do anything for the patient if there is real danger. The practice Dr. Mellish makes of preparing the patient is very good. By his taking a big dose of castor oil to get rid of the fecal matter he is placed in a much better condition to stand the anesthetic. Of course, if his kidneys are bad, or if he has a bad heart, these conditions should be looked after.

The element of confidence on the part of the patient is of the very greatest importance. If you have a person giving the anesthetic in whom the patient has confidence that patient is not likely to get into trouble. If the patient vomits after the operation, gastric lavage will give immediate relief in most cases.

DR. M. B. TINKER, Baltimore—Local anesthesia I feel should be so much more extensively used than is now done. Many surgeons do not appreciate how much can be done under local anesthesia. As an example, hernia operations can be done under cocain and with so little discomfort to the patient that they say in many instances that the pain is less than attempts made to reduce the hernia by taxis. I would not advocate local anesthesia in all cases by any means, but I am convinced that it does save a certain number of deaths from ether pneumonia, lung embolism, heart failure and other causes which I do not believe can be avoided if general anesthesia is employed. Several factors essential to success in the use of a local anesthetic: In the first place the patient should understand the advantages of operation under local anesthesia, and want it done in this manner. If he does not want the operation done in this manner he will object to the slightest pain and you will not be successful. Another point of great importance is the necessity for taking plenty of time; you can rush local anesthesia. You have to take care to infiltrate tissues well and take time for dissection. If you do not you will cause your patient much pain and he will complain so bitterly that you can not complete the operation. A good sized preliminary dose of morphin is also of great importance, say 1-6 of a grain one hour before the operation, another 1-6 at the beginning of the operation and still another 1-6 during the operation. A good moral anesthetist at the head of the table will be of great advantage in distracting the patient's attention from the slight pains.

DR. WILLIAM J. MAYO, Rochester, Minn.—We have for years preferred ether to chloroform, even though there may be just as many deaths from ether as from chloroform. When a fatal result does occur, the patient has a much better chance to bid good-bye to his friends than if he died from chloroform anesthesia. Dr. Ochsner brought out one very excellent point, that the first thing to do in trouble from chloroform anesthesia is to force all of the chloroform out of the lungs by compressing the lungs before forcing the patient to take an inspiration. The Souchon anesthetizer is a very valuable apparatus for operations on the throat and mouth.

There is a large tendency in this country to settle things in the laboratory. This can not be done. Now, take the question of hemoglobin, and the influence which it exerts on anesthesia; the amount of hemoglobin present is not usually so important a fact as is the cause of a loss of hemoglobin. I have often operated when the hemoglobin was as low as 25 per cent., due to hemorrhage, and I have never seen an accident following such an operation. But if you do an operation on a case in which from some malignant cause the hemoglobin is reduced to 40 per cent. or 50 per cent., and the oxygen-carrying power of the patient is decreased, you stand a chance to lose the case because with cachexia the blood is poor in oxygen-carrying power. We are exceedingly afraid of low hemoglobin in cancerous disease, but I would not hesitate to perform an operation with the hemoglobin as low as 25 per cent., provided the disease is due to blood loss resulting in anemia, and provided I can reach the cause of the loss of hemoglobin.

DR. JOHN E. SUMMERS, JR., Omaha—I want to call attention to the post-operative effects of anesthetics on the temperature curve. For some time I have been noticing that after prolonged operations under ether we would occasionally get a temperature curve. This used to be called "reaction," but now I have become convinced that it is due to the anesthetic. I have gotten so that I think I can recognize it, and am not alarmed.

Anybody who has lost a case on the table never forgets the anesthetic. I have had the misfortune to lose one case on the table from chloroform, and it does not make me feel any better to know that every surgeon in my vicinity has had the same experience. Death comes so suddenly that it does not give you an opportunity to protect yourself or your patient. Dr. Mayo has expressed it very nicely by saying that it does not even give the patient an opportunity to say good-bye to his physician or his friends. Recently a little child was brought into the hospital with a compound fracture of the leg. He was given chloroform and the fracture reduced. Just as he was coming out of the anesthetic he vomited and aspirated some potato into his trachea. I opened the trachea immediately, but the child died from asphyxiation. I think it is always better in emergency work, especially among children, to wash out the stomach prior to the administration of the anesthetic, and in our hospital where much emergency work is done, I have made this a standing order because we can not know whether the stomach is empty or full.

In the Johns Hopkins Hospital, I notice by their Bulletin, that Cushing has found by experiments with the tonometer that chloroform always reduces arterial pressure more than does ether. I think there is no doubt that we are more liable to have accidents happen if we use chloroform than if we administer ether.

DR. E. J. MELLISH, El Paso, Texas—Dr. Ochsner spoke about using chloroform in all cases when he has a competent anesthetizer. It can be used more safely with a competent anesthetizer, but I have found from experience that no matter how chloroform is used it is more dangerous than ether. Dr. Moore's favorable experience with chloroform is doubtless due to skilful management of the anesthesias. Within a period of eight years I saw four deaths on the table from anesthetics, three from chloroform and one from ether. The patient who died from ether was extremely apprehensive before the anesthesia—lacked the necessary confidence in the anesthetizer. When this confidence is absent the danger is greatly increased. I have had at my disposal the records of 6,000 anesthesias at a Chicago hospital. The first three thousand anesthetics were given under the supervision of skilled anesthetizers. The last three thousand were given by those much less skilled in the administration of anesthetics. There were three deaths in this series, all occurring in the second three thousand cases. When chloroform is used, dangerous symptoms are likely to develop much more rapidly than after ether administration, and in the latter condition you have a much better chance to resuscitate your patient.

Another thing is, that chloroform, being heavy, is eliminated very slowly, and it has been detected in the sputa two or three days after the anesthesia. This means that the patient is continuously more or less poisoned during this time. Ether is eliminated much more rapidly.

TWO CASES OF PARATYPHOID INFECTION; ONE CAUSED BY AN ABERRANT ORGANISM.

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CHICAGO.

Cases of paratyphoid fever, both sporadic and epidemic,[1] have been reported so frequently of late that perhaps some special reason should be given for calling attention to any more isolated cases. In the present instance the author believes that the bacteriologic findings are of sufficient interest to warrant a brief presentation:

CASE 1.—The patient, a man aged 58 years, entered the Presbyterian Hospital, Oct. 22, 1902. His temperature by mouth was 102.2, and he complained of frontal headache and severe abdominal pain. The abdomen was tender everywhere, but the liver and spleen were not palpable and no rose spots were visible. November 1 the patient had two hemorrhages from the bowels. The first was slight and only a small amount of blood was cast out. About three pints of liquid blood containing some clots were discharged with the second hemor-

1. Conradi and v. Drigalski: Zeit. f. Hyg., 1903, xlii, 141.

rhage. The abdominal distress and headache continued through the first week of November, and during this time the patient was very weak and restless and at times slightly delirious. Beginning with the second week of November he began to show definite signs of improvement, and from this time his progress was uninterrupted and he was discharged November 21.

No rose spots were found at any time. The Widal test for typhoid was persistently negative throughout the course of the disease, even in dilutions as low as 1 to 10.

Five cubic centimeters of blood were drawn from one of the large veins of the arm, using the usual surgical precautions for asepsis. About 3 c.c. of this blood were put into five flasks each containing 150 c.c. of sugar-free bouillon and within twenty-four hours the organism to be described was obtained in pure culture.

This organism resembles the typhoid bacillus in morphology. It shows no capsule; it is not sporogenic. It stains somewhat unevenly with anilin dyes and is readily decolorized by Gram's method. It is motile, but is more sluggish than *B. typhosus*.

CULTURAL CHARACTERISTICS.[2]

Bouillon.—A uniform turbidity is shown in twenty-four hours. No scum forms even when growth continues for several days.

Agar.—A heavy white growth appears in twenty-four hours. This is moist with a raised margin and a smooth homogeneous surface. The growth is largely limited to the line of inoculation.

Litmus Milk.—No change is noticeable during the first forty-eight hours, but after the second day the reaction soon becomes strongly acid. No precipitation of casein occurs. At the end of several weeks the medium presents a deep blue color.

Gelatin.—No liquefaction occurs.

Neutral-red Agar.[3]—Both stab and shake cultures were used. A few gas bubbles formed, but no change occurred in the color of the media, even after several weeks.

Carbohydrates.—Glucose, saccharose, levulose, lactose, mannite, galactose and dextrin were tested in the fermentation tube. One per cent. of the carbohydrate was added to ordinary nutrient broth after removing the muscle sugar. Care was observed in every case to prevent overheating the sugar broths, and all that became darkened in heating were discarded. Gas production occurred only in the glucose broth.

REPORT OF A SECOND CASE.

A second case came to the writer's attention at the time the organism just described was being studied. This case was a private patient of Dr. James W. Walker and the organism was isolated by Dr. Harris of the College of Physicians and Surgeons, Chicago, and given to me for further study. This organism resembles very closely the bacillus isolated from Case 1 in its morphology and growths in bouillon, agar and gelatin.

Litmus Milk.—A slight acidity is noticed within the first twenty-four hours, but this is lost during the second or third day and the color again becomes neutral. After several weeks the medium assumes the same deep blue color described under Case 1.

Neutral-red Agar.—Gas bubbles are formed within twenty-four hours in both stab and shake cultures. The color is rapidly changing during this time so that only in the lower one-fifth of the medium does the color still persist. It is almost entirely reduced to a light yellow by the end of the fourth day. After the first week the color gradually returns until the original appearance is again given. This return of color seems to occur from above downward instead of from below upward, as described by Buxton.

Carbohydrates.—This organism was grown in saccharose, glucose, mannite, levulose, lactose and dextrin media, using 1 per cent. in bouillon as before. Gas was formed in each case except in the broth containing saccharose and lactose. The fermentation tests with this organism seemed to follow so closely the results described by Buxton[4] with his paratyphoid bacillus and closely allied forms that a comparative study was made in the different carbohydrates with the two forms here described and Buxton's organism. The gas formed was only roughly analyzed by the use of 2 per cent. NaOH.

PARACOLON BACILLUS FROM BUXTON'S CASE 7.

	24 hrs. p. cent.	48 hrs. p. cent.	72 hrs. p. cent.	5 days. p. cent.	
Saccharose	..	..	..	..	
Glucose	40	45	..	..	$H_2 : CO_2 = 3 : 1$
Mannite	50	..	..	..	$H_2 : CO_2 = 4 : 1$
Levulose	50	..	..	..	$H_2 : CO_2 = 6 : 1$
Lactose	..	..	..	..	
Dextrin	5	10	10	22	$H_2 : CO_2 = 4 : 1$

ORGANISM FROM CASE 2.

	24 hrs. p. cent.	48 hrs. p. cent.	72 hrs. p. cent.	
Saccharose	..	..	..	
Glucose	22	40	41	$H_2 : CO_2 = 2 : 1$
Mannite	50	55	..	$H_2 : CO_2 = 4 : 1$
Levulose	30	45	..	$H_2 : CO_2 = 2 : 1$
Lactose	..	..	..	
Dextrin	5	15	20	$H_2 : CO_2 = 3 : 1$

ORGANISM FROM CASE 1.

	24 hrs. p. cent.	48 hrs. p. cent.	72 hrs. p. cent.	
Glucose*	..	30	50	$H_2 : CO_2 = 5 : 1$

* No fermentation was obtained with saccharose, mannite, levulose, lactose and dextrin.

A comparison of the tables showing the carbohydrate tests indicates a close relationship between Buxton's paratyphoid bacillus and the organism[5] isolated from Case 2. This is also shown by a comparison of the growths in litmus milk and neutral-red agar. In order to study still further this similarity a comparison was made of the agglutinative characteristics of Buxton's form and the two organisms here described.

MICROSCOPIC AGGLUTINATION TESTS.

No dilutions were made above 1 to 100. Buxton's paracolon was tested with serum from Case 2 and agglutination was shown in dilutions as high as 1 to 50. Serum from Case 2 was tested with Bacillus 1, and agglutination occurred in all dilutions as high as 1 to 50. Above this, dilutions as high as 1 to 100 gave almost complete agglutination, but I was unable to decide at any time that all motility was positively lost. Serum from Case 1, and also from Case 2, was tested with typhoid and hog cholera bacilli and *B. enteritidis* with negative results in every case even in dilutions as low as 1 to 10.

MACROSCOPIC AGGLUTINATION TESTS.

Small hemolysis test tubes were used in which the bacilli, in definite quantities, were added to a serum of the desired dilution, and after three hours' incubation the results were noted with the naked eye. The agglutination was considered positive only when complete

2. Except where stated otherwise all media were prepared according to the "Proceedings Recommended for the Study of Bacteria." Reports and papers of the American Public Health Association, 1898, xxviii, p. 60.

3. Neutral red agar was prepared by adding to neutral agar 0.5 per cent. dextrose and 1 per cent. of a 0.5 per cent. aqueous solution of neutral red (Grübler's).

4. Buxton: Jour. Med. Research, 1902, viii, 201.

5. The forms isolated from Cases 1 and 2 will hereafter be referred to as Bacillus 1 and Bacillus 2 respectively.

precipitation had occurred, leaving the liquid clear. Serum was obtained from four rabbits. Of these, one was immunized with Buxton's paratyphoid bacillus, the inoculations being continued until rapid agglutination was given at 1 to 2,000. A second rabbit was immunized with a typhoid organism.[6] The third rabbit was inoculated with the bacillus of hog cholera[7] until complete agglutination was given at 1 to 1,000. The fourth rabbit was inoculated with the *B. enteritidis*.[8] The degree of agglutinative power reached in the serum of this rabbit was much lower than in any of the others, as the highest dilution giving positive results was 1 to 400.

Serum from the rabbit immunized with Buxton's paratyphoid bacillus gave negative results in dilutions of 1 to 10 with the bacilli of typhoid and hog cholera and with *B. enteritidis*.

Sera from the rabbits that had been inoculated with the organisms of typhoid, hog cholera and with *B. enteritidis* gave negative results at all dilutions with Buxton's form and with both Bacillus 1 and Bacillus 2. Bacillus 1, when added to Buxton's serum, was agglutinated at 1 to 100. Above this the precipitation was never found to be complete. Bacillus 2 was completely precipitated by the Buxton serum at all dilutions as high as 1 to 2,000. No dilutions were tried above this. Using the sign + to indicate complete agglutination, these results may be tabulated as follows:

	Bacillus 1.	Bacillus 2.	Buxton's form.
Buxton serum	+100	+2000	+2000
Typhoid serum	— 10	— 10	— 10
Hog-cholera serum	— 10	— 10	— 10
Enteritidis serum	— 10	— 10	— 10

To summarize, Bacillus 2 must be regarded as an organism which possesses the general characteristics of the paracolons, and, from its growth in litmus milk and neutral-red agar, together with the fermentation and agglutination tests, possesses a close relationship to Buxton's form. I have not made comparisons with other members of the paratyphoid group, but from Buxton's comparative study Bacillus 2 would seem to belong to the subgroup which comprises the organism isolated by Gwyn,[9] two forms described by Johnston,[10] Hewlett's form,[11] the bacillus Müller of Schottmüller,[12] Buxton's paracolon[13] and possibly Cushing's[14] Bacillus O.

Bacillus 1, while conforming to the general tests for paratyphoid bacilli, seems to occupy rather an independent position. The clinical history of this case is specially interesting because it shows the occurrence of two hemorrhages from the bowel. In the eighty-four cases of paratyphoid infection that have been reported, but four cases with hemorrhage have occurred. One was the case reported by Gwyn. Another, reported by Strong[15] showed a complication from malarial infection. The third case was reported by Hume[16] and the fourth was one of an epidemic of fourteen cases reported by De Feyfer and Kayser.[17]

In morphology, Bacillus 1 shows no important points of difference from the rest of the paratyphoid bacilli which have been described, but in its special cultural characteristics it presents very marked individuality. It develops a strongly acid reaction in litmus milk, which does not, however, cause a coagulation of the casein and which changes to the typical alkaline state, although very slowly. No reduction in the color of the neutral-red agar occurs, which would seem to point toward a relationship with the typhoid bacillus.

The absence of fermentation, except in the glucose media, shows a particularly wide departure from the common type of paratyphoid organism studied by Buxton.

I am indebted to Dr. E. O. Jordan for many valuable suggestions and criticisms during the progress of this work, and to Dr. B. W. Sippy, who was the attending physician to the first case I have reported, for favors received at the hospital.

6. This form was Typhoid 6 of Theobald Smith, which was originally obtained from the spleen of a typhoid patient. This serum agglutinated the typhoid bacillus in dilution of 1 to 25,000.

7. This organism is one obtained from V. A. Moore of the New York State Veterinary College, Cornell University.

8. This organism is from the stock cultures of the university laboratory, and possesses the typical cultural characteristics of *B. enteritidis*. The source is unknown.

9. Gwyn: Johns Hopkins Hosp. Bull., 1898, ix, 54.

10. Johnston: Amer. Jour. Med. Sci., 1902, cxxxv, 187.

11. Hewlett: Ibid., 1902, cxxiv, 200.

12. Schottmüller: Deut. med. Woch., 1900, xxvi, 511.

13. Buxton & Coleman: Amer. Jour. of Med. Sciences, 1902, cxxiii, 976.

14. Cushing: Johns Hopkins Hosp. Bull., 1900, xi, 156.

15. Strong: Johns Hopkins Hosp. Bull., 1902, xiii, 107.

16. Hume: Report of the Thompson Yates Laboratory, 1902, iv, 385.

Clinical Reports.

A CASE OF PARATYPHOID.

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Until the symptomatology of the various forms of paratyphoid has been tabulated more completely than at present, apology for publishing clinical cases in detail should be superfluous. For the working out of the bacteriology and, therefore, for the establishment of the diagnosis, I am indebted to Mr. G. Bertnard Smith, who publishes his report separately in this number of THE JOURNAL, and to Dr. Fred G. Harris, pathologist of Cook County Hospital, who began the culture.

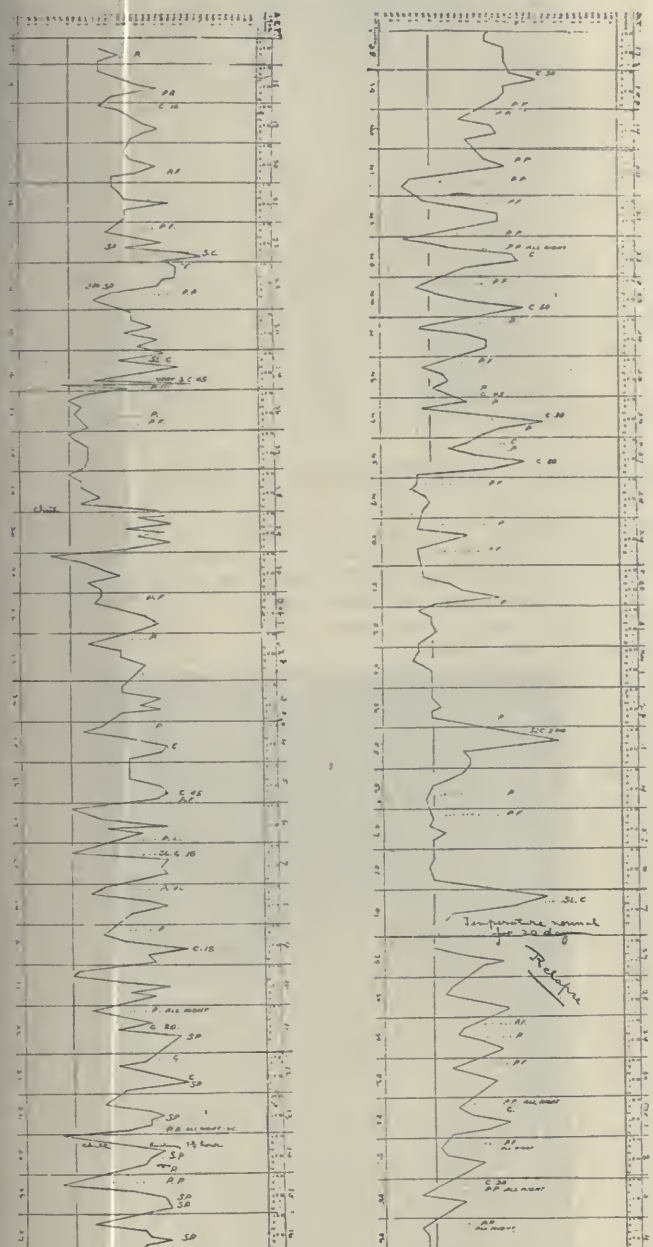
Dr. H. M. R.; aged 30; Jewish; family history negative. Eleven years ago was ill for ten days with what was said to be typhoid, but this is doubtful. Has not been out of Chicago for years. Present illness began about Sept. 10, 1902, with malaise, chilly sensations, headache, anorexia, free perspiration and slight temperature, with which symptoms patient went about his professional duties for a week, and on September 17 went to bed with what he and I presumed was ordinary typhoid fever. Pulse was then 80; physical examination negative, and it may be stated here to dispose of the matter, that at no time was the spleen palpable, there were never any rose spots, no tympanites, no diarrhea, no abdominal tenderness, in short, no abdominal symptoms nor signs. There was never any cough, nor was the tongue ever dry; patient was never unconscious, though there was some stupor during the first days in bed. From the beginning the chills (see temperature chart), perspiration and fever were the dominant symptoms, and led to a repeated search for the *Plasmodium malariæ*, which was fruitless.

September 22 there was nausea and vomiting. September 23, very restless and uncomfortable. Second heart tone duplicated, pulse 130, dyspnea evident when talking, no râles nor cough, complained of diffuse pain throughout the chest. September 24, numbness of both little fingers, severe chills, albumin in the urine.

September 25, (1) The repeated severe chills, with absence of the plasmodium, and despite the liberal use of quinin; (2) the drenching sweats, (3) the diffuse chest pain, (4) the increasing dyspnea, (5) the absence of the Widal and Ehrlich reactions, (6) absence of all abdominal symptoms and signs, (7) the very irregular temperature, and (8) the general evidence of profound toxemia in the absence of a discoverable local lesion, strongly inclined me to think the case one of acute miliary tuberculosis.

17. De Feyfer and Kayser: Münch. med. Woch., 1902, xlix, 1692.

Dr. A. R. Edwards consulted with me and saw the patient when at his worst. He thought the chances between tuberculosis and an atypical typhoid were about even, with a slight leaning toward the latter. Within five hours the clinical picture was much changed, and with it my opinion. Patient became cheerful and brighter and the dyspnea was diminished. His temperature had fallen seven degrees in one hour, and it then remained below a hundred for nearly three days. The change was almost in the nature of a crisis. September 28, pain in the left groin developed and the following day a femoral thrombosis was evident on palpation.



Clinical chart of Dr. Walker's patient. Explanation of lettering: P. P., Perspired profusely. P. F., Perspired freely. P. V. L., Perspired very little. SL. P., Slight perspiration. SP., Sponged. V., Vomited. C., Chill. SL. C., Slight chill. S. C., Severe chill. The figures in connection with the chills indicate the duration in minutes, unless otherwise specified.

September 29 Dr. F. G. Harris inoculated five flasks of bouillon with blood drawn from a vein. It is from this culture that the findings reported by Mr. G. B. Smith are derived. Urine, specific gravity 1022, trace of albumin, peptone present, few hyaline casts. Pulse ranged about 110, except at time of chills, when it went to 130 or 140. October 15, no new developments. Phlebitis now hardly noticeable; feels comfortable, except when temperature rises; sleeps better. November 7, feels strong and free from pain. November 12, walked a little.

During the relapse, beginning November 27 and lasting one week (see chart), the only important symptoms were again the chilliness, perspiration and fever. He eventually made a complete recovery. Of the cardinal symptoms it may be added that the chills were of the severity of malarial chills, and the sweats so profuse that his nightgown had to be changed from three to seven times in a night. The variability of the fever is indicated by the chart. At different times during the course of the illness the blood was examined for the Widal reaction, independently, by Drs. Hektoen, W. A. Evans, F. G. Harris and G. B. Smith, with negative results.

SERRATUS PARALYSIS.

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Owing to the comparative rarity of this particular type of peripheral palsy I report the following cases which recently came under my observation in the service of Dr. H. M. Thomas, in the Johns Hopkins Hospital Dispensary.

CASE 1 (Neurologic, No. 14,722).—An American woman, aged 32, married, and a housewife by occupation.

Family History.—Her family history is unimportant; her father, who had always enjoyed excellent health, died at an advanced age, and her mother is still living. There is no suspicion of inherited constitutional disease, and none of her immediate relatives has ever suffered from paralysis.

Previous History.—She had the usual diseases of childhood, pneumonia at 18 and typhoid fever at 20. There is no evidence of her ever having had venereal disease and she is not addicted to the use of intoxicants. She has been married four years, has a healthy child 3 years of age, and there has been one miscarriage, thirteen months ago. Her surroundings are good, and she has no hard or difficult duties to perform.

Two years ago she suffered from a peculiar numb, prickling sensation in the forearms and hands which came on suddenly and was not accompanied by local coldness, tenderness or edema. No weakness nor motor disturbance of the parts followed, although there was some stiffness of the phalangeal joints. The attack lasted eight days. She has since been well up to within two months previous to her admission to the dispensary, except for a slight, painful swelling of the left ankle one year later.

Present Trouble.—On May 5, 1903, while in her usual health and without any known cause, she experienced, immediately after taking a hot bath, severe pain in both shoulders, radiating down the arms. The pain was very intense, but gradually subsided in the course of three weeks. It was associated with some swelling of the hands, but the joints seem not to have been affected. After the subsidence of the pain she noticed a slight drooping of the right shoulder, with inability to manage the joint. She was unable to lift her hand to her head, although she could raise a bucket, or other heavy object, from the floor. A physician told her she was suffering "from a dislocation of the shoulder, due to rheumatic contraction of the muscles," and after two months' treatment it was with this complaint that she came to the dispensary.

Examination.—On admission the patient was seen to be a small, well-nourished, intelligent woman. Her color was good, teeth sound and well shaped, no blue line on gums, and the general physical examination was negative. There was no abnormality discovered in the functions of any of the cranial nerves. The movements of the head and neck were perfect. With the patient standing erect, when the trunk was examined posteriorly, there was some lateral curvature of the spine, the convexity being to the right.

At rest, with arms at side, the inferior angle of right scapula was a trifle more prominent than that of the left. When the patient endeavored to extend the arm anteriorly a marked deformity developed. The scapula rotated on its vertical axis, its inner border leaving the chest wall, giving the

typical picture of "wing scapula." This became more pronounced when the patient made an effort to depress the arm against resistance. She was unable to raise her hand above her head, nor could she abduct the arms laterally at more than a right angle. All the movements appeared to be somewhat impaired, although there was no paralysis of any of the muscles other than the serratus. The deltoid seemed a trifle flabby, but the muscles moving the elbow, wrist and smaller joints were apparently normal. The left arm and hand were unaffected. There was no sensory disturbance discovered.

Electrical examination showed a normal response to all muscles except the serratus, and we were unable to get a satisfactory contraction from it on either side, although several efforts were made with both the galvanic and faradic currents. The muscles of the trunk and legs were not affected.

Diagnosis.—It was evident that this patient was suffering from a paralysis of the serratus magnus muscle, due, in all probability, to a neuritis of the brachial plexus which had injured the trunk of the posterior thoracic nerve.

Treatment.—She was placed on tonic treatment, in the form of tincture of nux vomica, m. xx, t. i. d., and galvanism

Fig 1.—Case 2. Displacement of the right scapula when the arm was held horizontally in front.

applied to the brachial plexus and the affected muscles twice weekly. We were not able to secure a photograph at this time, but her condition is accurately depicted by the first picture of the accompanying case.

Course.—After the treatment had been continued for three or four weeks marked improvement was evidenced and an examination on September 8 showed almost complete restoration of function. The patient herself experienced no discomfort. She could raise the arm above her head or extend it laterally and the scapula showed no tendency to leave its normal position. If, however, she was given a heavy book and told to raise it upward the full length of her arm, then lower it slowly, the vertebral border of the scapula receded from the chest wall and the entire bone rotated slightly, showing that the muscle was still weak.

CASE 2.—(Neurologic, No. 10,407.) A white man, aged 38, a street-car conductor, first came to the dispensary Oct. 23, 1899.

Family History.—Negative, none of his immediate relatives, so far as he knows, having ever suffered from nervous or mental disease.

Previous History.—He has always enjoyed excellent health, does not remember having had the diseases of childhood, and denies venereal disease. Owing to the character of his work he is subjected to considerable exposure during bad weather.

Fig. 2.—Case 2. Displacement of the right scapula when the arm was held above and slightly in front of the head.

Present Trouble.—Five months ago he experienced a severe attack of pain in right shoulder accompanied by a swelling of the hand on that side. This came on without appreciable cause and persisted for three weeks. At the end of that time the edema had disappeared, but a dull, aching pain remained and he noticed impaired movement of the shoulder. It was for this condition that he came under treatment.

Fig. 3.—Case 2. Displacement of inferior angle of right scapula when the arm was held at the side of the trunk.

Examination.—The patient, on admission, was found to be a hardy-looking, rather muscular man of medium size, with face and hands showing evidence of exposure to sun. Teeth

fairly good, no blue lines on gums, functions of all the cranial nerves normal; the general physical examination was negative.

With the patient standing upright, arms at sides, the inferior angle of the right scapula was about 6 cm. higher than that of the left, and protruded backward from the posterior thoracic wall, a trifle farther than its fellow of the opposite side. There was marked impairment in the use of the muscles of the entire shoulder, because of inability to control or fix the scapula. When the hand was raised above the head by a second person the patient complained of pain in the region of the scapula, extending out toward the arm. The accompanying photographs give an excellent representation of the attitude assumed by the shoulder blade when the arm was placed in various positions. There was considerable atrophy of the right deltoid and both biceps and pectoral muscles were soft and flabby on that side.

Electrical examination showed a lack of faradic irritability only in the serratus and the lower portion of the trapezius on the right side, with a sluggish but not delayed reaction to the galvanic current in these muscles. The response was normal in all of the others.

Treatment.—The patient was given no internal treatment, but the right brachial plexus, posterior thoracic nerve and the affected muscles received galvanism twice each week for a considerable period of time. March 19, 1900, he was able to raise his hand above his head. The scapula still projected slightly when the limb was elevated.

Course.—He returned to work in August, 1900, but the constant and oftentimes violent movement brought on a relapse, and he was compelled to give up his position again. The current was applied regularly, however, and the improvement, while slow, was continued. In May of the following year (1901) recovery was complete, and he has not lost a day on account of illness since that time. A recent examination shows the parts to be normal in every way, and the electrical tests gave practically the same results on the two sides.

Comments.—Cases of serratus paralysis, although well recognized, are of uncommon occurrence. Among 14,956 cases registered in the neurologic department of the Johns Hopkins Hospital there are but these two uncomplicated conditions of this character. In each the etiologic factor was a neuritis of the brachial plexus, affecting the nerve supply of the serratus secondarily. The primary cause in Case 2 was, in all probability, exposure, coupled with overexertion of the parts comprising the shoulder girdle. The practical points illustrated by these two cases are: 1. The relative infrequency with which the condition is encountered. 2. The intimate relationship its etiology bears to inflammation of the nerve trunks composing the brachial plexus. 3. The liability to unilateral involvement of the right side. 4. The favorableness of the prognosis in cases where trauma is not a factor in the causation. 5. The importance of early and continued treatment by galvanism.

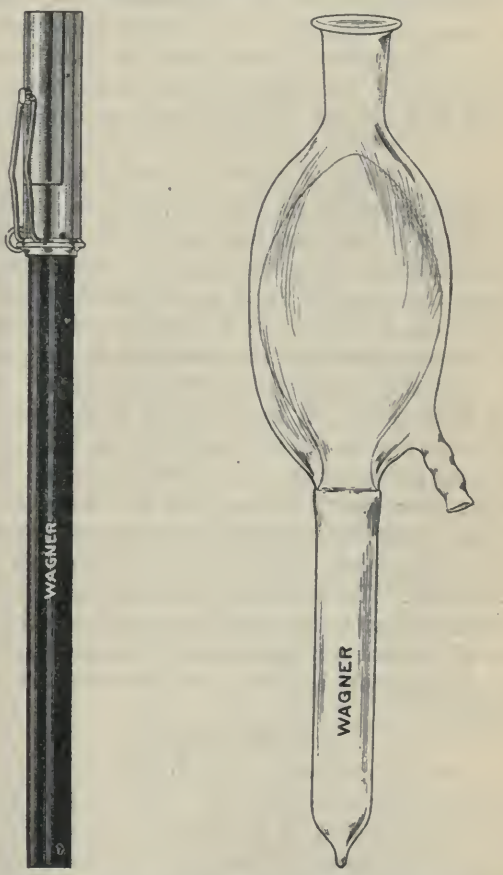
New Instrument.

THE HUGHES IONIZER.

R. V. WAGNER, M.D.
CHICAGO.

Electricity is generally conceded to be a mode of molecular motion, and the higher the voltage or tension of the current becomes, the higher the mode of motion. When electricity is conducted through a substance it must impart a mode of motion to its molecular structures, and if this mode of motion is violent enough it disassociates the molecular structures and breaks them up. Very high voltage or high tension currents conducted through the air decompose the elements of the air, producing ozone in large quantities; it is on this principle that ozone generators have been commonly constructed. But the highest tension currents do not impart as high a mode of motion to the molecular structures of the normal air as to those of rarified air; as the molecular structures of rarified air in a vacuum tube may be made to move at a much higher rate than is obtainable in any other way, the inductive energy arising from vacuum tubes impart a correspondingly higher mode of motion to the structures of the air surrounding them, producing more perfect decomposition.

It is on this principle that this new instrument has been constructed. A vacuum tube, excited by a high frequency, high tension current, is enclosed in a chamber through which air may be passed and the air acted on by the excited vacuum tube is much more finely broken up (breaking the molecular structures into atoms and the atoms into ions) than when the high-tension current is conducted through the air directly. One great disadvantage in the use of decomposed air is that the decomposed nitrogen produces effects on the tissues that are not desired, but in this instruument the air passing through the chamber may be made to carry remedies of an alkaline character so as to neutralize the acid effects produced by the decomposed nitrogen. If the ionizer be used in



combination with a nebulizer, the remedies held in suspension by the air acted on will be more finely broken up and decomposed than any nebulizer or atomizer is capable of doing, and in the treatment of nose, throat and lung troubles will be more effective by reason of the increased degree of penetration.

308 Dearborn St.

Accuracy in Therapeutics.—Medicine is a progressive art, and is becoming more scientific. Causes of symptoms and diseases are now known, and the attempts made at their eradication is a chief principle in treatment. Manual or mechanical aids are being used with increasing frequency and satisfaction. The local application of drugs is used much more frequently, instead of soaking the whole body to get the effect on some special part. Instead of huge doses of crude drugs, the alkaloids or active principles are being used, so that one can now medicate with as much skill and as definitely as he can use the knife, stopping short at the physiologic effect or increasing or decreasing the effect as he wills.—*Iowa Medical Journal.*

Special Article.

THE TYPHOID EPIDEMIC AT BUTLER, PENNSYLVANIA.

(From Our Special Commissioner.)

The newspaper reports of the typhoid epidemic at Butler, Pa., have not been exaggerated. Butler is a thriving little city of about 16,000 inhabitants, most attractively situated in a hilly country in western Pennsylvania, about forty miles northwest of Pittsburg. It is primarily an oil town, and as such has been considered particularly prosperous. The manufacture of plate-glass under local management is one of the leading industries. In the spring of 1902 the Standard Steel Car Company opened extensive works at Butler and these were in operation until a few months ago, when they were closed on account of the depression in the steel market. It is said that there were no "poor people" in the town until the advent of the steel works, which brought in a number of Hungarians and other foreigners.

PREVIOUS TYPHOID IN BUTLER.

Typhoid fever has not been unknown in Butler in the past, although the town has never before experienced a serious epidemic. It is said that there were seven deaths reported from typhoid fever in the month of November, 1902, which, if true, is a fact that the authorities should take into consideration in dealing with the present situation. It seems probable, however, that many of the typhoid fever deaths in Butler prior to the present outbreak were due to the proximity of the town of Pittsburg, long known as the hotbed of the disease. The close business relations of Butler with the latter city afford perhaps a sufficient explanation for the previous occurrence of occasional, indeed of rather frequent, cases in Butler itself. The records of cases and deaths, however, in accordance with the usual practice of small cities and towns in this country, have been so loosely kept that no exact information has been, or probably ever will be, obtainable.

PRESENT EPIDEMIC.

The present outbreak became first apparent early in November of the current year. On Sunday, November 8, the Butler Board of Health held an all-day session and as a result issued an address to the people of Butler advising them to boil all water used for domestic purposes. This prompt action seems to have been taken at the very beginning of the outbreak. After this date items to the effect that such-and-such a resident of Butler was ill with "the fever" appeared frequently in the local papers. It was not until about a week later, however, that any large measure of alarm began to be felt or expressed. On November 28 the gravity of the situation was manifest and the Pennsylvania State Board of Health was appealed to for aid and advice. Up to noon Saturday, December 5, a total of 1,180 cases had been recorded, and it is known that many more unreported cases actually exist within the city. Up to Saturday night 37 deaths had occurred. It is stated by those most familiar with the situation that over 60 per cent. of the cases have not yet passed the critical stage and it is feared that many more deaths will take place. Seventeen deaths have occurred within the last four days for which record is at hand. There is no doubt that the town is terribly stricken. Two, three or even more cases in the same family are not at all uncommon. The writer talked with one citizen who had had eight cases in his own family.

Even at this stage enough is known about the proportions of the Butler epidemic to establish it as one of the most appalling visitations from typhoid fever from which an American community has ever suffered. The disastrous outbreak at Ithaca last spring in a population of about the same size did not reach quite such gigantic proportions, and although the classical epidemic at Plymouth, Pa., in 1884 was probably more severe in proportion to the population of the town, there were in that case even fewer actual cases than at Butler.

SOURCE OF OUTBREAK.

The large number of persons attacked at Butler is in itself sufficient to cast suspicion on the water supply, and this fact conspired with other circumstances to render most plausible the hypothesis of a water-born origin. This suspicion became almost a certainty when the peculiar distribution of the typhoid fever cases became known. It transpired that the part of Butler lying south of the Baltimore and Ohio Railway tracks, and known locally as Springdale, was almost entirely exempt from infection. This district forms topographically and socially part of the town of Butler, and apparently differs only in the fact that it is not provided with city water, but obtains its supply from a number of artesian wells. In this part of the town, with a population of about 2,500, it is stated on high authority that but two cases have developed, one of these being a child who attended school in Butler, the other being a laborer employed in Butler. This remarkable topographical incidence pointed directly to the water supply as the source of the calamity, and further circumstantial evidence to the same effect is not lacking. No suspicious circumstances have been brought to light in the investigation of the milk supply and other theoretically possible sources, while the facts now to be set forth concerning the water supply are of a most significant and damaging character.

CHARACTER OF THE CITY WATER SUPPLY.

The water supply of Butler, which is controlled by a private water company (The Butler Water Co.), has been since 1878 obtained from Connoquenessing Creek and its feeders. The flow of this small stream is at certain times of the year inadequate to the needs of the growing town, and in order to furnish a constant supply the waters of the stream were impounded by a dam at Boydstown, some nine miles above Butler. This in turn did not furnish the required amount of water, and a second dam has been recently constructed on Thorn Run, about four miles above the town. The water seems to have been clarified for some time past by means of a small mechanical filter at the pumping station, a mile and a half above the town on Connoquenessing Creek, and two miles and a half from Thorn Run dam.

INFECTION OF THE WATER SUPPLY.

On August 28, the Boydstown dam was carried out in a flood, and the water company was obliged to use water

from the partly finished Thorn Run reservoir. Water was also pumped directly from the creek at the pumping station, and so scanty was the available supply that it is said that at times practically all the water in the creek was used. In the latter part of October, owing to an accident to some of the machinery at the pumping station, the mechanical filter was temporarily thrown out of use, and it was during this period that the maximum infection undoubtedly occurred.

Unfortunately, throughout the summer and early fall, opportunities for the infection of the Connoquenessing watershed appear to have been only too numerous. A number of cases of the disease existed on the watershed during this period and investigation has shown that there was ample opportunity for the uncared-for dejecta to enter the water of various small runs and tributary streams. At one house not far from the Thorn Run dam, a case of typhoid fever was brought to the family in the latter part of July and was followed by three others in the same household. At another house, on Sullivan's Run, even nearer to the pumping station, two cases of typhoid fever occurred, and it is considered probable that the infectious material from these two cases had a large share in infecting the water of the creek. Health officials who have thoroughly investigated the conditions report that for years cases of typhoid fever have been occurring at various points on the Connoquenessing watershed, and it apparently required simply a series of accidents to precipitate the present catastrophe. The situation is so discouragingly familiar as hardly to need repetition. The infectious materials discharged from the bodies of typhoid fever patients were thrown out on a steep, rocky hillside, or placed in loosely constructed out-houses, where the first heavy rain could wash countless millions of pathogenic bacilli into the water supply of an innocent community.

REMEDIAL MEASURES.

As soon as the existence of the epidemic became known the citizens were warned of the danger of using unboiled water for drinking and other household purposes. Hardly too much can be said in praise of the early recognition of danger by the local board of health and the prompt measures taken to prevent the spread of the outbreak. The Pennsylvania State Board of Health, likewise, responded at once to the call for assistance and seems to have acted with great promptness and efficiency. The sum of $2,000 was at once appropriated from the emergency fund at the disposal of the state board, local headquarters were established, the free distribution of disinfectants begun, the thorough inspection of the watersheds set on foot, and an effective system of house control established. A skilled veterinarian was also sent to Butler by the state authorities, and rigorous supervision of the milk supply is being exercised under his direction. The possible infection of utensils used in the distribution of milk is also being guarded against. The conditions governing the water supply are being improved as rapidly as possible. The mechanical filter is now thought to be in good working order, and an experienced water analyst from the Massachusetts Institute of Technology has been recently brought to Butler and placed in charge of the daily tests that are being made. The results of these tests are said to be very satisfactory.

RELIEF WORK.

When it became apparent to the outside world that the local resources were too seriously crippled to cope with the situation, help poured in on the town from all sides. In Philadelphia a large relief fund was subscribed and a number of physicians and nurses were soon on the ground. A temporary hospital has been established in one of the hotel buildings in Butler under the direction of the Philadelphia contingent, headed by Dr. Morris French. Physicians have also come to Butler from Pittsburg and many surrounding towns, and a small army of over 100 trained nurses has been hurried in to the relief of the city. The physicians of Butler have from the beginning been in the forefront of the relief work and have sacrificed unsparingly their time and strength with the same single-mindedness so often shown by members of the medical profession in times of great emergencies. Although much outside assistance has been rendered, there is still need for additional help in this direction, and strenuous attempts are still being made to obtain additional nurses and other assistants.

Rumors have been current regarding dissensions among those engaged in the relief work, and in view of these statements the following authorized statement has been issued by the secretary of the executive committee:

I am authorized by the executive committee to state that the reports emanating from unreliable sources published in various papers throughout the country to the effect that the different relief committees and auxiliary committees were not working in unison and that there is conflict and confusion among the members of the committee and coworkers are absolutely false in every particular.

The organizations that have been established within the past week for the relief of the fever victims are working in perfect harmony and there are no dissensions of opinion on account of religious or political creeds.

We are organized for the sole purpose of relieving charitable fever patients and to do all in our power to assist the municipal and other authorities in stamping out the epidemic. The committees are working as a single individual and all the reports to the contrary are absolutely false in every particular. We wish further to state that Mayor Kennedy is an honorary member ex-officio of the executive committee, and is acting in perfect harmony in all matters.

POSSIBLE SEQUELÆ.

As is usual in epidemics of such magnitude as the one now raging at Butler, a considerable amount of secondary infection is to be feared. Already several nurses and physicians and others engaged in relief work have fallen victims to the disease, and even with the utmost precautions it seems not unlikely that cases of typhoid fever will continue to develop. The great attention being paid, however, to methods of thorough-going disinfection should go far to minimize the danger from this source.

Since the sewage of Butler is discharged into Connoquenessing Creek, and since several other communities further down the stream derive their water from this source, great concern has been expressed lest further infection of other communities might be brought about by this means. To forestall this possibility the State Board of Health promptly issued warnings to the towns located along the lower part of the creek, and so early and so great was the publicity given to the matter in this way that it is hoped that the further widening of the Butler calamity may be averted.

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TUBERCULOSIS CONGRESSES.

Last week we printed a communication which called attention to an unsatisfactory condition of affairs, which, while it has been appreciated by all who are acquainted with the facts, was and is being too much ignored by the profession as a whole. It is well known by those who have been giving attention to the subject that the so-called congress on tuberculosis, which has met for the past two or three years in New York, was controlled by those who did not have the confidence of the profession; that it was not noted for its scientific character, but rather for the chance it gave for the exploiting of advertising schemes, fads, etc.

At the last meeting of that "congress" a new set of officers was elected, and while these had not been recognized as authorities on the tuberculosis question, nevertheless it was thought that there was a promise of better things. A meeting was set for July, 1904, at St. Louis, but recently this has been changed to April, 1905, at Washington.

It soon developed, however, that the deposed officers of the former congress were attempting to get up another organization, and they are now arranging for a meeting to be held at St. Louis in October, 1904. The officers of this congress, called the "Bell Congress" by Knopf, have been extremely energetic, for they have not only succeeded in getting delegates appointed by the presidents of state medical societies and by the governors of the states, but have even obtained the sanction and indorsement of the United States Government, and through the State Department are obtaining the official support of our foreign representatives. According to a circular before us, official notification in regard to the "congress" has been sent to all our ministers and foreign representatives. Judging from a letter dated November 3, from the Assistant Secretary of State to Mr. Clark Bell, the letter copied below is "a copy of the instructions sent to Ambassador Choate. The instructions to France, Denmark and The Netherlands are *mutatis mutandis* in the same language." The following is the letter:

Sir:—The Department is informed by Mr. Howard J. Rogers, Director of International Congresses of the Universal Exposition to be held in St. Louis in 1904, that the American Congress on Tuberculosis has been placed on its list of official Congresses and that the dates for said Congress will be October 3, 4 and 5, 1904.

The Department is also advised by Mr. Clark Bell, Chairman of the Committee of Organization of the Congress, that the Executive Committee and Officers of the Congress have sent to the Government of each American Country an invitation for official representation by its Government, in the Congress; and the request is made of the Department to give such support to the invitation as it properly may.

The humanitarian object which this Congress has in view to reach, by the discussion of scientific men, some result in arresting the spread and averting so far as it may be found possible the ravages of this dreadful disease which now falls with such terrible force and fatality upon the people of the Western Hemisphere can not but enlist the sympathy and approval of the Government to which you are accredited.

The Department will, therefore, be pleased to have you say to that Government that this Government is in entire sympathy with its work and would be pleased to learn that the Government of ——— took a like interest in its success by the acceptance of the Committee's invitation, and the appointment of three or more scientific gentlemen to represent it at the Congress.

This Government would also be pleased if that of ——— could find it convenient to comply with the request of the Committee to give the matter publicity in order that it may come to the knowledge of interested organizations and public spirited Citizens of that Country. I am, Sir,

Your obedient servant,

&c., &c.

This letter, without referring to others, is sufficient to show how seriously and earnestly the United States Government has endorsed the movement. The fact that these people have succeeded in obtaining the support of the Government is unfortunate, for as a natural result physicians of foreign countries interested in the subject will be led to come to this congress. If, having come so far, they find that the "congress" is not supported by the better element of the profession—by those prominent in tuberculosis work in the United States; if, to use a familiar expression, they find the play of Hamlet with Hamlet left out, they will feel that they have been imposed on. The results will not be complimentary to us, but will in a measure reflect on the medical profession of the United States, irresponsible as it is for the conditions.

We are neither ready, nor is the time opportune for an international congress on tuberculosis. But when we have one, let it be one that shall have its inception in some reputable and recognized body; one that shall have the indorsement and support of the profession, and especially of those who are recognized as authorities on the subject; one whose utterances shall be authoritative and command respect, and one that shall redound to the credit of America and of which Americans can be proud.

We believe that those who are working in behalf of the organization known as the Lewis-Brown congress are animated by pure motives, and by the belief that its contemplated meeting will be beneficial. Nevertheless, we can not but think that under the circumstances it will be a mistake for them to go on. They have inherited with their "congress" all its former stigma, and the only way to get rid of the stigma is to quietly let the "congress" die and start anew. The title of the Lewis-Brown congress—The American Congress on Tuberculosis for the Prevention of Consumption—is too much like that of the Bell congress—The American Congress on Tuberculosis—and it will be impossible for

them to free themselves from the odium the name carries with it.

As far as the other congress is concerned, the so-called "Bell Congress," it seems to us that the time has come to do something more than simply ignore it. If it is to become a reality under conditions in which it can not receive the support and co-operation of those best qualified to represent the American medical profession in the discussion of the subject, and we believe such to be the case, it is well that the world should know the fact.

MARMOREK'S VACCINE AND SERUM FOR TUBERCULOSIS.

We called attention last week to the fact that Dr. Alexander Marmorek, until recently one of the laboratory chiefs of the Pasteur Institute, Paris, presented a paper to the Academy of Medicine on November 17, in which he described a vaccine and a serum for tuberculosis. The French medical journals containing full abstracts of the paper have now been received.

Marmorek will be remembered as the bacteriologist who, some ten years ago, discovered antistreptococcus serum, and whose investigations in bacteriology have been generally considered of great value. Since he began his studies on the serum for tuberculosis, owing to a difference of opinion with the other members of the staff of the Pasteur Institute, he has resigned his position there and this work has been carried out, and the paper presented, on his own responsibility. While his conclusions can not yet be accepted as proved, there is a possibility that he has made a discovery, or series of discoveries, of prime importance with regard to the toxin of tuberculosis and the biologic method by which the affection may be relieved if not eventually cured.

Marmorek began his present investigations convinced that tuberculin was not the true toxin of the bacillus of tuberculosis. The observations that it fails to cause any reaction in normal individuals, yet produces a marked reaction in those suffering from a mild form of tuberculosis, and only a slight reaction, sometimes none at all, in those suffering from the severer forms of tuberculosis, are a series of contradictions that can not, he holds, be reconciled on any theory of the action of this supposed toxin. Beside, the reaction after an injection of tuberculin usually does not occur for several hours and sometimes longer. Marmorek considers, then, that the rôle of tuberculin is to cause an excitation of any tubercle bacilli present, as a result of which they produce the toxic materials whose absorption brings about the febrile reaction. Tuberculin acts, to use his figure, somewhat as a key does in a lock unlocking the latent toxic powers of the tubercle bacilli present. With this view in mind Marmorek looked for another toxin of the tubercle bacillus and believes he has succeeded in finding it.

He considered it especially important to have the tubercle bacilli in his culture media maintain the staining characteristics which they originally possessed. Any modification of this he considered due to an alteration in their vitality. The only medium on which he could grow successfully these "primitive," as he calls them. tubercle bacilli, was a leucotoxic serum obtained by injecting the white cells of smaller animals into the calf. To this leucotoxic material was added bouillon made from the liver of animals and a slight amount of glycerin. The reason for using the liver bouillon is that this organ seems to be especially refractory to attack by the tubercle bacillus. Hence, Marmorek argues, when tubercle bacilli can be made to grow on liver bouillon, they retain their vitality and virulence to a marked degree.

Bacilli thus grown produce no tuberculin but do produce another toxin. Rabbits especially can be immunized against infection with tubercle bacilli by a properly directed dosage of this toxin. When thus immunized their serum is distinctly antitoxic. This is the serum which, produced in large quantities from horses, Marmorek has used in his observations on the cure of tuberculous animals, including human beings. While working at the serum he succeeded in producing also an antituberculous vaccine. When tubercle bacilli are treated for a long time with leucotoxic serum, and after being heated are added to the antituberculous serum, they are, when injected into animals, absorbed without the formation of abscesses and without causing any general infection. When thus injected they act as a vaccine against subsequent tuberculous infection. The immunity thus obtained has lasted in the rabbit for two months to date.

With tuberculous animals, Marmorek asserts that he has obtained excellent results with his serum. While control animals died or became very ill from tuberculosis, those treated by the serum or the vaccine developed no tuberculosis, or quickly recovered from the incipient stages of experimental tuberculosis. With regard to human beings, his results, he says, are quite as promising, though, necessarily from the limitations of the experimental method, not as definite. At first, of course, he was able to secure for treatment only very far advanced cases. In a number of cases of tuberculous meningitis there was a prompt improvement of symptoms after the injection of the serum, the pulse and temperature were reduced, the paralysis became less marked, even the coma came to an end. But none of the patients survived ultimately the ravages of the disease. In advanced cases of tuberculosis of the lungs, even when there existed cavities and abundant expectoration containing many bacilli, the improvement was very marked and some patients have even been apparently cured, though, of course, a sufficient length of time has not yet elapsed for the definite announcement of a cure.

In surgical tuberculosis, that is, of the bones, the lymph glands, the intestines and the peritoneum, some encouragingly satisfactory results were obtained. Complicated cases of Potts' disease with fistulas and abscesses, and even in one case with paralysis of the lower limbs

apparently due to pressure of a tuberculous process on the cord, were treated, Marmorek asserts, with prompt relief of symptoms. In the affection which may be considered on the borderline between medicine and surgery, tuberculous pleurisy, the effect of injections of the serum was very marked. Out of 7 cases, 2 of them in little children, 6 improved at once, showing a rapid diminution of the transudate associated with a very free secretion of urine and a termination by what Marmorek considers a urinary crisis.

In more than 2,000 injections, there seems to have been no untoward symptoms observed; only three times was there a local abscess. The serum is said to cause no fever and no other local or general reaction occurs. Hectic fever is affected favorably by the antituberculous serum after two or three injections. Far from fever being a contraindication to the use of the serum, it is this class of cases particularly that Marmorek has preferred to treat, since the demonstration of the antifebrile action of the serum is a prominent feature of the treatment. Marmorek does not consider that his results are absolutely conclusive, but contends that there is no longer any doubt that the method is worth while trying extensively.

The fact that Marmorek's former colleagues in the Pasteur Institute discredit the results, at least to a considerable extent, is sufficient to make us receive these reports with some caution, and we shall wait for further developments before expressing any opinion in regard to this discovery and its value in tuberculosis. The announcement, however, is one of considerable interest as it stands and we, therefore, are glad to furnish it to our readers.

SUGAR METABOLISM AND DIABETES.

When Pawlow demonstrated that pancreatic juice as secreted into the intestine in an inactive form is rendered active by another ferment, *enterokinase,* secreted by the intestinal mucosa, he did more than give a new light on the processes of digestion in the intestine, important as that contribution was. He also pointed the way to new researches that might show other examples of the interdependence of organs and cells. One of the fruits of this research seems to have matured in the very important discovery of O. Cohnheim[1] concerning the mechanism and the agents concerned in sugar metabolism, apparently a discovery that clears up at last one of the most fundamental processes of metabolism which has evaded solution in spite of much work directed to that end. It is indeed strange that the history of sugar in the body has not been completely worked out long ago, in view of our familiarity with its chemical properties and structure, and the large quantities that the body daily utilizes. We have long been familiar with certain steps in its metabolism, knowing that in whatever form it is ingested it is absorbed as a monosaccharid; that a fairly constant amount is maintained in the blood through the ability of the liver and muscles to convert any excess into glycogen and to restore it whenever there begins to be a deficiency; and also that if the sugar in the blood greatly exceeds the normal amount it begins to escape into the urine. We also knew that sugar was the chief source of heat and energy, which it furnished by undergoing destructive oxidation; and as the chief place where heat and energy is produced is in the muscles it was probable that the oxidation took place within the muscle cells. Yet experimentally it had not been possible to demonstrate any such property in muscle tissue. It was known that glycolytic ferments exist that have the power of destroying sugar, but extracts prepared from muscles in various ways were found to have no such property, or at least not enough to begin to account for the enormous destruction of sugar that the body accomplishes every day. And so, despite the apparent certainty that the muscle tissue was the seat of an active glycolysis during life, the agents concerned could not be found within them by experimental means.

Another set of facts implicated the pancreas, beginning with the classical observations of von Mering and Minkowski that removal of the pancreas led to severe glycosuria in the lower animals, up to the recent observations of our American scientists—Opie showing that of the different elements of the pancreas, the islands of Langerhans are the chief and probably the sole structures concerned in human diabetes, and Herter, that reducing bodies of any kind applied to the pancreas cause the appearance of sugar in the urine. It was also known that in animals in which the pancreas is thrown out of function, as well as in human pancreatic diabetes, the sugar accumulates in the blood instead of being oxidized, and from this accumulation results the glycosuria. Evidently, then, the pancreas is essential for the oxidation of sugar, and it might well be imagined that among the many enzymes it produces is one that has this property, but as with the muscles it has been impossible to demonstrate any such enzyme in the pancreas. It remained for Cohnheim to put these facts together; considering the peculiar change brought about in a pancreatic zymogen, trypsinogen, by the action of another ferment contained in the succus entericus, whereby the inactive zymogen is converted into trypsin, he came to appreciate the possibility of some similar interrelation of pancreas and muscles. Experiments were made along the lines thus suggested, with most successful results. It was readily demonstrated that although extracts of either pancreas or of muscle made by expressing the juices of the cells by a powerful press, were practically without effect on glucose when each was taken alone, yet when combined the resulting mixture was able to destroy the sugar rapidly and in time completely. Furthermore, the amount and rate of glycolysis shown by muscle extract is sufficient to account

1. Hoppe-Seyler's Zeitschrift f. Physiol. Chemie, 1903, xxxix, 336.

fully for all the oxidation of sugar accomplished by the body during the day.

Putting together all the facts now acquired it would seem that in the islands of Langerhans is formed a substance which is like a ferment in nature, as it is destroyed by heat. This substance passing to the muscles through the blood stream meets in the muscle cells another ferment or proferment, and between them a reaction occurs resulting in the formation of a ferment that has the power of rapidly destroying sugar. This is similar to the activation of trypsinogen by the intestinal product, enterokinase, and in turn it has been shown by Delezenne that the reaction of enterokinase and trypsinogen is quite similar to the combining of complement and intermediary body as it occurs in the cytolytic and bacteriolytic serums. It would seem, therefore, that in pancreatic diabetes we have an absence or a deficiency of the specific secretion of the islands of Langerhans that is necessary to make the glycolytic substance of the muscles active. Of course, this does not exclude the possibility of a similar combined effect with substances in any other tissues of the body where sugar is burned. The unknown ferment that results from the action of pancreatic and muscular zymogens seems to be specific for dextrose, for in diabetes other sorts of oxidations seem to be impeded little if any. As Cohnheim's results, which seem to be unquestionable, are amplified, and we know more about the intermediate steps and the places of normal glycolysis, as well as the nature of the pancreatic and the muscle agents implicated, it is probable that we shall understand better than was possible before the essentials of the pathogenesis of human diabetes.

Perhaps the most remarkable thing about Cohnheim's discovery is its simplicity, the usual characteristic of real discoveries. For years physiologic chemists have been trying to put the sugar destruction on the pancreas or on the muscles, knowing each to be concerned, but in vain. Why it had not before occurred to any one that it might be the work of the two together is the chief mystery. Now that the suggestion has been made and followed out the entire difficulty clears up, and we have a most reasonable and simple explanation of a long perplexing problem, as well as a new field for fruitful research.

DERMOID CYSTS AND TERATOMAS OF THE ANTERIOR MEDIASTINUM.

It is in the diagnosis of obscure pathologic conditions that the physician of unusual ability is distinguished from the ordinary physician. Among such conditions may certainly be mentioned the dermoid cysts and teratomas of the anterior mediastinum. Dangschat,[1] an assistant in Garré's clinic in Königsberg, gives practically all the information obtainable on this subject up to this date. He reports two cases operated on in the Königsberg clinic and has collected from the literature forty-four similar cases. Only two of these are from American journals, one reported in 1879, and three others are mentioned from English sources.

Various theories have been advanced to account for the origin of these tumors. The origin by direct embryonic inclusion, by development from the thyroid or thymus or from the gill-slits, Dangschat rejects on the basis of careful examination of the material obtained at operation in these cases. The new growth contains tissue which had its origin in all three of the germ layers, and he believes that this makes *inclusio fœtus in fœto* the only possible origin. The chief danger from such inclusions is through the rapid growth of their contents with degeneration of the walls surrounding them, and the symptoms generally first appear at about the time of puberty. The growth usually continues for several years and is much slower than that of sarcoma and carcinoma. Difficulty in breathing is the most important symptom of these dermoids, and with it there is often considerable pain. In a considerable proportion of cases there was cough and expectoration, and in a few cases spitting of blood. As the growth increases in size the prominence of the chest wall is noticeable. Earlier in the disease the picture may resemble that of tuberculosis of the lungs, but at a later stage the diagnosis would lie between pleurisy with effusion, aneurism, echinococcus, and actinomycosis. The finding of hairs in the sputum furnishes positive diagnostic proof. In many other cases puncture with an aspirating needle would clear up the diagnosis.

When the history leads to a probable diagnosis of dermoid cyst, operation should be undertaken. The aneurismal bruit and the symptoms of inflammation in actinomycosis would probably leave little doubt as to the differential diagnosis from these conditions. The prognosis is absolutely unfavorable unless a timely diagnosis is made and suitable operation undertaken. The operation in most cases necessitates resection of several ribs, or of the sternum, an evacuation of the cyst and suture of the remaining cyst wall into the opening. The cavity then is scraped with a curette or treated with caustic and left to close by granulation. In three of the cases out of forty-four death followed the operation, in one case from hemorrhage, in the second from infection, and in a third from an unknown cause. The remaining patients were either cured or improved.

In several abstracts of cases which Dangschat gives, the cavity left after operation was of very large size. Such cavities could hardly be expected to close after operation unless something further were done. It would seem that in such cases the cavity might sometimes be partially or entirely closed by turning in large skin flaps from the surrounding region after the wound was well covered with healthy granulations. Failing in this the use of large Thiersch skin grafts might be considered.

1. Beiträge zur klin. Chirurg., 1903, xxxviii, p. 692.

THE OWNERSHIP OF THE PRESCRIPTION AGAIN.

The newspapers announce that a druggist in New York was recently compelled to deliver a prescription to a patient, the latter claiming that he was entitled to it, and the claim being upheld by a lower court. This has started the vexed question on its rounds again and the newspapers are, as usual, deciding the matter for us. At times the question as to who owns the prescription is an important one, not only for the physician, but for the patient. For instance, if a physician writes a prescription that contains an ingredient that may be harmful if its use is continued, it is very important that he should have the right to say whether it should be refilled, or whether it should be delivered to the patient. The fact is, after all is said about the matter, the prescription is simply a letter—a note—to the chemist instructing him to do certain things. The physician may write this letter in the common prescription form or he may send a note addressed to Mr. Brown, the druggist, asking him to give the bearer, Mr. Smith, an 8-ounce bottle of compound syrup of sarsaparilla. There is no reason why the patient should have this letter back, any more than if he were given a letter to a merchant asking that he let Mr. Smith have any specified article. Again, the physician may, and often does, telephone to the druggist telling him to put up a certain combination for Mr. Smith, who will call. Or, he may send his office-boy to the druggist with a verbal message for medicine for Mr. Smith, or he may give Mr. Smith medicine direct from his own office stock. The fact is, no one owns the prescription. The druggist has no right to give it to anyone without the physician's direction, and he has no right to refill it without the physician's orders. One newspaper, as an argument to show why the patient should own and have the prescription, says that some prescriptions are very valuable and, having to pay for it, the patient is entitled to it, not only to use for himself, but for his friends. This is a splendid argument, but on which side it should be placed depends on the point of view.

THE CASE OF THE "MODERATE DRINKER."

In a recent inquest in New York, according to press reports, a man has been declared as having died of "refined alcoholism." He was suddenly stricken after a surgical operation and died from what was alleged to be delirium tremens. He had been supposed to be of temperate habits, taking only moderate drinks at morning and night, but it would appear that his system had become disorganized, if not saturated, by the agent and the effects on the nervous system were such as to bring about these results. The verdict may have been a correct one, and based on facts presented. It has long been recognized that alcohol in any dose is not a safe prescription for certain constitutions, but its possibilities of danger have seldom been fully realized. The fact that a large number of persons can apparently thrive while more or less under its influence is no proof that this is the case with all and it is probable that if we had all the facts in every case we would find that those who appear to do well under its habitual use are really none the better for it. Like other poisons, it produces in some constitutions a sort of habituation. In still other cases the resistance is so strong that its effects are not manifest, but may appear later in transmission to offspring. That alcohol is an influence for good in certain cases is undoubtedly true, but the assertion that it adds to the sum of human happiness can be reasonably criticised. It would indeed seem absurd in view of the immense amount of evil that it creates, but with the almost universal use of alcohol throughout the world in some form or other its advocates have certain specious grounds for their position. Nevertheless it may be, like certain diseases which are accompanied with a special euphoria, as damaging in one case as in another. If all men could get the exalted delusions of paresis the sum of human happiness would certainly be greatly increased for a time, but it would only mean irreparable damage to the nerve centers. We may say the same of the pleasures of alcohol, and if it is dangerous to the system, is followed by reaction and tends to racial and individual degeneration, all these things ought to be considered before we speak of its advantages.

Medical News.

MARYLAND.

Epidemic Ends.—Dr. J. H. Drach, Butler, health officer of the Mount Carmel district of Baltimore County, reports that the diphtheria epidemic there is at an end, and that no further deaths have been reported. The epidemic was much aggravated by a dread of antitoxin for a time by the people.

The Same Old Disease.—A "mysterious contagious disease," variously diagnosed as "smallpox," "chicken-pox" and "Cuban itch," has been prevailing for some weeks in Frederick, Clarke and Jefferson counties, just across the Maryland border. Whole communities are in quarantine, and it is being treated as smallpox.

Requested Not to Spit on Sidewalks.—A committee, consisting of Drs. James W. Humrichouse, Hamilton K. Derr and Luther H. Keller, of the Washington County Medical Society, appeared before the mayor and city council of Hagerstown, December 3, and asked that placards be placed on the street corners, public buildings, street cars, etc., requesting the people not to spit on the sidewalks and floors.

Personal.—Dr. Elijah Williams, Armiger, Anne Arundel County, formerly state senator, has been appointed school commissioner, vice James E. Tate.——The Baltimore county commissioners have appointed Dr. Thomas C. Bussey, physician of the almshouse, and Dr. J. Royston Green, physician of the county jail.——Dr. Samuel T. Heffner has been elected clerk of the Circuit Court of Frederick County.——Dr. George Wells has been re-elected clerk of the Court of Appeals at Annapolis.

Baltimore.

Typhoid at Army Post.—There are eleven enlisted men at Fort McHenry ill with typhoid fever.

Senses Hospital Incorporated.—The tenth Baltimore Eye, Ear, Nose and Throat Charity Hospital was incorporated, December 3, with Drs. James Bordley, Jr., and Harry E. Peterman as attending surgeons. A central site will be selected for the institution.

Appropriations for State Institutions.—The state institutions have put in application for state aid, with the Board of State Aid and Charities, amounting to $2,724,990 for the next two years. The amount now being received by these institutions for the same period is $1,293,382.

November Mortality and Morbidity.—The mortality report for November shows 756 deaths. Pulmonary tuberculosis leads with 102; next comes pneumonia, with 94; heart disease, 69; Bright's disease, 67; cancer, 27; diphtheria, 21, and typhoid fever, 19. Diphtheria and scarlet fever were the most prevalent infectious diseases.

Thousands for Charity.—Nine thousand one hundred and fifty-six dollars was realized for charity at the annual banquet

of the Hebrew Benevolent Society December 3.——A Christmas sale for the benefit of the Crippled Children's Hospital was held at the Arundel Clubhouse December 4 and 5.——The fair held at University Hospital last week by the Ladies' Auxiliary realized more than $1,700.

Reappoints Medical Department Staff.—Dr. James Bosley, health commissioner, has reappointed the medical officers of his department, including Dr. C. Hampson Jones, assistant commissioner; Dr. W. Royal Stokes, bacteriologist; G. W. Lehman, chemist; Dr. Nathaniel G. Keirle, medical examiner; Dr. Bernard P. Muce, assistant examiner; Dr. Alan W. Smith, throat inspector; Dr. Sydney O. Heiskell, quarantine physician, and Dr. Thaddeus W. Clark, assistant quarantine physician.

Personal.—The governor has reappointed Dr. William H. Welch president of the State Board of Health.——Dr. Albert D. Foster of Detroit has assumed charge of the immigrant service of this port and has reported for duty as surgeon, vice Dr. W. M. Glover, transferred to Victoria, B. C.——Dr. William N. Bispham, post physician at Fort McHenry, has been ordered to take charge of the hospital at Fort Logan, Colorado. He will be succeeded by Capt. Edward R. Schreiner of Fort Howard.

Munificent Bequests.—Mr. William Wyman, the benefactor of the Johns Hopkins University, through whom that institution received one year ago a magnificent tract of land in the northern suburbs, and a contribution of $1,000,000 from the community, died last week. By his will he leaves his entire estate, estimated at $500,000, less $108,000 in special legacies, to his daughter, who is a widow, and in the event of her death to Johns Hopkins University.

Filtration System Recommended.—A special sewerage report, submitted to the mayor and board of estimates by the city engineer and water engineer, recommends the filtration system at an expense of $6,000,000. The commission estimates that not over 50 per cent. of the water consumption will get into the sewers. The estimate is for a million population, and provides for the present only pumping machinery, discharge mains and filtration fields for 600,000, which is slightly in excess of the population of the city. "Each property should only be directly charged with the cost of the necessary connection from the house to the sewer, as is now done with the water service."

MASSACHUSETTS.

Sewage Disposal.—The city council of Fitchburg has voted the sum of $445,012 for the construction of new sewage disposal beds.

Insane Hospital Reports.—The Worcester Insane Hospital reports a daily average of 1,125 patients; $83,700 is asked of the legislature for needed additions and alterations.

How Scarlet Fever is Spread.—Two cases of scarlet fever, so mild that they were not discovered till the "peeling" stage, have caused a large series of cases in West Springfield.

Scarlet Fever Closes School.—The illness of a teacher with scarlet fever in the high school at Danvers, together with the unusual prevalence of the disease, has closed the school for the present.

Physician and Nurses Exonerated.—The trustees of the State Hospital at Tewksbury have decided that the recent poisoning of several men by belladonna or atropin was the result of the act of some degenerate or criminal inmate. The nurses and physicians are completely exonerated.

Anthrax Treated at Lynn.—Of the four cases of anthrax recently treated in Lynn, three patients recovered. One of these refused operation with free excision employed in treating the others, and received instead carbolic injections under the skin and mercuric chlorid applications wet and dry.

Leaves Estate for Hospital.—Stephen Symmes left his estate to the town of Arlington for the establishment of a hospital. As the location proved to be unsuitable, the Supreme Judicial Court gave permission to sell the property, and the $4,700 thus realized will be employed toward the erection of a hospital.

Tuberculosis Fund Exhausted.—The Massachusetts fund to pay farmers for tuberculous cows condemned by the state cattle bureau has been exhausted. As a result 200 diseased cows have been released from quarantine. No further work can be done till a new appropriation is secured from the next legislature.

Spring Water Causes Typhoid.—The occurrence of a number of cases of typhoid fever in Springfield, Mass., recently noted, led to sending samples of "spring water" sold in the city to the State Board of Health for analysis. Their report absolutely condemns seven springs, five of them located in the public park system. Several other springs are below standard and the owners have been warned. Springfield has a good municipal water supply, but owing to the color of the water many citizens have been buying their drinking water from the owners of these contaminated springs. The epidemic of typhoid was promptly checked by the measures taken by the local health board.

The Williamstown Epidemic.—The report of Dr. George A. Soper, the sanitary engineer of the New York Board of Health, summoned to Williamstown by President Hopkins, shows that the recent outbreak of typhoid fever at Williams College was caused by infected cream eaten with breakfast food. The can of cream was placed in a vat of contaminated water to cool, and became itself accidentally infected.——The final step in regard to the typhoid fever at Williamstown has been for the boards of health of that town and of North Adams, which adjoins, to call on the State Board of Health. Drs. S. L. Morse and William S. Johnson have accordingly been sent to investigate thoroughly the typhoid situation in both places.

Boston.

The "New Boat" Fund of the Boston Floating Hospital has reached $5,895.

Bequest.—George O. Smith left by will $5,000 to the Massachusetts General Hospital.

Music at Hospitals.—During December musicians employed by the Hospital Music Fund will visit the Woman's Charity Club Hospital, New England Baptist Hospital, and the Children's Hospital.

Building Nearly Ready.—The new building for the Industrial School for Crippled and Deformed Children, in which many Boston physicians are interested, located on St. Botolph Street, near Massachusetts Avenue, is nearly completed. The quarters on Newbury Street have been overcrowded for more than three years.

Hospitals Benefit.—By the will of George W. Boyd of Boston the Children's Hospital receives $5,000.00; the Maine General Hospital $7,500, and under certain conditions the Massachusetts General Hospital $25,000. The residue, which is likely to amount to about $100,000, will be distributed to charitable organizations at the discretion of the executors.

The Convection of Typhoid.—C. E. A. Winslow reported before the last weeting of the Boston Society of Medical Sciences that examination of the hands of school children, students and servants showed the presence of colon bacilli in from 5 to 10 per cent. of the individuals examined. The experiment was used as a side-light in the way in which typhoid bacilli are transferred from case to case.

Death and Disease.—The total number of deaths in Boston for the four weeks ended December 5 was 763, 75 less than in the corresponding period last year. The annual death rate was therefore 16.48 per 1,000. Of these deaths 100 are from pneumonia, 3 from whooping cough, 100 from heart disease, 28 from bronchitis, and 15 from marasmus. There were reported 238 cases of diphtheria, with 22 deaths; 131 cases of scarlet fever, with 1 death; 77 cases of typhoid fever, with 16 deaths; 474 cases of measles, with 9 deaths; 128 cases of tuberculosis, and 90 deaths, and 1 case of smallpox.

MINNESOTA.

Hospital Incorporated.—St. John's Hospital, Red Wing, has been incorporated with a capital stock of $35,000.

Smallpox.—For the week ended November 23, 28 cases of smallpox were reported, 10 of which were from Maine Prairie Township, Stearns County.

Campaign Against Tuberculosis.—A committee on organization to carry on the fight against tuberculosis in Minneapolis and St. Paul, has been appointed, consisting of eleven physicians and five laymen, with Dr. Henry M. Bracken as chairman.

To Placard Consumptive Homes.—An ordinance prepared by Dr. E. H. Whitcomb, assemblyman of the St. Paul City Council, provides that all physicians shall report cases of tuberculosis to the health commissioner. Houses where consumptives have died or from which they have moved will be placarded with the information that they are infected. The ordinance will be proposed for passage.

NEW HAMPSHIRE.

Unregistered Practitioner Fined.—Ferdinand Alfred Trudeau, Somersworth, was arrested, November 11, charged with the un-

authorized practice of medicine. He pleaded guilty, was sentenced to imprisonment for three months in the county jail, and to pay costs, and the sentence was suspended on promise of good behavior.

New Hospital.—Exeter is to have a fine new hospital at a cost of $20,000. Plans have already been accepted for a brick building of two stories in height, with two long wings one story high, one for medical, the other for surgical cases. Broad connecting corridors and wide verandas will join the buildings and furnish out-of-door protection for isolation and fresh air.

Many Offices for One Man.—The mayor of Nashua, in investigating a suit brought against the city by Dr. Charles E. Congdon to recover $1,625 claimed to be due for services rendered, states that he has discovered that the plaintiff was drawing four different salaries and holding four different offices at the same time, namely: city physician, $500 per year; member of the board of health, $100 per year; physician in charge of smallpox patients, $10 per day, and inspector for the board of health, $3 per day.

Urge State Sanatorium for Consumptives.—At its 84th annual meeting held in Lisbon, November 12, the White Mountain Medical Society unanimously adopted the following preamble and resolution:

WHEREAS, From 75 to 80 per cent. of the people affected with consumption are among the poor, who are unable to place themselves under scientific medical and sanitary treatment, without help, and whereas the only hope of such help is through state aid, and

WHEREAS, As this is a question of utmost importance to physicians, humanitarians, and in fact all people who are interested in the welfare of the state, be it

Resolved, That the White Mountain Medical Society emphatically endorses the movement looking towards the establishment of a state institution for the cure and treatment of this class of unfortunate human beings.

NEW JERSEY.

Personal.—Dr. J. Alexander Browne has been elected health officer of Paterson, vice Dr. Bryan C. Maginnis.——The governors of the Atlantic City Hospital have appointed Dr. W. W. Miller, Philadelphia, a graduate of Jefferson Medical College, resident physician, to fill the vacancy made by the resignation of Dr. Milton Ireland.

The Mosquito Must Go.—A national anti-mosquito association is announced to be organized at a meeting, December 16, under the auspices of the governor of the state. Representatives of the Department of Entomology at Washington, and delegates from several states are expected to be present. Plans are to be formulated for the extermination of the pest.

To Regulate Barbers.—The Atlantic City Board of Health has adopted rules for the proper regulation of barber shops, which in brief are as follows: Barbers must wash hands before attending each patron; styptics to be used in powder only; no powder puffs; towel for one person only; no sponges; mugs and brushes washed after each use; combs, razors, etc., cleansed after each use; floors swept or mopped every day; hot and cold water in every shop, and conspicuous display of regulations in each shop.

Officers Elected.—At the annual meeting of the William Peirson Medical Association of Essex County, the following officers were elected: President, Dr. Thomas W. Harvey, Orange; vice-presidents, Drs. Richard C. Newton, Montclair, and Joseph C. Young, Newark; secretary, Dr. Richard D. Freeman, South Orange; treasurer, Dr. John H. Bradshaw, Orange; librarian, Dr. Henry A. Pulsford, South Orange, and council, the officers, and Drs. William B. Graves, East Orange, Mefford Runyon, South Orange, and Theron Y. Sutphen, Newark.

Epidemics.—Diphtheria is said to be epidemic at New Brunswick, where 35 cases have been reported. It is asserted that the epidemic originated in the concealment, by a physician, of the first case.——A "strange disease, resembling scarlet fever, but more rapid in causing death," is said to be raging in Helmetta. Seven deaths have occurred, the public schools have been closed, and an isolation hospital has been established.——Four cases of smallpox have been discovered in a tenement house in Hackensack.——Camden has four cases of smallpox in its isolation hospital.

NEW YORK.

Epidemic Feared.—An epidemic of diphtheria is feared at Inwood, Long Island, where nine cases have occurred, with two deaths.

Personal.—Dr. Edward F. Brush, mayor of Mount Vernon, has appointed Dr. Archibald M. Campbell, president of the board of health.

Octogenarians Still Practice.—Syracuse has four physicians each more than 80 years old who are still in practice. They are Drs. Alexander Jones Dallas, a graduate of 1844, Edwin Robinson Maxson and Alfred Mercer, who began practice in 1845, and Henry Darwin Didama, who has been in practice only since 1846.

Smallpox.—The State Health Department, on November 28, issued a list showing the prevalence of smallpox and stating that health officers are generally alive to the situation, but receive indifferent support or actual opposition from local boards and citizens in the enforcement of vaccination and quarantine. At Medina there are 92 cases, and one or more cases are reported from 12 other places.

Authorities at Variance.—Dr. Charles S. Howard, president of the board of managers of the Elmira Reformatory, says that there were 80 cases of diphtheria during a certain period; Superintendent Robertson avers that there were but 53. Dr. Howard believes the typhoid epidemic was caused by city water, used when the reformatory plant was out of order, but Dr. Robertson stated that the water used was filtered.

New York City.

Pneumonia Death Increase.—An alarming increase in the pneumonia death rate in Greater New York, is reported for the week ended November 28, as compared with the corresponding week of 1902.

Personal.—Dr. Louis Schaefer, house surgeon at St. Catherine's Hospital, Brooklyn, on completing his term of service was given a dinner by his associates at the hospital. He is succeeded by Dr. Frank D. Jennings.——Dr. Francis H. Miller, Brooklyn, was painfully injured in a runaway accident December 1.——Dr. Lawrence J. Gerald, of the medical staff of the Long Island State Hospital, has been appointed assistant surgeon at the Soldiers' Home, Bath.

German Hospital Library Fund.—The physicians of the German Hospital and Dispensary, after striving for over thirty years to collect valuable medical books, decided that it was best to dispose of the library. It was accordingly sold to the Kings County Medical Society for $3,000, and this sum was then presented to the New York Academy of Medicine with the understanding that it should be known as the German Hospital and Dispensary Library Fund.

Hospital Items.—The new Plant Pavilion to be added to St. Luke's Hospital is to have the innovation of a roof garden.——The report of the experimental hospital on North Brother Island for the treatment of consumptives is very encouraging. Of the 127 cases admitted to the institution since May 8, 84 have been discharged.——Memorial Hospital, Brooklyn, took possession of its new quarters November 15. It has accommodation for twenty patients.——St. Vincent's Hospital, West New Brighton, Staten Island, was formally opened November 26. The site and buildings cost $35,000.——A new laboratory building and dormitory for Willard Parker Hospital, are planned to cost $100,000.

Buffalo.

The Meltzer Reception.—A reception was tendered to Dr. Samuel J. Meltzer, New York, by Dr. Matthew D. Mann, dean of the medical faculty of the University of Buffalo.

Army Surgeon Buried.—Dr. Charles A. St. John was given a military funeral November 28. He was a contract surgeon in the Army and fell in a skirmish in the Philippines. Although his death occurred two years ago his body reached Buffalo only this week.

PENNSYLVANIA.

Village in Quarantine.—The village of New Benton has been quarantined by the State Board of Health because of the refusal of the authorities to take steps to stamp out smallpox.

The Butler Disaster.—The epidemic of typhoid fever at Butler is fully treated in the Special Article on pages 1476 and 1477 of this issue, written by our special commissioner sent to Butler.

Dr. Pryor in Philadelphia.—On invitation of Dr. John M. Fisher, president of the Philadelphia Obstetrical Society, Dr. William R. Pryor, New York, delivered an address on "Puerperal Sepsis" before that body. He was afterward entertained at a dinner, and a reception and smoker were given in his honor.

Free Lectures on Hygiene and Sanitation.—Under the auspices of the Academy of Natural Sciences, Philadelphia, a series of free lectures on hygiene and sanitation is being given by Dr. Seneca Egbert, professor of hygiene in the Medico-Chirurgical College. The series includes lectures on the fol-

lowing subjects: Hygiene of the Individual; Hygiene of the House; Hygiene of the City and State; Sanitary Education of the Citizen.

Contagious Disease in Philadelphia.—The number of new cases of smallpox has been increasing gradually from week to week. For the week ended December 5 there were 99 new cases with 15 deaths. The department of health continues its crusade of vaccination; the hospitals urge vaccination on all their patients; firms plan to have their employes vaccinated; the press advocates vaccination, but still many foolishly refuse protection. As convincing evidence of the value of vaccination, it is a fact that with the prevalence of the disease few, if any, cases have occurred among the crowded foreign population, they having been compelled to be vaccinated before or at the time of immigrating. Director Martin says that of the many cases at the Municipal Hospital none had been vaccinated. There were also for the week a large number of new cases of other contagious diseases: of diphtheria, 93; scarlatina, 126; typhoid fever, 91. There are in the city a large number of cases of influenza of moderate severity.

VERMONT.

College Burned.—The medical college building at the University of Vermont, Burlington, was burned to the ground, December 2. The loss of $20,000 is covered by insurance.

Much Diphtheria and Scarlet Fever.—On account of the prevalence of diphtheria and scarlet fever in Brattleboro, the public schools have been closed for two weeks.——A case of smallpox in Wilmington has led the selectmen to close the schools and to forbid all public gatherings for a period of two weeks.

College Opens.—The exercises preliminary to the opening of the fifty-first year of the medical department of the university were held, November 28. Addresses were made by President Buckham, and by Dr. William M. Bryant, Ludlow, president of the state medical society, whose subject was "The Ideal Physician."

Unvaccinated Teacher Recovers Salary.—Miss Rose Murray, a teacher in a district school, in which smallpox broke out, who had never been vaccinated and was on that account suspended, has sued the town of Bennington for wages and costs amounting to $56. On November 7 she secured judgment against the town.

State Society Meeting.—The ninetieth annual meeting of the Vermont State Medical Society was held at Bellows Falls, October 14, 15 and 16. The following officers were elected: President, Dr. William N. Bryant, Ludlow; vice-president, Dr. Patrick E. McSweeney, Burlington; secretary, Dr. George H. Gorham, Bellows Falls; treasurer, Dr. Bingham H. Stone, Burlington; auditor, Dr. John H. Blodgett, Saxton's River; board of license censors, Drs. Henry James, Waterbury, Schuyler W. Hammond, Rutland, and J. Sutcliffe Hill, Bellows Falls, and Dr. Henry D. Holton, Brattleboro, delegate to the American Medical Association. The society will meet next year in Rutland.

GENERAL.

Outdoor Tuberculosis Camp for Navy.—Pensacola, Fla., climate having been recommended for consumptives, the Navy will establish a camp there and treat tuberculosis patients by the open air and forced food methods of treatment.

Personal.—Dr. H. C. Sloggett has been appointed medical superintendent of the Hawaiian Territory Insane Asylum. Dr. W. H. Mays has been in temporary charge.——Dr. C. R. McLean was appointed government physician for Lihue and Koloa, succeeding Dr. E. S. Goodhue, resigned.

American Association of Life Insurance Examining Surgeons.—The annual meeting of this association will be held at Atlantic City, N. J., June 6, 1904, under the presidency of Dr. Charles Lyman Greene, St. Paul, Minn. Dr. Denslow Lewis, Chicago, is chairman of the executive committee.

CANADA.

New Montreal Hospital for Contagious Diseases.—The plans of the new Alexandra Hospital have been accepted. It will be erected soon at Point St. Charles, and will cost $100,000.

Personal.—Dr. John W. Scane has been appointed registrar of the Faculty of Medicine of McGill University, Montreal, in succession to Dr. von Eberts, who resigned a short time ago. Dr. Scane recently has been an assistant to the professor of physiology.

Poisonous Drugs Used in Liquors.—The attention of the dominion government and of the Quebec legislature is to be directed to the allegation that poisonous and deleterious drugs are at present being used in the compounding and manufacture of liquors in that province.

McGill To Have Physiology Course Enlarged.—Principal Peterson of McGill University announces that there will very shortly be established a new faculty making physiology as much of an arts subject as it is now one of medicine. In time it is hoped to construct a new building for this faculty.

Annual Report Notre Dame Hospital, Montreal.—During the past official year 2,433 patients were treated, with a mortality of 7.6 per cent. In the out-patient department there were 21,245 consultations, and over 1,000 ambulance runs. The financial affairs were satisfactory, there being a balance to the good of $4,731. The contagious hospital in connection with this institution will be erected in the spring, and a new four-story hospital building in the form of a cross will soon follow. The plans for the latter structure are ready.

Kingston Hospital Troubles.—The board of governors of the Kingston, Ont., General Hospital, on the resignation of Medical Superintendent Haig, who has gone to England, appointed a woman without medical training as superintendent, stating that financial conditions would not permit the appointment of another salaried male superintendent. The three house surgeons are said to have then resigned in a body, refusing to take their orders from anyone but a properly qualified medical man. The medical members of the board strongly opposed the doing away with a medical superintendent.

FOREIGN.

Virchow's Library.—The most valuable portion of Virchow's library has been presented by his widow to the library of the Berlin Medical Society. These six or seven thousand volumes are to be kept separately as the Virchow collection.

The Austrian Trouble.—At the first session of the Austrian parliament protests against the recent aspersions cast on the medical profession were presented by three separate groups of members. The Vienna professors against whom the denunciations were made, to which reference has been made in these columns recently, are all of Jewish extraction, and the whole trouble is probably mainly the result of antisemitic agitation.

The Widal Test in School Inspection.—The German authorities have recently issued a notice to the effect that children suspected of typhoid may have a drop of blood taken from the ear or finger for the Widal test by the medical inspectors, but the consent of the parents must first be obtained and the school authorities notified. Compulsory enforcement of this diagnostic measure must not be permitted under any circumstances.

Personal.—Dr. A. P. Peck, missionary in China of the American Board of Commissioners for Foreign Missions, has been appointed by the Chinese government medical officer in charge of the quarantine station at Taku.——Dr. J. N. Langley has been elected professor of physiology at Cambridge University, England, as the successor of Sir Michael Foster. Dr. Langley, the editor of the *Journal of Physiology*, has been, during the absence of Sir Michael Foster, deputy professor of physiology.

Muenchener Klinikerschaft.—The medical students at Munich have organized a society with this euphonious title. Professor G. Klein was invited to address the first meeting, and spoke on "Physician and Client." The professors and students of Brussels have organized a somewhat similar society and inaugurated an innovation, the "medical day." The meetings of the society are held on the second Saturday in the month, and on that day all the clinics and hospitals are thrown open to the members, the visitors being personally conducted by the professors or chefs de service to the specially interesting cases. It is hoped that out-of-town physicians will also join the society and come up for these medical days as a kind of post-graduate instruction.

Plague Prophylaxis in India Abandoned.—It is reported that England has abandoned the endeavor to stop the ravages of the plague in India by the use of prophylactic injections of serum. Although over two million people have died from the disease in the last few years and commerce has greatly suffered, the authorities have decided that the resistance and ignorant discontent of the natives are too much for them. After trying isolation, segregation and inoculation, the government finds that it is only undermining its power in the country. It would seem that England was as capable of giving a thorough test to the matter as any government, and the results are therefore of practical interest to the United States, as well as other nations which have oriental colonies.

LONDON LETTER.

Increase of Lunacy in Ireland.

From time to time statistics have been published in THE JOURNAL showing an increase of lunacy in Great Britain. But certain Irish figures recently published are still more alarming. At a conference of the Irish District Asylum Committee in Dublin Dr. O'Neill read a paper showing that, notwithstanding a yearly decreasing population, insanity was rapidly on the increase. In 1880 the number of persons under treatment was 250 per 100,000 of the population, whereas in 1902 the figures reached the appalling total of 499, an increase of 100 per cent. Emigration and agricultural depression are undoubtedly special reasons for the increase of insanity. The country had been drained of its manhood, and there is a tendency to the depreciation both of the physical and mental condition of the old people remaining. Importance must also be attributed to the agricultural depression that followed in the track of emigration, the inability to make ends meet, the want of nutritious food, and the necessarily accompanying worry wearing the people down. The excessive use of alcohol is another cause. Of the 34,349 admissions during the last 10 years intemperance was the assigned cause in 3,098 cases. Dietary is another matter of importance. Formerly the staple food of the country was porridge, milk, potatoes and butter, which was wholesome, sustaining and nutritious. Tea drinking in excess was given as an indirect factor in inducing insanity.

Diploma in Tropical Medicine Inaugurated at the University of Cambridge.

The great progress in tropical medicine in this country, shown by the establishment of two schools, one at Liverpool the other at London, the numerous expeditions despatched to the tropics, and the remarkable discoveries made by them are fittingly crowned by the establishment of a "Diploma in Tropical Medicine" at the University of Cambridge. The ordinary medical curriculum is no longer regarded as by itself sufficient to fit graduates in medicine for the special conditions attending practice in the tropics. The special board of medicine propose (1) that an examination in tropical medicine and hygiene be held once a year, or more than once if thought expedient; (2) any person whose name is on the medical register to be admitted a candidate under such conditions as the State Medicine Syndicate may prescribe, provided that a period not less than 12 months shall have elapsed between the attainment by the candidate of a registrable qualification and his admission to the examination; (3) the subjects of examination to be nature, incidence, prevention, and treatment of epidemic and other diseases prevalent in tropical countries, and (4) that a candidate who passes the examination be entitled to a diploma testifying to his competent knowledge of tropical medicine and hygiene. 1. Candidates shall present evidence, approved by the syndicate, that they have diligently attended, at home or abroad (a) a course of laboratory instruction in pathology, including parasitology and bacteriology in relation to tropical disease; (b) a course of clinical instruction at a hospital in which cases of tropical diseases are received; (c) a course of instruction in hygiene and in methods of sanitation applicable to tropical climates. 2. Candidates may present dissertations, memoirs, or other records of work carried out by themselves on subjects connected with the nature, incidence, prevention or treatment of tropical diseases, and such records will be taken into account by the examiners in determining the result of the examination.

Correspondence.

"How to Write a Medical Article—A Plea for Plagiarism."

SAVANNAH, GA., Dec. 2, 1903.

Dr. G. Frank Lydston, Chicago:

My Dear Doctor:—On Saturday last a friend informed me of a communication from you in the *Atlanta Journal* pertaining myself; I tried to secure a copy without avail; and was about to write you yesterday when another gentleman apprised me of another communication from you in this week's issue of THE JOURNAL of the A. M. Ass'n which I had not seen and which I have not yet had an opportunity of reading but was informed of the nature of your communication which was quite an unexpected supprise to me. And without a full explanation from me of the matter, I can appreciate your position.

For several years I have been editing a medical journal, as well as doing a large practice, and have been compelled to rely largely on my stenographer for clerical office details, as well as my proof reading, which I trusted to her care for correction; prior to this incident she has made very few errors or omissions; in fact, she has been painstakingly careful and correct in the work assigned, until I trusted implicitly.

In the preparation of my paper for the Georgia State Medical Association I found that my views and your own on the subject were so near alike that I decided to use a few paragraphs which I "blue penciled" and instructed my stenographer to use and give you due credit for same, noting page and title of your book. I also instructed her to make a carbon copy at the same time and send it to the *Annals of Gynecology and Pediatry*, Boston, which she did, and forwarded same before I had the opportunity of seeing it. I found out at the last moment I could not attend the meeting of the state association and handed my paper over to a friend that night (April 14, 1903).

Complications of a political nature demanded my presence at the meeting on the last day, and in company with several physicians I arrived at the meeting on the last day when the program of the association was nearing its end. My paper was read by title without my ever having read it over. In this way my stenographer's error escaped my notice. The galley proofs from the *Boston Journal* and from the transactions were gone over by the stenographer, and again the oversight was not detected.

Preparatory to moving, on October 1, my library and journals were packed in boxes the middle of September, and in this way the volume of the transactions, together with the *Boston Journal* and reprints were packed away for about five weeks awaiting the arrival of new book cases which were delayed in transit. In this way I had not had an opportunity to see the transactions or to look over the journal.

I first discovered the error last week, when my friend mentioned to me your communication in the *Atlanta Journal;* then I examined the copy of the transactions and hunted up the journal, and was horrified beyond description to find that you had not been given proper credit for paragraphs used. And, as stated before, I was about to write you when another friend apprised me of your communication in THE JOURNAL of the American Medical Association. I now hasten to make apologies for my seeming plagiarism.

I beg to offer herewith deposition from my stenographer covering this unfortunate occurrence, with my most profound regrets, and beg of you to accept my sincere apologies for my seeming imposition on you; and respectfully request you to make such retraction from your recent communication in THE JOURNAL of the American Medical Association, as your gentlemanly conscience may direct you, and to publish the same in next week's issue of THE JOURNAL of the American Medical Association.

Believing that a gentleman's honor, after proper explanations and apologies have been made, will not suffer at your hands, and thanking you in advance, permit me to remain,

Yours very fraternally,

W. E. FITCH, M.D.

[Accompanying the above letter was a deposition made by Dr. Fitch's stenographer corroborating the above and assuming all responsibility for the article.]

CHICAGO, Dec. 4, 1903.

Dr. W. E. Fitch:

Dear Sir:—I shall take great pleasure in publishing your letter and the attached affidavit. I will state that my critique was based, not only on the article in the *Annals of Pediatry and Gynecology*, but on a reprint *received from you* by one of my friends. I would suggest in passing that it is hardly fair to the profession for one to publish as original articles copied verbatim from text-books by an amanuensis. I would further remark that, in justice to yourself, you ought at least to look over the proofs of your articles or read them after they are printed and before sending out your reprints. I assure you, my dear sir, I do not feel that the matter under con-

sideration was so much a grievance to myself as a violation of a principle in which we are all interested. There is nothing in my critique which calls for correction or apology. The facts alleged are admitted by you, and nothing is now required further than the publication of your explanation of how it all happened. Very truly yours,

G. F. LYDSTON.

Good Men in Bad Company—An Explanation which Explains.

NEW YORK CITY, Dec. 3, 1903.

To the Editor:—My attention has been called to an advertising circular of the *Medical Brief* in which my name appears as a contributor. Will you kindly permit me to state through the columns of your widely-circulated journal that this article on "Fracture of the Radius" was not written for the *Medical Brief*. Some months ago a woman stenographer called at my office and represented that she was in great financial distress and asked me to dictate to her some short article for which she said she would be able to obtain $20 which was greatly needed at that time to prevent her from being turned out of her home by her landlord. She promised that the article should be offered to the *New York Medical Journal* or to the *Medical Record*, and if not accepted by them she would return it to me. Since that time I have not seen her or the article, nor did I know what had become of it until I saw it advertised as a contribution to the *Medical Brief*. I learn that she has imposed on the generosity of other members of the profession here in this city in like manner. JOHN A. WYETH.

[Does this explain why certain other reputable men appear as contributors to the above so-called medical journal, in some instances with photograph?—ED.]

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

A CRANIOTOMY, WAS IT JUSTIFIABLE?

———, WEST VIRGINIA, Nov. 27, 1903.

To the Editor:—I desire to report a case which was more than interesting to me, having practiced medicine less than three years, and one which required more than ordinary thought.

At 6 p. m., on November 4, I was called to Mrs. H., who had been in labor three or four hours, and made an examination, which revealed R. O. A. position, half-dollar dilatation, but no waters. The pains were sharp, cutting and irregular, pulse 82, temperature normal. After an hour the pains became more frequent and sharp, with no tendency to bearing down. She being a primipara, I suggested that she use all effort to expel contents and not cry aloud, gave 20 grains chloral and waited until 10:30, when I again examined and found dollar-size dilatation or more, but pains were yet sharp and cutting with only three or four minutes' interval—no waters yet formed. At 2 a. m. examination was again made and the membranes ruptured with less than a pint of water escaping. The pains soon became more severe and cutting, of a continuous character and very high up; after slight massage full dilatation was secured, but the head would not engage. It was then I had Dr X called in, who examined the patient and agreed with the above findings. Chloroform was at once administered and a high application of the forceps tried, but found to be impossible by either of us, even with external pressure from above. Another physician was called by the husband and he repeated the trial of high application, but failed. I then tried to do a podalic, but could never reach a foot, as did Drs. X and Y, who were also unable to accomplish anything. The woman was then growing cyanotic, with some hemorrhage going on all the time, so I decided to do a craniotomy, which was accomplished in a very few minutes at 5 a. m. The child was of medium size, weighing 8¾ pounds, and nothing out of the ordinary was discernible. The woman made an uneventful recovery and is now sitting up. Catheterization was necessary for two days after delivery.

Did the case justify operation? Being a young man in the field of medicine, I feel that older physicians should not hesitate to comment.

ANSWER.—We gladly publish the above report of a case, as requested, but omit name of reporter and place. As the reporter asks for comments we gladly give them.

The case well illustrates a mistake—we hope an uncommon one—of premature and unnecessary operative interference. While the average duration of labor in primiparæ is from 16 to 20 hours, a labor lasting 36 to 48 hours is not rare, and calls for no interference unless there is danger to the mother or to the child. So far as the report shows there was nothing abnormal in the labor up to 2 a. m., when the membranes were artificially ruptured. It was a mistake to urge the patient to bear down for the exercise of the voluntary muscles has little effect in dilating the uterus and needlessly wears out the patient. It would have been well to give the patient some relief from her suffering by administering some analgesic. The chloral was all right, but the dose was too small. Morphin would have been much more efficient. A hypodermic injection of ¼ grain would probably have given her some sleep and much relief. Although our correspondent does not describe the condition of the cervix when the membranes were ruptured, it is evident that dilatation was not completed, and the bleeding which occurred later during the manipulations was probably from tears in the cervix caused by the forceps or the efforts to turn. The artificial rupture was not indicated and was harmful. The application of the forceps to the head above the brim of the pelvis is always difficult and likely to be dangerous to both mother and child. It should never be attempted unless there is urgent indication. No indication was proved to exist in this case. Unless there was a contracted pelvis the head would probably have molded and descended in the course of a few hours. Finally, after the efforts to extract and turn had been in vain craniotomy was justifiable if the child was dead. Nothing is said on this point. We do not know that any effort was made to find the fetal heart beats. In case of failure to hear the fetal heart the death of the child should be determined by introducing the hand into the uterus and finding whether the cord beats or not. This case shows the importance of knowing the mechanism, progress and prognosis of spontaneous labor in its various manifestations in different individuals, and the danger of premature interference. It shows the importance of adhering strictly to the indications for interference, namely, danger to mother and child. It suggests the rule that when in doubt it is safer to rely on Nature than on interference.—ED.

HEISTER'S SURGERY.

FLAGSTAFF, ARIZ., Dec. 1, 1903.

To the Editor:—I have procured a copy of Heister's Surgery—English edition—a very novel old book, indeed, but, unfortunately, the title leaf is missing and I can not determine the year of publication. I am anxious to know in what year this book was printed and take the liberty of asking your assistance. The author was an operating surgeon as early as 1708. The text refers to events as late as 1736. The German edition must have been written after this. W. P. SIPE.

ANSWER.—The first English edition of this work was published by W. Innys, London, in 1743, from the Latin edition (2 vols., Venice, 1740). The fifth English edition appeared in 1753. All the English editions contained the two volumes in one; the first five editions were each composed of an introduction of XVI pages and two parts, of 476 and 338 pp. respectively, with 38 plates. The sixth and seventh editions were translated from Heister's later editions and appeared in 1757 and 1763; the sixth edition containing XVI, 456 and 404 pp. and 40 plates; the seventh (J. Clarke, London) XVI, 456 and 414 pp.

ANALYSIS OF MILK.

ST. LOUIS, Dec. 2, 1903.

To the Editor:—Will you give the name of some good book on the quantitative analysis of cow's milk and of condensed milk?

LEO C. HUELSMANN.

ANSWER.—Any one of the following we believe will be satisfactory: Outlines of Dairy Bacteriology, by H. L. Russell. Cloth, $1.00. Analysis of Milk and Milk Products, by H. Leffman. Cloth, $1.25. Air, Water and Food, by Richards and Woodmon. Cloth, $2.00. These books can be obtained of W. T. Keener & Co., Chicago; L. S. Mathews & Co., St. Louis; or any bookseller will order them.

TOOTH EXTRACTION IN PRESENCE OF ALVEOLAR ABSCESS WITH FISTULA.

———, WEST VIRGINIA, Dec. 2, 1903.

To the Editor:—1. Why is extraction of a tooth contraindicated when there is an alveolar abscess with fistula present? 2. When, in a case of this kind, could the tooth be extracted safely?

ANSWER.—1. It is not contraindicated. 2. A tooth of this kind may be extracted safely at any time.

Marriages.

THOMAS W. SHAW, M.D., Worcester, Mass., to Miss Diamond of Hartford, Conn.

WILLIAM KERR, M.D., to Miss Lula Dodd, both of Randolph, Iowa, November 18.

CHARLES D. RICKER, M.D., to Miss Lucretia B. Donavin at Baltimore, November 23.

DORSEY W. FELLERS, M.D., to Miss Grace Lecrone, both of Tiffin, Ohio, November 27.

HUGH TUDOR HALL, M.D., to Miss Anna Libbey Aldrich, both of Aiken, S. C., November 26.

GEORGE W. HEMMETER, M.D., to Miss Mae Elsie Thiemeyer, both of Baltimore, November 25.

JOHN HERMAN THESING, M.D., to Miss Catherine Wulftange, both of Cincinnati, November 18.

MCVEY BEATTY, M.D., Butler, Pa., to Miss Lavinia Virginia Blake, at Baltimore, November 26.

THOMAS B. MORRISSEY, M.D., to Miss Mary G. Hannegan, both of Portland, Me., November 11.

OTIS J. BALDWIN, M.D., Farmersville, Ill., to Miss Edith Austin of Virden, Ill., November 26.

CHARLES B. YOUNGER, M.D., Chicago, to Miss Nannie Ruth Broaddus of Lacon, Ill., November 25.

ROBERT MCDONALD SHANNON, M.D., to Miss Marie Gabriel Horton, both of Piqua, Ohio, November 26.

THOMAS H. RUCKER, M.D., Arlington, Ind., to Mrs. Josephine Lightner of New Albany, Ind., November 25.

CALEB D. THOMAS, M.D., Philadelphia, to Miss Mary E. Klotz of Lansford, Pa., in New York City, November 24.

WILLIAM L. VAN ORMER, M.D., Schellsburg, Pa., to Miss Sarah Bramwell Shafer, at Frostburg, Md., November 26.

JOHN W. WELLS, M.D., Taylorsville, Ky., to Mrs. Claudia Roby Bealer of Bardstown, Ky., at Louisville, November 25.

Deaths.

William Shaw Stewart, M.D. Jefferson Medical College, Philadelphia, 1863, assistant surgeon in the Federal Army during the Civil War; one of the founders of the Medico-Chirurgical College, for ten years its dean; and successively professor of obstetrics and clinical gynecology, and was professor emeritus at that institution; one of the founders of the American Academy of Medicine; for nine years director of public schools of Philadelphia; a member of the American Medical Association, Medical Society of the State of Pennsylvania, Philadelphia County Medical Society, and the Obstetrical Society of Philadelphia, died suddenly at his home in Philadelphia, November 25, from heart disease, aged 65.

Anthony F. Conroy, M.D. Jenner Medical College, Chicago, 1897, formerly of Chicago, died at the City Hospital, St. Paul, Minn., November 28, from tuberculosis contracted while a prisoner of the British at Pretoria, during the Boer War, aged 38. He was chief surgeon of the Red Cross corps of 150 surgeons and hospital attendants who went to South Africa with the avowed intent of caring for the Boer sick and wounded, but whose motives were impugned by the English.

Henry William Kendall, M.D. Medical College of Ohio, Cincinnati, 1853, one of the oldest physicians of Western Illinois; a member of the American Medical Association and Illinois State Medical Society; major-surgeon of the Fifteenth Illinois Volunteer Infantry and later chief surgeon second division, Sixteenth Army Corps in the Civil War, died at his home in Quincy, November 25, from peritonitis, after an illness of five days, aged 72.

William Millet Huntington, M.D. New York University, 1845, a member of the Vermont Medical Society, and first president of the White River Medical Society, who had practiced in Rochester, Vt., for more than 55 years, died at his home in that city, November 19, aged 84. He served during the Civil War as acting assistant surgeon in the Army, and represented his town in the General Assembly in 1863 and 1864.

Charles A. Dunham, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1880, in charge of the relief work following the fire which devastated Jacksonville, Fla., in 1901; major and surgeon Florida State Troops; surgeon of the First Florida Infantry, U. S. V., in the Spanish-American War, died suddenly from heart disease at his home in Jacksonville, November 22, aged 49.

Charles H. Porter, M.D. Albany (N. Y.) Medical College, 1861, assistant surgeon Sixth New York Volunteer Heavy Artillery throughout the Civil War, formerly a well-known physician of Albany, and for many years treasurer of the New York State Medical Society, died at Canandaigua, N. Y., November 21, after an illness of several years, aged 69.

William H. Jackson, M.D. University of South Carolina, Columbia, 1873, a member of the Erie County Medical Society, New York State Medical Association, American Medical Association, and New York and national associations of railway surgeons, died at his home in Springville, N. Y., from pneumonia, November 28, aged 62.

James R. McIlvain, M.D. Kansas City Medical College, 1882, a member of the American Medical Association, the first physician to locate in Oklahoma, and one of the best-known members of the fraternity in that territory, died at his home in Oklahoma City, November 26, after an illness of three weeks from heart disease, aged 50.

Charles J. Hagan, M.D. Starling Medical College, Columbus, 1864, who while still an undergraduate served as assistant surgeon in the Civil War, and after graduation as assistant surgeon in the Forty-sixth Ohio Volunteer Infantry, died at his home in Keokuk, Iowa, November 30, from dropsy, aged 61.

James A. Lane, M.D. Jefferson Medical College, Philadelphia, 1881, one of the early instructors in the Kansas City Medical College and once president of the Kansas State Medical Society, died at his rooms in Leavenworth, Kan., from tuberculosis, November 27, after an illness of more than a year, aged 50.

Cyrus Edson, M.D. College of Physicians and Surgeons, New York, 1881, for many years an efficient officer of the New York Board of Health, and ultimately health commissioner of the city, died at Roosevelt Hospital, New York, from pneumonia, December 2, after an illness of five days, aged 46.

Valentine S. Benson, M.D. Kentucky School of Medicine, Louisville, 1870, a member of the State Board of Equalization and for four years superintendent of the Illinois Hospital for the Criminal Insane, Chester, died at his home in McLeansboro, Ill., from heart disease, November 27, aged 69.

William J. Dupree, M.D. Vanderbilt University, Nashville, Tenn., 1876, of Westmoreland, Ala., a member of the American Medical Association, was found wandering a long distance from his home, November 26, was taken home, and died the same day without regaining consciousness, aged 48.

Clarence W. Lehman, M.D. Medical College of Ohio, Cincinnati, 1890, of Eaton, Ohio, a member of the American Medical Association and the Ohio State Medical Society, local surgeon for the Pennsylvania Railway, was killed in a collision of trolley cars, near Eaton, December 3.

Albert Blumberg, M.D. University of Würzburg, Germany, 1871, a member of the American Medical Association, a prominent physician of Pittsburg, Pa., was struck and instantly killed by a train at Braddock, Pa., where he had gone in consultation, December 1, aged 55.

Charles S. Boyce, M.D. Jefferson Medical College, Philadelphia, 1877, who was under sentence of imprisonment at Auburn Prison for criminal assault, but had been released on bail a few days before, died suddenly at his home in Salamanca, N. Y., November 19, from paralysis.

Joseph M. Harcourt, M.D. New York University, 1874, a graduate of Trinity College, Dublin, noted as a linguist, a mathematician and an orator, one of the most scholarly physicians of Brooklyn, died at his residence, November 30, after a lingering illness, aged 80.

Daniel James Neylan, M.D. New York University, 1886, at one time assistant surgeon in the Rhode Island Militia; a member of the American Electro-Therapeutic Association, died suddenly at his home in Bristol, R. I., November 26, from heart disease, aged 51.

William H. Holmes, M.D. College of Physicians and Surgeons, New York, 1857, assistant surgeon in the Navy during the Civil War, died at his home in Orange, N. J., November 30, from Bright's disease, after an illness of a year, aged 69.

Addison I. Cammack, M.D. New Orleans School of Medicine, 1866, a leading physician of Waco, Texas, and for many years a member of the local board of health, died at his home in that city, November 25, from rupture of an artery, aged 65.

John Fee, M.D. New York University, 1865, for 9 years city physician of Kansas City, Mo., for several years a surgeon in the Army, died suddenly at his home in Kansas City, from pulmonary edema, November 30, aged 67.

George B. Acker, Jr., M.D. Western Pennsylvania Medical College, Pittsburg, 1897, of Lawrenceville, Pa., died at the home of his parents in Pittsburg, December 1, from pneumonia, after an illness of four days, aged 35.

John McKinnon, M.D., professor of diseases of the kidneys and clinical medicine in the Bennett College of Eclectic Medi-

cine and Surgery, Chicago, died at his home from fatty degeneration of the heart, November 30.

Thomas Fitzhugh Grayson, M.D. University of Pennsylvania, Philadelphia, 1866, the pioneer practitioner of Fort Dodge, Iowa, died at his home in that city, November 22, from gastric trouble of long standing, aged 65.

James R. Adams, M.D. Medical College of Ohio, Cincinnati, 1852, surgeon of the Forty-eighth Indiana Volunteer Infantry during the Civil War, died at his home in Petersburg, Ind., November 29, aged 83.

Nathan H. Brown, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1875, was stricken by apoplexy at his home in Fremont, Neb., November 28, died early the next morning, aged 51.

Henry H. W. Crittenden, M.D. Washington University School of Medicine, Baltimore, 1867, died at his home in Crewe, Va., November 30, from paralysis, after an illness of two weeks, aged 59.

Thomas Richardson Storer, M.D. Jefferson Medical College, Philadelphia, died at his home on Scenery Hill, near Washington, Pa., November 25, after an illness of two months, aged 61.

Wallace O. Buckland, M.D. St. Louis Eclectic Medical College, 1881, died at his home in Oakland, Cal., from postoperative pneumonia, November 28, after an illness of one week, aged 65.

George P. Campbell, M.D. Bellevue Hospital Medical College, New York, 1870, died suddenly at the foot of his office stairs in Wauseon, Ohio, from apoplexy, November 25, aged 55.

Frank R. Payne, M.D. Western Reserve University, Cleveland, 1889, died at his home in Cleveland, from pneumonia, November 23, after an illness of eight days, aged 37.

James R. Cromer, M.D. Eclectic Medical Institute, Cincinnati, 1874, a retired physician of Flora, Ind., died at his home in that place, December 2, from pneumonia, aged 65.

William G. Saunders, M.D., city physician of Grand Rapids, Mich., about thirty years, ago, died at Butterworth Hospital in that city, November 26, from apoplexy, aged 76.

Michael Heinimann, M.D., a "Forty-niner," who practiced medicine in San Francisco for more than half a century, died at his home in Oakland, November 26, aged 85.

Albert G. Beebe, M.D. Hahnemann Medical College, Chicago, 1869, died at his home in Chicago, December 2, from heart disease, after an illness of four days, aged 60.

J. Franklin Merkle, M.D. University of Pennsylvania, Philadelphia, 1894, died at his home in Perkasie, Pa., November 26, after an illness of several weeks, aged 42.

Welford S. Fisher, M.D. University of Michigan, Ann Arbor, 1903, an interne at the University Hospital, died in that institution, November 30, from typhoid fever.

Thomas S. Freeman, M.D., for more than thirty years a practitioner of Sherman, Texas, died suddenly from heart disease at his home, November 23, aged 76.

Gracia Leah Morehead, M.D. Woman's Medical College, Kansas City, Mo., 1901, died from heart disease at her home in Milwaukee, Wis., December 2, aged 25.

Francis Asbury Pinckard, M.D. University of Maryland, died from paralysis at his home in Pinckardsville, Va., November 30, after an illness of three days, aged 59.

Thomas H. Armstrong, M.D. Starling Medical College, Columbus, 1855, of Woodsfield, Ohio, died at the home of his son in Bellaire, Ohio, November 18.

Andrew J. Comstock, Jr., M.D. Jefferson Medical College, Philadelphia, 1884, died at his home in Ventura, Cal., November 21, after a long illness.

Douglas P. Beatty, M.D. New York University, 1857, formerly of Hull, Ala., was found dead at his home near Kennesaw, Ga., November 26.

David S. Oliphant, M.D. Homeopathic Medical College of Missouri, St. Louis, 1861, died at his home in Toronto, Ont., November 13, aged 87.

Hugh C. Murphy, M.D., died at his home in Kansas City, Mo., November 25, from Bright's disease, after an illness of three weeks, aged 60.

Benjamin N. Ogden, M.D. University of Louisville, 1886, of Oak Hill, W. Va., was found dead in bed at Charleston, W. Va., November 27.

Joshua Warner, M.D., the pioneer physician of Westburg Township, Que., died at his home in East Angus, November 22, aged 80.

Overton Carr Todd, M.D. St. Louis Medical College, 1874, died at his home in Powell, Texas, November 27, from neuralgia of the heart.

Silas W. Kellar, M.D. Western Reserve University, Cleveland, 1885, died at his home in New Kensington, Pa., November 27, aged 45.

Fred Welch, M.D. Dartmouth Medical College, Hanover, N. H., 1894, of Centre Strafford, N. H., died in Montrose, Colo., November 16.

Joseph M. Loop, M.D. University of Michigan, Ann Arbor, 1855, died at his home in Port Sanilac, Mich., recently, aged 93.

Joseph H. Maynard-Bellerose, M.D. University of Vermont, Burlington, died at his home in that city, November 25, aged 39.

D. D. Robertson, M.D. University of Louisville, 1867, died at his home in Calhoun, Ky., November 16, from hepatitis, aged 67.

J. M. Burt, M.D., for ten years coroner of Clarke County, Wash., died at his home in Vancouver, November 11, aged 72.

Andrew J. Salts, M.D., health officer of Corning, Iowa, for several years, died at his home in that city, November 23.

Ralph L. Graves, M.D., a veteran of the Mexican War, died at his home in San Antonio, Texas, November 29, aged 85.

H. L. Stewart, M.D., 1878, died at his home in Humboldt, Ill., November 24, after a long illness, aged 80.

Thomas Hillery Taylor, M.D., of Marshall, Texas, died in that place, November 20, aged 77.

J. Frank Carder, M.D., died at Salem, W. Va., December 1, aged 81.

Deaths Abroad.

Dr. F. Brun, professor agrégé at Paris, and one of the eight co-editors of the *Presse Médicale*, died at Paris, November 10, aged 49. He had made a specialty of surgery for children and had been a prolific writer on this and other subjects. One of his latest works was on the malignant tumors of the kidney in children. He devoted himself to ophthalmology at first, and published a valuable text book on "Therapeutique oculaire." He succumbed to the progress of a neurasthenic trouble.

Dr. A. A. Proust, the well-known French authority on international hygiene, died at Paris, November 26, aged 69. He has been inspector general of the French sanitary service since 1884, and has published numerous works on public and private as well as international hygiene, and on other matters connected with the public health.

Book Notice.

A TEXT-BOOK OF THE SCIENCE AND ART OF OBSTETRICS. By Henry J. Garrigues, A.M., M.D., Consulting Obstetric Surgeon to the New York Maternity Hospital. With 504 Illustrations. Cloth. Pp. 844. Price, $5.00. Philadelphia and London: J. P. Lippincott Co. 1902.

This is a companion work to the author's "Text-Book on Gynecology." It is a practical contribution to the literature, and conforms to the high standard of the volume of gynecology. The sections dealing with the development of the ovum, the maternal changes incident to pregnancy, the anatomy of pregnancy, labor and the puerperium are commensurate with the needs of a text-book for the student, and the subjects are adequately stated. The general instructions in the technic of operations, i. e., the treatment of brow, face, occiput posterior, etc., are elucidated after the manner of most books on obstetrics—too much is left to the interpretation of the reader; the steps are insufficiently stated. This is a common fault and can not be held specifically against the work before us. Exception may well be taken to certain statements and directions which are not in consonance with recent opinion. The recommendation that vaginal examinations "should only be repeated with one or two hour interval" does not keep in accord with the necessities of an aseptic conduct of labor; after one thorough *diagnostic* examination in labor little can be learned by vaginal exploration which can not be equally elicited by the deportment of the patient and external palpation. In the delivery of the head the slovenly method of Ritgen-Goodell is recommended—of pulling the face down with the finger in the rectum; other methods of enucleating the head not antagonistic to asepsis would meet indications better. With the same tenacity which governs so many obstetric writers, Dr. Garrigues persists in

associating Credé's method of conducting the third stage with what should be described as a physiologic method; "Credé" distinctly is a procedure for a pathologic third stage. The absence of illustrations and detailed description of Mauriceau's (so-called Smellie-Veit) method neglects the most certain, most powerful, least injurious to the child, and most rational delivery of the after-coming head by manual means—in no respect can the Prague or Smellie methods compare to the former. It is a distinct novelty to see an authority of the present time recommending ferric chlorid solutions in a douche or tampon for hemorrhages in placenta previa and postpartum, as their proven dangers far outweigh their slight temporary advantage. The advocacy of the serre-fine for the repair of perineal laceration can not be too strongly condemned; as far as we know these little instruments have been relegated to the museum as they can not compare in effectiveness with properly inserted sutures. The illustrations are in general accurate and depict the essential points of the book—some are new, most, however, are the approved cuts of other works; certain cuts, as in the chapter on the conduct of normal labor, might well be substituted by more approved drawings.

State Boards of Registration.

COMING EXAMINATIONS.

Missouri State Board of Health, Southern Hotel, St. Louis, Dec. 14-16. Secretary, Dr. W. F. Morrow, Kansas City.

Medical Council, Philadelphia, Dec. 15. Secretary, Dr. Isaac B. Brown, Harrisburg.

Medical Examining Board of Virginia, Lynchburg, Dec. 15-18. Secretary, Dr. R. S. Martin, Stuart.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22-24. Secretary, Dr. S. D. Van Meter, Denver.

Utah State Board of Medical Examiners, Salt Lake City, Jan. 4, 1904. Secretary, Dr. R. W. Fisher, Salt Lake City.

State Medical Examining Board of Washington, Tacoma, Jan. 5-6, 1904. Secretary, Dr. P. B. Swearingen, Tacoma.

Board of Medical Examiners of Arizona, Phoenix, Jan. 4-5, 1904. Secretary, Dr. Wm. Duffield, Phoenix.

State Medical Examining Board of North Dakota, Grand Forks, Jan. 5, 1904. Secretary, Dr. H. M. Wheeler, Grand Forks.

Board of Medical Examiners of the State of Oregon, Portland, Jan. 5, 1904. Secretary, Dr. Byron E. Miller, Portland.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Jan. 5-6, 1904. Secretary, Dr. S. D. Van Meter, Denver.

Minnesota State Board of Medical Examiners, State Capitol Bldg., St. Paul, Jan. 5-7, 1904. Secretary, Dr. C. J. Ringnell, Minneapolis.

State Board of Health of Rhode Island, State House, Providence, Jan. 7, 1904. Secretary, Dr. G. T. Swarts, Providence.

Indiana State Board of Medical Registration and Examination, Indianapolis, Jan. 13, 1904. Secretary, Dr. W. T. Gott, Crawfordsville.

Board of Medical Examiners of South Dakota, Cataract Hotel, Sioux Falls, Jan. 13-15, 1904. Secretary, Dr. H. E. McNutt, Aberdeen.

Wisconsin Board of Medical Examiners, Milwaukee, Jan. 12, 1904. Secretary, Dr. F. R. Forsbeck, Milwaukee.

Vermont State Board of Medical Censors, Y. M. C. A. Bldg., Burlington, Jan. 13-14, 1904. Secretary, Dr. S. W. Hammond, Rutland.

Board of Medical Supervisors of the District of Columbia, Washington, Jan. 14, 1904. Secretary, Dr. Wm. C. Woodward, Washington.

Illinois State Board of Health, Great Northern Hotel, Chicago, Jan. 14-16, 1904. Secretary, Dr. J. A. Egan, Springfield.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

Vermont Report.—Dr. W. S. Hammond, secretary of the Vermont State Board Medical Censors (Regular), reports the written examination held at Burlington, July 8-9, 1903, as follows: Number of subjects, 8; questions, 80; percentage, 70; candidates, 23; passed 20; failed, 2. Following are the colleges of the candidates, the years of graduation, the grades attained and the questions asked:

PASSED.

University of Vermont, (1887) 80; (1903) 78, 72, 79, 79, 78, 74. 80, 81, 78, 78,* 80.
Baltimore Medical College, (1903) 76, 71, 70, 79.

Tufts Medical College	(1903)	81
Detroit College of Medicine	(1900)	70
Columbia University, New York	(1903)	79
Bellevue Hospital Medical College	(1894)	70
New York City University	(1903)	77

FAILED.

Baltimore Medical College	(1902)	58
Maryland Medical College	(1903)	58

* This candidate did not take the whole examination; his average is given as 78 for the subjects covered.

PHYSIOLOGY.

1. Give the essential difference between cow's milk and human milk. 2. Describe: (*a*) striated muscle fiber; (*b*) unstriated muscle fiber; (*c*) give an example of each. 3. Describe the fetal circulation. What changes occur in it after birth? 4. Give the physical characters and composition of normal urine. 5. Trace the products of digestion from the intestinal villi to the blood stream. 6. (*a*) Explain the difference between afferent and efferent nerves. (*b*) What is the function of the column of Goll and what is its situation in the cord? 7. Locate the following brain centers: Leg, arm, face, speech. 8. Give the histology of the liver. 9. Name five digestive fluids and give the reaction of each. 10. Give the functions of the vasomotor nervous system.

CHEMISTRY.

1. Give formula for converting F. theometric reading to C. scale. 2. What is understood by electrolysis? 3. What are radicals as used in chemical formulas? Illustrate. 4. Give briefly the chemistry of 1. 5. Why is calomel contraindicated in a case taking a solution of KI? 6. How would you conduct an autopsy and care for removed organs in a case of suspected arsenical poisoning? 7. What are the principal products of petroleum distillation? 8. Name all the causes of a turbid urine freshly passed. 9. Give a test for bile in the urine. 10. What may high and low sp. gr. in urine indicate?

PATHOLOGY.

1. Give pathology and prognosis for internal otitis following scarlatina. 2. Specify the dangers to be feared in deep cuts of the palm of the hand. 3. What conditions would influence you for, and what against, conservation in a deep buzzsaw cut of the wrist? 4. Give the symptoms, ordinary complications and prognosis in backward dislocations of the ulna on the humerus. 5. Describe the symptoms, pathology and prognosis of empyema and differential diagnosis from ordinary serous pleurisy. 6. Give the symptoms of strangulated inguinal hernia. 7. How would you distinguish between suppression, nervous retention, stricture and enlarged prostate in a person unable to urinate? 8. Give description, etiology and pathology of housemaid's knee. 9. Give the symptoms in fracture of the middle of the fibula. 10. Describe a bunion, giving its etiology and pathology.

SURGERY.

1. If a patient with chronic otorrhea and painful swelling behind the ear had a chill, vomiting, headache, slow pulse, trembling, convulsions or paralysis, what would you suspect and what treatment would you advise? 2. If you found a man at night in a mountain camp, nearly exsanguinated by the hemorrhage from a deep cut in the palm of the hand, what would you do if you had no light but a single tallow dip, no instruments but those in your pocket case and no surgical aid within twenty miles? 3. What would you do for a man who had all the flexor tendons, radial and ulnar arteries and both bones of the fore arm cut off close to the wrist by a buzzsaw, there still being circulation enough to keep the hand warm? 4. How would you treat a backward dislocation of the ulna on the humerus? 5. How would you treat an empyema? 6. What would you do for an old reducible inguinal hernia which has become strangulated? 7. What would you do for a man of 75 who was unable to urinate? 8. Give treatment for housemaid's knee. 9. How would you treat a compound fracture of the tibia and fibula? 10. How would you treat a patient crippled by an intractable bunion?

ANATOMY.

1. Briefly describe the internal hearing apparatus. 2. Describe the circulation in the hand. 3. Give the surgical anatomy of the wrist. 4. Give the surgical anatomy of the elbow. 5. Describe the gross anatomy and boundaries of the cavity of the chest. 6. Give the anatomy of oblique inguinal hernia. 7. Give the gross anatomy of the bladder and male urethra. 8. Give the anatomy of the knee joint. 9. Give the surgical anatomy of the leg. 10. Give the surgical anatomy of the great toe.

PRACTICE.

1. What do you understand by the terms: Symptoms, diagnosis, prognosis, period of incubation of diseases? 2. Differentiate between rubeola and rubella. Give treatment of rubeola and name its complications. 3. What are the symptoms, prognosis and sequelæ of cerebral hemorrhage? 4. Describe sonorous sibilant, crepitant and mucous râles. 5. Give the rules for the conduction of an autopsy when poison is suspected. 6. What symptoms may arise from a dislocated kidney? 7. Name the diseases with which gallstone colic may be confounded and give differential diagnosis. 8. Give the varieties of erysipelas, diagnosis and treatment. 9. Name five diseases in which Cheyne-Stokes respiration is commonly found. 10. What are the symptoms, prognosis and treatment of hysteria?

MATERIA MEDICA AND THERAPEUTICS.

1. Define the term narcotic, hypnotic, anesthetic, antispasmodic, with illustrations of each group. 2. Name the principal therapeutic uses of belladonna. 3. What is asafetida, its preparations and therapeutics? 4. Name the principal simple purgatives with their preparations and doses. 5. Give the symptoms and treatment of chloral hydrate poisoning. 6. Name the preparations of bromids and give their therapeutics. 7. What are the uses of veratrum viride? How would you treat a case of veratrum poisoning? 8. Give doses of tincture aconite, opium, gentian, uva ursi, chlorid of iron, gelsemium, guaiac, ipecac and wine of colchicum. 9. Name three diuretics and give their therapeutic use. 10. Write two prescriptions for use in the summer diarrhea of children.

OBSTETRICS.

1. What are the signs of pregnancy and how are they classified? 2. What are the causes, dangers, symptoms and treatment of abor-

tion. 3. What is the vomiting of pregnancy, and how should it be treated. What should be learned at the first examination in a case of labor? 4. How should a case of breech presentation be managed throughout? 6. To what is rigidity of the os due, and what is the treatment? 7. What is the treatment of placenta previa when occurring before full term, and its management at full term? 8. Give cause and treatment of secondary umbilical hemorrhage in the new-born child. 9. Give the causes, symptoms and management as best understood and practiced at present of albuminuria of pregnancy. 10. State the causes, symptoms and treatment of puerperal phlebitis.

Association News.

List of new members for the month of November, 1903:

ALABAMA.

McLester, Jas. S., Birmingham.
Ferrell, J. H., Woodlawn.
Clark, N. G., Ensley.
Watson, B. Walne, New Decatur.
Hill, Robt. S., Montgomery.
Hartung, G., Cullman.
Palmer, R. D., Carson.
Rosamond, W. L., Ensley.
Edwards, J. H., Wylam.
Horton, J. J., New Market.
Gordon, S. A., Collirene.

ARKANSAS.

Ward, O. D., Tucker.
Deaderick, W. H., Marianna.

CALIFORNIA.

Pillsbury, E. S., Los Angeles.
Gunn, Herbert, San Francisco.
Abraham, Henry, San Francisco.

CONNECTICUT.

Seaver, Jay W., New Haven.
Boucher, John B., Hartford.
Loveland, John E., Middletown.

FLORIDA.

Conter, A. E., Lamont.

GEORGIA.

Williams, V. G., Chipley.

ILLINOIS.

Sauer, H. Edward, Chicago.
Derdiger, A. L., Chicago.
Mitchell, T. B., Chicago.
Pratt, Irene R., Chicago.
Davidson, Frank S., Chicago.
Smith, Jos. F., Chicago.
Collins, L. C., Chicago.
Smith, G. R., Bloomington.
Ward, Milan T., Toulon.
Gerzema, Franz, Peoria.
Bowling, J. Wm., Shawneetown.
Shastid, Thos. W., Pittsfield.
Parker, E. S., Vermont.
Brooks, E. W., St. Elmo.
Crane, Wm. W., Sinclair.
Golding, Daniel G., Arrowsmith.
Taft-Grimes, Ellen F., Decatur.
Watkins, Henry T., Olney.
Maloney, L. H., Savanna.
Moore, Samuel, Danville.

INDIANA.

Dorsey, Frank O., Indianapolis.
Zaring, C. T., Greencastle.

IOWA.

Whiteis, Wm. R., Iowa City.
Judkins, Oliver P., Indianola.
Tobey, Samuel D., Oakland.
Casey, J. M., Ft. Madison.
Busby, Chas. D., Brooklyn.

KENTUCKY.

Harthill, Eleanor A., Louisville.
Bushong, Geo. W., Tompkinsville.
Palmore, E. E., Strode.
Calvert, Caleb A., Fountain Run.
Bedford, T. H., Meshack.
Sabel, Stanley O., Bowling Green.
Yates, J. A., Edmonton.
Wagoner, A. L., Scottsville.
Talbott, John G., Burkesville.
Sympson, W. A., Centre Point.
Duncan, R. F., Tompkinsville.
Garnett, R. E., Glasgow.
Taylor, J. M., Glasgow.

MARYLAND.

Talbott, Thos. J., Baltimore.

MASSACHUSETTS.

Foster, H. K., Peabody.
Rose, W. H., Worcester.

MICHIGAN.

McMeekin, R. J., Saginaw.
Gratton, Jos. H., Detroit.
Fritch, G. A., Detroit.
Brown, F. W., Grand Rapids.
Graham, F. J., Sumner.
Eddy, J. H., Wakefield.
LeBlanc, P. J. Benoit, Sault Ste. Marie.
Switzer, G. O., Ludington.
Planck, Edgar A., Union.
Raycraft, Geo. E., Petoskey.
Uloth, Milton J., Ortonville.

MINNESOTA.

Hensel, Eugene A., Alexandria.

MISSISSIPPI.

Sylverstein, Robt. E., Tylertown.

MISSOURI.

Johnson, J. H., Kansas City.
Weinsberg, H. A., St. Louis.
Marx, Ella, St. Louis.
Boogher, Frank, St. Louis.
Loeb, Clarence, St. Louis.
Doyle, Wm. J., St. Louis.
Baysinger, S. L., Rolla.

NEBRASKA.

Craft, Wm. T., Gross.
Birkofer, Wm. J., Gothenburg.
Rosewater, Chas., Omaha.
Emery, Alpheus L., Lanham.

NEW HAMPSHIRE.

Davis, W. S., Sanbornville.
Mitchell, Ezra, Lancaster.
Brown, Elmer F., Groveton.
Lance, Arthur J., Portsmouth.
Heffenger, Arthur C., Portsmouth.
Flanders, Louis W., Dover.
Straw, A. G. Manchester.
Burnham, Hosea B., Manchester.
Evans, Frank W., No. Stratford.

NEW JERSEY.

Maghee, Jas. M., West Orange.

NEW MEXICO.

Mills, Wm. P., Las Vegas.
Wittwer, W. F., Los Lunas.

NEW YORK.

Louria, Leon, Brooklyn.
Townsend, F. M., New York City.
Tierney, Myles J., New York City.
Huber, Francis, New York City.
Cabot, Follen, New York City.
McLaren, John D., New York City.
Bryant, Wm. S., New York City.
Milliken, Seth M., New York City.
Spingarn, Louis, New York City.
Heckel, Fred'k C., New York City.
Kelly, Henry T., White Plains.
Gladman, Everett A., Fulton.
Dalmage, F. W., Hermon.
Driesbach, F. R., Dansville.
Bell, Harold W., Morris Heights.

OHIO.

Ladd, Louis W., Cleveland.
Aldrich, Chas. J., Cleveland.
Fritch, Jos. C. E., Cleveland.
Hatcher, Robt. A., Cleveland.
Case, Guy B., Cleveland,
Prather, Wm. F., Dayton.
Savage, T. J., Xenia.
Bylington, H. L., Rising Sun.
Fulton, Margaret C., Portsmouth.
Myers, Elmer G., Canton.
Weger, Geo. S., Delphos.
Radcliffe, Geo. C., Peninsula.
Moody, I. A., Junction City.
Helfrich, Edw. D., Galion.
Ray, A. G., Byer.
Donaldson, Orland V., Gore.
Heffron, C. H., Metamora.
Heinlein, John A., Bridgeport.
Henry, Wm. H., Hamden Junction.
Roether, H. R., Perrysburg.
Hall, Hugh L., No. Amherst.
Jones, L. M., Jamestown.
Whisler, Henry, New Antioch.
Harris, W. P., Bellaire.

OKLAHOMA.

Bowling, Jas. A., Alva.

PENNSYLVANIA.

Salade, Louis A., Philadelphia.
Sinclair, John F., Philadelphia.
Longstreth, Morris, Philadelphia.
Robrecht, John J., Philadelphia.
Walsh, Edw. F., Philadelphia.
Barcus, Adolph L., Philadelphia.
Cassaday, Felix F., Philadelphia.
Huston, David T., Philadelphia.
Baker, Frank K., Philadelphia.
Paist, Henry C., Philadelphia.
Baxter, H. B., Philadelphia.
Blackburn, A. E., Philadelphia.
Van Dervoort, C. A., Philadelphia.
Miller, Geo. B., Philadelphia.
Ferguson, Wm. N., Philadelphia.
Hawkes, Edwin G., Philadelphia.
Crawford, Jas. Lea, Philadelphia.
Hetrick, D. J., Harrisburg.
Speed, Alex. Morrow, Pittsburg.
Livingood, Wm. W., Reading.
Ritter, A. T., Loysville.
Shepard, Ernest N., Burlington.
Bennett, F. G., Clearfield.
McKennan, Jas. W., Washington.
Repman, Harry J., Charleroi.
Ballard, Howard S., Hazleton.
Faries, Clarence T., Narberth.
Henninger, C. H., Polk.
Montgomery, Jas. H., Erie.

RHODE ISLAND.

Stewart, Chas. W., Newport.
Barry, Wm. F., Woonsocket.
Bullard, Ernest C., Jamestown.

SOUTH CAROLINA.

Taft, A. R., Charleston.
Stevens, W. G., Rock Hill.

TENNESSEE.

White, Gordon, Nashville.
Greer, Robt. Lee, Norwood.
Dodson, E. F., Harriman.
Long, Edwin A., Johnson City.
McCampbell, H. H., Knoxville.
Copenhaver, M. M., Knoxville.
Menus, Geo. W., Springfield.
Butler, G. D., Pulaski.
Penn, B. S., Fruitland.

TEXAS.

Lawrence, D. H., Galveston.
MacNelly, Chas., Weatherford.
Jones, W. D., Marshall.
Nelson, W. W., Marshall.
Heartsill, Oliver M., Marshall.
Johns, Henry M., Ennis.
McDaniel, Ralph R., Granger.
Buehring, Theodore, Nordheim.

VIRGINIA.

Davis, Eugene, Richmond.
Gale, S. S., Roanoke.

WISCONSIN.

Decker, Clark O., Crandan.
Mayer, Lawrence P., Hudson.
Hambley, Thos. J., Harley.
Brooks, E. H., Appleton.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, week ending Dec. 5, 1903:

Shaw, Herbert G., asst.-surgeon, relieved from duty at Fort Miley, Cal., and ordered to Manila, P. I.

Bushnell, Geo. E., surgeon, leave of absence extended for twenty-three days.

Ekwurzel, Geo. M., asst.-surgeon, granted fourteen days' leave of absence.

Marrow, Charles E., asst.-surgeon, granted fifteen days' leave of absence, to take effect on completion for examination for promotion.

Reynolds, F. P., asst.-surgeon, in addition to his present duties at the U. S. General Hospital, Washington Barracks, will report in person to Colonel Charles L. Heizman, asst.-surgeon general, president of the faculty of the Army Medical School at Washington, D. C., for duty as instructor in hospital corps drill and assistant instructor in duties of medical officers and medical department administration.

Ekwurzel, Geo. M., asst.-surgeon, assigned to duty at Fort Banks, Mass., having been relieved from further duty in the Division of the Philippines.

Cox, Walter, asst.-surgeon, relieved from duty at Fort Banks, Mass., and ordered to Fort Reno, O. T.

Farr, Charles W., asst.-surgeon, relieved from duty at Fort Reno, O. T., and ordered to Fort Mason, Cal.

Appel, Aaron H., surgeon, sick leave further extended two months.

Kendall, Wm. P., surgeon, ordered to accompany insane from Presidio of San Francisco to Government Hospital for the Insane, Washington, D. C.

Keller, Wm. L., asst.-surgeon, relieved from further duty in the Division of the Philippines and ordered to Fort Riley, Kan.

Brechemin, Louis, surgeon, leaves Ord Barracks, Cal., en route to take charge of Medical Supply Depot, San Francisco.

Ives, Frank J., surgeon, reports on twenty-one days' leave from San Francisco.

Rockhill, E. P., asst.-surgeon, granted thirty days' leave of absence.

Howard, Dean C., asst.-surgeon, detailed to represent Medical Department of the Army at meeting of the American Roentgen Ray Society, to be held at University of Pennsylvania, Philadelphia, Dec. 9 and 10, 1903.

Burr, Rollin T., contract surgeon, relieved from duty at Cabana Barracks, Havana, Cuba, and is en route to his new station, Fort Rodman, Mass.

Amador, Raoul A., contract surgeon, on one month's leave of absence from Fort Revere, Mass.

Stockard, James K., contract surgeon, granted one month's leave of absence on account of sickness, at the expiration of his ordinary leave.

Navy Changes.

Changes in the medical corps of the U. S. Navy for the week ending Nov. 28, 1903:

Alfred, A. R., surgeon, commissioned surgeon, with rank of lieutenant, from Jan. 4, 1903.

Noyes, E. R., pharmacist, warranted pharmacist from Oct. 20, 1903.

Grunwell, A. G., surgeon, detached from the Naval Hospital, Washington, D. C., and ordered to the *Minneapolis*.

Carpenter, D. N., surgeon, ordered to the Naval Hospital, Navy Yard, Washington, D. C.

Noyes, E. R., pharmacist, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Marine-Hospital Service.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 5, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Nov. 21-28, 6 cases.
California: Los Angeles, Nov. 14-21, 1 death.
Illinois: Chicago, Nov. 21-28, 3 cases.
Louisiana: New Orleans, Nov. 21-28, 2 cases imported.
Massachusetts: Nov. 21-28, Haverhill, 1 case; Lowell, 1 case.
Michigan: Detroit, Nov. 21-28, 1 case.
New Hampshire, Manchester, Nov. 21-28, 2 cases.
New Jersey: Camden, Nov. 21-28, 1 case.
Ohio: Nov. 21-28, Cincinnati, 2 cases; Youngstown, 9 cases.
Pennsylvania: Nov. 21-28, Johnstown, 6 cases, 1 death; Philadelphia, 70 cases, 11 deaths; Pittsburg, 25 cases, 7 deaths, imported 2; Reading, Nov. 23-30, 3 cases.
Tennessee: Memphis, Nov. 21-28, 8 cases.

SMALLPOX—FOREIGN.

Ecuador: Guayaquil, Nov. 7-14, 1 death.
Great Britain: Nov. 7-14, London, 16 cases; Newcastle-on-Tyne, 18 cases; Nottingham, 4 cases.
Italy: Catania, Nov. 6-12, 1 death; Palermo, Nov. 7-14, 1 case.
Russia: Moscow, Oct. 31-Nov. 7, 1 case.
Turkey: Smyrna, Nov. 1-8, 16 deaths.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, Nov. 26, 4 cases; Nov. 23-Dec. 1, Laredo, 6 cases, 5 deaths; San Antonio, 5 cases, 5 deaths; Minera, Nov. 28, 2 cases, 1 death.

YELLOW FEVER—FOREIGN.

Mexico: Nov. 8-14, Ciudad Victoria, 9 cases, 7 deaths; Linares, 74 cases, 6 deaths; Merida, 3 cases; Nuevo Laredo, 2 deaths; Menciova, Nov. 17-18, 2 cases, 2 deaths; Reata, Nov. 26, 1 case; Vera Cruz, Nov. 15-28, 14 cases, 9 deaths.

CHOLERA—FOREIGN.

Turkey: Syria, Nov. 7, prevailing.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 12, 1 case, 1 death.

PLAGUE—FOREIGN.

Egypt: Oct. 24-31, Alexandria, 3 cases, 2 deaths; Summalut District, 2 cases.
India: Bombay, Oct. 26-Nov. 3, 45 deaths; Karachi, Oct. 18-Nov. 1, 28 cases, 25 deaths.
Japan: Yokohama, Oct. 24-31, 1 case, 1 death.
Mauritius: Oct. 19-26, 117 cases, 55 deaths.

Medical Organization.

Indiana.

ELEVENTH COUNCILOR DISTRICT FULLY ORGANIZED.—All the counties constituting the Eleventh Indiana Councilor District have been reorganized, each society has adopted the new constitution and by-laws, and some of them report a large increase in membership. The councilor of the district, Dr. Robert Hessler of Logansport is urging the adoption of a regular program for the meetings, made out for a year in advance, if possible. Such a program stimulates the writer of a paper, and, on the other hand, good papers bring out a good attendance.

Iowa.

HARDIN COUNTY MEDICAL SOCIETY.—This society was organized a few days ago with the following officers: Dr. William P. Burke, Iowa Falls, president; Dr. Walter H. Lewis, Alden, vice-president, and Dr. William E. Whitney, Eldora, secretary.

Minnesota.

CHISAGO-PINE COUNTY MEDICAL SOCIETY.—Dr. W. S. Fullerton, St. Paul, state organizer of the Minnesota State Medical Society, reports the organization of this society on the standard plan, November 17, with the following officers: President, Dr. Horace G. Murdock, Taylor's Falls, Chisago County; vice-president, Dr. A. J. Stowe, Rush City, Chisago County; secretary, Dr. Olof S. Werner, Lindstrom, Chisago County; treasurer, Dr. Christopher A. Anderson, Rush City, Chisago County; delegate, Dr. Carl O. Hertzman, Lindstrom, Chisago County, and censors, Drs. Duke W. Cowan, Sandstone, Pine County; C. E. Lundgren, North Branch, Chisago County, and Edwin A. Riley, Willow River, Pine County.

Nebraska.

RICHARDSON COUNTY MEDICAL SOCIETY.—At the meeting of this society, November 25, in Falls City, Dr. John W. Bullard, Pawnee City, councilor for the third district, addressed the meeting, explaining the advantages of the standard plan of organization and urging its adoption. He was given close attention, and the society will take action on the matter at its next meeting, December 30.

Pennsylvania.

NORTHUMBERLAND COUNTY MEDICAL ASSOCIATION.—On November 27, physicians of the county met at Sunbury and organized a Society with the following officers: President, Dr. William B. Stoner, Sunbury; vice-presidents, Drs. Frederick D. Raker, Shamokin, and Ellis A. Smith, Snydertown; secretary, treasurer and reporter, Dr. Horatio W. Gass, Sunbury, and censors, Drs. John H. Vastine, Shamokin, Sidney Davis, Milton, and J. Kerchner, Georgetown.

South Dakota.

SOUTH DAKOTA (FIFTH DISTRICT) MEDICAL SOCIETY.—In accordance with the standard plan of organization, this society was organized at Madison, November 24, Dr. Arthur J. Doty, Colman, councilor for the Fifth District, was elected president; Dr. Frederick H. Files, Madison, vice-president, and Dr. John M. Duff, Madison, secretary and treasurer. The territory of the society has Madison as a center and extends east to Egan, west to Artesian, and north to Oldham.

Texas.

FALLS COUNTY MEDICAL SOCIETY.—Physicians of Falls County met at Marlin, November 25, and organized a society with an initial membership of 18, and elected the following officers: Dr. James P. Barton, Mooreville, president; Dr. Walter H. Allen, Marlin, vice-president, and Dr. Burr G. Ward, Marlin, secretary.

Society Proceedings.

COMING MEETINGS.

Southern Surgical and Gynecological Association, Atlanta, Ga., Dec. 15-17.
Western Surgical and Gynecological Association, Denver, Dec. 28-29.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting of the Section on Obstetrics and Gynecology, held Nov. 27, 1903.

L. J. Ladinski, M.D., Chairman.

Toxemia of Pregnancy.

DR. WILLIAM S. STONE, in this paper, said that there was frequently present an increased irritability of the medullary centers, dependent on the presence of toxins in the blood. In reporting his own cases, the speaker said that in one of the cases the vomitus contained bile, blood and epithelial cells from the stomach—in short, corresponded to "black vomit." In another case, in which the urine contained many casts and much albumin, the patient's condition was aggravated by emptying the uterus, and death in coma occurred in forty-eight hours. A complete autopsy was made in this instance, apparently only the second one on record, and it pointed very strongly, as did the clinical course, to acute yellow atrophy of the liver. It was pointed out that eclampsia occurred in one-tenth of the cases without albuminuria, and that the renal lesions varied from those of ordinary nephritis to degenerations like those found in the liver. The latter organ might show chronic congestion or the changes observed in acute yellow atrophy. In all cases the renal lesions appeared to be less severe, and secondary to those of the liver. The kidney was often normal, but a diseased kidney and a normal liver were never observed in these cases. Although slight albuminuria was probably always present, it was chiefly significant when noted in the early months of pregnancy. The presence of blood, casts, leucin, tyrosin and bile in the urine was of great importance. In the treatment, the chief reliance should be on the use of saline solution per rectum, or, in some cases, on hypodermoclysis or saline infusion. The induction of premature labor often served to precipitate the fatal issue, but this measure should be undertaken, if possible, before the onset of black vomit.

DISCUSSION.

DR. CHARLES JEWETT said that a patient was never safe while albuminuria existed. The quantity of urea excreted was, in his opinion, a greatly overrated danger-signal, for it not only varied widely within the limits of safety, but fluctuated with the quantity of nitrogenous food ingested, and was normally less in the later months of pregnancy. He

had frequently seen women pass safely through labor, though they were excreting a very small quantity of urea.

Dr. S. Marx thought antecedent gastric disorders played an important part in connection with hyperemesis gravidarum. He kept such patients quietly in bed on a fluid diet and gave them tablespoonful doses of bismuth. Experience had taught him to think less and less of albuminuria and more and more of the quantity of urea excreted as an index of danger, although he did not mean to imply by this statement that the urea itself was necessarily the element of danger in the toxemia of pregnancy. He had never seen a case of eclampsia in which the urea was not diminished, although it was true he had seen patients escape eclampsia who were excreting very little urea.

Dr. E. B. Cragin favored the theory of the hepatic origin, but many pelvic disorders cause nausea and vomiting in the non-pregnant; moreover, if all the early cases of vomiting were the result of toxemia he could not understand why this vomiting should so commonly cease spontaneously later when the products of the fetus tended to increase the toxemia. Four recent cases of toxemia of pregnancy dying in hospital were reported by the pathologist to be suffering from acute yellow atrophy of the liver. The general line of treatment advised in the paper met with his hearty approval, but he would emphasize the need of promptly emptying the uterus, for, although this procedure did seem to hasten the fatal termination in some cases, it was not infrequently followed by immediate improvement in seemingly very severe cases. Albuminuria should always be looked on as a danger signal.

Dr. S. W. Bandler expressed the opinion that the toxins were given off by the placenta. If such marked results can follow changes in the thyroid or other well-known internal secretions, it is reasonable that they may follow increase or diminution of the placenta secretion.

Therapeutics.

[Our readers are invited to send favorite prescriptions—such as have been tried and found useful—for publication in these columns. In each case the name of the sender must accompany the prescription, but the name will be published or omitted, as the sender may prefer.]

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Some of the New Remedies in the Oculist's Practice.

L. Konigstein, in *Annals of Ophthal.*, states that formerly ophthalmic medication consisted mainly in the use of atropin, silver nitrate and mercury. Atropin was most frequently used and was a very much-abused drug. Silver nitrate was also used indiscriminately in all inflammatory conditions of the conjunctiva and likewise increased the sufferings of the patient. Iodin was employed frequently as a substitute for mercury. Among the newer remedies he mentions the following indications for their employment: 1, as anesthetics; 2, as analgesics; 3, as mydriatics for ophthalmoscopic examinations; 4, as cosmetics; 5, as an irritant in paresis of the sympathetic; 6, as an anemic agent. He employs cocain, at present, as a substitute for general narcosis, even using it in enucleation of the eye bulb combined with adrenalin. To produce an analgesic effect deep in the eye bulb, he uses aconin and dionin. In glaucoma he combines eserin with cocain as an analgesic agent.

Adrenalin is another important adjunct to the remedies for its marked anemic effects on the mucous membrane, and consequently of great value in conjunctivitis simplex, phlyctenularis, pterygium, keratitis vascularis superficialis, iritis, scleritis, etc. This preparation is a constrictor and not an astringent, the cells being unaffected by it, consequently it may be used in combination with zinc as an astringent. It may also be combined with calomel and yellow ointment. In probing the tear duct very good results are obtained by combining adrenalin with the cocain. As a cosmetic it is said to enlarge the palpebral fissure more than cocain. Dionin is another preparation used by the author in the treatment of keratitis parenchymatosa in recent cases only. It is of no value in long-standing cases, and is contra-indicated in diseases of the conjunctiva. It shortens the course and stops the pain in iritis. Many authors recommend it in choroiditis, retinal hemorrhages, and vitreous opacities. In cataract operations it facilitates the absorption of the lens residue. The effect of dionin is due to the fact that it produces changes in the epithelium of the capillary vessels and causes an increase in the secretion of the blood-plasma into the connective tissue which increases the nutrition of the cells. The circulation of the lymph in the anterior part of the eye is accelerated, which benefits the posterior part of the eye bulb. Stasis in the lymph channels produces pressure on the nerve ends and in this way the analgesic effects of the drug are produced, which last for a considerable length of time.

Protargol and largin are the newer remedies substituted for silver nitrate. They are preferable to silver nitrate for the following reasons, as observed by some authors:

1. They are excellent disinfectants.
2. They do not possess such irritant and caustic qualities.
3. They do not decompose so easily.
4. They are less harmful.
5. They do not produce argyrosis.

The author's views do not entirely coincide with those given above, claiming, as he does, that they do produce argyrosis and decompose easily. He does not believe that they can replace silver nitrate, but thinks they are very valuable adjuvants to it.

Coblentz states that silver nitrate possesses only limited penetrating power, as it is precipitated by albumin and sodium chlorid and thus does not reach the deeper tissues. The more recent preparations are unaffected by the albumin or sodium chlorid, and hence their penetrating and germicidal power is increased.

He mentions several of the recent preparations, together with their composition. Largin, according to this author, is a paranucleo-proteid with silver, containing 11.1 per cent. of silver. It is soluble in nine parts of water, is non-irritating and has high penetrating power. Protargol contains about 8 per cent. of silver and is soluble in equal parts of water. It penetrates deeply and is not precipitated by the tissues. Argyrol, which is placed in the front rank by some authors in the treatment of eye affections, contains 30 per cent. of the metal. It is readily soluble in hot water.

In the author's opinion these preparations are all less irritating than nitrate of silver and are better borne by the patient. The percentage of silver is of less importance than the special combination in which the silver exists.

Tissol, in *Med. Press and Cir.*, states that of all the mydriatics atropin is the best. Its indications are: phlyctenular keratitis or impetigo of the cornea, herpes of the cornea, and interstitial keratitis. The atropin relieves the pain and by dilating the pupil prevents the formation of synechia. Mydriatics are especially of benefit in affections of the iris. Sometimes the eye is too sensitive to the ordinary solution, which is:

℞. Atropinæ ..... gr. i
Aq. destil. ..... ʒiiss 10 | 06

In such cases the following solution in warm compresses on the eye serves the purpose:

℞. Atropinæ ..... gr. vi
Aquæ ..... ʒi 30 | 40

M. Sig.: One teaspoonful in a bowl of water and applied to the eye on compresses.

Or the following combination may be used in its stead:

℞. Ext. belladonnæ
Ext. hyoscyami, āā ..... ʒss 2
Aquæ ..... ʒx 300

M. Sig.: Apply locally on compresses.

As mydriatics raise ocular tension they are absolutely contra-indicated in glaucoma. Myotics are proper in such conditions, producing myosis, lowering tension and decreasing the

conjunctival secretion. Pilocarpin and eserin are included in this class. Pilocarpin is a less painful and more untrustworthy remedy.

The following formula is recommended by Darier:

℞. Pilocarpinæ hydrochlor.	gr. i	06
Eserinæ sulph.	gr. ss	03
Ext. suprarenalis aqueous		
Aquæ destil, āā	℥iss	45

M. Sig.: As a myotic in glaucoma.

Methylene Blue in Diarrhea.

Combemale, according to an abstract in *Med. Press and Cir.*, strongly recommends the administration of three grains daily of methylene blue in the treatment of diarrhea from any cause. He has employed this agent with success in the diarrhea of tuberculosis, Addison's disease, and typhoid fever, and in the diarrheas of other acute infections. He gave it in doses of one grain three times a day, or it may be given oftener in smaller doses.

Diarrhea in Typhoid Fever.

L. F. McDowell, in *Dublin Jour. of Med. Science*, recommends the following combinations in the treatment of diarrhea in typhoid fever:

℞. Tinct. opii camph.	℥ss	2
Acidi sulph. arom.	gtt. xv	1
Spts. chloroformi	gtt. x	65
Aquae	℥ss	15

M. Sig.: To be taken at one dose and repeated as indicated; or:

℞. Bismuthi carb.	gr. x	65
Sodii bicarb.	gr. v	30
Cretæ prep. arom.	gr. xx	1 30
Tinct. opii	gtt. v	30
Spts. chloroformi	gtt. x	65
Sodii salicylatis		
Pulv. tragacanthæ, āā	gr. x	65
Aquæ q s. ad	℥i	30

M. Sig.: At one dose.

Epilepsy.

W. Alessi, according to an abstract in *Amer. Med.*, recommends the following combination as of great value in the treatment of epilepsy:

℞. Sodii arsenatis	gr. 1/64	001
Zinci phosphidi	gr. 1/14	005
Calcii phos.	gr. i	06
Sodii benzoatis		
Pancreatin, āā	gr. iii	20

M. Sig.: At one dose three times a day before each meal.

According to the author, the arsenic and zinc preparations are nerve tonics, the latter being also a nerve sedative, the former aiding the exhalation of nitrogen. The calcium phosphate reduces cerebral excitability. The pancreatin and sodium benzoate aid digestion and overcome intestinal fermentation.

Chronic Pharyngitis.

The following combinations are recommended by *Jour. des Pract.* in the treatment of pharyngitis:

℞. Sodii boratis	℥ii	8
Tinct. myrrhæ	℥i	4
Infusi cocæ fol.	℥viii	240

M. Sig.: Use as a gargle every two hours; or:

℞. Potass. chloratis	℥iiss	10
Infusi rubi fol.	℥iv	120
Infusi cochleariæ	℥ss	15

M. Sig.: To be used as a gargle.

To Kill Bedbugs.

In response to an inquiry by a subscriber in our last issue as to the best method of killing bedbugs, Dr. W. A. Kriesel of Milbank, S. D., recommends the use of formalin as being more efficient than the bichlorid solution. The room should be at a temperature of 70 F. or warmer in order to promote more rapid evaporation of the solution, thereby affecting the bugs that may have escaped the fluid. The fluid should be introduced into all the cracks and crevices by means of an ordinary oil can. The application should be repeated after five or six days in order to kill any young bugs hatched from eggs not devitalized by the first treatment. The hands must be protected by gloves in order to avoid any escharotic effects. Dr. Kriesel has used this for three years and has never seen it fail.

Dr. J. W. Croskey, Philadelphia, recommends, as a practical and sure remedy for bedbugs, a solution composed of equal parts of spirits of turpentine and aqua ammoniæ applied in the same manner as the foregoing formalin solution.

Burns.

The following is recommended by *Nord Medical* in the treatment of burns:

℞. Tinct. opii	℥iss	6
Aq. laurocerasi	℥x	40
Glycerini	℥iiss	75

M. Sig.: Apply constantly to the inflamed areas by means of compresses.

Lumbago.

The following combination, in *Med. Rev. of Reviews*, is recommended in the treatment of lumbago:

℞. Tinct. iodi	℥ii	8
Tinct. aconiti rad.	℥iii	12
Spts. chloroformi	℥ss	15
Linimenti saponis co. q. s. ad	℥iii	90

M. Ft. linimentum. Sig.: Apply locally several times daily.

Diphtheria.

E. Perrier, in *Annals de Med. et Chir.*, states, in the treatment of diphtheria, that the presence of suspicious spots on the tonsils or uvula demands the injecting of antitoxin at once. Irrigation of the upper-air passages should be practiced three or four times a day with a warm boric acid solution. Locally the following combination should be applied every two hours during the day and less frequently at night:

℞. Acidi salicylici	gr. x-xv	.65-1
Alcoholis	℥v	20
Glycerini	℥i	30
Infusi eucalyptus	℥ii	60

M. Sig.: Apply locally to the throat every two hours.

The patient should be nourished with milk, albumin water, chocolates and ices, as well as raw or cooked fruits. If alcoholic stimulation is required, champagne, sherry or port wine may be selected.

The following tonic is recommended:

℞. Ext. cinchonæ	℥i	4
Cognac	℥i	30
Elix. simplicis	℥iv	120

M. Sig.: A teaspoonful to a dessertspoonful every two hours.

In case the nasal fossa is involved the following ointment may be applied:

℞. Acidi boracici	℥i	4
Liq. petrolati	℥i	30

M. Sig.: Apply locally.

In cases in which the diphtheritic membrane appears on the conjunctivæ the general treatment is the same, while the conjunctivæ are treated locally by the application of boric acid.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Nevada—Requirements for Practice of Optometry.—Chapter 48 of the Laws of Nevada of 1903 provides that any person engaging in the optical profession in correcting ocular, muscular imbalances, errors of refraction, or other defects of vision, not requiring surgical treatment, shall apply to the state controller for a license and shall produce a certificate of graduation, and shall make affidavit that he is the person named therein, and that such certificate has been issued by a regularly chartered college, authorized to confer degrees, etc. The fee for a license is $10. Nothing in this act shall be construed as applying to regularly qualified medical practitioners, nor to persons who have been engaged in the optical profession in the state for one year preceding the passage of this act.

North Carolina—To Keep Mumps and Itch Out of Schools.—Chapter 690 of the Public Laws of North Carolina of 1903 amends Section 13 of Chapter 214 of the acts of 1893, providing that school committees, etc., shall not allow pupils to attend schools while members of their respective households are sick with certain diseases, or during two weeks after the death, recovery or removal of such sick person, Chapter 690 adding to the list of diseases mumps and itch.

North Dakota—Regulation of Practice of Optometry.—Chapter 130 of the Laws of North Dakota of 1903 is for the most part like the California act epitomized on page 1043 of THE JOURNAL, Oct. 24, 1903. But it contains as further causes for the revocation of a certificate the advertising himself as an eye specialist or doctor, or holding himself out to the public as being other than an optician, skilled in the art of optometry.

Oklahoma—Provision for Free Distribution of Vaccine.—Article 3 of Chapter 2 of the Session Laws of Oklahoma of 1903 appropriates $2,500 per annum, or as much thereof as may be necessary, for the manufacture of and free distribution within the territory of vaccine by the Oklahoma Agricultural Experiment Station at Stillwater.

Oregon—Reports Required.—On pages 82-86 of the General Laws of Oregon of 1903 is an act to establish a state board of health, etc., which provides, among other things, that it shall be the duty of every physician, midwife or head of a family, under whose charge any birth occurs, to report the same to the county or city health officer (as the case may be) before the last day of the month in which said birth occurs. Similar provisions require deaths to be reported within forty-eight hours, or as soon thereafter as practicable; and any infectious or epidemic disease to be reported immediately. The penalty for violation is a fine of from $10 to $100.

Pennsylvania—For Sanatorium for Poor Consumptives.—No. 430 of the Laws of Pennsylvania of 1903 appropriates $8,000 for the erection, fitting and maintenance for two years of a sanatorium for poor consumptives, on the state forestry reservation at Mont Alto, in Franklin or Adams counties, and authorizes the commissioner of forestry to make and enforce rules and regulations governing the same.

Pennsylvania—Limits Sale and Prescribing of Cocain.—No. 192 of the Laws of Pennsylvania of 1903 provides that no person shall sell, furnish or give away any cocain, or any patent or proprietary remedy containing cocain, except on the prescription of a registered practicing physician, or of a dentist, or of a veterinarian; nor shall any such prescription be refilled; nor shall any physician, etc., prescribe cocain, etc., for any person known to him to be a habitual user of cocain. The penalty is a fine of $100 or less, and imprisonment for six months, or less, both or either, at the discretion of the court.

Pennsylvania—School Buildings To Be Disinfected.—No. 132 of the Laws of Pennsylvania of 1903 states that, whereas, infectious and contagious diseases are very largely disseminated through the schools, from the want of proper disinfection of school buildings; therefore, it shall be the duty of the board of school directors, trustees, or other persons having control of any school or college building, to adopt and immediately put into operation a modern system, for the disinfection of such buildings; and to cause, at regular intervals of not exceeding two weeks, all of such buildings to be thoroughly disinfected. The system adopted shall be approved by the city board of health, or, there being no such local board, by the state board of health.

Pennsylvania—Provision for Commitment of Drug Users.—No. 153 of the Laws of Pennsylvania of 1903 is an act to authorize and provide for the commitment of persons habitually addicted to the use of an intoxicating liquor or drug to a proper hospital or asylum, for restraint, care and treatment. The petition shall be accompanied by the affidavits of at least two physicians, based on examination by them of the alleged drunkard, setting forth his condition and stating that restraint, treatment, etc. in a hospital will be of benefit, which physicians must also appear at the hearing given the case. But the restraint shall not be continued in any case longer than one year, and all commitments shall be reviewable by proceedings under writ of habeas corpus, which may be sued out at any time. Furthermore, no person shall be commited, or be admitted into any hospital, etc., until payment has been made, or satisfactory security given, for the proper charges for board, treatment, etc.

South Carolina—Ban on Toy Pistols and Caps.—Chapter 79 of the Laws of South Carolina of 1903 provides that it shall be unlawful for any person, firm or corporation in the state to sell, keep for sale or offer for sale, or give away, any toy pistol, in which caps or cartridges are used, or any caps or cartridges therefor. The penalty for violation is a fine not exceeding $100, or imprisonment (in the case of an individual) for not over 30 days.

South Dakota—To Prevent Abuses in Vaccination.—Chapter 223 of the Laws of South Dakota of 1903 makes it unlawful for any board, physician or person to compel another by physical force to submit to vaccination with smallpox or other virus. No person shall prevent a child of school age, who furnishes a physician's certificate of sucessful vaccination within five years, from attending public school. The penalty for violation is imprisonment for not more than thirty days or a fine of not more than $100 or both.

Texas—Restriction on Prescribing Cocain, Etc.—Chapter 115 of the General Laws of Texas of 1903, regulating the sale of morphin, opium, cocain, chloral or any of the derivatives thereof, provides that any physician or person who shall give any prescription therefor to any person known to be a habitual user of the same, except in cases of actual sickness, shall be fined from $25 to $250, and may in addition be imprisoned in the county jail not exceeding six months.

Texas—Creates a Pasteur Hospital.—Chapter 125 of the General Laws of Texas of 1903 appropriates $5,000, or so much thereof as may be necessary, for the erection and maintenance of a Pasteur department for the treatment of hydrophobia in the state, in connection with and under the management of the state lunatic asylum at Austin. Any person affected with hydrophobia within the state shall be admitted for treatment on the certificate of a practicing physician and the recommendation of the county judge of any county. All indigent patients shall be treated and maintained at expense of the state, but all non-indigent patients at their own expense, or that of their relatives, friends or guardians. The laws pertaining to the introduction and control of such patients shall be the same as those of the Austin asylum.

Utah—Children Forbidden to Have Tobacco, Etc.—Chapter 135 of the Laws of Utah of 1903 provides that any person under the age of 18 years who shall buy, accept or have in his possession any cigar, cigarette or tobacco in any form, or any opium or any other narcotic in any form, shall be guilty of a misdemeanor

Utah—Restriction on Location of Pest-Houses.—Chapter 36 of the Laws of Utah of 1903 provides that no pest-house, hospital, etc., used to confine persons having or suspected of having any contagious or infectious disease, shall be located or maintained within twenty rods of any public road, or within one-fourth mile of any uncovered canal, ditch, flume, etc., conveying running water only, if said water is conveyed into, or used by the inhabitants of any city, town or village, for culinary, household or other domestic purposes.

Utah—Disinfection Required in Typhoid Fever Cases.—Chapter 81 of the Laws of Utah of 1903 makes it the duty of any person having charge of a person with typhoid fever to disinfect all excreta from the person during the disease, in accordance with the rules of the state board of health; failure so to do shall be a misdemeanor. It shall be the duty of the physician in attendance to personally instruct those having charge to perform the disinfection described and to satisfy himself that the same is properly carried out; failure so to do shall be a misdemeanor.

Wyoming—On Sale and Prescribing of Delirifacients.—Chapter 98 of the Session Laws of Wyoming of 1903 makes it unlawful for any person, corporation, etc., to sell, give away, or

possess, or in any manner distribute, any cocain, opium chloral hydrate, or their derivatives, or any drug or combination, the natural effect of which is to induce delirium, or any patent or proprietary medicines, known to contain any drug, or derivatives thereof, heretofore mentioned; except that regular licensed pharmacists may keep for sale and sell such drugs, on the bona fide written prescription of a regular practicing physician, which prescription must not be repeated or refilled. Any physician who shall prescribe any of the drugs herein mentioned, except in cases where the use is required by the then existing physical or mental condition of the patient, shall, on conviction thereof, be deemed guilty of malpractice and unprofessional conduct, and it shall thereon be the duty of the State Board of Medical Examiners to revoke his license to practice.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

November 28.

1. *The Use of Weak Cocain Solutions in Operations for the Removal of Cervical Tumors. Frederick Griffith.
2. *The Early Operative Treatment of Tuberculous Osteitis of of the Knee. (Concluded.) Bernard Bartow.
3. *The Treatment and Management of Postoperative Tuberculous Patients and a Plea for the Establishment of Seaside Sanatoria and Convalescent Homes. S. A. Knopf.
4. *The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver. (Continued.) Hermann G. Klotz.
5. *Ocular Headache and Other Ocular Reflexes; a Statistical Study. (Concluded.) M. W. Zimmermann.

1. **Cocain Anesthesia.**—Griffith reports a number of cases of cervical tumors removed under weak solutions of cocain, ¼ to ⅛ per cent. in a warm, weak, soda solution. In one of the cases ether supplemented the cocain on account of the nervousness of the patient. In the others there seemed to be little or no pain during the dissection.

2. **Tuberculous Osteitis of the Knee.**—Bartow's article is concluded in this issue, and the paper consists mainly of accounts of cases. The range of preservation of movement in the recovered cases was from complete functional restoration to limitation of the movement within 15 degrees of flexion. Between these extremes are 4 cases in which there was free flexion of from 60 to 90 degrees from the straight position of the leg. In a patient with less motion range it is susceptible of further improvement by movement during anesthesia.

3. **Post-Operative Tuberculous Patients.**—Knopf's article is a very long one, covering the whole subject of the hygiene of tuberculous patients after operation. He describes the methods for the open-air treatment and exercises, and insists on deep breathing movements as soon as possible after the patient is removed from the table, to restore the respiratory function and facilitate hemostasis and expectoration and relieve the cough. It also prevents hypostasis of the lungs often produced by the prolonged recumbent position. There should be individualized hydrotherapy. Rest in the open air is considered of special importance. The dietetic treatment must vary with the cases. He believes in a mixed, nourishing diet with thorough mastication and avoidance of all alcoholics and too much sweets; plenty of salt with the food, and between meals plenty of water. The administration of raw beef or beef juice will be of benefit in all types of tuberculosis. A great factor in the success is the keeping up of perfect nutrition; massage is valuable in suitable cases. It would be impossible, however, he says, to lay down a rule when it is or is not indicated after surgical operations. He goes at length into the precautions that should be taken to avoid infection, the care of the sputa, etc. In conclusion he makes a plea for convalescent homes for the poor who have undergone surgery.

4. **Gonorrhea.**—Klotz' article is continued. He describes the method of treatment in the various forms and stages.

5. **Ocular Headache.**—Zimmermann's article is here concluded. He gives a tabulated statement of the results of re-examinations after six months or more, the average being 2.88 years. These offer some interesting data. He also tabulates cases where there was a lack of binocular vision in the first place, either due to a loss of an eye or divergent strabismus, and in which ordinary muscle action would seem to be eliminated. This group shows a much smaller percentage of headaches than that of the larger groups with binocular vision. The influence of ill health as a predisposing cause of ocular headache is also studied, and it is found to occur in 19.16 per cent. Neurasthenia, general nervousness or general ill health seemed to be prominent causes, though grippe also played a considerable figure. Migraine, understanding by this term a form of periodic headache preceded by aura, occurred in 33 cases, excluding 35 cases of hemicrania without nausea and vomiting, 25 of bilateral headache in which these symptoms appeared. Eight patients reported complete cures of migraine attacks for a reasonable period, and in 3 cases a certain degree of relief was obtained by the proper adjustment of glasses. He remarks that oculists have perhaps been too indifferent to the headache habit with which neurologists are well acquainted. During the early wearing of new glasses, while the eye and its ciliary muscle are adapting themselves to new conditions, great benefit results from the use of very dilute applications of a meiotic, eserine salicylate, 1/20 to 1/50 of a grain to the ounce. He thinks this, perhaps, acts as a tonic to the ciliary muscle and has a tendency to steady its erratic action under new conditions. With these weak solutions there is very little effect on the pupil. They are not irritating to the iris or other uveal structures, and are for temporary use only. With periodic headaches, some of the coal tar group, the preparation given at the onset of the attack may be of great benefit. The tabulated statement of other reflexes than headache, including epileptiform attacks, vertigo, shoulder pain, abnormal head position and blepharospasm, is also given. In one of the cases of epileptiform attacks ocular treatment seemed to produce a cure. The total results of treatment are rather hopeful. In 233 hospital cases and 451 private ones a complete cure is reported, also 29 and 61 per cent., respectively, of improvement. Only 20 cases were not improved. He thinks that the 86 per cent. of cures is a good result, not meaning by this absolute cures, though that is commonly the outcome, but such a modification of symptoms that the patient does not suffer any annoyance which can not be controlled by hygiene.

American Medicine, Philadelphia.

November 28.

6. *What Is the Limit of Safety When More Than One Operation is Indicated? Albert Vander Veer.
7. *The Roentgen Rays as a Palliative in the Treatment of Cancer. Charles Lester Leonard.
8. *The Demonstration of Nucleated Red Blood Corpuscles in Animal Spleens. Edward T. Williams.
9. *The Spectroscopic Elements of Light as Therapeutic Agents. George G. Hopkins.
10. *Abdominal and Pelvic Surgery Without Ligatures. Electrothermic (Heat and Pressure) Hemostasis. Andrew J. Downes.
11. The Effects of the Secondary Static Currents in Removing Albumin and Casts from the Urine, with Report of Cases. Boardman Reed.
12. Status of Sanitary Progress. Walter Wyman.

6. **Multiple Operations.**—The dangers of multiple simultaneous operations are pointed out by Vander Veer who, while he admits the possibility of recovery in such cases, thinks the dangers are increased. The danger to certain nervous tissues in doing what we call a combined operation must not be lost sight of, and any operations that approach the stomach, that involve the small nerve centers, are especially to be respected. Operations on the genitals of males are not well borne, and he thinks the same should be true in the female, though gynecologists are quite free in making multiple operations in these cases. In the operation of nephrectomy he does not like to do more than one operation on one patient at one time, and the same holds good in operating on the lung or opening the pleural cavity. One operation on the brain is quite enough. He concludes by

saying that he believes extreme multiple operations, deliberately planned, should not be encouraged, although the surgical technic of to-day allows us to do more than was even dreamed of in the near past.

7. **Cancer.**—Leonard believes that the *x*-ray should be used in cancer, though we can not give up surgical measures with our present knowledge. The rays should be used in combination. The palliative effects of the rays also are important. He insists on the necessity of correct technic, a careful study of the patient's condition, use of stimulants, a tonic course of treatment if necessary to combat the tendency to degeneration of the cells and possibly auto-intoxication. He says he has seen inoperable cases of cancer cured and remain cured thus far, and hopelessly inoperable cases restored to such health as to be able to resume their ordinary vocations, while the fatal termination in hopeless cases has been deferred and the suffering mitigated. The results thus far are very encouraging. A prophylactic postoperative course of treatment has been developed that will doubtless increase the number of cures, while as a palliative agent there is nothing else equal to it.

8. **Red Blood Corpuscles in the Spleen.**—Williams has experimented on the spleens of hogs and oxen and finds that the erythroblasts are a constant anatomic element in these structures. He has not yet been able to examine a fresh human spleen, opportunity for which is not too common, but thinks we need further evidence before we can say that this organ in man has lapsed into a rudimentary state and is incapable of making red blood corpuscles. When an authority like Neumann positively states that he has seen erythroblasts many times in the spleen of human adults and distinctly expresses his dissent from Kölliker, we are evidently nearing the verdict.

9. **The Spectroscopic Elements of Light.**—Hopkins notices the history of the light treatment and describes the effects that he has himself obtained with the Finsen light, the Minim light, the Hopkins lamp and the German light bath.

10. **Electrothermic Hemostasis.**—Downes' article is a description of his methods and armamentarium, and a new record of cases up to the present time.

Medical Record, New York.

November 28.

13 *Electricity in General Practice. W. B. Neftel.
14 *Suprapubic Lithotomy. J. J. Brownson.
15 *Treatment of Cervical Adenitis Due to Tonsillar Infection. Albert E. Rogers.
16 Perineal Section for Stricture, with Suggestions on the Use of the Cautery, and Points in the After-treatment. Charles C. Miller.
17 Foreign Bodies in the Rectum, with Report of Two Cases. Maurice Rosenberg.

13. **Electricity in General Practice.**—Neftel reviews the utilization of electricity according to the older methods of galvanism and faradism as they can be employed by the physician in general practice. He notices the use of faradic currents as being a local and general stimulant and tonic, and affecting general nutrition, while galvanism acts more directly on the nerves and nervous centers, modifying their excitability. The contraindications to both are fevers and acute inflammatory disease. The different methods of application are described, faradization of phrenic nerves in cases of suspended animation and of the nerve trunks in the treatment of writers' and piano players' cramp, in visceral displacement and dilatation, in hernia, general anemies, etc. He also gives instances of the use of galvano-faradic currents in atrophic conditions and of faradic currents in heart disease. Galvanization of the brain and the sympathetic nervous system and pneumogastric are illustrated by examples and the use of the galvanic current in neuralgia. In neuritis the faradic current is indicated. The methods are described much as in the usual text-books on electro-therapeutics.

14. **Suprapubic Lithotomy.**—Brownson advocates the use of the suprapubic method in lithotomy, claiming that the danger of hemorrhage is not so great; there is no fear of wounding the rectum; the peculiar and delicate nerve supply of the perineum is not disturbed, moreover, and the operator has better control of the bladder by the suprapubic method. After operation he would use drainage except, perhaps, in young and vigorous persons with healthy bladders, where the catheter can be employed.

15. **Cervical Adenitis.**—In case of cervical adenitis from tonsillar infection Rogers advocates removal of the tonsils, and advises that in all cases in which the glands have not already broken down, the surgeon should first extirpate the tonsil before resorting to incision through the skin, thus removing a primary source of infection and avoiding an unsightly scar. Five cases are reported.

Boston Medical and Surgical Journal.

November 26.

18 *The Treatment of Diffuse Peritonitis. B. F. Lund.
19 *A Clinical Study of 112 Cases of Movable Kidney. Ralph C. Larrabee.
20 *Diseases of House Officers in Hospitals. William R. P. Emerson.
21 *Unclean Milk, Bovine Tuberculosis and the Tuberculin Test—Their Relation to the Public Health. (Concluded.) E. R. Larned.

18. **Peritonitis.**—The starvation method of treating peritonitis described by Ochsner and others is not favored by Lund, who insists on the importance of early operation, with thorough irrigation with decinormal salt solution at a temperature of 110. He is also an advocate of gauze drainage, as these wicks, used even only a few hours, by capillarity will remove a large quantity of fluid, some of it presumably septic. The irritating effect of the gauze causes immediately after the drainage of the fluid the formation of adhesions which wall off the infected area and prevent further reinfection. For drainage of the pelvis he uses gauze wicks, and among them places a glass tube, not on account of its value as a drain, but to keep the gauze in the original position and prevent its being entangled by intestinal movement. He also advocates the elevation of the head of the bed, and his own experience with this has been satisfactory. Reference is also made to an article on enterostomy in selected cases of peritonitis, published in THE JOURNAL for July, 1903. The procedure has proven effective in desperate cases. For details the reader is referred to the original. In looking over his records he finds he has operated in 34 cases of general peritonitis, not including cases covering only a slight area; 23 of these were due to perforative appendicitis, of which 10 recovered and 13 died, most of the fatal cases being in a very poor condition. Of the 11 remaining cases 4 were due to salpingitis; 1 recovered and 3 died; 1 due to perforative typhoid ulceration also died; 2 to rupture of the intestine by external violence, with 1 recovery and 1 death; 1 to perforated gastric ulcer, which recovered; 1 fatal case due to perforating duodenal ulcer; 1 to perforation of the posterior cul-de-sac by a splinter of wood introduced through the vagina. This forms a total of general peritonitis from all cases of 34 cases, with 20 deaths. The mortality of the early cases has been low, and it should be remembered, as stated above, that a number of cases of slight peritonitis were not included in these figures. In view of the recent advocacy of the rest treatment of peritonitis and of the great conflict of opinion as regards the methods, he thought it best to present his reasons for his own attitude on the subject.

19. **Movable Kidney.**—One hundred and twelve cases of movable kidney were detected in 272 out-patients at the Boston City Hospital during Larrabee's four months' service in 1902, children not included. The right kidney alone was affected in 98 of the 112 cases. Movable kidney seems to be most frequent in young adult life, but there were 5 cases over 60 years of age and 1 over 70. Of the 93 Americans in the series, 37 per cent. had this condition; of the 69 Irish, 51 per cent.; of 41 natives of British provinces, 49 per cent., and of 22 Russian Jews, 30 per cent. It was found a little more frequently in the married and widowed than in single women, though the difference was not very great. Fifty of the cases were multiparæ; 1 a unipara; 51 had never been pregnant. The cases showed markedly the effects of emaciation as a causal factor. Trauma was given as a probable cause in one instance, and all but 9 patients were either cor-

sets or other constricting articles of clothing. The symptoms were not characteristic, but were as noticeable in cases without floating kidney as in those with it. In no case was there any evidence of hydronephrosis, gangrene, malignant disease, severe hemorrhage or other serious complication. Treatment was thought unnecessary in 87 of the 112 cases, and the patients were not informed of the presence of the anomaly. In 1 case in which this was inadvertently done, symptoms immediately appeared. Two women were advised to wear different corsets; 25 were advised to wear swathes, this being rather for the enteroptosis or laxity of the abdomen in some of the cases. Surgical treatment was not advised in a single instance. Lund says that with over two-fifths of the women of certain classes having movable kidney one ought to be very cautious in attributing such common indefinite symptoms as backache, dyspepsia and neurasthenia to this cause, and when a movable kidney is found it should be borne in mind in treating the case, but unless there is reasonable ground for attributing the symptoms to this it is best not to draw the patient's attention to its existence. The frequency and innocuousness of the lesion would seem to refute the extreme surgical view. Nephrorrhaphy undoubtedly has its place, especially in serious complications such as hydronephrosis or pyonephrosis or severe crises. It is justifiable where there are disabling symptoms that can not be relieved otherwise or when the patient prefers the risk of operation to the discomfort of bandages. It should be remembered that temporary bandaging may tide over a condition of debility during which these symptoms have appeared. Particularly in cases where the symptoms are predominently nervous, one should not advise operation unless the condition and symptoms can be attributed with a reasonable certainty to the lesion.

20. **Diseases of the House Officers in Hospitals.**—Emerson has studied the mortality statistics of house physicians and surgeons in the Boston City Hospital for the past ten years. While the number of cases has been too few and the time too short to offer definite conclusions, the records of the medical and surgical services, 60 men each, and contagious, 70 men, would indicate that the danger of house officers having pneumonia, phthisis or typhoid is very small, only one of these cases occurring in the medical service, and then in an individual of low resistance. The nasopharyngeal and febricular affections occurred in the ratio of 12 in the medical staff to 1 either surgical or pathologic. The danger of infection in the examination of moist cultures and sputum is very slight, and there is little evidence in the ten years' records that a house officer's general condition is a marked factor in the question of infection by a contagious disease. In six months' service the chance of a member of the service taking diphtheria infection, including mild cases, is one in two, of scarlet fever, one in seven. The influence of improved living quarters and facilities for proper exercise on the health of house officers is marked. It should be urged on house officers that the sense of fatigue occurs more often as a result of nervous tension and indoor air than of muscle exhaustion, and that it is relieved by proper exercise and baths. The tabulated comparison of the conditions at the end of service of men who exercised and men who did not is so striking as to demand that the attention of all similarly situated persons be given to this matter.

21. **Bovine Tuberculosis.**—Larned concludes his article in this issue, and insists on the importance of the tuberculin test by which it is possible to very materially reduce tuberculosis in cattle and, it may be, to eventually exterminate it.

Medical News, New York.

November 28.

22 *Diet and Drugs in Nephritis. William S. Gordon.
23 *Mastoid Disease and Cerebellar Abscess. Seymour Oppenheimer.
24 *A Discussion of Some Common Forms of Liver Disturbances. A. P. Stoner.
25 *The Best Method of Dealing with the Stump in Appendicectomy. Howard Lilienthal.
26 *Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. (Continued.) Charles F. Painter and William G. Erving.
27 Primary Osteoplasty in Open Fractures or Fracture Dislocations. Thomas H. Manley.

22.—See also abstract 36 below.

23. **Mastoid Disease and Cerebellar Abscess.**—Oppenheimer describes the conditions and mechanism of cerebellar abscess from mastoid disease and the general treatment of the condition, pointing out that it may be, in the second stage, practically latent for a considerable time. The third stage supervenes with the symptom group characteristic of severe otitic intracranial infection, the symptoms sometimes pointing to the localized cerebellar abscess, but more frequently the condition is only localized after operation. When the first stage is not recognized and the intracranial condition continues without surgical relief, the fourth or the terminal stage is one of gradual death from exhaustion and coma, or sudden, according to the direction in which the abscess ruptures. The first stage is characterized by the symptoms of acute infection and extension of mastoid suppuration to the intracranial contents. The detailed symptoms are given at length. The diagnosis of cerebellar abscess is not always possible by local symptoms: Occipital headache, temperature slightly elevated, normal or subnormal, sometimes nystagmus and paralysis of the sixth nerve, cerebellar ataxia and vertigo if the vermis is affected, a rapid loss of flesh and strength, etc. The multiplicity and confusion of symptoms is very marked. The treatment is necessarily surgical. After the abscess has formed the best plan is to first open and explore the mastoid cells and, failing to find the cause, open the cranium in the groove for the lateral sinus and so obtain access to both the middle and posterior fossæ. A bibliography of 65 references is appended.

24. **Liver Diseases.**—Stoner describes the various conditions of liver disease. Hyperemia he thinks is seldom caused by the two factors to which it is sometimes credited; suppression of menses and hemorrhoidal bleeding. Cirrhosis he accepts as usually the result of infection, either direct or indirect. Alcohol is frequently responsible for the condition even in children. In many cases abnormal fermentation in the bowels is responsible.

25. **Appendicectomy.**—The criticisms of the method of ligation and cauterization of the stump are answered by Lilienthal, who holds that ligation cuts through the mucosa, and in this ways permits occlusion by union of the submucous coats. In cases where there is great infiltration of the walls, with friability, it is best to bluntly crush the rigid root of the organ with a clamp or forceps and then apply the ligature to the crushed tissues. Of course this can not be done with complete gangrene of the stump. The second criticism, that adhesions are apt to form with a stump of this kind, is, he thinks, based on insufficient evidence. He has had the chance of examining post-operative conditions in a number of cases treated by ligation and cautery, and 3 cases of fatal peritonitis examined from three to six days after operation showed adhesions everywhere else but not at the stump, which could not be found. It had been cast off with its ligature, and only a smooth cicatrix on the surface of the cecum remained. In a number of other patients on whom subsequent operations for other conditions were undertaken months and even years after the removal of the appendix, the only evidence of the ligature was a smooth, white cicatrix; no adhesions whatever. He believes, therefore, that the treatment of the stump by the method of ligation is the only way in which adhesions may be avoided. The cauterization he uses is that by strong carbolic acid. A minute drop of the 95 per cent. solution is taken up with a closed artery clamp as ink is taken up with a pen, and after protecting the surrounding tissue with gauze the acid is thoroughly applied two or three times to the mucous lining of the stump until the little funnel is completely whitened. In from fifteen to thirty seconds the stump may be dropped back into the abdominal cavity with no danger to the other structures that may come in contact with it. This method of treating the stump has stood a satisfactory

test in his experience in many hundred operations during the past ten years.

26. **Chronic Villous Arthritis.**—Painter and Erving's article is concluded in this issue. They find that chronic villous arthritis is not a disease of itself, as has been claimed, but occurs associated with chronic diathetic disease involving other tissues, and is representative in such cases of the same pathologic changes that subsequently occur in other structures of the joint. The two principal diatheses which cause this are rheumatoid arthritis and osteo-arthritis. The villous changes are the symptoms, not the disease itself. Traumatism entirely apart from any diathesis, is capable of giving rise to a local villous hypertrophy which goes on to a dense fibrous growth and keeps the joint in a constant state of injury from its traumatic effects. Traumatism associated with an osteo-arthritic diathesis, is frequently the excitant of local synovial hypertrophy, but these changes are more the result of the traumatism than of the stirring-up of the diathesis. Stout flabby adults with pronated or flat feet are more liable to the type of fringe which undergoes fatty degeneration with a minimum amount of fibrous change. This may occur with pregnancy and with the tissue relaxations of nervous prostration and the "soft" condition of so many rapidly-growing and sickly children at the period of puberty. Alteration in the mechanism of weight bearing is not the prime cause of this condition in many of the knee cases, though a frequent contributing factor which should be considered in the treatment, but simple flat feet or pronated feet can hardly cause this condition alone. The operative treatment in selected cases gives eminently satisfactory results when it is fully understood what the operation contemplates. Conservative treatment in suitable cases, though a very small class, gives equally good results. The main thing is to distinguish between the two classes. Judging from the pathologic findings, the condition is the result of a chronic inflammatory process which, acting on the normal villi, cause their hypertrophy with increase of the blood vessels. This becoming chronic on account of the continuation of toxic cause or to intermittent or slight trauma, the vessels are unable to supply the needs of the new tissue, being thus affected by inflammation. They therefore become gradually obliterated by endarteritis with almost complete loss of blood supply and the disappearance of normal fibrous tissue. The latter either undergoes necrosis and hyaline degeneration, or disappears, leaving the tissue that can be nourished by a limited supply of blood, usually the adipose. In this necrotic condition separation of the pedicle and the formation of a loose joint body can easily occur.

Cincinnati Lancet-Clinic.

November 28.

28 *Typhoid Gangrene of the Lower Extremities—134 Cases—Spontaneous and Surgical Amputations. B. Merrill Ricketts.
29 *Malaria. George J. Monroe.
30 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

28. **Typhoid Gangrene.**—Ricketts begins his article with a few remarks on the pathology and treatment by amputation. The most favorable cases for this latter are those involving the toes and feet and lower leg during convalescence, and he gives abstracts of reported cases. Spontaneous amputation should not be encouraged, as a rule, though in a few cases in the aged it should be carefully considered. The article is to be concluded in the coming issue.

29. **Malaria.**—Monroe reports a case which apparently in the beginning was that of phthisis and treated accordingly, but it subsequently showed symptoms of malaria controllable by quinin. All the lung symptoms and physical signs disappeared. The patient was an excessive smoker, which is mentioned in connection with the case, though no deductions are drawn.

St Louis Medical Review.

November 21.

31 Stenosis of the Lacrymonasal Duct. J. C. Buckwalter.

November 28.

32 *Gymnastics in Medicine. F. W. Abeken.

32. **Gymnastics in Medicine.**—Abeken advocates the use of exercise in various conditions, notably diabetes, and other conditions beginning with disturbances of metabolism. He specially insists on their prophylactic value.

Bulletin of the Kentucky State Medical Association, Louisville.

November.

33 *Colles' Fracture. Fred D. Cartwright.
34 *Fractures of the Femur. H. P. Sights.
35 A Method of Dealing with Fractures. J. B. Taulbee.

33.—This article appeared elsewhere. See THE JOURNAL of August 22, title 144, p. 523.

34. **Fractures of the Femur.**—Sights concludes that while experience and teaching have been discouraging as regards fracture of the neck of the femur, yet with appropriate treatment we may expect bony union. Age is not a contraindication to treatment. The best results are obtained from perfect immobilization and approximation. The plaster-of-paris cast and Buck's extension are not the best methods. The use of suspension apparatus is more comfortable to the patient, convenient to the nurse and favorable as to results. Old ununited fractures can only be relieved by operative treatment, and in these the *x*-ray gives valuable aid.

St. Louis Courier of Medicine.

November.

36 *Diet and Drugs in Nephritis. William S. Gordon.
37 Induction of Labor by Means of a Modified Champetier de Ribes' Balloon. Herbert Old.
38 Anemia Infantum Pseudoleukemica (von Jaksch), George M. Tuttle.

36. **Nephritis.**—Gordon insists on the value of the diet in nephritis, and believes that gout and lithemia are responsible for a large number of cases. He considers that the milk diet should often be discontinued as furnishing too much urea. It also fails to supply the blood with sufficient nourishment or sets up lactic or butyric fermentation. No routine diet should be adopted. In many cases, however, an exclusive milk diet is of value. His own rule is to regulate the diet so as to obtain a normal urine. As long as the urine is normal the kidney will in the majority of cases improve. He remarks as regards nitrogenous foods that fowl, game, fish and eggs are liable to be as bad as butcher's meat in these cases, and especially eggs, which have been disastrous in some cases in his experience. He is not a skeptic as regards drugs, and insists on the use of diuretics and diaphoretics, and extols the good effects of cholagogues, in acute cases especially, and in chronic cases when diaphoresis or diuretics are contraindicated. For emergencies pilocarpin stands by itself. Nitroglycerin is sometimes invaluable in acute cases, and iron is pre-eminent in cases where anemia has set in and the blood vessels need to be nourished. As regards the preparation, he still favors the old tincture of the chlorid. When it fails, other preparations may be used. In anemic convulsions, chloral hydrate and the bromids are useful. He does not hesitate to use morphin where required. Veratrum viride is a drug with which he has had limited experience, but its virtues as a reducer of pulse tension are well established. In acute inflammatory conditions with strong pulse, aconite is valuable. For the debility of subacute and chronic nephritis, stimulation must be employed, and alcohol may be beneficial in elderly people—best given with the food. Strychnin is useful in many cases when the pulse is soft, thin and frequent. Taken all in all, it is the best remedy in our possession for weakness and exhaustion of the nervous system, while with hypophosphites it will stimulate with results unattainable by either drug alone.

The Laryngoscope, St. Louis.

November.

39 The Tonsil at Birth. Harris P. Mosher.
40 *Adenoid Growths with Special Reference to Adult Conditions James E. Logan.
41 *Gangrene of the Tonsil. Charles W. Richardson.
42 A Synopsis of My First Hundred Mastoid Operations. C. Barck.
43 Progress in Otology in Fifty Years. Fayette C. Ewing.
44 Naso-pharyngeal Fibroma—Exhibition of Specimens and New Forceps. J. A. Stucky.
45 The Tonsil Snare. W. H. Peters.

40. **Adenoids in Adults.**—The points brought out by Logan are summarized by him in substance as follows: (1) The importance of early recognition of adenoids in children by the general practitioner. (2) Their prompt removal when extensive or interfering with the development of the child, especially in case of exposure to exanthemata. (3) When present in patients suffering from eruptive diseases, attention must be directed to proper disinfection of the pharyngeal vault. (4) In patients exhibiting enlarged faucial glands there generally exist hypertrophies in the vault—the reverse condition does not always obtain. (5) That hypertrophy of the pharyngeal glands in adults is not rare. As a rule, it is dependent on pharyngeal changes during childhood, and is not developed after puberty. (6) That operative interference is warranted in every instance not only to relieve existing dependent conditions, but to prevent impending complications.

41. **Gangrene of the Tonsil.**—Richardson reports a case and remarks on the scantiness of the literature on the subject. The patient died of extreme sepsis. Antitoxin proved ineffective. From a clinical history of the case he thinks diphtheria was not the cause. If it was a case of spirillum infection, it was certainly a very marked manifestation. He is inclined to consider it the result of quinsy, with streptococcic infection causing gangrene and destruction of the tissues.

Interstate Medical Journal, St. Louis.

November.

46 *The Present Status of Stomach Surgery. A. J. Ochsner.
47 *Complete Obstruction of First Portion of Duodenum Due to Gallstones—Report of Case. Paul Y. Tupper.
48 Removal of a Five-cent Piece from a Strictured Esophagus. A. V. L. Brokaw.
49 *The Hypodermic Use of Mercury in Syphilis. S. P. Collings.
50 *Pancreatitis Diabetica. Francis T. B. Fest.

46. **Stomach Surgery.**—In most cases of diseases of the stomach requiring surgical interference there is defective drainage, though not infrequently extra-gastric conditions give rise to the symptoms. The diagnosis is described by Ochsner, who calls attention to gallstones as the first possibility of confusion, and points out the differences between their symptoms and those of gastric ulcer, such as pain to the right around the side and back and in the vicinity of the liver, pain and tenderness between the junction of the ninth rib and its cartilage and the umbilicus. He also remarks as regards gastric crises of locomotor ataxia. All of the stomachic conditions can be relieved by making a gastroenterostomy between the lowest point of the stomach and the jejunum, large enough to permanently drain the organ. For this purpose he advocates the McGraw elastic ligature which he has used in his last 34 cases. It is easy of application, the fact that neither the intestines or stomach are opened and that the anastomotic opening can be made long enough to prevent future obstruction due to its contraction are advantages. He says:

1. A round rubber cord 2 mm. in diameter, made of the best material, should be used. 2. A posterior row of Lembert sutures is applied. 3. A long, straight needle armed with the rubber ligature is passed into the lumen of the intestine and out again at the desired distance, from 5 to 10 cm. away from the point of introduction. 4. While an assistant holds the intestine the surgeon stretches the rubber in the needle, and when quite thin draws it rapidly through the intestine. 5. The same step is repeated through the stomach. 6. A strong silk ligature is placed across and underneath the rubber ligature between the latter and the point where the stomach and intestine come together. 7. A single tie is made in the rubber ligature after the latter has been drawn very tightly. 8. The silk ligature is passed around the ends of the rubber ligature where they cross and tied securely three times. 9. The ends of the latter are released and cut off, being held by the silk ligature. 10. The Lembert suture is continued around in front until the point of its beginning is reached, where it will be tied. 11. Care must be exercised to prevent tying the rubber too far backward, and thus getting behind the posterior row of Lembert sutures.

He is thus explicit in describing the steps of the operation since he finds that a thorough familiarity with the method seems to give good results. He has not had satisfactory experience with the pyloroplasty, but the Finney method is undoubtedly the best, and it should be restricted to cases where there is a sufficient amount of tissue to make the new pyloric opening very large. Pylorectomy will, he thinks, be more and more employed and should always consist in the excision of more than 3 cm. of duodenum beyond the malignant growth and the removal of at least two-thirds of the stomach together with the lymphatics and the lesser omentum, even when the carcinoma is not advanced. This is important because the lesser curvature of the stomach is likely to be infected to a considerable distance from the original growth even in the earlier stages. Gastrectomy can be indicated only in a very small number of unusual cases. Gastrostomy is indicated in all cases of obstruction of the esophagus due to carcinoma in which starvation is imminent, and in cases suffering from benign stricture which can not be dilated from above. This operation is here indicated for the purpose of making retrograde dilatation. It is not likely that gastroduplication will ever again be in favor in the future. Elevating the stomach in gastroptosis is an operation still to be tested, though some authors, notably Beyea, speak well of it. Ochsner's own observation has convinced him that in severe pathologic lesions which can not be relieved medicinally in a reasonable period, nor traced satisfactorily to a neurosis not secondary to gastric disease, nor to other conditions mentioned, surgical treatment is indicated and should be undertaken reasonably early.

47. **Obstruction from Gallstones.**—Tupper reports his case and discusses others in the literature. He concludes from the whole that when bowel obstruction occurs in patients who have had inflammatory trouble in the region of the right hypochondrium, erratic gallstones are to be considered as a probable factor, and more probably in a woman past middle life. On account of its proximity and the fixedness, the duodenum is the most frequent avenue of escape for calculi ulcerating from the gall bladder. The colon is next in order. Other portions of the small intestine are rarely perforated. The calculi entering the duodenum are generally carried farther into the small intestine and arrested in their progress by the gradual diminution in the lumen of the bowel. Gallstones ulcerating in the colon rarely cause obstruction, but are usually passed readily per rectum. When gallstones smaller than the lumen of the intestine cause obstruction, it is probably because of the so-called "decubital irritation and angulation" of Pilcher. The site of bowel obstruction can be often approximately located by symptoms such as the presence or absence of meteorism and the presence or absence of bile and feces in the vomit. The lower portion of the small intestine is frequently the site of obstruction caused by migrating gallstones. Lodgment in the lower duodenum is rare. Lodgment in the duodenum between entrance of the bile duct and the pylorus must be exceedingly rare. He found no case on record except the one here reported. The character of the obstructing body in this case was also unique in that it consisted of a collection of faceted calculi rather than the single large gallstone usually found.

49. **The Hypodermic Use of Mercury in Syphilis.**—Collings advocates the hypodermic use of mercury. After considerable experimentation he has adopted the following solution made up in a 2 per cent. solution of chloretone:

℞.	Hydrargyr bichloridi, C. P.....grs. viiss	50
	Sodii chloridi.....grs. iv	25
	Aquæ destil, fl.....3i	4

Mix and make a solution by gentle heat.

	Chloretone .....grs. viiss	50
	Aquæ destil, fl.....3v	20
	Alcoholis absolut.....min. xv	1

Dissolve chloretone in 20 c.c. distilled water, add alcohol and, finally, add the mercury and sodium solution. Shake well and filter.

This makes a 1 to 50 solution of bichlorid, 10 minims representing 1/5 of a grain. It can be given in doses of 5 minims up to 20 or even 25. He gives directions as regards antisepsis and advises the use of the "Sub Q" syringe for injections. The cases to be selected for this treatment are largely those where there is a necessity for the patient to be rapidly brought under the influence of mercury, such as the pernicious or malignant cases, and cases of rapidly destructive lesions, cases of impending paralysis and many cases of cerebral syphilis. It is indicated in fact in all emergency cases unless there are serious contraindications, such as kidney disease. The question of its use as a routine treatment should be decided by each attending physician.

50. **Diabetic Pancreatitis.**—Fest reports a case observed in Honduras and deduces the following practical points from its study:

1. The secretion of the pancreas can become suspended for some time. 2. The secretion of the glycolytic ferment is the first function re-established. 3. The re-establishment of the secretion of the steatolyptic enzyme occurs last. 4. The natural secretion of steapsin and trypsin can be supplanted by the introduction of same per os and of other enzymes as papayotin. 5. Pancreon does away with the necessity of using kreatin-coated pills, pills of pancreatin, which coating is relatively unsafe, as can be demonstrated *in vitro*.

Colorado Medical Journal, Denver.

October.

51 Impressions of California Resorts. Guy Hinsdale.
52 *Clinical Observations on Congenital and Acquired Transpositions of the Viscera. James R. Arnelli.

52. **Transposition of the Viscera.**—Arneill has recently had the opportunity of seeing 6 cases of this abnormality, 3 of them within six months, all of which are more or less fully described in this article, as well as 3 others reported to him. He has corresponded with various authorities to find out its frequency and learns that it is comparatively rare in the observation of pathologists. His experience, therefore, is rather singular and he also refers to the literature, especially Gruber's articles which seem to show that partial situs transversus is a much rarer condition than complete transposition.

International Medical Magazine, New York.

November.

53 *Questions and Answers Concerning Puerperal Fever.
54 *The Prophylaxis of Puerperal Septicemia. Daniel Longaker.
55 *Treatment of Puerperal Infection. James Hawley Burtenshaw.
56 Puerperal Sepsis. John Chew Applegate.
57 *The Fatty Degenerative Changes in Anemia Are an Attempt on the Part of Nature to Nourish the Patient. Jennie G. Drennan.

53. **Puerperal Fever.**—This number opens with a series of answers by obstetricians to questions on puerperal fever. To the first question, whether there are any possible circumstances in which one would not advise emptying the uterus, the answer is almost uniformly "No." Dr. Leipziger would except the case where the patient is moribund. Dr. Hirst would curette if intra-uterine douching did not control the temperature. The opinions as to the propriety of hysterectomy for suppurative metritis or widespread infection are somewhat various. Dr. Garrigues would advocate it if the general condition is fair, excepting where streptococcal infection is present. Dr. Shoemaker considers it rarely justifiable. Dr. R. C. Norris thinks that the inability to make the diagnosis is considerable and the difficulty is in doing it early enough. When the abdomen has been opened for widespread infection hysterectomy offers the best results. Palmer Dudley, Leipziger and Krusen are unfavorable in their opinions, all holding that if it is to be of service it must be performed early, before general infection, and this involves the unnecessary sacrifice of many uteri. If late, the mortality is great and the operation practically useless. Dr. Hirst would advocate the operation. Disinfection of the hands is insisted on almost universally, and as few examinations as possible. Some, like Leipziger, would use rubber gloves, as would also Krusen and Hirst. Intra-uterine douching is used by Garrigues and by Hirst when he suspects gonorrhea. Krusen considers it useless if the uterus is thoroughly contracted and no major manipulations have been required. The intravenous injection of formalin solution in the treatment of general streptococcic infection has not been observed to have had beneficial results by Shoemaker and Norris, while Leipziger, Krusen and Hirst have never tried it. Phlegmasia alba dolens is usually treated by nearly all of them by rest, elevation, ichthyol, elastic bandaging, and general attention to the health and strength.

54. **Puerperal Septicemia.**—Longaker insists on the importance of early attention to the pregnant woman, insisting on careful inspection and that the keynote in the prophylaxis of infection in labor is the "touch me not" policy. He believes in the more general use of external palpation rather than internal examinations. The nurse is a very important factor in the health of the patient and a thoroughly aseptic, clean nurse is essential. All appliances must be thoroughly aseptic. He would use hot saline solution or lysol or creolin after a dry labor or an exceedingly prolonged one. The points specially deserving attention are to have the patient approach labor in good health, free from local disease, and have her surroundings clean, especially the nurse; have nothing touch her with the slightest suspicion of contamination; infrequent vaginal examinations and frequent palpation, and have nothing touch the birth canal during the early days of the puerperium—not even a sterile catheter. All the wounds occurring in the process of labor must be as carefully dealt with as less serious ones under less important circumstances.

55. **Puerperal Infection.**—Burtenshaw disbelieves in curettage of the septic uterus and has never obtained satisfactory results from uterine or vaginal tampons soaked in formalin or with alcohol, as compared with the results from iodoform gauze. In private practice he has been in the habit of introducing a suppository, containing 15 to 30 grains of iodoform, into the uterus, and packing the cavity with plain sterile gauze, repeating the procedure once or twice on succeeding days. He has never favored continuous irrigation, but he thinks it might be of benefit in putrid infection or sapremia, but not in genuine septicemia where the pathologic organisms penetrate deeply. Hysterectomy can hardly be performed early enough to be of value. A thorough evacuation of the bowels is important and the necessity of free diuresis is also apparent. In some an effective agent for this purpose is to be found in saline solutions. The use of antistreptococcic serum has been disappointing and the intravenous injection of formalin solution has met with little favor. He considers Pryor's method of opening the posterior cul-de-sac and packing the pelvic cavity with 10 per cent. iodoform gauze an excellent plan, and it is hardly necessary, he thinks, to refer to the favorable results obtained from normal salt solution injections, either hypodermically, intravenously or rectal. His experience with silver preparations has been limited. The supporting of the patient's vitality is an important factor, and attention to the diet and stimulation are necessary. The administration of drugs should be limited, but ergot, strychnin and quinin are always indicated. He thinks that an assimilable form of iodin would give good results. The patient's temperature should always be controlled by cold-water sponging and ice packs, never by drugs.

57. **Fatty Degeneration and Anemia.**—Drennan holds that fatty degeneration occurring in anemia is simply a laying-up of material for future nourishment. In the stage of fatty degeneration the anemic patient, she says, really lives on his own adipose tissue, that which is removed being replaced by more.

New York State Journal of Medicine, New York.

November.

58 The Past and Present Needs of the Medical Profession. Frederick H. Wiggin.
59 Address of President to Council and Fellows, N. Y. State Medical Association. Frederick H. Wiggin.
60 *Physiologic and Therapeutic Actions of Alcohol. Alexander Lambert.
61 *Experience in the Medical Uses of Oxygen. C. A. Greene.
62 *A Large Dose of Chloral Hydrate. Thomas J. Acker.
63 *Present Status of the Treatment of Retro-displacements of the Uterus. Harvey P. Jack.
64 Syphilis as a Contagious and Infectious Disease. William J. Meyer.
65 Some Remarks on Hemophilia, with a Report of Cases. J. C. Hutchinson.

60. **Alcohol.**—Lambert's article is largely a critical review of the report of the Committee of Fifty on the "Physiologic Aspects of the Liquor Problem," and the monograph of Rosenfeld on the influence of alcohol on the organism. He concludes that while alcohol has a decided therapeutic value, its probable field of usefulness is more restricted than generally considered. Like all of our best remedies it is a poison, and this fact should never be forgotten.

61. **Oxygen.**—Greene finds the use of oxygen exceedingly beneficial in a number of conditions. He advises its preparation by careful washing three times through a mild solution of potash and then pure water to rid it of chlorin. He has seen the most marked favorable results from the daily use of oxygen in bronchial attacks with heavy expectoration and abrasion of the mucous lining of the larger tubes. When there is an undilatable condition of the air cells or obstruction

of the larger bronchial passages, its inhalation should be used slowly, but with persistence, retaining the oxygen as long as possible The air being entirely fresh in the inhaling room, the patient should be directed to make ten full nasal respirations between each inhalation of oxygen, breathing more deeply each time, and the oxygen breathing should be made a little more firmly and decidedly until 10 to 15 full inhalations are taken. After the air vesicles can be fairly well filled eight or ten inhalations will be sufficient at one sitting. Too much inhaling may cause cerebral hyperemia and nervous excitation and might produce hemorrhage. He also insists on nasal respiration during at least two hours of the day in the open air. In the congestion from ordinary causes and more or less severe lobar pneumonia nothing is more effective than the careful, persistent use of oxygen. He also advises it in neurasthenic conditions in sedentary persons and remarks on its value in cerebral hyperemia where there is a marked inclination to arterial or venous stasis, and especially in alcoholic and drug habitués.

62. **Chloral Hydrate Poisoning.**—Acker reports 22 drams of bromidia being taken at one dose with suicidal intent by a patient with acute mania. This dose contained 330 grains of of chloral hydrate, 330 grains of potassium bromid 2¾ grains of extract of cannabis indica and 2¾ grains of extract of hyoscyamus. The treatment was the use of tincture of nux vomica, 5 drops, a teaspoonful of brandy and half a cup of hot, strong coffee and bags of hot water applied to the extremities followed by hourly 2-drop doses of tincture of nux vomica and all the coffee the patient could swallow. In two days she had apparently recovered without any bad effects; and she was subsequently sent to an asylum.

63. **Uterine Retrodisplacements.**—Jack holds that cases should be carefully studied and that many, if seen early, can be cured without an operation by hygienic measures. That in cases where operation is required, suspension of the uterus offers the best means of cure.

Vermont Medical Monthly, Burlington.

September 25.

66 Case of Retroversion with Fixation, Appendicitis and Floating Kidney; Necessitating Ventro-fixation, Removal of the Tubes and Ovaries and Fixation of the Right Kidney at One Sitting. A. Lapthorn Smith.
67 *A New Thermophilia. Dell B. Allen.
68 Atrophic Nasal Catarrh. L. R. McCready.
69 Organic Iron Medication in Secondary Anemias. Lino S. Chibas and G. A. De Santos Saxe.

67. **A New Thermophilia.**—The organism here described by Allen is an aërobic bacillus, non-motile, non-flagellated, staining with the Loeffler and Gram solutions. It was derived from renal pus. Its peculiarity is its reaction to heat. There was no appreciable growth on bouillon at 37 C., and only a slight one on agar. It did not begin to grow freely until 60 C. Its most luxuriant growth was at 75, and at 90 it dies. There was no gas formation either before or after heating, and it is non-pathologic for guinea-pigs.

Medical and Surgical Monitor, Indianapolis.

November 15.

70 *Masked Epilepsy. W. B. Fletcher.
71 *Principles in the Treatment of Chronic Otitis Media Purulenta. John F. Barnhill.
72 Therapeutic Value of Heat and Cold Applied to the Spinal Cord. W. Frank Glenn.
73 Some Recent Observations on the Action and Therapeutic Value of Currents of High Frequency and High Potential. Curran Pope.

70.—See abstract in THE JOURNAL of October 24, p. 1041.

71.—Ibid., October 31, p. 1105.

American Practitioner and News, Louisville, Ky.

October 1.

74 Fecal Impaction of the Cecum; Report of a Case. W. R. Burr.
75 The Inhumanity of Refusing the Parturient Woman the Boon of Anesthesia. I. A. Shirley.

Therapeutic Gazette, Detroit.

November 15.

76 A Brief Consideration of the Treatment of Puerperal Eclampsia. Joseph W. Irwin.
77 Medicinal Treatment of Gallstones. H. Richardson.
78 The Treatment of Angina Pectoris. William F. Waugh.
79 Treatment of Influenza with a View to the Preventive Treatment of Pneumonia. F. H. Brandt.
80 The Structures Taking Part in Menstruation. E. E. Montgomery.
81 Tubal Menstruation—A Case History. P. Brooke Bland.

Alabama Medical Journal, Birmingham.

November.

82 Report of Capital Operations During May, June, July and August at St. Vincent's Hospital. Cunningham Wilson.
83 The Diagnosis and Treatment of Ectopic Gestation, with Report of Two Cases. W. P. McAdory.
84 Tetanus, with Report of Case. Z. B. Chambiee.
85 A Case of Epithelioma Treated with the X-ray by R. L. Bowcock, M.D., Anniston, Ala. William Taylor.

Canadian Practitioner and Review, Toronto.

November.

86 *Address, University of Toronto. Charles S. Sherrington.
87 *The Master-word in Medicine. Wm. Osler.

86.—This article has appeared elsewhere. See THE JOURNAL of November 14, paragraph 107, p. 1233.

87.—Ibid., November 21, title 127, p. 1303.

Southern California Practitioner, Los Angeles.

November.

88 Cholera Infantum and Intestinal Inflammation of Infancy, with Case. E. Henderson.
89 The Method of Spread of the Contagious Respiratory Diseases. J. O. Cobb.
90 The State Examination in Medicine. L. S. Thorpe.
91 The Pathology of Eclampsia. E. L. Leonard.
92 Postpartum Eclampsia. Leon Roth.

Pennsylvania Medical Journal, Pittsburg.

November.

93 The Individual Equation of the Patient in Surgical Operations. William L. Estes.
94 *The Necessity for the More Careful Instruction of Medical Students in the Diagnosis of Preventable Diseases. Benamin Lee.
95 *Streptococci and Antistreptococcus Sera. D. H. Bergey.
96 *Some Points on Appliances for Bacteriologic Work by Busy Country Doctors. A. C. Wentz.

94.—See abstract in THE JOURNAL of October 17, p. 981.

95 and 96.—Ibid.

Western Medical Review, Lincoln.

November 16.

97 *The Operative Craze. A. S. v. Mansfelde.
98 *Precision in the Diagnosis of Surgical Lesions in the Right Half of the Abdomen. B. B. Davis.
99 Management of Typhoid Fever. A. E. Mack.
100 The Battle-field and Camping-ground. George W. Wilson.

97. **The Operative Craze.**—Von Mansfelde protests against too much surgery. He thinks the surgeon should be first of all a good physician and should follow Kocher's advice and have at least two years' experience in a general hospital and ten years' private medical practice before becoming a surgical specialist.

98. **Abdominal Surgery.**—Davis points out the difficulties of diagnosis in the region of the right half of the upper abdomen, and suggests the following questions to be asked in each case: Is the lesion found capable of producing the symptoms complained of? Does it account for all the symptoms? Does any other abdominal lesion exist, and if so, what part does it play; which is primary and which is secondary? Will the surgical cure of the disease or diseases found cure the patient, and if so, what chances are there for his surviving the operation? Will the benefit overbalance the operative risks?

Pacific Medical Journal, San Francisco.

November.

101 Postoperative Lung Complications. Winslow Anderson.
102 Case of Gunshot Wound of the Bowels. J. B. Kelly.
103 Pultaceous Angina. William F. Waugh.

Iowa Medical Journal, Des Moines.

November 15.

104 Intoxication in Appendicitis. Edward Hornibrook.

Dominion Medical Monthly, Toronto.

November.

105 *Cardiac Complications of Influenza. E. G. Wood.

105.—This article has appeared elsewhere. See THE JOURNAL of October 31, ¶4, p. 1111.

Texas Medical Journal, Austin.

November.

106 The Effect of the Higher Education of Women on Wifehood and Motherhood. J. W. Carbart.

Journal of Eye, Ear and Throat Diseases, Baltimore.

September-October.

107 Fibroma of the Conjunctiva; Lymphoma of the Pharynx; Infection of the Antrum of Highmore, with the Micrococcus Tetragenus; Three Cases of Rhinitis Fibrinosa in the Same Family. Richard H. Johnston.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 21.

1 *The Diagnosis of Pulmonary Tuberculosis. C. Theodore Williams.
2 *The Treatment of Some Acute Visceral Inflammations. D. B. Lees.
3 The Mechanism of Respiration to Pneumothorax. Arthur Edmunds.
4 *Two Cases Illustrating the Fallacy of Certain Physical Signs in Diagnosing Acute Perforated Gastric Ulcer. W. Harland Peake.
5 *A Preliminary Report on the Treatment of Advanced Pulmonary Tuberculosis by Intravenous Injections of Iodoform. Thomas W. Dewar.
6 Case of Aortic Disease with Unusual Course. H. E. Bruce-Porter.
7 Case of Acromegaly. W. B. Hunter.

1. **Tuberculosis.**—This second lecture of Williams (see THE JOURNAL, April 4, 1903, p. 941) is principally devoted to the subject of cavitation of the lungs. He first describes the mechanism, which is, in the simplest form, probably due to the necrobiosis of the alveolar wall from the results of epithelial proliferation, from irritation of the tubercle bacilli, and possibly to chemical change in the cells thus produced by the germs. It is often, but not always, accompanied by fever and cough, a change in the expectoration and microscopic pieces of lung tissue are apt to be found with abundant tubercle bacilli and other organisms. The physical signs are described. When the area of softening is small the percussion sign is unchanged, but if a large cavity is formed, the dulness gives rise to limited resonance. The well-known cracked-pot sound is not an index of the size of the cavity, but indicates that it is superficial; this sound does not appear with the deeper cavities. Cough and expectoration are invariable, and yet the constitutional symptoms are not. The cavities vary not only in size and situation, but also in kind. There are the secreting cavities with smooth surfaces that look like lining membranes, but are yet exuding a great deal of matter, dry cavities with walls composed of fibroid material with little or no secretion, probably the forerunners of caseous masses composed of fibroid material, unconnected with bronchi, found in necropsies. The secreting cavities are generally found in connection with the acute forms of the disease and often extend rapidly. The dry cavity is usually the result of chronic disease and may be stationary for months or for years, causing nothing but a morning cough and expectoration. The secondary cavities are formed through the re-inhalation of secretion or sputum of primary cavities, which follow the line of certain bronchi principally where the suction power of coughing is greatest. In some patients tuberculosis is followed by so extensive an amount of excavation that the presence of air in the cavity gives rise to the phenomenon of amphoric breathing and metallic tinkling from the dropping of the fluid. The diagnosis from pneumothorax in these cases is mainly by the absence of fluid in the pleura and its characteristic signs and by the different position of the auscultation sounds. The chief signs of contraction of the cavity are the flattening of the chest wall overlying the cavity and the displacement of the neighboring organs. When the cavity is on the left side, the left lung is retracted and the right lung becomes hypertrophied and drawn across the median line. The heart is raised, its apex being tilted toward the axilla. The impulse is very slight in the chest and the stomach is drawn up. With the cavity on the right lung, corresponding symptoms occur on the other side, the left lung drawn across, the liver raised, etc. Contraction of the cavity in one lung does not prevent formation of fresh tubercle in the opposite one. It may even cause curvature of the spine. The diagnosis from bronchiectasis is based first on the age of the patient. Young adults are not so liable to the latter condition. The subjects of bronchiectasis, except when septicemic, do not show signs of wasting or anemia. Second, on appearance and examination of the sputum, which in cases of bronchiectasis is frothy, mixed with pus and more or less offensive and free from tubercle bacilli. Lastly, on the character of the cavernous sounds and their locality. Most bronchiectatic cavities are basic, while tubercle cavities are generally at the apex. The bronchiectatic cavities may, however, be detected in the first and second interspaces, where they are always nearer the median line than tubercle cavities and are never audible over such extensive surfaces of the thorax. The percussion sound is not, as a rule, dull, but resonant from the accompanying emphysema.

2. **Rheumatic Carditis and Pericarditis.**—Lees advocates the free use of the salicylates. There is only one sign that indicates danger; marked deepening of the inspiration apart from pericarditis, resembling the "air hunger" of diabetic coma. This is the only contraindication to the drug, and it should be discontinued at once. The addition of sodium bicarbonate in a quantity equal to twice that of the salicylates in each dose seems to be usually sufficient to prevent the occurrence of the symptom. The tradition that the salicylate is a cardiac depressant is discountenanced by Lees, who thinks that the heart depression is probably due to impurities in the drug and probably due still more to the disease itself. The toxin produced by the rheumatic cocci, it seems, almost certainly acts on the ventricle as does lactic acid; many earlier observers have believed that the poison of acute rheumatism is lactic acid itself. More recent observers have pointed out that the so-called *Micrococcus rheumaticus* produces formic acid in considerable quantity, and these conditions would be sufficient probably to account for the heart depression. Lees thinks that it would be better if more careful attention was paid to the condition of the heart in rheumatic cases, especially as to the size of the left ventricle in the commencing of treatment. Other methods which he mentions as of value are the application of cold, which is a powerful means of repressing cardiac inflammation and, under certain conditions, keeping the patient warm, if necessary, by hot-water bottles when an ice-bag is applied to the precordium, and keeping the warmth up during the whole period of its application, using leeches, if necessary, to prevent overdistention of the right auricle. Then the ice-bag can be used with safety in any case, however severe. Where the nursing can be thoroughly trusted an ice-bag can be used continuously for days, provided the condition of the auricle is carefully watched. He asserts that the treatment of rheumatic pericarditis by large and frequent doses of sodium salicylate and sodium bicarbonate with local application of ice over the heart is amply justified by the results, while cases inefficiently treated in the same way are likely to be slow in recovery and result in permanent crippling.

4. **Gastric Ulcer.**—Peake calls attention to two cases which indicate that certain signs are not reliable, such as the presence of shock and collapse which may be absent while regular pulse and normal temperature exist. Liver dulness and vomiting are uncertain signs, as is also pain which was present in both cases, but is sometimes apparently not observed.

5. **Tuberculosis.**—Dewar advocates the use of intravenous injections of iodoform, using it in a non-saturated ether solution. He finds that this speedily saturates the system so that even the perspiration of the palms become odorous of the drug. There is a slow sustained action which at the same time diminishes the risk of accumulative action and the patient becomes tolerant of it. It is undesirable to push the injections to the extent that the appetite is affected. The diagnostic quality of the injections is valuable. The production of fine crepitations or râles at an apex formerly dry, resonant and apparently healthy is important. Against these advantages there is the chilling effect of ether which has to be guarded against. He has noticed a breathlessness

and palpitation which he thinks may be due to iodoform. Before beginning treatment it would be well to study the available superficial venous system in the arms and legs, the more extensive this is the better the chance. While nothing is easier than to give an intravenous injection once in a large vessel, there is some difficulty in giving a hundred through a small retracted vein avoiding thrombosis and have the vessel still patent at the end of the year. Iodoform is soluble in ether in 1 to 7. He uses a not quite saturated solution, as a saturated one would evaporate too quickly and block the hypodermic syringe needle with iodoform. The solution must be introduced very slowly. He has given in some cases with very large veins as much as 45 minims at one time, but does not think such a large dose necessary. He uses the finest precipitated iodoform that can be obtained and the purest ether, specific gravity 720, making the solution fresh for each patient immediately prior to injections, exposing it to the light as little as possible. His experience is that the continuous successful injections are followed by improvement in every way except in very advanced disease where it seems to be inert in moderate doses. There is no question as to its power to arrest the disease.

The Lancet, London.

November 21.

8 The Ideal Physician: His Early Training and Future Prospects. Lambert H. Ormsby.
9 Typhoid Fever. Seymour Taylor.
10 The Dawn and Rise of Physiology. William Stirling.
11 *The Anemias of Infancy. Clive Riviere.
12 A Case of Multiple Liver Abscess. Andrew Balfour.
13 A Case of Linseed Poisoning. J. O. Hollick.
14 Unusual Case of Intestinal Obstruction. Duncan Macartney.
15 A Brief Experience in Abdominal Surgery. B. G. A. Moynihan.

11. **The Anemias of Infancy.**—Riviere sums up the conclusions of his paper as follows:

1. Anemia from any cause in infancy if severe enough gives rise to the peculiar symptoms grouped under the headings "anemia splenica infantum" and "anemia splenica pseudoleukemica" of von Jaksch.
2. Consequently, these are not specific blood diseases, but owe their peculiarities merely to the "infancy factor," and represent merely different stages of the same conditions.
3. The common cause of severe anemia in infants is gastrointestinal catarrh, leading to the absorption of toxins either from the growth of micro-organisms or possibly from the formation of poisonous by-products of digestion.
4. Leukemia of infants is not a separate disease, but merely a still more advanced stage of this anemia—that is, that the difference between them is one of degree and not of kind.
5. That leukemia of adults is a return to the condition of an infantile anemia and that, being rare, its causation is probably so narrowed down as to be practically specific.

Bulletin de l'Académie de Médecine, Paris.

16 (LXVII, No. 35.) *La syphilisation du singe. Hamonic.
17 Angine de poitrine infectieuse. J. Pawinski (Warsaw).
18 *De l'appendicite dans l'armée pendant les dernières années. Sur un point spécial de l' étiologie de cette affection. Chauvel.
19 Le surra à Hatien (Cochin-chine). Kermorgant.

16. **Syphilization of the Monkey.**—Hamonic claims priority for the transmission of syphilis from man to a baboon. In 1882 his experiments resulted in the development of what were apparently syphilitic lesions twenty-eight days after the inoculation of fluid from a chancre. His communication was referred to a committee which reported that the plaster casts of the lesions were not conclusive either for or against his assumption that they were true syphilis.

17. **Infectious Angina Pectoris.**—Pawinski claims that acute infectious diseases, especially la grippe and follicular tonsillitis, are important factors in the development of angina pectoris. He admits the predisposing influence of neuropathic conditions, excesses of various kinds, getting chilled, etc. In nearly all the cases of incipient angina pectoris under his observation the effect of the toxins of the infection on the heart innervation was unmistakably evident. When the attacks of angina pectoris persist after recovery from the infection he assumes that the inner membrane of the coronary arteries has undergone certain alterations, probably in the nature of sclerosis, which entail the true angina pectoris.

18. **Appendicitis Among Non-Meat-Eaters.**—Chauvel first mentions that the number of operations on account of appendicitis in the French army has materially and progressively increased during the last few years. He then quotes the reports of physicians in Algiers and Tunis to the effect that the affection is almost unknown there. It never occurs among the Mohammedans and only exceptionally among foreigners residing there for any length of time. He queries whether this infrequency of appendicitis may not be due to the prevailing fruit and vegetable diet and the scarcity of meat. The Arabs are particularly liable to harbor intestinal parasites, and consequently the frequency of the latter with the absence of appendicitis show that there can not be the etiologic connection between them claimed by some.

Presse Médicale, Paris.

20 (II, No. 89.) La cure définitive de l' hystérie. Rééducation. P. E. Levy.
21 L' injection de caféine comme auxiliaire de la saignée (adjuvant to venesection).
22 (No. 90.) La circulation du liquide céphalo-rachidien. F. Cathelin.
23 Traitement du ténia. L. C. Quéry.

Semaine Médicale, Paris.

24 (XXIII, No. 45.) *La Spondylite infectieuse. L. Cheinesse (Montpellier).

24. **Infectious Spondylitis—Typhoid Spine.**—See editorial in last week's issue.

Archiv f. path. Anatomie, Etc. (Virchow's), Berlin.

Last indexed page 1441.

25 (CLXXIV, No. 1.) *Experimentelle Tuberkulose. J. de Haan (Java).
26 Thyroid Gland in Smallpox. H. Roger and M. Garier (Paris). —Neue Untersuchungen über den Zustand der Schilddrüse bei den Pocken.
27 Fall von Staphylokokken-Mykosis der Haut bei Diabetes mellitus. J. B. Studenski (Kiev).
28 Hematologische Studien. E. Neumann.
29 Zur Kenntnis der direkten Kernteilung (nucleus segmentation). R. Caminiti (Naples).
30 Zur Histologie der Geflügelpocke (molluscum contagiosum in birds). H. Apolant.
31 Zur parasitären Actiologie des Karzinoms. T. Honda.
32 Ueber multiple Amyloid-Tumoren des Kehlkopfs und der Lunge. Beitrag zu den Amyloidfarbungen. G. Herxheimer (Wiesbaden).
33 *Fat Contained in Blood and in Certain Organs in Man. T. Rumpf (Bonn).—Ueber den Fettgehalt des Blutes und einiger Organe des Menschen.
34 *Methode zur Conservierung von anatomischen Präparaten. M. Claudius.
35 Acute, Circumscribed Inflammations of the Skin. W. Ebstein (Göttingen).—Ueber akute umschriebene Hautentzündungen auf angioneurotischer Basis.

25. **Experimental Tuberculosis in Java.**—De Haan was able to induce tuberculous infection in animals hitherto considered immune, the native goat, bullock and horse. The infection was realized by subcutaneous and intravenous injections of tubercle bacilli from human sputum. His experience further established that monkeys are extremely susceptible, and that the lesions resulting from the infection were localized almost exclusively in the lungs. Although the infection had been by way of the alimentary canal, no lesions could be discovered in the intestines, but the mesenteric glands in a few cases presented evidences of tuberculosis. One monkey who had eaten a potato serving as culture medium for tubercle bacilli, exhibited extensive tuberculous lesions in the bronchial glands. De Haan believes that tuberculosis in animals is always due to infection from man.

33. **Fat in the Blood.**—Rumpf has found that the proportion of fat in the blood varies essentially with the diet. It seems also to be higher in arteriosclerosis than in other conditions. Fatty infiltration of the liver is most pronounced in hard drinkers, in consumptives and in cancer subjects. As the liver shrivels under the influence of alcohol, the proportion of fat is reduced to normal or below.

34. **Preservation of Anatomic Specimens.**—The specimens are treated with carbonic acid and ammonium sulphate. A metal box one-third full of a concentrated solution of the latter is filled to a certain height with crystals of the salt, leaving 5 to 10 cm. of fluid above. The carbonic oxid is supplied in ordinary illuminating gas brought into the side of the box through a tube from a burner. It escapes through a glass tube, passing through a cork in the opening on top of the box. This escaping gas is lighted and burns with a steady flame as the gas bubbles up through the fluid in the box. The specimens

are placed on a grating below the surface of the fluid and left for forty-eight to seventy-two hours. The hemoglobin and other pigments in the tissues, especially the biliary pigments, remain unchanged in specimens treated by this method. They are kept afterward in a saturated solution of the ammonium sulphate through which gas has been passed. Claudius is delighted with the results attained with this technic.

Beiträge z. Geb. und Gynäkologie (Hegar's), Leipsic.

Last indexed page 1441.

36 (VIII, No. 1.) *Zur Pathologie der Eihäute (fetal membranes). K. Holzapfel (Kiel).
37 Zur Kenntnis der Ganglien der weiblichen Genitalien. S. Hashimoto (Tokio).
38 Zur normalen Anatomie der Chorion-Zotten (villi). H. Michaelis (Leyden).
39 3 Corpus-luteum-Cysten. P. Diepgen.
40 Origin and Prognosis of Obstetric Paralyses. W. Rühle.—Zur Entstehungsweise und Prognose der Entbindungslähmungen.
41 *Rupture of Uterus During Manual Detachment of Placenta. E. Oswald.—Ueber Uterus-Ruptur bei manueller Plazentalösung.
42 Vaginal Glands and Cysts. C. Widmer.—Ueber Scheidendrüsen und Scheidencysten.
43 Fall von Tuberkulose der Vulva. F. Poeverlein.
44 *Prolapse Operations. J. Klein (Strasburg).—Prolapsoperationen, insbes. die W. A. Freundsche Einnähung des Uterusfundus in die Scheide.
45 Zur Behandlung des Abortes. O. Nebesky.

36. Pathology of Fetal Membranes.—Among the various cases described by Holzapfel is one of the exochorial development of the fetus, that is, in the ectodermal layer of the chorion. There have been only 14 similar cases previously published and he tabulates the details of each.

41. Rupture of Uterus During Manual Detachment of Placenta.—Parturition had been normal in the case described by Oswald, but in extracting the placenta with her hand the nurse perforated the uterus and drew out a loop of intestine. The patient succumbed, notwithstanding prompt laparotomy. He reviews the similar occurrences in the literature and discusses their medicolegal bearing. The case described happened at the Basle Hospital for Women.

44. Prolapse Operations.—Freund's method of fixation of the fundus of the uterus in the vagina was followed by Klein in 10 cases. The ultimate results have been faultless in 9 and healing was rapid in all cases.

Berliner Klinische Wochenschrift, Berlin.

Last indexed page 1441.

46 (No. 43.) *Vocal Fremitus in Abdomen. W. Alexander (Berlin).—Ueber Stimmfremitus im Bauch.
47 German Southwest Africa as Resort for Consumptives. J. Katz.—Deutsch-Südwestafrika als Kuraufenthalt für Tuberkulöse.
48 Isolation of Lecithides from Snake Venom. Preston Kyes.—Ueber die Isolierung von Schlangengiftlecithiden.
49 Zur Lehre von der Anemia splenica. S. M. Zypkin (Moscow).
50 (No. 44.) Address at Inauguration of Pediatric Clinic. O. Heubner.
51 Course of Pneumonia in a Splenectomized Subject. W. v. Moraczewski (Carlsbad).—Fieberverlauf bei einem Splenektomierten.
52 *Stomach Sign in Migraine and Epilepsy. Mangelsdorf.—Ueber ein Phänomen am Magen bei Migräne und Epilepsie.
53 Die klinische Pepsin-Bestimmung nach Mette. O. Kaiserling.
54 Ueber die Natur der Isohemolysine der Menschen-Blut-Sera. C. Moreschi (Pavia). (Commenced in No. 43.)
55 Tuberculous and Non-tuberculous Affections of Respiratory Organs in Prussia Since 1875. Ascher.—Tub. und nichttub. Erkrankungen, etc.
56 (No. 45.) *Ueber ein Typhus-Diagnostikum. M. Ficker (Berlin).
57 *Inhalation of Lime Dust and Pulmonary Tuberculosis. P. Reckzeh.—Kalkstaubinhalation und Lungentub.
58 Smooth Atrophy of Root of Tongue and Its Relation to Syphilis. F. Lesser (Berlin).—Ueber die sogen. glatte Atrophie der Zungenwurzel und ihr verhältniss zur Syphilis.
59 Cranial Nerve Paralysis. C. Aronsohn.—Fall von multipler Hirnnervenlähmung mit Beteiligung des Akustikus.

46. Vocal Fremitus in Abdomen.—Alexander was never able to elicit the vocal fremitus in the abdomen which some writers have mentioned and cited as a sign of incipient ascites, etc.

52. Stomach Sign in Migraine and Epilepsy.—Mangelsdorf announces that he found the stomach much enlarged during attacks of migraine or epileptic seizures in 409 out of 469 persons examined. This enlargement gradually entails permanent atony of the organ. He thinks that it is of central origin. He found also that appropriate treatment of the atony of the stomach had a favorable influence on the attacks of migraine. The stomach enlarges regularly in all directions as the attack comes on, and subsides more or less completely to normal in the intervals.

56. Typhoid Fever Diagnosticum.—Ficker has coined this term to apply to a ready-made fluid with which it is possible to obtain the Widal agglutination reaction in cases of typhoid fever, without the necessity of living cultures of typhoid bacilli. The fluid keeps perfectly for nine months at least. The reaction is perceptible to the naked eye; is absolutely unmistakable, and occurs at room temperature. The practitioner is thus able to apply the agglutination test without living cultures, without an incubator and without a microscope. The results of the test are much better adapted for comparison, as the same fluid is used instead of cultures from various sources. "The fluid is derived," he says, "once from one and the same typhoid stem." Its production requires minute care and consequently Ficker has entrusted it to a manufacturing chemist who is ready to place it on the market.

57. Therapeutic Inhalation of Lime Dust.—Reckzeh's attempts in this line resulted negatively. He was induced to try inhalation of lime dust from observation of the remarkably low death rate from tuberculosis in certain villages in which there are numerous lime kilns. Another neighboring village in apparently the same condition, but without lime kilns, has twice as many deaths from tuberculosis. He also noticed that the disease was very rare among the workers at the kilns. He treated 8 patients with severe exacerbations of a mild pulmonary tuberculosis by suspending a linen bag filled with fine lime dust in front of the subjects as they lay in bed. Their ears were plugged with cotton and eyes bandaged, and the bag of lime dust was struck occasionally to stir up the dust. This treatment was given at first five and then ten minutes twice a day. No benefit was derived in any case, and the symptoms seemed to be aggravated.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 1236.

60 (XXX, No. 43.) *Anesthesin Hydrochlorate for Local Anesthesia. Dunbar (Deutsch-Eylau.)—Noch einiges über das salzsaure Anästhesin als örtliches Betäubungsmittel.
61 (No. 44.) *Die Behandlung der Fractura supracondylica humeri mittels der Bardenheuer'schen Extension. R. Grässner.
62 Ueber einen merkwurdigen Fall von Perforation des Preputium. R. Burmeister.
63 (No. 45.) *Zur Extirpation des Wurmfortsatzes (appendix). A. Zeller.
64 *Iodoform Bone Filling. W. Serenin (Moscow).—Einiges zur Iodoformknochenplombe nach Mosetig-Moorhof.
65 (No. 46.) Turning Back Costal Arch to Facilitate Operations. Asthoewer (Dortmund).—Die Aufklappung des Rippenbogens zur Erleichterung operativer Eingriffe im Hypochondrium und Zwerchfellkuppelraum.
66 *Prevention of Entrance of Air in Intravenous Infusions, etc. P. Herz (Magdeburg).—Vorschlag zur Verhütung von Lufteintritt bei intravenösen Infusionen usw.
67 Simple Support for Pelvis. M. Borchardt (von Bergmann's clinic, Berlin).—Eine einfache Beckenstütze.

60. Anesthesin Hydrochlorate for Local Anesthesia.—More than a year ago Dunbar published an account of the very successful results of local anesthesia from anesthesin injected according to the infiltration technic. His own experience since then and that of others has fully confirmed his assertions in regard to its advantages for the purpose. He uses now for operations as in mastitis, atheroma, closure of incisions, ingrowing nail, extirpation of the lachrymal sac, fissure of the lids and styes a combination of .05 gm. anesthesin hydrochlorate, and salt .2 gm. in 100 gm. distilled water. No subjective nor objective indications of irritation follow infiltration with this fluid, and the wounds heal by primary intention. In normal tissues a combination of .25 gm. anesthesin with .9 gm. salt to the 100 gm. water, causes no irritation, although it induces intense hyperemia. This proportion of salt probably has some physiologic significance. For superficial work he prefers the combination first mentioned, and for the deeper layers the proportions of .25 gm. anesthesin hydrochlorate; .15 gm. salt and 100 gm. distilled water, the latter his original solution.

61. Extension in Treatment of Fracture of Humerus.—Grässner states that 5 cases of supracondylar fracture of the humerus have been treated at Bardenheuer's clinic by extension. The results have been pre-eminently excellent as he

shows by radiograms before and after treatment. He also illustrates and describes the particulars of the technic.

63. **Appendicectomy.**—Zeller argues in favor of excision instead of resection of the appendix.

64. **Filling for Bone Defects.**—Serenin was favorably impressed with the advantages of this method of treating defects in the long bones, as set forth by Mosetig-Moorhof at the Madrid Congress. The technic has previously been described in these columns, xl, pp. 1303, 1545 and 1673. Serenin reports most gratifying success in 10 cases thus treated, including 3 of necrosis subsequent to osteomyelitis of jaw, tibia or humerus, and 7 of tuberculous lesions. The bone cavity heals rapidly under this technic, but asepsis and hemostasis must be complete, and every particle of tuberculous tissue must be removed. In 3 cases he tamponed the cavity for two or three days in order to ensure absolute hemostasis, before proceeding to fill it.

66. **To Prevent Entrance of Air During Intravenous Infusion.**—Herz gives a cut of a small appliance which has proved extremely useful in Habs' clinic. It is merely a glass tube with an extension on one side, shaped like a ball, opening into the tube with a wide orifice. The outline somewhat resembles that of the ordinary breast pump. The tube is interposed in the rubber tube leading from the receptacle for the fluid to the infusion needle. All the fluid thus has to pass through the glass tube. It is allowed to flow through at first with the bulb turned down, then the bulb side of the tube is turned upward, and the fluid is ready for the infusion. As it passes along the rubber tube from the receptacle into the glass tube, all the air in the fluid escapes through the broad mouth into the bulb on the glass tube, and none passes onward into the infusing needle.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 1237.

68 (XXVII, No. 43.) *Report of Naturforscher Congress.
69 Version in Head Presentation. Gottschalk.—Zur künstlichen Drehung der Frucht besw. des Rückens bei Schädelgeburten.
70 Ein neues Instrument zur Uterustamponade (Tamponator uteri). J. J. Fedoroff (Warsaw).
71 (No. 44.) Chorioepitheliom und Ovarialtumor. J. Krebs. One Case.
72 Fall von radikaler Sectio Cesarea bei Schwangerschaft mit Cervix-Myom. Westphal.
73 Ein Instrument zur Entfernung inkarzerierter Pessarien. H. Piwniczka (Brünn).
74 (No. 45.) *Vaginal Operating Without Narcosis. V. Frommer.—Zur vaginalen Operation ohne Narkose.
75 Ueberdehnung der Wand eines graviden Uterus bilocularis. J. Jurinka.
76 (No. 46.) 2 Fälle von gleichzeitiger Extra- und Intrauterin Gravidität. E. Meyer.
77 Fall von vaginaler Sectio cesarea bei Eclampsia gravidarum. Westphal.
78 Detailed Abstracts of Articles in Chrobak *Festschrift*, 1903.

68. **Relations of Functional Nervous Diseases to the Female Genitalia.**—Two addresses were delivered on this subject at the Congress, one by Krönig of Jena and one by Eulenburg of Berlin. Each discusses the subject from the standpoints of the etiology, diagnosis and treatment, and furnishes a detailed auto-abstract, impossible to condense into a few lines. Among the other communications reviewed is one by Hahn of Vienna on the great resistance of the fetus to the diseases of the mother, Veit on tuberculosis and pregnancy, and Fellner on the influence of internal diseases on the development of pregnancy, and to what extent they forbid marriage.

74. **Vaginal Operations Without Narcosis.**—Frommer advocates vaginal operating in the presence of contraindications to general narcosis, using merely suggestion and more or less infiltration anesthesia. He injects .01 gm. morphin a half hour beforehand, and finds that this aids materially in quieting the patient. She is able to advise when the uterus wall is being pushed in with danger of perforation. During narcosis the relaxed uterus is much more easily perforated. One of his 3 patients was a woman of 69 presenting prolapse of the uterus with part of the wall of the bladder and of the rectum. The second patient, a woman of 34, was operated on for vaginal rectocele, and the third, a woman of 77, for uterine cancer. In the latter case there was so little pain that the patient moaned only twice during the hour required for the total vaginal hysterectomy. Frommer thinks that injection of a weak Schleich solution into the perineum and vulva region is all that is necessary for these vaginal operations when general narcosis is contraindicated for any cause. Gradenwitz has reported 3 cases of total vaginal extirpation of the uterus without narcosis. Asch advocates refraining from general narcosis during curettement of the uterus, and Kleinhaus has recently expatiated on the advantages of restricting narcosis in favor of infiltration anesthesia in vaginal plastic operations and simple celiotomy.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 144.

79 (LXIX, Nos. 5-6.) Die Frakturen des Os naviculare carpi nach anatomischen Präparaten. R. Wolff (Berlin).
80 Lymph Routes in Appendix and Stomach. Polga and Navratil (Often-Pest).—Ueber die Lymphbahnen des Wurmfortsatzes und des Magens.
81 *Akoin in der Chirurgie. Daconto.
82 *Iodized Catgut. Claudius.—Erfahrungen über Iodkatgut.
83 *Injury of Epigastric Vessels During Puncture for Ascites. Baum (Greifswald).—Ueber eine unter ungewöhnliche Erscheinungen einhergehende Verletzung der epigastrischen Gefässe bei Aszitespunktion.
84 Fall von wahrem Nabel-Adenom. Koslowski.
85 *Ueber 175 Brucheinklemmungen (Incarcerated hernias). Fuchsig and Haim (Vienna).
86 Eine seltene Fussgelenksluxation (ankle dislocation). Engelhardt.
87 *Spiral Fracture of Leg. Bayer (Cologne).—Ueber Spiralbrüche des Unterschenkels.
88 *Hemorrhage from Arrosion After Tracheotomy. Martina (Graz).—Die Arrosionsblutungen nach der Tracheotomie durch Kanulen-Dekubitus.
89 *Tardy Affections After Skull Injuries. Colley.—Ueber Späterkrankungen centralen und peripheren Ursprungs nach Schädelträumen.
90 *New Method of Diagnosing Fracture of Bones. Plesch (Ofen Pest).—Eine neue Methode zur Diagnostizierung der Knochenbrüche.

81. **Acoin in Surgery.**—Daconto recommends in place of cocain a 1 per cent. solution of acoin with .8 per cent. sodium chlorid.

82. **Iodized Catgut.**—Claudius reaffirms the superiority of catgut prepared according to his method—placed for eight days in a solution of iodin, after which it is ready for use. Just before using it is rinsed in a 3 per cent. solution of carbolic acid.

83. **Injury of Epigastric Vessels During Puncture.**—Symptoms of ileus developed after puncture for relief of ascites in the case described. A large tumor formed at the point of the puncture and an incision released a quantity of blood clots and disclosed that the epigastric artery had been injured. It was ligated and the patient recovered promptly. In similar cases on record the epigastric had bled always into the abdominal cavity.

85. **Incarcerated Hernia.**—In this report of 175 cases of incarcerated hernia it is stated that 8 out of the 14 cases of umbilical hernia terminated fatally. Out of the total 175 patients 38 had previously worn a truss which shows that a truss does not guarantee against incarceration. These experiences indicate that it is a much safer plan to bring out and keep the intestine outside the abdominal cavity when there is any question as to its vitality. Of the 35 fatal cases, 28 were due to peritonitis.

87. **Spiral Fractures.**—Bayer states that out of the 2,332 cases of fracture treated at the Cologne public hospital during the last three or four years 75 were spiral fractures below the knee. He advocates Bardenheuer's extension for all such cases and describes the technic in detail. Consolidation was complete in thirty-three days on an average.

88. **Arrosion Hemorrhage After Tracheotomy.**—Martina's 2 cases were both in women, 27 and 42 years old. The tracheotomy had been done on account of tuberculosis or carcinoma and the fatal hemorrhage occurred the eighth and twelfth day after the operation and insertion of the canula which had caused the decubitus.

89. **Tardy Affections After Skull Injuries.**—Colley's patient exhibited visual disturbances three months after an injury to the head, and two years later violent neuralgia of the right frontal nerve. The visual field was reduced to 1/12 and the right frontal nerve was much enlarged. There was also slight paresis of the internal rectus. After resection of the frontal nerve the neuralgia subsided. He is inclined to attribute the

visual disturbances to traumatic injury of the region of the fourth ventricle and corpora quadrigemina.

90. **Diagnosis of Fractures by Sound Conduction.**—Plesch diagnoses fractures in the bones by percussion and auscultation. The normal conduction of the sound stops at the point of the fracture.

Münchener Med. Wochenschrift, Munich.

91 (L, No. 44.) *Experimenteller Beitrag zur Aetiologie der Pankreas und Fettgewebs-Nekrose. O. Hess.
92 *Lacerations in Vagina and Pelvic Floor as Causes of Genital Prolapse. Schatz.—Ueber die Abreissungen der Scheide und des muskulösen Beckenbodens als Ursachen von Genitalprolaps.
93 *Treatment of Recent Laceration of Perineum. K. Hegar. (Freiburg).—Ueber die Behandlung des frischen Dammrisses.
94 *Immunization with the Ovary. K. Strobansky (St. Petersburg).—Beitrag zur Immunisierung mit Eierstock.
95 Cause of Turbidity in Milky Ascites. J. Joachim.—Ursache der Trubung in milchigen Aszitesflüssigkeiten.
96 Die Fraktur des Os schaphoideum und ihr Ausgang in Pseudarthrose. E. Pagenstecher.
97 *Sieve for Feces. F. Schilling (Leipsic).—Ein für den Praktiker geeignetes Stuhlsieb.
98 Zur Kasuistik der Myasthenia gravis pseudoparalytica. J. Hey. (Commenced in No. 43.)
99 From the Washington Congress of Physicians and Surgeons. C. Beck (New York).—Vom 5 Kongress der amerikanischen Aerzte und Wundärtze in Washington.

91. **Etiology of Pancreas Necrosis.**—Hess reports a series of experiments conducted at Marburg which demonstrated that fat injected into the pancreas through the efferent ducts caused total necrosis of the organ, with hemorrhage, fatty degeneration and rapid death, the symptom complex resembling in every particular, both clinical and in the pathologic anatomy, that of pancreas apoplexy in man. Glycerin and starch had no such effect as the olive oil and oleic acid, and paraffin induced only mechanical lesions. After discussing various theories to explain this rapidly fatal action, he suggests that the oil may possibly induce a saponification, and the symptoms be due to a soap intoxication. Münk's researches have shown that intravenous injection of .1 gm. of soap per kilogram will kill animals with symptoms of collapse, fibrillary contractions, etc.

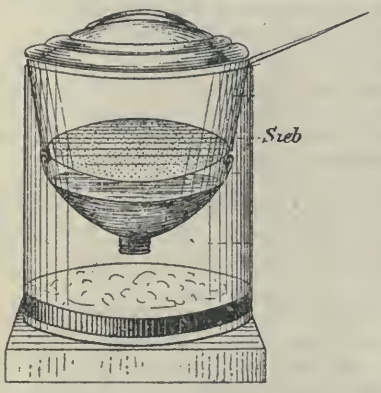
92. **Lacerations of Vagina and Pelvic Floor Cause of Prolapse.**—Schatz thinks that more attention should be paid by accoucheurs to preservation of the integrity of the vagina and muscular floor of the pelvis. The abdominal bandage favors laceration of the vagina, and the obstetrician is also frequently responsible for it, especially by early application of the forceps and extraction in breech presentation. The primipara should be preserved from breech presentation on this account. The obstetrician is too apt to devote all his attention to preserving the perineum, while this is comparatively unimportant; it has nothing to do with the integrity of the pelvic lumen, which lies on a higher plane. In order to exercise the pelvic floor, Schatz has his parturient patients after the tenth day and women with descensus sit on a chair which has a knob 5 cm. high in the seat. This knob presses the relaxed pelvic floor into place and helps the women to exercise the muscular floor of the pelvis energetically and repeatedly. The tendency of the fetal head to drag the walls of the vagina along with it is counteracted by the contractions of the uterus, which pull up the collum and vaginal walls. This tendency on the part of Nature is sometimes nullified by the "bearing down," the straining of the woman who does not allow the uterus time for its contractions, and actually forces the walls of the vagina farther and farther downward, with laceration as the inevitable result. This frequently occurs in young, healthy women, and the muscular floor above usually tears with the vaginal walls. The levator ani is particularly liable to be torn from its attachment, as it has to stand the greatest strain. Unless it can be restored to its place and fastened there, the loss of its support invites prolapse and descensus, especially after later pregnancies. It is a difficult matter to discover and remedy these lacerations in the pelvic floor and vagina. From his experience in such cases Schatz now prefers prophylactic measures, and when these lacerations are imminent he makes a deep incision on the left of the vulva to preserve the perineum and then carries this incision further upward until it forms a complete paraproctal incision of the vagina to at least half its height and sometimes still higher. When incised in this way it is impossible for the vagina to tear along the side and be torn from the arcus tendineus, thus preventing laceration of the levator ani, at least from its point of attachment. It is much easier to suture this single paraproctal incision than to take care of the multiple lacerations and detachments liable without it. This paraproctal incision differs from Dührssen's vaginal cesarean section, as it never extends into the upper third of the vagina and involves only the soft parts of the pelvic floor. It is made on one side only and presents a clean and easily sutured wound—far preferable to the conditions liable without it. It is readily sutured with the aid of fixation forceps, which the obstetric nurse can easily manage alone. In conclusion, Schatz remarks that it is absurd to assume that any practitioner is able to handle all obstetric cases properly. Obstetrics is an art when correctly practiced, and prolapse will become less and less frequent when this is recognized and primiparæ are delivered in equipped establishments.

93. **Recent Laceration of Perineum.**—Hegar protests against the assumption that it is wise always to suture a laceration in the perineum immediately after delivery. He thinks that the suture should be undertaken at once in case the condition of the wound insures primary healing or at least renders it highly probable, if the laceration be not too extensive, not extending too far in the rectovaginal septum, and the tissues have not been crushed and there is no suggillation. The general condition of the patient must also be good and the resisting powers to be counted on. Already existing infection must be positively excluded, with no evidences of fever or discharge suggesting endometritis or colpitis. Finally, the environment must be such as to ensure all aseptic and antiseptic precautions and a favorable convalescence free from infection later. Under other conditions the suture of the tear should be postponed until after recovery. It is liable to heal spontaneously. In 53 cases in his experience treated expectantly, the lacerations of the first and second degree healed by primary intention in 33.9 per cent., with exact coaptation of the lips of the wound. In 11 cases the lips of the wound healed, but not in perfect position, and in 11 cases there was partial primary healing. In 77.3 per cent. of all the cases the functional results of the spontaneous healing were excellent. Only one of the 53 had any temperature. On the other hand, the statistics at Chrobak's clinic show some temperature in 95 out of 1,036 parturients not examined before the birth. In 45 cases in which suture was not attempted, the fever was slight in 86.6 per cent. and severe in 13.3 per cent. In 50 cases in which the laceration had been sutured the fever was severe in 38 per cent. of the cases—and this in a well-managed clinic. The proportion would certainly have been larger in private practice. Hegar cites other statistics to sustain his plea that immediate suture of the laceration in the debilitated condition of the patient affords a predisposing soil for development of germs in the secretions pent in by the suture. In his clinic parturients after delivery with a laceration have a bandage wound around the legs above the knee and are kept in the strictest dorsal decubitus for eight days. Douches and other manipulations are done with the greatest care during this interval, and entrusted only to exceptionally skilled attendants.

94. **Immunization with Ovarian Extract.**—The research described was undertaken to establish the cytotoxic power of the serum of small animals previously treated with extract of the ovary or corpus luteum. Among the points determined was that the immune serum had a favorable action on the spermatozoa of animals of the species from which the extract had been derived. In ordinary serum the spermatozoa soon lose their motility while in the immune serum they retained it for an exceptionally long time.

97. **Sieve for Feces.**—Schilling's sieve is free from the objections of most articles of the kind he states. The feces placed

in it automatically cleanse themselves and the residuum is free from odor. The apparatus is extremely simple and does not require running water, but can be set aside in a closet to do its work. Fitting into a large glass jar is a second glass vessel with a brass sieve a short distance above the bottom which tapers to a small opening below, closed with a screw cap. (See cut.) After the feces are placed on the sieve, water is poured on until it rises above the feces which thus float on the water until the latter subsides as it escapes



a drop at a time through the cap below. After six to eight hours the residuum left on the sieve can be examined without offending the eye or nose. Schilling has already made some interesting discoveries with the residuum thus conveniently obtained, and refutes the assertions of Voit and Schmidt in regard to the digestive powers of dogs.

Therapie der Gegenwart, Berlin.

Last indexed page 995.

100 (No. 9.) Treatment of Renal Lithiasis. G. Klemperer.—Behandlung der Nierensteinkrankheiten.
101 Saline Baths. F. Bahrmann and M. Kochmann.—Nimmt das Soolbad unter den Bädern ein Sonderstellung ein?
102 Zur Mechano-Therapie der Lungen-Phthise. H. Cybulski.
103 Die Anesthesirung der oberen Luftwege bei Tuberculösen. E. Pollatschek.
104 Disturbances in Bladder Innervation. A. Homburger (Frankfurt a. M.).—Ueber cerebrale und spinale Störungen der Harnblaseninnervation und die Pflege der Incontinentia.
105 (No. 10.) Salt and Fluids in Diet in Heart and Kidney Trouble. H. Strauss.—Zur Frage der Kochsalz- und Flüssigkeitszufuhr bei Herz und Nierenkrankheiten.
106 Influence of Veronal on Elimination of Nitrogen. C. Trautmann.—Einfluss des Veronal auf die Stickstoffausscheidung beim Menschen.
107 *Zur Therapie der Basedow'schen Krankheit. Kirnberger.
108 *Ueber Thiosinamin und seine Anwendung. A. Lewandowski.
109 Calorisator in Hot Air Treatment. F. Bemy (Kiel).—Die Heissluftbehandlung mit dem Voislaedter'schen Kalorisator.
110 Mineral Mud Treatment of Gonorrheal Joint Affections. Schuppenhauer (Berlin).—Gonorrhoische Gelenkerkrankungen und deren Behandlung mit lokalen Fangobehandlung.
111 (No. 11.) Die Stellung der physikalischen Heilmethoden in der heutigen Therapie. O. Vierordt.
112 Zur Frage der sogenannten febrilen Albuminurie nebst einigen Bemerkungen über die Bedeutung der Cylinder. H. Lüthje (Tübingen.)
113 *Neuere therapeutische Versuche beim Erysipel. R. Pollatschek.
114 *Treatment of Acute Nephritis with Ice. L. Stembo (Wilna).—Behandlung der akuten Nierenentzundung mit Eis.

107. **Treatment of Exophthalmic Goiter.**—Kirnberger has found that patients with exophthalmic goiter increased in weight under the administration of 10 gm. a day of sodium sulphanilic acid (sulfanilsaure Natron). He uses it on account of its being an antidote to iodin. The pulse was regulated by this drug, but the goiter and tremor were not always influenced. In one case he alternated it with rodagen. The goiter subsided and the pulse was reduced from 140 to 80. In another case this medication was kept up for two years. The mother of this patient was also a typical case of the disease.

108. **Thiosinamin.**—Lewandowski proclaims that thiosinamin is harmless and will be found particularly useful as a preliminary to operations in which adhesions are feared. Also in case of cicatricial conditions on the surface of the body or in the interior. It is liable to cure disturbances due to cicatricial contracture and is also effectual in hastening absorption of old opacities on the cornea, in cataract, iritic adhesions, choroiditis disseminata with exudation, and in deafness due to fibrous masses and cicatricial changes in the inner ear. His experience indicates that it should not be used when there might be danger from the flaring up of a subsiding process, as in recent keratitis. He injects a 15 per cent. alcoholic solution, preferably in the forearm under the skin.

113. **Erysipelas.**—Pollatschek reviews his experience with 300 cases of erysipelas, 14 fatal. He treated 33 of the patients with red light, 12 with collargol, others with mesotan, etc., but found that his mainstay was the application of icecold compresses wet with Burow's solution. The results were much better in the 80 cases thus treated than in the others. In case of much pain he supplements it with a 10 per cent. salve of anesthesin, and in extremely severe cases with intravenous injection of collargol.

114. **Treatment of Nephritis with Ice.**—Stembo has treated 20 patients with acute nephritis by application of ice bags to both kidneys, held in place with a bandage. After two or three hours he removes the ice for an hour and then replaces it, keeping up this treatment until the albuminuria has entirely vanished. This ice treatment is especially useful in sudden, acute cases of nephritis and in the acute exacerbations of a chronic affection.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed page 1445.

115 (XLIX, No. 2.) *Two Unusual Uterine Malignant Growths. E. Opitz (Berlin).—Zwei ungewöhnliche Uteruskarzinome, Bemerkungen zur Theorie der bösartigen Geschwülste.
116 *Ueber Endothelioma cervicis uteri. P. Kirchgessner (Würzburg).
117 Statistics of Twin Births. P. Seegert (Berlin).—Zur Zwillingsstatistik und -Diagnose.
118 *Syncytiolyse und Hemolyse. R. Scholten and J. Velt.
119 *Zur Aetiologie der Ovarial-Adenome. M. Walthard (Berne).
120 (No. 3.) *Weitere Erfahrungen über Myom-Operationen an der Hand von 140 in den letzten 12 Jahren operierten Fällen. A. Czempin (Berlin).
121 *Das Syncytioma malignum vaginale p. p. matur. ohne Geschwülstbildung im Uterus und seine Aetiologie. G. Schmauch (Chicago).
122 Ueber Hemato-Salpinx bei Gynatresien. G. Rauscher (Leipsic).
123 Der erste Fall von Myoperithelioma uteri malignum. S. Gottschalk (Berlin). "First case."
124 Eine unbekannte Art von Adeno-Myom des Uterus mit einer kritischen Besprechung der Urnieren-Hypothese v. Recklinghausens. R. Meyer (Berlin).
125 Ueber Ovarial-Gravidität. Micholitsch (Vienna).
126 Beitrag zur Streptokokken-Infektion im Puerperio. A. Rieländer (Marburg).
128 (L, No. 1.) Zum Vergleich der vaginalen und abdominalen Operations-Methode bei Carcinoma uteri. Olshausen.
129 *Influence of Lactation on Menstruation and Conception. W. Weinberg.—Der Einfluss des Stillens auf Menstruation und Befruchtung.
130 Zum Geburts-Mechanismus. Fehling.
131 Ueber die Aetiologie der Eklampsie. Weichardt.
132 *Inherited Tendency to Multiple Births. Rosenfeld.—Zur Frage der vererblichen Anlage zu Mehrlingsgeburten.
133 *Angiom der Plazenta. Kraus.
134 *Repeated Childbirths in Same Woman with Contracted Pelvis. Henkel.—Ueber mehrfache Geburten derselben Frau mit engem Becken.
135 *Ueber solitare Hemätocelen. Alterthum.
136 *Congenital Transverse Closure of Vagina. S. M. Brickner (New York).—Unvollständiger angeb. Querverschluss der Scheide, nebst einer Theorie zur Erklärung seines Ursprungs.

115. **Two Unusual Uterine Growths.**—Opitz describes a mixed tumor, a combination of adeno-carcinoma and sarcoma, removed from a woman aged 57. The mucosa of the corpus was the starting point. All the cases on record similar to this were in women at the climacteric age. The growth was comparatively benign and the sarcoma was polypous, consisting partly of round and partly of spindle cells. He suggests the possibility that the same cause may incite the epithelium to carcinomatous proliferation and the connective tissue to sarcomatous. If this prove to be true, then carcinoma and sarcoma may be considered identical from the etiologic standpoint. In the second case described, a mucous polyp removed from the vagina proved to be carcinomatous. The pedicle of the polyp sprang from the tubal corner and an epithelioma had developed on it. He can not find in the literature another case similar to this.

116. **Endothelioma Cervicis.**—Kirchgessner adds one more to the 12 cases of endothelioma uteri on record, bringing the number of those located in the cervix up to 9. The patient

was a iii-para, 34 years old. The tumor was located in the anterior portion of the cervix and the patient succumbed to peritonitis after total extirpation. Out of the total of 9 cases only 2 recovered after vaginal hysterectomy. The growth in the case described may be entitled an endothelioma lymphaticum cervicis uteri.

118. **Syncytiolysis and Hemolysis.**—The side-chain theory and the knowledge that the elements of the fetus may be deported into the maternal organism are illuminating the questions of the physiology and pathology of pregnancy. Scholten discusses them at length, laying particular stress on the significant clinical observation that in eclampsia and "pregnancy kidney" hemoglobinuria is not an infrequent occurrence. His therapeutic application of this new knowledge is proving very promising, he states, and he will publish the results soon.

119. **Etiology of Ovarian Adenomata.**—Walthard's extensive article is an important contribution to the anatomy and histology of the ovaries. It is based on systematic examination of 80 ovaries from women and girls of various ages.

120. **Myoma Operations.**—In 58 out of the total 150 cases reviewed, the myoma was removed by the vagina and in 82 by the abdominal route. The total mortality was 12 per cent. There were no fatalities in 15 conservative abdominal operations. Czempin reviews the technic followed in the different groups of cases.

121. **Syncytioma Malignum.**—Schmauch does not regard a pregnancy as indispensable to the development of a tumor of this character; it may originate from aberrant fetal cells. He does not consider the syncytium as a specific variety of cell, but believes that it is merely one phase in the cell life of the Langhans epithelium cell. The preliminary to the syncytioma is the existence of syncytial "wander cells" in the tissues. He describes a case of hemorrhage three weeks after delivery of a living child, the woman a robust iv-para. She died in the course of seven weeks notwithstanding operative measures. The necropsy revealed numerous syncytioma metastases throughout the vagina, kidneys, lungs, spleen and brain, but no primary tumor could be discovered. He consequently argues that the syncytioma belongs in the teratoma class. During the pregnancy the syncytioma checks or prevents the normal formation of syncytiolysins according to the side-chain theory. This suggests the possibility that such conditions might be combated by immunization measures if surgical intervention offers no prospects of success.

129. **Influence of Lactation on Conception.**—Weinberg states that conception occurred during the first six months after childbirth in only 12 per 1,000 of 513 non-menstruating women who were nursing their children. The proportion rose to 595 per 1,000 in 615 women who were not nursing children. The influence of lactation on conception is thus confirmed.

132. **Hereditary Tendency to Multiple Births.**—Rosenfeld's statistics are based on the family history of 216 families among the German nobility. An inherited *Anlage* to multiple births is unmistakably shown in a number of them, and also the fact that this tendency is an evidence of greater fruitfulness. An accumulation of twin births among those most closely related is the rule.

133. **Angioma of Placenta.**—Krauss describes the varieties of this growth as he has observed them in 6 cases.

134. **Repeated Childbirths in Women with Contracted Peives.**—The prognosis of the childbirth may be established by what occurred during the last delivery, as each deformed pelvis has its own particular mechanism of childbirth. Sixty-six women with conj. diag. of 7.5 to 11 cm. had children delivered at the Berlin clinic three or more times, a total of 286 births. Henkel found it indispensable to determine the position of the skull in respect to the pelvis for each individual case. A repetition of cesarean section may be advisable and offers a good prognosis.

135. **Solitary Hematocele.**—Alterthum reports a case and reviews the literature. The capsule of the hematocele after a tubal abortion was formed at first of fibrin, but as adhesions developed the capsule became at last a complete envelope of connective tissue.

136. **Transverse Septum in Vagina.**—Brickner does not think that this condition in unmarried women calls for treatment, but the septum should be excised as soon as a pregnancy is suspected. Intrapartum an *X*-incision is sufficient. The prognosis is bad for the child unless the septum is recognized and removed in time. The mother is likewise liable to lacerations or fatal hemorrhage on the same account. He reports 4 cases with 9 cuts.

Russkii Vratch, St. Petersburg.

Last indexed page 145.

137 (No. 19.) *Influence of Poisons on the Gaseous Interchanges in Animals. N. P. Kravkoff.—O vliyanii yadov na gazoobmyen u zhevotnykh.

138 *Soluble Glass for Injecting Anatomic Specimens. S. N. Yashtchinski.- Zhidnoe steklo kak vpryskivaemaya massa dlya macroscopitcheskikh preparatov sosudistoi systemy.

139 *O t. naz. chirurgitcheskoi scarlatinye. V. P. Gerasimovitch.

140 (No. 20.) Veins of Pancreas. V. N. Tonkoff.—O venakh podzhelodotchnoi zhelezy.

141 *Rupture of Laparotomy Wound. V. N. Orloff.—K voprosu o razryvye bryushnogo rubtza posiye tchrevosyetchenii.

142 Origin of Respiratory Rhythm. S. I. Kostin.—K voprosu o normalnago ritma dykhaniya.

143 (No. 21.) *Cryoscopy of Urine in Children. Cryoscopy in Nephritis and with Meat or Milk Diet. E. Y. Hindes.—Krioskopiya motchi u dyetei, etc.

144 Value of Methyl Atropin Bromid in Ophthalmology. V. P. Vitzinski.—O dyestvii bromistago metyl-atropina na glaz.

145 *Patologitcheskaya anatomiya neuropathitcheskago spondylosa. G. Y. Troshin. (Commenced in No. 18.)

146 Paratyphus. V. I. Byelyaeff. (Commenced in No. 20.)

147 *Changes in Kidneys After Decapsulation. B. F. Bontch-Osmolovski.—Nyekotorya danniya ob izmyenenii potchek pri ikh decapsulatzii.

148 K parazitologii i klinikye smyeshanbykh form bolotnoi likhoradki (mixed malaria). S. A. Mark.

149 K voprosu o lyetchenii bokovykh iskrivlenii nizhnikh konetchnostei (genua valga i vara) etapnymi pvyazkami Prof. J. Wolff' a. A. N. Semenoff. (Commenced in No. 20.)

137. **Influence of Poisons on Gaseous Interchanges.**—A number of tests on animals with strychnin, digitalin, etc., are described in which particular attention was paid to study of the gaseous interchanges. The results show the importance of regarding this effect of poisons in estimating their action on the organism. Also that the antagonism between certain poisons may be due to the opposite effect on the intake and consumption of oxygen, etc.

138. **Soluble Glass for Injecting Anatomic Specimens.**—Of all the materials used for injecting blood vessels, a saturated solution of potassium silicate has proved the most perfect for the purpose in this writer's experience. He adds a little prepared chalk previously tinted red or blue. This helps to solidify the mass which he prepares fresh, keeping the ingredients separate until needed.

139. **Surgical Scarlatina.**—Forty-four patients out of 2,000 operated on at the Children's Hospital, St. Petersburg, between 1897 and 1902, developed afterward the so-called surgical scarlatina. The infection coincides with the trauma of the surgical intervention. This form of scarlatina is marked by the short period of incubation, the initial fever, the rash and desquamation around the wound, complications on the part of the wound and, finally, by the absence of the specific scarlet fever sore throat. Scarlet fever is classed by the writer as a wound infection liable to complicate any operation or wound the same as erysipelas, tetanus, etc. He believes that many cases of the so-called erythem following the use of diphtheria antitoxin should probably be regarded as surgical scarlatina. The article concludes with the bibliography on the subject, after presenting in an elaborate table the details of 36 of the cases of surgical scarlatina on which the work is based. The period of incubation was less than twenty-four hours in 8 cases; less than three days in 13; less than five days in 5, and from twelve to sixty-six days in the remainder. The course of the affection is mild, and none of the three deaths in the series could possibly be attributed to it.

141. **Breaking Open of Laparotomy Wounds.**—The stress under which the wound broke open in the 26 cases reviewed was due to coughing, vomiting, excessive exertion, trauma-

tism, etc., nearly all mechanical. The list includes 2 personally observed. Orloff concludes that such a wound should be protected better than is the custom until it has solidly healed, meteorism should be prevented, and all possible sources of mechanical injury avoided.

143. **Cryoscopy of Urine in Children.**—Hindes reports his findings in a number of examinations of the urine of children both in health and in nephritis, and on a meat or milk diet. His conclusions are that this method of examination is too variable in its results when applied to the urine of children, at least, and that its findings can not be relied on with any accuracy.

145. **Neuropathic Spondylitis.**—This comprehensive communication from Bechtereff's clinic reports in detail a number of cases, concluding with a review of the literature on the subject of chronic ankylosing inflammation of the spine. Troshin distinguishes the Bechtereff type as a neuropathic curvature of the spine, while the Strümpell-Marie type is more in the nature of arthritis deformans. In the latter the changes in the spinal cord are similar to what is observed in arthritis deformans and it should be regarded consequently as a trophoneurosis. Generally speaking, all the various forms of spondylitis may be considered functional affections free from inflammatory processes. The special features of each type vary with the fundamental cause of the spondylitis.

147. **Experimental Study of Decapsulation of the Kidneys.**—The researches described failed to show any benefit from decapsulation in experimental kidney affections. There was no reformation of vessels, and merely proliferation of connective tissue and atrophy of the exposed parts.

Riforma Medica, Palermo.

150 (XIX, No. 44.) L'albargina nel trattamento delle vulvovaginiti blennoragiche delle bambine (in children). C. V. Lutati.

151 Il varicocele e sua cura chirurgica moderna, con casi clinici. S. A. Virdia. (Concluded.)

Correspondenz-Blatt f. Schweizer Aerzte, Basle.

Last indexed XL, p 1547.

152 (XXXII, No. 8.) *Ueber Albuminurie. M. Cloetta (Zurich).

153 (No. 9.) Unfavorable Criticism of Glaser's Chologen Treatment of Cholelithiasis. L. Courvoisier.—Behandlung der Cholelithiasis. (Glaser's reply in No. 12.)

154 New Diaphragm for Roentgen Technic. O. Pasche (Berne).—Neues Blenden-Verfahren in der R.-Technic.

152. **Albuminuria.**—Cloetta has been studying the three forms in which albumin may appear in the urine. The amount of serum albumin and serum globulin is far superior to that of the nucleo-albumin form and hence the latter may usually be neglected where extreme accuracy is not necessary. He designates the figure obtained by dividing the serum albumin by the globulin as the albumin quotient, and states that the acuter the nephritis, the smaller this quotient and the larger the proportion of nucleo-albumin. In chronic nephritis with induration, serum albumin predominates. He believes that the condition of the renal parenchyma determines the albumin quotient in the urine. The acuter the nephritis, the severer the lesions in the parenchyma, rendering it more permeable for the substances in the blood. The quotient in this case is nearly identical with that of the blood serum. The tougher the parenchyma becomes by indurative processes, the less permeable and the more effectually it retains the globulin. The nucleo-albumin does not seem to be derived from the blood, and is probably due to destruction of kidney cells. Whenever a chronic process undergoes an exacerbation there is renewed destruction of cells and hence increased output of the nucleo-albumin which thus acquires prognostic significance. Comparison of the albumin output with the findings of the freezing-point test shows that there is no direct connection between them. The absolute amount of albumin eliminated is not proportional to the functional disturbance in the kidney evidenced by the variations in the freezing-point. On the other hand, there seems to be a direct proportion between the amount of substances precipitated by acetic acid and the functional disturbances. In his experiments on rabbits he observed that the elimination of the albumin entirely ceased during the course of an acute nephritis, while the molecular concentration did not show any signs of decrease, but rather increased, and this combination was always followed by speedy death. In such cases we must assume that notwithstanding the tendency to anatomic healing, the kidney is not capable of rallying from its functional disturbance and the individual succumbs to the effects of the nephrogenic intoxication. This assumption that the anatomic lesions and the functional disturbances are not necessarily proportional, was confirmed by the results of administration of various drugs which have a toxic action on the kidneys. Cantharidin seemed to have less influence on the vital activity of the kidney cells than aloin, although the anatomic lesions were apparently identical. It is possible that in man cases of nephritis which seem clinically and in their pathologic anatomy to be identical may yet differ as widely as in the aloin and cantharidin experimental tests. This difference may be due, as in the latter, to the varying intensity of the functional disturbances, which in turn are dependent on the nature of the toxin causing the trouble.

New Patents.

Patents of interest to physicians, Nov. 3 to 10:

743372-3. Magnetic medical apparatus and electromagnetic therapeutic apparatus. Emile Bachelet, Tacoma, Wash.
743147. Massage instrument. Herbert A. Church, Syracuse, N. Y.
742858. Means for fumigating. Lewis W. Cock, San Marcos, Texas.
742853. Artificial leg. Chancy A. Frees, New York.
742986. Nebulizer. George W. Hopkins, Cleveland, Ohio.
743409. Apparatus for administering anesthetics. George H. Hurd, Cleveland, Ohio.
743018. Inhaler. John N. McKim, Montreal, Canada.
743306. Therapeutic appliance. George M. D. Merwin, St. Louis.
743394. Pocket cuspidor. Wm. C. Mitchell, Denver.
743310. Neck and chest protector. Stillman A. Moulton, Campbell, Cal.
743187. Hernial truss. Solomon H. Phillis, Pana, Ill.
743340. Disinfecting apparatus. Percy Simundt, Charlottenburg, near Berlin, Germany.
743127. Disinfecting apparatus. Franklyn M. Wise, New York.
743798. Siphon Filler. Henry A. Allwardt, Detroit.
743826. Expectorating pouch. Edward L. Calahan, Clifton, N. J.
743486. Surgical pad. George H. Gilmore, Murray, Neb.
743718. X-ray tube. John O. Heinze, Jr., Lowell, Mass.
743877. Catamenial appliance. Hubert A. and A. L. Ische, Milwaukee, Wis.
743743. Hypodermic syringe. John H. McCulloch, Newville, Pa.
743741. Insufflator. Anna Mueller, Knoxville, Pa.
743562. Device for cooling or warming the human body. Bernhard Rober, Dresden, Germany.
743662. Syringe. Charles S. Rukstuhl, St. Louis.
743663. Surgical device for setting fractured legs. Johann Scheidl, Filiale Baden, near Vienna, Austria-Hungary.

Books Received.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE. By Prof. Dr. O. Haab of Zurich. Second Edition, Thoroughly Revised. Edited, with Additions, by G. E. deSchweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania. With 98 Colored Lithographic Illustrations on 48 Plates. Cloth. Pp. 232. Price, $3.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TREATISE ON ORTHOPEDIC SURGERY. By Royal Whitman, M.D., Instructor in Orthopedic Surgery in the College of Physicians and Surgeons of Columbia University. Second Edition, Revised and Enlarged. Illustrated with 507 Engravings. Cloth. Pp. 848. Price, $5.50 net. Philadelphia and New York: Lea Brothers & Co. 1903.

QUIZ COMPENDS. COMPEND OF GYNECOLOGY. By William H. Wells, M.D., Chief of the Gynecological Staff of the Mount Sinai Hospital, Philadelphia. Third Edition, Revised and Enlarged, with 145 Illustrations. Cloth. Pp. 293. Price, 80 cents net. Philadelphia: P. Blakiston's Son & Co. 1903.

A MANUAL OF BACTERIOLOGY. By Herbert U. Williams, M.D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. With 99 Illustrations. Third Edition, Revised and Enlarged. Cloth. Pp. 351. Price, $1.75 net. Philadelphia: P. Blakiston's Son & Co. 1903.

OBSTETRICS. A Text-book for the Use of Students and Practitioners. By J. Whitridge Williams, Professor of Obstetrics, Johns Hopkins University. With 8 Colored Plates and 630 Illustrations in the Text. Cloth. Pp. 845. Price, $6.00. New York and London: D. Appleton & Co. 1903.

THE NEW HAVEN COUNTY ASSOCIATION. Officers, By-laws, History of Origin, List of Members with Biographical Notes and Papers Read at the Semi-annual Meeting, Oct. 17, 1901. Paper. Pp. 135. New Haven, Conn.: Published by the Executive Committee. 1902.

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Original Articles.

AN EPIDEMIC OF TYPHOID FEVER FROM SEWAGE POLLUTION OF CITY WATER SUPPLY.

THOMAS F. HARRINGTON, M.D.

LOWELL, MASS.

Typhoid fever is such a widespread and universal disease that any observation tending to show its origin or mode of conveyance has more than ordinary interest. Drinking water has long been suspected as one of the media by which typhoid bacilli enter the body, and there set up their characteristic sequelæ. This suspicion has been more or less strengthened from time to time by epidemics in which there was considerable probability that an infected water supply was the means by which cases of typhoid fever multiplied. In the epidemic of typhoid fever, which forms the basis of this paper, a chain of evidence of cause and effect is so complete that it is worthy of presentation. In order that the whole situation may be as clear as possible it will be necessary to relate what might be called a history of the water supply.

Lowell, Mass., is a manufacturing city of about 100,000 population, situated on the Merrimac River between Manchester, N. H., and Lawrence, Mass. Both of these cities are mentioned, as reference is to be made to the typhoid fever cases in each. Prior to 1893 all the water furnished, both for drinking purposes as well as that used for domestic and manufacturing purposes, was taken from the Merrimac River, the result being that Lowell experienced an epidemic of typhoid fever whenever Manchester increased the river pollution by sewage from an unusual number of typhoid cases. This is best shown by the appended table:

TABLE I.

	Cases.	Deaths.
1890	459	123
1891	293	77
1892	373	75
1893	160	53
1894	282	50
1895	172	33
1896	178	36
1897	105	18
1898	119	24
1899	57	17
1900	85	17
1901	70	18
1902	83	16

The above table represents a reduction in the death rate from 1.58 per 1,000 inhabitants to .11 in thirteen years. Lowell in its turn transmitted the disease to Lawrence until the latter saw the folly of continuing the use of polluted river water and substituted filtered water for drinking purposes. In 1893 Lowell introduced a system of driven wells for the supply of city water.

This system was further extended in 1894-95 and in 1896, when all connections with Merrimac River water were severed, and the total daily consumption taken from the driven wells. The manufacturing companies did not partake of this new water supply, but continued to maintain an independent system, consisting of Merrimac River water pumped into a private reservoir to be used for fire purposes and a second supply pumped directly from the canals into the supply pipes in the mills. This latter is also Merrimac River water and is used for manufacturing and sanitary purposes. Some of the mills have made connections with the city system, but the large majority use only Merrimac River water, and as this is furnished at the sinks there is more or less use of it by the operatives for drinking purposes. Each sink has a large placard marked "poison" over the faucets, and the operatives are forbidden to use the water for drinking. Although many of the mills send boys with pails to wells in the neighborhood for drinking water, nevertheless cases of typhoid fever are constantly occurring among operatives in which the use of canal water is the most likely mode of infection. There are approximately 20,000 operatives in the mills. The corporation reservoir supplying the mills is situated thirty feet higher than the city reservoir supplying the same districts with well water for all purposes. These two systems are separated at a point of intersection by a check valve, and this was thought to be sufficient protection against the possibility of any intermingling of the two. The check valve is composed of four "flappers" which close automatically and remain closed on account of the greater pressure in the corporation system than that in the city system. In the event of fire, demanding any unusual supply of water from the corporation system, the valve opens as soon as this demand so lowers the pressure that the pressure in the city supply exceeds that in the other; in this way the city supply would reinforce the corporation supply. When the latter recovered its loss its increased pressure closes the valve again, and two systems remain separated as before.

PRESENT EPIDEMIC.

On the evening of Saturday, July 18, 1903, a large fire occurred in the Merrimac manufacturing mills, which drew heavily on the water supply from the corporation reservoir, sufficient to allow the check valve to open in the manner described above. The fire lasted from 8 p. m. Saturday to 2 a. m. Sunday, after which time steps were immediately taken to replenish the low supply of the reservoir. To do this water is usually pumped from one of the wheel pits at the Lawrence manufacturing mills, or from one of the other canals. The canals had been drawn off Saturday afternoon, as

is the custom at certain times of the year, and the river near the opening leading to the wheel pit was very low on this particular day. About 550 feet from this entrance to the wheel pit is an outlet of one of the city's sewers emptying into the river; consequently the sewage must have been sucked into the pit, and from there pumped to fill the reservoir. This is well shown by the accompanying diagram:

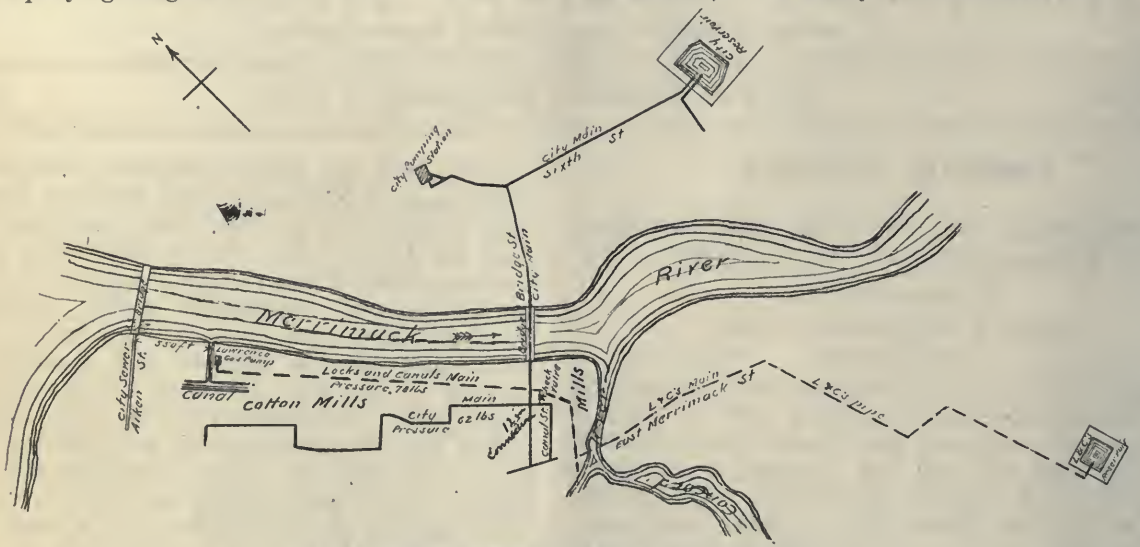

Fig. 1.—Sketch showing location of open check valve.

Seven hours later (9 a. m.) it was discovered that little or no headway was being made in refilling the reservoir. This led to an investigation which revealed the fact that the check valve described above, separating the city supply and the corporation supply, did not close when the increased pressure was applied; thus the sewage contaminated water was being driven directly into the city mains, there mixing with the driven well supply. From the point at which intermingling took place the water naturally was driven in those directions in which there was the least resistance, i. e., where water was being used, and also in a direction most direct from the break in the current, consequently any ill effects from the contamination of the water would show itself in the localities thus supplied. On account of the time of the day as well as the day of the week (Sunday) the consumption of city water was at its lowest point, thus giving the polluted water a much wider range of distribution than would otherwise have been possible. In two days after the above-described occurrence the number of cases of enteritis and gastro-enteritis was so great that it was plainly evident that an infection of some sort had taken place. These cases were principally among adults and were not associated with any climatic change. Their distribution was such that there was but one common cause probable, namely, drinking water. Families living in districts supplied with water from the high pressure (city) service were not affected, while nearly all the cases occurred on the low service separated from the corporation system by the check valve. No suspicion could be attached to either the milk or ice supply.

There had been four cases of typhoid reported to the health department during July. About August 1 cases of typhoid fever began to be reported with alarming frequency. One hundred and thirty-six cases were reported during August, and 38 during September. These cases were reported weekly as follows:

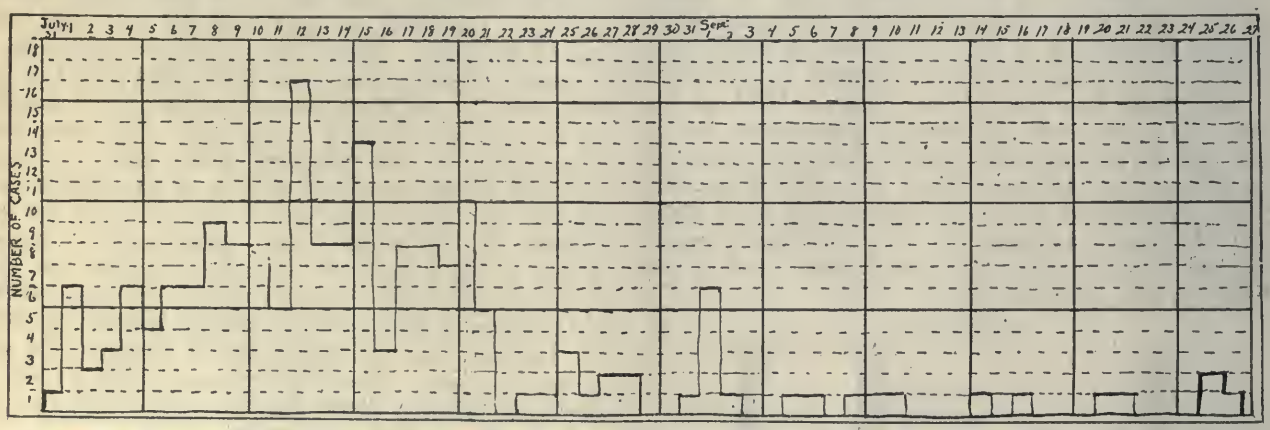

Chart showing the dates on which the cases went to bed. (The fire occurred July 18. The first cases appeared about July 31.)

TABLE II.

	Cases.	Deaths.
August 1 to 8	0	0
August 8 to 15	13	0
August 15 to 22	75	1
August 22 to 29	41	1
August 29 to September 5	20	2
September 5 to 12	7	2
September 12 to 19	8	2
September 19 to 26	4	0
September 26 to October 3	4	1

Many of the cases reported as typhoid in August and September came from families or houses in which there had been cases of enteritis during the period July 19 to August 1, some members of the family recovering fully from the acute enteritis, while others went on to a

well-developed typhoid. The accompanying interesting chart, prepared by Dr. Frank L. Morse of the Massachusetts State Board of Health, shows the dates on which the several cases of typhoid fever became ill enough to go to bed, thus differing from Table II, which shows the dates on which the cases were reported to the health department.

No bacteriologic examination of the city's drinking water was made between the dates July 19 and 29. On the later date the city's supply pipes were thoroughly flushed; this reduced the possibility of finding traces of the supposed contamination to a minimum. It was estimated by the water department that about 500,000 gallons of sewage or Merrimac River water found its way into the city's water service between the hours of 2 a. m. and 9 a. m. July 19, before the defective valve was discovered. This amount is equivalent to about one-twelfth the average daily consumption of city water. There is no way of estimating how long before 2 a. m. the two systems had been in communication. On July 29 (ten days after the contamination) the State Board of Health made a bacteriologic examination of the water. The following report, which I am permitted to publish through the kindness of the water department, explains the findings of that examination:

OFFICE OF THE STATE BOARD OF HEALTH.

BOSTON, Aug. 26, 1903.

To the Lowell Water Board, Lowell Mass.

Gentlemen:—In response to your request of July 28 for bacterial examination of the water supply of the city of Lowell, the board caused samples to be collected from various parts of the city on July 29 and again on July 31, and sends you herewith the results.

The average number of bacteria found in different parts of the city on July 29 was 17, which is nearly the same as the number found at the force-main at the boulevard wells, indicating no added pollution at this time. This number is smaller than the average found in other driven well supplies throughout the state.

On examining these bacteria to learn if *Bacillus coli*, which is regarded as indicative of pollution by sewage, was present, none was found in any of the samples when the usual amount of one cubic centimeter was examined, but on examining one hundred times this amount this species was indicated in two samples, viz.: one taken from a store in Pawtucketville and one taken from Walker street. In both these cases the whole number of bacteria was unusually small, averaging but ten, indicating a small degree of pollution.

Another series of samples taken on July 31 gave somewhat higher number of bacteria present, but no greater increase than might be expected from the temporary effect of the flushing out of the city mains on July 29 after the collection of the first series. By this flushing and the subsequent filling the sediment remaining in the mains was probably stirred up, and the bacteria in this sediment and on the sides of the pipes were detached.

The number of bacteria in all of these samples averaged as low as in other driven well supplies of the state, but the presence of *Bacillus coli*, even in small numbers, was an unusual occurrence. With the first four samples of the second series all of the bacteria in 1,000 c.c. were also examined with no indication of *Bacillus coli*.

(Signed) SAMUEL W. ABBOTT, Secretary.

The water supply from this source had been regularly examined and had never shown the presence of the *Bacillus coli*.

TYPE OF THE EPIDEMIC.

As a whole, the disease was of a mild character, the death rate being 4.4 per cent. The city bacteriologist, in a personal letter to the writer, says: "The unusual increase in the number of cases of typhoid fever was noticed about August 1. Counting from that date to the end of September, 90 specimens of blood were received here. Of these 58 were positive, 25 were negative, 7 unsatisfactory for various reasons. In some of these the examination was repeated twice or three times before getting a positive result." Cases at the hospitals (about 50) were verified there, consequently do not figure in the above report. From a study of about seventy-five cases of the epidemic, seen at the hospitals and in private practice, the following characteristics prevailed: Onset sudden and often accompanied by a chill; temperature high at the start (102 to 104) and remaining high well into the third week; pulse slow and not in proportion to the temperature, being more often under 100 than over; diarrhea present in 55 per cent. of these cases; rose spots present in 80 per cent., and diazo-reaction positive in 90 per cent. of all cases, giving a positive Widal test; nose bleed absent in 90 per cent. of all the cases; the average duration of the fever was twenty-seven days, with a slow convalescence. Among the complications occurring the following were the most marked: Phlebitis in 8 cases, bronchitis in 6 cases, otitis in 4 cases, arthritis in 4 cases, neuritis in 2 cases, acute mania in 1 case, edema of the lungs 1 case, endocarditis 1 case (death). There were 8 cases of intestinal hemorrhage, 1 with a second hemorrhage. None of these died.

There were several cases in which the clinical picture of typhoid fever was not substantiated by a positive Widal test. These cases did not have rose spots nor an enlarged spleen. The complications mentioned above were as frequent in this class of cases as in the genuine typhoid. There were no means at hand to prove whether these belonged to the paratyphoid group, although this clinical diagnosis seemed well established.

I desire to acknowledge my indebtedness to the Massachusetts State Board of Health and to the Lowell water and health departments for their kindness in furnishing me with the results of their respective investigations.

THE UNITED STATES PHARMACOPEIA OF 1900.*

CARL S. N. HALLBERG, PH.G.
Member of the Committee of Revision.
CHICAGO.

The revision of the Pharmacopeia begun by the committee elected at the decennial convention in Washington, in 1900, is progressing as rapidly as is warranted by the importance and magnitude of the work.

The committee lost its chairman in 1901, Dr. Charles Rice, pharmacist to the Department of Public Charities and Corrections of New York, who had filled that position with especial credit since 1880, and suffered further loss in the death of a life-long worker, Dr. Edward R. Squibb of Brooklyn. The death of the chairman at a critical point of the work caused some delay until the vacancy was filled by Prof. Joseph P. Remington of Philadelphia. Partly due to this fact, but more especially owing to the many important questions, never before confronting a committee of revision, requiring solu-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

tion, the work of revision has been more than usually delayed so that the book will in all probability not appear until in 1904. The official life of the U. S. Pharmacopeia will, therefore, not be synchronous with its decennial designation (1900-1910), which, however, is not of any especial significance.

THE SUBCOMMITTEES.

As an indication of the scope and character of the work of revision the enumeration of the following subcommittees and the subject allotted to each may be of interest:

1. Therapeutics.
2. Posology.
3. Botany and pharmacognosy.
4. General and inorganic chemistry.
5. Organic chemistry; also fixed oils and fats.
6. Proximate assays.
7. Volatile oils and allied substances.
8. Extracts, tinctures, etc.
9. Aromatic waters and spirits.
10. Cerates and allied compounds.
11. Syrups and elixirs.
12. Miscellaneous galenicals.
13. Weights and measures.
14. Scope and statistics.
15. Nomenclature.

LIMITATION OF PURITY.

Among the most important subjects for consideration, and one which heretofore has received but little attention, was the limitation of purity of medicinal chemicals. To the medical mind, the propriety of this question may well appear doubtful. Why should there be any limitation? Only the purest is sufficient for medicinal uses, or for the purposes of the physician. The proposition is, however, not so simple, since there are certain requirements of a practical character which must be taken into consideration. The U. S. Pharmacopeia (1890), now official, requires for a number of largely used chemicals a greater degree of purity than is obtainable by ordinary chemical processes, a standard—as is claimed by reputable manufacturers—to be obtained only by such expensive processes as to necessarily increase the cost of the product, and as to be in some instances almost prohibitive.

It should be clearly understood, however, that these impurities comprise mostly the presence of very small quantities, sometimes 1 per cent. or less, of sulphates and chlorids in bromids, iodids, phosphates and similar salts, the contention on the part of manufacturers being that the removal of such traces of these foreign salts would be exceedingly difficult, and since their presence could have no possible therapeutic significance, their absolute removal would be a useless expenditure.

Some instances were cited in support of the contention that the presence of even slight traces of foreign salts, innocuous of themselves, might under certain conditions produce entirely unexpected results; thus, for example, when potassium bromid is prescribed with barium chlorid in watery solution, there will be a precipitate of the insoluble barium sulphate in the presence of the slightest trace of sulphate in the potassium bromid. Such instances are, however, exceedingly rare and do not impair the position that mere traces of such impurities in these salts should not be excluded by the U. S. Pharmacopeia.

Another reason for not setting the standard too high is that it is impracticable to have two standards official, and since the pure food and drug laws in some states refer to the U. S. Pharmacopeia as the standard, druggists and dealers would be liable to prosecution for selling chemicals for commercial and technical purposes where so high purity is not required, which deviate from the official standard of purity. Such prosecution, mostly ill advised, has been frequent in Ohio, and has been carried on to such an extent in the United Kingdom as to make such laws exceedingly unpopular, and alienating the support of a large and otherwise law-abiding element.

In quite a different category is the degree of purity as related to freedom from poisonous compounds, frequently contaminating medicinal chemicals. Compounds of poisonous elements, such as arsenic, copper, lead, tin, derived from the crude products in the process of manufacture, can not be too rigidly excluded. That no convenience of manufacturers or additional cost, no matter how great, will have any influence on the standard of purity required by the U. S. Pharmacopeia in these particulars is a foregone conclusion.

ISOLATED PRINCIPLES.

The question of substitution of isolated principles for natural products has come to the front largely during the present decade. Many of the volatile oils are mixtures of certain principles, such as the oils of eucalyptus, caryophyllus, cinnamon, gaultheria, betula and sassafras. While the pharmacology on these articles is meager, it is assumed that the principal principles represent the therapeutic virtues of the respective oils, and it is contended that, since these vary considerable in the amount of these principles contained, greater accuracy and uniformity would be secured by the substitution of these principles for the natural oils.

Among the principles of this and similar classes likely to be admitted to the U. S. Pharmacopeia are: Anethol, eugenol, guaiacol and guaiacol carbonate and saffrol. Eucalyptol and methyl salicylate are now official.

SYNTHETICS.

The admission of synthetic products controlled by patent or proprietary rights has also received much attention. The ethical medical position is unequivocally opposed to the recognition of any substance whose composition is secret, or the manufacture of which is in any manner not free; and yet medical men, even the very highest authorities, prescribe them and exploit them in the journals. While the Pharmacopeia is supposed to have ignored them, such is not the case. The first synthetic medicinal chemical made by a patented process, salicylic acid, was admitted to the U. S. Pharmacopeia in 1880. In the present U. S. Pharmacopeia (1890) they are official of this class in addition to salol and lanolin, although under a name different from the trade name. On this point the instructions of the decennial convention of 1900 to the committee of revision were as follows:

> The committee of revision is authorized to admit into the Pharmacopeia any product of nature of known origin; also any synthetized product of definite composition which is in common use by the medical profession, the identity, purity or strength of which can be determined. No compound or mixture shall be introduced if the composition or mode of manufacture thereof be kept secret, or if it be controlled by unlimited proprietary rights.

The committee, desiring to adhere to the spirit, if not strictly to the letter, of the instructions of the convention, after considerable deliberation decided "to admit those substances for which there is, or may be, a product or process patent which expires during this decade (i. e., 1900-10), carrying with it the expiration of the trademarked name, as distinguished from a symbol or device."

According to this, none that are patented will be admitted if their trade-mark does not expire with their patent, and none that are trade-marked without being patented. Should legal advice conclude that trade-marked names expire with patent, then only such that are patented will be admitted whose patents expire before 1910. Among those proposed for admission under this decision are chloralamid, ethyl carbonate, hexamethylene-tetramin, iodol, methylene blue, phenacetin, piperazin, saccharin, phenyl salicylate (salol, now official), sulphonal, trional, aristol and salophen. The following would be excluded: Creosote carbonate, eucain, heroin, holocain, ichthyol, methyl acetanilid and orthoform.

ALKALOIDAL ASSAYS.

The U. S. Pharmacopeia of 1890 requires a certain alkaloidal standard for opium and cinchona, and the preparations of opium and nux vomica. This list will be largely extended, and assay processes fixing a standard of alkaloidal strength for the preparations of the following drugs have been proposed: Opium, cinchona and nux vomica, belladonna, hyoscyamus and stramonium, coca, guarana and kola, physostigma, ipecac, hydrastis, colchicum, pilocarpus, conium and jalap.

ANTITOXIN.

One of the most difficult questions for the committee to solve has been the admission of diphtheritic antitoxin. The principle of the Pharmacopeia heretofore has been that, inasmuch as the pharmacist is charged with the responsibility of maintaining the standard of identity, purity, quality and strength of all articles official, the Pharmacopeia must provide such definitions, descriptions, tests and assay processes as will enable him to determine whether or not the articles recognized by the Pharmacopeia respond to the official requirements. Since no biologic or pharmacologic tests have ever been admitted to any Pharmacopeia, presumably because these were not within the province of pharmaceutic practice, the admission of any article whose purity and potency could not be determined except through biologic methods appeared to be an insurmountable obstacle to the admission of any biologic product, and the convention, therefore, declared: "Physiologic tests for determining strength should not be introduced by the committee."

Owing, however, to the transcendant importance of the question of antitoxin, and inasmuch as the instructions of the convention were not directly mandatory, and especially in deference to the physicians on the committee who voiced the sentiment of the profession, evidently unanimous, as to the desirability, if not necessity, for the admission of antitoxin, and in order that the U. S. Pharmacopeia (1900) may not be charged with indifference to the greatest remedial agent of the decade it is to represent, the committee of revision decided to carefully consider the question. The matter was referred to a subcommittee, consisting of the physician-members of the committee, together with a number of eminent specialists in this field, with the late Dr. Walter Reed as chairman. Owing to the untimely and sad death of Dr. Reed, Dr. Theobald Smith was subsequently chosen to act as chairman, and this committee is now formulating a plan by which the antidiphtheritic serum will in all probability be admitted to the U. S. Pharmacopeia on the plan somewhat similar to that of the German Pharmacopeia of 1900.

POSOLOGY.

The question of dosage has always been a bugbear to pharmacists. Some (without being able to formulate the proposition, what is a dose? In the terse manner of Dr. S. Solis-Cohen, "A dose is enough") have felt that the Pharmacopeia was trenching on dangerous ground in endeavoring to adopt an authoritative list of doses. It was charged, however, that the lack of such dose list in the only legal authority on medicines materially lessened its value to the practitioners, and that such should be incorporated. The sentiment of the convention being almost unanimous on this question, the committee was instructed to state the average approximate adult dose, and, where deemed advisable, also for children, after all articles which are used or likely to be used internally. These are to be given in metric quantities, as well as in approximate customary weights and measures. It is to be the distinct understanding that these doses are not to be regarded as obligatory or as not to be exceeded by the physician whenever in his judgment desirable, and a declaration to that effect is to be prominently made in the book. Its purpose, then, is simply to serve as an authoritative reference guide to pharmacists and physicians.

NOMENCLATURE.

While the aim of the Pharmacopeia is to adhere to a scientific nomenclature, it can not invariably do so. To change old familiar titles of some chemicals so as to conform to the modern chemical nomenclature would create confusion, be inconvenient in prescribing and dispensing, and impair the usefulness of the alphabetical arrangement. Carbolic acid, for example, would appear as "phenol," and arsenous acid as "arsenic trioxid," if the chemical nomenclature be strictly observed. Since the scientific names are invariably appended as synonyms for such titles, as well as for such articles as may be admitted under trade names, there can be no objection to such deviation from the scientific nomenclature in the official titles as may be determined for the greater safety and convenience of physicians and pharmacists. Sometimes the title appears in contradiction to the chemical name, without apparent justification, as in "chloral" of the U. S. Pharmacopeia of 1890, which should have been "chloralis hydras"; chloral being a liquid, the hydrate of which is the well-known crystalline solid. The best of reasons, however, prompted this violation of chemical usage, namely, the belief that the use of the single word in prescribing would avoid the inevitable abbreviation of "chlor. hyd.," and thus prevent confusion with "chlorid hydrarg.," and consequent errors and complications.

DISCUSSION.

Dr. W. J. Robinson, New York—I consider the United States Pharmacopeia the best in the world. I am familiar with all of them, and as far as definiteness, succinctness and tests for purity are concerned it ranks above all. Still it is not popular with the physician. You will seldom find a physician who studies the pharmacopeia and rarely one who owns the book. It has always interested me to know why the physician never refers to the pharmacopeia. Among the many reasons I will mention one—it is the principal one—the pharmacopeia does not contain a very large number of substances which the physician prescribes daily. It contains about 200 various drugs like phytolacca, chelidonium, illicium, inula, mezereum, pareira, juglans, etc., and such substances which the progressive physician of to-day never prescribes, while many of those which are in daily use are

not to be found in it. We can not blame the pharmacopeia for not admitting these substances. Many of them are proprietary remedies with a perpetual copyright, but still it is wrong to exclude them altogether. The solution of the question would probably be to have a pharmacopeia of the same character as the present one which should contain all the standard drugs, but it should have a supplement in which might be given the chief characters of that large class of drugs which are frequently used and of which we know the exact chemical constitution. That would not be giving them the full sanction of the pharmacopeia, but at the same time it would be serviceable to the physician. Concerning the dosage, I think that would be a valuable addition to the pharmacopeia and render it more popular. Of course, there should be no ironclad rule about the dose, as the mention of a definite dose might lead to confusion, but if the average dosage were included it would render the book more useful to both physician and pharmacist.

DR. B. PIROSH, Chicago—The pharmacopeia should be in the office of every physician, for there is no better source from which to derive information in regard to the peculiarities of certain drugs. Concerning the bringing into the pharmacopeia of these preparations the patents of which have passed limitation, it should make no difference to the physician whether or not the patent letter has expired. I would prefer a remedy the patent of which is running to one the patent of which has expired—provided the composition and the physiologic action is known to me—for the reason that so long as it is protected and in the hands of only one manufacturer we know it is pure. When the patent is taken off and other parties take up the manufacture then there is adulteration. I think the doses should be incorporated in the pharmacopeia, as this would give the druggist and physician an equal opportunity to check each other in case of mistakes (on either part). I believe it would be well if the names of some of the drugs could be changed from time to time. Here in America, although it is our own fault, it seems to be a part of our business to tell the patient what he gets. The only benefit I can see from the knowledge of the patient about the drug he gets is to caution the next physician in case of idiosynerasy to a certain drug.

DR. W. B. HILL, Milwaukee, Wis.—The metric system and the dosage are two bugbears of the pharmacopeia of 1900. It is a simple thing to put down the figures, but to get the people to use them is quite a different matter. I believe the dosage is the key to the situation, but that means a real revision of the pharmacopeia, not a so-called revision. If we add a dosage system to the pharmacopeia, a system in which the strength of the preparations is given, within certain limits we make the use of the metric system possible; in other words, we should make it easier to name the dose in the metric system than in the English system. There would then be no question about its adoption. If we look over the various preparations we will find that tinctures vary all the way from 5 to 35 per cent., some for a very good reason, others without any reason. Under the metric system the tinctures could be classified in two or three classes, the stronger ones with a uniform dose of 1 c.c., the next class with average dose of 5 c.c., and the third class in larger quantities, such as the weaker tinctures. In this way we might so simplify the dosage that one could remember more easily in the metric system than in the English system. The greatest difficulty in training the memory so as to use the metric system is in the very small denominations. The trouble is in the unit, and it is difficult for the student to comprehend it. If the pharmacopeia were arranged in a double manner, on one side the tinctures and triturates, each with a uniform dose, and on the other side the fluid extracts and extracts with a uniform strength, I believe the metric system would be adopted within five years.

DR. O. T. OSBORNE, New Haven, Conn.—I believe the trouble lies in our hospitals. At the Yale Medical School I have taught the metric system for nearly twenty years, and will venture to say that not 25 per cent. of our graduates write prescriptions in the metric system to-day. We begin to teach materia medica in the second year, advanced pharmacology in the third year, and applied therapeutics in the fourth year. At the end of the second year the student is better versed in the metric system than he is at the end of the third year, and at the end of the third year he writes better prescriptions than he does at the end of the fourth year. This is because he is constantly coming in contact in journals, textbooks and clinics with prescriptions written in the old system. When the student gets into the hospital he sees no more of the metric system, and when he leaves he has almost forgotten that there is such a system. Hence I believe that until the hospitals abolish the old system and take up the new, the medical colleges can not advance the use of the decimal system. As to teaching the doses of preparations, as an example, I classify the tinctures into poisonous and non-poisonous and put as many as possible together under one dose. In this way the student soon learns that a poisonous tincture has a dose of a few drops, and a non-poisonous a dose of a teaspoonful.

DR. H. A. MOODY, Mobile, Ala.—Dr. Osborne has voiced my experience. I have been teaching materia medica for about ten years. In the first year my students are required to copy prescriptions from the blackboard in the metric system and it is discussed—and I mean discussed—the students are invited to participate in the discussion and compare the metric system with the old system. In the study of therapeutics the students write the prescription in the old method first and then translate it into the metric system in order to be masters of both systems, for this is necessary if they are to practice in rural districts. The result is that they gravitate to the old system, and nothing seems to stop them. I believe it was Lincoln who said that "you can not fool all of the people all of the time." So I think there must be some solid foundation for the preference for the old system or it would have been dropped long ago. It is a fact that it is the most popular system all over the United States to-day. Dr. Robinson said the pharmacopeia contained a lot of drugs that had become obsolete and were never used by progressive physicians, and among other substances he mentioned phytolacca. Now, phytolacca is not obsolete all over the country by any means. This illustrates how utterly impossible it will be to satisfy all parties by any decision as to which drugs shall be placed in the pharmacopeia and which shall be omitted, or go into the appendix. You will be sure to offend the sense of propriety of some. Another statement referred to was the physiologic test of drugs. The committee decided that they could not use that test of drugs for the pharmacopeia. It seemed to me that this referred principally to the animal serums. Now, there are other drugs whose strength we can ascertain in no other way, such as ergot, digitalis, etc. Is the physiologic test used to standardize medicines such as these?

DR. F. R. WEBER, Milwaukee, Wis.—We have in our school those who prefer the old system and those who prefer the metric. The effect of this is to accustom the students to one as much as to the other, and it is easy for them to prescribe in either system. It is only laziness that causes them to ignore the metric system. When the metric system was introduced in Germany, within a year all the old books and the old systems were changed. If our books would change and only contain the metric system how quickly would the nation throw off the old system and take up the new. The trouble with the United States is that we still prefer to read English articles, and in England it is practically impossible to introduce the metric system.

DR. C. S. CHAMBERLIN, Cincinnati—There must be some reason for the hold which the old system has on us. I studied both systems when at college and for three years taught chemistry, using the metric system entirely. In my practice I tried to use the metric system, but I never got beyond the point where I did not have to translate from the old into the new. In regard to phytolacca, Dr. J. B. Shoemaker has an article in the October, 1901, *Medical Bulletin* which covers

at least four pages, in which he declares that it is one of the best alteratives and the best of all remedies in mastitis.

PROF. C. S. N. HALLBERG—With reference to the scope of the pharmacopeia it has been very difficult to get anything like statistics in the United States. We have compiled the different kinds of articles which enter into hundreds of thousands of prescriptions in the different sections of the United States and we never before realized what a vast country this is. The medicines which may be considered obsolete in one section are used in great quantity in another section. You must remember that we have here in the United States a medical and a pharmaceutical population which is cosmopolitan. The United States Pharmacopeia may well be considered a combination of all the pharmacopeias of Europe revised and condensed. The committee does its best in getting information as to what these articles are and which should be admitted. As to the supplement, which should include a number of articles, as suggested by Dr. Robinson, I believe that is a questionable expedient. The pharmacopeia has a legal standing, not by act of congress, but by laws in the states whereever there is legislation affecting pharmacy or pure food and drug laws; in such states it is recognized as the standard. Of course, if these articles were simply enumerated therein it might serve a purpose, but that is doubtful. The American Pharmaceutical Association issues a National Formulary and it might be advisable to enumerate in that such articles as Dr. Robinson suggests. That the strength of galenic preparations should be based on the posology instead of on the drug strength is a new proposition and one not recognized in any pharmacopeia. The pharmacopeia is first of all the hand-book of the pharmacist; it is his manual from which he makes his preparations, as far as the galenic preparations are concerned, and because of the use of the metric system it is desired to maintain the percentage proportions. Any change, therefore, which would involve too much deviation would be embarrassing to the pharmacist. To fix even the general average doses of these preparations would make them of a strength without any determined relation to the drug. Dr. Wood, for instance, administers tincture of digitalis in teaspoonful doses, while others give one-fourth that amount. Now, what should be the drug-strength of tincture of digitalis? To obviate this confusion last year at Brussels there was a conference "for the unification of the strength of potent remedies." Dr. H. C. Wood, Philadelphia, attended this international conference, at which were representatives from every country in Europe. It was decided that tinctures should be in two classes, the potent drugs of a 10 per cent. and those less potent of 20 per cent. strength. That will be a great pharmaceutic convenience, though it does not conform to Dr. Hill's suggestion except to the extent that there is a distinction between potent drugs and those that are less potent. But here arises a great difficulty; the tinctures of the most potent drugs are of the greatest drug strength; tincture of aconite is 35 per cent., tincture of veratrum viride is 40 per cent. in strength, while tinctures of drugs which can not approach these in potency are only 10, or 5 per cent. The committee has, however, decided to follow this principle, and is going to change the strengths of the tinctures of aconite and veratrum viride to 10 per cent. There is a tendency toward the unification of potent remedies, and this conference fixed the strength of all arsenical solutions at 1 per cent., which is uniform in all the pharmacopeias. The question of patents raised by Dr. Pirosh is scarcely within the limits of the paper. A patent is limited to seventeen years. There is no objection to a patent, but what we call "patent remedies" are of secret composition and some get the name of being patented from the fact that the name or label has been copyrighted and the profession is not furnished the formula. The only way to learn the metric system is to work with it. Pharmacy students have to work with the metric system in all branches. Annually, during the course, a vote is taken among the students as to their preference, and only once in ten years one man said he preferred the old system after working with the metric system for three months. The great advantage of the metric system is shown in recent works on pharmacy and therapeutics. In the older works an ointment, for example, has to be prescribed "a dram to the ounce," or "30 grs. to the ounce." Compare that method of expression to the clear, concise statement that an ointment is 1 per cent., or 2 per cent., or 10 per cent. strength. Applied to solutions and preparations for external use the metric system goes hand in hand with percentage strengths, and is the only scientific method of expression.

HOW FAR SHOULD THE SPECIALIST IN RHINOLOGY AND OTOLOGY PRESUME TO TREAT THE SYSTEMIC CONDITION OF HIS PATIENTS?*

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In many of the papers dealing with the treatment of catarrhal conditions of the nose, throat and ears, we find such suggestions as the following: "The general health should be carefully looked after," "any deviation from the standard of health should be corrected," some putting the case stronger and claiming that no success can be hoped for unless the general health of the patient is made perfect, or at least made better. If this is the case, our first inquiry should be in regard to the qualification of the specialist. Is he able and prepared to make a diagnosis of all the obscure conditions of the general system which the general practitioner has overlooked? If he is able to do so will he do it in the short time which he generally devotes to the consideration of a case? Assuming that he is able and willing to do this, should he treat the case or should he refer the patient to his family physician, explaining to him that the local disease depends on such and such a general condition? These are serious questions, and it is fully time that we stated definitely just what we mean. In discussing these questions I shall simply state my views with the purpose of arriving at some definite conclusion as to the course to pursue.

It is a well-known fact in all branches of human knowledge that the more distinctly a man is a specialist, the less his opinion is worth about general questions, and often about subjects intimately connected with his own specialty. If this is so in the exact sciences, how much more is it likely to be true in medicine? There are several reasons why, in my opinion, the specialist is not as well qualified to make a diagnosis and, therefore, to treat the general condition. The first of these is the fact that he sees most diseases through the medium of his own specialty; secondly, he often does not have the requisite training, and if he has it he soon gets out of touch with the subject of general medicine; thirdly, he does not keep touch with the literature of general medicine; fourthly, he does not have at his command the necessary instruments of precision; fifthly, the patient comes to him for another purpose and does not volunteer information with which his family physician is perfectly familiar, and, lastly, he does not take the necessary time to investigate the functions of the different organs and to obtain a complete history of the general health. It is only by such a painstaking investigation that an accurate diagnosis can be made.

On the other hand, the specialist often sees the local manifestations of disease conditions which may have been overlooked and which perhaps the family physi-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

cian has had no opportunity to investigate. It has been my experience that the general practitioner is usually grateful for the light which our examination may throw on a case. The very ease with which we are able to make a diagnosis of some general diseases by their local manifestations leads us into the error of thinking that we are able to diagnose with equal ease all the diseases of the body. In reality, the diseases which we are able to diagnose from local manifestations are very few, and they are often far advanced before the local characteristics are sufficiently marked to enable us to arrive at definite conclusions. We form impressions of cases, but we should bear in mind that clinical impressions are not always clinical facts. To make a diagnosis of systemic disease requires time and patience, a thorough knowledge of clinical medicine, the necessary instruments of precision, and constant practice with the privileges of a large clinic. Are we prepared for this work? The papers in which the systemic factor is most strongly insisted on do not present internal evidence that this course has been pursued, but, on the other hand, the papers abound in vague illusions and loose generalities until we find ourselves in the position of the lady who had been discussing the subject of the future state with Dr. Johnson: "She seemed desirous of knowing more," says Boswell, "but he left the question in obscurity."

A statement that the general health should be attended to without any suggestions as to what conditions may, or do, unfavorably affect the so-called catarrhal disease of the nose, throat or ears, is not of much use as a practical guide. Do we mean to say that the local lesions are caused by the general condition, or do we mean that they are only made worse by it. If the systemic condition is an important etiologic factor in the production or continuance of the catarrhal diseases of the upper air tract, then it is high time that we should have some definite knowledge of the subject. We should know what diseases act as causes and in what way they so act.

So far as one is able to judge from the writings of the men who make the claim of systemic influence, they attach a great deal of importance to the form of intestinal absorption that goes by the modern name of uric acid poisoning. I do not deny the existence of the condition, but this is hardly the place to enter into a discussion of whether uric acid has anything to do with it. Those who are firmly convinced that it does would do well to read the paper by the President of this Association on the subject. Whatever the etiology of the condition, the question for us to decide is how much of a factor is it in the production of local disease in the nose, throat and ears. There is no doubt that every secreting surface in the body participates in the effort to eliminate these poisons, and the nose and throat, having secreting surfaces, share in this effort. This is manifest by increased secretion and local irritation, which should, and probably does, continue while the process of elimination is going on, but should not continue after elimination is completed. It may be urged that many of these patients are in a state of chronic poisoning, but this is not usually the case because it leads to such a degree of ill health that some effort is made to correct the condition. If no effort is made by the patient, Nature usually takes a hand and helps to correct it. After granting all that may be caused by intestinal absorption, it must be admitted that the term uric acid poisoning has answered as an explanation of a good many things which we did not understand. It is a notable fact that as we know more of any subject we are less likely to seek for an explanation of any obscure condition from this source. It is safe to claim that uric acid does not offer an explanation of chronic catarrh of the nose, throat and ears, and that we must seek for other etiologic factors. The question is what other diseases do have an influence. The diseases which we shall discuss are perhaps not all that may serve as etiologic factors, but will give an indication of what we have to deal with and of some things that had better be let alone so far as we are concerned.

Syphilis and tuberculosis we have always with us, and when the lesions are located in the upper air tract they may very properly be treated by the specialist. Nephritis and diabetes, as well as leukemia, may have local manifestations in the nose, throat and ears, but the only relief which these patients obtain is from the treatment of the general condition.

The sequelæ of the diseases of childhood, the eruptive fevers, influenza and pneumonia, may include not only suppurative diseases of the ears, but also catarrhal disease of the upper air tract. If we were able to trace most of the cases of catarrhal disease of the upper air tract to their source, I believe that we should find that most of them originated in the diseases of childhood or in the infectious diseases. It is believed by many otologists that most of the cases of ear disease originate in childhood, and that if a person escapes ear disease until he is 20 years of age that he will, barring accidents, escape during life. I believe that the same statement holds true in regard to the catarrhal diseases of the nose and throat. Included in the list of accidents are the inflammations which may occur during the course of the infectious diseases. It is worthy of note that persons with perfectly healthy upper air tracts are not so liable to these accidents as are those who already have disease there. These sequelæ furnish by far the largest class of cases with which we have to deal.

It has been claimed that anemia and malnutrition from whatever cause are potent factors, but how far this is so is a mooted question. It is, however, extremely doubtful if they ever act as a primary cause. Disease of the upper air tract is often a potent cause of malnutrition, but it should not be forgotten that malnutrition and catarrhal disease may be associated in the same patient without either having a direct bearing on the other. It is often a very complex question which we have to decide, still it is always well to bear in mind that catarrhal disease may be, and often is, a source of ill health.

It has been claimed that there is no special pathology for aural disease, and the same may be said in regard to the diseases of the nose and throat, but, notwithstanding, we have in the chronic diseases of the nose, throat and ears a condition which, with one exception, we do not find in other parts of the body. This peculiarity is not due to a different etiology or pathology, but rather to the anatomic construction and the functions of the regions under consideration. The acute inflammations are due here, as in other parts of the body, to bacterial infection, and the chronic conditions are the sequelæ of the acute attacks. The exception noted above is a disease of the ribs following pleural empyema, which closely resembles that most hopeless of all ear diseases, spongifying degeneration of the labyrinth. The disease of the ribs is undoubtedly the sequel of the pleural inflammation, and, for anything that we

know to the contrary, the disease of the temporal bone may be the sequel of an acute inflammation. In fact, we know hardly anything about the disease as yet, except that we are able to recognize it and have studied the condition of the bone after death. So far, any treatment which has been employed has been absolutely without effect, and this does not argue an extensive knowledge of the disease.

Progressive deafness is rarely influenced by rheumatism, and almost never associated with deforming arthritis. Patients with progressive deafness are not more liable to have deforming arthritis, and patients who suffer from deforming arthritis rarely ever have trouble with their ears. It would seem that the two diseases should be more often associated if there were any connection between them.

We have to deal with a disease which is persistent and often progressive, and one that does not depend on the systemic condition only in a general way, at least we are not able to claim that it depends on any definite systemic condition. To what, then, can we ascribe the chronicity of these cases? The explanation of this is found chiefly in the anatomic construction of the parts. We have here a large number of cavities which, when once they are infected, are not easily healed. Spontaneous recovery is slow because the drainage is not good even when there are no deviations from the normal anatomic construction, but we often have to deal with more than the usual amount of obstruction either by reason of faulty construction of the parts or as a result of disease. If we add to these causes focal disease within the cavities and the difficulty and often impossibility of direct treatment of the cavities we shall find a sufficient explanation of why these cases run a protracted course.

From all this I do not wish to be understood, for a moment, as claiming that it is not necessary for the specialist to have a thorough knowledge of general medicine. The more medicine the specialist knows the safer patients will be in his hands, and it is not only necessary to be a thorough student of medicine, but it is also necessary to have practiced general medicine. The practice of general medicine broadens one medically and intellectually, and while it is true that when he enters special work he soon loses that delicate touch with general medicine which enables him to form a true estimate of the general health, still he never grows so narrow medically or mentally as he would have done if he had never had the practical training in general medicine. Those who have become good physicians before they become specialists are not usually the ones who attempt to treat the general condition, because they realize how difficult it is for one who is out of touch with general medicine to make a diagnosis of the systemic condition. We have, then, so far as we are concerned, a local condition with which to deal, and we shall be doing a service to our patients when we refer them to their family physicians for treatment of any condition of ill health which may exist. If, however, the local disease is caused by the systemic condition, I can not help feeling that the patients are in a serious situation, because the specialists, as I have attempted to show, are out of touch with general medicine, and are, therefore, unable to treat successfully the general health, and the general practitioner, either from lack of training or because he is too busy, can not carry out the local treatment which experience has shown is beneficial in these cases. The ideal specialist would be the general practitioner who has had a thorough training in that particular branch of special work, but it is hardly possible, under present conditions, for such a one to receive the support of the profession. If we keep constantly before us the fact that all special work is only an adjunct to the work of the family physician and labor intelligently with him for the single object of relieving our patients, we shall have the satisfaction at least of knowing that we have done all that it is possible for us to do for them.

DISCUSSION.

DR. SARGENT F. SNOW, Syracuse—The relation between systemic disorders and local affections of the head is one of the points that determines the success of the treatment of chronic catarrhal affections. A specialist who treats chronic catarrhal affections of any organ and does not recognize the influence of systemic conditions, is in a bad way, and so are the patients that may come under his care. I thoroughly agree with Dr. Cobb that there are many things to prevent the specialist from doing for these patients as he would like, but he must not be too technical and draw his lines too fine. It has been my experience that no case of advanced deafness or advanced catarrhal states depends on local conditions alone. A bad case of catarrhal disease of the ears or throat is probably associated with some systemic disorder or some great fault in personal habits. Bad liver and intestinal disorders will produce congestions of the head membranes just as surely as will bad habits and exposure of the body or keeping the skin tender by hot baths, etc. Local morbid nasal states must be taken care of, but on that alone we must not rely if we expect to help our chronic cases.

DR. GEORGE E. SHAMBAUGH, Chicago—I agree heartily with the essayist. I believe medicine has to-day arrived at a point where no man can understand all about medicine. Internal medicine itself is just as much a specialty as is the study of the nose, throat and ear. We usually discredit a man who presumes to treat all the specialties as one who goes beyond his bounds and can not do anything thoroughly. So the specialist who attempts to treat general diseases makes a mistake. I believe it is best to be in very close relation with the family physician in these cases. The better class of general practitioners recognize specialism and heartily co-operate with us in our work.

DR. D. A. KUYK, Richmond, Va.—In the future we will have fewer ready-made specialists than we have had in the past; they have been chiefly the result of faulty instruction in the colleges. As our knowledge increases our courses increase and become more intensive. I impress on my students the importance of thorough medical knowledge. A man should not undertake to practice a specialty until he has had from five to ten years of general medical practice. Then, when he finds his adaptability to a specialty, he may go into it. The specialist of the future will be a better prepared man. I look on these local conditions largely as manifestations of general conditions. No medicine can possibly approximate the result we get in many cases from exercise. If we keep our oxygenation, combustion and elimination in good condition, we will often be able to defy the micro-organisms.

DR. W. SCHEPPEGRELL, New Orleans—The trouble is not so much that the general practitioner attempts to practice this specialty as it is that he ignores it. As an illustration, a child had been treated eighteen months for malarial fever, of a recurrent type and had been given quinin in large quantities and had been sent to places where malaria did not prevail, all to no avail. She had a discharge from the nose, and when the patient came to my office I removed a rhinolith which had caused considerable irritation of the tissue of the nostril, and the discharge of pus and from its absorption, the fever. The child was well in a few days. On one occasion I was about to perform a tonsillotomy. The child was very nervous and had some symptoms of fever. I asked if the child had been ill, but was told that it was only nervous. The nurse found the temperature 101.5 F. I declined to operate. I did not see the

mother until three weeks later. She then told me that the day following the visit to my office, the child's face enlarged with mumps. If I had operated the swelling would have been ascribed to the operation and not to the mumps.

DR. CHARLES H. BAKER, Bay City, Mich.—Undergraduates have not had proper training in the specialties. The general practitioner is not sufficiently alive to those conditions, which —if he recognized them even though he did not treat them— would redound to his credit and would strengthen him. Frequently men have sent cases to me without a diagnosis or with a diagnosis as likely to be wrong as right. But the general practitioner makes himself stronger in the esteem of his clients when he recognizes these cases and sends them to the specialist. The men who are the most successful practitioners are also the men who are in the closest touch with the specialists. Sometimes cases are sent by men who are absolutely incapable of giving the necessary general treatment, and then it becomes a very serious question whether we should overstep the bounds of our specialty that treat the general conditions when necessary. In such cases, if I had sufficient influence with the general practitioner, I give him suggestions along from time to time but do not hesitate to give the patient necessary treatment to secure results.

DR. O. JOACHIM, New Orleans—Just as we need the knowledge of general surgery, we need also a knowledge of general medicine in order to treat the general conditions of these cases. I have found, as has Dr. Cobb, the greatest willingness on the part of the physicians to second our efforts, and they are glad to have us make suggestions and give them points, and sometimes to the betterment of the patient they can show us points. I have known patients to leave the specialist, and under general treatment by the general practitioner receive benefit which the specialist was not able to give. The laity and the physician often speak of "catarrhal" diseases, which is a very unmeaning term. We have more precise terms than "catarrhal diseases," and we should eliminate this term as far as possible from our discussions, except when referring to the diseases to which a catarrhal process strictly relates.

DR. H. W. LOEB, St. Louis—Of course, the more knowledge a man has before he becomes a specialist the better he will be. A few years ago I looked into the general treatment of chronic pharyngitis and found some thirty different plants. The majority referred to the treatment of the stomach. Then I looked up the treatment of the stomach diseases and found a great number of conditions which I did not understand, and concluded that I for one could not treat the general condition in these cases intelligently. I am sure Dr. Cobb feels as I do, that there should be considerable limitation in the treatment of the general condition. The point especially to be brought out is, not that the general practitioner does not send to us the cases often enough but rather that we do not send our cases to the general practitioner often enough. In that way we often fall into error.

DR. CHARLES W. CRUMB, Utica, N. Y.—This question is of great importance to me, because with a large country district surrounding, I have many cases sent by the general practitioner. In some cases I have a great deal of trouble with the general practitioner. For instance,, take a case in which I am sure there is a specific element, if I say to the general practitioner that it is a specific case, he will often say that he knows from the history that it is not. Often we can not impress on them that certain cases are specific. What shall we do? Shall we let the patients go back and have recurrences or shall we treat them?

DR. GEORGE L. RICHARDS, Fall River, Mass.—I think it is entirely a question of tact and common sense. When the patient comes to me for treatment he is entitled to the best I can give him, and if that requires a correlation with the general practitioner he ought to have it. But many cases come to the specialist of their own accord. Sometimes other things than spraying are required, and if a prescription is necessary I think he ought to have it. The patient has some rights and he should not be required to go back to the general practitioner for a prescription and pay two fees. The general practitioner is in the best of relations with me and we work together. But if I find a general condition accounting for the nose or throat condition, I frequently prescribe for it. But, of course, I would not treat general conditions, such as mumps, etc. Nor do I send every case to the general practitioner for a dose of calomel when that is required. When you have a case sent to you for diagnosis and initial treatment you are compelled to return the case to the general practitioner, by the requirements of ethical conduct. A little tact and common sense will take care of this whole subject, and it seems to me we are largely threshing a man of straw here.

DR. C. M. COBB, Boston—The statement of Dr. Richards does not seem to cover the ground. We are often told that the catarrhal diseases, at least in certain cases, depend on a constitutional disease or condition. We want to know just what it does depend on, what the constitutional disease or condition is. Unfortunately there is too often a feeling of distrust on the part of general practitioners toward the specialists. They consider them to a certain extent rivals in business. The patients do come to the specialists often of their own accord and the specialist will give them general treatment, for instance, a dose of pepsin or something for indigestion and they will be all right. Now, are we justified from the simple statement of the patient to go ahead and prescribe for him? I do not think we are. Not long ago a man came into my office with some trouble with his nose and throat and I found he had too much other trouble, and I asked his family physician's name and sent him to his physician. Another patient came to me and I treated him once and he recovered. He came back again because of pain, but I could find nothing in the way of a local disease, and I sent him to his family physician with a note saying that something was poisoning the patient, but I did not know what it was. The physician later told me that it was a case of malaria. I do not suppose that would occur here, but it did occur in Massachusetts. The trouble with the specialists, as well as with the general practitioners, is that they often attempt to do things they can not do. In one case I was firmly convinced that the patient had hay fever. She came once or twice. Later I saw the family physician and he said she had had convulsions, and an examination of the urine showed chronic nephritis, from which she died. If she had complained to me of anemia or some condition of the stomach I might have given her something that possibly would do no harm or that possibly might have done harm. If the general practitioner will say it is a simple case, all well and good, but if we are to say a case is simple or serious it is a very different thing. The patients often say that they have such and such a physician for simple things, but if there is anything serious they have somebody else. I do not know how they determine whether it is a simple or a serious disease. Ninety per cent. of our cases are of local origin, if we take out of consideration syphilis, tuberculosis and the malignant diseases. Often it is better for us to look the cases over, for sometimes the general practitioner may make mistakes. But he is not so likely to make mistakes about the general conditions as we are. Of course, we all at times make mistakes. Sometimes the patients come to me and say they have no confidence in their general practitioner. I think the specialist will do better if he will stick to the patient's family physician, for it is not our business to pick out their family physician. We should remember that catarrhal disease means no particular disease. After the local disease is treated, usually the diathesis or catarrhal disease disappears.

A Case of Nutmeg Poisoning.—According to *The Lancet*, a young woman took, to restore the menses, a whole nutmeg grated in a wineglass of gin. The monthly flow had been delayed two weeks, and the patient feared pregnancy. Convulsions ensued and the patient was found in collapse by the medical attendant. General condition began to improve in about an hour after treatment was begun; her stomach was thoroughly emptied. She remained in muttering delirium for one night, slept heavily the next day and awoke fully recovered.

THE EARLY MANIFESTATIONS OF LARYNGEAL TUBERCULOSIS;

THEIR FREQUENCY AND TREATMENT.*

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The early rather than the late manifestations of laryngeal tuberculosis are chosen for consideration because the lesions of the advanced stages are self-evident, and our services to such unfortunates are but meager and palliative, while the earlier lesions are more difficult of recognition, but may be, by perseverance, occasionally checked and possibly eradicated.

It is not the scope of this paper to discuss the etiology of laryngeal tuberculosis, nor whether it is occasionally primary or invariably sequential to pulmonary tuberculosis, nor whether, as a sequela, the invasion is endogenetic or exogenetic, but rather to consider the pathologic changes prior to the ulceration.

It has been my custom to examine the larynges of subjects of pulmonary tuberculosis with a view to ascertaining the condition of the larynx prior to the characteristic tumefactions and infiltrations. The great majority of these subjects have a subacute or chronic laryngitis which does not differ in laryngoscopic appearance from a laryngitis of diathetic or climatic cause. There is either uniform thickening of the mucosa or an irregular thickening and hyperplasia of reddish hue of the ventricular bands and arytenoid commissure, presenting dilated blood vessels and covered with thick, grayish mucus. This laryngitis persists notwithstanding the ordinary treatment for such conditions and is principally dependent on the tubercular dyscrasia. The fact that such larynges are often constantly irritated by pus may be a most potent factor causing its persistence.

Notwithstanding the opinion of Bosworth to the contrary, there seems to be ample proof that the laryngitis in pulmonary tuberculosis is predisposing to the laryngeal tubercular invasion, although the laryngitis itself is probably due to the tubercular dyscrasia and the concomitant cough. Solis-Cohen says that "a predisposition to catarrhal inflammations of the mucous membrane may be regarded as the chief cause of laryngeal tuberculosis," that "many of the chronic cases begin with subacute catarrh which can not be distinguished as peculiarly precursory to laryngeal tuberculosis either by subjective symptoms or by laryngoscopic inspection," and that "in the primitive cases a severe exfoliative laryngitis is the direct predisposing cause" and affords entrance to the tubercle bacillus.

This chronic laryngitis, neither pathognomonic nor characteristic of tuberculous laryngitis, is, nevertheless, the initiative step in the great majority of cases to that lesion, and should be considered as possibly leading to a serious complication in any pulmonary case. We would concede the fact that there may often be a laryngitis in a tubercular patient from other diathetic cause, bearing no sequential or etiologic relationship to the tuberculosis, and also that even many such ulcerative larynges are non-tubercular.

In keeping with the foregoing it has been my observation that three-fourths of the pulmonary patients have some nasal stenosis, and seemingly at variance with the opinion of Fletcher Ingals that the nasal catarrh protects rather than predisposes to pulmonary tuberculosis is the fact that the majority of the laryngeal cases have septal or turbinate deformities.

The acute form of laryngeal tuberculosis usually begins when softening has taken place in the lung and when the laryngitis has reached its crisis. Anemia of the parts is not present and the first sign is a hyperemia which may last days or weeks, following which are the multiple erosions on the laryngeal surface of the epiglottis and arytenoids with, or soon to be followed by, tumefaction in the epiglottis or aryepiglottic folds. These erosions may simulate very closely aphthous ulcerations and are distinguished principally by their multiple character. They eventually enlarge, grow deeper and coalesce, and may precede or occur on a tumefaction, or the latter may develop and remain without an erosion or ulceration.

The chronic form usually begins with an anemia in the arytenoid commissure, arytenoid bodies, ventricular bands or epiglottis, and presents a homogeneous and smooth yellowish-gray color of the intumescent membrane. There may be the so-called mottled appearance caused by spots of deeper hue. This pallor may be a part of a general anemia, and is sometimes present throughout the respiratory tract unassociated with any laryngeal lesion. In either form the parts become thickened early, presenting an infiltrated interarytenoid space, a club-shaped arytenoid or a turban-shaped epiglottis, and later there is sometimes thickening of the parts adjacent to these, especially if there are subacute attacks of laryngitis. An infiltrated ventricular band may obscure a portion of a thickened and congested cord or the latter may be involved in the general pallid edematous condition and yet show in contrast congested blood vessels. The bands may show a nibbled appearance of their edges, and the same may be true of the cords, especially on and near the processus vocalis, where the condition is difficult to detect.

The local subjective symptoms of the early stages may be wanting or simply those of a chronic laryngitis. There is usually a hacking cough, pricking, itching and dryness of the throat, hoarseness and later aphonia and occasionally dysphagia. The cough is distinctly laryngeal unless the repeated hackings induce a spasmodic and expulsive deep cough, but the effort is primarily to free the larynx from the tickling and dry sensation.

The impairment of the voice depends on the nature, location and extent of the lesion. In the chronic cases there may be constant hoarseness which may tend to clear up after a meal, or the drinking of liquids, and yet a large per cent. shows no hoarseness in this stage. If the lesion is in the interarytenoid space there sometimes occurs a diphonic voice.

The pitch limits are also affected, but usually the upper suffers more than the lower. The volume may be markedly affected, the immobility of the parts necessitating a forced expiratory act to start the cords vibrating, and even then weak phonation results. One or more words of a sentence may be whispered.

Odynphagia is seldom present in the pre-ulcerative stage, but may occur when the epiglottis, aryepiglottic folds, or the posterior portions of the larynx are involved.

The diagnosis of secondary laryngeal tuberculosis depends on the tubercular history, symptoms and signs. A persistent, chronic laryngitis with the supervention of hoarseness or a weakening of the voice is always suspicious. In the primary cases the attack usually dates

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

back to a severe cold, and the hoarseness is more marked than in the secondary cases. In any case, while the symptoms are of value, the diagnosis will mainly depend on the laryngoscopic appearance. Von Ziemssen doubts the possibility of recognizing the lesions laryngoscopically, yet Lennox Browne considers the laryngeal picture as characteristic. A tubercular lesion presents an infiltration of the mucosa proper, an exsanguination and a diminished secretion. The color is a shining grayish or yellowish pink and the location is usually in the interarytenoid space, arytenoid bodies, ventricular bands, epiglottis and vocal cords. The interarytenoid space at first shows only a thickening, but later a roughened convexity anteriorly. The arytenoid bodies and aryepiglottic folds become club-shaped to the extent of obliterating the Wrisberg and Santorini prominences. The infiltrated ventricular bands may obscure the ventricles and often cover the cords, and the latter, especially the processus vocalis, quickly become congested and nibbed by erosions. The turban appearance of the epiglottis seldom appears in the early stage, but usually follows after other parts have broken down.

The evening pyrexia, anorexia, small and rapid pulse and cough assist in diagnosis.

The presence of the tubercle bacillus can not be regarded as of diagnostic value except as being indicative of a lesion somewhere along the respiratory tract.

The course of the disease depends much on the general condition, the extent and course of the pulmonary lesion, if such exists, the nature and location of the laryngeal lesions, the co-existence of syphilis, and on the treatment. The acute and miliary forms are rapidly fatal. The prognosis in the chronic cases is also, of course, unfavorable. As a rule, the laryngeal condition keeps full pace with that of the lung. In a few cases under favorable conditions and where the physical resistance is good the infiltrations or even the tuberculomata may remain indefinitely or disappear, especially under persistent appropriate treatment and climatic influence.

Of the greatest importance is prophylaxis, especially in those suffering from pulmonary tuberculosis. Aside from the general treatment indicated for the tubercular dyscrasia, there should be, at intervals not exceeding one month, a careful laryngoscopic examination made and, at the first indication of a laryngitis, appropriate treatment should be begun. By this is not meant a routine spraying, but each patient having anything but a normal larynx should have whatever treatment may be necessary for the condition present. Fewer laryngeal complications to pulmonary tuberculosis would ensue if this were done.

Overuse of the voice, faulty phonation and needless hacking and scraping the throat, much of which is a habit rather than a necessity, invite the inflammation.

Nourishment is of prime importance, and to this end forced feeding within physiologic limits, with moderate open air exercise and abundance of sunshine is necessitated. The greater part of the twenty-four hours should be spent out of doors. Regulated long hours of sleep in a cold, southern-exposed room with open windows, barring direct drafts, are essential.

The effect of climate is disappointing as directly influencing the local lesion, but indirectly, acting on the general predisposition, is second in importance to nourishment. The greatest number are benefited by a climate of moderate temperature and of medium hygroscopic conditions, in an elevation from 2,000 to 3,000 feet. Air free from dust and gases of the cities, purified by moderate winds and rainfall and an abundance of sunshine has proven beneficial to many having laryngeal complications in whom the process is either arrested or cured. The warm, moist climate of lower elevation is better suited to a few who are not enervated thereby.

The voice should be completely suspended in the acute form or during an acute exacerbation of a chronic case. To facilitate this, which is difficult to accomplish, a pencil and pad should be used by the patient and his necessary communications written thereon, and during the greater part of the day he should be left alone, thus eliminating the temptation of speaking. In the less severe cases moderation of the voice and in the amount of speaking should be insisted on. In no case should singing or reading aloud be permitted. Many patients have a faulty mode of speech specially fatiguing to the larynx. The effort is laryngeal rather than from the chest, and often an affected voice from habit must be contended with.

There is too much routine spraying and inhaling treatment in vogue, throwing into the larynx variously combined oils and liquids, many of which are not only non-solvent but actually coagulating to the secretions and instead of cleansing and soothing often form a tenacious, irritating mucous coat nauseating to the patient. The principles of treatment are not unlike those in other lines of surgery, cleanliness being the prime factor. If the parts are covered by tenacious mucus or debris a bland solvent such as a solution of sodium bicarbonate, sodium chlorid, sodium biborate or sodium sulphate should be gargled, sprayed or applied on a cotton sponge thoroughly but quickly with the least possible irritation to the parts. The patient should not be requested to assist in dislodging retained secretion by repeated coughing or hawking for the effort is too fatiguing for an organ needing rest and induces hyperemia. After the cleansing process, the inflammatory condition should receive such treatment as is indicated, and usually astringents, solutions of zinc chlorid, tannate of glycerin, creosote and iodin, pyoctannin and silver nitrate on a cotton swab are most efficient.

Any pathologic condition of the nose and pharynx should receive appropriate treatment. Not only that the pulmonary patient may be able to supply his lungs plentifully with air, but that the larynx may be the recipient of air properly warmed, filtered and moistened, every nasal and pharyngeal stenosis should be reduced, and to this end no moderate degree of cachexia will contraindicate the removal of septal spurs, or deflections, hypertrophied turbinates and adenoids, for the increased oxygenation will more than compensate for any debilitation resulting therefrom. Such measures are to an extent prophylactic to tubercular laryngitis.

There is much diversity of opinion as to the indications for local treatment of the pre-ulcerative conditions. Theoretically, stimulants to the anemic and sedatives and astringents to the hyperemic areas are indicated, and my clinical experience conforms to this. Where there is a general anemic condition of the larynx and a beginning tumefaction, a stimulating spray of 20 per cent. menthol in liquid vaselin, or 50 per cent. guaiacol in olive oil will tend to restore the capillary circulation. Propelling sprays with hot instead of cold air adds to their efficiency.

As the tumefaction advances an application of iodin, creosote and potassium iodid in glycerin and water often has an absorptive action. The erosions and incipient ulcerations respond better to strong solutions of lactic acid than to any other application. Creosote 20 per cent. in albolin, pyoctannin and iodoform powder are also effective. It is needless to say that the mirror should guide the hand in all applications.

Intralaryngeal injections often serve well for both the general dyscrasia and local lesions.

Submucous injections have not with me proven satisfactory. The method of scarifying the tumefaction is, I believe, contraindicated. In certain selected cases where the infiltration is localized and accessible, especially in the so-called primary cases, thorough curettement followed by carbolic acid or lactic acid is permissible.

DISCUSSION.

DR. M. P. SCHUSTER, El Paso, Tex.—I am located in a place that is supposed to be inimical to this condition, and I have about fifty cases. The cough and the dyspnea are very great in these cases. While the average expectation of life in tubercular cases has been given as three years, laryngeal tuberculosis reduces it to two years. There is a premonitory stage without laryngoscopic symptoms. I have seen two cases in which I was sure tuberculosis was coming on, but I could not establish this by microscopic or laryngoscopic examination. Later the trouble became manifest. In a young man the only manifestation was that he would have a severe spell of coughing, resembling the staccato cough of whooping cough. Sometimes its intensity would lead to vomiting. I was very much gratified to find this fact emphasized in Brouardel's "Traité de Médecine," that a cough with only a small amount of expectoration, accompanied often by vomiting, should lead one to suspect tuberculosis. I have the impression from the literature and my own experience that there is very little primary tuberculosis in the larynx. If it is present it does not produce those infiltrated and deeply ulcerated spots but only little nummular ulcerations that are more amenable to treatment. I was glad to hear Dr. Briggs state that the appearance is hyperemic, for the books often say it is anemic, and my experience is that it is more often hyperemic. The dysphagia comes on most frequently when there is involvement of the posterior periphery, especially the club-shaped infiltration of the arytenoid bodies and also in the infiltration of the interarytenoid fold. After treating patients for four years and trying to avoid local treatment, I have come to the conclusion that we had better treat locally because there is considerable relief secured. For instance, in dysphagia, the dusting with orthoform will enable patients to take their meals. I would like to know Dr. Briggs' proportion of cures. In the literature and in my own experience cures are exceptional. The ulcerated cases are more amenable to treatment than the cases with unbroken surface. You can cure up an ulcer with the persistent use of lactic acid and the curette, usually, but it is not a cure of the laryngeal trouble, for it recurs somewhere in the larynx. The most hope of absolute cure may be entertained where the lung process has stopped definitely.

DR. H. H. BRIGGS—Of course, in the strictest sense of the word, I believe no case is cured. But with close observation and control of every detail one may enable a patient to live almost indefinitely—at least in many cases, for a number of years. In such cases there usually remains cicatricial tissue, tumefaction or tuberculomata, which under lowered vitality and unfavorable conditions may break down.

Dietetics.—The feeding of patients is really as important, if not more important, than the drugging; yet the majority of medical students have to learn their dietetics in the school of bitter experience. The physician must utilize better the so-called forces of nature, and see to it that all the details of the patient's food and environment work for recovery.—*Jour. Kan. Med. Society.*

THE VASOMOTOR SYSTEM OF THE PULP.*

EUGENE S. TALBOT, M.D., D.D.S.
CHICAGO.

In 1733 Stephen Hales[1] first published the idea that small arteries changed their caliber. He devised the following ingenious experiment: Tying a brass tube into the aorta of a dog and employing a head pressure equal to the normal aortic tension he injected water and measured the outflow per minute from the divided vessels of the intestines. He found that cold water diminished the flow, while hot water increased it. He also showed (by the action of drugs) that one set of agents contracted the vessels and lessened the outflow, while another set widened the vessels and increased the flow.[2]

The chief dominating center of the non-striped muscles of the arterial system with motor nerves (vasomotor, vasoconstrictor, vasohypertonic) lies in the medulla oblongata. The nerves which pass to the blood vessels are known as the vasomotor nerves. Without mentioning the experiments which have been made, I might say, in a general way, stimulation of this nerve center causes contraction of all the arteries, resulting in great increase of the arterial blood pressure and swelling of the veins of the heart. Paralysis of this center causes relaxation and dilation of all the arteries, resulting in an enormous fall of the blood pressure.[3]

The sympathetic nerves consist of two chains of ganglia, one on each side of the spinal cord. Their function is to stimulate the viscera, glands, heart, blood vessels and unstriped muscles of the body generally.

There are four small ganglia[4] connected with the fifth nerve: the ophthalmic, sphenopalatine, otic and submaxillary. Each has three roots derived from motor, sensory and sympathetic nerves, respectively, and varying members of branches of distribution. These cells are multipolar, thus resembling the cells of sympathetic ganglia and differing from those of the ganglia of the posterior spinal nerve roots and gasserian ganglion.

Each ganglion is a reddish-gray color, soft in consistence but enclosed in a strong fibrous sheath. It is connected above and below by an ascending and a descending trunk and with at least one spinal nerve by one or two communicating branches. Each ganglion distributes different branches which either directly or through the intervention of a secondary plexus supply blood vessels.

The second or superior maxillary division of the fifth pair of nerves gives off the posterior superior, middle superior and anterior superior dental nerves. These three nerves form a plexus and loops of filament which pass to the tips of the roots to form the dental pulp. The third division of the fifth, the inferior maxillary, a mixed sensory and motor nerve, enters the inferior dental canal, passing forward toward the symphysis menti supplying branches to the teeth and gums.

The gasserian ganglion receives filaments from the carotid plexus of the sympathetic. Connected with the fifth are the four small ganglia already mentioned which form the whole of the cephalic portion of the sympathetic. With the first division is connected the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

1. Statistical Essays, 1733, vol. xi.

2. A history of some of the experiments from this period to the present time may be found in Text-Book of Physiology of E. A. Schäfer.

3. Landois and Stirling: Human Physiology.

4. Gerish: Anatomy.

ophthalmic ganglion, with the second submaxillary ganglion. All the four receive sensitive filaments from the fifth, motor and sympathetic filaments from various sources. The ganglia are also connected with each other and the cervical portion of the sympathetic.

According to the "American Text-Book of Physiology," the vasomotor apparatus consists of three classes of nerve cells.[5] The cell bodies of the first class lie in sympathetic ganglia, their neuraxons passing directly to the smooth muscles in the wall of the vessels; the second are situated at different levels in the cerebrospinal axis, their neuraxons passing thence to the sympathetic ganglia by way of the spinal and cranial nerves; the third are placed in the bulb and control the second through interspinal and intercranial paths. The nerve

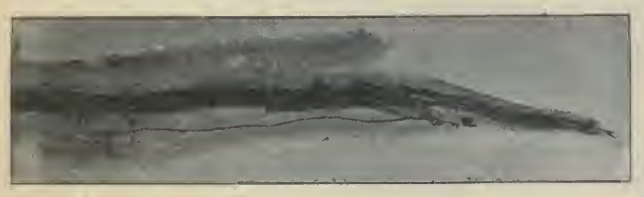

Fig. 1.—Nerve fibers torn from main nerve trunk and entering the canal through the apical foramen. ×50.

cells of the first class lie wholly without the cerebrospinal axis, the third wholly within, while the second is partly within, partly without, and binds the remaining two together.

The vasomotor fibers for the face and mouth have been found in the cervical sympathetic by Dastre and Morat, leaving the cord[6] in the second and fifth dental nerves and uniting (at least for the most part) with the trigeminus by passing, according to Morat,[7] from the

Fig. 2.—Bundles of nerves in the pulp showing vasomotor system. Nerve fibers encircling an artery showing terminals. ×50.

superior cervical sympathetic ganglion to the ganglion of Gasser and thence to the fifth nerve. The nerves of the cerebrospinal system, with the exception of the olfactory, are medullated nerves.

The vasomotor nerves are axis cylinder processes of the sympathetic ganglion cells. They follow for a time the course of the corresponding spinal nerves. Intermingled with the medullated fibers are always found gray or non-medullated fibers. According to Schäfer,[8] these fibers frequently branch; the medullated fibers rarely do except near their termination. The sympathetic nerves are largely made up of these fibers as they approach their peripheral distribution and possess a thin medullary sheath.

From what has been said it will be seen the intimate relation of the fifth nerve is as a motor nerve in mastica-

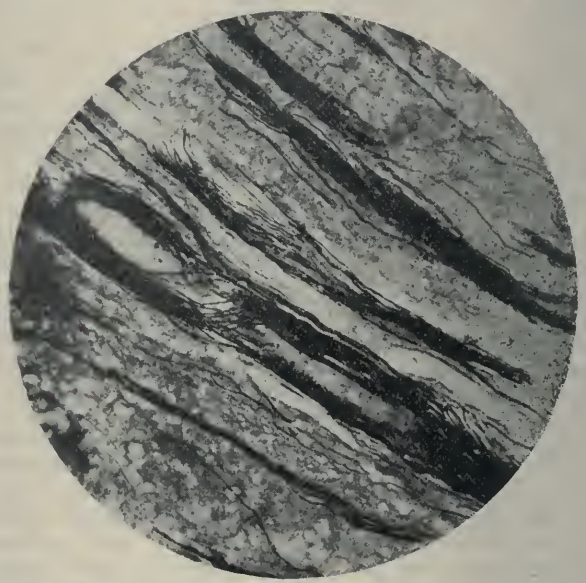

Fig. 3.—Bundles of nerves in the pulp showing the vasomotor system. Crossing of nerve fibers from one bundle to another. These extend along and around blood vessels. Degeneration tissue at lower border. ×50.

Fig. 4.—Bundles of nerves in pulp showing vasomotor system. Nerves around a crosscut artery. Y-shaped artery in center showing terminals. ×50.

tion and a sensory nerve to the great surface, both external and internal, which belongs to the face and the anterior part of the cranium. From its great size and the large portion of the medulla with which it is connected, there can be no question but that its sympathetic and vasomotor connection is established.

The nerve trunks as they pass through the lower jaw are made up of nerve fibers gathered together into bundles or funiculi, held together by connective tissue and

5. By "nerve cells" is meant the cell body, with all its processes, namely, the neuraxons or axis cylinder processes and dendrites or protoplasma processes.

6. Dastre and Morat, 1884, pp. 110-120.

7. Morat, 1889, p. 201.

8. Essentials of Histology, p. 118.

called the perineurium. The connective tissue which unites a number of the bundles or funiculi is called epineurium. The cut ends under the microscope resemble very much the end of an ocean cable; the wires representing the nerve fibers, and the rubber covering the connective tissue sheaths.

Fig. 5.—Bundles of nerves in the pulp showing the vasomotor system. Five arteries with nerve fibers running lengthwise, also cross and long section of artery with nerve fiber around it. Thickening of arterial walls showing terminal nerve fibers. ×50.

From this nerve trunk smaller medullated nerve fibers are given off at the nodes of Ranvier which pass up and into the apical foramina of the roots of the

Fig. 6.—Bundles of nerves in pulp showing vasomotor system. Nerve extending along the arterial wall. At right angles may be seen the muscular coat of an artery filled with terminal nerve fibers. ×60.

teeth. Sometimes there are two and again three or ten to twenty-five nerve fibers entering the foramina. The number depends on the size of the opening. In my paper last year on "The Evolution of the Pulp" I demonstrated that in animals whose teeth were in continuous eruption during the life of the animal the pulp was larger at the opening than in the pulp chamber. In ascending to man the second teeth have small openings, especially later in life. In the very nature of things as the root calcifies, especially in exostosis, the openings grow smaller. The number of nerves entering the foramina, then, will depend on the size of the apical opening.

In a general way, the motor, sensory and the sympathetic nerves have been traced from their source to the roots of the upper and lower teeth. Text-books demonstrate the peripheral end organs to other structures of the body. In no case (to my knowledge) has

Fig. 7.—Bundles of nerves in pulp showing vasomotor system. Crosscut section showing ends of nerve fibers, also nerve encircling crosscut artery. ×25.

Fig. 8.—Bundles of nerves in the pulp showing the nervous system. These nerves extend to the odontoblastic layer. Small fibers running below and to the odontoblasts forming a nerve plexus. ×50.

the character of the nerves of the pulp been demonstrated.

At the meeting of this Section last year Dr. Vida A. Latham, in a paper, "Résumé of the Histology of the Dental Pulp," showed the nerve supply to the pulp in different forms and also one illustration of the vasomotor system of the pulp. Part of our special work in the laboratory this year has been to demonstrate the character of the nerves of the pulp.

Pulp study has been conducted by Dr. Latham and myself in different laboratories for the past four years. For this work teeth have been collected each day to the number of over 4,000. These have been cracked open and over 2,000 specimens of pulps have been placed in different fluids ready for cutting, staining and mounting for the microscope. All the different methods of preparation of nerve tissue have been used as reported by Dr. Anderson in a paper, "Notes on Pulp Technic."

The nerve fibers, after leaving the main trunk in the jaw, evidently enter the apical foramina in single nerve bundles. In many cases, these nerve bundles continue the entire length of the pulp without branching. On the other hand, the branching in many cases begins after the trunk nerves have passed through the apical foramina. In Figure 1, when the tooth was extracted the pulp protruded from the end of the root, the opening being large. In this illustration the nerve fibers are shown from the inferior dental nerve extending through the apical foramina in the root canal of the tooth. These seem to run in a bundle or funiculi with the exception of one fiber which is isolated at the root. Figure 2 shows bundles of nerve fibers loosely arranged running in different directions. Between these bundles may be seen many single nerve fibers running in all directions. In the center of the field is an artery cut crosswise with terminal fibers encircling it two-thirds around. Figure 3 beautifully illustrates the vasomotor nerves in their relation to the blood vessels. The blood vessels and nerves run in the same direction. In the center of the field may be seen four arteries. Nerve fibers are notably running the entire length between, but they cross and recross at different localities. Nerve fibers in bundles and singly cover the entire field. Figure 4 shows bundles of fibers with many single fibers throughout the field. In the center may be seen an artery cut lengthwise branching in two directions. The most interesting of all, however, is an artery cut crosswise with vasomotor terminal nerves encircling it. Figure 5 demonstrates the vasomotor system more thoroughly. In the center of the field may be seen nine arteries cut lengthwise and one cut crosswise. Bundles of nerve fibers run between the arteries and along the arterial walls. Nerve fibers are seen crossing and recrossing the arterial walls, sometimes in bundles and again in single terminal fibers. In the cross-cut artery a nerve fiber may be seen almost encircling it. Figure 6 shows enlarged artery cut lengthwise, while just below it may be seen an artery running toward it at right angles. In this artery only the outer surface is seen. In both arterial coats terminal nerve fibers are well shown. Figure 7 shows the ends of the nerve cut crosswise. An artery may also be seen with a nerve encircling it. Figure 8 illustrates the crown end of the pulp with a bundle of nerve fibers which have extended intact the entire length of the pulp and is distributing its fibers throughout the odontoblastic layer.

In consideration that the blood vessels and nerves pass through the pulp in a wavy direction and not in straight lines, to have been able to obtain so many beautiful specimens showing so clearly and distinctly the vasomotor system is fortunate.

I am under obligations to Dr. Ludvig Hektoen for verifying these illustrations and to Dr. Martha Anderson for valuable services.

DISCUSSION.

Dr. M. H. Fletcher, Cincinnati—The nerve distribution of the pulp is a subject that has been greatly neglected, and it is a matter of great pleasure to know that it has been taken up by such physicians as Drs. Talbot and Latham, because through these studies one may be able to find out why the pulp is so delicate in its tendency and recedes so easily from any attempt at investigation. The Doctor's work on the anatomy and distribution of the nerves about the vasomotor system will undoubtedly result in knowledge on points now obscure.

Dr. T. E. Constant, Scarborough, England—From clinical observation I have for some years been under the impression that the so-called odontoblasts have more to do with the vasomotor system than with dentinification. In my opinion, they have very little to do with the formation of dentin, excepting so far as regulating the blood pressure. They undoubtedly assist, but not in the direct manner in which most English dental anatomists have described.

Dr. T. L. Gilmer, Chicago—We are greatly indebted to Dr. Talbot for this work, and we must all be pleased with the success he has achieved. The facts are plainly shown by the photographs.

Dr. G. F. Eames, Boston—One can take clinical advantage of the idea Dr. Talbot has expressed. For instance, there is no place in the body where we can see the control of the nervous system over the tissues as much as in the nose. I believe that in many inflammatory conditions of the pulp we may control these conditions in proportion as we understand what treatment will influence the general nervous system. I have had a patient say: "When I am tired I have a pain in my tooth." I hardly realized at the time what that meant, but I can see now how exhaustion of the nervous system will so influence the control of the blood supply in that organ that it will be paralyzed and admit blood, and pain be caused. I can see also how in a subacute inflammatory condition a person whose nervous system has been exhausted may acquire a chronic state of inflammation in the pulp by these fibers being paralyzed, so that the blood vessels themselves become permanently stretched. Therefore these demonstrations have a clinical value.

Dr. Jules J. Sarrazin, New Orleans—I agree that the knowledge may be of great usefulness in a better understanding of physiologic pulp conditions. The paper reveals thorough research, but, in my opinion, we are not yet able to fully profit by the work, because we must arrive at a greater elucidation of the subject before the deductions which may be drawn therefrom may guide practical therapeutic application in the field of pathology.

Dr. Eugene S. Talbot—Six years ago, it occurred to me that a symposium each year on the dental pulp would be a valuable contribution. About thirty years ago I realized that there were conditions that assisted in the decay of the teeth other than those brought out by Professor Miller. My studies in degeneracy in this country and Europe have taught me that in degenerates decay of the teeth takes place more rapidly than in healthy individuals. The same thing is true in families of four or five children where all but one child is healthy. The teeth of the degenerate child decay more rapidly than those of others. I am now taking up the study of the dental pulp or of the nervous phenomena in decay of the teeth. To bring out what has been done in regard to the pulp, men from abroad who are specialists along certain lines have been invited to read or send papers. They have advanced ideas on certain subjects, and while they may not agree with each of us, yet many new and original ideas have been brought out. Such papers create a good discussion, and assist greatly in elucidating facts. My paper to-day, as I have said, covers work of four years. Mr. Constant has rather anticipated me in the work I have now on hand, which, I think, will bring out certain points in relation to the teeth as suggested by him, and I shall present it very soon. Had I undertaken this work ten or fifteen years ago it would have been impossible to have shown the pictures I have, because modern stains have developed an idea of the terminal structures of the nervous system which was impossible years ago.

THE TREND OF GYNECOLOGIC WORK TO-DAY.

A. PALMER DUDLEY, M.D.

Professor of Gynecology, New York Post-Graduate Medical School, New York; Professor of Gynecology, Dartmouth Medical College, Hanover, N. H.; Surgeon to Harlem Hospital.

NEW YORK.

(Concluded from p. 1452.)

EDWARD J. ILL, NEWARK, N. J.

Total number of cases	66	Left tube removed	25
Left ovary diseased	34	Right tube removed	24
Right ovary diseased	28	Appendectomies	3
Left tube diseased	40	Herniotomy (femoral)	1
Right tube diseased	33	Ventrosuspensions	20
Left ovary resected	13	Vaginal sections	2
Right ovary resected	14	Pregnancies	8
Left tube resected	14	Married	57
Right tube resected	6	Average age	30
Left ovary punctured	3	Recovered	35
Right ovary punctured	1	Improved	12
Left tube opened	4	Not improved	2
Right tube opened	4	Died	1
Left ovary removed	21	No report	16
Right ovary removed	17		

Dr. Ill's report shows most gratifying results, and his average of pregnancies reported (9 in 50 cases) compares favorably with my own.

JOS. E. JANVRIN, NEW YORK.

He quotes no statistics, but expresses a firm belief in the wisdom of preserving the function of menstruation as indispensable to the well-being of his patients.

CHAS. JEWETT, BROOKLYN.

Dr. Jewett, in a material of 62 cases of conservative surgery of the ovaries, etc., knows of but 3 cases of pregnancy occurring subsequently. He believes, especially in the case of young women, that any portion of the ovary which appears to be sound to the naked eye should be allowed to remain.

JOSEPH TABER JOHNSTON, WASHINGTON, D. C.

Dr. Johnston[3] advocated the conservative treatment of the diseased ovary before the Southern Surgical and Gynecologic Association, Dec. 6, 1898.

MATTHEW D. MANN, BUFFALO, N. Y.

Dr. Mann has seen pregnancy follow where the ovaries seemed at the time to be hopelessly diseased; not so with the tubes, however.

W. P. MANTON, DETROIT, MICH.

Number of cases	28	Ovary punctured not stated	4
Married	22	Left tube resected	0
Single	6	Right tube resected	1
Left ovary diseased	13	Left ovary removed	2
Right ovary diseased	23	Right ovary removed	5
Ovary diseased, not stated	4	Left tube removed	2
Left tube diseased	2	Right tube removed	4
Right tube diseased	5	Pregnancies	2
Left ovary resected or punctured	15	Cured or greatly improved, all but 2 or	3
Right ovary resected or punctured	20		

Dr. Manton reports a most interesting case in which he found a third ovary embedded in the vaginal wall at the cervico-vaginal junction. The cysts in this third ovary were removed by vaginal section. In nearly every case reported other plastic work on the genital tract was performed.

His results with two or three exceptions were entirely satisfactory.

SIMON MARX, NEW YORK.

Dr. Marx writes of an interesting case of pregnancy after practically all ovarian tissue had been removed in two consecutive operations.

ROBERT T. MORRIS, NEW YORK.

Dr. Morris has sent me a valuable communication on conservative surgery of the ovary, but as he deals almost exclusively with the question of implantation, I can hardly make use of it in this connection.

3. THE JOURNAL A. M. A., Dec. 17, 1898.

H. P. NEWMAN, CHICAGO.

Total number of cases	86	Required secondary intervention, per cent	20
Resection of ovaries	86	Pregnancies (3 abortions)	8
Recovery, per cent	60	Suspension of uterus or ovaries, per cent	50
Improvement, per cent	20		

Although guarded in his opinion, Dr. Newman is in favor of conservative work, and his report shows most gratifying results.

RICHARD C. NORRIS, PHILADELPHIA.

Total number of cases	42	Relieved by second operation, per cent	15
Controlled by statistics	28	Unimproved, per cent	35
Symptomatic recovery, per cent	20	Pregnancies (in 10 cases)	2
Improvement, per cent	30		

Dr. Norris has but recently read a paper on conservative surgery of the uterine appendages before the Lancaster County (Pa.) Medical Society. His experience in this field extends over some 8 years. The material is confined to hospital work.

Generally speaking, he is the most pessimistic of my correspondents in regard to conservative work. The results, he says, are often discouraging. There appears to be no definite relationship between the amount and character of intervention and the final result, which makes prognosis extremely difficult.

It must be borne in mind that Dr. Norris' views are based on a rather small material—28 cases.

C. D. PALMER, CINCINNATI.

Eighty-eight operations of bilateral oöphorectomy performed since June 30, 1899. All were hospital cases but 5.

Disease: Chronic catarrhal with some interstitial salpingitis, the vast majority of gonorrheal origin, a few only being septic.

Never operates on other than inflammatory cases.

Mortality 4 per cent.

Knows of no subsequent pregnancies.

In 3 cases menstruation persisted for some months and perhaps longer.

Abdominal section, usually preceded by curettage of uterus. Vaginal section in endometritis followed by salpingitis, but rarely did more than wash out cavity of lower peritoneum.

Dr. Palmer, in summing up the results of his work places himself on record as in favor of conserving the appendages, but insists that all the minor plastic work, including curettage of the uterus and even posterior vaginal section for drainage, should first be resorted to.

WILLIAM M. POLK, NEW YORK.

Dr. Polk has had experience with a very large number of conservative cases. According to his recollection, he has operated 273 times. In the absence of documental evidence, his figures are not counted with the actual totals. He only knows of 5 cases of pregnancy. Most of his material consists of charity cases from Bellevue Hospital.

In 1886 Dr. Polk read a paper[4] before the Society of Physicians and Pathologists at Washington in which the subject of conservatism was discussed.

M. F. PORTER, FORT WAYNE, IND.

Number of cases, over	50	Pregnancy	0
Resection or puncture of ovaries and tubes, per cent.	100	Results satisfactory; better in ovarian work.	

JOSEPH PRICE, PHILADELPHIA.

In a report of 100 cases of resection of the ovary it is stated that pregnancy followed in a good percentage of the cases. In some instances only a third or fourth

4. American Practitioner, vol. 1, and Med. Record, Sept. 18, 1886.

of the ovary was left. Dr. Price declines to resect the tubes, preferring to remove them entirely.

EDWARD REYNOLDS, BOSTON.

Total number of cases	8	Right tube resected	3
Left ovary diseased	3	Right tube punctured	1
Right ovary diseased	3	Left ovary removed	3
Ovary diseased not stated	2	Ovary removed not stated	1
Left tube diseased	6	Right ovary removed	3
Right tube diseased	6	Left tube removed	1
Ovaries resected	0	Right tube removed	2
One ovary punctured (not stated which)	1	Pregnancy	0
Left tube resected	5	Recovery (data in 3 cases only)	3

Dr. Reynolds holds the record with us in this country as a successful operator in cesarean section. The report of his cases does not represent more than 10 per cent. of the work he has done, but it is evidence sufficient that he is a thorough believer in conservatism in appropriate cases.

E. C. SAVIDGE, NEW YORK.

Number of cases	large	Pregnancies	4
Implantations (abdominal operations), per cent	100	Results, very gratifying in all respects but pregnancy.	

F. F. SIMPSON, PITTSBURG, PA.

Total number of cases	53	Right salpingostomy	3
Right salpingoöphorectomy	11	Left salpingostomy	2
Left salpingoöphorectomy	10	Ventrosuspension, etc	33
Right ovary resected	6	Pregnancies	5
Left ovary resected	7	Appendectomies	7

A. LAPTHORN SMITH, MONTREAL, CANADA.

Left ovary diseased	14	Right tube removed	12
Right ovary diseased	16	Ventrosuspensions	2
Left tube diseased	17	Results:	
Right tube diseased	14	Good	12
Left ovary exsected	3	Pregnancy	2
Right ovary exsected	10	Unsatisfactory	4
Left tube exsected	0	Unknown	1
Right tube exsected	1	Number of cases	17
Left ovary removed	9	Married	12
Right ovary removed	5	Single	5
Left tube removed	16	Average age, under	30

I. S. STONE, WASHINGTON, D. C.

Left ovary diseased	69	Ventrosuspensions	36
Right ovary diseased	69	Appendectomies	6
Left tube diseased	18	Pregnancy	1
Right tube diseased	31	Myomectomies	6
Left ovary exsected	12	Vaginal sections	3
Right ovary exsected	12	Vaginal suspension	1
Right ovary exsected	19	Hysterectomies	2
Left tube exsected	2	Cured	44
Right tube exsected	5	Relieved	40
Left ovary removed	26	Not relieved	1
Right ovary removed	29	Average age	28
Left tube removed	15	Married	53
Right tube removed	26	Single	32
Left ovary punctured	33	Number of cases	85
Right ovary punctured	24		

Dr. Stone is averse to doing conservative work on infected cases, but believes most emphatically in leaving any portion of healthy ovarian tissue in the young.

MAGNUS A. TATE, CINCINNATI.

Total number of cases	2	Right ovary resected or punctured	1
Left ovary diseased	2	Ventrosuspension	1
Right ovary diseased	1	Pregnancy	0
Left ovary resected or punctured	2	Recoveries	2

JOHN F. THOMPSON, PORTLAND, ME.

Dr. Thompson reports one case in which both ovaries were cystic. The left was removed and the right resected. The woman subsequently became pregnant and gave birth to twins.

ALBERT VAN DER VEER, ALBANY, N. Y.

Ovarian surgery is much more satisfactory and attended with better results than tubal surgery.

H. N. VINEBERG, NEW YORK.

Total number of cases	106	Operation failed	10
Vaginal sections	34	Died	1
Laparotomies	72	Cured or much improved	95
Pregnancies	12		

Dr Vineberg's report evidences the fact that this work can be done per vagina with as good results as by the abdominal route, which leaves this question still open for discussion.

EDWIN WALKER, EVANSVILLE, IND.

Total number of cases	6	Right ovary removed	0
Left ovary diseased	5	Left tube removed	5
Right ovary diseased	5	Right tube removed	3
Left tube diseased	5	Ventrosuspension	1
Right tube diseased	5	Pregnancy	1
Left ovary resected	1	Average age	30
Right ovary resected	4	Cured	2
Left ovary punctured	1	Improved	1
Left tube resected	1	Not improved	1
Right tube resected	2	Too recent for results	2
Left ovary removed	3	Married	6

T. J. WATKINS, CHICAGO.

He knows of several cases of pregnancy following ovarian surgery, but has kept no records.

J. H. CARSTENS, DETROIT, MICH.

Dr. Carstens of Detroit, although he did not give me statistics of his work, expressed his opinion in his characteristic and candid manner concerning this work. He agreed in the main with Dr. Wheaton, that in suitable cases it was wise to leave portions of the ovaries in position, in order to prevent as much as possible the reflex conditions that follow such work.

C. A. WHEATON, ST. PAUL, MINN.

Dr. Wheaton sums up the whole question in such a concise and straightforward manner that I desire to quote his letter in full:

I have before me your favor of Nov. 19, etc. . . . In our hands conservatism has proven a great boon to suffering femininity. I regret that our cases are not so classified that they can be of service to you. We have repeatedly made operations on the pelvic organs of the female, often removing the uterus and leaving the ovaries; often removing the tubes and leaving the ovaries and the uterus; often removing both tubes and leaving one ovary; often removing a tube on one side and an ovary on the other; often removing portions of ovary or tube, and I have yet to see the case in which I have regretted that sort of conservatism. It seems to me that the all-important question, independent of every other consideration, is the leaving ovarian tissue enough to preserve the sexual integrity of the woman. When I say "sexual integrity" I mean in its physiologic sense. A woman, deprived of her ovarian machinery, to my mind, is as much a defective as the eunuch, or the children born without any of the organs which go to make up the perfectly developed animal.

I regret that I am unable to give you a series of cases classified, but I have never kept a consecutive record of my work.

H. T. WILLIAMS, ROCHESTER, N. Y.

Total number of cases	250	Right ovary diseased	85
Available for statistics	155	Left ovary diseased	60
Ventrosuspensions	52	Pregnancies	25
Appendectomies	30		

SUMMARY.

An analysis of the preceding tables gives the following results:

TOTAL NUMBER OF CASES.

Baker, Boston	1	Ill, Newark, N. J	66
Boldt, New York	82	Manton, Detroit	28
Brettauer, New York	31	Marx, New York	1
Brothers, New York	50	Newman, Chicago	86
Burrage, Boston	187	Norris, Philadelphia	42
Clarke, Cambridge, Mass.	13	Palmer, Cincinnati	88
Coe, New York	5	Porter, Fort Wayne, Ind.	50
Cragin, New York	33	Price, Philadelphia	100
Cumston, Boston	47	Reynolds, Boston	8
Douglas, Nashville, Tenn.	30	Simpson, Pittsburg	53
Dudley, New York	269	Smith, Montreal, Canada	17
Earnest, Atlanta, Ga	8	Stone, Washington, D. C.	85
Ferguson, Chicago	75	Tate, Cincinnati	2
Frederick, Buffalo	125	Thompson, Portland, Me.	1
Goffe, New York	115	Vineberg, New York	106
Goldspohn, Chicago	97	Walker, Evansville, Ind.	6
Gordon, Portland, Me.	2	Williams, Rochester, N. Y.	155
Griffith, Kansas City, Mo.	4		
Humiston, Cleveland	5	Total	2168

This number could be considerably increased by including figures furnished from memory, etc., without proper documentation.

AVERAGE AGE.

In but few reports is the age recorded. From the statistics submitted by Boldt, Ill, Smith, Stone and

Walker, it appears that the average age of patients is slightly below 30 years.

MARRIED OR SINGLE.

Most reports are also defective in this respect. Out of 405 cases reported by Cragin, Dudley, Ill, Smith, Stone and Walker, 315 are known to have married—nearly 80 per cent.

LEFT OVARY DISEASED.

Boldt	32	Simpson	17
Brettauer	12	Smith	14
Cragin	26	Stone	69
Cumston	31	Tate	2
Dudley	204	Thompson	1
Ferguson	46	Walker	5
Frederick	65	Williams	60
Humiston	4	Palmer	88
Ill	34		
Manton	13	Total	722
Reynolds	3		

RIGHT OVARY DISEASED.

Boldt	33	Reynolds	3
Brettauer	11	Simpson	17
Cragin	27	Smith	16
Cumston	31	Stone	69
Dudley	188	Tate	1
Ferguson	23	Thompson	1
Frederick	48	Walker	5
Humiston	5	Williams	85
Ill	28		
Manton	23	Total	702
Palmer	88		

LEFT TUBE DISEASED.

Boldt	24	Manton	2
Brettauer	11	Reynolds	6
Cragin	32	Simpson	12
Dudley	59	Smith	17
Ferguson	22	Stone	18
Frederick	73	Walker	5
Humiston	1		
Ill	40	Total	322

RIGHT TUBE DISEASED.

Boldt	23	Manton	5
Brettauer	13	Reynolds	6
Cragin	29	Simpson	14
Dudley	53	Smith	14
Ferguson	17	Stone	31
Frederick	60	Walker	5
Humiston	5		
Ill	33	Total	308

LEFT OVARY REMOVED.

Brettauer	3	Palmer	88
Cragin	16	Reynolds	3
Dudley	41	Smith	9
Ferguson	20	Stone	26
Frederick	47	Thompson	1
Humiston	1	Walker	3
Ill	21		
Manton	2	Total	281
Conservative operations			370
Total operations on left ovary			651
Conservative—Left, 370; right, 384			754
Radical—Left, 281; right, 241			522

LEFT OVARY RESECTED (OR PUNCTURED).

Boldt	30	Manton	15
Brettauer	7	Simpson	7
Cragin	10	Smith	3
Cumston	31	Stone	45
Dudley	155	Tate	2
Ferguson	26	Walker	2
Frederick	18		
Humiston	3	Total	370
Ill	16		

RIGHT OVARY REMOVED.

Boldt	3	Manton	5
Brettauer	4	Palmer	88
Cragin	17	Reynolds	3
Dudley	26	Simpson	11
Ferguson	7	Smith	5
Frederick	25	Stone	25
Humiston	5		
Ill	17	Total	241
Conservative operations			384
Total			625

RIGHT OVARY RESECTED (OR PUNCTURED).

Boldt	29	Manton	20
Brettauer	7	Simpson	9
Cragin	10	Smith	10
Cumston	31	Stone	43
Dudley	171	Tate	1
Ferguson	16	Walker	4
Frederick	18		
Ill	15	Total	384

LEFT TUBE REMOVED.

Boldt	3	Reynolds	1
Brettauer	3	Simpson	10
Cragin	17	Smith	16
Dudley	27	Stone	15
Humiston	1	Walker	5
Ill	25		
Manton	2	Total	127
Conservative operations			96
Total operations on left tube			223

LEFT TUBE RESECTED (OR OPENED).

Boldt	20	Simpson	2
Brettauer	8	Stone	2
Cragin	16	Walker	1
Dudley	28		
Ill	14	Total	96
Reynolds	5		

RIGHT TUBE REMOVED.

Boldt	4	Reynolds	2
Brettauer	6	Simpson	11
Cragin	15	Smith	12
Dudley	26	Stone	26
Humiston	5	Walker	3
Ill	24		
Manton	4	Total	138
Conservative operations			83
Total on right side			221
Conservative—Right, 83; left, 96			179
Radical—Right, 127; left, 138			265

RIGHT TUBE REMOVED (OR OPENED).

Boldt	19	Simpson	3
Brettauer	7	Smith	1
Cragin	13	Stone	5
Dudley	22	Walker	2
Ill	6		
Manton	1	Total	83
Reynolds	4		

SUSPENSION OF UTERUS.

Boldt	82	7
Brettauer	31	2
Brothers	50	6
Dudley	244	99
Ferguson	69	22
Frederick	73	12
Griffith	4	4
Humiston	5	3
Ill	66	20
Simpson	53	33
Smith	17	2
Stone	85	36
Tate	2	1
Walker	6	1
Williams	155	52
Total	942	300

APPENDICECTOMIES.

Brettauer	31	1
Dudley	244	32
Ferguson	69	30
Frederick	73	8
Ill	66	3
Simpson	53	7
Stone	85	6
Williams	155	30
Total	776	117

In 776 cases reported by Brettauer, Dudley, Ferguson, Frederick, Ill, Simpson, Stone and Williams, appendicectomy was performed 117 times.

RESULTS.

Operator.	No. Cases.	Recovery or Marked Improvement.	Unimproved.	Died.
Boldt	82	..	..	0
Burrage	187	136	..	3
Clarke	13	13	..	0
Cragin	33	..	..	1
Cumston	37	37	..	0
Douglas	30	..	..	0
Earnest	8	7	1	0
Ill	50	47	2	1
Manton	28	25	3	0
Newman	86	69	17	0
Palmer	88	..	..	3
Reynolds	3	3	..	0
Smith	16	12	4	0
Stone	85	84	1	0
Tate	2	2	..	0
Vineberg	106	95	10	1
Walker	4	3	1	0
	858			9

Thus in 858 operations but 9 patients are known to have died from intervention. In 435 cases in which complete results are given the operation was successful in 396 and unsuccessful in 39 (10 per cent. failures; 1 per cent. mortality).

PREGNANCIES.

Baker	1	Ill	8
Boldt	1	Jewett	3
Brettauer	3	Manton	2
Brothers	8	Marx	1
Burrage	23	Newman	8
Clarke	3	Norris	2
Coe	5	Polk	5
Cragin	1	Savidge	4
Cumston	12	Simpson	5
Douglas	5	Smith	2
Dudley	31	Stone	1
Ferguson	12	Thompson	1
Frederick	8	Vineberg	12
Goffe	10	Walker	1
Goldspohn	10	Williams	25
Gordon	2		
Griffith	3	Total	226
Humiston	5		

An analysis of the recorded lesions, operations, etc., reveals certain data of interest.

There is a slight preponderance of diseases on the left side, 722 diseased ovaries as contracted with 702 on the right side; while the tubes show a similar preponderance, viz., 322 as against 308. While these differences are slight, they are probably not due to chance, but should be susceptible of explanation on circulatory grounds (absence of valves in left spermatic vein, pressure of fecal matter in sigmoid flexure on this vein, etc.).

The figures show that conservative operations were performed on the left ovary 370 times, while the organ was removed 281 times. The corresponding figures for the right ovary are 384 conservative and 241 radical operations. Hence the totals comprise 754 conservative and 522 radical operations. This excess of conservative intervention is bound to increase in the future.

When we come to operations on the tubes the figures for conservative and radical intervention are found to be reversed. Thus on the left side there were 127 complete extirpations of the tube against 96 resections, punctures, salpingostomies, etc. The corresponding figures for the right tube are 138 radical and 83 conservative operations. The totals are, therefore, 265 extirpations and 179 partial operations. A number of surgeons are outspoken against conservative work on the tubes, and it is difficult to forecast the future in regard to the character of intervention on the tubes accompanying conservative operations on the ovaries.

In regard to the statistics on uterosuspensions, appendectomies, etc., given in my tables, it is only necessary to emphasize the fact that multiple operations, including plastic surgery of the genital tract, must frequently be performed in connection with conservative surgery of the ovaries.

In regard to results, two classes must be considered: The general outcome of the operation, and the preservation of sex. The primary mortality is quite insignificant, amounting to but about 1 per cent.—9 cases in nearly 2,200 (2,168). It is possible that some of these few may not be attributable to the operation proper. In regard to the ultimate success of the intervention the tables show not over 10 per cent. of failures, and many of these were corrected by second operations, which, however, would be classed as radical intervention. The overwhelming majority of my correspondents express themselves plainly in favor of conservatism on general principles, the very few exceptions being duly noted under individual reports.

In regard to the preservation of sex, we do not find many statements as to the persistence of menstruation. It is to be regretted that operators can not control their cases in this respect, but the difficulties are almost insurmountable. The question of subsequent pregnancies can be answered very satisfactorily. Despite the great difficulties attending the following up of these cases, we have positive proof that at least 10 per cent. of the women who make up by statistics became pregnant. When we bear in mind that many of these women doubtless do not desire offspring, and that quite a number

Fig. 1.—Case 1. Showing appearance after tube was amputated and ovary sewed up. The two sides were alike.

had both ovaries removed (Dr. Palmer's cases), the percentage must be regarded as remarkable; for there is every reason to believe that many pregnancies were not located, while in many other cases the operations were of such recent date that pregnancy is likely to develop in due time.

I have not thus far mentioned the many cases of deformed and twisted conditions of the tubes on which we can do conservative work. Bearing in mind its anatomy

Fig. 2.—Case 2. Anterior view showing remaining healthy portion of right ovary.

and surroundings, it is not to be wondered at that the tube is subjected constantly and especially at the time of menstruation, to congestion and thickening, as a result of displacement, or pressure, which will cause a temporary, if not a permanent, closure of some portion of its lumen. See plates of Dr. Ferguson and myself. Conditions such as these of the tube can be relieved by conservative work.

The "surgical menopause," so to speak, has become such a fruitful source of revenue to those in our profes-

sion who are eminent in their practice as nerve specialists, and the records of their work evidence such an accumulation of various nervous manifestations consequent on the total removal of the uterus and appendages; or (even to put it mildly), a partial removal of these organs, that it behooves the operating surgeon who is yearly doing a large amount of this work, to bear in mind, that possibly he may be sowing the seeds of disease in some other part of the body while he so skilfully removes that which he considers to be local.

Having had this fact many times so forcibly brought to my mind by the return of patients with these nervous symptoms, so prominent as to be a constant source of annoyance to them, I have been forced in defense of myself, and for the benefit of my patients, to give serious thought and study to this condition from the nervous standpoint, and rather than attempt to give you my own opinion from a clinical standpoint, something that you might not feel I was justified in offering to you from my knowledge alone, I much prefer to quote to you from the experience of one of our best-known teachers on nervous diseases in New York, or even the United States—Dr. Graeme Hammond, professor of nervous diseases in the Post-Graduate Medical School. He says:

The more organs removed, the more pronounced the nervous symptoms are likely to be. The results most likely to follow, in mild cases, are those of neurasthenia. In more severe cases, from mild to severe grades of hysteria and dementia. In still others we see more severe mental disturbances, such as development of paranoia, melancholia and a mild grade of dementia, with severe hot flashes.

These hot flashes are very common, even after the removal of parts of the pelvic organs, not necessarily the removal of all of them; say simply the uterus or one ovary. They get neurasthenic symptoms, insomnia, depression of spirits, with crying spells, irritability, inability to apply the mind to ordinary occupations, flushes of the face, etc. These flushes are due to vasomotor paralysis, having its origin in the generative organs. That is probably cerebral, due to temporary paralysis of the sympathetic system.

There may be, on the other hand, attacks of coldness of the feet or hands, which are the result of the spasmodic condition of the blood vessels due to irritation.

This paralysis or irritation of the sympathetic system results unquestionably from the surgical operation. What that operation really does; how the removal of those organs affect the brain, whether it is from the cessation of the menstrual function or not, I am not quite so clear.

In answer to Dr. Hammond's query concerning just how the operation should interfere with the nervous centers it is only necessary to call the attention of those of you who are daily operating to the normal anatomy of the pelvis, its lymphatic, its sympathetic and its vasomotor nerve supply, and then ask you if it can be possible to remove a section of an electrical supply to the different parts of the body, emanating from the brain, to cut out a section of its conductors on both sides of the body, and have the work go on as before until such time as that removal can be repaired by nature. It is only a homely comparison between the machinery of the body and the machinery of electricity and mechanics, but it seems to me only reasonable to suppose that if it produces defective action in the latter (mechanics) it must also do the same to the body.

It would seem as if the ovaries and probably the testicles add something to the system which is necessary for that individual's complete development, and by removing the ovary or testicle, you deprive the system of something which causes a perversion of nutrition. There is a progressive failure of sexual orgasm from coitus, with the progressive changes in the nerves which supply the clitoris, but whether there is a failure of desire or not would be another matter, because desire is purely cerebral. As the clitoris degenerates the power of experiencing the orgasm will diminish little by little

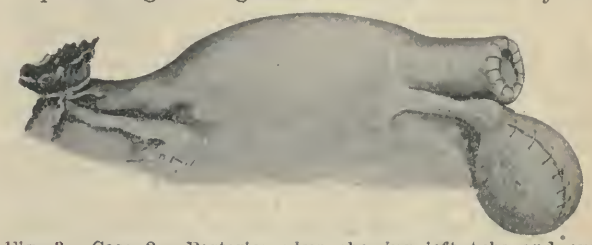

Fig. 3.—Case 2. Posterior view showing left tube and ovary removed and healthy portion of right tube and ovary seen in Figure 2 sewed up.

until it finally fails altogether. These women for a time have erotic dreams showing the desire which they can not appease by natural cohabitation. In a little while they stop.

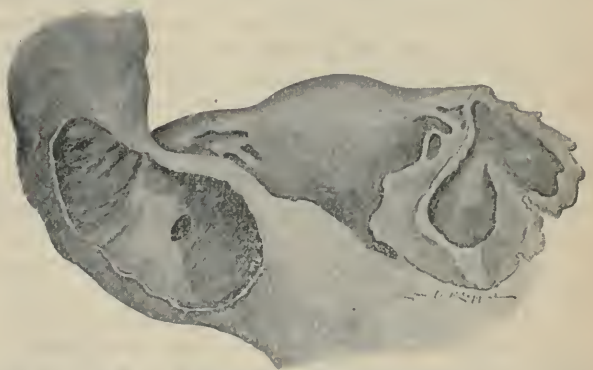

Fig. 4.—Case 2. Posterior view showing fistula from tube to bowel, and showing Figure 2 opened.

There are some women who are abnormally sexual, and in such women the power of experiencing the orgasm lasts much longer than it does in the average woman. In some rare instances the sexual appetite is

Fig. 5.—Conservative work on the adnexa. (Drawn for Dr. A. H. Ferguson, Chicago.) A. Bisection of ovary. B. Shortening ovarian ligament. C. Salpingostomy and the closed end removed. D. Hysterosalpingostomy, right. E. Proximal end of tube and horn of uterus removed. F. Left tube obstructed proximally; into the open fimbriated extremity is inserted the nozzle of an inflator, by which an attempt is made to force air through the tube.

greatly increased after removal of the uterus and its appendages.

There are occasional cases which are unable to experience the orgasm and who turn from coitus with ter-

ror on account of the suffering which they undergo whenever coitus is attempted. These patients are, of course, greatly relieved by the removal of those organs which have caused their suffering. Sometimes in such cases as these the sexual desire is greatly increased after an operation and this increase may continue for years.

In some women with a pronounced neurotic history there appears to develop after operations on the pelvic organs a periodical mania in which sexual fury is the pronounced symptom. In such cases there are periods in which the woman indulges in sexual excesses for days at a time, going clandestinely to houses of easy virtue for the purpose; and then there follows a period in which (very often of several weeks' duration) there is little or no sexual desire at all for them, to be followed in its turn by another period of sexual fury. These are cases of recurrent sexual mania, akin to recurrent attacks of dipsomania.

I would say this: that there is little doubt that the removal of the pelvic organs is very prone to induce degenerative cerebral changes in those who are predisposed by heredity to a neurosis. In other words, you take a woman who has a tendency to nervous disease in the family, and who is nervous herself, and that operation may induce paranoia, which might not have developed until the natural menopause at the age of fifty, or might not develop at all.

Reflexes.—In regard to the pain in the back, you can account for that by pressure on the nerve centers in the pelvis.

Constipation.—Simply in those cases where neurasthenia is produced.

Typical Symptoms of Neurasthenia Resulting from this Operation in the Case of a Patient.—Walks with difficulty on account of weakness and pain, the pain being located in both thighs. She has vertigo, insomnia, disagreeable dreams, depression of spirits, crying attacks, irritable, fretful and a feeling of pressure in the head, and headache; flatulency, dyspepsia and constipation. Now, these are typical symptoms. In a good many neurasthenic subjects there is a great degeneracy of mind because they think that people can tell they have had this operation done by looking at them, and they get depressed from that, avoid society and hate to go out. I have seen a number of such cases.

When we remove the testicles from the male, he becomes timid and loses his virility and courage; he becomes fat and gross; there is also a similar change in the animal. The horse has not the health, the virility or the courage of the stallion. Now, simply cutting off his toe would not make this change. There is something vital taken away from him, and the parts taken out constitute something that he especially requires.

With regard to hysterectomy, it is well-known that a woman on whom hysterectomy has been performed loses her sexual desire in about eighteen months therefrom, barring cases I have already mentioned. If it is possible to save the uterus, why not do it? If it is possible to save only half an ovary, save it. If it is possible to save only part of a tube, save it, provided that it is, or can be made, patent. If there is a fibroid in the uterus, remove the fibroid and leave the uterus, in selected cases. If there is a cyst in the ovary, remove the cyst and leave what healthy ovarian tissue you can. You know that this work can be done and that the resected ovary or tube will heal. If there is mild oozing of blood, the pelvic peritoneum will take care of it. This is conservative surgery. May it continue to develop in the future!

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THE CAPACITY OF A HUMAN MUSCLE FOR WORK.*

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HISTORICAL REVIEW.

Each year adds its share to the work that is being done by the different investigators in the study of muscular contractions, neuromuscular fatigue and the ability of a muscle to do work. To Mosso[1] must be given the credit of first making investigations with the human muscle. The instrument used by him in his work consisted in a weight and pulley. The muscular power obtained he expressed as weight multiplied by the dis-

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1. Mosso: Ueber die Gesetze der Ermudung, Archives für Physiologie, 1890, p. 89.

tance through which it was raised. Maggiora,[2] Lombard,[3] Treves,[4] Cleghorn and Stewart,[5] Storey[6] and others continued investigations, introducing various modifications into the technic, thereby obtaining results of considerable value and interest.

Thus the original idea and the one followed more or less closely since has been to have the muscle raise and lower a weight successively through a given distance. It was found that a muscle can raise the weight at a regular rate until, as fatigue sets in, the height of the contraction becomes less and the movements become slower and more difficult. The amount which a muscle can do depends on the muscle and the technic used, the rapidity with which it contracts and the weight it has to lift. Among the objections that soon became evident are the following: (1) That the muscle after a short time becomes so fatigued that it can no longer lift the given weight. It can still exert a considerable amount of force, and if a lighter weight be used it can lift it. (2) It is found that only isotonic contractions are possible in the use of the weight ergograph, and that the muscle is under a continuous tension. (3) The greatest tension of the muscle is that required to overcome the inertia of the weight in starting it.

Others, thinking that with the use of the weight the muscle does not work to the greatest advantage, employed the spring. Cattell,[7] Binet and Vaschide,[8] Franz,[9] Hough,[10] Fick[11] and others have used this form quite extensively, but it has not replaced the use of the weight entirely. The advantages of the spring over the weight are the following: (1) The slightest movement made by the muscle can be recorded, whether it is of the isotonic or isometric form. (2) An interval of rest is allowed the muscle between the periods of relaxation and contraction. (3) The inertia is less pronounced. On the contrary, however, Franz[12] says that most of the objections which apply to the weight will also apply to the use of the spring. Thus it may be seen that the introduction of the isometric contraction, a condition not possible with the weight, has added interest to the study of action of a muscle.

GENERAL CRITIQUE.

In answer to the objections to the weight or spring ergograph, it has been mentioned that most of them are objections either to the mechanical construction which might easily be overcome, or to their use in particular problems. But no mention was made to the most serious fault of these methods, viz., that the muscle does not work under conditions which are physiologic. With the weight, the muscle is "loaded," having no interval of rest at any time, while with the spring it is "after-loaded." A large part of the energy expended by either the "loaded" or "after-loaded" muscle is not accounted for, because it is expended either in the form of internal energy or as external work which can not be computed. The loaded muscle, on the one hand, becomes tetanized early, and though the weight tends to stretch it during relaxation and the rest period, the results of such experiments with muscle-nerve preparations of a frog make it evident that the muscle neither relaxes nor rests between contractions after the fatigue sets in. The after-loaded muscle, on the other hand, must be exerting a certain amount of energy in "easing" back the weight to its rest which would otherwise fall back under the influence of gravitation. The cycle of the former is contraction, relaxation with load and stretching. With the latter it is contraction, relaxation with load and rest.

Put in a practical way, the loaded muscle might be explained thus: Let a man lift a twenty-five-kilogram weight from the floor to the table, and without resting it on the table lower it to the floor; but before it touches the floor let him raise it again to the table and repeat until he is exhausted. At no time does he rest from his weight, and fatigue comes on quickly. If, however, in the interval between the lowering and the next lift the weight is allowed to rest on the floor for a few seconds, the muscle will have a chance to recuperate, and he will be able to do more work as the result. This is the condition with the after-loaded muscle.

But neither of these forms of work is used by the muscles in active life. Therefore, any results or conclusions obtained by them under these conditions would be of limited value. What seems to me to be a better form of work might be explained thus: Let a man lift a weight from the floor to the table and leave it there, reach down and lift another and continue. Work is being performed by him only with the lifting of the weight. During the remainder of the time the muscles are relaxed and resting for the following task. Its cycle in work would be contraction, relaxation without load and rest. The muscles expend little or no energy during relaxation and none at all during the rest period. Fick, by means of his *Arbeit-sammler,* has applied this method to the frog muscle. Broca and Richet[13] have made a few experiments on the human muscle. Their work, however, has not been very extensive. Hall[14] applied this idea of Fick to the human muscle independently of Broca and Richet.

The above criticisms may be summarized as follows:

(1) The various forms of the Mosso ergograph "load" the muscle and cause it to exert energy in some form constantly, while work is being accomplished part of the time only.

(2) The spring ergograph "after-loads" the muscle when used to record isotonic contractions and allows rest for the muscle between relaxation and contraction, but not during relaxation.

METHODS.

With a view of overcoming as many of the objections as possible and applying this method of work to the human muscle, Hall's work-adder was devised. A detailed account of the instrument is necessary, as no description of it has ever been made in literature. By it the muscle works only during the actual lifting of the weight. The troublesome inertia is lessened by having the weight made heavy and having it move so slowly that it follows

2. Maggiora: Ueber die Gesetze der Ermudung, Archives für Physiologie, 1890, p. 191.

3. Lombard: Some of the Influences Which Effect the Power of Voluntary Muscular Contraction, Jour. of Physiol., 1892, xiii, p. 1.

4. Treves: Sur les lois du travail musculaire, Archiv ital. de Biol., 1898, xxx, p. 1.

5. Cleghorn and Stewart: Inhibition Time of a Voluntary Muscular Contraction, Amer. Jour. of Physiol., 1901, v.

6. Storey: The Influence of Fatigue on the Contraction of Human Muscle, Amer. Jour. of Physiol., 1903, viii, p. 355.

7. Cattell: Science, N. S., 1897, v, p. 909.

8. Binet and Vaschide: Annee psychologique, 1898, iv, pp. 245, 253, 303.

9. Franz: Methods of Estimating the Force of Voluntary Contractions and on Fatigue, Amer. Jour. of Physiol., 1901, iv, p. 348.

10. Hough: Ergographic Studies in Neuro-Muscular Fatigue, Amer. Jour. of Physiol., 1901, v, p. 240.

11. Fick: Pfluger's Archiv für Physiologie, vol. xii, p. 176.

12. Cf. p. 353.

13. Broca and Richet: Experiences ergographiques pour mesurer la puissance maximum d'um muscle en régime reguiier, Acad. of Sci. Comptes Rendus, 1898, p. 356.

14. Hall: A New Form of Ergograph, Amer. Jour of Physiol., vi, append. xxiii.

the action of the finger very closely. Variations are allowed in the size of the weight by changing the leverage.

The objection may be raised that if the weight is of such large size, the finger, when nearly exhausted, will fail to move it, and there will be no record of the energy spent. But that the muscle may work to the full extent, a heavy weight is necessary. There are two kinds of work: (1) One in which the task is very great for that muscle and requires relatively an immense amount of energy to be expended with every effort put forth. This method can last for a short time only when exhaustion follows and a rest is necessary. (2) The other form is that in which the task is considerably below the working capacity of that muscle, and a relatively smaller amount of energy is put forth. The latter can be continued for a much longer time without fatigue necessarily following. Very different results follow the use of these two methods, and the distinction must be recognized when an interpretation of them is to be made. Some have failed to note this difference and considerable confusion has been the result. The formula—distance times weight—expresses accurately the amount of work a muscle can do if the conditions of the muscle itself and those under which it works are taken into account. Another objection is that the energy expended in starting the weights is greater than that to keep it going. This is true of every task and is not a valid objection if taken of every day work. Every object that a laborer lifts requires a greater expenditure of energy to start it than to keep it going. When the task is too great for him, he gets no credit for his work, but he still has energy sufficient for a task that is within his strength. The same principle should be applied to the individual muscle. Hough[15] admitted that "the work of our muscle consists for the greater part . . . in a series of liftings of an approximately constant weight and that this weight is far below the maximum for a given muscle," and also says: "It would be a serious mistake to abandon altogether this type of instrument," viz.: weight ergograph in fatigue experiments.

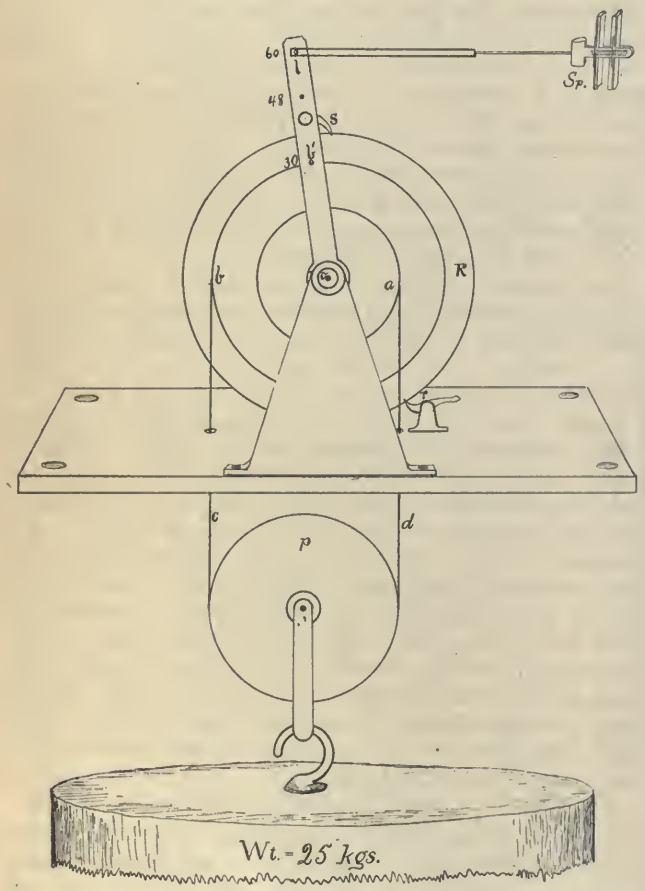

Fig. 1.—Diagram of work-adder. a, Small drum, 36 mm. in diameter; b, large drum, 60 mm. in diameter; cd, wire winding off drum a, around pulley p, and on to drum b; r, ratchet wheel, fixed immovably to both drums (this wheel has a toothed edge not shown in the figure); sp, finger splint or boot, which clamps the two terminal phalanges of the middle finger; r-s, ratchets (r fixed and s movable); l, the lifting or pulling lever, here set to lift at 60 mm. from the center o, thus lifting one-tenth of the weight, 25 kgs., as explained in the text. The splint may be attached to the lever at 48 mm. or at 30 mm.; in the latter case the amount lifted by the finger would be 5 kgs., or 11 pounds. Figure is one-half actual size.

It is true that the muscle under normal physiologic conditions is neither loaded nor after-loaded, as these terms are usually understood. It is not under a constant tension as when it contracts isotonically; it varies its length, differing from the muscle contracting isometrically. "During normal physiologic conditions a muscle does not contract isotonically, but always with a change of tension."[16] Expressed affirmatively, the working muscle expends energy only while it is lifting the weight; it varies its tension and rests between lifts. I have chosen to call a contraction under these conditions "normotonic."

THE WORK-ADDER.

One of the ergographs used in these experiments consists of a weight and a movable pulley suspended by a fine wire (Fig. 1). The two ends of this wire are wound in opposite directions on two drums (*a* and *b*) of different sizes. These drums are fixed on the same movable axis (*o*), and any movement will wind up the wire on one drum while it unwinds from the other. A ratchet (*r*) prevents any turning except in the direction which winds it on the larger drum, thus raising the weight. A pulling lever (*ol*) also rotates freely about the same axis (*o*), and by means of a ratchet (*s*) revolves the drum in the direction which raises the weight. The pulling lever then returns by the aid of a weak spring, with the finger, to its original position and is ready for the next pull. Complete rest is thus obtained for the muscle while it is not actively pulling. The heavy weight with the drums overcome, to a great extent at least, the inertia. The system of levers reduces the actual weight raised to within the power of the contracting muscle and allows for variation in its size.

The leverages are explained thus, as shown in Figure 1: The small drum (*oa*) has a radius of 18 mm. and the larger (*ob*) a radius of 30 mm. Each end of the wire (*c* and *d*), wound on these, supports one-half of the weight or 12.5 kgs. The drums act as levers of different lengths, and as each is supporting 12.5 kgs., the tendency is for the wire around the larger drum to unwind because of the longer weight arm. This movement is prevented by the ratchet (*r*). The exact amount of downward pressure to balance the 12.5 kgs. on (*oa*) is shown by the proportion, 30:18::12.5:x, or 7.5 kgs. But there is a weight of 12.5 kgs. hanging on the lever (*ob*). Therefore, the ratchet is sustaining the difference between 12.5 kgs. and 7.5 kgs, or 5 kgs., and before the weight can be raised this must be overcome. To further reduce this weight of 5 kgs. the pulling lever is used. The power arm (*ol*), which may be varied at will, is 60 mm. long, and the weight arm (*ob*) is 30 mm. long,

15. Cf. pp. 242 to 245.
16. Schaack and Gruber: Human Physiology, p. 188.

the proportion being 60:30::5:x, or 2.5 kgs. Then the actual force necessary to raise 25 kgs. by this instrument is a force in excess of 2.5 kgs. pulling at the distal end of the pulling lever (*l*).

The arm rest consists of a slanting board modeled at the end to fit the hand. That the middle finger might have free movement, a notch was cut in the board. Straps hold the arm, hand and fingers in place. The first, third and fourth fingers are bent over the end of the rest and held in the partly flexed position by the straps. This allows the contracting muscle to pull the working finger toward the position held by the others instead of away from it and gives an easier movement.

This instrument fulfills the requirement (1) that the muscle works only when pulling the weight upward; (2) that the tension varies; (3) that the inertia be reduced and (4) that the muscle be neither loaded nor after-loaded. But the mechanical construction is at fault since the heavy weight after being raised to a distance of 50 cm. must be lowered again before the work can be continued again, thus allowing a rest for the muscle. Therefore, while it is suitable for ordinary fatigue work, it is not adapted to recording continuous efforts. That the experiments might continue with the same idea in view, another instrument of different mechanical construction, but involving the same principles, was made and substituted. Its construction and methods of work will be given.

THE AIR CUSHION.

The essentials of this instrument consist in an upright cylinder (see Fig. 2, *c*) closed at the lower end except for a large inlet valve (*a*) and at the upper end by a very thin sheet of dentist's rubber dam loosely stretched across it. A stopcock (*b*) is placed in one side of the cylinder. The weight while resting on the rubber sheet is not supported by it, but by a small metal bar (*d*) which strikes the frame. The action is as follows: As the weight is lifted from the cushion, air rushes in through the valve (*a*). When it is lowered, it strikes the rubber sheet and causes an increase of pressure within. This compressed air acts as a support until its slow escape through the stopcock (*b*) allows a return of the normal pressure within and the weight to be lowered, until it is caught by the metal bar. The rapidity with which it is lowered is regulated by the size of the opening made by turning the stopcock.

A wire extends from the weight up to an elbow lever (*l*) fixed at the end of the arm rest, and another extends horizontally from this to the finger where it is attached by an adjustable metal splint or boot (*sp*). The tracing lever records the actual movement of the finger on the drum (*D*). The size of the weight is easily changed by varying the length of the two arms of the elbow lever. The arm rest used was similar to the one described with the work-adder.

A PACE FOR THE WORKING MUSCLE.

In previous ergographic work much attention has been paid to the character of the individual tracing and to the production of fatigue. In general, not over one hundred contractions were necessary to bring on this fatigue. But very little study has been made to ascertain under what conditions a muscle can continue to work for a long period of time. In 1890, Maggiora[2] found that he could contract the middle finger of his left hand continuously at the rate of one contraction in two seconds against a weight of 1 kg. He concluded from his experiments that there exists for the human muscle a definite weight with which one can perform the greatest possible work. When the weight or the rate of contraction is increased, fatigue will occur. He also found that this maximum of work varies with different persons at the same time and the same muscle at different times. Lombard[3] contracted the abductor indicis muscle about 9,000 times, or for two and one-half hours, at the rate of once a second against a weight of 500 gms., reaching about the same conclusions as Maggiora. Both of these investigators used the weight ergograph which loaded the muscle and did not allow the muscle to work to the greatest advantage. Maggiora flexed the entire finger while the hand was in the supine position. Neither seems to have tried to compute the amount of work done by these muscles.

Fick[17] found that, using a heavy weight, about one-fourth of the total energy expended by a muscle is used in lifting it and the remainder is changed into heat, electricity, etc.; while with a light weight, only about

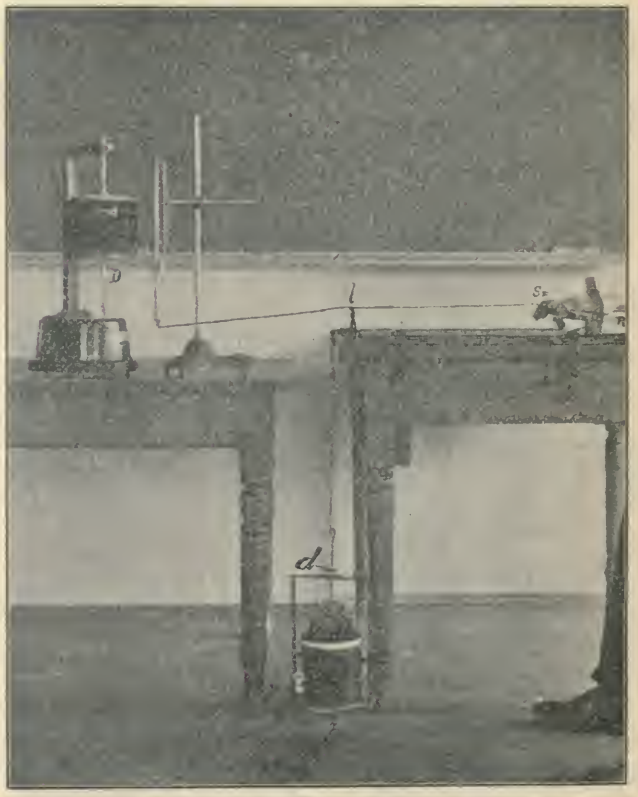

Fig. 2.—Ergograph with air-cushion. C, cylinder, about 10 cm. in diameter, having a large valve (a) opening from below; b, stopcock through which the air escapes on descent of the weight, the rate at which it escapes is regulated by the stopcock; d, metal bar soldered to the weight rod, this bar strikes the cylinder frame and serves to support the weight between contractions; l, elbow lever, so constructed that the two arms may be varied in length by hooking the weight cord or the power cord into different holes; Sp, finger splint; R, arm rest; D, drum of kymograph.

one-twentieth is spent as external work. That there is so much loss of energy is due, I think, to the fact that the muscle does not work to the greatest advantage. While some attempts have been made to improve the condition under which the muscle works, sufficient data have not been tabulated to show the true value of these changes.

The results given here were obtained principally on the air cushion. That the muscle might be in training, as Hough[18] has shown is necessary for the best results,

17. Fick: Pfluger's Archives, 1878, xvi, p. 85.
18. Hough: Ergographic Studies in Muscular Soreness, Amer. Jour. of Physiol., 1902, vii, p. 76.

the experiments were continued over a period of two months in the spring of 1902 and about three months in the spring of 1903. Tracings were made at least every other day. While the experiment was being made, the subject sat at a table with the right arm and hand fastened in a prone position to the rest. Different weights were used, the rule being to increase them as the finger becomes accustomed to the work. At first the muscle became tired very quickly, but after a few weeks it gained in power and could use the heavier weights at a faster rate of contraction. The rhythm was usually a matter of choice and was influenced largely by the object in view. While many found that they could bring on fatigue within one-hundred contractions at the rate of one contraction every two seconds, I found that I could go at a much faster rate and continue a very much longer time without fatigue necessarily following. The height of the contractions remained practically the same, varying from 1 cm. to 1.5 cm. in height. Throughout the experiments care was taken to keep the nutrition of the finger and muscle as nearly normal as possible. No attempt was made to compute the friction, which was comparatively small. Tension on the muscle was present only during the lifting of the weight.

The following table shows some of the results obtained:

TABLE 1.

Date.	Time of Day.	Duration of Experiment, hrs.-min.	Weight in Kilograms.	Contractions per Second.	Average Height of Contract's in cm.	Number of Contractions.	Kilogram-meters of Work Done.
A.—Results Obtained on the Work-adder in Spring of 1902.							
May 8, 1902....	8:12 a. m.	3:47	2.5	1	2.2	11,370	*625.35
May 10, 1902...	8:45 a. m.	3:23	2.5	1	2.15	10,180	*547,175
May 10, 1902...	1:30 p. m.	2:58	2.5	1	2.2	8,930	*479,987
B.—Results Obtained on Air-cushion in Spring of 1903.							
March 28, 1903..	2:15 p. m.	3:30	2.5	1	1.1	12,600	*346.5
March 31, 1903..	10:20 a. m.	1:00	2.5	2	1.1	7,200	*198.
April 1, 1903....	8:15 a. m.	2:30	3 1/3	2	1.1	18,000	†660.(?)
April 2, 1903....	3:30 p. m.	0:42	5	2	(?)	5,040	‡.....
April 4, 1903....	8:20 a. m.	3:40	3 1/3	2	1.1	26,400	*968.

* No fatigue. † Some irregularity. ‡Tracing irregular after 9 minutes; fatigue in 42 minutes.

Part A of Table 1 shows the results of the experiments on the work-adder. The longest single experiment was made May 8, and lasted for a period of three hours and forty-seven minutes, during which time over 11,000 contractions were made, and about 625 kilogram-meters of work accomplished. May 10 two tests were made with an interval of one hour and thirty minutes. The work done that day amounted to over 1,000 kilogram-meters. No fatigue other than a general body weariness was experienced after these experiments, and the height of the contraction remained very constant throughout each experiment. But the experiments were not above criticism, as there was some movement of the whole finger, and intervals of rest were made necessary when the weight was lowered.

Part B of Table 1 shows the work accomplished on the air cushion. March 28 I made 12,600 contractions in three and one-half hours. The rate was one contraction every second against a weight of two and one-half kgs. The average height of each of the tracings was 1.1 cm. and the total work accomplished 346.5 kilogram-meters. No fatigue occurred. On April 1, the rate of contractions was changed to 2 per second and the weight to 3 1/3 kgs. It was thought that this would bring fatigue; but to my surprise, after some irregularity in the tracing, the height of the contractions became more even and no fatigue was produced in two and one-half hours. The next tracing was made at the rate of two contractions a second with a 5-kg. weight. The tracing was regular for nine minutes, then varied considerably in height until fatigue (a failure to move the weight) came on at the end of forty-two minutes.

On April 4 the weight was changed back to 3 1/3 kgs., and with the same rate 26,400 contractions were made in three hours and forty minutes. The contractions varied between 1 and 1.4 cm., with an average of about 1.1 cm. Not over twenty-five strokes were lost during the entire time, and the wide variations to be expected from weariness or disturbances were surprisingly absent. No fatigue occurred except a general weariness of the whole body, which lasted during the remainder of the day. The weariness did not stop the work of the experiment, however. The total amount of work was over 968 kilogram-meters.

Comparing this last tracing with that of April 2, it will be seen that the heaviest weight that this muscle can lift continuously, contracting twice a second, is between 3 1/3 and 5 kgs. No similar amount of work has, to my knowledge, been recorded previously by a single muscle. This apparent increase of ability must be due, in a great measure, to the more advantageous conditions under which the muscle is working. Just how long this work could have continued I will not venture to say definitely, but the fact that I could keep up this pace for three hours and forty minutes without fatigue of the muscle following would justify the conclusion that the muscle could have done more. It is evident in the above experiment that the muscle had sufficient rest after each contraction to recover from the effects of that contraction. Had this not been the case fatigue would have been the result, as it had been with the use of the 5-kg. weight.

Since so many factors enter in to modify the conditions, it is not to be expected that the results will be the same in each experiment; but with the conditions sufficiently favorable it may be concluded that a muscle is able to do a day's work of eight or ten hours' duration.

FATIGUE.

Mosso,[1] Lombard,[3] Maggiora[2] and others found that the muscle became tired and could not lift a given weight after from 50 to 100 contractions, the rate being once a second. With them, the amount of work, as well as the extent of movement, decreased as fatigue was approached. Franz[19] found that with the spring he could contract 150 times and still do about 40 per cent. as much work as at the beginning of the series. During the present experiments the muscle was fatigued several times and it always gave results far in excess of those obtained by these men. The muscle did not become fatigued within a period of three hours and forty minutes when it raised a 3 1/3-kg. weight twice a second. On April 2 the muscle became fatigued in forty-two minutes after having made over 5,000 contractions against a 5-kg. weight, lifting it twice a second. After a lapse of about four weeks, it made nearly 4,000 contractions under the same conditions.

That I might find a cause for this great difference in ability, I made a few experiments with the Mosso form of ergograph. Table 2 shows some of the results as compared with those taken with the air cushion:

19. C. f., p. 368

TABLE 2.

Date. 1903.	Length of Contraction in Minutes.	Weight Used.	Contractions per Second.	Number of Contractions to Fatigue.	Results.
RESULTS WITH AIR-CUSHION.					
April 2	42	5	2	5,040	fatigue
April 4	220	3 1/3	2	26,400	no fatigue
April 29	33	5	2	3,960	fatigue
RESULTS WITHOUT AIR-CUSHION.					
April 5	22	3 1/3	2	2,640	fatigue
April 16	24	3 1/3	2	2,880	fatigue
April 29	1:08	5	2	135	fatigue

These tracings compare the time and work necessary to produce fatigue when the air cushion is used and without it.

These results do not agree with those obtained by the previous investigators. With a weight of 3 1/3 kgs. twice a second, there was no fatigue until 2,640, and in another 2,880, contractions had been made. At another time the muscle, contracting every half second, raised a weight of 5 kgs. 135 times before fatigue was produced.

The question arises, why there should be such a difference in the amount of work necessary to produce fatigue? The individual variations of the muscles would easily explain small differences, but would not suffice here. The muscle that I used was below the average in strength before the experiments began, and the time over which the experiments extended would scarcely allow such great increase in power. The difference which exists between the tracings made with the air cushion and those with the Mosso form of ergograph can be explained to a great extent by the conditions under which the muscle was working. The other is evidently the result of the endurance which the muscle gained by working many times over an extended period.

RECOVERY AFTER FATIGUE.

It was also noticed that the periods of recovery after fatigue had been reached were very much longer when the air cushion was used, than when the Mosso form of ergograph was used. The average number of contractions in the recoveries of an experiment lasting one hour and forty minutes was eighty-five, and the average intervals of absolute fatigue was fifty seconds, varying in length from 2 to 10 cm. The weight used was 5 kgs., raised every one-half second. There was no regularity in the length of the recoveries, while the intervals of loss of power had a tendency to become longer as the experiment was continued. For a detailed discussion of this subject the reader is referred to the work of Lombard.[20]

SUMMARY.

1. A muscle working under normal physiologic conditions is neither "loaded" nor "after-loaded."

2. A muscle will not contract isotonically nor isometrically under normal physiologic conditions.

3. When a Mosso or a spring ergograph is used, a large part of the energy expended by a muscle during a period of work is lost. This loss occurs in easing back the weight or the spring to its position of rest or to the zero point.

4. A recognition of the conditions under which a muscle works and the end to be attained is necessary when an interpretation of ergographic results is to be made.

5. A normal muscular contraction ("normotonic") consists in contraction, relaxation without load, rest.

6. A new form of weight ergograph has been devised which allows the human muscle to work at a greater advantage than that given by any previous form of ergograph, because it permits "normotonic" contractions.

7. A human muscle is capable of doing a far greater amount of work by the use of the new ergograph than has been previously shown in ergographic work.

8. A muscle can work over periods of long duration without fatigue when the conditions are favorable.

9. These experiments confirm the conclusion stated by Maggiora that there is a definite weight with which one can perform the greatest possible work.

10. The physiologic limit of a muscle for continuous work is modified by the rate, load and interval, or by rest and work.

20. Lombard: The Effect of Fatigue on Voluntary Muscular Contractions, Jour. of Psychol., 1890, vol. iii.

DYSTOCIA CAUSED BY DOUBLE CONGENITAL CYSTIC KIDNEYS IN THE NEW-BORN:

A CONTRIBUTION TO THE STUDY OF CONGENITAL CYSTIC KIDNEY.

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Spiegelberg, in his well-known "Midwifery," vol. ii, p. 169, speaking of the causes of difficult labor produced by anomalies of the fetus and appendages, says: "The various causes which lead to the enlargement of the abdomen of the fetus are the following:

"1. An accumulation of serum.

"2. The distention of the urinary organs with urine, both bladder and uretus.

"3. Cystic degeneration of the kidneys.

"4. Distention of the uterus with fluid.

"5. Tumors of the liver, spleen, testicle in the abdomen.

"6. Aneurism of the aorta.

"7. A condition in which one fetus is included in another."

Under the third of these headings, viz., cystic degeneration of the kidneys, I wish to report a case of dystocia which recently occurred in my practice:

Mrs. X., aged 20, primipara, healthy, and pelvis normal, came into labor early in the morning of January 19. In the beginning the pains were of normal character and continued increasing in strength and frequency during the day and evening. Dilatation of the os was very slow. A breech presentation was easily diagnosed. The pain steadily increasing and becoming progressively harder and the os not opening proportionately, it was decided at 11 p. m. to anesthetize and deliver. Under ether there was no difficulty in dilating sufficiently to admit several fingers and grasp the feet. Traction brought the limbs well through the os, but the abdomen resisted all efforts. An examination cautiously made demonstrated some obstruction of a very considerable character in the abdomen, which was felt to be enormously swollen. By repeated and persistent traction, combined with careful manipulation, the trunk and after-coming head were eventually born, without resorting to any cutting or destructive operation. When born the child breathed a few times, not, however, emitting any cry, but very shortly breathing ceased.

The uterus contracted firmly after the discharge of a small quantity of blood, very dark in appearance. The recovery of the mother was uneventful. The conditions surrounding

the case were of such a nature as to forbid a careful post-mortem examination. Permission, however, was granted to open the abdomen and learn something of the true condition.

The child, male, must have been very near full term, although it was claimed that it was only eight months. No deformity was visible in limbs or parts, beyond the unusually large fontanelles both anterior and posterior, these being far larger than is usually found in the new-born. It is worthy of note that the head in conditions similar to this so frequently hydrocephalic, was not in this instance abnormal. The attention was at once fixed on the abdomen, which was very prominent and greatly distended. I regret that lack of time and material forbade the exact measurements. In appearance, however, it was not unlike that frequently seen in malignant disease when ascites has caused an extreme distention of the abdominal walls. Palpation and percussion showed the presence within of a solid body or bodies, as the parts could be readily felt by the tips of the examining fingers, and percussion emitted the dull note of solid bodies. An incision was made through the abdominal walls in the median line. Only a small quantity of fluid escaped. Inserting the hand in the line of the incision a solid mass was found to occupy the entire abdominal cavity, completely filling the pelvis and pushing

Fig. 1.—(×100.) a, Efferent vessel? b, Atrophied glomerulus. c, Cystic capsule of Bowman. d, Area of hemorrhage surrounding engorged vessels.

the liver and diaphragm high up in the thorax. Lying on the surface of the mass were the flat, ribbon-like intestines. Careful inspection showed that the mass was in reality two distinct bodies, both uniform in shape and consistency, meeting in the median line, forming a fissure. By exploration with the tips of the fingers it was found that the two tumors in question were in reality the two kidneys, far advanced in a state of cystic degeneration. The left was removed and is the specimen from which the accompanying microscopic slide was taken (Fig. 1). Very little of the original kidney structure remained. Stripping away the capsule the entire kidney—fully eight inches in length and four in width—was found to be filled with cysts, varying in size from a small pea to a good-sized marble. These cysts were filled with fluid, clear and serous in character. The ureters were found and a probe inserted proved them patulous for about three inches. Little or no examination could be made of the remaining viscera beyond the fact above mentioned, of the great upward displacement by compression of the liver, lungs, heart, etc. The kidney was submitted to Dr. James Carroll, assistant curator of the U. S. Army Medical Museum, who made a careful microscopic examination, the report of which is here quoted:

"The section resembles one of an adenocystoma or of the multilocular cystic degeneration that is seen occasionally in the ovary. The stroma consists of a loose fibrous reticulum fairly rich in cells. These cells are, as a rule, slender spindles with oval nuclei; in the looser portions there are some multipolar and round cells with oval or spherical nuclei. There is marked infiltration of the stroma with red blood cells and here and there small and large hemorrhages. The vessels, as a rule, are small and engorged with blood. The cystic spaces are lined with a compact layer of stratified round epithelium and are surrounded by a dense wall of cellular connective tissue. In some instances this wall is of considerable thickness and very rich in cells. The surrounding stroma shows here and there small isolated groups of contorted tubular structures resembling glandular acini. They are not surrounded by capsules and their walls appear to consist of cuboidal epithelium. The lumina of the tubules are seen in cross section to be packed with similar cells whose nuclei stain rather poorly. These acinus-like bodies are at times surrounded by small hemorrhages, again by a number of polymorphonuclear leucocytes. The grouped arrangement of these structures and the character of the cells within them would lead one to suppose that they were uriniferous tubules, but on comparison with undoubted tufts within both the distended and non-distended Bowman's capsules it is clear that they are the remains of malpighian bodies whose capsules have merged with the surrounding fibrous tissue and disappeared. In other places the malpighian bodies appear to have undergone a different change; within some of the above described cystic spaces the remains of a tuft can be seen projecting from the thickened wall into the lumen. These tufts are covered by round or cuboidal epithelial cells similar to those lining the sac. The character of the epithelium is the same when the tufts and capsules are of approximately normal size as when the capsules have been distended to form cysts.

"The uriniferous tubules have almost entirely disappeared. One or two may be seen of considerable length, slightly enlarged and filled with low cuboidal or round epithelial cells. Their basement membranes have undergone enormous proliferated thickening, are very rich in cells and closely resemble the thickened capsules of Bowman already described.

"On the whole the general changes appear to be atrophy of the epithelial structures; marked connective tissue increase; hemorrhages and cystic dilatation of a number of the periglomerular capsules of Bowman. The cystic contents appear as an almost indistinguishable structureless material showing that the fluid contained but little albumin."

Cases of congenital cystic degeneration of the kidney have been reported at intervals. The affection, while definite in character, remains, however, among the rarer diseases of the renal bodies. It is especially rare as a cause of dystocia. In a few of the cases on record the enormous distention of the kidneys necessitated puncture of the abdominal walls and practical evisceration before delivery could be effected. Fussell[1] spoke of 11 cases in which the kidney obstruction was so great as to render mutilation imperative. In his case the abdomen measured 18 inches at the umbilicus, both kidneys enormously enlarged, the left 6x5 inches, the right 5x4 inches, both in original form, lobulated and the seat of cystic degeneration, the mass composed of a multitude of small cysts varying in size from a pea to a pin point. The suprarenal capsules were enlarged. The heart was much hypertrophied and about three times the normal size; ventricles small; walls of left ventricle 5/8 inch thick, right 3/8 inch; valves normal.

Frequently associated with congenital cystic kidney in the new-born are defects of development, hydrocephalus, cleft palate, hare-lip, spina bifida, anomalies and defects of the genito-urinary organs. Duffey[2] reports a case of

1. Medical News, January 10, 1891.
2. Medical Times and Gazette, London, Feb. 10, 1866.

this disease in which the fetus was of anencephalous variety, the uterus bifid. This co-association of cystic degeneration of the kidneys and anomalies of development has led to the theory, of which we will speak later, that the disease is one of defective development rather than a change brought about by pressure or inflammation, or both.

The etiology and pathology of this interesting condition still remain largely *sub judice*. Beginning with Virchow in the early 40's, who explained the formation of cysts as the result of uric acid infarcts—an opinion now abandoned—down to the present day, theories have not been wanting. Whether congenital cystic kidney is due to defective development (embryonic theory), to pressure and obstruction (mechanical theory), or pathologic changes of a more complicated nature (the inflammation theory) are questions which have never been satisfactorily answered. Regarding these three theories of causation, somewhere within which, in all probability, the truth lies, Hektoen, writing on the subject in a very exhaustive article,[3] says:

1. The theory of retention and dilatation is based on cases in the new-born and old in which were demonstrated causes of obstruction at uriniferous tubules, papillæ, etc., including fibrinous casts, degenerated epithelium blood, precipitated salts. Virchow assumes a papillary atresia or stenosis due to fetal inflammation.

2. The theory of a cysto-adenomatous growth is based on the presence in cystic kidney of adenomata.

3. The embryonic or developmental theory which seems to explain many features otherwise unintelligible is based largely on the fact, so apparent in the majority of cases, of general abnormalities of development, as quoted in cases cited above. This idea, so clearly advocated by Shattuck and Bland-Sutton, is in brief essentially this, that the wolfian bodies and the kidneys, which in normal circumstances are distinct become blended, and through this failure of differentiation an abnormal kidney results with cystic formation as an accompaniment. This view is the one adopted by Osler and incorporated by him in his article on congenital kidney in the latest edition of his "Practice of Medicine." Rindfleisch ascribes the condition to a congenital atresia of the renal artery. Neuwerck, Hufschmid and Von Kahlen incline to the idea of adenocystoma. Fürbringer has the following: Congenital cystic degeneration (Virchow's *hydrops renalio cysticus congenitus*) is usually bilateral. According to researches its origin is generally to be found in the coalescence of the tubuli uriniferi, in obliteration of papillæ by embryonic nephritis, and in the production of uric acid infarcts. The obstruction may also be found in the urinary tract, as the condition may result from the atresia of the pelvis. Klebs assumes external mechanical influences, and Niebending attributes it to engorgement of the kidneys produced by the absence of the ductus Bottali.

It is obvious that the diagnosis of congenital cystic kidney can not be made early enough to be of any practical value to the obstetrician. Its occasional occurrence, however, should not be overlooked in those cases in which there is prolonged and unnatural resistance to the birth of the body. Careful examination demonstrating the abnormally distended condition and all other efforts failing to effect delivery, the physician is justified in puncturing the abdominal walls, passing his fingers through the opening and by the removal of the enlarged kidneys reducing the size of the child sufficiently to admit of its passage through the birth canal.

It not infrequently happens that cases of cystic kidney fail to go to term. Should, however, such a pregnancy survive to the full period of gestation, the child is still-born or expires within a few minutes after birth. The causes of death are numerous. Asphyxia from compression of the lungs and diaphragm is the direct cause in a great majority of cases, particularly those in which there is great abdominal swelling, anuria, symptoms of anasarca, coma convulsions; tetanus and other uremic symptoms appear sooner or later, and death very rapidly supervenes.

3. Chicago Medical Review, September, 1892.
4. Diseases of the Kidneys and Urinary Organs, vol. ii, pp. 84-85.

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Clinical Reports.

AN EIGHTY-EIGHT POUND OVARIAN CYST SUCCESSFULLY REMOVED FROM A PATIENT SEVENTY-SEVEN YEARS OF AGE.

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DETROIT.

In these days of operative activity, ovarian tumors weighing more than fifty pounds are sufficiently uncommon to attract attention. The mortality of the operation being so small, and the zeal of the surgeons so great, we no longer see the enormous cysts, which in the earlier days were comparatively frequent.

There being several minor points in the following case, both in the physical signs and in the after-treatment, I feel justified in reporting it in full.

History.—Mrs. M. S. entered Johns Hopkins Hospital March 23, 1903. She was barely able to stand or walk alone on account of a large abdominal tumor, and the infirmity of her age, which was asserted by her companion to be 77 years. She was of Irish descent, illiterate, and had lived for many years in the slums of Baltimore.

Present Trouble.—As far as could be ascertained, for six years the abdomen had gradually increased in size, and for the past six months she had been in bed. She had suffered little real pain, but had complained of great respiratory distress and oppression on the slightest exertion. At times there had been considerable swelling of the ankles, but no urinary disturbance had been noticed. The appetite had been fairly good, and the bowels habitually constipated.

Examination.—She was much emaciated, the face deeply wrinkled, but presenting no suggestion of the ovarian facies; the skin over the whole body was deeply pigmented and brawny. The percussion note over the lungs was resonant, and the breath sounds were harsh, with râles at the end of expiration, which was everywhere prolonged and blowing. The heart sounds were sharp and clear. The temporal, facial, radial and tibial arteries were tortuous and much thickened, standing out as hard cords. Pulse, 80 to the minute, intermitting frequently and obliterated with difficulty, the pressure necessary being 175 mm. of mercury. The lower ribs, pushed upward

by the enormously distended abdomen, formed an angle of nearly 45 degrees with the upper ribs. In dorsal decubitus the abdominal distention began at the sixth rib, rising gradually and forming a dome-shaped tumor, overhanging the symphysis. This tumor was tense on palpation, and presented a perfect percussion wave. The percussion note was flat, except high up on both sides, where there was modified tympany. On turning the patient from side to side, there was a suggestion of tympany, but no distinct movable dullness could be demonstrated. The circumference at the umbilicus measured 134 cm. (53 inches). The vaginal outlet was much relaxed and the bladder prolapsed. On account of the greatly distended and tense abdomen, a bimanual examination was impossible. The urine was dark yellow, cloudy, acid in reaction, and of a specific gravity of 1028. A trace of albumin was present, and the microscope revealed bacteria in large numbers, epithelial cells, phosphates and urates, but no casts. The hemoglobin, estimated with the von Fleischel instrument, was 55 per cent.

Operation.—As the patient seemed a poor subject for general anesthesia, March 25 I made a short median incision under cocain. This revealed a very thin cyst wall, purple in color, and quite firmly adherent to the parietal peritoneum over its anterior surface. The cyst was punctured and 38 liters of dark brown fluid evacuated. The cyst was practically uni-

locular, and was therefore readily and completely emptied. Attempted separation of the adhesions between the cyst wall and the parietal peritoneum was so painful that nitrous oxid gas was administered, and the two layers rapidly separated by wiping with a gauze sponge; here and there more dense adhesions, requiring the use of scissors or knife. The omentum, which was adherent to the cyst, was quickly tied off, and the latter delivered. Fortunately, there were no pelvic adhesions, and the very broad pedicle was readily clamped off, the tumor removed and the vessels ligated with silk and catgut. After covering in the stump, the abdomen was rapidly closed with through-and-through silkworm gut. A very small amount of ether was given, although the operation could have as well been concluded under nitrous oxid anesthesia alone. The patient was conscious before the last abdominal suture was tied.

Examination of the Tumor.—Investigation in the pathologic laboratory revealed a simple cystoma ovarii, lined by one layer of high columnar epithelium. The tumor and contents weighed 88 pounds.

Convalescence.—The lung condition seemed to be the greatest danger threatening the convalescence, as hypostatic congestion was greatly to be feared. With the hope of avoiding this the position of the patient was changed every two hours during the first forty-eight hours by alternately raising and lowering the head of the bed. Despite an extremely irregular and intermittent pulse, the convalescence was uninterrupted, and healing was perfect in every particular.

Comments.—The interesting points in the case are the age of the patient, the development of a large tumor from an organ long past physiologic activity, the ease with which the operation was done with but little general anesthetic, and the speedy convalescence, despite diseased arteries and an unfavorable condition of the lungs. Attention is especially called to the possibility of preventing serious pulmonary complications, by a frequent change in position. This is not a new procedure, but it has not been extensively employed, and seems worthy of emphasis. To be effective, one end of the bed should be elevated by chairs placed under the bedposts, the patient being supported from slipping by shoulder and perineal straps. The head should be alternately raised and lowered in this way every two hours. In aged patients, with poor circulation and edematous lungs, this method of preventing hypostatic congestion and subsequent pneumonia, would seem of value.

FATAL BROMOFORM POISONING.

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The facts of the following case were obtained by courtesy of the attending physician, Dr. C. A. Hurd.

Previous Illness.—A girl of 2 years and 9 months had been sick for about two weeks with whooping cough, with severe coughing and vomiting spells at frequent intervals day and night. Blood was vomited at times.

Treatment.—Belladonna and antipyrin had been given without much effect on the spasms. On the evening of July 21 the child was put on two-drop doses of bromoform every four hours with decided benefit, the patient sleeping comparatively undisturbed that night; the next day she was playing about the house and yard, with only an occasional attack.

Poisoning.—About 7 p. m. of the 22d the child went to a drawer, took out the bottle of bromoform and swallowed some of the contents. The burning sensation caused the child to scream, which attracted the attention of the mother, and she at once took the bottle away from the child. Some of the liquid had been spilled on the floor and on the child's dress. About half the contents of the 3-dram bottle remained.

Symptoms.—For several minutes the child seemed to be unaffected, but the mother attempted to telephone to town, about three miles distant, for a physician, and the telephone failing to work she called the child's father. By that time the child began to show signs of drowsiness. As soon as a team could be made ready they drove to town with the child, who was then apparently lifeless or in a condition of deep narcosis. They reached Dr. Hurd's Hospital about 8:30 p. m. No pulsation could be detected at the wrist or carotids and no sound of heart action was at any time to be detected.

Treatment.—Strychnia and whisky were injected hypodermically, the stomach washed out, the head lowered and artificial respiration begun. The only encouraging symptoms were occasional spasmodic gasping attempts to breathe. The breath smelled strongly of bromoform. The pupils were widely dilated. There was no cyanosis until after about three hours, when the body began to get cold and the lips and fingernails blue. It was not until then that artificial respiration was abandoned.

Dose.—The amount taken can only be estimated. Of the three drams prescribed 10 or 12 drops had previously been taken. About 1½ drams remained in the bottle, and an uncertain amount had been spilled, but by conservative estimate 30 or 40 minims was the maximum amount swallowed.

Comments.—No very accurate conclusions can be drawn from this case, except that bromoform is a dangerous drug, probably more poisonous than chloroform, and should be handled with care. Its action was comparatively rapid and apparently paralyzed the heart's action and vasomotor system more rapidly and completely than it did respiration. It was effective in controlling the spasms of whooping cough, when used in full doses, but its agreeable taste makes it a temptation to the child who has access to it.

New Instrument.

A NEW AIR-DILATING URETHROSCOPE.

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For some time past I have been an advocate of the more general use of the endoscope in the treatment of chronic urethritis and urethral lesions. While my work with the various instruments designed for endoscopy has given me good results, I have at the same time felt the need of improved technic in this work. The advent of the mignon lamp of Koch of Rochester was a distinct advance over the platinum loop of the Oberlænder instrument and the various forms of reflected-light instruments. The application of the air-dilating principle of Schall and Fenwick, while an advantage, was more than offset by the disadvantages of the means of illumination.

Realizing the advantages of air-dilatation applied to urethroscopy and of the cold lamps made in this country, I devised the instrument which is here illustrated, and which, I believe, combines the valuable features of former instruments, while being free from their disadvantages. The instrument has for its component parts an endoscopic tube having the points of excellence of the Guiteras tube; a universal head which is attachable to any size of endoscopic tube by a screw joint and which has the valve attachment for the dilating bulbs; a light-carrier having at its distal end a mignon lamp and fitting into the universal head by a bevel joint, insuring an air-tight connection; an obturator having a universal handle and a glass window fitting into the light-carrier by a bevel joint. The light-carrier is adjustable to any size of endoscopic tube by means of a screw connection between the light-carrier shaft and handle.

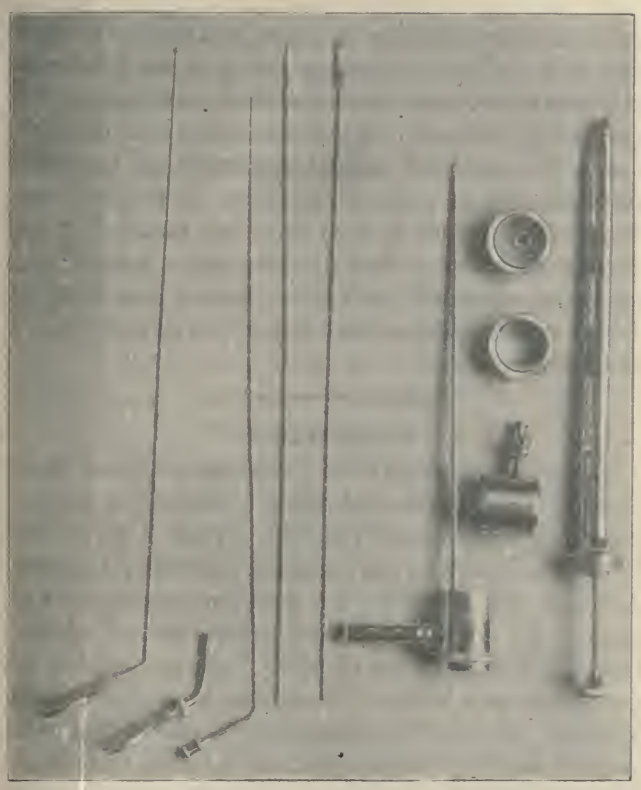

Fig. 1.—Aero-urethroscope. 1. Tube with obturator inserted. 2. Universal head with stop cock attachment. 3. Light-carrier. 4. Observation window. 5. Operating window. 6 and 7. Knives. 8. Handle for knives. 9. Canula. 10. Probe.

The possibilities of air-dilatation appealed to me so forcibly that I added to the instrument a glass operating window which has in its center a metal adjustable gland, fitted with a rubber gasket, insuring an air-tight contact between the operating instrument and the gasket and yet permitting of all necessary mobility on the part of the instrument in use. The set of operating instruments, so far, comprises two knives, a canula and a probe, and their uses are obvious.

The technic of endoscopy with this instrument is simple. The tube to be used is selected and the universal head is attached. The light-carrier is then placed in the universal head and so adjusted by the handle that the distal end of the light-carrier falls into the groove in the distal end of the tube. The obturator is then inserted, the connection made with the battery and the instrument introduced the required distance. Then the obturator is withdrawn and the excess secretion mopped up. The bevel window is inserted and, the dilating bulbs having been attached, the penis is grasped in the left hand while pressure on the bulbs with the right makes dilatation. The collapsed, stellate folds of the urethra are obliterated and the urethra comes into view as a tube, every point on the walls of which can be accurately observed. If the endoscope was properly selected and an excess of air pressure is not caused, no air escapes along the sides of the instrument.

On account of the extensive area brought under observation any lesions contrast strongly with the adjacent healthy mucosa. Cystic follicles form projecting points. Congestions or erosions are easily recognized in character and extent. Submucous infiltrations form irregularities in the lumen of the urethra.

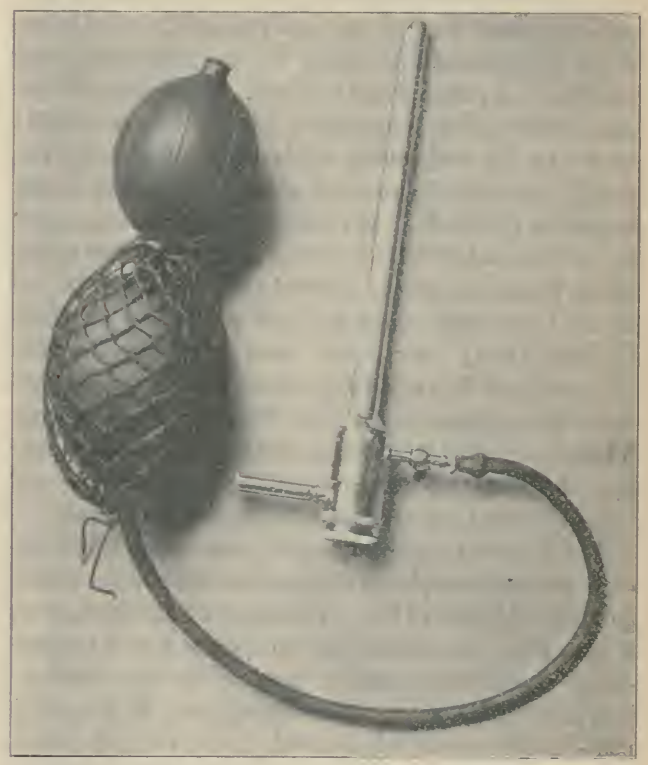

Fig. 2.—Aero-urethroscope, with universal head and light carrier in place. Obturator withdrawn and observation window and dilating bulbs attached.

In two locations, especially, I have found this instrument of unusual service, namely, the bulbous and prostatic portions of the canal. It is in these points of physiologic dilatability that urethroscopy with the ordinary urethroscope has proven unsatisfactory, the urethra falling into such folds as to conceal gross lesions despite skillful manipulation. Endoscopy of the prostatic urethra has proven particularly difficult on account of the wide dilatability of this region as compared with the narrow membranous portion. Naturally, an endoscope which would pass comfortably the membranous urethra would find the prostatic portion thrown into voluminous folds. On account of the rigidity imparted by the triangular ligament it is practically impossible by any manipulation to obliterate these folds. With this instrument the constriction of the compressor in front and the tonic spasm of the internal sphincter behind form an ideal location for air-dilatation, every point in the prostatic urethra falling into view. The bladder should be emptied before attempting posterior endoscopy.

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SATURDAY, DECEMBER 19, 1903.

THE TYPHOID EPIDEMIC AT BUTLER, PA.

The calamitous outbreak of typhoid fever at Butler must be ranked not only as one of the most extensive epidemics of the kind that has ever occurred in this country, but as one of the most extensive on record anywhere. Several of the largest epidemics of recent times have occurred in England and the United States. The magnitude of the Maidstone (England) epidemic, perhaps, surpasses that of any other carefully studied typhoid epidemic of late years, about 1,900 cases being recorded in a population of 35,000. The celebrated epidemic at Worthing, England, in 1893, gave rise to 1,317 cases. In the well-known epidemic at Plymouth, Pa., in 1885—perhaps the severest of all in proportion to the population involved—1,104 cases developed among a population of about 8,000. The total number of cases occurring at Ithaca last spring reached approximately 900. At Butler, a city with about the same population as Ithaca (15,000-16,000) over 1,200 cases have already been registered, and it is said that new ones are being reported at the rate of 10 to 15 per day. The proportion of cases to population at Butler will doubtless be somewhat lower than at Plymouth, but the total number of cases will probably exceed any similar epidemic in this country.

It is certainly discouraging to have to chronicle another such catastrophe so close on the heels of the Ithaca epidemic of March, 1903. The mode of infection seems to have been the same in the two places, and a contaminated public water supply must again be accredited with the responsibility of the misfortune. So far as the previous prevalence of typhoid fever was concerned, Butler seems to have had less warning than Ithaca; otherwise the conditions preceding the outburst appear to have been dishearteningly similar. The train has long been laid. The familiar and critical situation of an unpoliced, unprotected watershed on which cases of typhoid fever have been allowed to develop unwatched and apparently without efficient control of any kind, has finally culminated in the present disaster.

In pessimistic moments one is tempted to conjecture how many other smoldering foci of typhoid exist in various parts of the country, only waiting for a series of untoward accidents to fan them into flame.

It is perhaps a legitimate inquiry as to just how many such catastrophes will be needed to implant a sense of responsibility in the minds of water-works officials and local boards of health. In some communities it is not a matter of great difficulty to recover large damages from corporate authorities for personal injuries due to broken sidewalks or defective highways. Sooner or later, we believe, a similar sensitiveness will be aroused concerning the liability of some responsible organization for the distribution of infected drinking water. In the light of our present knowledge of sanitary matters and modes of infection one is disposed to ask whether it is reasonable for those in charge of the public health of a community to allow themselves to be diverted by new systems of plumbing and garbage disposal away from the vitally important matters of water supply and milk supply. The usual vehicles of infection and methods of transfer of specific disease germs are now so clearly understood that public opinion will not content itself much longer with the explanation of an unpreventable accident. With two such terribly illuminating examples as Ithaca and Butler to light the way to reform, it is evident that the most intelligent opinion in future will hardly be satisfied with the vague statement that a typhoid epidemic is due to a fortuitous concourse of circumstances. The question of responsibility will soon become as conspicuous in the matter of typhoid epidemic as it is already fast becoming in railroad accidents. If civilized communities are unable to keep infectious material of disgusting origin out of their drinking water, it is a humiliating confession of impotence. Let us hope that the Butler epidemic will at least help to put an end to laxity and indifference.

CHOLESTERIN.

As cholesterin seems to be a constituent of most if not all cells, it may be assumed that it is of some importance, even though the quantity is generally small, yet to this time its real purpose has remained practically unknown. Although chemically a much more complex body, it resembles the fat in its physical properties and solubilities, and because of the relatively large amounts in the nervous tissue it is usually thought of in connection with lecithin. Chemically, cholesterin is one of the most inert of the body constituents, and it seems improbable that it plays any part in metabolic processes, for which reason there have been those who have been content to consider cholesterin as merely a by-product in cell metabolism, which was present in the cells in recognizable quantities, chiefly because its resistance to alteration made its removal slow. It is probably because of this resistance to chemical alteration that cholesterin is so frequently found in areas of slow cell-destruction, such as healing tubercles, atheromatous areas, inspissated pus, etc.

The importance of cholesterin, not being in its chemical properties, therefore, is possibly to be found in its physical properties, and there is accumulating good reason for believing that this is the case. We have learned that the penetrability of various sorts of cells differs for different substances, and on this probably de-

pends an important part of cell individuality in physiologic manifestations. Since cholesterin is, like the fats and waxes in general, resistant to permeation by most fluids, it will undoubtedly make much difference in the physical properties of a cell whether it has much or little cholesterin in its make-up. We may here recall the important observation of Overton that the anesthetics are solvents of fatty substances, including cholesterin and lecithin, leading to the suggestion that it is the solvent action that accounts for the anesthetic effect, the nervous tissues being richest of all tissues in lecithin and cholesterin. Another observation indicating the importance of cholesterin in a physical way refers to the red blood corpuscles, which are also particularly rich in cholesterin. It would seem that it is the cholesterin that is chiefly, if not solely, attacked by certain agents that produce hemolysis. The vegetable hemolytic poison, saponin, seems to produce its effects by action on the cholesterin, and therefore the presence of free cholesterin in a fluid containing corpuscles will protect them from hemolysis by saturating the poison and preventing its entering or combining with the corpuscles. This, it will be noted, is in full correspondence with the usual conception of the nature of the neutralization of toxin by antitoxin, the antitoxin being the particular substance of the cell with which the toxin combines. Other hemolytic poisons, but not all, have been found to be similarly affected by cholesterin. It is also suggested that ether, chloroform, and bile salts, which have long been known as laking agents, are all solvents of cholesterin. Probably, therefore, the cholesterin is an important factor in retaining the hemoglobin within the erythrocytes, and it is quite likely that in other cells it has a similar effect with regard to their constitutents, not to mention the possibility of its preventing the entrance of substances from outside the cells. If cholesterin does in this way modify exchange of substances between cells and plasma it must have a most important influence on cellular metabolism.

To the practicing physician the word cholesterin usually suggests gallstones, for in this form alone has any practical importance generally been assigned to this substance. The source of the cholesterin that forms the gallstones has been a matter of contention for many years. At first it was widely held that a chemical change in the bile, perhaps because of errors in diet, led to precipitation of the small quantity of cholesterin that it contains normally. Naunyn, however, supported the theory that the chief source of bile cholesterin was in the columnar epithelium lining the bile tracts rather than the liver cells, and that in chronic inflammation it was produced in excess until a deposition occurred on some foreign body, such as desquamated epithelial cells or mucus, and that after the concretion was once started further production of cholesterin was stimulated by the irritation of the stone itself. The development of the bacteriology of cholelithiasis has corroborated this view to the extent of indicating the importance of chronic inflammation rather than dietary considerations. Recent studies by Wakeman[1] in Herter's laboratory strengthen Naunyn's theory, for he found that sterile inflammation produced by injecting corrosive sublimate, phenol and ricin into the gall bladder resulted in the presence of several times the normal proportion of cholesterin in the cystic bile, probably derived from the degenerating epithelium of the mucosa. This being the case, we can understand readily the occurrence of gallstones in chronic cholecystitis, and their usual multiplicity is perhaps partly due to the establishment of a vicious circle, the irritation by one concretion leading to conditions favorable for the formation of others.

TUBERCULOUS AND NON-TUBERCULOUS DISEASES OF THE RESPIRATORY TRACT.

We are all familiar with the fact first pointed out by The Journal nearly four years ago (April 14, 1900), that the deaths from acute non-tuberculous pulmonary affections, especially pneumonia and influenza, have been growing more frequent of late years, if we can depend on the published statistics, while the deaths from tuberculous diseases have been decreasing. This last fact we impute to our improved methods of public hygiene, popular education as to the prevention of tuberculosis, fresh-air sanatoria, etc. The great increase in the mortality from the non-tuberculous diseases we find ourselves unable to explain.

Ascher[2] presents some statistical evidence on this question and suggests an interpretation of the evidence. After a warning against the use of statistics by any but experts, he points out certain facts obtained by a careful study of the mortality statistics of Prussia between the years 1875 and 1901, comparing the deaths from tuberculosis with those from the other diseases of the respiratory tract (bronchitis, catarrh of the lungs, inflammation of the lungs and pleura, etc.). The curves representing the deaths from these two classes of lung disease show graphically a decline in the deaths from tuberculosis, beginning in the year 1880, and an increase in the deaths from the other respiratory diseases, beginning in the very same year. The two curves cross in 1890, and from 1892 on the curve representing the non-tuberculous is always higher than the curve representing the tuberculous. Nor is this due simply to the diminution in the death rate of tuberculosis. There is an actual as well as a relative increase in the non-tuberculous diseases, as is shown by the fact that the combined death rates from these two classes were the same in 1901 as they were in 1875. During the first five years of the period in question, i. e., from 1875 to 1879, the mortality from both tuberculous and non-tuberculous diseases of the respiratory tract was 48.29 per 10,000 living; and during the last five years, 1897 to 1901, in spite of

1. Trans. Assn. Amer. Physic., 1903, vi, 162.
2. Berliner klinische Wochenschrift, Nov. 2, 1903.

the diminution in the deaths from tuberculosis, it was 48.03, almost exactly the same. Rahts, the statistician for the Imperial Health Office of Germany, finds that the same change has taken place in the rest of Germany, outside of Prussia, and also in England.

Ascher gives less credit to the modern crusade against tuberculosis than it is accustomed to receive. As the fall in the death rate from tuberculosis began in 1880, two years before Koch's discovery of the *Bacillus tuberculosis,* eight or nine years before Cornet's work and at least ten years before Flügge's, it is evident that modern methods of isolation, prophylaxis, sanatorium treatment, etc., can not be entirely responsible for it. The increase in national prosperity has undoubtedly something to do with it, leading as it does to improved conditions among the working classes and to lessened emigration, for emigration always raises the apparent death rate by removing a certain proportion of healthy young adults. There are, however, deeper causes than these. That the decline in mortality from tuberculous diseases of the lungs is intimately connected with the increase in mortality from the non-tuberculous, seems to be proved by these Prussian statistics, which show that while deaths from tuberculosis in middle life are decreasing, deaths in early childhood and old age from non-tuberculous diseases of the lungs are steadily increasing, and also that the acute diseases of the lungs are gradually replacing the chronic. This must not be regarded as a mere coincidence. The removal during early childhood of an increasing number of persons with "predisposed lungs," lessens the number of those who would contract tuberculosis during later life. Indeed, it is claimed by Rahts that in those regions where infant mortality is very high, the death rate from tuberculosis is comparatively low. (In the Chicago health reports, on the other hand, the increase of pneumonia is coincident with decreased infant mortality.) As for the increase in the deaths from acute inflammatory diseases of the lungs during old age, that probably has a direct relation to the diminution in the deaths from chronic tuberculosis, the persons with chronic tuberculosis succumbing finally to influenza or pneumonia. The increasingly acute character of lung diseases is shown also by the fact that fewer tuberculous patients reach the age of fifty.

It seems remarkable that in these days of scientific research and of great advance in public hygiene, we should be utterly unable to control or even to account for this enormous, unprecedented increase in acute non-tuberculous diseases of the lungs. Ascher accuses the medical world of approaching the problems of hygiene from one side only—from the point of view of the chemist and bacteriologist—forgetting that, just as internal medicine requires not only experimental pathology but clinical work, so public hygiene requires not only investigations in the laboratory but in sociology as well.

SPENCER AND POPULAR BIOLOGY.

The recent death of Herbert Spencer has recalled general attention especially to certain of his theories that were popular among the medical profession a generation ago. Between the time when he wrote his "Principles of Psychology" as a young man and revised the latest edition of his "Principles of Biology," Spencer's views as regards the significance of life had undergone a decided change. In discussing Spencerian principles it is the custom of many to accept his earlier immature view as representative of his opinions rather than his latest thinking. In his "Principles of Psychology" he said: "The chasm between the inorganic and the organic is being filled up; the microscope has traced down organisms to simpler and simpler forms until in the protogenes of Professor Haeckel there has been reached a type distinguishable from a fragment of albumin only by its finely granulated character." In a letter published in *Nature* (Oct. 20, 1898), Mr. Spencer said: "In my revised 'Principles of Biology' I have contended that the theory of a vital principle fails and that a physico-chemical theory of life also fails; the corollary being that in its ultimate nature life is incomprehensible."

Mr. Spencer had thus come to recognize the mystery of life and its insolubility, as have practically all the great scientists who have expressed their opinions on the subject during the last decade. While undoubtedly he was a great thinker, too much of his philosophy is brilliant theorizing rather than scientific thought that will endure. As a distinguished American zoologist said not long since, "Nature never acts according to the anticipations of the closest philosopher." The phrase Spencer so often quoted, "the survival of the fittest," became one of the shibboleths of biology, but our generation is much more interested in the origin of the fittest, which is the real biologic problem, rather than in its survival, since this is manifestly due to certain inborn qualities.

Some of his other expressions have ceased to have the significance they had. Ontogeny recapitulates philogeny is no longer considered to be a basic principle in biology. All living beings originate in a single cell, but to consider by that fact that they all begin at a point in development beyond which the single cell creatures have never gone, is utterly false to our present knowledge of biology. Between the single cell fertilized human ovum from which man is to develop and the ameba there is an immense distinction, not only in possibilities, but also in physiologic constitution, in chemical composition and even in the physical arrangement of the materials. It is patient observation, not brilliant theory, that brings us enduring advance in science.

HOME MANAGEMENT OF TUBERCULOSIS.

The second Phipps lecture, delivered by Dr. Osler, December 3, had for its subject "The Home in Its Relation to the Tuberculosis Problem." A fact not always appreciated in the present enthusiastic crusade against

tuberculosis is that 98 per cent. of the sufferers from this scourge can not receive the sanatorium treatment which is now so much to the front as the remedy *par excellence* for this disease. It is only in the home management that this large per cent. of sufferers can have any hope, and this hope depends on the family physician. It was a good idea on Dr. Osler's part to call attention to this fact, for it is in this particular direction that the principal victory over the disease must be won. Sanatoriums must have an educating effect and are undoubtedly of immense value to the few that are able to receive their direct benefits, but if we are to look for any great decrease of consumption it must be mainly due to the general practitioner in his management of the cases that come under his care. Dr. Osler accepts the view that nearly all of us are infected, and that in old age but few of us will be found free from some focus of the disease. He also refers to the unsatisfactory present status of the theories of the origin of the disorder, and does not feel authorized to accept the recently enunciated views of Behring and others as to the incorrectness of the hitherto prevalent theory of air infection. While it matters a great deal how tuberculosis is acquired, nevertheless if its acquirement is such a universal thing the principal task in the fight against the disease must be to strengthen resistance. It is encouraging to think that about nine-tenths of all those that are attacked at some time in their lives must recover to account for the statistics as we have them, but the other one-tenth should be reduced to a still lesser fraction at the earliest possible moment. Dr. Osler's remarks are timely in that they bring out certain circumstances that are not always duly estimated by the general public or even by the members of our profession.

TRITURATION IN LIQUID AIR.

A study of the vital properties of organized matter is a complex one, and whatever may lead to doing away with some of its embarrassments is a certain advance. We hold that the vital functions of cells depend on the specific physiologic and chemical arrangements and that the ordinary methods of biologic and chemical research destroy these more or less. Attention is called to this difficulty in a recent communication[1] to the British Association for the Advancement of Science by Prof. MacFadyen, who has sought out a suitable method for obtaining the cell plasma for experimental work, as far as possible unaffected by physical and chemical agencies which would disturb its vital qualities. The chief previous work which has sought to avoid these objections is that on the yeast plant by Buchner, who, by mechanical rupture of the cells and release of their content with preservation of its properties, obtained some valuable results. The desiderata are rapid disintegration and the avoidance of heat and other interfering elements. Buchner's method produced good results, but MacFadyen has sought to still further improve on it. The method he has employed has been by the use of trituration in liquid air, and the most striking results he has obtained are with the bacteria by this method. It is well known that the bacteria are not immediately devitalized by intense cold, but are put in a position which permits of their rapid and effective trituration, thus releasing their cell contents. He has found by employing this method that certain bacteria possess intracellular toxins which are not otherwise obtained. Among these may be enumerated the typhoid bacillus and pus organisms. Another peculiar fact that he has observed is that in regard to the photogenic bacteria which lose their power of giving out light after trituration notwithstanding the unaltered condition of the plasma, thus indicating that the light-producing power is a vital one in some way connected with their organized, intact condition and not dependent only on their chemical and physical constitution. The brain of an animal dying of rabies loses also its infective property by trituration in liquid air, which he thinks supports the idea of an organized virus in this disease. Some new aspects of immunity are obtained from the intercellular standpoint and the method throughout seems to be new and withal one of decided value. Some of MacFadyen's results have been already referred to,[2] and the future prospects of the method are certainly encouraging.

1. Nature, October 22.

THE DIPHTHERIA BACILLUS AS A CAUSE OF GANGRENE OF THE SKIN.

In 1902, Sailer[3] reported two cases of gangrenous stomatitis following typhoid fever, in which the bacillus of diphtheria was found in the gangrenous patches. One of his patients, a boy, aged fourteen years, died in spite of the administration of 12,000 units of antitoxin; the other patient, a girl, aged eight years, recovered after the use of antitoxin. The bacillus of diphtheria has been found by several other observers in cases of noma of the mouth, as well as of the vulva. It seems, however, that noma is not the only gangrenous affection that may follow infection with this bacillus. Bernard and Jacob[4] have recently reported the case of a soldier, aged twenty-five years, who presented two furuncles on his left thigh. In a few days these boils opened and discharged, but the wounds, instead of healing, became larger, spread and appeared gangrenous, so that the patient had to enter the hospital. On admission there were scars, ulcers and pustules of a gangrenous nature on the skin, from which the *Staphylococcus pyogenes aureus* and a streptococcus were obtained. There was no apparent explanation for the condition, as the man had always been well and presented no pathologic conditions on examination. The skin lesions spread and increased in number and, about twenty-five days later, a second bacteriologic examination was made and diphtheria bacilli were found, as well as the staphylococcus and the streptococcus previously described. No diphtheria bacilli were found in the mouth, the pharynx or the nasal fossæ, nor, so far as could be learned, had he been in contact with a patient suffering from diphtheria. The patient was given 30 c.c. of diphtheria antitoxic serum in three doses of 10 c.c. each, after which the lesions cicatrized very rapidly. Cases of gangrene of the skin have been reported as the result of a pure staphylococcus infection, as a result of an infection with a pure culture of the diphtheria

2. THE JOURNAL A. M. A., p. 1416.
3. Am. Jour. Med. Sci., January, 1902.
4. Arch. Méd. Exp. et d'Anat. Path., September, 1903.

bacillus, and as a result of a symbiosis of these two organisms. The authors have collected a number of cases belonging to each of these three classes. The diagnosis of such an etiologic factor in cutaneous gangrene can be made only after complete bacteriologic examination. The case reported in the paper mentioned, therefore, may serve as an illustration of the value of bacteriologic studies in similar cases. The case also shows that disseminated gangrene of the skin is not a single nosologic entity, but that one form, at least, may be due to an infection with the diphtheria bacillus.

Medical News.

CALIFORNIA.

Dysentery Epidemic.—Dysentery is said to be epidemic in Caspar, Mendocino County. Several deaths have occurred.

Italian Hospital to Open.—The Italian Hospital, San Francisco, will soon be ready to receive patients. It is located in the old Toland College building, which is being remodeled.

Personal.—Dr. Charles C. O'Donnell, San Francisco, accompanied by his niece, has started on a trip round the world.——Dr. William D. Dilworth, Oxnard, has sold his practice and will spend two years in special studies in New York and Europe.

New Society.—A new and exclusive scientific society, with a membership limited to 40, has been organized in Los Angeles, known as the "Clinical and Pathological Society." The following officers were elected: Dr. Andrew S. Lobingier, Los Angeles, president; Drs. Fitch C. E. Mattison, Pasadena, and Jay H. Utley, Los Angeles, vice-presidents; Dr. Frank D. Bullard, Los Angeles, secretary; Dr. John R. Haynes, Los Angeles, treasurer, and Drs. Ernest W. Fleming and Milbank Johnson, Los Angeles, executive committee.

ILLINOIS.

Lays Cornerstone.—With due ceremony Rev. D. L. Crowe laid the cornerstone of the new St. Francis Hospital, Kewanee, December 8.

Data Wanted on Epilepsy.—The State Board of Charities has sent a circular letter to each physician in the state asking for definite data regarding epilepsy in the state.

Octogenarian Honored.—On the occasion of his eightieth birthday anniversary, December 2, Dr. William J. Chenoweth, Decatur, received a greeting signed by all the medical men of the city congratulating him and bearing good wishes.

Personal.—Dr. Samuel C. Plummer, Chicago, surgeon-in-chief of the Rock Island system, has been made secretary of the association of surgeons of that road.——Dr. Thomas B. Knox, Quincy, has succeeded Dr. Le Roy P. Barstow as physician of the township.——Dr. John T. Spence, Camp Point, has been chosen physician of Adams County.

Contagious Diseases.—Canton reports 100 cases of typhoid fever and 10 deaths.——Scarlet fever and diphtheria are epidemic at Geneva, and the public schools have been closed. Since October 25 there have been 17 cases of diphtheria in Pekin.——An outbreak of smallpox is reported from Locust township, Christian County.——Prevalence of scarlet fever has caused the closure of Palmer schools.——Lakeside, Winnetka, Evanston and Glencoe are alarmed because of the presence of scarlet fever.——Scarlet fever is said to be raging near Bunker Hill. In one family three deaths have occurred.——After a strenuous battle for two months smallpox has been stamped out of Moline. Twenty-six cases in all were reported.——At Millersville, 22 cases of smallpox have been reported.——Springfield has 14 cases of diphtheria and 21 cases of scarlet fever.

Chicago.

A Successful Auction.—At the auction of boxes for the charity ball, of which St. Luke's Hospital is the beneficiary, $15,450 was realized.

Reynolds Reappointed.—The mayor has reappointed Dr. Arthur R. Reynolds commissioner of health, and by a unanimous vote, on December 14, the city council confirmed the appointment.

New Hospitals.—The management of St. Joseph's Orphan Asylum has had plans prepared for a three-story hospital on the northwest side, to cost $20,000.——The Hospital Sisters of St. Joseph, Montreal, will build on land acquired in Englewood, a hospital to be called Hotel Dieu, and to cost $80,000.

December Health.—Thus far in the month the public health, as measured by the death rate, has been satisfactory. The average December rate for the previous decade was 15.24 per 1,000; for the first twelve days of December, 1903, the rate has been 13.36 per 1,000, or 12.3 per cent. lower than the average.

Personal.—Drs. William Engelbach and G. W. C. Parker, retiring internes at the County Hospital, will continue their studies in Vienna.——Dr. Craig R. Snyder, a former interne at the hospital, intends to enter the medical department of the Army.——Dr. Joseph F. Biehn, as the result of a competitive examination, has been certified by the civil service commission as city bacteriologist and superintendent of the milk and food inspection bureau.

Prophecy Fulfilled.—The forecast of the Department of Health that there would, between Nov. 1, 1903, and May 31, 1904, be an excess of pneumonia deaths over deaths from consumption in the proportion of more than 60 per cent. of the former to less than 40 per cent. of the latter, is fully sustained by the figures for the first 42 days of the period. During these six weeks there have been 286 deaths reported from consumption and 506 from pneumonia—a proportion of 36.2 per cent. for consumption and 63.8 per cent. for pneumonia.

Antitoxin Reduces Diphtheria Mortality.—The Department of Health, in its latest bulletin, thus comments on the value of antitoxin in diphtheria:

> Since the introduction of antitoxin in the treatment and prevention of diphtheria its mortality rate has been reduced by nearly one-half—that is, from an annual average of 6.25 deaths in every 10,000 of the population in the seven years 1889-1895 to an annual average of 3.24 in the seven years 1896-1902 of antitoxin treatment. But this is not enough.
>
> The seven years' experience clearly proves that no child should—that no child ever did die of diphtheria when treated early enough with a sufficient quantity of good antitoxin. The pre-antitoxin mortality of diphtheria in Chicago was about 35 deaths in every 100 cases of the disease. In the many thousands of cases among the poor and destitute treated by the department inspectors under the most adverse conditions the rate for the whole number has been less than 7 deaths in the 100 cases. And there are many physicians in Chicago and elsewhere who have records of hundreds of cases with a rate of less than 2 deaths per 100.

INDIANA.

Medical Library for Southern Indiana.—At a meeting of the Vanderburgh County Medical Association, November 17, steps toward the founding of a public medical library in Evansville were taken.

Will Not Endorse Contract Services.—At the regular meeting of the Delaware County Medical Society, December 4, the society took decided action against the indorsement of the "Red Cross Medical Association," recently organized in this and other counties of the state, on the grounds that it was impracticable, unethical and a form of contract service.

Personal.—Dr. Joseph G. Rogers, superintendent of the Northern Indiana Hospital for the Insane, Logansport, has had his salary increased from $2,000 to $2,500.——Dr. J. Rudolph Yung has been appointed police surgeon of Terre Haute, vice Dr. Myron A. Boor, who has been made smallpox physician.——Dr. Arvill W. Bitting, Lafayette, who was injured in a railway accident at Indianapolis, has returned home recovered.——Dr. August Knoefel, New Albany, has been made county physician of Floyd County.

Epidemic Diphtheria.—Diphtheria has caused the schools at New Haven to be closed.——At Michigan City a parochial school has been closed on account of the prevalence of the disease; four deaths have occurred.——The disease is prevalent at Emison and Oaktown and is said to be raging in Spencer County.——School at District No. 3, Hutton, has been closed on account of the disease.——Colfax County schools are said to be in unsanitary condition and the State Board of Health has been asked to investigate.——At Tell City two deaths have occurred.——Elwood has several cases.

IOWA.

Smallpox at Arlington.—There are said to be 50 cases of smallpox at Arlington; the city has been thoroughly quarantined, and it is hoped that the disease will not spread.

Ante-Nuptial Health Certificates.—The Iowa Society for Suppression of Disease and Degeneracy has prepared a bill to be proposed, providing for a physician's certificate of examination before a marriage license can be issued.

Personal.—Dr. Charles H. Hoffman, Des Moines, is suffering from a severe infection of the right arm, the result of an

autopsy wound.——Dr. Emmett C. Chapman, Fort Madison, has been elected president of the Santa Fe Hospital Association.——Dr. Malcom N. McNaughton, Villisca, has sold his practice to Dr. F. S. Williams, of Chapman, Kan.

Stops Indiscriminate Sample Distribution.—The Fort Dodge council has passed an ordinance prohibiting "the distribution of any sample packages of patent medicines, pills or other free samples of any preparation whatever for medicinal purposes by way of advertisement, by leaving the same on the porches or doorsteps of any of the residences or dwelling houses, or business houses, or on any streets, sidewalks or lots within the corporate limits of the city of Fort Dodge, Iowa." Such samples may be distributed, however, the ordinance says, by placing them in the hands of adult persons or in some safe place intended for that purpose.

KANSAS.

Office Raided; Whiskey Seized.—The office of Dr. Samuel B. Wilson, Olathe, was recently raided, 40 gallons of whiskey seized, and the physician placed under arrest on 13 charges of selling whiskey.

Hospital on Fire.—A fire occurred at the Leavenworth Hospital, December 7, which destroyed the roof, and damaged the building to the extent of about $3,000. The twenty patients were safely removed.

Smallpox.—Goodland has about 15 cases, and through lack of efficient quarantine, the disease has been carried to Benkelman township, where 16 cases have been reported.——Cherokee County reports 7 cases.

Physician Wins Case.—The suit brought by Frank Oldham against Dr. Lewis H. Munn, Topeka, in which the plaintiff alleged malpractice, was dismissed for lack of evidence, before the trial had reached its natural end.

Personal.—Dr. Edward P. Chase, Shawnee, was seriously injured, December 10, by being struck on the head with a scale-weight.——Dr. Francis M. Thomas, Leavenworth, surgeon of the federal prison, has been seriously ill with pulmonary hemorrhages, but is now reported as improving.

KENTUCKY.

Louisville City Hospital.—The Board of Public Safety has made Julius C. Vogt superintendent of the Louisville City Hospital, vice Dr. Ellis Duncan, removed.

Threatens Quarantine.—West Virginia has been notified by the Kentucky State Board of Health that unless precautions are taken to protect Kentucky against smallpox patients coming from the former state, a quarantine will be established. All who enter Kentucky will be vaccinated.

Smallpox.—Kenova has quarantined against Ceredo.——There are 8 new cases of the disease at Willard.——The disease is reported at two points in Whitley County.——In Frankfort the only cases since September have been four in one family, all fatal.——Richmond has 11 cases among negroes.——At Smith's Grove four cases are reported in one family.

Personal.—Dr. Thomas J. Slaton, Greenville, recently sustained an injury to his ankle in a runaway.——Dr. Irvin Abell has gone to British Honduras and Brazil to recuperate from a serious attack of sepsis.——Dr. Charles L. Moir, Louisville, has been appointed secretary of the City Hospital, vice Dr. George B. Jenkins, resigned.——Dr. James W. Crowley, Newport, has been elected president of the local board of health.——Drs. Joseph M. Mathews and Bernard Asman have reassociated themselves for the practice of their specialty. Dr. Asman recently returned from Europe.

LOUISIANA.

Personal.—Dr. John J. Archinard, New Orleans, has been elected house surgeon of the Old Soldiers' Home.

Tulane Opens.—The medical department of Tulane University, New Orleans, opened for the year, October 26, with an address by Dr. Matas.

Rabies To Be Treated at Charity Hospital.—At a recent meeting of the board of administrators of Charity Hospital, New Orleans, the report of the special committee appointed to investigate and advise the board of the expense of establishing and maintaining a department for the treatment and cure of hydrophobia was submitted and unanimously adopted. The committee was instructed to carry out its plans.

Society Elects Officers.—At the annual election of the Orleans Parish Medical Society, December 12, the following officers were elected: President, Dr. Marcus J. Magruder; vice-presidents, Dr. Jacob A. Storck, William M. Perkins, and Otto Joachim; secretary, Dr. Samuel M. D. Clark; treasurer, Dr. Edward J. Huhner; librarian, Dr. Homer Dupuy, and additional directors, Drs. Edwin J. Graner, Eugene H. Walet and Morgan M. Lowe, all of New Orleans.

MARYLAND.

Physicians' Homes Burn.—The dwelling-houses of Dr. Benjamin M. Price, near Mt. Carmel, and of Dr. S. B. Milford, at Poolesville, were destroyed by fire December 8.

Try to Enforce Laws.—The State Board of Health is trying to enforce the law requiring registration of births. It is also discussing a school for health officers to be held annually.

Smallpox at Quarantine.—Quarantine Physician Heiskell reports 51 cases of smallpox cared for this year at the hospital, with two deaths. Forty-one were brought from Baltimore and 10 from Homburgville, in Baltimore County, where the disease broke out in a camp last summer.

State Hospital Report.—Dr. J. Clement Clark reports 515 patients in Springfield State Hospital for the Insane, November 30, 290 males and 225 females. The typhoid outbreak has subsided under isolation, disinfection and sterilization of linen, etc. An isolation cottage is urged for infectious diseases.

Baltimore.

Money for Hospital.—By the will of Mrs. Mary C. Bailey $1,000 was left to the Nursery and Child's Hospital.

Gilman to Resign.—Dr. D. C. Gilman has announced his intention of resigning the presidency of the Carnegie Institution at Washington, next year.

Personal.—Dr. William B. Perry was elected to take charge of the surgical and gynecological departments of the Northeastern Dispensary, December 9.——Dr. José L. Hirsh has been elected president, and Dr. John R. Abercrombie, secretary, of the University of Maryland Medical Societies.

Tuberculosis Exposition.—The executive committee decided on January 25 as the date of the opening of the display. Interest is manifested all over the United States in the display. Many state boards and city health departments and hospitals and sanatoria have promised special exhibits, and there will be contributions from Germany, England, Holland, France, Belgium, Austria and Russia. Applications are being received from manufacturers for space for apparatus and devices. The pathologic exhibit will be particularly fine. The exposition will last a week, and there will be daily lectures. A meeting of the executive and general committees was held December 9. It was announced that the scope of the exposition had far outgrown the original plans, and the interest was so widespread that it had now assumed national importance. A number of addresses was made, and several subcommittees were appointed to take charge of the different branches of the work. A committee of citizens has been appointed, and $1,500 will be raised for expenses. McCoy Hall has been offered by the Johns Hopkins University for the display.

OHIO.

Starling Student Dies.—Nathaniel C. Keener of Uniontown, Pa., a senior student at Starling Medical College, Columbus, died at Mount Carmel Hospital in that city, December 5, from appendicitis.

Elects Officers.—The Marion County Medical Society met at Marion, December 1, and elected Dr. A. Melville Crane, president; Dr. Robert C. M. Lewis, vice-president; Dr. Dana O. Weeks, secretary; Dr. Francis B. Sawyer, treasurer, and Dr. Charles E. Sawyer, member of the board of censors, all of Marion.

Personal.—Dr. Alexander W. Leuke, Cleveland, has been appointed workhouse physician, vice Dr. Frederick J. Schmoldt, resigned.——Dr. George W. Boerstler, Lancaster, who has been at St. Anthony's Hospital, Columbus, on account of an infected wound, was obliged to have the affected arm amputated near the shoulder.——Dr. William Muhlberg has been elected curator of the Cincinnati City Hospital laboratory, vice Dr. Alfred Friedlander, resigned.

Epidemic Diseases.—The public schools of Butler have been closed on account of the prevalence of measles, pertussis and varicella among the pupils.——In Cleveland, during November, 369 cases of communicable disease were reported, 205 of which were of diphtheria.——Diphtheria has broken out at the Westminster Missionary Home, Wooster.——Smallpox is said to be epidemic in North Jackson and in Phausberg; at the latter point 14 cases have rapidly developed.

PENNSYLVANIA.

Women Incorporate Hospital.—Application has been made in Common Pleas Court for a charter for the Homestead Hos-

pital, to be erected at Homestead. All the incorporators are women.

Philadelphia Hospital Dinner.—At the annual banquet of internes and ex-internes of Philadelphia Hospital, held December 1, Dr. J. Chalmers Da Costa was toastmaster, and the mayor, Director of Public Health Martin, Dr. F. X. Dercum and Dr. George E. de Schweinitz were guests of honor.

Pathologic Exhibit.—The annual exhibition meeting of the Philadelphia Pathological Society will be held in the Mutter Museum of the College of Physicians, Jan. 14, 1904. This exhibition embraces every department of human and animal pathology, with microscopic demonstrations of the gross material, and represents the pathologic material of scientific interest accumulated in the various hospitals during the year. The exhibition is open to all members of the medical profession.

Accidents and Injuries.—Dr. Karl Emmerling, Pittsburg, is recovering from the injuries received in the accident which cost Dr. Blumberg his life.——Dr. Boardman Reed, Philadelphia, who underwent an operation for appendicitis, December 2, is recovering.——Dr. Robert J. A. Irwin, Pittsburg, suffered a fracture of the left arm in an altercation with a street car conductor, December 4.——Dr. Horace G. Colley, Wilkesbarre, was seriously injured by falling through an open grating on a sidewalk, November 27.

The Typhoid Epidemic at Butler.—The situation at Butler has undergone no great change since our last issue. New cases continue to be reported by the physicians, but there is, on the whole, some falling off in number. The representatives of the Pennsylvania State Board of Health, now in charge of the situation, are engaged in making an exhaustive canvass of the town with a view to determining the precise number of cases since the onset of the epidemic. It is stated that up to December 9, 478 infected houses had been visited in connection with this census, or about two-thirds of the number in which typhoid fever is supposed to exist. From these houses a record of 1,210 cases of the disease was obtained, and 38 deaths. The total number of deaths up to the present time probably exceeds 50. An appeal to the general public was issued in the middle of the week by William Kennedy, burgess of Butler, reading as follows:

> In justice to all, in behalf of the borough government and the entire people of Butler, I beg leave to state so far we have been able to help our people without a general call for outside aid. We contributed $8,000 to the relief fund and outside cities raised this amount to $16,000. We have been carefully using this since November 10. Now we are forced to admit our funds are getting low.
>
> We feel as a committee for the relief of our suffering people that necessity compels us to issue a general appeal for outside assistance. We have been criticized in various ways. We wish to assure the public that we have been doing our very best to relieve suffering, sorrow and want. We were inexperienced in an epidemic scourge such as this is. It came on us so suddenly that it took a little time for us to realize the awful truth that has been forced on us and to prepare ourselves to best fight the epidemic. We are now thoroughly organized and working together as a committee and as a people perfectly in harmony, sympathy and kindness, as a single individual, doing all in our power to relieve the suffering and needy ones in our community. We will be able to give to the public an accurate account of all money received and expended.
>
> It is stated that it will take $100,000 to carry us through this siege of disaster. We can not raise it. Necessity compels us to issue a general appeal for outside aid and assistance. We want the public to realize that we all have been and are doing our very best, giving time and money where needed. But we feel we have exhausted our supplies in every way, and many precious lives may still be sacrificed if outside aid is not furnished us.
>
> We, as a people, are thankful for the aid already received and for the great sympathy shown us. If need be we will accept the criticism also. And we appeal as a stricken people, unable longer to help themselves, for aid in our distress.
>
> WILLIAM KENNEDY, Burgess.

In response to this appeal many additional subscriptions have been made, and it is said that up to December 12 contributions amounting to over $30,000 had been received. The sum now in hand is thought to be sufficient to cover the expenditures for ten or twelve days longer. Three temporary hospitals have been put into commission, in addition to the Butler County General Hospital, which has been taxed to its utmost since the beginning of the epidemic. It is possible that another temporary hospital may have to be opened. Miss Barton, the head of the International Red Cross Society, has arrived in Butler, and plans to aid in the work of relief. It is probable that a Red Cross hospital will be established in connection with a hospital supplies room and diet kitchen.

GENERAL.

Primary Ovarian Pregnancy Data Wanted.—Dr. Louis Frank, 229 W. Chestnut Street, Louisville, Ky., would appreciate communication from any one who has personal knowledge of a case of primary ovarian pregnancy. Data regarding the pathologic finding is especially wanted.

Colorado Medicine.—This is the title of the new journal owned and published by the Colorado State Medical Society, and which takes the place of the annual transactions. The number before us consists of thirty-two pages, all filled with excellent scientific matter, together with news items, etc., relating especially to Colorado. It contains no advertisements. The journal is certainly a credit to the society, as well as to those under whose charge it is published. The editor is Dr. Edward Jackson.

FOREIGN.

Morphin-Scopolamin Narcosis.—An original article by Korff in the *Münchener Med. Wochft.* No. 46, is reviewed on page 1568 of this number of THE JOURNAL. No 48 of the *Wochenschrift* has just been received as we go to press, and it states that the dosage of scopolamin was incorrectly given in the article. It should read .01 gm. scopolamin hydrobromate, instead of .001 gm., in the formula. The total amount given is thus .001 gm. scopolamin and .025 morphin. The drug is better known in this country as hyoscin hydrobromate.

Public Anti-Charlatan Meeting at Berlin.—The German Society for the Campaign against Venereal Diseases announced a public meeting to discuss the subject "Venereal Disease and Quacks." Professor Kutner delivered the opening address, from the standpoint of the physician, followed by an eminent judge, who discussed the medicolegal bearings of the question. He asserted that many of the present evils would vanish when the advertising of charlatans is restricted. At present they are favored by the law as they are allowed to advertise while physicians are not. The meeting drew a crowd, but mostly of charlatans and their adherents who did all they could to throw ridicule and discredit on the speakers, especially when one read quotations from the published writings of charlatans showing how grossly they contradict themselves. The assembly finally grew so tumultuous that the proceedings were summarily broken off and the meeting adjourned *sine die*.

The Approaching International Congress of Otology.—The subjects appointed for discussion are "Choice of a Simple and Practical Acoumetric Formula," "Suppurations of the Labyrinth," and "Technic of Operating and After-Care of Otogenic Brain Abscess." The addresses on the first subject will be by Politzer, Gradenigo and Delsaux; on the second by Brieger, von Stein and Dundas Grant, and on the third by Knapp, Schmiegelow and Botey. The date has been definitely settled as August 1 to 4, 1904, at Bordeaux, France. English, French, German and Italian are to be the official languages. The fee of $5 may be sent to Dr. Lannois, rue Emile-Zola 14, Lyons, the treasurer of the congress. The secretary general is Dr. Lermoyez, rue la Boétie 20 *bis*, Paris, to whom communications should be addressed, if possible before May 1, accompanied by a brief summary. The Lenval prize will be awarded during the congress for the work that has realized the greatest progress in the practical treatment of affections of the auditory apparatus or for the invention of some portable appliance, which has materially improved the hearing of the deaf. The committee in charge of the awarding of the prize consists of Politzer of Vienna, Benni of Warsaw, Gellé of Paris, Pritchard of London, Kircher of Würzburg, Grazzi of Florence, Moure of Bordeaux and D. B. St. John Roosa of New York. The prize is the interest on $600, accumulated since the congress before the last, and the competing articles are restricted to this period. The president of the congress is Professor E. J. Moure of Bordeaux, founder and editor of the well-known *Revue Hebdomadaire de Laryngologie d'Otologie et de Rhinologie*, now in its twenty-fourth year.

PARIS LETTER.

Marmorek's New Antituberculous Serum.

A good deal of curiosity had been excited by the announcement that Dr. Marmorek, late of the Pasteur Institute, was to read a communication at the Académie of Médecine on his new serum for tuberculosis. This was to take place November 10, but on account of the quantity of communications, it was put off till November 17. The *Temps* gives an excellent account of the proceedings at the Académie de Médecine, much better certainly than most of the medical papers. The space reserved for the public was filled, numerous photographers being present. Dr. Marmorek's communication has been reviewed in THE JOURNAL, December 5 and 12, pages 1421 and 1479. According to Dr. Marmorek, definite judgment can not as yet be pronounced on his serum. Experiments are being carried out with it in various parts of the world.

Comments on the Serum.

Dr. Marmorek's communication was not immediately discussed, as he is not a member of the Academy of Medicine. According to the *Temps* Professor Dieulafoy has employed the serum in his clinique at the Hotel Dieu, and with poor results, it would seem. Dr. Hallopeau has used it at the St. Louis Hospital against lupus, and has obtained no result. Dr. Lucas Championniere employed it in 5 cases of bony tuberculosis, and considered it did not act differently from other sera. Experments carried on in guinea-pigs were unsatisfactory. In one of the hospitals a case of Pott's disease and one of consumption died while being subjected to this treatment at the very same hour. The symptoms observed were those of cyanosis and asphyxia. The medical editor of the *Matin* has written an editorial on the serum of Marmorek in which he does not seem to be very partial to him, Koch's fiasco being brought up as a warning. It should be remembered that Marmorek's anti-streptococcic serum was looked on with disfavor when first brought out, and it has never been accepted here in Paris by the majority of prominent medical men.

Dieulafoy's Views.

On December 1, Professor Dieulafoy gave the results in his service furnished by the use of Marmorek's serum. During August, September and October, 1902, 7 tuberculous patients were treated by this serum; 4 patients were suffering from ordinary pulmonary tuberculosis, 2 had laryngeal and pulmonary tuberculosis, and lastly 1 was affected with pleural tuberculosis followed by an effusion. Marmorek made the injections himself, determined the doses, and repeated the doses as often as he wished. The quantity of serum injected was about 5 to 10 c.c., and the injections were made each day, every other day, or at wider intervals. Dieulafoy examined carefully the patients, auscultated them frequently, had minute observations taken, and found the following results: 1. The serum did not seem to have any effect on the fever, and one patient, who had had no fever, showed a high temperature after the first injections. 2. The serum did not seem to have a beneficial effect on the sputum, which increased in quantity as much as two or three times in some cases. 3. The serum does not seem to have had a favorable action on the tuberculous lesions, and in some cases, pulmonary or pleural lesions appeared during the course of the treatment. 4. The serum does not seem to have had a favorable effect on the nutrition, as these patients continued to lose flesh and sometimes rapidly, notwithstanding overfeeding. Dieulafoy, on these reasons, asked Marmorek to discontinue his injections. Of the 7 patients treated in this manner 5 are already dead. Their clinical history is as follows: A case of fibrous tuberculosis without fever is still alive in Dieulafoy's service. A case of pleurisy recognized by cytodiagnosis and inoculation to be of pleuritic nature, has come back to the hospital after a year, and has a large pulmonary excavation. Case of laryngeal and pulmonary tuberculosis: Treatment began Aug. 6, 1902. Died Oct. 2, 1902. Second case similar to the preceding one. Died in November, 1902. Lastly, 3 cases of ordinary pulmonary tuberculosis, who died in August, January and April, 1903. Experiments were also carried out on animals, two series of guinea-pigs being inoculated with sputum. The first series was injected with the serum and died before the second series, which had had no treatment. Such is the result observed by Professor Dieulafoy.

Comments of Other Observers.

Monod, the surgeon, has tried Marmorek's serum in his service and remarked that there had been an amelioration in all his cases, and that he was willing to continue his experiments with this serum. Le Dentu, a genito-urinary surgeon, had tried it in one case, and the patient was injected 12 to 15 times. As there was no improvement, the treatment was stopped. Dr. Hallopeau also tried this treatment on seven patients affected with tuberculous lesions of the skin, and there was no amelioration, but new foci formed around old lesions.

Correspondence.

Tuberculosis Congresses.

CHICAGO, Dec. 12, 1903.

To the Editor:—Your editorial in the last number of THE JOURNAL on "Tuberculosis Congresses" is most timely, and it is to be hoped that it will prevent misunderstandings in the future. Those actively working in the local associations for the prevention of tuberculosis have so far not cared to define their position in regard to these so-called "American" congresses; their time has been more usefully employed in perfecting their organization and preventative methods, and no doubt in time this will bring about the formation of a national body for the purpose of standardizing and generalizing their measures. It is indeed unfortunate that any number of men can combine and call themselves "American Congress" and by virtue of that name alone, not only persuade the unsuspecting medical and lay public of its representative character, but even as in the case of the "Bell Congress" receive the sanction and assistance of the Government. The pathetic in this case is more striking than the humorous, because as you have justly pointed out, the impression abroad is that this planned congress is of a representative character and that preparations are made to send delegates to it. I have had several inquiries in regard to this, and only a few days ago I received a letter from Dr. Pannwitz, secretary general of the International Central Bureau for the Prevention of Tuberculosis (representing sixteen countries) inquiring about these congresses, and expressing the hope that America would be definitely represented in the international movement against tuberculosis after the congress to be held in St. Louis. Such misunderstandings, brought about by the announcements of these congresses, must have the effect of minimizing the importance of the movement, and it does not matter whether the promoters of the scheme have good or evil intentions, they are in no way qualified to represent American work and thought in the antituberculosis crusade.

The most important tuberculosis associations which are doing active work in this country are the following:

BOSTON: Association for the Relief and Control of Tuberculosis, 43 Hawkins Street, Harold K. Estabrook, secretary.

NEW YORK: Committee on the Prevention of Tuberculosis of the Charity Organization Society, 105 East 22d Street, Paul Kennady, secretary.

PHILADELPHIA: The Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis, Dr. Lawrence F. Flick, medical Director.

BALTIMORE: The Tuberculosis Commission of Maryland, 10 South Street, Dr. M. L. Price, medical officer.

CHICAGO: Committee for the Prevention of Tuberculosis of the Visiting Nurse Association, 79 Dearborn Street, Dr. Wm. A. Evans, secretary.

These associations have, through their officers and members, a truly representative character in their respective cities. They reach a very large number of consumptives and so can apply preventative measures, educational and other, in an efficient manner, wherever most needed. They are also working in close co-operation with health boards and charity organizations, thereby greatly increasing their importance. The "American Congresses" have nothing to do with these working bodies, they are satisfied with themselves, their announcements and letterheads, which as far as we can discover are their only weapons in the fight against tuberculosis.

It is to be hoped that your editorial will prevent some unsuspecting members of our profession from being persuaded to consent to serve as officers of these congresses, and I feel certain that your efforts will have the unanimous approval of all those actively interested in the movement.

ARNOLD C. KLEBS.

79 Dearborn Street.

Marriages.

CLIFTON L. GREEN, M.D., to Miss Bessie Hart, both of Utica, Miss., December 2.

ROBERT F. CAMPBELL, M.D., to Miss Gertrude C. Wallis, both of Chicago, December 10.

PAUL SORKNESS, M.D., to Miss Grace Marie Thacker, both of Fargo, N. D., December 2.

NOAH E. SUTTON, M.D., to BERTHA E. WIGGIN, M.D., both of Trenton, Mo., November 25.

WILFRED S. HALE, M.D., to Miss Helen Gould, both of Albany, N. Y., November 21.

JAMES W. ALLEN, M.D., to FRANCES D. EMERY, M.D., both of Dallas, Texas, November 30.

ALVIN CRAIG LEE, M.D., to Miss Hattie May Niman, both of Mansfield, Ohio, December 16.

LAWRENCE T. ROYSTER, M.D., Norfolk, Va., to Miss Ola Park, at Washington, D. C., December 9.

THOMAS D. ARMISTEAD, M.D., Roanoke, Va., to Miss Shelburne of Richmond, Va., December 6.

JOHN HENRY YOUNG, M.D., Cumberland, Wyo., to Miss Nancy May Boyer, at Carroll, Ohio, November 19.

R. G. CURTIS, M.D., Honokaa, Hawaii, to Miss Blair of New York, at Honolulu, Hawaii, November 16.

GEORGE WILLIAM PARKER, M.D., Chicago, to Miss Amy Josey of Calumet, Mich., at Chicago, December 1.

WILLIAM C. MCCAULEY, M.D., Versailles, Ky., to Miss Sara Smith Camp of Jackson, Mich., December 9.

BUDD CLARKE CORBUS, M.D., Chicago, to Miss Julia Gertrude Pitkin of Benton Harbor, Mich., December 15.

LESTER EFIRD, M.D., Leesville, S. C., to Miss Georgia Constance Rights of Winston-Salem, N. C., November 25.

JOHN FRANKLIN WOODWARD, M.D., Norfolk, Va., to Miss Martha Washington Philips of Tarborough, N. C., December 16.

JESSE RALPH HARRIS, M.D., U. S. Army, Fort Meyer, Washington, D. C., to Miss Belle Agnes Miller of Buffalo, December 2.

Deaths.

William Ingalls, M.D. Harvard University Medical School, Boston, 1836, surgeon of the Fifth and later of the Fifty-ninth Massachusetts Volunteer Infantry in the Civil War; for fifteen years surgeon at the Boston City Hospital; a member of the Massachusetts Medical Society, the Obstetrical Society of Boston, and other scientific bodies, and one of the best known of the older physicians of Boston, died in his apartments in Roxbury, December 1, after a short illness, aged 90.

John F. Meehan, M.D. Baltimore Medical College, 1894, who served in the Spanish-American War, and afterward in the hospital corps and as an acting assistant surgeon in the Army, died at his home in Urbana, Ohio, December 3, from skull-fracture due to a fall, November 26, aged 30.

Henry C. Utz, M.D. Louisville Medical College, 1891, a member of the American Medical Association, and one of the rising young practitioners of Hamilton County, Ind., died at his home in Atlanta, December 7, from pneumonia, after an illness of three weeks, aged 37.

Delano Gavin Brown, M.D. College of Physicians and Surgeons of Buffalo, N. Y., 1883, died at his home in Honeoye Falls, N. Y., November 30, after an illness of three months from Bright's disease, aged 50.

Horace M. Paine, M.D. University of the City of New York, 1849, of Albany N. Y., a member of the American Medical Association, died in Atlanta, Ga., December 5, from pneumonia, aged 76.

Calvin B. Phillips, M.D. Washington University School of Medicine, Baltimore, 1868, a member of the American Medical Association, died suddenly at his home in Cuero, Texas, December 6.

Virgil Kingsley, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1877, died at his home in Carthage, Ill., December 4, after an illness of one week from pneumonia, aged 51.

Eugene Field Hume, M.D. College of Physicians and Surgeons in the City of New York, 1901, of Lexington, Ky., died at Richmond, Ky., December 3, from pneumonia, aged 28.

Katherine M. Crawford, M.D. Hahnemann Medical College, Chicago, 1885, of York, Pa., died in the York Hospital, December 2, after a surgical operation, aged 47.

Charles M. Fuller, M.D. Boston University School of Medicine, 1878, died at his home in Medfield, Mass., December 4, after a short illness, from pneumonia.

R. F. Julian, M.D., of Bloomington, Tenn., was shot and instantly killed while returning from a professional call at Baxter, Tenn., December 5, aged 45.

M. E. Gonzalez, M.D. Cooper Medical College, San Francisco, 1883, died suddenly from apoplexy at his apartments in San Francisco, December 6, aged 55.

Jean Bertrand Duchien, M.D. Académie de Montpellier, France, 1885, died recently from pneumonia at his home in Baton Rouge, La.

Joseph R. Schooling, M.D. University of Louisville, 1875, died at his home in Marrowbone, Ky., from paralysis, December 3, aged 50.

Edward C. Lyman, M.D. University of Michigan, Ann Arbor, 1892, died at his home in Flint, Mich., December 4, aged 28.

Charles McMyers, M.D. University of Maryland, Baltimore, 1894, died suddenly at Baltimore, December 4, aged 69.

James M. Van Dyck, M.D., died at his home in Dorchester, Mass., December 3, from morphin, self-administered.

Phineas Cleveidon, M.D. Eclectic Medical Institute, Cincinnati, 1899, died recently at Albuquerque, N. M.

E. Lee Ensign, M.D. Albany Medical College, 1856, died at his home in Erieville, N. Y., December 3, aged 73.

John R. Freed, M.D. University of Louisville, 1882, died at his home in Carthage, Mo., December 8.

Miscellany.

Value of Calabar Bean in Atony of Morphin Addiction.—O. Emmerich has been for twelve years in charge of a sanitarium for nervous diseases and drug habits at Baden Baden, and his experience has demonstrated that in morphin addiction there are three stages. In the first, the intestine is quieted by the morphin, inducing the familiar obstipation. Then follows a stage of tolerance in which the intestines may functionate comparatively normally. The third stage of the drug addiction brings atony, diminished glandular activity, in fact the gland and muscle tissue partially disappear and ptosis is pronounced. This last stage is the distinct indication for extract of the calabar bean according to the remarkable experiences he relates from his practice. None of the derivatives or other preparations of the bean are reliable, and he has had mishaps with them. He does not aim to afford temporary relief but to tone up the intestines so that other measures will be able to take hold. He finds that this toning up is not restricted to the intestines alone, but all the suspending ligaments, the bladder, the heart and the vessel musculature share in the benefits from it. He remarks that the action of the bean can be seen in the expulsion of an enema. When a pint of water injected in an old morphinist, which formerly could be retained for ten to fifteen minutes without effort, is spontaneously expelled almost at once, the bean has accomplished its purpose and should be suspended. Then is the moment for mechanical and dietetic measures to take advantage of what has been gained in this way. The artificial toning up of the intestines is rendered permanent by appropriate physical measures. The patient is encouraged to take exercise, climb, and food given in abundance which will force the intestines to work, cooked fruits, etc. He has never derived any benefit from massage or abdominal bandages in such cases. He concludes his article in the *Allg. Med. Ct.Ztg.*, lxxii, p. 297, by urging others to try the extract of calabar bean in ptosis and atony from other causes than the drug habit.

State Boards of Registration.

COMING EXAMINATIONS.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Dec. 22-24. Secretary, Dr. S. D. Van Meter, Denver.

Utah State Board of Medical Examiners, Salt Lake City, Jan. 4, 1904. Secretary, Dr. R. W. Fisher, Salt Lake City.

State Medical Examining Board of Washington, Tacoma, Jan. 5-6, 1904. Secretary, Dr. P. B. Swearingen, Tacoma.

Board of Medical Examiners of Arizona, Phoenix, Jan. 4-5, 1904. Secretary, Dr. Wm. Duffield, Phoenix.

State Medical Examining Board of North Dakota, Grand Forks, Jan. 5, 1904. Secretary, Dr. H. M. Wheeler, Grand Forks.

Board of Medical Examiners of the State of Oregon, Portland, Jan. 5, 1904. Secretary, Dr. Byron E. Miller, Portland.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Jan. 5-6, 1904. Secretary, Dr. S. D. Van Meter, Denver.

Minnesota State Board of Medical Examiners, State Capitol Bldg., St. Paul, Jan. 5-7, 1904. Secretary, Dr. C. J. Ringnell, Minneapolis.

State Board of Health of Rhode Island, State House, Providence, Jan. 7, 1904. Secretary, Dr. G. T. Swarts, Providence.

Indiana State Board of Medical Registration and Examination, Indianapolis, Jan. 13, 1904. Secretary, Dr. W. T. Gott, Crawfordsville.

Board of Medical Examiners of South Dakota, Cataract Hotel, Sioux Falls, Jan. 13-15, 1904. Secretary, Dr. H. E. McNutt, Aberdeen.

Wisconsin Board of Medical Examiners, Milwaukee, Jan. 12, 1904. Secretary, Dr. F. R. Forsbeck, Milwaukee.

Vermont State Board of Medical Censors, Y. M. C. A. Bldg., Burlington, Jan. 13-14, 1904. Secretary, Dr. S. W. Hammond, Rutland.

Board of Medical Supervisors of the District of Columbia, Washington, Jan. 14, 1904. Secretary, Dr. Wm. C. Woodward, Washington.

Illinois State Board of Health, Great Northern Hotel, Chicago, Jan. 14-16, 1904. Secretary, Dr. J. A. Egan, Springfield.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

Utah Report.—Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, November 6, at which 8 candidates were examined, all passing, on 10 subjects and 70 questions, the percentage required to pass being 75.

Colleges.	Year Grad.	Per Cent.
Starling Medical College, Columbus, Ohio	1885	77
Kansas City Medical College	1903	83
University of Vermont	1895	83
College of Physicians and Surgeons, San Francisco.	1902	85
University of California	1902	91
Rush Medical College, Chicago	1903	81
Rush Medical College, Chicago	1902	87
Marion Sims Medical College, St. Louis	1899	85

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers for the week ending Dec. 12, 1903:

Hansell, Haywood S., asst.-surgeon, granted thirty days' leave of absence.

Rand, Irving W., asst.-surgeon, granted thirty days' extension to present leave of absence.

Bispham, Wm. N., asst.-surgeon, granted fifteen days' leave of absence.

Fisher, Henry C., asst.-surgeon, granted three months' leave of absence about Dec. 20, 1903.

Shockley, M. A. W., asst.-surgeon, relieved from duty at Fort Niobrara, Neb., on expiration of present leave, and ordered to Manila, P. I.

Byrne, Chas. B., asst.-surgeon general, Dec. 2, 1903, announced as chief surgeon, headquarters, Department of the Missouri, Omaha.

Steer, Samuel L., asst.-surgeon, granted twenty-one days' leave of absence.

Shillock, Paul, surgeon, granted four months' leave with permission to go beyond sea.

Polhemus, A. S., surgeon, leave extended thirty days.

Torney, Geo. H., deputy surgeon general; Brechemin, Louis, and Stephenson, Wm., surgeons, and Kennedy, Jas. M., asst.-surgeon, appointed members of a board of medical officers to meet at the U. S. General Hospital, Presidio of San Francisco, at the call of the president of the board, for examination of candidates for admission to the Medical Corps of the Army.

Banister, Jno. M., Carter, Wm. F., Raymond, H. I., Bradley, A. E., surgeons, and Kirkpatrick, Thos. J., asst.-surgeon, appointed members of a board of medical officers to meet in Manila, P. I., for the examination of candidates for admission to the Medical Corps of the Army.

Bourke, James, asst.-surgeon, relieved from duty at Fort Sheridan, Ill., and ordered to Chicago for temporary duty as attending surgeon and examiner of recruits in that city.

Purviance, Wm. E., asst.-surgeon, granted two months' leave of absence.

Ekwurzel, Geo. M., asst.-surgeon, assignment to station at Fort Banks, Mass., revoked.

Cox, Walter, asst.-surgeon, assignment to station at Fort Reno, Okla. Territory, revoked.

Farr, Charles W., asst.-surgeon, assignment to station at Fort Mason, Cal., revoked.

Girard, Joseph R., asst.-surgeon general, announced as chief surgeon, headquarters Department of Texas, San Antonio, Texas.

Banta, Wm. P., asst.-surgeon, granted thirty days' leave of absence.

Mason, Charles F., surgeon, relieved from temporary duty as chief surgeon, Department of Texas.

Kendall, Wm. P., surgeon, left U. S. Army General Hospital, Presidio of San Francisco with party of insane en route to Government Hospital for the Insane, Washington, D. C.

Slater, Ernest F., contract surgeon, on arrival at Fort Ethan Allen, Vt., with troops of the 15th Cavalry, is relieved from duty in the Division of the Philippines and directed to proceed to Fort Hancock, N. J., for duty.

Sparrenberger, Frederick H., contract surgeon, ordered to proceed from Denver to Fort Mott, N. J., for duty.

Waterhouse, M. Manley, contract surgeon, relieved from duty at Fort Mott, N. J., on the arrival thereat of Contract Surgeon Sparrenberger, and ordered to the Philippine Islands for duty.

Artaud, Frank E., contract surgeon, ordered from Lake Providence, La., to the Philippine Islands for duty.

Cornman, Leighton R., contract surgeon, ordered from Lowell, Mass., to Fort Sheridan, Ill., to accompany troops of the 2d Cavalry thence to Philippine service.

Hughes, Leonard S., contract surgeon, granted two months' leave from the Division of the Philippines, with permission to visit the United States and to apply for an extension of one month.

Ramsey, William H., contract surgeon, assigned December 9 to duty as attending surgeon and examiner of recruits at Omaha.

Pinquard, Joseph, contract surgeon, ordered from Vinita, Ind. Ter., to the Philippine Islands for duty.

Prentice, Arthur D., contract surgeon, ordered from San Francisco to the Philippine Islands for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 12, 1903:

Wheeler, W. M., surgeon, ordered to the Navy Yard, Puget Sound, Washington, and also on board the *Nipsic*.

Thompson, J. C., P. A. surgeon, detached from the Navy Yard, Puget Sound, Wash., and ordered to the *Albatross*.

Butler, C. S., asst.-surgeon, detached from the *Albatross* and ordered home to wait orders.

Peck, C. S., asst.-surgeon, detached from the *Iris* and ordered home and to wait orders.

Percy, H. T., surgeon, detached from the *Indiana* and ordered to the *Iowa*.

Jenness, B. F., asst.-surgeon, detached from the *Indiana* and ordered to the *Iowa*.

Brownell, C. D. W., surgeon, ordered to the *Amphitrite*, with additional duty at the naval station, Guantaname, Cuba.

Pickrell, G., surgeon, ordered to additional duty in charge of the naval hospital, San Juan, P. R.

McDonnell, W. N., A. A. surgeon, detached from the Naval Academy and ordered to the *Glacier*.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the 14 days ended Dec. 10, 1903:

Sawtelle, H. W., surgeon, to inspect unserviceable property at Stapleton, N. Y.

Guiteras, G. M., surgeon, on completion of duties at Laredo, Texas, to rejoin station at Cairo, Ill.

Gardner, C. H., P. A. surgeon, relieved from duty at the Immigration Depot, New York, and directed to proceed to Key West, Fla., and assume command of the service at that port.

Oakley, J. H., P. A. surgeon, to proceed to Seattle, Wash., and assume temporary charge of service at that port, relieving A. A. Surgeon C. B. Ford.

Von Ezdorf, R. H., P. A. surgeon, detailed as inspector of certain points on Mexican National and Mexican Gulf railroads.

Lumsden, L. L., P. A. surgeon, Bureau letter granting leave of absence for ten days, amended so that said leave shall be for six days from November 15.

Fricks, L. D., P. A. surgeon, granted extension of leave of absence for one month from December 1.

Kerr, J. W., asst.-surgeon, to proceed to Washington, D. C., and report to chairman of examining board to determine his fitness for promotion to the grade of P. A. surgeon.

Richardson, T. F., asst.-surgeon, relieved from temporary duty in Texas and directed to rejoin station at New Orleans.

Goldberger, Jos., asst.-surgeon, relieved from temporary duty at Laredo, Texas, and directed to report at the Bureau, Washington, D. C.

Amesse, J. W., asst.-surgeon, to proceed to Seattle, Wash., and assume command of the service at that port, relieving P. A. Surgeon J. H. Oakley.

Glover, M. W., asst.-surgeon, relieved from duty at Baltimore, and directed to proceed to Victoria, B. C., for immigration duty.

Burkhalter, J. T., asst.-surgeon, granted leave of absence for one month from December 3.

Ebersole, R. E., asst.-surgeon, relieved from duty in Texas, and directed to rejoin his station at Gulf quarantine.

Foster, A. D., asst.-surgeon, relieved from duty at Charleston, S. C., and directed to proceed to Baltimore for immigration duty.

Brown, F. L., pharmacist, directed to rejoin his station at Pittsburg, Pa.

Walerius, M., pharmacist, relieved from temporary duty at Laredo, Texas, and directed to rejoin station at St. Louis.

Brooks, S. D., surgeon, to proceed to Brunswick, Ga., and assume temporary command of station.

McMullen, John, P. A. surgeon, relieved from duty at Hongkong, China, and directed to proceed to San Francisco and report arrival by wire.

Parker, H. B., P. A. surgeon, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for duty.

White, M. J., P. A. surgeon, relieved from duty at Honolulu, T. H., and directed to proceed to Hongkong, China, for duty.

Richardson, T. F., asst.-surgeon, granted leave of absence for seven days from Dec. 6, 1903, under paragraph 191 of the regulations.

Amesse, J. W., asst.-surgeon, to proceed to Seattle, Wash., and assume command of the service at that port. Granted leave of absence for one day.

Berry, T. D., asst.-surgeon, detailed as inspector of unserviceable property at Cleveland, Ohio. To proceed to Cairo, Ill., and assume temporary command of service at that port during absence of Surgeon G. M. Guiteras.

Ebersole, R. E., asst.-surgeon, relieved from duty at Gulf Quarantine Station, and directed to proceed to Tampa Bay Quarantine Station and assume command.

Ebert, H. G., asst.-surgeon, granted leave of absence for four days from Nov. 28, 1903, under paragraph 191 of the regulations.

Smith, E. G., asst.-surgeon, to proceed to Santa Clara, N. Y., for special temporary duty to examine aliens.

Bready, J. E., A. A. surgeon, granted leave of absence for two days from December 15.

Gregory, G. A., A. A. surgeon, granted leave of absence for seven days from December 5.

Ryder, L. W., pharmacist, granted leave of absence for 15 days from December 10.

CASUALTY.

Burford, Hugh, A. A. surgeon, died at Brunswick, Ga., Dec. 7, 1903.

Murray, S. D., surgeon, died at Laredo, Texas, Nov. 22, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 11, 1903:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 22-29, 1 case.
Maine: Madawaska Tp., Nov. 1-30, 65 cases.
Michigan: Detroit, Oct. 31-Nov. 5, 3 cases; 37 localities, Nov. 21-28, present.
Mississippi: Natchez, Nov. 29-Dec. 6, 11 cases.
Missouri: St. Louis, Nov. 28-Dec. 5, 2 cases.
New Hampshire: Manchester, Nov. 29-Dec. 5, 2 cases.
New Jersey: Camden, Nov. 29-Dec. 5, 3 cases, 1 death.
New York: New York, Nov. 29-Dec. 5, 1 case, 1 death.
Ohio: Cincinnati, Nov. 27-Dec. 4, 5 cases; Nov. 28-Dec. 5, Dayton, 1 case; Youngstown, 19 cases.
Pennsylvania: Nov. 28-Dec. 5, Erie, 13 cases: Johnstown, 7 cases; McKeesport, 1 case; Nov. 29-Dec. 5, Philadelphia, 99 cases, 15 deaths; Pittsburg, 28 cases, 6 deaths, 1 imported.
Tennessee: Memphis, Nov. 29-Dec. 5, 5 cases.
Utah: Salt Lake City, Nov. 21-28, 2 cases.
Wisconsin: Milwaukee, Nov. 14-28, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Oct. 10-24, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 7-21, 16 cases.
Belgium: Brussels, Nov. 7-14, 2 deaths.
Brazil: Rio de Janeiro, Oct. 25-Nov. 8, 89 cases, 59 deaths.
Chile: Antofogasta, Oct. 1-31, 13 deaths.
Colombia: Barranquilla, Nov. 15-22, 1 death.
France: Paris, Nov. 7-21, 10 cases, 1 death.
Great Britain: Glasgow, Nov. 13-27, 38 cases, 5 deaths; Newcastle-on-Tyne, Oct. 31-Nov. 21, 8 cases; Nottingham, Nov. 14-21, 1 death.
Italy: Catania, Nov. 12-19, 5 deaths.
Malta: Oct. 31-Nov. 7, 1 case.
Russia: Nov. 7-14, Moscow, 5 cases, 3 deaths; St. Petersburg, 54 cases; Odessa, Nov. 7-21, 4 cases, 2 deaths.
Turkey: Constantinople, Nov. 8-15, 1 case; Smyrna, Nov. 1-15, 29 deaths.
Venezuela, Oct. 26. Guarico District, epidemic; Pascua District, epidemic; Tucupido District, epidemic.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Dec. 1-7, 2 cases.

YELLOW FEVER—FOREIGN.

Mexico: Nov. 15-21, Ciudad Victoria, 5 cases, 4 deaths; Linares, 29 cases, 4 deaths; Marida, 5 cases, 2 deaths; Nuevo Laredo, 1 death; Tampico, 2 cases, 2 deaths; Tehuantepec, 1 case.
Venezuela: Oct. 16, Barquisemeto, present; Tucuyo, present.

CHOLERA—INSULAR.

Philippine Islands: Oct. 10-24, Manila, 60 cases, 57 deaths; Provinces, 1,700 cases, 1,384 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Oct. 24-31, 19 deaths.
Straits Settlements: Singapore, Oct. 17-24, 12 deaths.
Turkey in Asia: to Nov. 9, Aintab, 9 cases, 4 deaths; Aleppo, 16 cases, 15 deaths; Anah, 51 cases, 93 deaths; Antioch, 7 cases, 7 deaths; Birodjik, 4 cases, 4 deaths; Damascus, 2 cases, 2 deaths; Dolonki, 11 cases, 11 deaths; Haifa, 7 cases, 5 deaths; Urfa, 4 cases, 2 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Oct. 10-24, 3 cases, 2 deaths.

PLAGUE—FOREIGN.

Australia: Perth, Oct. 13, 1 case.
Brazil: Para, Nov. 1-8, 2 cases; Rio de Janeiro, Sept. 28-Oct. 18, 124 cases, 53 deaths.
Chile: Iquique, Sept. 1-30, 12 cases, 7 deaths.
Egypt: Alexandria, Oct. 31-Dec. 6, 2 cases, 3 deaths.
India: Calcutta, Oct. 24-31, 19 deaths.
Japan: Yokohama, Oct. 17-24, 3 cases; 4 deaths.
Mauritius: Oct. 29-Nov. 5, 72 cases, 36 deaths.

Medical Organization.

California.

BUTTE COUNTY MEDICAL SOCIETY.—Pursuant to call, physicians of the county met at Chico, November 28, and organized a society to be in affiliation with the state and national organizations. Dr. Oscar Stansbury, Chico, was elected president; Dr. Eli A. Kusel, Oroville, vice-president, and Dr. D. H. Moulton, Chico, secretary and treasurer. A committee was appointed to frame a constitution and by-laws, and to report on same at the next meeting, December 19.

Illinois.

PUTNAM COUNTY MEDICAL SOCIETY.—This society was organized at McNabb, November 28, with the aid of Dr. William O. Ensign, Rutland, councilor for the Second District.

Indiana.

POSEY COUNTY MEDICAL ASSOCIATION.—This society held its annual meeting at Mount Vernon, November 24, made plans for reorganization, and applied for a new charter. Dr. Jerome M. Gloze, New Harmony, was elected president, and Dr. F. Leslie Stallings, Caborn, secretary.

BOONE COUNTY MEDICAL SOCIETY.—The Boone County Medical Society held a business session and banquet at Crawfordsville, December 3. Dr. Paul J. Barcus, Crawfordsville, councilor for the Ninth District, explained the standard plan of reorganization, which was adopted unanimously.

BLACKFORD COUNTY MEDICAL SOCIETY.—This society met at Hartford City, November 26, and reorganized on the standard plan under the direction of Dr. Robert Hessler, councilor for the Eleventh District. Dr. Manford M. Clapper was re-elected president, and Dr. Eneidas K. Scott, secretary, both of Hartford City.

Iowa.

BOONE COUNTY MEDICAL SOCIETY.—The first annual meeting of this society was held at Boone, December 2. The following officers were elected: Dr. William L. Pollock, president; Dr. G. Henry Nordstrom, secretary; Dr. Edward M. Myers, treasurer, and censors, Drs. George D. Rowe, James C. Walker and George H. Stanger, all of Boone.

CLARKE COUNTY MEDICAL SOCIETY.—This society was organized, November 5, on the standard plan, with 13 members. The following officers were elected: President, Dr. J. Frank Aldrich, Murray; vice-president, Dr. Frederick S. Bowen, Woodbury; secretary, Dr. John L. Millard, Osceola; treasurer, Dr. William O. Parrish, Osceola, and delegate, Dr. J. Frank Aldrich, Murray. Dr. Frank E. Sampson, Creston, councilor for the Eighth District, was present and explained the plan of reorganization.

Maryland.

WICOMICO COUNTY MEDICAL SOCIETY.—Physicians of the county met at Salsbury, December 5, and organized a society on the standard plan with 15 charter members and the following officers: Dr. Francis M. Siemons, Salisbury, president; Dr. Eugene W. Humphreys, Salisbury, secretary and treasurer, and Dr. Harry C. Tull, Tyaskin, vice-president, and delegate to the state convention.

Minnesota.

DAKOTA COUNTY MEDICAL SOCIETY.—This society was organized at Hastings, December 3, on the standard plan, with the following officers: President, Dr. Alfred M. Adsit, Hastings; vice-president, Dr. Lewellyn D. Peck, Hastings; secretary, Dr. Warren M. Dodge, Farmington; treasurer, Dr. Julius C. Fitch, Hastings; censors, Drs. Charles O. Van Cappellen and Henry G. C. Van Beeck, Hastings, and one to be chosen, and state delegate, Dr. Alfred M. Adsit, Hastings. Dr. William S. Fullerton, St. Paul, state organizer, aided in the reorganization.

Oregon.

CENTRAL WILLAMETTE MEDICAL ASSOCIATION.—The physicians of Linn, Benton and Lincoln counties met at Albany, December 3, and effected a permanent organization on the standard plan, and elected the following officers: Dr. James P. Wallace, Albany, president; Dr. Henry S. Pernot, Corvallis, vice-president; Dr. August Stark, Albany, treasurer; Dr. William A. Trimble, Albany, secretary, and Drs. Thomas C. Mackey, Harrisburg, George R. Farra, Corvallis, and Albert G. Prill, Icio, censors.

Society Proceedings.

COMING MEETING.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

ACADEMY OF MEDICINE OF CLEVELAND.

Sixth Regular Meeting of the Section on Experimental Medicine, held Nov. 13, 1903.

Dr. John G. Spenzer, Chairman of the Section, in the Chair.

Experimental Study of Caisson Disease.

DR. J. J. R. MACLEOD read a paper entitled "Caisson Disease and Diver's Palsy, an Experimental Study," based on experiments performed during the last year at the London City Hospital Laboratories in England, in collaboration with Leonard Hill, F.R.S., on grants from the Royal Society.

Dr. Macleod stated that animals subjected to several atmospheres pressure of air may die, either when under the pressure or when they are decompressed. The second is the commoner cause of death. Experiments showed that air embolism is the invariable cause of death from decompression. The symptoms preceding death are dyspnea, cyanosis, and

violent convulsions. Animals with these symptoms were saved by reapplying the air pressure and decompressing more slowly.

In the case of dogs weighing about ten kilos a little over and hour was found necessary for the tissue fluids to become saturated with gas, and about the same time had to be used in decompression to admit of the liberation of this gas without the formation of bubbles (air emboli). These facts were confirmed by analyses of the blood gases, O_2, CO_2, and N, in dogs placed under various air and oxygen pressures. With all possible care to prevent decompression palsy, it was nevertheless found that the animal might die while under pressure. Two factors are found to depress the vitality of animals under pressure: 1. Oxygen poisoning. 2. Excessive loss of body heat. That free oxygen is a poison was shown by numerous experiments. Even at atmospheric pressure, the animals breathing it show a distinct fall in the amount of carbon dioxid and water excreted by the lungs and a fall of rectal temperature. At several atmospheres pressure the toxic action becomes very marked. The symptoms are pneumonia and convulsions. Thus a mouse placed in one and a half atmospheres of pure, O_2 died of pneumonia in sixty hours, the entire lung being hepatized. At six atmospheres pressure death occurred in two hours, being preceded by violent epileptiform convulsions, and the lungs at autopsy were found to be studded with patches of pneumonia. Below three and a half atmospheres no convulsions were noticed, and at pressures above six atmospheres they were replaced by a comatose state, soon followed by death. These experiments were conducted on a number of animals, and it was found that the larger the animal the less prone it was to the toxic action of oxygen.

That oxygen poisoning is a factor to be considered in compressed air was shown by the fact that the carbon dioxid excretion is depressed and that pneumonia frequently occurs in animals subjected to it. A cat in eight atmospheres pressure of air died in twenty-four hours, its lungs being pneumonic. No convulsions, however, were observed, and it was pointed out that pneumonia could only seldom occur in divers as a result of air pressure, as sufficiently high pressure was not employed in ordinary work, and when employed, as in deep sea diving, the shifts were sufficiently short to avoid danger. The second cause of death, excessive loss of body heat, was shown to depend on the increased heat conductivity of compressed air *per se*, and on the fact that it is saturated with moisture. The enormous influence of this factor, i. e., the cooling effect of wet air, was demonstrated as well by another series of experiments on mice. If these be placed in an atmosphere of water-saturated air, the body temperature soon falls to that of the chamber, the carbon dioxid excretion showing a corresponding fall. A detailed account of experiments is given in the current volume of the *Journal of Hygiene* (Cambridge, England).

The Clinical Side of Caisson Disease.

The next paper was read by DR. CHAS. ALDRICH on "Caisson Disease, from the Clinical Standpoint." After a summary of the history of the disease, Dr. Aldrich cited a number of cases, discussed the symptomatology, and commented on the value of the various precautions taken in caisson work to prevent injury to the workmen.

DISCUSSION.

DR. FRANK ROTH, who had spend eight months on the Cleveland crib as physician, and had done special work on the clinical side of caisson disease, stated that of hundreds of men, both experienced and inexperienced, not one showed any symptoms while in the compressed air, all these being delayed until the change to the normal pressure. The temperature varied in the tunnel according to the temperature of the contained air, but within narrow limits. On locking out there was a slight fall, especially noted in the new men, never to a point below 97. The pulse was usually slowed on entrance into the compressed air, but when work began it reached normal or above. On exit, however, there was in many of the men a very marked change. The pulse of these men, who were for the most part new to the work, became rapid, soft and almost imperceptible, the old hands in the majority of cases showing no marked change beyond an increase in the frequency. Those in whom these changes were most apparent were the ones to suffer most from the "bends."

The respirations increased in rate and depth, and most of the experienced hands had a greater or less degree of chronic emphysema. On locking out there was a sense of faintness and dizziness, the respirations becoming hurried, making the men fairly gasp for breath. This only occurred when the locking-out process was rapid. Dr. Roth stated that there was a great variety in the pains and other symptoms experienced, some of them very evanescent, the others of longer duration. The typical pains were at first fleeting, later localized, usually in the epiphysis of the long bones, with a boring and throbbing character, synchronous with the pulse, which becomes hard and rapid. There is at this point a rise of one or two degrees of temperature.

The more evanescent symptoms, disappearing in the course of a few minutes or half an hour, are also varied. Vertigo, fainting, headache, persistent vomiting, and even complete blindness are not uncommon. Some cases showed deficiencies in the surface circulation, at times associated with loss of reflexes, in others there was a temporary hemiplegia, paraplegia or monoplegia. This paraplegia sometimes came on later as the pains faded away. Severe pains in the epigastrium were noted, and in fat men in the larger muscles, of comparatively brief duration in both cases. Ten cases of a measly hyperemic rash, of half an hour duration, were noted.

Of greatest interest, perhaps, were three cases in which interstitial emphysema was noted. One of these was under the fascia lata, one in the gluteal region, and one in the calf of the leg. In another case gas emboli were seen in one of the veins of the wrist. These bubbles were four in number and were brought together by pressure, remaining visible for twenty minutes.

In some cases hyperesthesia was present for some time after the subsidence of other symptoms. One man fell in a typical epileptic fit after locking out, and denied any personal or family history of that disease.

The form known as the "chokes" appeared in groups of cases and appeared to be more frequent in the mason's shift, when the air was filled with dry cement. Attacks of this were often precipitated by smoking. Emetics gave prompt relief, and it was Dr. Roth's opinion that the attacks were due to a spasm of the glottis.

In the four deaths which occurred all were of the cerebral variety. In the 133 cases observed 68 per cent. had the pains alone, the other 32 per cent. being fairly divided among the other varieties.

The mules were at first locked out with the men, but it was found that this resulted in a mortality of at least one a day, and the experiment was tried of keeping them constantly at the high pressure. This was very successful, nine mules being kept under pressure for nine weeks, and then gradually locked out, the process taking 48 hours. None of these showed any inconvenience, eating twice as much and seeming much more lively than when in the open air. It was noted, however, that in spite of the amount eaten they grew steadily thinner. On the other hand, a horse which had been kept under pressure for almost a year and was then locked out in a very few minutes died at once. Animals frequently urinated and defecated during the process of locking in.

DR. W. T. HOWARD, JR., stated that in the autopsies which he had performed on cases of "bends," there was gaseous emphysema of varying degree, with bubbles in the brain and cord. He also stated that he had found definite hemorrhages on section of these tissues.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, held Dec. 3, 1903.

The President, Dr. Andrew H. Smith, in the Chair.

The Cleaning of a Great City and the Handling of Its Waste.

DR. JOHN M. WOODBURY, commissioner of street cleaning, gave the members of the New York Academy of Medicine an interesting talk on this subject, illustrating it with many lantern slides. He said that while large sections of the

boroughs of Brooklyn and the Bronx were swept by means of mechanical sweepers, these machines could not be used in streets having heavy traffic. In the crowded streets the work could only be done by individuals of the street-cleaning brigade. The French had learned long ago that the only effective way to remove the gum and dirt from asphalt streets was by washing with hose, and in certain sections of this city that method was employed when the temperature of the air was above 45 F. The work could be more rapidly and effectively done by using wagons provided with a tank of compressed air and a portable plant for compressing the air. It is difficult, however, to prevent the scattering of dust.

The old method of dumping the city refuse out in the sea was abandoned last March, and consequently the nearby seaside resorts are no longer made unpleasant and unsanitary by the floating in on the shore of all sorts of refuse. The old method cost $300 per week; at the present time, the city rents the privilege of picking over the rubbish as it passes along the belt conveyor, for the sum of $250 per week, with $50 for labor. Moreover, the rubbish which is unsalable is burned under the boilers and produces 250 horse power per hour. It was calculated that by these improvements there had been realized a gain of 400 per cent. on the $20,000 invested in this experimental plant. The garbage is kept separate from the rubbish and ashes and is disposed of by contract to the reduction works on Barren Island. Here it is exposed in digesters to a temperature of 300 F. and to a steam pressure of over 80 pounds, after which it is subjected to hydraulic pressure. The dried sweepings of the streets prove to be a very valuable fertilizing material, for which a ready sale is found. As the ashes are kept free from garbage and rubbish they make good material for filling in land. In this way, he had reclaimed from the borders of Riker's Island no less than 63 acres of land.

Therapeutics.

[Our readers are invited to send favorite prescriptions—such as have been tried and found useful—for publication in these columns. In each case the name of the sender must accompany the prescription, but the name will be published or omitted, as the sender may prefer.]

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Pneumonia.

The following combination is recommended by *Med. Rev. of Reviews* in the treatment of pneumonia in the early stage, occurring in children:

℞.	Potassii citratis	3iss	6
	Spts. etheris nitrosi	3vi	24
	Liq. ammon, acetatis	℥i	30
	Syr. tolutani		
	Aquæ, āā, q. s. ad	℥iv	120

M. Sig.: One dessertspoonful every three hours to a child of three years.

During the stage of expectoration the following combination is recommended for a child of the same age:

℞.	Ammon. carb.	gr. xlviii	3 | 20
	Ammon. iodidi	gr. xxiv	1 | 65
	Syr. tolutani		
	Syr. acaciæ, āā, q. s. ad	℥iii	90

M. Sig.: One teaspoonful every two or three hours.

Inhalations of Formalin.

Spengler, in *Boston Med. and Surg. Jour.*, recommends formalin inhalations in pulmonary tuberculosis and fetid bronchitis prepared after the following formula:

℞.	Formalin	m. lxxv	5
	Alcoholis (absolute)	3v	20
	Spts. etheris	℥iiss	75

M. Sig.: Place ten drops in a tumbler and take ten or twelve deep inspirations, the mouth being removed from the glass to exhale. The first inhalations should be superficial and the latter ones deep. Inhalations are made every other day at bedtime, and stopped after two weeks, to be resumed in a few days and continued as before.

Hemorrhages in Typhoid Fever.

G. A. Sheldon, in *Med. Standard*, recommends the following combinations to control the hemorrhages in typhoid fever:

℞.	Ext. ergotæ flu.	m. x	65
	Morph. sulph.	gr. 1/4	015
	Atropinæ sulph.	gr. 1/150	0004

M Sig.: To be used at one dose hypodermically.

At the same time he administers 15 minims of a solution of adrenalin chlorid (1-1,000), and repeats it in twelve-drop doses every four hours.

As an intestinal antiseptic he recommends sodium sulphocarbolate. After the second week the following combination is given as an antiseptic and to allay as much as possible the tympanitis:

℞.	Olei terebinthinæ	3ii	8 |
	Olei gaultheriæ	gr. xii	| 75
	Pulv. acaciæ	3vi	24 |
	Syr. simplicis	℥iss	45 |
	Aquæ	℥vi	180 |

Misce and filter. Sig.: One dessertspoonful in a little water every four hours.

To remove the sordes from the teeth and to cleanse the mouth the following is used:

℞.	Tinct. myrrhæ	3iss	6
	Glycerini	℥iii	90
	Succi limonis	3i	4
	Aquæ q. s. ad	℥vi	180

M. Sig.: To be used as a mouth wash.

Treatment of Acute Gonorrhea.

In an article in *Chicago Med. Recorder*, F. Kriesel speaks against the irrigation method in the treatment of acute gonorrhea, but in its stead recommends the use of an alkali to render the urine alkaline as an aid in removing the discharge and the attendant toxins. He condemns the use of too strong antiseptic solutions because of the dangers of rendering harm to the mucous membrane. He prefers as antiseptics and astringents, silver nitrate, protargol and ichthargin, used in dilute solutions at short intervals, retained for a few minutes and gradually increased in strength; used at longer intervals and retained for a longer period—for five, ten or fifteen minutes—after the inflammatory symptoms have subsided. During the first few days of the attack the injections should be used during the night also, so as not to lose the good obtained during the day. As much should be injected each time as the urethra will hold. He emphasizes the fact that a gonorrheal discharge will not dry up by using a silver salt as long as the gonococcus is present and not even then, as the silver salt always produces more or less reactive secretion in proportion to its concentration. Therefore, he recommends the use of the microscope to indicate when to give a slight astringent and to discard the gonocide. In general the following outline of treatment may be pursued, according to the author:

During the first two days and nights, injections with protargol ¼ to 1 per cent., or ichthargin one grain to six ounces every two hours, to be retained two minutes. During the next three days protargol, the same solution, every three hours, retained three minutes. The following four days protargol ½ per cent., or ichthargin two grains to six ounces, every four hours, to be retained five minutes. On the tenth day no injection in the morning. The silver salt may then ordinarily be reduced to one injection daily and retained for ten minutes, and as a substitute the following astringent and mild antiseptic may be prescribed:

℞.	Zinci sulphocarb.	gr. v	30 |
	Resorcin	gr. xxx	2 |
	Aq. destil	℥vi	180 |

M. Sig.: Inject three times a day and retain for one or two minutes.

Reserve the silver solution for the time the patient is ready for bed. If at this time no gonococci are present the frequency and strength of the injection may be reduced, giving

only two injections daily and after a short time discontinued. If the secretion reappears with gonococci present return to the treatment of the third week, and if necessary increase the strength of protargol to a 2 per cent. solution or ichthargin ½ of 1 per cent. Stronger solutions of these preparations should never be used, but if they prove ineffective, change off to silver nitrate irrigations of the anterior urethra, which should be done in the following way: Fill a sterile hand syringe with five ounces of a 1-1,000 silver nitrate solution, insert a sterile soft rubber catheter, No. 12 English, well lubricated with sterile glycerin into the anterior urethra and inject through this catheter. Repeat this treatment every other day for a few weeks and give the patient an astringent to use at home.

The following combinations are recommended by *Merck's Archives* in the treatment of gonorrhea:

℞.	Methylene blue	gr. xx	1 | 30
	Copaibæ	℥ii	8 |
	Olei resinæ cubebæ	℥ii	8 |
	Pancreatin	℥i	4 |

M. Ft. cap. No. xxiv. Sig.: Two before each meal; or:

℞.	Largin	℥ii	8 |
	Aquæ destil	℥vii	210 |

Misce, by using boiling water. Sig.: To be used as an injection several times a day; or:

℞.	Largin	gr. xv	1 |
	Glycerini	℥ii	8 |
	Aq. destil	℥vi	180 |

M. Sig.: Inject three times daily for first few weeks, then once daily; or:

℞.	Ichthargin	gr. i-iv	.06-.25
	Glycerini	℥iv	15 |
	Aq. destil. q. s. ad	℥viii	240 |

M. Sig.: Inject four to six times daily.

In cases of gleet and chronic gonorrhea the following:

℞.	Bismuthi subnit.		|
	Mucil. acaciæ, āā	℥iv	15 |
	Aquæ	℥iii	90 |

M. Sig.: Shake well and inject morning and evening; or:

℞.	Methylene blue		|
	Pulv. myristicæ, āā	gr. xl	2 | 65
	Dionin	gr. x	| 65

M. Ft. capsulæ No. xx. Sig.: One capsule three times a day.

Chloroform as a Teniafuge.

In the same periodical, Leger recommends the following, containing chloroform, as an efficacious remedy in the removal of tapeworm:

℞.	Spts. chloroformi	℥i	4 |
	Syrupis	℥i	30 |
	Aquæ	℥iv	120 |

M. Sig.: Two tablespoonfuls to be taken every hour until the entire amount is taken. Before the last dose, a purgative dose of castor oil or tincture of jalap is prescribed.

S. P. Gerhard, in *Med. Record*, recommends, in the removal of tapeworm, a combination of male fern and pelletierine as the most suitable remedy. The patient is instructed to take a good cathartic such as castor oil or salts the day previous to taking the teniafuge. The following morning, as early as possible, a dose of pelletierine tannate, grains 20 (1.30), is taken in two capsules at one dose. When this has operated freely, in about two hours, the following treatment is begun:

℞.	Oleires. aspidii		|
	Spts. etheris, āā	℥ii	8 |
	Hydrarg. chloridi mitis	gr. xii	| 75

M. Ft. cap. No. xvi. Sig.: Two every ten minutes. No food should be taken during this treatment and the worm will be passed in the course of two or three hours.

Toxic Symptoms of Aspirin.

Although aspirin is now very extensively prescribed, the fact should not be overlooked that it may produce toxic symptoms. Dr. Franke, in *Ther. Monat.*, states that after he had taken 15 grains of aspirin to relieve pains in the calves of his legs, within fifteen minutes he noticed marked swelling of the upper lip, which quickly spread over the entire face, followed by difficulty in deglutition, frequent respiration and a pulse rate of 160. These symptoms gradually subsided after twenty minutes, and was succeeded by the appearance of an urticarial rash over the entire body. By the next morning the symptoms had all subsided except the swelling of the lips and eyes. He states that the poisoning was produced by some chemical change in the stomach, phenol being set free and absorbed.

Tuberculous Adenitis.

The treatment of tuberculous adenitis varies with the degree of involvement of the ganglion, according to Broca, in *Med. Press and Cir.* When the ganglion commences to hypertrophy from the infection the treatment should be directed toward the general condition of the patient by the use of iodin, arsenic, iron, phosphate of calcium, together with proper elimination and pure seaside air. A certain number of local remedies are of value, such as cutaneous revulsion, applications of tincture of iodin and interstitial injections of iodin, silver nitrate, zinc chlorid, Fowler's soluton, iodoform and ether and camphorated naphthol.

When suppuration is present curettage should be carried out, and if necessary extirpation of the degenerated glands when fistulæ have formed.

Medicolegal.

Facts Must Be Given with Opinions on Mental Capacity.—The rule that witnesses required to testify to the mental capacity of a person whose sanity is questioned must first state the facts within their observation, on which they rest their conclusions, the Supreme Court of Minnesota holds, in a case of Scott vs. Hay, applies to family physicians who have treated a patient generally for other complaints than his alleged infirmity. It says that the weight of reliable authority sustains this ruling, for, where a personal examination has been made even by a physician or expert, he will be required before giving his conclusion, to describe the symptoms which he observed, to aid the jury in forming a conclusion. Neither medical experts nor other witnesses can be allowed to give an opinion of the mental capacity of a person without first detailing the circumstances and facts on which such opinion is based, and when the opinion of an expert is not based on a hypothetical case, nor on the testimony of other witnesses, but on facts, symptoms and circumstances that have come under his observation as attending physician of the patient or otherwise, such facts, symptoms, or circumstances must be fully stated by the testifying witness, so that the jury can determine whether the facts, as well as the opinion itself, are correct. The court says that the reason for adopting this rule seems to it manifest; otherwise, on a question where symptoms only can furnish evidence of the mental condition of the subject of inquiry, essential elements on which the inquiry is founded would be entirely wanting to aid in the investigation of the question before the court, and the result could be reached only by the number of witnesses on each side, or their respective weight avoirdupois or personal appearance, on a matter where there should be a full investigation of all the conditions which must affect the judgment on a most complicated and difficult subject.

Medical Services for Wife Not Living with Husband.—The Fourth Appellate Division of the Supreme Court of New York says, in the case of Button vs. Weaver, that the husband is liable for actual necessaries furnished to his wife, unless he has made adequate provision for her maintenance, even though they are living separate. As long as the marriage relation continues, the obligation of the husband to support his wife remains. In this case the party sued left his wife—it may be, for the reason which amply justified his departure. She was still his wife, however. He declined to maintain her in his own household, and must make necessary provisions for her elsewhere. The physician suing had previously rendered services to the wife on the faith of the payment by the husband. These services were adjusted by a compromise and payment, and the husband then informed the physician

that he would not be responsible for any further services which the physician might render the wife. The services here sued for were performed after this notification, and the husband urged that circumstance as a reason why he was not liable. This position, the court says, would be impregnable if he had provided suitable medical attendance for her, or given her the means to procure it. A husband living separate from his wife may determine in a large measure in what way his credit is to be pledged, and in what manner the marital duty of providing for his wife is to be fulfilled. If, however, he forbid one from running an account against him for necessaries furnished for his wife in order to make the prohibition effective he must otherwise supply her needs, or permit her to pledge his credit elsewhere. In the present case he directed the physician suing to abstain from performing services concededly necessary for his wife, but made no other provision for her for this necessity. He endeavored to be relieved wholly from the liability resting on him. This he might not do. The physician was entitled to judgment, with interest, besides the costs and disbursements of the action.

Duty to Provide Medical Attendance for Children.—As noted editorially on page 1028 of THE JOURNAL, October 24, 1903, the Court of Appeals of New York has reversed the decision, in the case of People vs. Pierson, reported on page 1464 of THE JOURNAL, May 23, 1903. Involved were the questions of the construction and constitutionality of the provisions of section 288 of the Penal Code of New York providing that "A person who (1) willfully omits, without lawful excuse, to perform a duty, by law imposed on him, to furnish food, clothing, shelter or medical attendance to a minor, ... or (4) neglects, refuses or omits to comply with any provisions of this section, . . . is guilty of a misdemeanor." The court says that it would seem that the legislative intent in adopting this provision of the code is reasonably clear, although possibly more precise language could have been employed. It contemplates that there are persons on whom the law casts a duty of caring for minors, but it does not specify the persons. There are, however, those on whom the duty is "by law imposed." They are designated in the statutes and in the common law as the parents, guardians, or those who by adoption or otherwise have assumed the relation in the place of a parent. The duty of such a person is specified by the provisions of the section. It is to "furnish food, clothing, shelter or medical attendance." Giving the statute a reasonable construction, by applying the rule of necessity, it is apparent that it means the necessary food, clothing, shelter, or medical attendance required for the preservation of the health and life of the child. The court quite agrees that the code does not contemplate the necessity of calling a physician for every trifling complaint with which the child may be afflicted, which in most instances may be overcome by the ordinary household nursing by members of the family; that a reasonable amount of discretion is vested in parents charged with the duty of maintaining and bringing up infant children; and that the standard is at what time would an ordinarily prudent person, solicitous for the welfare of his child and anxious to promote its recovery, deem it necessary to call in the services of a physician. In other words, the court holds that the section, properly construed, means that a person on whom the law has imposed the duty to care for a minor, who willfully omits, without lawful excuse, to furnish such minor with necessary food, clothing, shelter, or medical attendance, is guilty of a misdemeanor. Under this construction of the statute, the duty of parents to furnish medical attendance for their children, the court says, is expressly provided for and is made obligatory on them, even if they were exempt from such duty under the common law. The next question considered was what is meant by the term "medical attendance." Does it mean a regularly licensed physician, or may some other person render "medical attendance"? The conclusion reached is that the medical attendance required by the code is the authorized medical attendance prescribed by the statute; the court stating that this view is strengthened from the fact that the third subdivision of this section of the code requires nurses to report certain conditions of infants under two weeks of age "to a legally qualified practitioner of medicine of the city, town or place where such child is being cared for," thus particularly specifying the kind of a practitioner recognized by the statute as a medical attendant. Nor does the court consider that the provisions of the code are violative of the provisions of the Constitution providing for the free exercise and enjoyment of religious profession and worship, without discrimination or preference, in the state. It says, among other things, that the peace and safety of the state involve the protection of the lives and health of its children, as well as the obedience to its laws. Full and free enjoyment of religious profession and worship is guaranteed, but acts which are not worship are not. The law of nature, as well as the common law, devolves on the parents the duty of caring for their young in sickness and in health, and of doing whatever may be necessary for their care, maintenance, and preservation, including medical attendance, if necessary; and an omission to do this is a public wrong, which the state, under its police powers, may prevent.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

December 5.

1 The Influence of Pasteur on Medical Science. C. A. Herter.
2 *Report on the Results with Different Kinds of Pure and Impure Milk in Infant Feeding in Tenement Houses and Institutions of New York City: A Clinical and Bacteriologic Study. Wm. H. Park and L. Emmett Holt.
3 *The Degree to which Substances Agglutinating the Dysentery Bacilli are Present in the Blood of Non-Infected Persons. Lawrence B. Plisbury.
4 General Convulsive Tic with Coprolalia. Harry Morell.
5 *The Treatment of Anterior Dislocation of the Shoulder, with Report of a Case in which Reduction was Prevented by the Detached Greater Tuberosity. George T. Vaughan.
6 *The Mortality of Diphtheria in Private Practice under the Antitoxin Treatment. John Zahorsky.

2. **Milk in Infant Feeding.**—Park and Holt give their studies in full and sum up their results in a number of conclusions which can be condensed as follows: 1. During the cool weather neither the mortality nor the health of the infants observed were appreciably affected by the kind of milk or number of bacteria contained in it. The different grades of milk vary much less in their bacterial contamination in winter than in summer, the store milk averaging only about 750,000 bacteria per c.c. 2. During the hot weather, the resistance being lowered, the kind of milk influenced both the illness and mortality. Those who took condensed and cheap store milk did the worst. Those who received breast milk, pure bottle milk and modified milk did the best. The effect of contamination was very marked when the milk was taken without heating, but unless excessive it was very slight when heating was applied shortly before feeding. 3. The number of bacteria that may accumulate before the milk becomes noticeably harmful to the average infant in the summer differs with the forms present, the age of the milk and its temperature. When taken raw, the fewer the bacteria the better the results. Of the usual varieties over 1,000,000 bacteria per c.c. are bad for infants, though many infants take such milk without apparent harm. Heat above 170 F. destroys most of the bacteria present, and also some of their poisonous products. No harm from the bacteria previously existing in recently heated milk was noticed in these observations, unless they had amounted to many millions, but in such excessive numbers they were clearly deleterious. 4. When milk of average quality was fed sterilized and raw, those who received milk previously heated did on the average much better in warm weather than those who received it raw. The difference was so marked that there could be no mistake. 5. No special varieties of bacteria were found in unheated milk which seemed to have any special importance in relation to the summer diarrheas of children. The number of varieties was very great and varied according to the locality from which the milk came. None of the 139 varieties selected as most distinct injured very young kittens

when fed in pure cultures. A few cases of indigestion were seen immediately following the use of pasteurized milk more than thirty-six hours old. Samples of such milk were found to contain more than 1,000,000 bacteria per c.c., mostly spore-bearing types. The bad effects produced were not serious or lasting. At present it is rare for milk to be used thirty-six hours after heating. 6. After the first year of life infants are less and less affected by the bacteria in the milk derived from healthy cattle. When the milk had been kept cool the bacteria did not appear to injure children over three years of age at any season of the year unless in great excess. 7. Everything possible should be done by the health boards to improve the character of the general milk supplied, by enforcing proper legal restrictions regarding its transportation, delivery and sale. Such improvements are feasible in our large cities to secure milk which will be wholesome for heating for all classes of the population. The general practice of heating milk, which has become a custom among the tenement population, is undoubtedly a large factor in lessening the infant mortality. 8. The method of a central distributing station has the most advantages since it secures the more constant oversight of the child, and furnishes the food in a form that leaves the mother less to do and avoids most mistakes. This method of feeding deserves to be more extensively employed and might wisely be undertaken by municipalities and continued during the warmer months of the year. 9. The use for infants of milk in sealed bottles should be encouraged when possible. Only the purest milk should be taken raw, especially in the summer. 10. Since intelligent care is most needed, the education of mothers and those caring for infants is important. Properly qualified trained nurses and women physicians visiting the mothers and printed directions are the best means for this purpose. 11. Bad surroundings, though contributing causes, are not the chief factor. The better housing of the poor in the large cities will not of itself greatly reduce the infant mortality. 12. Observations indicate that close percentage modification of milk, though desirable in every case, is not necessary to obtain excellent results in the majority, and that a certain adjustment of the infant to its food is usually soon secured. 13. While it is true that even in the tenements the results with the best bottle-feeding are nearly as good as the average breast-feeding, it is also true that most of the bottle-feeding is so badly done that breast-feeding is infinitely superior and should be encouraged by all means and not discontinued without good and sufficient cause. The matter of expense alone will often favor continued nursing. 14. The injurious effects of table food to infants under a year old, and of fruits to all infants and young children in cities in hot weather should be more generally appreciated.

3. **The Dysentery Bacillus.**—Pilsbury has investigated the question as to the presence of agglutinins for the Shiga bacillus in non-infected persons, and concludes that, while his investigations are only tentative, they warrant the following deductions.

1. The serum of non-dysenteric adult patients does agglutinate the Shiga and acid type (Flexner) bacilli frequently in a 1 to 20 dilution and occasionally in a dilution as high as 1 to 100.
2. This agglutinating power is wanting in the blood of non-dysenteric young infants (under one year) rarely being present even in a 1 to 10 dilution.
3. There are certain differences in agglutinating capability between the Shiga and acid type (Flexner) bacilli, the former in these tests clumping somewhat more readily than the latter.
4. A decided and prompt reaction, under two hours, with the *Bacillus dysenteriæ* in dilutions of 1 to 20 or higher in young subjects (under one year) and in 1 to 50 or higher in older persons who have not recently suffered from chronic or subacute intestinal disease, is probably pathognomonic of acute epidemic dysentery.

5. **Anterior Dislocation of the Shoulder.**—Vaughan recommends in cases of anterior dislocation, which are generally of the subcoracoid variety, the old method of direct reposition. The surgeon places his fingers beneath and to the inner side of the head of the humerus with thumbs on the acromion process, and presses or pulls the head of the bone into place. Extension and counter-extension are also valuable and, he thinks, not appreciated. He applies this method by having the patient lie on the back with a folded sheet in the axilla, the ends extending diagonally across, above and below, the opposite shoulder where they are held by an assistant. The surgeon flexes the forearm on the arm to relax the biceps, takes hold of the arm by both his hands and makes gentle, steady traction, at first in the line of displacement, but as the traction increases, the arm is carried away from the side to an angle of about 45 degrees. The traction is continued just enough to make the muscles tense and an assistant will relieve the surgeon when tired without relaxing the traction. In a short time, from one to six minutes, the confidence of the muscles is gained, the spasmodic contraction ceases, the muscles relax and the head of the bone slips into place. It is doubtful whether this will benefit old cases, but it appeals to him and seems worthy of trial because it is painless and does not require anesthesia; is perfectly safe in recent cases; can be used by the general practitioner who would hesitate to try the more complicated methods; does not injure the tissues, and succeeds in most cases. Kocher's is the next method if the others fail. It consists of three steps: Flex the forearm of the affected side to a right angle with the arm, press the elbow to the side, and rotate the humerus outward by carrying the forearm around until it stands directly out from the side. Still holding the forearm at right angles to the body, bring the elbow forward or forward and slightly inward until the arm is horizontal. If the head of the bone does not slip into place during the second step, make internal rotation by placing the hand on the opposite shoulder and lowering the elbow into position. This method is painful and usually requires anesthesia and may do some damage to the tissues. If all these three methods fail in spite of anesthesia, the dislocation should be reduced by arthrotomy, provided aseptic operation is possible. Vaughan condemns the use of the foot, knee or fist in the axilla on account of the damage to the axillary vessels and nerves. He reports a case.

6. **Diphtheria.**—Zahorsky has studied the mortality statistics of diphtheria with the antitoxin treatment and has obtained data from about a dozen leading physicians in St. Louis who have employed it in their practice with children with surprising results—only 1.5 per cent. mortality in 1,610 cases. This includes the laryngeal cases; many of which were intubated. There are possibly certain errors such as the non-recognition of the disease in time, the use of insufficieint dose of antitoxin, the inefficient character of the serum and mistaken diagnosis, accounting for the occasional deaths. One of the physicians thinks no patient with diphtheria should die. Zahorsky believes the statistics are not singular, but can be duplicated anywhere by physicians who believe in antitoxin and know how to use it.

Medical Record, New York.

December 5.

7 *Lesions of the Eye which Occur in the Course of Diseases of the Heart, the Blood Vessels and the Kidneys. Charles Stedman Bull.
8 *Eye Lesions in Heart and Kidney Disease. Francis Kinnicutt.
9 *A Report of Three Years of Operative Work per Vaginam at St. Joseph's Hospital, Yonkers, N. Y. Henry Moffat.
10 *Inflammation of the Bladder. Henry G. Spooner.
11 *Observations on the Use of the Sahli Test-meal. Edward A. Aronson.
12 A Typical Case of Sporadic Cretinism. Frank F. Newell.

7 and 8.—See abstracts, THE JOURNAL, November 28, p. 1362.

9. **Vaginal Operations.**—Moffat has been led by his observation of the work of J. Riddle Goffe to employ the vaginal method, and he reports results. He concludes from his own personal experience and study of other cases:

1. The anterior vaginal route is most useful to reach and operate on the round ligaments in cases of retroversion of the uterus or procidentia; also for removal of small fibroids, either subperitoneal or pediculated, or for conservative work on the ovaries and tubes, or for removal of these organs.
2. The posterior incision is most useful for drainage in cases of pyosalpinx, salpingitis, pelvic abscess, some cases of tubal pregnancy with hematocele and puerperal sepsis, either with or without involvement of the tubes; for oöphorosalpingectomy, when the ovary is held backward and downward by old adhesions, and even in some cases of acute general septic peritonitis.

The more I see of this work the more am I impressed with the important truth that no pus tube should be attacked by any other route than by the vagina.

He thinks that hysterectomy is attended with very serious danger in puerperal cases and better results can be obtained by posterior section and removal of the infected tubes and the opening up and draining of pus collections as they may appear. In certain desperate cases this has given him very satis-

factory results. He summarizes the cases treated during the three years in the St. Joseph Hospital.

10. **Inflammation of the Bladder.**—Spooner gives an interesting discussion of the literature as to the causes of bladder inflammation, and illustrates the conditions found. He insists on a guarded prognosis in these cases. As regards tuberculosis he finds that primary tuberculosis is very rare. It generally occurs in complication with tuberculosis of the epididymis or of the prostate and extends by continuity. It is, therefore, more frequent in men than in women and children. The prognosis is always unfavorable.

11. **Sahli's Test-Meal.**—Aronson criticises Sahli's "butter and flour soup" test meal as follows:

1. When made according to Sahli's description, the soup is not homogeneous.
2. The application of the test-meal to general practice is entirely impracticable.
3. The time consumed in determining results is incommensurable with the advantages derived from its use.
4. The lack of agreement in every case between the clinical diagnosis and the diagnosis according to the Sahli method.

New York Medical Journal.

December 5.

13 *Report of a Case of Carcinoma of the Breast, treated by Massive Mercuric Cataphoresis. G. Betton Massey.
14 *Twists in Normal and in Congenitally Dislocated Femora. Robert Soutter and E. H. Bradford.
15 *Tuberculous Infection of the Peritoneum and Adnexa. Andrew S. Lobingier.
15½ Dry Hot Air in the Treatment of Bright's Disease (to be concluded). Clarence Edward Skinner.
16 *The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver. (Concluded.) Hermann G. Klotz.
17 A Visit to Naha Hospital. J. A. Guthrie.

13. **Carcinoma of the Breast.**—Massey selects this case on account of its typical character and micro-diagnosis, and also from the fact that recovery seemed to occur from a single application of massive mercuric cataphoresis. There is at present an excellent and healthy scar and the patient's condition is greatly improved. He thinks the method has the advantage over other procedures in the fact that the growth with all infected cells was devitalized at once, without the loss of blood, by a process that made operative reinfection of the wound impossible. Any outlying infected cells for a short distance beyond the area of destruction were also liable to be destroyed by the diffused chemical without detriment to the healthy tissues. The cancer occupying about one-half the breast was also destroyed without the entire sacrifice of the organ.

14. **Femoral Dislocation.**—Soutter and Bradford's article is a study of a special condition of congenital femoral dislocation; that is to say, the femoral twist. The article is too detailed for abstracting.

15. **Tubercular Peritonitis.**—Lobingier discusses the literature of tubercular peritonitis noticing especially its frequency in women which has led to the belief that the appendages may be primarily involved. Even though the evidences of appendiceal tuberculosis may not be marked, it is possible that it may exist as Whitridge Williams has shown. The symptoms are not definite or constant. Kelly regards pain in the back and hypogastrium as the most frequent symptom, though it is absent in many cases. The temperature is never characteristic and a number of other conditions may be simulated. Lobingier thinks that when the history of the patient, progress of the disease, character and location of the pain, tenderness, temperature, pulse, condition of the bowels and the state of nutrition are all carefully considered, it ought to be properly diagnosticated in any of its forms. As regards prognosis, authorities are quoted, and he favors Veit's opinion that while recovery may occur spontaneously, it is not to be counted on, and laparotomy in all but the ulcerative, caseous variety is almost always rewarded by cure or substantial benefit. Failures are due to advanced general infection of other organs. Recent cases should be operated on promptly and chronic ones operated on if spontaneous cure does not seem probable. Veit favors simple section in the linea alba, mopping out the effused fluid, and closure of the wound. When the adnexa are involved they should be removed. He ascribes the cure to the antitoxic action of the serum from the wound.

16. **Gonorrhea.**—Klotz' article is concluded in this issue with reports of cases of different classes. The primary ones he thinks are the most important and convincing, and while he is aware that many prominent specialists are adverse to early local treatment he does not agree with them, but holds that we should remove or destroy the irritant and infecting microbe as early as possible. While no one method will perhaps satisfy in all cases, he regards the method here proposed of retrograde injections of the stronger solutions of silver as worthy of a fair trial.

American Medicine, Philadelphia.

December 5.

18 *Treatment in 442 Cases of Movable Kidney without Surgical Intervention. Charles D. Aaron.
19 *A Logical Definition of Typhoid Fever. Henry A. Fairbairn.
20 *The Relation of the Rectal Valve to Obstipation; A Clinical Research. Thomas C. Martin.
21 Otitic Serous Meningitis: Lumbar Puncture, Recovery. Francis Huber.
22 A Case of Hysteric Tetany with Remarks on the Pathogenesis of the Disease. Alfred Gordon.
23 *Mycotic Disease of the Ear Canal: With Report of a New Fungus. S. E. Cook.
24 The Canteen. George M. Kober.

18. **Movable Kidney.**—Aaron holds that 90 per cent. of the patients who suffer from movable kidney and associated ptoses can be relieved without operation. Of the 442 cases here summarized, 321 were females and 121 males, ranging in age from 8 to 70. The right kidney was movable in 194 cases, the left in 20. In 228 both were adrift. Only 2 patients had Dietl's crises, and these were referred to the surgeon for operation. In 9, previous operations had been without results. In 215 cases there has been absolute recovery; 168 patients were improved and 59 have been either not improved or passed out of sight. The method which he advocates is the use of bandages to hold in their proper place the displaced organs. They should be constructed for each patient out of stiff material and should fit accurately. If the intestines are in position care must be taken that the hand does not press on them, or harm may follow. It is a good plan to inflate the colon, which is apt to be prolapsed. The position of the stomach, spleen and liver must be ascertained. He is in the habit of making a mould of the abdomen with a piece of lead so as to get the exact shape of the patient just at the lower edge of the displaced kidney, where the greatest pressure must come. There should be no pressure on the kidney itself or on the upper part of the abdomen. Ready-made bands are generally failures, and it sometimes takes a number of trials to get just the right appliance. Operations have not given as good results as his method. Besides properly supporting the kidney and other displacements, diet, tonics, electricity and massage are a help in the treatment. Seven cases are briefly reported.

19. **Typhoid Fever.**—Fairbairn insists on the proper definition of typhoid fever as being based on the presence of the Eberth-Gaffky bacillus.

20. **Houston's Valves.**—Martin reports a number of cases of valvular obstipation treated by valvotomy. He points out the symptoms of hypertrophy of the rectal valves as inability to properly defecate and the acquirement of the "physic habit" with periods of constipation interrupted by short periods of diarrhea, which may later be more frequent and finally be the predominant condition. Ultimately symptoms of intestinal obstruction may become pronounced, and if relief is not afforded, the case may end fatally. The symptoms of pain, aching in the iliac region, backache and sciatica, hemorrhage, catarrhal or membranous proctocolitis, prolapse, hemorrhoids, fistula, etc., may be signs or complications of the obstructing valve. Of the 40 patients here reported, 2 were not improved and 5 were improved, 3 of these with complications; 33 were cured. He says it should be recognized that valvular obstipation may recur, even after operation, by the development of hypertrophy in valves not previously subject to the disorder. The patient should be advised in case of a period of two or three days without defecation to use saline laxatives, glycerin and water enemata at a temperature of 120 F., remaining in bed for a day or two, at no time lying on the back, but to

keep the hips elevated, and then come to the physician who can directly massage the rectal valves through the proctoscope with a cotton-guarded forceps and spray the mucosa with a weak solution of nitrate of silver.

23. **Mycotic Disease of the Ear Canal.**—In the case reported by Cook a fungus was found, identified by Dr. Pound of the University of Nebraska, with the *Sterigmatocystis candida*, a species hitherto unknown or not reported as existing in the human ear canal. In these parasitic cases the prognosis is usually good, but relapses are frequent. The treatment should be directed to the restoration of the tissues to the normal condition by removal of the processes or fungus. Water should be used sparingly. Powders are better, but alcohol is an exception to other fluids, as it rapidly penetrates the crevices of the skin and cools the inflamed surfaces by its rapid evaporation. It should be used somewhat diluted. About 2 per cent. of salicylic acid will increase its utility. Burnett claims that a powder of one part of chinolin salicylate and 8 to 16 parts of boric acid will destroy the fungus as well as the micro-organisms of suppuration. Following the destruction and removal of the fungus and the products of inflammatory reaction, use in case of severe inflammation a solution of 20 minims of subacetate of lead; 6 minims of dilute acetic acid; 20 minims of opium sedative solution and 1 ounce of distilled water. Instil 10 drops, warmed, into ear canal, as directed. His own plan is after cleansing out the ear to use a dilute solution of alcohol, 60 to 80 per cent.

Boston Medical and Surgical Journal.

December 3.

25 *Hypernephroma. Paul Thorndike and John H. Cunningham, Jr.
26 *Papillary Adenocystoma of the Thyroid and Accessory Thyroid Glands. Harry C. Low.
27 *Intestinal Parasites in Appendicitis. J. C. Hubbard.
28 A Case of Sarcoma of the Lower Jaw. F. B. Lund.
29 Chronic Cyanosis from Acetanilid Poisoning. J. N. Hall and H. R. McGraw.

25. **Hypernephroma.**—This form of renal tumor occurs encapsulated in the kidney substance or just below the kidney capsule, usually in the adult male. It interferes with function by destruction of the renal substance or by compression or both together. Its growth is rapid and usually malignant, though it may be benign in some instances. It usually involves the renal vein and sometimes the vena cava, and metastases are formed along the blood current, especially in the lungs, liver and bones, but they do not involve the lymphatic channels. Three cases are reported by the authors, with postmortems, which illustrate the characteristic points of both the gross and microscopic pathology of these growths. An affected kidney may not be much increased in size, but is generally large. The general outline of the organ is usually retained and the surface is always nodular. On section the tumor tissue is generally yellowish, with a firm and distinct stroma. Some of these nodules show areas of hemorrhage and degeneration.

26. **Accessory Thyroids.**—Six cases, one previously reported, are here given by Low and he discusses the literature. He remarks on the rarity of metastases, the tendency to rapid recurrence and the necessity for supposing that there is a metaplasia of the cuboidal into the cylinder cells in the growth. In the treatment the fact that these tumors show a certain malignancy should be borne in mind. They should be thoroughly and completely removed if possible without incising the capsule surrounding the growth, great care being taken to prevent scattering in the wound bits of tissue which may become the germs of recurrence. The operation is generally difficult, and when incomplete there is almost always recurrence.

27. **Appendicitis.**—Two cases of appendicitis are reported, one in which there were found to be pin worms present, and in another a lumbricoid worm was discovered half way through a perforation. He concludes that intestinal parasites cause appendicitis by their action as a foreign body. Possibly their struggles may bring about a perforation where otherwise none would have occurred. Trichocephalus dispar has been proved to cause an inflammation of the appendix by injuring the mucous membrane while sucking the blood of the host. Ascaris has been found with a material similar to that in trichocephalus in its intestinal epithelium and, therefore, is supposed to attach itself to the mucosa of the host, and thus start appendiceal inflammation. As regards *Oxyuris vermicularis*, there is no proof that it causes appendicitis other than through its action as a foreign body.

Cincinnati Lancet-Clinic.

December 5.

30 Valvotomy with the Report of Three Cases. L. J. Krouse.
31 *Typhoid Gangrene of the Lower Extremities—134 Cases—Spontaneous and Surgical Amputation. (Concluded) B. Merrill Ricketts.
32 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

31. **Typhoid Gangrene of the Limbs.**—Ricketts' article is concluded in this issue with a study of the cases from the literature and report of a case in his own observation. His conclusions are given as follows:

1. Sudden pain in extremities at any time during typhoid bad omen.
2. Nearer Poupart's ligament the more dangerous.
3. Pain does not always indicate location of clot.
4. Clot most frequently in popliteal artery.
5. Rapid progressive gangrene beginning at toes indicates occlusion of aorta, iliac or femoral artery in Scarpa's triangle.
6. Slow progressive gangrene indicates occlusion of vessels from below upwards, especially in early stage.
7. Line of demarcation forms sooner during convalescence, but femoral or even the iliac may be occluded; even when it forms in lower leg may not form for six months.
8. Partial occlusion of vessel may occur during attack or convalescence with recovery, but complete occlusion may become gradual and gangrene take place one year later, as in Estlander's case.
9. The want of collateral circulation may be due to anomalous circulation.
10. Partial occlusion of one or more vessels may occur without gangrene, even though sensibility be impaired.

Cocain used subcutaneously or by blocking the nerve trunk may become an important factor in amputating extremities during typhoid fever.

Virginia Medical Semi-Monthly, Richmond.

November 27.

33 The Lorenz Method. Edmund W. Holmes.
34 Diet and Drugs in Nephritis. William S. Gordon.
35 *Some Common Malaria Neuroses not Discussed in our Text-Books. R. Bruce James.
36 Lyssophobia—Report of a Case. S. T. A. Kent.
37 The Psychological Side of Medicine. Bittle C. Keister.
38 Further Remarks on Gonorrhea, its Complications, and our Responsibility in Authorizing Matrimony. Jos. Taber Johnson.
39 Exsection of Head of Colon and Part of the Ileum. A. H. Buckmaster.
40 Six Cases of Status Epilepticus Treated by Hyoscin Hydrobromate Hypodermically. George B. Fadeley.
41 Tubular Pregnancy. W. E. Anderson.

35. **Malarial Neuroses.**—James calls attention to the complications produced by malaria in pregnancy especially in inducing false labor pains. He also comments on cases in which the bladder becomes irritable from malarial poisoning, producing frequent and painful micturition which is relieved by arsenic and quinin. This trouble, he thinks, is quite common. Druggists treat many cases empirically by methylene blue and often hit the mark. Other organs that may be affected by malaria are the stomach, producing nausea more or less continuous, pain and dyspeptic symptoms and intestinal trouble. It may cause decided profuse diarrhea or even dysentery. He gives illustrations of several of these conditions, especially the false labor pains which are not apparently uncommon in cases in his part of Southern Virginia.

International Journal of Surgery, New York.

December.

42 *The Decision to Operate. A. M. Cartledge.
43 *The Surgery of Pulmonary Gangrene. L. L. McArthur.
44 *The Surgical Treatment of Varices and Varicose Ulcers. John Rodman.
45 The Surgical Assistant. (Continued.) Walter M. Brickner.
46 Absolute Occlusion of the Membranous Urethra; Suprapubic Cystotomy Combined with Perineal Urethrotomy. Albert L. Bennett.
47 Non-malignant Tumors of the Mammary Gland in the Female. Thomas H. Manley.
48 To Stain Silkworm-gut Ligatures. Augustin H. Goelet.

42.—See abstract in The Journal of October 24, p. 1040.

43. **Pulmonary Gangrene.**—McArthur reports 3 cases operated on, 2 successfully; that is to say, the patients recovered. He says that since under medical treatment 80 per cent. of the patients die, and only 29 per cent. of those operated on, surgical intervention is the appropriate treatment. While it is anatomically possible to separate the pleura from the chest

wall, it is difficult and often futile, and we should not lose much valuable time attempting it. A circular suture combined with gauze pressure packing for forty-eight hours is the best means of inducing adhesions. The *x*-ray may give valuable aid in the localization. Great care, however, should be taken in the selection of cases, but when the gangrene is localized and single, the most desperate cases should be given a chance, as they frequently recover with drainage.

44. **Varices and Varicose Ulcers.**—Rodman advocates the method of circumferential incision. The incision is made at the junction of the lower and middle third of the thigh, at about the triangular junction of the flexors. Preferably here, on account of the advantages as avoiding tension and the greater ease in dissecting out the veins. This incision avoids the external saphenous vein which, though often implicated, is never culpable. He says make the incision slowly and carefully in order not to endanger the veins and to avoid cutting one or two large nerves of the skin. Carry it down to the aponeurosis or fascia. Dissect and ligate the veins above and below the incision and excise between the ligatures. Apply dry dressings. Flex the knee and bandage the limb to the hip. Elevate the foot of the bed. Keep the patient confined one week, then let him walk on crutches; keep him out-doors with a bandage to protect the cicatrix and to support and regulate the circulation. Keep on the bandage for four weeks. The omission of the bandage compromises the integrity of the scar, and edema occurs that ought to be avoided.

Albany Medical Annals.

December.

49 Address, Medical Society of the County of Albany. John Archibold.
50 Insanity in Penal Institutions and Its Relation to Principles of Penology. H. E. Allison.
51 *The Release of Quarantine in Diphtheria. Thomas W. Salmon.
52 *What Is the Limit of Safety Where More Than One Operation Is Indicated? Albert Vander Veer.

51. **Quarantine in Diphtheria.**—From a study of 100 cases with special reference to the time of quarantine, Salmon concludes that the severity of the disease bears no relation to the duration of the infection and an arbitrary time-limit is not justifiable. The occurrence of positive cultures after a single negative one had been obtained is shown to be the rule, rather than the exception. The importance of taking cultures from nose as well as the throat in the pharyngeal cases is demonstrated by a number of instances included in the series in which the nose remained infected longer than the throat. He advises two negative cultures be taken on alternate days from both the nose and throat after two weeks have elapsed from the onset of the disease, a requirement which is not unfair to any, though permitting the release of only about 6 per cent. of the infected persons.

52.—This article has appeared elsewhere. See abstract in THE JOURNAL of December 12, p. 1496, paragraph 6.

Canada Lancet, Toronto.

December.

53 *Experiences in the Treatment of Pelvic Diseases in the Female Insane. Ernest A. Hall.
54 *Thrombosis of the Femoral Veins Following Aseptic Laparotomy. E. R. Secord.
55 Discussion on Tubercular Peritonitis. A. B. Atherton.
56 The Country Doctor. James S. Sprague.
57 Gunshot Wound of the Upper Arm with Non-union of Humerus and Destruction of the Masculospiral Nerve—Operation—Six months Later, Recovery. Hadley Williams.
58 An Unusual Case of Empyema of the Maxillary Antrum. Perry G. Goldsmith.
59 The Treatment of Inebriates. A. M. Rosebrugh.

53. **Pelvic Diseases in the Insane.**—Hall gives his experience in operating on insane females and claims that the recovery ratio is sufficient to encourage investigation. It warrants operative treatment in the insane. Mental disease is no excuse for neglect of pelvic abnormality. He thinks that special detention hospitals or special wards in general hospitals for the proper treatment of recent cases of insanity should be provided and also that a competent gynecologist should be associated with all state hospitals for the insane. He is rather severe in his criticism of alienists in this regard.

54.—This article has appeared elsewhere. See THE JOURNAL of November 28, paragraph 92, p. 1370.

Columbus Medical Journal.

November.

60 *The Quick and the Dead. Dickson L. Moore.

60. **The Quick and the Dead.**—This article, like that of the same title by Conklin previously abstracted in THE JOURNAL, is a plea for cremation. Moore points out the dangers of the ordinary burial methods and the advantages of the other practice.

The Clinical Review, Chicago.

December.

61 The Technic of Gynecological Work. Albert Vander Veer.
62 The Use of a Giant Magnet in the Removal of a Fragment of Iron from the Eye. J. Elliott Colburn.
63 The Diagnosis and Treatment of Hereditary Syphilis. N. Filatov.
64 Surgical Clinic. Frederick C. Schaefer.

Louisville Monthly Journal of Medicine and Surgery.

December.

65 Abscess of the Brain. H. Horace Grant.
66 Asphyxia Neonatorum. Edward Speidel.
67 Influenza in Children. Philip F. Barbour.
68 The X-ray and Surgical Tuberculosis. Thomas L. Butler.
69 Fracture of the Skull. Irvin Abell.

Pediatrics, New York.

October.

70 *On the Use of Opium in the Carditis of Children. Alexander Morrison.
71 *Infantile Colic. Alexander McAllister.
72 *Constipation in Infants and Young Children. W. J. Fenton.

70. **Opium in the Carditis of Children.**—Morrison pleads for palliative remedies as life-savers in cardiac inflammations in children, and the value of opium properly used in these cases. The younger the patient the greater the care in its use, but even young children when excited locally and generally by an actively irritative process, can tolerate larger doses than under normal circumstances. He quotes cases at length, showing the tolerance of children for considerable doses of morphin. While the personal case he relates resulted fatally the relief it gave was marked and the results of postmortem examination revealed the anatomical conditions underlying the symptoms. In combating carditis he feels disposed to give permanent place to opium.

71. **Infantile Colic.**—The dangers of the rubber nipple, especially those with a long tube, are emphasized by McAllister, who would never use any nipple continuously over two weeks. He insists on having two, one being kept in an alkaline cleansing wash, while the other is being used. The dangers of too rapid feeding are pointed out, and he remarks on the necessity of careful physical examination as to the cause of the colic. In the treatment too careful circumspection in the use of drugs can not be practiced. Many cases can be permanently relieved by a little manipulation with or without gentle massage of the abdomen. Next to this is warmth applied to the abdomen, dry or moist, or internally in the form of sips of hot water, or hot enemas. In spite of all efforts, however, some infants require medication with carminatives. In these cases the standard teas frequently prove too weak. Paragoric with opium excluded is a remedy of considerable value. The dose is easily regulated, beginning with a few drops. He quotes Rotch as advising the use of carminatives between feedings, and gives one of his favorite prescriptions. It consists of 40 grs. of sodium bicarbonate; 40 minims of aromatic spirits of ammonia; 30 minims of glycerin and 2 ounces of peppermint water. One teaspoonful to be given between feedings. When acidity is not an element requiring special treatment, asafetida is frequently of value. The use of narcotics is only exceptionally permissible.

72. **Constipation in Infants.**—The causes and treatment of constipation are reviewed by Fenton. In the majority of cases it depends on an excess of proteid and deficiency of fat in the diet. He notes that boiling and pasteurizing seem to affect the milk for infant feeding. He quotes Starr that carefully standardized laboratory milk is also liable to produce intestinal disorders and malnutrition in some cases, domestic modification of milk being freer from these dangers. In hand-fed children constipation is much more frequent and often difficult of treatment. Starchy food may be given too early and there may be a general depression of the health from other causes, such as want of fresh air or habitual use of enemata, while remedies

injudiciously given for colic may be the cause. Want of a sufficient quantity of fluid drunk may be the cause. The constipation may disclose a serious nervous disorder. He insists on a quiet, regular life for the nursing mother with sufficient rest at night, plain nourishing diet, etc. The composition of the milk varies at different times. Regularity in the infant's feeding is of importance. If medicinal treatment is also necessary, fluid magnesia, a few grains of carbonate of magnesia, manna, or an occasional dose of castor oil may be given. A small suppository of glycerin or the domestic remedy of a small cone of soap, inserted into the rectum, is useful and efficacious. It is wise to trust to the natural appetite of hand-fed infants where vomiting is absent and the food is given regularly. Sometimes the milk should be stopped and whey broth, meat juice, albumin water or a thin dextrinized gruel be substituted. Frequently, partial or complete peptonization suffices. A teaspoonful of fine oatmeal made into a paste and stirred into the morning milk is sometimes useful. The common cause of constipation in infants being excessive proteid and deficient fat, these defects must be met by a suitable addition of cream. Massage is a valuable remedy. For drugs he mentions in the simple cases a teaspoonful of manna dissolved in hot water or a few grains of phosphate of soda, either of which may be added to the milk, and usually prove sufficient. Fluid magnesia, or ½ to 1 grain of sulphur may be given. For co-existing colic and flatulence some mild cathartic is employed. The aim is to get the bowels freely open first and then keep them open by the use of drugs as little stimulating as possible. In older children regular habits should be encouraged. Enemata are of service if fecal masses have collected in the rectum, but their use should not be persisted in.

Archives of Ophthalmology, New Rochelle, N. Y.

November.

73 *On Glaucoma. K. R. Wahlfors.
74 A Clinical Contribution to Traumatic Enophthalmus. Dr. Purtscher.
75 The So-called Embolism of the Central Artery of the Retina and of Its Branches. Max Reimar.

73. **Glaucoma.**—The long prevalent theory of increased tension as the cause of glaucoma is combated by Wahlfors. It is true that increased tension exists in the acute, inflammatory type of disease, but in the simple form it is absent. He does not, however, consider the two types as distinct. The real origin of the trouble he thinks is in atrophy of the choroidal elements. This destroys the nerve sensory apparatus and leads to increase of tension by paralysis of the muscular network of the choroid, slowing the course of the currents of liquid. The channels of exit thus become blocked and cause retention. It is here and not in the uveal region that the cause of increased tension is to be found. Excavation may occur without an increase in the tension, as it is liable in simple glaucoma where there is no increase of tension. He ascribes excavation to atrophy of the connective tissue composing the framework of the lamina cribrosa and the diminished resistance of the papillary tissues. Atrophy is probably primary and excavation secondary. As regards treatment he thinks that there is little that can be done for the processes in simple glaucoma excepting by repeated injections of strychnin, which in a certain proportion of his cases have been beneficial. By giving these injections one a day for ten or twenty days, repeated three or four times a year, he has been able to preserve vision for many years. In acute glaucoma iridectomy is of value as it prevents venous stasis—the last link in the chain of congestive glaucoma. It may also be of prophylactic value in simple glaucoma as preventing acute exacerbations.

Medical Examiner and Practitioner, New York.

November.

76 *The Relation of Tubercular Glands to Life Insurance. Daniel N. Eisendrath.
77 *The Significance of Intermittent Albuminuria in Life Insurance Work, with Report of a Case. Andrew H. Whitridge.
78 Tetanus—with Descriptive Case. Joseph B. Bissell.
79 Sundry Random Thoughts on Life Insurance Matters. A. Noel Smith.
80 A Study of Light. Ultra Violet Light. Part II. J. Mount Bleyer.
81 Rheumatism and Gout. C. L. Steensen.
82 The Element of Anemia in Diseases of Women. Everett S. Hicks.

76. **Tubercular Glands and Life Insurance.**—Eisendrath has studied the literature and statistics of the subject. From these as well as his own observation he concludes that tubercular glands of various regions are frequently followed by foci, mostly of the lungs (28 per cent). Next in frequency are the bones and joints. Operative treatment gives the best number of permanent recoveries (54 to 80 per cent.). Every insurance examiner should keep in mind the above figures and investigate carefully as to the possibilities of a late focus following tuberculous adenitis in early life.

77. **Intermittent Albuminuria.**—Whitridge discusses the subject and reviews the opinions of various authorities on the question. He thinks that a mere trace of albumin in the urine does not justify the turning down of an applicant for life insurance, but he should be kept under observation and repeated examinations made. In all cases it is important to know the amount of urine passed daily. If there is no history of frequent micturition, if the urine is of normal specific gravity and the urea normal, he thinks the applicant is insurable.

Medical Fortnightly, St. Louis.

November 25.

83 The Mesoappendix. Byron Robinson.
84 Two Cases of Impacted Fracture of the Hip Joint—One Treated with Hodgen Splint and One Treated with Liston Splint—Comparison of Treatment. W. J. Clark.
85 Gunshot Wound of Abdomen. W. C. G. Kirchner.
86 Chronic Interstitial Nephritis. R. A. Bate.

Richmond Journal of Practice.

October.

87 The Terminal Symptoms of Chronic Bright's Disease. William S. Gordon.
88 Treatment of Eclampsia. J. M. H. Rowland.
89 Laboratory Diagnosis in Gastric Disorders. E. Guy Hopkins.

Northwest Medicine, Seattle, Wash.

November.

90 Address, British Columbia Medical Association. O. M. Jones.
91 What Can Be Done for Cancer? Emory Lanphear.
92 The Surgical Problem in Prostatic Hypertrophy. (To be continued.) George W. Hawley.
93 Etiology and Treatment of Pathologic Conditions of the Prostate. W. S. Durand.

Medical Mirror, St. Louis.

October.

94 Fragments of a Diary. I. N. Love.
95 The Mother, Before Conception, During Pregnancy, After Childbirth. A. Campbell White.
96 Treatment of Lupus. Norman Barnesby.
97 Latent and Masked Estivo antumnal Malarial Fevers—Subcontinued Estivo-autumnal Malarial Fevers and the Combined Infections. W. E. Fitch.
98 X-iodo Bismuth. J. Leffingwell Hatch.

Canadian Journal of Medicine and Surgery, Toronto.

December.

99 Spinal Injuries External to the Spinal Cord. Thomas H. Manley.
100 Address, Toronto General Hospital Training School for Nurses. Allen Baines.
101 Deformities and Disabilities Resulting from Injuries or Diseases of the Epiphysis. B. E. McKenzie.
102 Notes from a Recent Trip to New York. John Hunter.
103 The Surgical Treatment of Hallux Valgus and Bunion. James Newell.
104 Two Cases of Normal Pregnancy Following Operation for Extra-uterine Pregnancy. Francis D. Donoghue.

Kansas City Medical Record.

November.

105 The Subcutaneous Use of Paraffin in Deformed Noses, with a Supplementary Report. Hal Foster.
106 Electrotherapeutics. C. S. Roberts.
107 Orificial Surgery. A. Van Meter.
108 Prophylaxis and Treatment in Incipient Tuberculosis. T. F. Lockwood.

Journal of the Kansas Medical Society, Topeka.

December.

109 Case of Intussusception. R. S. Magee.
110 Echinacea. L. E. Sayre.
111 Intrauterine Smallpox. H. T. Jones.
112 Chancres and Chancroids. Hugh Wilkinson.
113 Infectious Diseases and Quarantine. (Continued.) Arthur W. Clark.

St. Paul Medical Journal.

December.

114 The Treatment of Rhinophyma. J. Collins Warren and Charles J. White.
115 The Ill-health of Margaret Fuller-Ossoli. George M. Gould.
116 Nephrolithiasis. James H. Dunn.
117 Pregnancy, Labor and Lying-in. Frederick Leavitt.
118 Notes on Seven Years of Obstetric Practice. G. J. Tweedy.
119 Acute Prostatitis. F. M. Archibald.
120 An Ideal Treatment for Gonorrhea. Burnside Foster.

Texas Medical News, Austin.

November.

121 The Management of Crushing Injuries of the Hands and Feet. R. W. Knox.
122 Streptolyptic Serum in the Treatment of Mixed (Streptococcic) Infection of Pulmonary Tuberculosis. Boyd Cornick.
123 Constipation as a Factor in Diseases of the Rectum and Colon. J. E. Morris.
124 The Management of Appendicitis, as Met in Country Practice. B. Nowlin.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 28.

1 *The Treatment of Some Acute Visceral Inflammations. D. B. Lees.
2 Syphilitic Joint Disease. E. Percy Paton.
3. The Spread of Ankylostomiasis. T. H. Hendley.
4. A Case of Abdominal Hysterectomy for Retroperitoneal Cervical Fibroid. Arthur H. N. Lewers.
5 Two Cases of Retroperitoneal Cysts: One Causing Obstructive Jaundice and the Other Simulating an Ovarian Cyst. Charles A. Morton.
6 Retroperitoneal Manipulation—A Method of Separating Deep-seated, Plastic, Pericecal or Other Peritoneal Adhesions. G. Gore Gillon.
7 *Subperitoneal Lipomata. John Campbell.
8 *The Treatment of Visceral Papilloma by Injections. Herbert T. Herring.
9 Case of External Urethrotomy Treated by Continuous Retention of a Rubber Catheter Held in Position by a "Perineal Stop." C. Hamilton Whiteford.
10 The Pathology of Hallux Rigidus. J. M. Cotterill.
11 *Further Notes on Leishman's Bodies. Ronald Ross.
12 *The Etiology of One of the Heterogenous Fevers of India. C. Donovan.

1. **Pneumonia.**—Lees' second lecture is on pneumonia. He says that when the vitality is feeble or other viscera are damaged or there are old pleural adhesions, when the lungs are fibroid or emphysematous, or the patient is chronically poisoned by alcohol, tobacco or sepsis chance for recovery is small. Pneumonia kills, he says, by a paralyzing overdistension of the right heart on which the toxin seems particularly to act, as particularly distinguished from that of rheumatism which affects the left heart. Most important in treatment is constantly to watch the right heart, preventing overdistention by timely removal of a small quantity of blood, a precaution too often neglected, which fact he thinks is responsible for a large part of the mortality. The procedure should be repeated when necessary. The diet should be such as can be taken without effort and easily assimilated. Milk meets these indications and acts also as a diuretic, thus helping to carry off the toxins. We have to consider, however, that an increased amount of fluid increases the amount passing through the right heart, and he would, therefore, only give small quantities of predigested and highly nutritious elements during the intenser stages of the disease when this cardiac complication is marked. He suggests one-half ounce of sodium and potassium bicarbonate, dissolved in 2 ounces of malted milk every hour for an adult; for a child, two teaspoonfuls in an ounce. After the leech has relieved the heart it is possible to give considerable quantities of water. During the first two or three days he would give milk alone in quantities of two to three pints a day, but not later. Sleep must be obtained, and if pain demands it morphin may be necessary. Even at a late stage or in severe cases morphin may sometimes be safely given if the right heart has been relieved and the air passages cleared by venesection an hour or two previously. But if the right heart has been duly relieved by leeches and local applications of the icebag made over inflamed areas, morphin is rarely necessary unless the pleura is seriously involved. He thinks strychnin is the most useful cardiac tonic; this should be given subcutaneously in dose of ½ to 1 minim of the official solution, B. P., twice daily, in the beginning with a child; and in the adult 2 minims morning and evening at first, increasing to as much as 5 minims if necessary. Atropin by subcutaneous injection is often useful, especially in children; in adults belladonna is less convenient. Oxygen by inhalation assists aeration of the blood and improves the quality of the blood supply to the heart. It is a true cardiac tonic, but neither strychnin or oxygen will save the patient if the right heart is allowed to become paralyzed. Digitalis is most likely to be of service after the cardiac symptoms are relieved and the fever is moderate. Ammonium carbonate may be given when there is much secretion in the bronchial tubes and repeated small doses of alcohol may be of service, but large quantities are likely to do more harm than good. It is absurd to think that brandy can support the heart when the right side has become paralyzed from overdistension. Ice applications over inflamed areas are of great value, and must be used much more freely than in pericarditis. Lees suggests also that such applications lessen the proliferation of bacteria and quotes Dr. Neave, who has investigated on this point. From Washbourn's experiments he concludes that lung consolidation and pyrexia are largely due to the local effects of an albumose produced by the growth of the pneumococcus.

7. **Subperitoneal Lipomata.**—Campbell reports two cases, one of the malignant and one of the benign variety. Subperitoneal lipomata are much more frequent in women than in men—a ratio of 25 to 16, and are more frequent on the right side. The malignant variety includes retroperitoneal tumors which originate on the posterior aspect of the abdomen, difficult and almost impossible to remove, microscopically, sarcomatous in whole or in part. Those affected are at first in good health, but ultimately waste while the tumor increases. The benign variety includes lipomata of the broad ligament, omentum and appendices epiploicæ. These tumors can be safely removed. They do not cause much general deterioration of the health.

8. **Vesical Papilloma.**—Three cases are reported by Herring, who thinks they demonstrate the following facts:

1. Recurrence of papilloma after removal by suprapubic cystotomy, which, unfortunately, is very frequent, may be effectually held in check by injections of silver nitrate. 2. If injections are made, when it has been found impossible to remove the growth entirely by operation, the recurrence of the symptoms is retarded longer than could be expected without the treatment. 3. Much of a tumor may be removed by the urethra without serious hemorrhage, and a result gained equal in some cases to that of a suprapubic operation. 4. There is reason to hope that papillomatous growths may be entirely destroyed by long-continued applications of silver nitrate.

The conclusions, therefore, that may be drawn, although confirmatory evidence is needed, are: (*a*) Injections should be made after operations for the removal of the growth, whether the operator is satisfied that he has done so efficiently or not. (*b*) The urethral route should be tried, when removal of the papilloma is contemplated, before a more serious operation is undertaken.

The question whether most cases of papilloma should be operated on through the urethra before the injections are commenced, even when the diagnosis is made early and the tumor is small, or whether injections alone should be relied on, requires further investigation. I should be inclined under favorable circumstances to give the former plan another trial; for, in the first place, the operation need not be severe nor attended with serious consequences, if strict attention is paid to sterility in instrumentation; in the second, the improved instruments recently made by Leiter and the advantages derived from adrenalin in stopping hemorrhage, render manipulation more certain; and thirdly, the size of the tumor to be attacked by the injection afterwards will be less even if only small portions are removed, and consequently the time required to check the disease shortened. In the female I have no doubt that this is the proper proceeding. Suprapubic cystotomy can hardly ever be wanted when access to the bladder is more easily gained through the urethra by the means of Kelly's tubes.

11. **Leishman's Bodies.**—Ross concludes that these bodies belong to a new genus of sporozoa and that the individual bodies are spores produced in the matrices, which would appear to be relics of the parent organism. He has no scientific name to offer for the new genus, but suggests "Leishmania." If such were adopted the species would be "Leishmania donovani," as Laveran has used the name "Piroplasma donovani."

12. **Leishman's Bodies.**—Donovan briefly reports that he finds these bodies in the spleen of patients suffering from an irregular fever, with enlarged spleen and liver, paroxysmal edema of the feet, congestion of the lungs, occasional subcutaneous hemorrhages and cancrum oris. He thinks they probably are the causal factor. Medication by quinin, arsenic and sodium salicylate has proved ineffectual.

The Lancet, London.

November 28.

13 *The Administration of Chloroform to Man and to the Higher Animals. Augustus D. Waller.
14 The Present State of the Irish Poor-law Medical Service. R. F. Tobin.
15 Some Questions in Seaside Climatology. Alfred F. Street.
16 Patent Medicines. Robert Hutchison.

17 On Albuminuria as an Accompaniment of Diabetes Mellitus. (To be continued.) F. W. Pavy.
18 Fracture of the Fifth Cervical Vertebra; Recovery. W. E. F. Tinley and A. R. Jones.
19 A Confirmatory Test for the Presence of Meconic Acid. F. N. Windsor.
20 A Case of Teratoma of the Neck. F. Bolton Carter.
21 Note on a Dicephalous Monster. Alexander M. Elliot.
22 Remarkable Transposition of the Viscera. John C. Thomson.

13. **Chloroform.**—Waller insists on the importance of accurate dosage of chloroform in anesthesia; this can be obtained by Dubois' pump. Chloroform vapor should be maintained under 1 or 2 per cent. of the inspired air. He relates experiments showing the use of this method; 5 per cent. is dangerous, between 1 and 2 per cent. is the safest. Rule of thumb methods are not accurate or safe.

Journal of Tropical Medicine, London.

November 16.

23 *Calabar Swellings on the Upper Congo. Patrick Manson.
24 *Goundou: Its Relation to Yaws. A. Neli.
25 The Effect of Drainage and Other Measures on the Malaria of Klang, Federated Malay States. (To be continued.) Malcolm Watson.
26 Municipal Sewerage. (Continued.) Fred. Smith.

23. **Calabar Swellings.**—Manson reports a case in a missionary on the Congo. The disorder known under this name consists of attacks of edematous swellings of certain parts of the body with pain and loss of power. As the cases are found in association with the *Filaria loa* and appear to be especially prevalent in the area of its distribution, the conjecture that they are caused by this nematode seems not unreasonable. It occurred to him that these swellings might be provoked by the discharge into the connective tissues of embryos by a parental loa. From the connective tissue they may find their way along the lymphatics into the general circulation where their life may be limited. He thinks an examination of the blood soon after the appearance of a Calabar swelling might disclose an embryo. It seems to be a disease which specially affects males; only one woman, as far as he has known, has been attacked among the missionaries on the Congo.

24. **Goundou.**—Nell concludes that yaws bears a causal relation to goundou, which consists in symmetrical osteomata on the nasal processes of the superior maxillary bones, always congenital, either apparent at birth or to be detected on close examination. The general enlargement is always concomitant with body growth and stops with full adult life. An acute enlargement or an attack of yaws follows. Some congenital cases are not noticeable if no acute enlargement has occurred, and adults with slight ridges or bosses should be questioned regarding goundou or yaws in the family.

Australasian Medical Gazette, Sydney.

October 20.

27 Mechanism of the Paroxysmal Neuroses. Francis Hare.
28 Management of Epidemic Plague. J. Ashburton Thompson.
29 A Case of Aneurism of the Transverse Aorta. Louis Henry.
30 On Certain Pelvic and Abdominal Operations. E. T. Thring.
31 Gastric Surgery. R. Humphrey Marten.
32 Notes on Gastric Surgery. W. Anstey Giles.

Intercolonial Medical Journal of Australasia, Melbourne.

October 20.

33 Movable Kidney. G. Rothwell Adam.
34 The Surgical Aspect of Floating Kidney. H. Critchley Hinder.
35 Movable Kidney in Woman. J. A. G. Hamilton.
36 Cases of Arthritis Resembling Acute Rheumatism. G. R. Baldwin.
37 Post-nasal Growths: A Criticism and a Comparison. W. Kent Hughes.
38 Case of Malignant Disease of Face Treated by Plastic Operation. W. Moore.
39 Good Result Following Extraction of Lenses for High Myopia. James W. Barrett and W. F. Orr.

Bulletin de l'Académie de Médecine, Paris.

40 (LXVII, No. 36.) Transmission des maladies parasitaires du sang par les Tabaniens (horse flies). P. Mégnin.
41 A propos de la maladie du sommeil (sleeping sickness). Discussion.
42 Potable Water in Garrisons. Discussion.
43 (No. 37.) *La nature syphilitique et la curabilité du tabes et de la paralysie générale. Leredde.
44 Address at Inauguration of Monument to Charcot. Raymond.
45 *Antituberculosis Serum and Vaccine. A. Marmorek.

43. **Curability of Tabes and General Paralysis.**—Leredde proclaims that tabes and general paralysis are curable when antisyphilitic treatment is commenced in time with adequate dosage. He believes that it is possible to inject a healthy subject with .035 gm. of metallic mercury daily, that is, twenty times the usual dosage of Panas' biniodized oil. Inunctions are uncertain and unreliable.

45. **Marmorek's Antituberculosis Serum and Vaccine.**—Marmorek's communication read before the Académie November 17 is not published in the *Bulletin*, only the title being given, A detailed report of it was embodied in an editorial in our last issue. [Our Italian exchanges comment that the principle of the antitoxic serum and the technic of its production are identical with those of Maragliano's serum which has been in constant use for eight years and which has abundantly established its efficacy in appropriate cases. Maragliano's annual reports have been chronicled in THE JOURNAL from year to year. Marmorek's article is published in full in the *Archives Gen. de Médecine* of November 24, No. 47.—ED.]

Presse Médicale, Paris.

46 (II, No. 90.) *La circulation du liquide céphalo-rachidien. F. Cathelin.
47 (No. 91.) Exérèse du trijumeau (of the trigeminal). L. Ramonède.
48 Hydro-Dilator for Treatment of Stricture and Dilatation of Cervix. P. Bakaleinik (Kiev).—Traitement des rétrécissements de l'urètre, de l'esophage, de l'anus. Dilatation du col utérin. Instrument illustrated.
49 (No. 92.) L' enseignement technique à la clinique ophthalmique de l'Hotel-Dieu. F. de Lapersonne.
50 Atherome aortique expérimental par injections répétées d'adrénaline dans les veines. O. Josué.
51 Traitement chirurgical de l'occlusion intestinale aigue. L. Braun.

46. **Circulation of Cerebrospinal Fluid.**—Cathelin announces that we can accept as established a circulation in the cerebrospinal fluid similar to that of the lymph. It issues from the blood and returns to it through the intermediation of the lymph circulation. He describes with diagrams the mechanism as he has traced it out.

Revue de Gynécologie, Paris.

Last indexed page 1171.

52 (VII, No. 5.) Les kystes racémeux de l'ovaire. F. Jayle and X. Bender.
53 Etude anatomique et pathogénique des kystes hématiques primitifs de l'ovaire. F. Potier.
54 *Traitement opératoire de l'exstrophie de la vessie. Transplantation des urétères par le procédé de Maydl. E. Orloff (Charkov).
55 De l'occlusion au niveau de l'angle colique gauche (at left angle of colon). H. Morestin.
56 Traitement des abcès pelviens d'origine appendiculaire en particulier par l'incision rectale. L. Bérard and Patel (Lyons).

54. **Operations Performed to Date for Exstrophy of Bladder.**—Orloff includes in his comprehensive monograph all cases he has been able to find in which Maydl's method of transplanting the ureters has been followed or more or less modified. It forms an array of 61 cases including 5 from his own experience. Three of his patients did not long survive the operation. The results were excellent in the 2 others. He also reviews other operative methods with their results to date.

Semaine Médicale, Paris.

57 (XXIII, No. 46.) *Multiplicité et complexité des produits solubles développés au cours d'une infection. Charrin.
58 Letter from America. F. Munch.—L'exercice de la médecine aux Etats-Unis.
59 Les courants de haute fréquence dans le traitement de la méralgie paresthétique. H. Bordier.
60 La photothérapie des adénites et des arthrites tuberculeuses. Bellemanière.
61 Traitement du lupus par les cautérisations ignées associées aux applications d'acide picrique. Gailleton.
62 (No. 47.) *La dilatation forcée du sphincter anal comme moyen de traitement de l'entérocolite muco-membraneuse. A. Roussel.
63 Letter from America. Le corps médical aux Etats-Unis. F. Munch.

57. **Products Elaborated During Infections.**— Charrin has for years been conducting experimental researches with the *Bacillus pyocyaneus*, as reported from time to time in these columns. Reviewing his own work and that of others he remarks that two principal characteristics mark the progress of medical science in late years: 1, the realization of the fact that most of the symptoms and changes that develop in the course of infections are due to the action of toxins, a multiple

and complex intoxication. Some of the toxins proceed directly from the bacteria, others indirectly from their action, either from the changes induced in the humors or tissues by the direct action of the germs or their secretions and excretions or from the reactions of the cells and organs under the influence of these elements. This mechanism of intoxication may proceed from the interior or exterior; it may be organic or inorganic, of bacterial or cellular origin. In other words, the same as in actual poisonings or autointoxications, the toxic compounds preside over the genesis of the infectious or diathetic accidents. The second characteristic of recent progress is the growing importance accorded to the organism itself, the *rôle de l'économie*, as Charrin calls it, in the genesis of pathologic conditions. We have already partially restored the "soil" to its old predominant place in the etiology of disease. We recognize the predisposition afforded by getting chilled, over-exertion, inanition, etc., and the organism is coming into its own in this respect more and more every day. For instance, in very young infants the disturbances consecutive to chronic gastro-enteritis are due in certain cases to the insufficiency of the intestinal defenses. During the acute stage the numbers or the virulence of the poisons engendered in the digestive tract are responsible for the symptoms observed, but in many cases, after this stage is past, the poisons are found to be no more active than those elaborated in the normal infantile intestine. Their peculiarly deleterious action is due to the lack of protection against them. The direct or indirect action of the tissues and of the physiologic apparatus in the mechanism of morbid phenomena is becoming more manifest every day. Cellular pathology is resuming its rights, not altogether Virchow's old cellular pathology, but a conception singularly enlarged. The idea that a microbe engenders disease by the aid of its toxin is being shown up more and more to be altogether too limited and inadequate to conform to what we are learning in regard to the multiplicity and complexity of the soluble products elaborated during the course of an infection by the interaction of bacteria and the cells of the organism. Immunity is only a special phase of nutrition, the consequence of these interactions.

62. **Dilatation of Anus as Cure for Enterocolitis.**—Roussel had occasion five years ago to treat a woman of 40 for both fissure of the anus and mucomembranous enterocolitis. He proceeded to the forcible dilatation of the anal sphincter for the first trouble and found to his surprise that the second was also favorably influenced and soon healed. He has since treated 4 other cases of mucomembranous enterocolitis alone by forcible dilatation of the sphincter, and in each case the results of this intervention have been equally satisfactory. One of the patients had two relapses, once during pregnancy and again during lactation, and in another patient the stools occasionally show a tendency to the mucomembranous form, but it is speedily dissipated by a little castor oil and oil injections. He attributes the success of the measure in these case to the action of the dilatation in arousing the contractility of the atonic colon and banishing the spasmodic contraction of the lower part of the intestine. He prefers the fingers to any instrument for the dilatation, and afterward inserts a wick in the rectum, expelled with the first discharge. Any tendency to constipation afterward is easily corrected by the ordinary drugs, previously ineffectual.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 1374.

64 (LXXI, No. 2.) *Ueber Pseudo-Leukämie und verschiedene verwandte Krankheitsformen. A. Pappenheim (Berlin).
65 Mechanism of Ileus from Knot Formation. G. Ekehorn.—Ueber die gewöhnlichsten, durch Verknotung verursachten Formen von Ileus, mit bes. Rücksicht auf den Mechanismus der Knotenbildung.
66 *Perforating Strumitis. E. Payr (Graz).—Ueber Kropf-Fisteln.
67 *Ein Neuer Blasenschnitt (Cystotomia perinealis). R. Frank (Vienna).
68 *Dangers of Raising the Pelvis. P. Kraske.—Ueber Beckenhochlagerung und ihre Gefahren.
69 Extirpation of Scapula. K. G. Lennander (Upsala).—Exstirpation des rechten Schulterblattes wegen chronischer Myelitis; Fixation des Oberarms am Schlusselbein durch einen Metaldraht und durch Muskel-Plastik.
70 *Tuberculosis of Posterior Segments of Spine. J. Wieting.—Ueber die Tuberkulose der Wirbelsäule, besonders ihrer hinteren Abschnitte, und über die Entstehung retropharyngealer Abszesse.
71 The Barbadoes Glandular Affection. Gross (Jena).—Die Drüsenkrankheit von Barbados.
72 *Perforatio thoracis translateralis duplex mit Ausgang in Heilung. Franke (Brunswick).
73 *Experimental Research on Action of Local Stimulation and Local Application of Heat. Wessely (Berlin).—Zur Kenntnis der Wirkung lokaler Reize und lokaler Wärmeapplikation (nach Experimenten am Auge).
74 Zur Aetiologie der Blasen-Ektopie. Enderlen (Marburg).

64. **Pseudo-Leukemia and Allied Affections.**—Pappenheim summarizes his views in the statement that multiple myeloma and malignant lymphoma as well as the spleen affection, pseudo-leukemic splenomegaly, are merely various manifestations of one and the same process, a hyperplastic-lymphosarcomatous process—pseudo-leukemia.

66. **Goiter Fistula.**—Payr has had occasion to observe 4 cases of perforating strumitis. He reports the details, with cuts, and reviews 36 similar cases which he has found in the literature. Treatment can be only the extirpation of the fistulous tract and part of the gland involved. This operative intervention is rather difficult but is imperative on account of the dangerous complications liable to set in at any moment.

67. **Perineal Cystotomy.**—By a transverse incision of the perineum followed by detachment of the rectum, the bladder is freely exposed without the interposition of urethra, etc. Frank has operated on the bladder in 3 cases by this method and has found it superior to others, as he details at length.

68. **Dangers of Raising the Pelvis.**—Kraske's communication has previously been referred to in THE JOURNAL as it was presented at the German Congress of Surgery. He reports 2 fatalities which he ascribes to the Trendelenburg position. In one case the heart was degenerated and the distension of the organ and high pressure of the blood in the inferior vena cava entailed acute and irreparable dilatation of the heart. The conditions noted in the second fatal case demonstrate that it may be dangerous to raise the pelvis in obese subjects, especially those with very fat omentum, mesentery and appendices epiploicæ, as these factors favor displacement of the intestines and consequent occlusion. Pressure against the liver may induce congestion in the portal vein and congestion and hemorrhage in the stomach lining. Postoperative gastric hematemesis may be due to this cause. He advises shortening or avoiding altogether the Trendelenburg position in operating on very corpulent subjects, suggesting that its effects should be counteracted afterward by raising the other end of the trunk as soon as possible, and avoiding the use of all constricting bandages.

70. **Tuberculosis of Posterior Segments of Spine.**—Wieting presents a careful study of 14 cases of this affection and 89 he has collected in the literature. He practices in Turkey.

72. **Complete Perforation of Chest from Side to Side by Broom Handle.**—The case described was one that caused much comment at the German Congress of Surgery. A woman fell from a step-ladder on a broom handle which entered at one axilla and emerged at the other, but without breaking the skin at the latter point. There was traumatic pneumothorax, also extensive subcutaneous emphysema which acted as a safety valve for the air accumulating in the thorax. The various organs in the chest had been pushed aside without injury. When seen five and one-half hours after the accident, each axilla was tamponed tight and constricting bandages applied. The air was soon absorbed and recovery was prompt and complete with no signs of infection.

73. **Local Irritations and Application of Heat.**—Wessely's experiments have convinced him that local application of heat attracts the immune bodies to the points where they are needed to defend against invasion of microbes. His interesting experiments were made on rabbits' eyes.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 1236.

75 (XXXIX, No. 3.) *Zur akuten Osteomyelitis im Gebiete des Hüftgelenks (in hip). B. Honsell (Tübingen).

76 *Beitrag zu den extrakraniellen Aneurysmen der Carotis interna. C. Blauel (ibid).
77 *Ueber primäre Tuberkulose der quergestreiften Muskeln (of striated muscles). E. Zeller (ibid).
78 *Resultate der Exstirpation des tuberkulösen Sehnen-Scheiden-Hygroms der Hand. B. Zöppritz (ibid).
79 *Retropharyngeal Tumors. H. Hellendall (Strasburg).—Ueber retropharyngeale Geschwülste.
80 *Treatment of Fractures of Patella and Remote Results. G. Schmidt (Breslau).—Entstehung und Behandlung der Kniescheibenbrüche mit besonderer Berücksichtigung der Dauererfolge.
81 *Zur Diagnose und Therapie der Kleinhirnabszesse (cerebellar abscesses). W. Lossen (Carlsruhe).

75. **Acute Osteomyelitis in Hip.**—In early childhood this process is liable to be comparatively benign. Later in life the severer cases, with suppuration of the joint, should be treated by amply exposing and resecting the parts. Under other conditions conservative treatment is generally indicated. Including the moderately severe and the milder cases, the record in the Tübingen clinic is now 121 cases with a mortality of 14 per cent. Twelve died without any operative intervention, and 3 of the fatal cases had been treated by resection and 2 by exarticulation. The *x*-ray is the most useful aid for diagnosing the condition and its consequences, as Honsell demonstrates by numerous examples and an anatomic study of the parts involved. Recovery was complete in 89, including 38 with ankylosis, 29 with spontaneous luxation and 21 with detachment of the epiphysis. Resection was done in only 19 and exarticulation in 2 cases. Total mortality, 14 per cent.

76. **Extracranial Aneurism of Carotid.**—The patient was a woman 58 years old who had suffered for ten years from an aneurism of the internal carotid. Sudden rupture causing a false aneurism entailed severe symptoms of dyspnea, neuralgia, etc., requiring tracheotomy. The rapid increase in size of the tumor imposed further operation and the common carotid was ligated and the aneurism extirpated, with complete success.

77. **Primary Tuberculosis of Striated Muscles.**—Zeller reports 2 new cases.

78. **Tuberculous Hygromata.**—Zöppritz states that 35 cases of tuberculous hygroma in a tendon sheath on the hand have been treated by extirpation of the cyst at the Tübingen clinic. All but 14 were male subjects, and the majority were between 20 and 40 years old. The remote results in 31 cases are known; three-fourths of the patients have been completely cured during the years that have elapsed since, up to fifteen in some instances. The functional results were perfect in 11 cases and nearly perfect in 13. Recurrence was observed in 9, and 4 of the patients have succumbed to an intercurrent disease.

79. **Retropharyngeal Tumors.**—Hellendall's experience with extrapharyngeal operations has been more favorable than with the intrapharyngeal; the subsequent infection and mortality are much less with the former. He reviews 31 cases, including 23 treated by radical intervention, and confirms the assertions of others in regard to the almost exclusively connective-tissue nature of these tumors. Out of 27 examined under the microscope, only 2 were of epithelial nature and only 10 benign tumors. His article discusses the subject from various points of view, symptoms, course, location, etc.

80. **Fractures of Patella.**—Fifty-two cases of fracture of the patella have been observed at Breslau. In 31 cases the patella was sutured, while 17 were treated by massage alone. The fracture may be due to contusion or laceration, and the latter particularly requires suture as it prevents extravasation, interposition of soft parts and canting of the fragments, while it insures firm union and permits early movements of the joint. In case of a recent fracture the incision is made across, but in old cases the parts are incised lengthwise. With a recent fracture it is deemed best sometimes to suture with aluminum bronze wire the parapatellar lacerations. As a general rule, however, no suture is attempted unless asepsis is reasonably certain. Schmidt reviews the particulars of the entire series.

81. **Diagnosis and Treatment of Abscess in Cerebellum.**—Eight out of 10 cases of cerebellar abscess have been operated on at Carlsruhe by von Beck, and three have been permanently cured by the intervention. The cause of the abscess was invariably a chronic suppuration in the ear. In 8 cases there was a cholesteatoma of the tympanum, in 2 inflammatory or suppurative mastoiditis. In 6 cases the abscess was on the left side and in 1 it was bilateral. It must be opened at once and an accompanying meningitis is not an absolute contraindication unless too extensive. Prompt operation is imperative even on a presumptive diagnosis, at least opening up the sinus and dura, with exploratory puncture and incision. Beck's technic is described in detail, with brief notes on the various cases.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

82 (XXIX, No. 46.) *Zur Aetiologie der Ruhr (dysentery). Jürgens (Berlin).
83 Ueber pustulöse Typhus-Roseola nebst bakteriologischen Untersuchungen. E. Birnbaum and H. Weber.
84 *Zur Asepsis des Katheterismus und der Cystoskopie. L. Casper (Berlin).
85 *Substitution of Entire Shaft of Radius by Ivory Rod. K. Vogel (Bonn).—Fall von Ersatz der ganzen Radius-Diaphyse durch einen Elfenbeinstift.
86 Zur Biochemie der Gravidität. W. Liepmann and E. Opitz.
87 *Prevention of Iodism. F. Lesser.—Zur Kenntnis und Verhütung des Jodismus.
88 Ergebnisse der vom 1892 bis 1902 in Garnison-Lazareth zu Allenstein beobachteten Pneumonie-Fälle. F. Becker.
89 *Sterilization of Silk by Diffusing Currents. J. Ausin (Erwähnen).—Sterilisation chirurgischer Seide durch Diffusionsströme.
90 The German Life Insurance Societies During 1902. Guttstadt (Berlin).—Die deutschen Lebensversicherung-Gesellschaften im Jahre 1902.
91 Soziale Medizin und Hygiene. Landsberger. Professional Matters. Ibid.—Standesangelegenheiten. Umschau.
92 (No. 47.) *"Occult" Blood in Feces as Sign of Ulcer. I. Boas.—Ueber die Diagnose des Ulcus ventriculi mittelst Nachweises occulter Blutanwesenheit in den Fäces.
93 *Zur Prophylaxis des Magenkrebses (gastric cancer). W. A. Katz (Hamburg).
94 Study of Movability of Heart. H. Silbergleit.—Zur Kenntnis der Herzbeweglichkeit.
95 Isolated Laceration of Crucial Ligaments of Knee. Pagenstecher.—Die isolirte Zerreissung der Kreuzbänder des Knies.
96 Zur Hernien-Tuberkulose. Abel.
97 Perforation of Gallstone into Stomach. Fleck.—Durchbruch eines Gallensteins in den Magen.
98 Prophylaxis einer Malaria-Epidemie mittelst Chinin-Therapie. P. C. Korteweg (Wormerveer).
99 Ueber Jod-Ferratose bei Skrophulose und Lues. L. Bardach.
100 Industrial Protection of Workmen and Permanent Exposition. T. Sommerfeld (Berlin).—Gewerblicher Arbeiterschutz und die ständige Ausstellung für Arbeiterwohlfahrt.
101 Für Darwin. B. Rawitz.

82. **Etiology of Dysentery.**—Jürgens denies that dysentery can be due to a single variety of bacilli and describes an epidemic of 26 cases of severe dysentery which occurred in a certain regiment during the August military maneuvers in West Prussia. He cultivated from the stools in 19 cases a bacillus resembling that of Flexner's and agglutinating with a Flexner animal serum. It differed in several respects from the Kruse-Shiga and other bacteria. The serum of the patients agglutinated the isolated bacilli.

84. **Asepsis in Catheterization and Cystoscopy.**—Casper recommends a mixture of glycerin, water and tragacanth with 1/500 mercury oxycyanate as an ideal lubricant for catheters and sounds. It is similar to the lubricants proposed by Guyon and Kraus, but has the advantage that it does not irritate the urethra, renders the instruments extraordinarily smooth and slippery, is rapidly soluble in water and dissolves as soon as the instrument is inserted in the bladder, without obscuring the view through the cystoscope. It can be kept in paint tubes, ready for use at any moment. For rinsing out the bladder he has discarded boric acid, etc., in favor of mercury oxycyanate, 1/5000, as it is limpid, does not irritate the tissues or injure the instruments and although not a strong antiseptic yet has power to inhibit the growth of microbes. He sterilizes the cystoscope and catheter by mechanically rubbing all the parts with three gauze sponges dipped in tincture of soap, using each a minute in turn. The instrument is then wrapped in a compress impregnated with tincture of soap and left in it until needed. The removable parts are boiled for five minutes.

85. **Ivory Radius.**—A little girl fell on her arm and caries developed in the radius with almost complete destruction of the diaphysis. It shelled out as a sequester and was substi-

tuted by an ivory rod fitting into the epiphysis at each end. The child goes to school and plays like other children, using her hand as before. Only active pronation and supination are a little difficult or restricted, otherwise the hand functions perfectly. Radiograms a year later show considerable proliferation from the retained periosteum and epiphyses, and the slight functional disturbances have all subsided. Vogel remarks that the experiment has thus been crowned with perfect success, and whether the ivory rod is absorbed or expelled later or tolerated as a foreign body is immaterial so far as the success of the intervention is concerned.

87. **Iodism.**—Lesser explains iodism as the effect of the iodized alkalies suddenly flooding the organism and pouring out through the mucous membranes. This afflux of alkali causes a catarrhal condition in the mucosæ which is the cause of the iodin intoxication. He suggests in prophylaxis that the iodin salts should be administered in a mucilaginous vehicle to render absorption slower and more gradual. Also that the daily quantum should be fractioned into as many doses as possible. It may be advisable sometimes to administer the iodid per rectum, which also retards absorption. Another prophylactic measure is to use the iodin in the form of iodized fats or by injections of iodipin. It might be possible to commence with small injections of iodipin to accustom the organism gradually to the action of a moderate circulation of iodin, in cases of very pronounced idiosyncrasy against it, and then gradually substitute internal administration.

89. **Sterilization of Silk by Diffusion Currents.**—Ahlfeld and Vahle announced as long ago as 1896 that alcohol and water have no disinfecting power alone, but when one is added to an article impregnated with the other, the diffusion causes currents in and around the bacteria which kill staphylococci in two minutes. Ausin has been applying this suggestion to the sterilization of silk. He first boils it in alcohol to remove all fat, impurities, etc. It is then set aside to dry and before an operation it is boiled in water for twenty minutes, then placed for five minutes in alcohol, then for five minutes in water and again boiled in alcohol for twenty minutes. He has not had a single stitch abscess or mishap of any kind since he has been using silk thus prepared.

92. **"Occult" Blood in Feces Sign of Gastric Ulcer.**—Boas is much surprised that more attention has not been paid to his previous announcements of the pathognomonic importance of minute quantities of blood in the stomach content or feces as a sign of some ulcerative lesion in the stomach lining. (See THE JOURNAL of September 20, 1902, p. 726, abstract 42.) These occult bleedings have just as much importance as pronounced hematemesis or melena, and will frequently decide a dubious diagnosis long before any physical signs of a tumor are present. This is especially the case when due attention is paid to the familiar sensitive point in the epigastrium and the other painful point in the back, near the left, twelfth dorsal vertebra, to which he has called attention. It is a simpler matter to detect this occult blood in the feces than in the stomach content, as the introduction of the stomach sound is liable to cause a slight erosion which might bleed and thus lead to erroneous deductions. Minimal amounts of blood can be readily detected in the feces with the sensitive guaiacum test, which has revealed blood in the feces after ingestion of even as small an amount as 3 c.c. Boas mentions as an instance of the delicacy of the test that in a case in which a gastric ulcer was suspected, no blood was found in the feces on repeated investigation until one day and then it was learned that the patient's gum had bled very slightly while the teeth were being brushed. Every precaution must be taken to exclude raw or partly cooked blood from the diet for two days before the test, and also to insure soft stools with Carlsbad salts or something of the kind. Menstruation, hemorrhoids, etc., must also be excluded. The occult bleeding was frequently noted when the subjects had recently complained of pains in the stomach. This was particularly the case when the patient was not on an "ulcer diet." On the other hand, after restricting the patient to a strict milk diet for several days it was usually impossible to detect any blood in the feces. When the blood persisted in the feces on a milk diet, the assumption was strongly in favor of carcinoma developing on the basis of an ulcer. The blood findings may vary from day to day and consequently repeated investigation is necessary. Boas has had his presumptive diagnosis of an ulcer confirmed by these occult blood findings in 25 cases. It has proved still more valuable, however, in the cases in which the diagnosis and consequently the justification for treatment wavered between a purely nervous cardialgia and ulcerative processes in the mucous lining of the stomach or duodenum. His doubts have been banished in many instances of this kind and appropriate treatment successfully instituted solely on the basis of the determination of these occult bleedings. They require the same critical judgment as more copious hemorrhages and, in fact, may be merely the preliminary to the latter. These occult bleedings will be found very valuable from a therapeutic point of view, as by their aid we are able to trace the results of treatment, to learn whether bismuth, silver nitrate, etc., actually improve the morbid conditions to the extent anticipated. They have already established beyond question the great value of a strict milk diet for the healing of ulcerative processes in the stomach. On such a diet the occult bleeding ceases and blood can no longer be detected in the feces, even after resumption of a mixed diet. The softer consistency of the milk may have something to do with the benefits derived, and further studies in this line are urgently needed. Boas thinks that it is impossible to treat an ulcus subject as an out-patient. The duration of treatment varies in the practice of different physicians from two to six weeks. With the aid of the occult blood we will be able to establish an individual term of treatment in each case dismissing the patient as soon as repeated tests fail to disclose further occult bleeding for several days in succession. The technic of the tests is very simple. About 20 c.c. of ether are added to .5 to 1 gm. of soft or softened stools. This removes the fats and prevents disturbing emulsions later. About 3 to 5 c.c. of glacial acetic acid are then added to the feces and the whole is poured into a test tube and extracted again with ether. There must be no admixture of alcohol as this disturbs the test. As guaiacum dissolves readily in ether it is not necessary to use the tincture. A few grains of finely pulverized guaiacum resin are added to the ether extract, the whole is carefully shaken and then 20 to 30 drops of oil of turpentine are added. The whole is shaken up again and then set aside. The color gradually changes to a violet or blue, rendered still more intense by addition of chloroform. This blue tint is sometimes masked by the brownish color of the fluid and the findings of the test can be controlled by repeating it with Klunge's aloin test. As much aloin as can be taken up on the tip of a small spatula is placed in a test-tube and lightly shaken up with 3 to 5 c.c. of 60 to 70 per cent. alcohol. The acetic-acid and ether extract of the feces or stomach content, prepared as above described, is treated with 20 to 30 drops of turpentine and then immediately afterward with 10 to 15 drops of the freshly prepared aloin solution. In the presence of blood the fluid rapidly assumes a bright red color which turns to a fairly durable cherry red as it stands. If there is no blood the fluid remains yellow for an hour or so and then becomes a light pink. The color changes may be hastened by adding a few drops of chloroform. Boas makes a practice of conducting the two tests as controls, and believes that the aloin is superior in several points to the guaiacum. It is not influenced by the presence of fats or fatty acids and is sometimes positive when the guaiacum findings are dubious. Only once in his experience was there a pronounced guaiacum reaction with no aloin response. A still further modification of the technic is the substitution of dilute hydrogen dioxid for the oil of turpentine. In both the tests the response is just as characteristic with the addition of 25 to 30 drops of this fluid as with the turpentine.

93. **Prophylaxis of Gastric Cancer.**—Katz comments on the rarity of cancer in that part of the digestive tract in which the chyme is of a soft consistency. He thinks that gastric cancer would become less frequent if the diet were restricted

more to soft foods as free as possible from solid substances. He urges that more attention should be paid to thorough mastication, to the use of soft foods and to copious ingestion of fluids while solid foods are being eaten. He believes that by approximating the conditions in the stomach to those which obtain in the duodenum, cancer in the stomach will become as much of a rarity as cancer of the small intestine.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 1506.

102 (LXX, Nos. 1-2.) *Zur Therapie der Sarkome der langen Röhrenknochen (of long bones). K. Vogel.
103 Callus Formation After Fractures. M. Matsuoka.—Ueber die Bedeutung der Knorpelbildung bei Fraktur.
104 *Survival of Epidermis Cells in Transplanted Flaps. J. Wentscher.—Zur Ueberlebungsfähigkeit der menschlichen Epidermiszellen.
105 *Foreign Bodies in Male Bladder. M. Hirsch.—Zur Lehre von den Fremdkörpern der männlichen Harnblase.
106 Fistula from Appendix to Umbilicus in Infant Simulating Permeable Vitelline Duct. G. Lettau.—Fall von Wurmfortsatz-Nabel-Fistel unter dem Bilde des offenen Ductus omphalo-entericus.
107 Staining Faculty of Echinococcus Membrane. E. Delbanco.—Eine färberische Eigenschaft der Echinokokkenmembran.
108 Ischemic Spinal Affection with Tuberculous Spondylitis. Wieting.—Fall von ischämischer Rückenmarksaffektion bei tuberkulöser Spondylitis.
109 *Tuberculosis of Skull. Wieting and Raif.—Zur Tuberkulose der knöchernen Schädeldecke.
110 *Die Katgut-Sterilisation nach M. Claudius. A. Martina (Graz).
111 Zur Diagnose und Prognose der Rückenmarksverletzungen (spinal injuries). R. Bernstein.
112 *Zur Pathologie und Therapie der akuten Pankreas-Erkrankungen, nebst Mitteilung zweier durch Laparotomie geheilter Fälle. F. Pels-Leusden (Berlin).
113 Kasuistischer Beitrag zur Verrenkung des Kniegelenks (Luxatio tibiæ anterior). Reinitz.
114 *Zur Kenntnis der Osteomalacia chronica deformans hypertrophica (Paget). V. Schmieden (Bonn).
115 Zur Geschichte der sogen. regionären Kokain-Anesthesie. A. Krogius. Historical Sketch.
116 (Nos. 3-4.) *Plastic Operations on Skull. F. Kayser (Berlin).—Ueber primäre Schädelplastik durch Verlagerung reimplantierter Schädelbruchstücke zwischen die Lamellen der Schädelkapsel, nebst kasuistischen und klin. Bemerkungen zur Schädel- und Gehirn-Chirurgie.
117 Ist das Os naviculare carpi bipartitum und tripartitum Grubers das Produkt einer Fraktur? R. Wolff (Berlin).
118 Experiences with Injuries of Wrist. Ibid.—Die Erfahrungen über Handwurzelverletzungen verglichen mit den Ergebnissen der Varietäten-Statistik an den Knochen der Handwurzel.
119 Beiträge zur Geschwulstlehre (tumors). O. Bender.
120 *Recovery After Amputation of Both Thighs for Gangrene. R. Mühsam (Berlin).—Ueber doppelseitige Oberschenkelamputation bei embolischer Gangrän.
121 Ueber Cholesteatome (Epidermoide) der Schädelknochen Blecher.
122 *Zur Lehre von den Gelenkmäusen (joint mice). E. Boerner.

102. **Treatment of Sarcoma of Long Bones.**—Vogel advocates resection instead of amputation or exarticulation in the treatment of sarcomata of the shafts of the long bones. In the case described the humerus was affected, with extensive involvement of the soft parts. The bone was resected its entire length except for the lower 3 cm. Recovery was smooth and the patient has been in good health—no signs of recurrence—during the four years since.

104. **Survival of Epidermis Flaps.**—Wentscher's latest series of experiments include the preservation of Thiersch flaps for seven to fourteen days in a test tube plugged with cotton. The flap was then transplanted on an exposed muscle, that is, on a tissue free from epithelial elements. In two out of the four experiments, unmistakable evidences of proliferation and regeneration were noted, with considerable mitosis. One of the experiments was negative, and in the fourth no mitosis could be detected.

105. **Foreign Bodies in Male Bladder.**—Hirsch reports 8 cases observed in his service at Vienna and tabulates the details of 103 other cases published in the literature since 1856. In 2 of his 8 cases the foreign body was extracted instrumentally. In only 4 out of the total 111 cases was the foreign body spontaneously evacuated. Rona managed to expel a piece of a catheter in the bladder by stroking it downward through the rectum. The foreign body was extracted by aspiration in 3 cases.

109. **Tuberculosis of Cranial Bones.**—Wieting reports 10 cases observed in Turkey. Six of the patients were children between 3 and 10 and the others between 14 and 40. The prognosis depends on the absence or presence of tuberculous lesions elsewhere. When primary, the affection is usually cured by radical ablation of the focus.

110. **Claudius' Iodized Catgut.**—Martina has followed Claudius' method of preparing catgut in 70 cases, and healing was by primary intention in all but two, and in these cases the suture was above reproach. No untoward symptoms from the use of the iodin were observed in any instance. It evidently enhances the strength of the catgut, but this effect is transient. After five or six days the threads become so loose that the catgut can not be safely used for suturing the skin, muscles or fascia, and hence can not be used in herniotomies. Its chief field of usefulness is for ligatures, especially in operations on goiters and in amputations. He omits the rinsing in carbolic solution which Claudius regards as indispensable. Experimental tests of the iodized catgut are described, all confirming the above statements.

112. **Acute Pancreatitis.**—Pels-Leusden had occasion to treat 2 patients who exhibited symptoms of peritonitis accompanied by violent vomiting and extreme heart weakness. The abdominal cavity was opened and the pancreas region merely drained with a strip of iodoform gauze as patches of fatty necrosis were discovered in the pancreas and, in one case, a large amount of a yellowish slightly turbid exudate was found in the abdominal cavity. The vomiting ceased at once after the operation and the patients promptly recovered. They were both women, one 21, the other 53 years old The writer is convinced that abdominal fatty tissue necrosis is invariably due to an affection in the pancreas accompanied by stagnation of the secretions in the organ.

114. **Osteomalacia Chronica Deformans Hypertrophica.**—The right tibia was involved in the case described by Schmieden, the patient a woman of 58. The bone was very much enlarged with curvature and with brown pigmented patches on the skin. After amputation it was found that the bone substance was so soft it could be indented with the fingernail. The microscope showed that the normal bone tissue had been destroyed, and that there was very little new bone formation, with almost entire absence of lime salts. A wedge of the tibia was resected at first, with rapid healing. Later, part of the knee was removed, the wound suppurating interminably until the patient begged for amputation, which freed her once and for all from her affection, which had lasted for three years.

116. **Skull Plastics.**—Kayser believes in reimplanting the bone fragments in case of traumatic defects in the skull, whenever such a course is practical. Pieces of the inner table are especially favorable for the procedure as they can be readily fitted into place and owing to their smooth inner surface do not induce formation of adhesions. The application of the fragments to close the defect must immediately follow the injury. The fragments of the inner table should be turned to fit them into place in the cancellated tissue between the tables. By this fixation all danger of pressure on the brain from any loose sequestra is prevented, as also prolapse of the brain. Secondary plastic operations are not interfered with, while it is thus possible to close the gap in the skull at once, even in case of injury of the protecting membranes and of the brain itself. In a case thus treated there was a depression in the skull, 7 by 5 cm., and 1.5 cm. deep, in the posterior half of the left parietal bone. The bone was cracked and broken into a number of pieces, the brain substance below much injured. After the fragments had been removed, the wound cleansed and hemorrhage arrested by tamponing, two of the large pieces of the inner table were reimplanted in the defect, turning them around so the longer diameter of the bones bridged the shorter diameter of the gap. No narcosis was necessary and all the symptoms gradually subsided so that the young man now considers himself well. The inner table always fractures more extensively than the outer one in such injuries, and is peculiarly adapted for autoplastics in these cases.

120. **Embolic Gangrene.**—The prompt recovery after amputation of both thighs in the case reported should encourage others to resort to operation in time. The patient was a man of 41 and the gangrene developed suddenly a week after an

attack of grippal endocarditis. The case indicates that the presence of numerous bacteria in the blood does not contraindicate amputation. The stumps should be merely tamponed at first. In a second fatal case described the gangrene developed after typhoid, and the slow, gradual course suggested thrombosis, but an embolus was found in the right iliac artery and another in the left hypogastric, with an embolic thrombus at the bifurcation of the aorta.

122. **Joint Mice.**—Boerner devotes 54 pages to a clinical and pathologic-anatomic study of loose bodies in the joints, profusely illustrated. Thirty-five cases are described in detail. He rejects the assumption of an inflammatory origin.

Münchener Med. Wochenschrift, Munich.

123 (L, No. 45.) *Ueber Psychiatrie und experimentelle Psychologie in Deutschland. W. Weygandt (Würzburg).
124 Compressed Yeast and the Fermentation Test. E. Münzer (Prague).—Dauerhefe und die Gahrungsprobe.
125 Ueber bemerkenswerthe Complicationen im Verlauf der Carcinoma ventriculi. F. Kaufmann.
126 *Zur Kenntnis der Hyperhidrosis universalis. F. Müller.
127 Tabes incipiens und Syphilis cerebro-spinalis. A. Schittenhelm (Breslau).
128 Zwei Fälle von Verletzung hydrokephalischer Gehirne (brain injury). Marckwald.
129 *Die familiäre amaurotische Idiotie und ihre Diagnose. A. Mülberger (London).
131 Hygiene und Zuchtwahl (natural selection). Kossmann.
132 (No. 46.) *Functional Kidney Tests. R. Göbell.—Zur functionellen Nieren-Diagnostik.
133 *Zur Narkose in der Gynäkologie mit bes. Berücksichtigung der Witzel'schen Aether-Tropf-Methode. H. Fuchs (Kiel).
134 *Die moderne Aether-Narkose. C. Hofmann.
135 *Die Aether-Narkose in Verbindung mit Morphium-Skopolamin-Injektionen. C. Hartog (Landau's clinic, Berlin).
136 *Morphin-Skopolamin-Narkose. B. Korff (Freiburg).
137 Transient Cerebral Disturbance After Exposure to Intense Cold. H. Vogt (Göttingen).—Transitorische Geistesstörung nach intensiver Kältewirkung.
138 Das Röntgen-Instrumentarium für den Praktiker. H. Kraft (Strasburg).
139 Interrupters in Röntgen Technic. A. Köhler (Wiesbaden).—Erfahrungen über Unterbrecher im R.-Technik.
140 Inexpensive Compressing Diaphragm. Faulhaber (Würzburg).—Eine billige Kompressionsblende.
141 How to Live in Egypt. E. Fromherz.—Wie kann man in Aegypten leben?

123. **Psychiatry and Experimental Psychology in Germany.**—Weygandt describes tests of the memory, attention, etc., conducted on mentally affected and on healthy subjects and shows the great value of the results for psychiatry. He also reviews similar research published by other German writers. Among the facts brought out is the rapid and pronounced disturbance in the perceptive faculties entailed by paraldehyd—a fact which explains its prompt sedative action. Tests of the memory before and after an injection of morphin showed that the subject's capacity to memorize unconnected syllables diminished nearly if not quite one-half after the morphin. A still more pronounced reduction in the memorizing tests was observed on subjects purposely kept awake, and also during fasting. He thinks that the results already obtained show the necessity for a laboratory for experimental psychology in every psychiatric clinic, in charge of trained assistants.

126. **Hyperhidrosis Universalis.**—Gillet has reported a case of hyperhidrosis universalis occurring at the periods of suppressed menses and ceasing as soon as menstruation was normally resumed. This is the only case Müller has been able to find resembling at all the one he here describes. His patient was a trained nurse, who, after a strenuous winter's work, noted hyperhidrosis universalis at the time of the menses, ceasing during the intervals, finally supplanting the menses completely, and becoming continous. In six months she lost 40 pounds and became very weak, suffering besides from eczema caused by the constant sweating. The symptoms indicated exaggerated oxidation processes, and Müller explains them as the reaction of the organism to excessive functioning of the sweat centers, with the consequent great loss of warmth. The affection was probably a manifestation of neurasthenia. No treatment was effectual and the patient succumbed about eighteen months after the first symptoms had been observed. Postmortem examination was not allowed, and there is a possibility that the trouble may have been due to some brain tumor.

129. **Familial Amaurotic Idiocy.**—Mülberger relates that in a well-to-do German family, free from morbid taint of any kind, the two children are both typical specimens of familial amaurotic idiocy only that the eye findings differ a little from those hitherto recorded. The gray atrophy of the optic nerve was the first morbid process observed, and to date is the only one in the eyes of the younger child, while the other presents already the typical appearance in the region of the macula.

132. **Functional Kidney Tests.**—This communication issues from Helferich's clinic at Kiel and tabulates the findings in 7 cases of kidney trouble in which the functional tests were applied. In spite of their failings it is impossible to dispense with these tests, Göbell exclaims, but he proceeds to prove that certain preliminaries are indispensable. In the first place the patient should be put on a certain standard test diet for several days before the tests are applied. It is important, further, that the urine should be drawn at a certain interval after the meals and that the catheters should be left in the ureters for two or three hours in order that the urine corresponding to certain divisions of time may be examined. The amount of urine and its molecular concentration should both be determined during these separate periods. These points must be regarded, as a surgically affected kidney does not do its work regularly but rather spasmodically, and also because the proportions between the freezing-point and the molecular concentration of the urine from both kidneys vary during the different periods. A still further reason is the fact that the relation between the freezing-point of the urine from each kidney does not correctly represent their functional activity. In 2 of his cases the findings of the functional tests at first would have led to erroneous deductions if they had not been controlled and rectified by repetition of the tests two or three times. The composite findings of three or four tests afforded data confirmed by the operation and its results, as he shows in a comprehensive table.

133. **Ether Drop Narcosis in Gynecology.**—Fuchs extols the superiority of the ether-drop method of narcosis, especially for gynecology. Chloroform will in future maintain its place as an occasional adjuvant, especially in laparotomies, and also as an indispensable aid in obstetrics. In 300 cases in which he has used the morphin-ether drop narcosis he has had no cases of asphyxia or noticeable cyanosis and only 2 of febrile bronchial catarrh, both consecutive to a laparotomy. Chronic bronchitis is no contraindication to ether. The slightly increased expectoration after the narcosis is rather an advantage than the reverse.

134. **Ether Narcosis.**—Hofmann states the ideals of modern narcosis as the freest possible intake of atmospheric air and the smallest amount of ether, supplemented if necessary by some other substance. He also lauds the ether drop method among other reasons for its simple technic which does not require the painstaking care needed for chloroform.

135. **Ether-Drop Narcosis in Combination with Morphin-Scopolamin Injections.**—Hartog is assistant at Landau's clinic and reports very gratifying experiences with the narcosis indicated in the title. He reduced the dose very materially below those recommended by the author of the latter method, injecting subcutaneously only .5 mgm. of scopolamin and 1 cg. morphin at another point thirty minutes to an hour before the operation. In 93 cases in which this technic was followed there were none of the inconveniences of the usual narcosis, no vomiting nor agitation, etc.

136. **Morphin-Scopolamin Narcosis.**—Korff is the originator of this method and announces that a few unfavorable experiences reported by others impelled him to seek the minimum doses possible to induce narcosis. He gives the particulars of 50 important operations done under his modified technic. He does not use it on patients under 16 nor over 60 years of age, but in all other cases applies it without reserve. He has found that equally good results are attained when only .001 gm. scopolamin hydrobromate is used and .25 gm. morphin in 10 gm. distilled water. He injects one-third of a Pravaz syringe two and a half hours before the operation, another third one and a half hours, and the other third half an hour before.

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THE CAUSES OF THE OCCASIONAL FAILURE OF OPERATION TO CURE GALLSTONE DISEASE.*

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Surgery of the gall bladder and bile passages is one of the most satisfactory branches of our art. The death rate, taking the cases as they come, is hardly more than 5 per cent., and in uncomplicated cases less than 2 per cent., the result depending to a large extent on the condition of the patient. Including all causes of failure to cure, either complete or partial, and such late sequelæ as adhesions and hernia, the number of such instances is small. In 631 operations on the gall bladder and bile passages we had but 19 cases, or about 3 per cent., which required a secondary operation. During this period, however, we have on a number of occasions operated a second time for symptoms arising after an operation performed elsewhere. It is fair, therefore, to presume that some of our cases have, unknown to us, been operated on at a later period by other surgeons, and that failures to establish a complete cure have been more numerous than this percentage would seem to indicate. It must be taken into consideration also that many patients have symptoms referable to uncured lesions, which are not sufficiently serious to demand operation, and these may be accounted as partial or temporary failures; but looked at even in this light, gallstone surgery is signally successful, and practically all of the patients are benefited, and few would exchange their post-operative for their previous condition. Lack of experience and poor methods made incomplete operations relatively more frequent in our early work. At the present time the accumulated knowledge of the profession has given a technic which is gradually enabling the surgeon to avoid errors and to overcome those causes which lead to subsequent troubles. Of course, in rare instances, the condition of the patient may not warrant a complete procedure at one sitting, and a two-stage operation is deliberately elected.

With a single exception, to be referred to later, all of the cases in which results were less perfect than were desirable, occurred in complicated cases, and it can be laid down as an axiom that delay in seeking surgical relief is the direct cause of the complications. It is the general experience that complicated cases have usually had symptoms during a period sufficiently prolonged to have made a diagnosis possible before the development of serious lesions, and that an operation at that time would have been safer and cure more certain.

I would here refer to the clinical fact that a small number of patients who have had a cholecystostomy performed will have a colic or two following operation, and sometimes accompanied by transient jaundice. We have seen this most often during the first month or two after discharge from the hospital. In the large majority of instances the colics do not recur and the patient remains well. The temporary trouble is probably due to a crippled gall bladder becoming filled, and by reason of recent adhesions not emptying properly, so that based on a single spell of pain shortly after closure of the fistula a second operation may not be necessary unless there are other evidences of trouble.

The most common cause of future symptoms is incomplete removal of stones. In the original work of Tait, he advocated cholecystostomy and drainage based on the frequency of overlooking stones, as it enabled spontaneous discharge. In our early experience we had in one case 55 calculi work out of the fistula during the first two weeks. There is, however, little excuse for leaving stones in the gall bladder, as by using the finger as a guide it will be rare that even a small calculus will be overlooked.

Stones in the cystic duct frequently escape attention, and it was only after several such misfortunes that we began to exercise greater care in exploring this canal. The parts are deeply situated, and as these patients are often obese it was not easy to locate such a calculus previous to the development of the Robson technic. The sand bag under the back, with the high incision, usually enables us to dislocate the liver downward and outward, exposing both the cystic and common ducts. In most of these cases of stone impacted in the cystic duct cholecystectomy is indicated. The duct and cystic vessels are caught with curved forceps just beneath the impacted stone and tied. These structures are then cut across, and the gall bladder and duct with the stone removed from below upward, almost by traction alone, with an occasional division of some more firm adhesion to the liver. The gall-bladder notch in the liver should usually be drained down to the ligated duct to guard against leakage. Should there be difficulty in tying the vessels, the forceps may be left on and lightly surrounded with gauze. The forceps should be loosened in 36 hours, but not removed until 6 hours later. By this time the compressed tissues will have softened and allow easy withdrawal. Twice we have reoperated on cases in which the gall bladder had been removed distal to the stone, leaving it in the duct to cause future trouble. This is more apt to be the case when the gall bladder is dissected out from above downward. The deep field

* Read before the Mississippi Valley Medical Association, Memphis, Tenn., 1903.

is obscured by the blood and the same vessels are cut over and over again.

One source of failure of cholecystostomy to cure is from secondary obstruction of the cystic duct, preventing free drainage of the gall bladder down through the passages. This may eventuate in a mucous fistula or repeated attacks of colics as the gall-bladder secretions are periodically forced through the strictured canal. In some cases the gall bladder will distend and finally rupture through the scar, discharging bile and mucus. In practically all of these cases the cystic duct has been obstructed by stone, causing ulceration, the healing of which induces a stricture, or kinking of the channel may occur. Other things being equal, it is better to excise the gall bladder in all cases in which the cystic duct is involved. In this way we have of late eliminated this, the most common cause of secondary trouble.

In septic cases, drainage is necessary for a long period of time, and if the fistula be allowed to close too quickly, severe symptoms may ensue. We have twice had to reopen and re-establish drainage in septic cholecystitis; both cases were colon infections. This is less liable to happen in ordinary empyema of the gall bladder in which a fistula will usually remain until sterilization has been accomplished by natural processes. In colon infections tubage should be continued until the bile becomes sterile.

Stones are often overlooked in the common duct, as they may lie quiescent for years. The jaundice may be very slight and in some cases not noticeable. The gall bladder in the meantime may become obstructed at the cystic duct, so that this organ may be enlarged and cystic, with calculus at the neck and nothing to call attention to the common duct stone. This is so contrary to the usual condition of contracted gall bladder and open cystic duct in common duct stone as to lead to error. The ducts should be explored with the fingers before opening the gall bladder in every case. After opening the gall bladder the relief of tension prevents moving the stone in the dilated duct, and escape of the cystic contents is apt to soil the field. It is well to explore a second time after tapping, especially if the gall bladder is distended, but before opening the gall bladder with the attendant possibility of infecting the deep parts. If stones are found in the common duct it will usually be sufficiently dilated to introduce the finger into the duct for exploration. In many cases in no other way can we be sure the common and hepatic ducts are clear. If only one stone be present there will probably be jaundice as the duct may contract about it, while if the duct contain several stones the bile may pass by unless there be a large or obstructing stone at the duodenal end. In all of the cases of liver duct stones we have encountered there has been a large stone at the duodenal end of the common duct and stones of the same character in the gall bladder as in the hepatic duct. In one such case we removed 120 stones from the common and hepatic ducts with recovery of the patient.

Chronic pancreatitis may exist at the time of operation, and to obtain a good result drainage must be long continued. We have twice in such cases allowed the fistula after cholecystostomy to heal too quickly. The secondary symptoms were marked by attacks of slight jaundice and occasionally fever and chills, and rather persistent stomach trouble. At the second operation the only cause for the condition found lay in a chronic pancreatitis, and both cases were cured by cholecystenterostomy. We must in every case examine as to the condition of the pancreas at the same time we explore the ducts, and if this disease is present, either drain the gall bladder for a long time or do a cholecystenterostomy with the Murphy button, in addition to removing the stones. Stones still present, or recently so, in the common duct are the most common cause of chronic pancreatitis, and in two cases we were unable to feel a small stone in the common duct on account of the great size of the head of the pancreas. Prolonged drainage in one case failed to cure the patient, and secondary operation showed a stone in the common duct, but the pancreas had in the meantime greatly reduced in size.

In the second case, cholecystenterostomy was done with perfect relief for a year; return of pain and jaundice rendered a secondary operation necessary. The pancreas was found much smaller. The fistula between the gall bladder and duodenum had completely closed and a stone was found in the common duct. If the obstruction had remained I do not think contraction would have taken place. The drainage was followed by subsidence of the pancreatitis and reopening of the lumen of the duct, rendering the fistula unnecessary, and obliteration of the anastomosis ensued. Had it not been for the stone, cure would have resulted. Before deciding that chronic pancreatitis alone is responsible for the jaundice and symptoms, the common duct should be opened and explored with the finger.

Cancer can also be said to be secondary to stone formation, and may take place after cholecystostomy or, being present, may be mistaken for inflammatory disease. All thick-walled gall bladder should be looked on as suspicious, and as they are functionally useless, cholecystectomy should be done rather than cholecystostomy, and in this way many early cancers will be found and cured.

Early in this paper I spoke of having seen only one uncomplicated case which required a secondary operation. This was a cholecystostomy with a very large gall bladder, the stones were easily removed, and the ducts were free. For weeks after operation there was occasional escape of bile from the fistula, not much but troublesome. On dissecting out the gall bladder it was found that by a low attachment to the abdominal incision this viscus had formed a channel along which, in certain positions of the body, bile would gravitate outward. After cholecystostomy, the gall bladder should be attached as high up in the incision as is convenient.

Persistent biliary fistula usually means obstruction of the common duct. I take it that every one understands the importance of not attaching the gall bladder to the skin. In the early days persistent bile fistula was usually due to a mucocutaneous suture, the evils of which obsolete practice I do not need to point out.

The turning in of the margins of the incision in the gall bladder and drawing a purse-string suture closely about the drainage tube in a similar manner to a Stamm-Kader gastrostomy enables healing of the fistula to take place most promptly after removing the drain.

There are two rather common causes of failure to effect a perfect cure that may not always be avoided. Post-operative adhesions are liable to cripple the movements of the viscera in this neighborhood. Adhesions to the stomach and duodenum are the most annoying. Secondary separation may be necessary with the use of Cargile's membrane. As a rule, like the pain of old pleuritic adhesions, in time relief comes as bands stretch out. We make a rule not to allow gauze drains

to come in contact with the stomach and duodenum on account of the development of adhesions. We always interpose a piece of rubber tissue and leave it from 6 to 8 days, until the adhesive film surrounding the drains becomes organized. Hernia following operation for gallstone disease is not usually troublesome, but long incisions in obese people may give rise to serious hernial protrusion, requiring secondary operation. We now, if practicable, in such cases make a second opening outside the working incision, close to the ribs. Through this the drainage material may be brought out and enable us to carefully close the full length of the original incision. The necessity for this is increased if the opening has been extended downward for the purpose of removing the appendix.

Secondary operations have been comparatively safe in our experience. The patient has become accustomed to the condition and the adhesions form a protective barrier. Separation of the adhesions, particularly about the liver, results in considerable hemorrhage. Rather prolonged gauze pressure usually checks the oozing as the blood pressure in the liver is very low, and enables completion of the operation. Most of these cases require a light gauze drain protected by gutta-percha tissue at points of contact with the stomach or intestine to prevent troublesome adhesion to the gauze. Deep drains should be anchored with catgut to prevent displacement by movements of the liver as affected by the diaphragm. The catgut becomes absorbed before the time for withdrawal. The drains should not be removed too early, 6 to 12 days being the usual limits as to the time of withdrawal.

INTESTINAL ANTISEPTICS; THEIR USES AND LIMITATIONS.*

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NEW ORLEANS.

The multiplicity of drugs used as intestinal antiseptics make it a difficult task to classify them under appropriate headings. Though of necessity in an imperfect manner, I have nevertheless made an attempt to group them, mainly as a matter of convenience in facilitating the presentation of this vast subject. Wherever I think proper, I shall eliminate, or make scant mention of, such agents as experience or reason has shown to be ill-fitted for the purpose under discussion. I shall give more time to such drugs only as have proved to be of decided value; while, in some instances, only a type drug of the group will be taken up, in order to abbreviate matters.

The excuse which I urge for mentioning this large number of well-known drugs is that I thought this an opportune time for establishing their proper place in therapeutics, and for reaching an understanding on what are, and what are not, intestinal antiseptics.

It is well that we now glance for a few minutes at some facts of history which directly and indirectly are associated with the subject under consideration.

It is to Leuwenhoeck, Miquel, Gautier, Selmi, Tanret, Brieger, Kühne and others that we owe much of our knowledge concerning intestinal bacteria, with their powers of producing fermentative and putrefactive changes of the food, and consequent alterations of the intestinal mucosa. The work of these men culminated in the theory of auto-intoxication, as first advanced by Humbert and greatly elaborated by Bouchard, to the latter of whom is due the credit of first bringing prominently to the attention of the profession the use of intestinal antiseptics.

It is well to clearly define the term antiseptic as I intend to employ it. According to the Century Dictionary, I shall use it as implying "anything which destroys the micro-organisms of disease, putrefaction or fermentation, or which restricts their growth and multiplication."

The first antiseptics which I will consider are those of the aromatic series. In using a quick poison like carbolic acid, great care must be exercised, as doses so small as seven minims have given rise to dangerous symptoms. For my own part, I have eliminated this agent from among those which I use as intestinal antiseptics. In small doses it is not effective, while in large doses it irritates the mouth, esophagus and stomach, causes gastritis and inhibits the activity of the ptyalin and pepsin. In order that a carbolic acid solution be effective in the intestine, it must remain therein for some minutes, and experience has proved that, when this takes place, toxic symptoms are liable to supervene. I have seen such symptoms produced after using a 1:300 solution for colon irrigation in the treatment of tuberculous ulcer of the large intestine, the solution being allowed to remain in the intestine only a few minutes. In one case I used a weak solution of sodium bicarbonate after the carbolic solution, yet toxic symptoms also developed.

Creosote (beechwood) given in doses of ten to fifteen minims in capsules or emulsions, or creosote carbonate in twenty minim doses gradually increased to ninety minims, is safer than carbolic acid; but, in large doses, the symptoms of poisoning by these drugs are somewhat similar to carbolic acid. In patients who show a tolerance to it, and in whom no gastritis or toxic symptoms accompanies its use, beechwood creosote proves a valuable aid in the treatment of tubercular ulceration. A pill containing creosote and coated with keratin has answered well in some cases; whereas, again, the pill passed out with the stools unaltered.

In order to secure the best action from creosote, whether given in pill, capsule, emulsion or whiskey, I find it most satisfactory to administer it about one to one hour and a half after food, as it then finds its way into the intestine sooner than otherwise.

This mode of administration holds good also of all the creosote derivatives. When tolerated in large doses, I find creosote more valuable than its derivatives, guaiacol, guaiacol carbonate, etc.

Kuprianow[1] reports the restraining effect of guaiacol to be 1 to 500 on the cholera spirillum, and suggests its use in the treatment of cholera. When used alone in the treatment of the diarrhea of typhoid fever, I failed to get any good results, and in several cases of that disease I found that it depressed the patients very much, even in doses so small as three minims.

With guaiacol carbonate I have had an extensive experience in both hospital and private practice, using it, in tubercular enteritis, by the mouth in five to ten grain doses, at the same time using tannic acid by colon

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1. Sternberg: Text-Book of Bacteriology.

irrigation. Employed in this way, I have seen good results follow. My experience with this drug, when used alone, in the treatment of the diarrhea of typhoid fever has not been very encouraging. In my own cases, only once have I seen any evidence of toxicity (smoky urine, etc.). This was in a case where I used ten grains four times daily; but I have had patients complain of slight heaviness (indigestion) in the stomach even after five-grain doses, particularly if the drug had been long continued.

As for benzosol, my limited experience with it has not proved that it possesses any superiority over guaiacol carbonate. True, I never noticed any digestive disturbances or toxic symptoms, but then I never exceeded six grains to the dose.

For a long time resorcin held high place as an intestinal antiseptic, especially in the treatment of fermentative conditions in the intestines during infancy and childhood. However, owing to its deleterious action on the kidneys, I have come to use it seldom, and then with caution.

When using salol, the fact should not be lost sight of that it contains 36 per cent. of phenol, and that its use, especially in large doses, has caused, and is liable to cause, symptoms of carbolic acid poisoning. I have seen marked symptoms of carbolic acid poisoning after the administration of two 20-grain doses ten hours apart; and also in two other cases, where the dose given was 10 grains three times daily. In one case the toxic symptoms manifested themselves after nine doses, and in the other case after fifteen doses had been taken. When used alone for the diarrhea of typhoid fever and in dysentery, it has not yielded good results; but improvement has followed its use in simple diarrhea and in the summer diarrhea of children. It is recommended in Asiatic cholera, a condition with which I have not had any experience.

Though an efficient antiseptic, salicylic acid has its limitations. Its pronounced effect on ptyalin and pepsin should be borne in mind as influencing its mode of administration; and, where possible, its sodium salt, which is not so irritating to the kidneys nor so destructive to the digestive ferments, should be substituted. I use salicylic acid in the strength of 3:100 by colon irrigation. A small quantity of sodium borate increases its solubility. In the treatment of diseased conditions of the lower bowel where antiseptic medication is indicated, it has given good results in my hands. In amebic dysentery, where quinin is objectionable for any cause, salicylic acid has often proved efficient.

All the indications are that benzoic acid possesses the same qualities as salicylic acid, and, being less irritating, it should be used more generally than it is at present.

While creolin possesses decided germicidal properties, the fact that toxic symptoms have developed after its use by colon irrigation and vaginal douches, should put us on our guard. The results obtained with creolin are about the same as with carbolic acid, but Behring has shown that, in albuminous liquids, creolin is less effective than carbolic acid

Naphthalin and naphthol are useful agents in treating intestinal conditions where the contents of the bowel are in a state of putrefaction. They are of little, if any, value in diseases of the intestines where the walls of the intestines are the primary seat of the intestinal trouble, i. e., in typhoid fever.

Benzonaphthol is inferior to naphthalin and naphthol. As for hydronaphthol, I find no difference in its action from that of the two drugs last mentioned.

Naphthalin and its derivatives should not be used in any case where the kidney, bladder or urethra are diseased. Purdy has seen a 5-grain dose produce severe burning along the whole urinary tract.

Thymol is more destructive to putrefactive organisms than carbolic acid. It has been used with some success in the treatment of tuberculous ulcer of the intestine and in chronic infectious enteritis, and is also used for the same conditions as is naphthalin, but, like naphthalin, it is very liable to produce renal irritation.

Ichthyol has a champion in Hemmeter,[2] who claims excellent results by colon irrigation in colitis; also in enteritis with the emission of offensive flatus and meteorism. He further recommends it in conjunction with bismuth subnitrate and subgallate, by colon irrigation in chronic dysentery. He uses mixtures containing from one to four grams to the liter of water.

Eucalyptol seems to be devoid of any good as an intestinal antiseptic.

Owing to the property that tannic acid possesses of causing indigestion when used in large enough doses to be of value, I have entirely discarded its use by the mouth, and now confine myself to the use of it by colon irrigation. It has proved of value in acute and chronic infectious enteritis; and in tubucular ulcer of the lower bowel it is one of the most valuable agents which we possess. Before using the colon irrigation, the bowel should be well cleansed with plain sterilized warm water, or a warm normal saline solution. One liter of warm tannic acid solution 1:500 or 2:500, should be introduced into the lower bowel and allowed to remain for 10 or 15 minutes.

When used by the mouth, tanniform is of considerable value in the treatment of tuberculous ulcer above the ileocecal valve, especially if combined with tannigen, tannalbin or other drugs of this class.

We will next consider the peroxid series. Hydrogen peroxid is indicated in any condition of the lower bowel where pus is in evidence. Another body analogous to hydrogen peroxid, and which gives much promise of efficiency, is benzoyl-acetyl-peroxid (acetozone). Drs. Freer and Novy[3] have made extensive researches into its germicidal action, and have reached results which prove it a superior germicidal agent. It has been used by Dr. Wasdin[4] and others in the diarrhea of typhoid fever; and Drs. Freer and Marshall[5] report good results in cholera and dysentery.

Dr. R. T. Strong of the Biologic Laboratory, Manila, says: "Quinin in enemata has usually given the best results in the treatment of amebic dysentery. The advantages of acetozone over quinin are quite apparent. It is capable of killing amebæ even in dilute solutions, and attacks the bacteria which are present in the intestines, greatly reducing the number of micro-organisms in the stools." My own experience is confined to the use of acetozone in six cases. In two cases of intestinal tuberculosis, the bowel condition grew better after the third day, and the patient gained in strength and weight. In one case of advanced pulmonary tuberculosis accompanied with intestinal lesions, no improvement

2. Hemmeter: Diseases of the Intestines, 1902.
3. Drs. Freer and Novy: American Chemical Jour., March, 1902
4. Wasdin: Therapeutic Gazette, May 15, 1902.
5. Drs. Freer and Marshall: U. S. Government Laboratories Manila.

was noticed. In three cases of typhoid fever with diarrhea, the improvement of the bowel conditions was everything that could be desired, and the patients made excellent recoveries. The stools were almost completely deodorized after 48 hours.

The group next in order is the sodium series. When I wish to give preparations of salicylic, benzoic or carbolic acid by the mouth for any condition in the duodenum, or high up in the small intestine, I prefer the sodium salts of the above mentioned acids as antiseptic agents, my preference being sodium salicylate. Holt[6] thinks well of this salt in the summer diarrhea of children.

Now we come to the bismuth, magnesium, calcium and aluminum series. Owing to the feeble antiseptic action of the salts of the last three drugs, they have not met with much favor as intestinal antiseptics.

The salicylate and subgallate of bismuth are agents of some value. When an insoluble preparation is indicated, as in the treatment of tuberculous ulcer in the lower part of the ileum and of the cecum, bismuth betanaphthol answers a good purpose.

Among the miscellaneous series, I will first consider carbon disulphid. Dujardin Beaumetz says of this agent: "I have obtained most satisfactory results from the point of view of intestinal antiseptics." He further claims it to be superior to all other medicaments in favorably modifying putrescent intestinal processes in typhoid fever. Beaumetz[7] cites M. Ckiandi-Bey and Sapelier concerning the non-toxicity of carbon disulphid.

Oil of turpentine has given marked results in the treatment of some cases of tuberculous ulcer, especially in cases with pronounced flatulence, improvement in the condition of the stools and in the general condition of the patient took place rapidly.

As for boracic acid, it has not yielded any results in my hands.

Where fermentative conditions, marked by meteorism and tympanites, are very active in the bowel, sulphurous acid is, for the most part, safe and fairly sure.

While reliable as an antiseptic, formicaldehyd causes much burning, even when used in weak solutions.

Where the seat of the disease is in sight and may be easily reached by applications, nitrate of silver proves a valuable antiseptic as well as astringent. Otherwise, owing to its rapid change, it is of doubtful antiseptic worth.

Up to this time, in the treatment of amebic dysentery, no other agent has given me as good results as quinin. I have used both the sulphate and hydrobromate, and give preference to the latter.

Owing to its easy and rapid decomposition, nothing much could be expected of such a chemical as potassium permanganate as an intestinal antiseptic.

In doses large enough to be of benefit as an antiseptic, iodoform irritates the stomach.

Lactic acid, which for a long time enjoyed a reputation in the treatment of the summer diarrhea of children, has been largely replaced by hydrochloric acid. Vaughan[8] says, in speaking of the summer diarrhea of infancy: "The only digestive secretion which is known to have any germicidal effect is the gastric juice (hydrochloric acid); therefore, if this secretion be impaired, there is at least the possibility that the living germ will pass on to the intestine, will there multiply and will, if it be capable of so doing, elaborate a chemical poison which may be absorbed." In conditions of the stomach where there is a deficiency of hydrochloric acid in the gastric juice, and where, in consequence, putrefactive changes in the intestine take place, hydrochloric acid is indicated; for, as the experiments of Hammarsten[9] show, "putrefaction does not occur in the small intestine as long as the contents are strongly acid."

Whenever an eliminant and antiseptic is required at the same time, calomel is the agent to be employed. It is one of the safest and surest agents in fermentative and putrefactive conditions existing in the small intestine. Ox gall, especially when combined with calomel, is of value in fermentative conditions due to deficient flow of bile.

While we believe that too much importance has been attached to the significance of the presence of etherial sulphate in the urine as an index to the amount of proteid decomposition going on, yet we can not agree with Boas[10] when he says that "the determination of etherial sulphates in the urine is of no value." If that be true, then the experiments of Nencke, Kühne, Jaffé, Baumann, Brieger, Hoppe-Seyler, Hirschler, T. R. Müller, Helden, Wesener, Winternitz, Carl Schmitt and others are of no value. For, if their conclusions prove anything, it is that when proteid decomposition in the intestine is active from any cause, etherial sulphates are increased in the urine.

I may state in conclusion:

1. Never lose sight of the patient.

2. Holt says that no matter how much we believe in drugs, if they continue to disturb the stomach they are worse than useless.

3. Care should be exercised in the selection of a proper antiseptic; it should be non-toxic and non-irritating.

4. Care should be exercised in the selection of the diet, that it be of such a character as not to favor bacterial growth.

DISCUSSION.

Dr. O. T. Osborne, New Haven, Conn.—Emphasis should be placed on the fact that carbolic poisoning can occur from sources easily overlooked. I am a great user of salol, but when I administer it for more than a day or two at a time, and in all typhoid cases, I have the urine constantly watched, and if I find a trace of albumin the salol is stopped. There is probably no better antiseptic for the alimentary canal unless it be calomel. The treatment of typhoid with a drop of carbolic acid with the idea that this will have an effect on the intestines, I think is almost mythical. If ulceration is going on in the intestines they should be kept as clean as possible, and the diet should be such as will leave the least possible refuse. In children with diarrhea we should stop all carbohydrates and by intestinal cleanliness and judicious purgatives render the canal as antiseptic as possible.

Dr. George F. Butler, Alma, Mich.—In every instance in which I have treated cases with acetozone the patients did better than with anything else, though in several instances I had to discontinue it temporarily on account of the accumulation of gas in the stomach, but it could be renewed later. I have noticed few untoward results. In three cases there was excessive nose bleed and it occurred to me that the acetozone might have exercised some influence in producing this. In my country I have never had occasion to use quinin as an intestinal antiseptic, but in the south where there is some malaria we must take that into consideration and might have to use quinin Irritation to the mucous membrane is a possible difficulty with the use of this drug. I prefer the benzoate of guiacol to salol, as the former breaks up into benzoic acid and guiacol, both of

6. Holt: Diseases of Infancy and Childhood. 1902.
7. Beaumetz: Therapeutic Gazette, vol ix, 1885.
8. Vaughan: Cellular Toxins. 1902.
9. Hammarsten: A Text-Book of Physiological Chemistry, 1902.
10. Boas: Diseases of the Intestines, 1901.

which are good antiseptics, and with it we get fairly good results without gastric disturbance. I am still inclined to think that sterilized water and the washing out of the bowel is as good as anything. The internal administration of antiseptics has not proved of special value in my hands. Taken altogether I am inclined to think that acetozone is the best of the intestinal antiseptics.

DR. W. J. ROBINSON, New York—Most physicians think that creosote and carbolic acid act nearly alike except that creosote is somewhat milder. This is due to the fact that there is a coal tar creosote which is sometimes ignorantly or maliciously substituted, and which is for all practical purposes carbolic acid. The beechwood creosote is entirely different, and contains 75 per cent. of guaiacol and can be given in large doses, gradually increasing it up to 60 minims several times a day without any bad symptoms, while carbolic acid can not be so administered. I think this point should be emphasized; the text-books do not make this distinction sufficiently marked. I think resorcin should be entirely eliminated from our pediatric therapeutics, because in young children it produces very dangerous effects, even in small doses; it ought to be and can be replaced by safer drugs, especially in pediatrics.

DR. SOLOMON SOLIS-COHEN, Philadelphia—Ichthalbin has not been mentioned. This seems at times to be well borne by the stomach when ichthyol disturbs, and in my experience it has been efficient in certain cases. In intestinal sepsis we do not know just what drugs are indicated because we do not as yet know precisely what organisms are at work, what chemical changes are going on, and how best to neutralize them. We can, therefore, with propriety combine a number of drugs, none in sufficiently large dosage to do harm, but each, perhaps, if not sufficient to kill certain microbes or groups of microbes, sufficient at least to limit their activity; all combined thus limiting the septic action of many groups. An illustrative combination for such purpose is guaiacol carbonate, benzonaphthol, and bismuth salicylate. At times we may produce an effect indirectly. Thus castor oil and saline irrigations exert antiseptic influence by cleansing the bowel. I am perfectly satisfied that the endeavor to restrict fermentative, putrefactive and other toxicogenic processes in the intestinal canal in typhoid fever, otherwise than by the external use of cold water, is good treatment.

DR. B. C. KEISTER, Roanoke, Va.—A constant standby with me for some time has been sulphocarbolate of zinc combined with elixir lactopeptone or pepsin cordial. In treating intestinal indigestion, dysentery and typhoid, good results may be expected from a fair trial of this old friend.

DR. J. A. STORCK—I have not noticed hemophilia occurring after the use of acetozone in any of my patients. I have found the hydrobromate of quinin less irritating than the sulphate. In the case of poisoning following creosote I had used Morrison's beechwood creosote, and I had every guarantee of its genuineness. I have entirely discarded the use of mercuric bichlorid and copper arsenate. I do not believe drugs of that kind ought to be used.

NOTES ON PULP TECHNIC.*

MARTHA ANDERSON, M.D.
MOLINE, ILL.

The comparative value of methods and stains used for nerve tissues in other parts of the body has never to my knowledge, been demonstrated on the pulps of teeth. Our studies for the past four years have been along this line. While this work has not been complete, yet we are able to show some results. A complete summary of this work however, remains for the future. This line of research is to be continued. I herewith submit the results of my investigations for the past year.

In the work of preparing pulps for the demonstration of nerve tissue the following methods of procedure have been carried out:

Fresh pulps have been hardened in a weak solution of formalin, in Müller's fluid, Ehrlich's fluid and in Weigert's chrome alum solution. The formula of the latter is as follows:

Chrome alum	2½ per cent.
Copper acetate (neutral)	5 " "
Acetic acid	5 " "
Formalin	2 to 4 " "

Dissolve the alum in the necessary water, add acetic acid, then copper acetate. Filter, and when cold add formalin.

Sections were cut by the freezing method, then stained by one of the following methods:

(A) WEIGERT'S METHOD FOR MEDULLATED NERVES.
Copper acetate neutral sat. Aq. sol. + aq. dist., āā (warm), 24 hours.
Wash.
Weigert's hematoxylin, 24 to 48 hours.
Weigert's differentiating sol., few minutes.
Wash.
Dehydrate, clear and mount in balsam.

(B) OSMIC ACID AND HEMATOXYLIN.
OsO_4, 1 per cent., ½ to 1 hour (dark).
Wash.
Pyrogallic acid, 5 per cent., 2 to 4 minutes.
Wash.
K permanganate, ¼ per cent., 3 to 4 minutes.
Wash.
Oxalic acid, 1 per cent., ½ minute.
Wash.
Counterstain in hematoxylin.
Wash, dehydrate, clear and mount.

(C) MUMMERY'S IRON AND TANNIN.
Wash sections in distilled water.
Liquor ferri perchlor., B. P., 24 hours.
Wash quickly in distilled water.
Tannic acid, gr. ii in 3iss aq., 5 to 10 minutes.
Wash, dehydrate, clear and mount.

(D) IRON AND HEMATOXYLIN.
Zenker's fluid.
Wash.
Mordant—liquor ferri chlor., 24 hours.
Wash thoroughly.
Hematoxylin, ½ to 1 per cent. aq.
Wash well.
Decolorize weak mordant till pale straw.
Wash thoroughly (or will fade).
Dehydrate, clear and mount.

(E) FREUND'S GOLD.
Wash water.
$AuCl_3$, 1 per cent., 3 to 5 hours (dark).
Wash.
Caustic soda, 1 to 5 or 6 water, 3 minutes.
Drain.
KI, 10 to 12 per cent., 5 to 15 minutes.
Wash, dehydrate, clear and mount.

(F) UNDERWOOD'S GOLD.
Wash in Na bicarb. sol. gr. v in ʒi aq.
$AuCl_3$, neutralized by Na bicarb. sol. gtt. by gtt., ½ hour (dark).
Wash dist. water.
Formic acid, 1 per cent., warm and keep rather hot till crimson, ½ to 1 hour (dark).
Dist. water, cold, ½ hour.
Dry.
Mount in glycerin jelly.
Avoid Canada balsam.

(G) LEMON JUICE AND GOLD.
Lemon juice strained several times through flannel 10 to 15 minutes.
$AuCl_3$, 1 per cent. (dark), 1 hour.
Wash rapidly.
Formic acid 25 per cent. (dark), 24 hours.
Transfer to glycerin and mount in glycerin.

Weigert's stain for medullated nerves was used on tissues hardened in Müller's fluid, formalin and Weig-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

ert's chrome alum, and good results were obtained with both Müller's and formalin hardened tissues, the medullated sheaths of the nerves taking the stain.

The osmic acid method was used similarly to the above, and gave good results following Weigert's chrome alum solution.

Mummery's iron and tannin used after Müller's fluid stained the nerve fibers, but the results were not so good as with the two previous stains. Mr. Howard Mummery, however, has been able by this stain to trace fine nerve fibers from the nerve bundles.

Iron and hematoxylin gave good results, the fibers in some places being traced to the apex of the pulp.

Of the different gold methods, Freund's has given me the best results, although some of the results of staining tissues hardened by all the methods have been good. Gold staining, on the whole, has been unsatisfactory. The staining has been unreliable. In carrying a number of sections through together by the same process some will be acted on, the stain showing a good result; others will be unaffected. The tissues that turned out well yesterday will be a failure to-day and from no apparent reason.

With certain of the nerve stains the pulp stones have taken the same stain as the nerve tissues. The osmic acid method is an exception, the stain reacting differently on the stones.

A SIMPLE METHOD OF TREATMENT OF HEMANGIOMA.

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CHICAGO.

During the last few years the treatment of hemangioma (nevus) has received considerable attention. The excision of the tumor as a whole, which has been practiced universally, has not proved a very satisfactory procedure. It is only of use when the angioma is small, so that primary union of the wound is possible. Whenever the tumor is large in area or very deep it is of very little value. Especially the treatment of angioma of the face is a difficult task, as it seldom appears as a tumor which could be removed *in toto*. Injections of hot water, lately recommended by Wyeth, if done properly and carefully, are satisfactory, and are a valuable addition to the therapy, but we have no means to limit the fluid in its action, and when once injected it will flow in the direction of the least resistance and is beyond our control. The introduction of magnesium nails (Payr) is another new and highly recommended method, but its use will be limited to small tumors.

It seems to me, therefore, advisable to publish a method which I have used a number of times, and of which I exhibited a very successful case at the November meeting of the Chicago Medical Society. The case is remarkable in many respects, but instead of describing it in detail, I shall give only a few brief notes, and from the two pictures added it can be seen how far the angioma extended and what the result of the treatment is. When three months old (Fig. 1) this child was brought to me with a very extensive hemangioma of the face (variety, hemangioma arterio-venosum). It was composed of several different growths, with small islands of normal epidermis between them, and its extent was such that some surgeons declared it inoperable. This it was certainly for the ordinary method of excision, but with the method which I describe below, it proved curable, and even the cosmetic result is good, as Figure 2 shows.

The method consists in the general principle of transforming the masses of vessels gradually into connective tissue. Gradually means in several sittings. This is done by a subcutaneous suture. A thread of catgut is passed in a zigzag manner, first below the skin, then underneath the base of the tumor; then, again, underneath the skin, underneath the tumor, etc., until the tumor mass is included in this continuous suture. This suture is drawn tight and closed at the point of the entrance of the needle. In this manner the circulation is shut off within the tumor, but no gangrene follows, inasmuch as some blood can yet reach the parts not included in the suture. After about a week the mass of the tumor seems much smaller. The normal epidermis, however, outside of it, which had been stretched, sometimes to considerable tension, becomes soft and elastic again and grows. This procedure is repeated until the tumor has been diminished to the smallest possible nodule of

Fig. 1.—After a few sittings, showing small islands of normal skin between angiomatous growth.

Fig. 2.—Photograph, four years after operation, no trace of angioma, a small nodule of connective tissue in the left nasolabial fold.

connective tissue, and the healthy skin enlarged to the utmost. Then the hard connective masses are excised and the borders united in fine linear union. If the tumor is growing in patches, as often happens, one will see the islands of normal skin enlarge within a few weeks to twice and three times their size.

This treatment applies to all varieties of hemangioma, but in the arterial and mixed varieties it is necessary to ligate the largest afferent vessels. Only in this way is one able to check the often rapid growth of these tumors.

In this way we had to proceed in the case published herein, and had to excise a portion of the common carotid artery, otherwise we should never have checked the growth of the tumor.

New Appliance.

A NEW TENT FOR THE TREATMENT OF TUBERCULOSIS.

IRVING FISHER.

Professor of Political Economy at Yale University, and Secretary of the New Haven County Anti-Tuberculosis Association.

NEW HAVEN, CONN.

VARIOUS DEVICES FOR OUTDOOR SLEEPING.

In the United States the vogue and the wonderful success of sleeping out of doors as a means of curing tuberculosis has led to a number of different devices, such as tents, sleeping balconies, etc. In Colorado and California, during the rainless months, sleeping on the ground is often practiced, in which case only a cowboy's tarpaulin, a sleeping bag or a camp mattress may be used. A more comfortable arrangement is a sleeping veranda built next to the house, so that the patient may easily step from his dressing room to his bed and back again. A simpler plan is to project the head of the bed out of the patient's bedroom window, protection from the weather being secured by canvas awnings and curtains. This method has been perfected by Dr. T. M. Bull of Naugatuck, Conn., although previously employed by Dunham.[1] It has the great advantage of being cheap and easily applied to tenement houses and flats where there is no room for any larger structure. A "shack" has been used by Dr. Millet in his sanatorium at East Bridgewater, Mass. This is a small wooden building open to the air on three sides and fitted with windows and curtains which may be closed in bad weather.

Finally, there are various types of tents. Beside the ordinary "A" tent or wall tent there are the up-draught tents of Sibley, Munson, Holmes and Gardiner. The last named is modeled after the Indian tepee, the air entering through a slit around the circular floor and being vented through a hole in the top. Of these various devices, the sleeping balcony, the Millet shack and the Gardiner tent seem to me the best.

THE PRINCIPLE OF VENTILATION.

The tent described below is an attempt to combine the advantages of these. The object is to provide pure air to the occupant under all conditions of weather, without sensible draught. The essential idea is to force a gentle current of air vertically upward through the tent. The breath of the occupant naturally rises, and is then caught in this upward draught and carried out, so that there can be no possibility of its being rebreathed.

The rapidity of change of air to effect this result need not be great. Ventilating engineers usually make a fundamental mistake in treating the problem of ventilation as though it were to add pure air to a room, whereas the principal problem is to remove the impure air. Ordinary ventilation simply dilutes this impure air instead of removing it systematically as fast as formed and preventing its return to the nose. The quantity of air passing through this tent is considerably less than what passes through an ordinary tent with horizontal air currents; but the air breathed by the occupant is absolutely pure, instead of slightly contaminated, as it is in the ordinary tent.

DESCRIPTION OF THE AUTHOR'S TENT.

The tent floor is 10x14 feet, the walls of the tent are 8 feet high under the eaves, from which rises a pitched roof to a central cupola, which is 4x5½ feet in horizontal dimensions and three feet in height. A smaller size, capable of holding one bed only, is 9x9 feet; height, 7 feet; cupola, 3x3x2½ feet.

The tent is raised a yard above the ground. The air enters the space beneath the floor through louvre-boards or "luffer-boards" or "flaps" of cloth, which are simply like clapboards hinged at the upper edges and hanging one over the other. These flaps are hung at their upper edges by cords on the inside of a wire netting surrounding the base of the tent. Thus they open inward at the slightest wind pressure, allowing every breeze to enter the space beneath the floor, but not allowing it to escape, since the pressure from the inside against the flaps closes them. The air is thus forced up through the tent. Similarly, the sides of the cupola are provided with flaps of the opposite kind; that is, they are hung on the outside of a wire netting and yield to any effort of the air to escape from the tent, but close against any wind from the outside. The effect, therefore, is to produce "wind pump ventilation," and to transform the slightest breeze into an upward current.

Free passage of air through the floor is provided by a space three inches wide between the tent floor and the walls of the tent and also by two slits two inches wide in the floor, four feet from each end. These slits, as well as the openings on the four sides, may be closed by trap doors so that the tent may be temporarily heated in the morning when the patient wishes to dress.

The length of the tent runs in an east and west direction. The entire south wall consists of curtains which roll from the bottom on Hartshorn rollers and may be put down in the day time to sun out the tent, or on hot, close summer nights when the air is absolutely still. In cold weather, even when the air is still, the curtains need not be lowered, as the difference in temperature between the breath exhaled and the surrounding atmosphere is enough to cause the exhalations to rise and pass out of the cupola openings. To provide for this there is a small space above the flaps in the cupola always open, and also above the flaps around the base of the tent.

One other device needs to be explained. This is a "regulator" under the floor of the tent and in the center. It performs two functions: the first and most important is to distribute the air evenly to all four sides of the tent; the second is to check the motion of the air when it is excessive, as in a gale. A false floor of canvas is constructed a foot below the real floor, and in the center of this false floor is an opening 5x7 feet, covered with wire netting and provided with flaps like those already referred to but hanging down from the wire netting at an angle of less than 45 degrees. Half of them, namely, those toward the east, are hung at their east edges; the other half, namely, those toward the west, are hung at their west edges. The consequence of this arrangement is that the air, passing through these flaps, is distributed half toward the east and half toward the west, so that each end of the tent is supplied with its share of air, whatever the direction from which the wind is blowing. It is found that without this distributing apparatus the air is apt to come up on the side of the tent most remote from the direction of the wind, and even in some cases to produce a revolving motion of the air in the tent, causing a down current on the windward side. With the regulator, however, this never happens.

In case of a gale the flaps in the regulator, which usually hang open, are blown shut and keep out an excessive quantity of air. The flaps at the extreme east and west are lightest and close first. The weights of the remaining flaps are graduated, so as to close successively in proportion to the severity of the wind.

The wire netting to which these flaps are attached is surrounded by canvas screens projecting seven inches downward

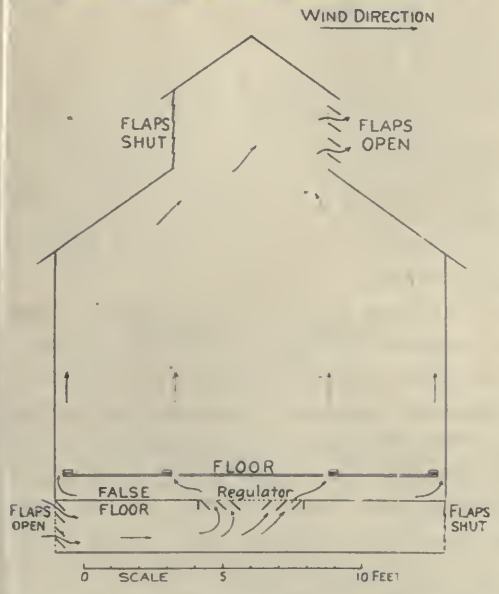
1. Observations on Tuberculosis, Dr. Henry B. Dunham, American Medicine, Dec. 28, 1901.

from the false floor, so as to constitute a short shaft, as it were, thus compelling the air, before reaching the flaps, to already have a general upward direction.

The mechanism which has been described thus performs four functions:

1. The flaps surrounding the base of the tent act like in-draught fans.

2. Those in the cupola act like suction fans.



3. Those in the central opening in the false floor distribute the air evenly.

4. The latter also check excessive draughts.

The result is that the tent automatically provides pure air for its occupants, without draughts, and in all conditions of weather, with the single exception of weather which is both hot and still, in which case it becomes necessary to lower the curtains.

The tent has been put to several severe tests. In one of these tests a stove was placed in the center, with the stovepipe extending only a foot above the head. It was found that the smoke thus vented into the tent itself was all carried out through the cupola without even producing any odor perceptible to those in the tent.

COMPARISON WITH THE GARDINER TENT.

The tent is simply a combination of the main features of the Gardiner tent, devised by Dr. Charles F. Gardiner of Colorado Springs,[2] the Millet shack, employed by Dr. Charles S. Millet at his sanatorium at East Bridgewater, near Brockton, Mass., and the movable cloth flaps frequently employed by heating engineers in cold air boxes. The combination of these three devices avoids some of the objections which apply to the Gardiner or Millet structures. Those points in which it is thought to be superior to the Gardiner tent are:

1. One side can be made entirely open in still, hot weather or in the daytime for the purpose of sunning the tent. This is important in damp climates. The Gardiner tent has been chiefly used in Colorado where there is never need of opening it up to dry it out.

2. The very slightest breeze is caught by the flaps and forced through the tent.

3. The flaps prevent automatically any possible down-draught, which sometimes occurs with the Gardiner tent when overtopped by a building or tree to the windward.

4. The regulator prevents any possible draught across the floor.

COMPARISON WITH THE MILLET SHACK.

The points in which the tent aims also to overcome objections to the Millet shack are:

1. The patient is not subjected to strong or variable winds.

2. He is not forced to sleep with the glare of the sky in his eyes.

3. There is no need of any adjustment by the patient at night in case of a storm or a change in the direction of the wind, as the tent adjusts itself automatically.

As yet, only a few of these tents have been made. Those who have used them have been greatly benefited. Some are to be employed at the new sanatorium of the New Haven County Anti-Tuberculosis Association at Wallingford, Conn., and one will be exhibited at the meeting at Baltimore, in January, 1904, of the Tuberculosis Commission of Maryland.

SOME DETAILS.

There is a double roof to prevent leaking.

The flaps in the cupola must be waterproof.

All flaps have the corners cut off obliquely, as square corners will whip and make a troublesome noise.

The flaps are tied by cords running obliquely downward. The cords must be loose enough to provide for shrinkage in damp weather, and yet tight enough to prevent the flaps from fluttering in the wind.

The false floor is made in sections easily detached and cleaned.

The cupola and the window in the false floor are lined with mosquito netting.

The curtains run between guides constructed of soft rope, so as to act as noiseless cushions. Cords from the curtains pass over pulleys at the northeast or northwest corner of the tent and thence to cleats on the east or west wall, so that the patient may operate the curtains without leaving his bed.

The curtains must be so adjusted in length that when they are pulled entirely up the Hartshorn metal rollers have the slit downward; otherwise the rain will percolate inside the rollers and injure them.

There is always an open space of one inch above the flaps in the cupola.

There is no patent on the tent. Anyone is free to construct one on the basis of the foregoing description.

2. This tent is fully described by Dr. Gardiner in his pamphlet entitled "The Sanatory Tent and Its Use in the Treatment of Pulmonary Tuberculosis." (Reprinted from Transactions of the American Climatological Assn., London, 1902, John Bale, Sons & Danielson, Ltd.)

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SATURDAY, DECEMBER 26, 1903.

The large amount of space occupied by the index in this issue compels us to omit several departments and to curtail others.

A WORD AS TO THE INDEX.

This issue completes Volume XLI of The Journal and contains the index. Since this index is peculiar to this journal, requires an immense amount of work and expense in its preparation and production, and is, we believe, of great value to those who desire a ready reference to medical literature, we again call special attention to it. We do so because we are afraid that few of our readers realize that this is anything more than "just an index"; consequently its value is limited.

The index is in two parts; the first running to page 1603. This is simply the ordinary index to the contents of The Journal itself, such as usually accompanies other journals, except that, we believe, ours is fuller and more complete. The second part of the index, commencing on page 1604, is that which is unique to our journal and to which we wish to call attention. As our readers know, we give each week the titles of original articles which appear in the leading medical journals of this and other countries. The index to the "Current Medical Literature" is an index to these articles. In other words, it is an index to the important literature of the world for the six months covered. To those who desire to look up any subject it is therefore invaluable.

The important articles are abstracted, but if these are not full enough, or if the article is not abstracted, the original article can nearly always be had by writing to the publisher, if in this country, or by referring to some of the leading libraries if it is a foreign journal.

A matter of minor importance to the possessor of a bound volume of The Journal but of great moment to him who has his journals loose, is the awkwardness and the annoyance of turning to the copy and to the page to find the titles. To do away with this, we issue, at the nominal price of fifty cents, a reprint of this index to which is added all the titles above referred to taken from The Journal week by week. Thus is provided in a compact and convenient form a reference to the literature contained in the leading medical journals of the world.

THE DETERMINATION OF SEX.

Many theories of the possible determination of sex in the lower animals have been broached in the last quarter of the century. At times it has seemed that influences could be brought to bear on the fertilized ovum that would artificially determine its sex, or at least so influence a number of ova that the majority of the offspring would be of one sex rather than the other. Prof. Thomas Hunt Morgan,[1] the director of the biologic department of Bryn Mawr College, and very well known for scientific work of a high order in embryology, and in the subject of regeneration, has made a review of all the recent investigations with regard to the determination of sex, and concludes that so far nothing definite has been discovered, and that very probably the sex of the embryo is in most cases determined in the ovum or during the process of fertilization, after which no subsequent influences can change this determination.

There have been apparently good reasons for thinking that in some cases sex might be determined after the fertilization of the ovum. Statistics of population seem to show that after long and severe wars in which many men are killed and the male part of a country's population is greatly decreased, there is for several years a preponderating birth of male children until the normal proportion between the sexes is restored. This seems to have been noted after the Thirty Years War in Germany, after the Napoleonic wars in France, and even in more recent times, after the Siege of Paris. It was thought that the increase of male births supposed to be noticed after such times of calamity, was due to the fact that the female population suffered hardships and that such a condition of hardship had a biologic effect in the production of males rather than of females. This theory seemed to be borne out some twenty years ago by experiments on frogs. The feeding of tadpoles very abundantly was reported to lead to an over-production of females, while the starving of tadpoles led to the production of males. Unfortunately, subsequent observation showed that this investigation was incomplete. As a rule, in any brood of tadpoles a great majority of them will turn out to be of one sex or the other. There is not the equal division of sexes that might be expected. Accordingly, the supposed conditions of the experiment are quite different from what the original investigator considered them to be.

Cuenot, who has perhaps done the best original work on this subject of the possible determination of sex, says that "the classic examples of insects and frogs, in which it was supposed that external conditions acting on the later embryo determined the sex, have been shown to be capable of a different interpretation. It has especially been made clear that a meager or an abundant supply of food has no influence on the determination of the sex of the embryo." It is the egg, in his opinion, and not the spermatozoön that determines the sex of the individual. This is true beyond all doubt in many insects, in pigeons, and in certain of the lower animals. In some animals, as the rotifera and in the social hymenoptera, the

1. Popular Science Monthly, December.

spermatozoön appears, however, to have a determining influence.

As a general conclusion Professor Morgan considers that it may be a futile attempt to try to discover any one influence that has a deciding influence for all kinds of eggs. "Here, as elsewhere in organic nature, different stimuli may determine indifferent species which of the possibilities that exist shall become realized." In a word, instead of a simple, it is a very complex problem, and all our supposed knowledge on the subject fails to stand the rigid test of scientific examination by the trained, modern biologists, whose wider knowledge of the lower animals has enabled them to recognize sources of error in previously suggested solutions of this attractive but inscrutable mystery.

Medical News.

CONNECTICUT.

November Infectious Diseases.—During November one case of smallpox was reported; 643 cases of measles, with 2 deaths; 132 cases of scarlet fever, with one death; 182 cases of diphtheria, with 4 deaths; 86 cases of whooping cough, with one death; 79 cases of typhoid fever, with one death, and 29 cases of consumption, with 20 deaths.

National Guard Changes Suggested.—At an informal meeting of the surgeons of the Connecticut National Guard, New Haven, December 9, it was decided to recommend to the military authorities that a medical department independent of the regimental medical officers be formed, that an additional surgeon be added to each regiment, and that the hospital corps consist of ten men to a regiment.

November Deaths.—During November 1,167 deaths were reported, 43 more than in the previous month, 84 more than in November, 1902, and 109 more than the average for the last ten Novembers. The death-rate was equivalent to an annual mortality of 15.1 per 1,000 for the large towns, 14.2 per 1,000 for the small towns, or 14.9 per 1,000 for the entire state. Deaths from infectious diseases were 236, or 20.2 per cent. of the total mortality.

ILLINOIS.

Student Dies.—Miss Caroline Beardsley, Highland Park, a student in the medical department of the University of Illinois, died suddenly from kidney disease, December 14.

New Buildings.—The building committee of the county board has decided to erect at Dunning a cottage for working patients and a new morgue and pathologic laboratory; and at the Cook County Hospital a children's building.

Appointments.—The Board of County Commissioners of Cook County has approved the appointment of Dr. Charles Whalen to the County Hospital, and the reappointment of Dr. Vaclav H. Podstata, as superintendent of the Cook County Institutions, Dunning, and of Dr. Warren H. Hunter as county physician.

Personal.—Dr. William J. Cheaney, Petersburg, has been appointed county physician of Menard County.——Dr. John T. Miller, Decatur, has been re-elected county physician of Macon County.——Dr. G. W. Rohr, Rockford, will be the guest of honor at the annual banquet of the Winnebago County Medical Society in February next.——Dr. Herman J. Huyett, Milan, is the dean of the profession of Rock Island County.——Dr. Frank B. Lucas, Peoria, has been elected county physician of Peoria County.

KENTUCKY.

District Physicians Elected.—Drs. Palmer G. Keeney, Edwin Wendt and Oscar A. Frickman have been elected district physicians of Newport.

Diphtheria and Smallpox.—Cave City reports 10 or 15 cases of smallpox, and at Richmond the public and private schools have been closed on account of the disease.——Diphtheria is said to be raging in Bellville, near Owensboro, and in the southern portion of Bracken County.

College Hospital Must Pay Taxes.—As a result of the decision by Judge Miller of the Jefferson Circuit Court, the hospital of the Kentucky School of Medicine must pay taxes. It was the contention of the college authorities that the hospital should be exempt because of the large number of charity patients cared for annually.

NEW YORK.

Smallpox.—The state health department reports on December 16 that smallpox was present at 12 places not noted in the report of December 5, when a list of 33 localities was published, in which smallpox existed.

Steel Company to Erect Hospital.—The Lackawanna Steel Company is about to erect in connection with the steel plant at Stony Point, a suburb of Buffalo, a hospital for the treatment of the maimed and wounded in their employ.

Dr. Chapin Sentenced.—On November 24, Dr. Henry W. Chapin, Findley Lake, convicted of having caused death by a criminal operation, was sentenced to imprisonment for a term of not less than one year, nor more than three years in the state penitentiary at Auburn.

Buffalo Deaths.—The monthly report of the department of health for November shows an annual death rate of 12 per 1,000. The principal causes of death were as follows: Consumption, 36; diphtheria, 11; typhoid fever, 8; debility, 28; alcoholism, 10; cancer, 22; apoplexy, 19; meningitis, 9; endocarditis, 7; vulvular heart disease, 25; pneumonia, 41; appendicitis, 6; cirrhosis of the liver, 6; gastritis, 8; gastroenteritis, 8; diabetes, 3; nephritis, 23; uremia, 5, and violence, 41. The total deaths for November were 438, as compared to 396 for November, 1902.

New York City.

Pneumonia and Tuberculosis.—The vital statistics for the year show 9,260 deaths from pneumonia, 13 per cent. of the total mortality, and 7,570 deaths from tuberculosis.

Alcohol and Opium Inebriety.—Dr. T. D. Crothers of Hartford, Conn., will deliver a course of four lectures on "Inebriety from Alcohol, Opium and Other Narcotics," at the New York School of Clinical Medicine, Jan. 5 and 6, 1904, to which the public is invited.

Gifts and Bequests.—President Abraham Abraham of the Jewish Hospital announced at a recent meeting that he had received a donation of $25,000 from an individual too modest to give his name, dependent on the raising of a similar sum within a year.——By the will of the late James Gracie, $5,000 is devised to the Orthopedic Hospital of Manhattan for the endowment of a bed, and $25,000 for the general endowment fund.

SOUTH DAKOTA.

Optician, Not Physician.—H. S. Fish, an optician of Sioux Falls, who was recently arrested on the charge of practicing medicine without a license, was discharged without trial, as it was shown that he had not violated the medical practice act.

Diphtheria.—The diphtheria epidemic at Parker is subsiding. Fourteen cases occurred, with three deaths. The quarantine against the city has been raised.——Diphtheria has appeared among the Indian children at the reservation day school at Ironwood Creek, Rosebud Agency, and the school has been closed.

Medical Society Elections.—The Watertown District Medical Society held its annual meeting in Watertown, December 8, and elected the following officers: President, Dr. Edwin T. Ramsey, Clark; vice-president, Dr. Oscar G. Frink, South Shore; secretary-treasurer, Dr. James B. Vaughan, Castlewood, and censors, Drs. Hans M. Finnerud, Henry H. Clark and Robert F. Campbell, all of Watertown. The next meeting will be held Feb. 9, 1904.——Mitchell District Medical Society met at Chamberlain, December 3, and elected the following officers: President, Dr. Wellington J. Mayhim; vice-president, Dr. Frederick Treon, Chamberlain; secretary, Dr. E. Frank Reamer, Mitchell; treasurer, Dr. William R. Ball, Mitchell; censor for the year, Dr. Thomas B. Smiley, Mount Vernon, and delegate to the state society, Dr. Roscoe H. Goodrich, Chamberlain.

TENNESSEE.

Banquet to Dr. Hill.—The Chattanooga Medical Association gave a banquet, November 6, in honor of Dr. T. S. Hill of Montgomery, Ala.

Smallpox.—Four new cases are reported in one family living near Mikle's Mill, Knox County.——Franklin reports 2 cases and has quarantine regulations in force.——Knox County has 15 cases under treatment at the isolation hospital.——From June 27 to the end of November there were 1,839 cases in the state, with 36 deaths. Hamilton County had 783 cases, and Knox County 186 cases.

Elections.—Henderson County Medical Society met at Lexington, December 1, elected Dr. James C. Stinson, Center Point, president; Dr. Daniel W. Bradfield, Poplar Spring, second vice-president, and James M. Arnold, Lexington, treasurer, and re-elected Dr. John H. Howard, Lexington, first vice-president; Dr. C. H. Johnston, Lexington, secretary, and Drs. John R. Muse, John L. Murray and R. H. Davidson, all of Lexington, censors.——At its December meeting the Jefferson County Medical Society elected the following officers: President, Dr. Isaac McC. Tittsworth, Jefferson City, president; Dr. Samuel W. Fain, Dandridge, vice-president; Dr. B. F. Brown, Mount Horeb, secretary, and Dr. Payne A. Tinsley, Dandridge, treasurer.

GENERAL.

Congress of Arts and Science of the St. Louis Exposition.—The following medical men of Europe have accepted an invitation to attend and take part in the above congress: T. Clifford Allbutt, Cambridge (internal medicine); Professor Richelot, Paris (gynecology); Sir Felix Semon, London (otology and laryngology); Sir Lauder Brunton, London (therapeutics); Major F. W. Ross, Liverpool (tropical medicine); Professor Theodor Escherisch, Vienna (pediatrics).

FOREIGN.

Celebration of the Decennial of the Roentgen Rays.—The tenth anniversary of the discovery of the Röntgen rays will be celebrated next spring at Berlin by a special Röntgen congress and exhibition, at which Röntgen will be the guest of honor. Further particulars may be learned by application to Dr. Immelmann, Lützowstr, 72 Berlin, W. Germany.

LONDON LETTER.

The Health of Bombay.

The annual report of the executive health officer for the year 1902 contains much information of interest. The statistics are based on the census return of 1901. The birth rate was 22.67 per 1,000 against 17.42 during 1901. The mortality from plague began its seasonal rise in January and reached its maximum on April 3 and then declined. There was a decrease in the number of deaths from plague in all communities except Europeans and negro Africans. From August the plague mortality rose gradually to the end of the year. The government has, after careful consideration, done away with the compulsory measures and introduced voluntary ones directing the health department to follow a persuasive policy. Inoculation is not in favor, the people of Bombay have lost all faith in its protective effects. During the year 288 deaths from smallpox occurred, as compared with 159 in 1901. The increase is accounted for by the number of unvaccinated people who went to Bombay from the Portugese territory and soon after arrival were found to be suffering from the disease. Four thousand, five hundred and eighteen deaths were due to fevers; the highest number, viz., 3,847, is attributed to remittent fever. This is 3,419 less than in the previous year and 1,938 less than the average of the preceding 5 years. To typhoid fever 89 deaths were ascribed, being 27 more than during the previous year and 42 more than the average of the last 5 years; 483 deaths were due to ague, and 190 more than the average of the last 5 years. The mortality from fever rose and fell with the mortality from plague. The divisional health officers instructed their staffs in the methods of distinguishing the various mosquitoes and larvæ and a list of places was made out where anopheles larvæ were found. The *Anopheles culicifacies* and *Alopeles Listoni* are said to be the only malaria-bearing mosquitoes known in Bombay at present. Advice is being given as to the best-known means of preventing the breeding of anopheles.

PARIS LETTER.

Congress of School Hygiene.

A congress was held in Paris, November 1, through the efforts of physicians and families, who are desirous of ameliorating the conditions of school life, and changing some of the methods followed in the interests of school hygiene. Dr. Legendre, who is deeply interested in all such questions, described the characteristics that a school physician should possess. It should be noted that every large school in France has a physician of its own, and Legendre would like to see the rôle of the latter made more important; he said the construction of a school should not be undertaken until a medical man has been consulted. Special rooms should be reserved for contagious diseases. All such diseases that are of parasitic origin, adenoids, eye or ear troubles, scoliosis, dental decay, various nervous diseases should be inquired into by the physician. A large number of cases of deficient intellectual development are due to ill health. The hours of study and recreation should be inquired into also.

Correspondence.

A New Operation for Retrodisplacements.

COLUMBUS, OHIO, Dec. 15, 1903.

To the Editor:—In a recent issue of THE JOURNAL you publish a brief abstract of a paper by Alexandroff describing "A new operation for retroflexion or retroversion." The operation is one which I have been doing for the past eight years, and which I have described or referred to during discussions in the Section on Obstetrics and Diseases of Women, first at the meeting at Philadelphia, again at Denver, and again at New Orleans. I have no doubt the work of Alexandroff is entirely independent of mine, at the same time I do not believe there can be any question as to the priority of the operation.

328 E. State Street. F. F. LAWRENCE.

Deaths.

Edward Fridenberg, M.D. College of Physicians and Surgeons, New York, 1878, a member of the American Medical Association; New York State Medical Association; American Laryngological, Rhinological and Otological Society; American Otological Society; New York Academy of Medicine; New York County Medical Society, New York Ophthalmological Society and New York Otological Society; ophthalmologic and aural surgeon to the German Hospital, president of the Harlem Medical Society, died from apoplexy at his residence in New York City, December 9, aged 48.

Israel B. Washburn, M.D. Rush Medical College, Chicago, 1861, of Rensselaer, Ind., one of the most prominent physicians of Northern Indiana, a member of the American Medical Association, Kankakee Valley Medical Society, a surgeon in the Civil War, and in 1872 a member of the state legislature, died at Valparaiso, Ind., from malignant disease of the liver, after a surgical operation, December 11, aged 65.

Hugh Burford, M.D. Savannah (Ga.) Medical College, 1879, a member of the American Medical Association, and the Medical Association of Georgia, acting assistant surgeon U. S. P. H. and M.-H. Service; surgeon for the Southern Railway, and member of the Association of Southern Railway Surgeons, died at his home in Brunswick, Ga., December 7.

Alfred H. Brundage, M.D. Albany (N. Y.) Medical College, 1856, a member of the American Medical Association, surgeon of the Thirty-second Ohio Volunteer Infantry in the Civil War, died at his home in Xenia, December 10, from uremia, after a short illness, aged 68.

Lewis A. Frost, M.D. Detroit Medical College, 1875, from 1881 to 1895, assistant physician at the Illinois Central Hospital for the Insane, Jacksonville, Ill., died at his home in that city, December 14, from paralysis, after an invalidism of five years, aged 61.

Elisha Hall Bridges, M.D. Bellevue Hospital Medical College, New York, 1866, for many years president of the St. Lawrence County Medical Society, died at his home in Ogdensburg, N. Y., October 9, from acute Bright's disease, aged 62.

Edward F. C. Rembe, M.D. St. Louis College of Physicians and Surgeons, 1891, of Lincoln, Ill., died at the Deaconess' Hospital in that city, December 14, after an illness of three weeks, from septicemia, aged 49.

Albert Moser, M.D. Harvard University Medical School, Boston, 1899, who served throughout the Spanish-American War in China and the Philippines, died at his home in Lima, December 9, aged 33.

Wilfred Stedman Fisher, M.D. University of Michigan, Ann Arbor, 1903, house surgeon at the University Hospital, Ann Arbor, died November 30 at Ann Arbor, from typhoid fever, aged 26.

Timothy O'Connor, M.D. College of Medicine and Surgery of the University of Minnesota, Minneapolis, 1890, of Maple Lake, Minn., died in Denver, from consumption, December 11, aged 45.

T. M. Gwin, M.D., assistant surgeon in the Confederate service during the Civil War, died at his home in Blacksburg, S. C., from dropsy, December 9, after a long illness, aged 64.

James L. Patty, M.D. Louisville Medical College, 1872, of Bigbee Valley, Miss., was found dead in his buggy, near Brooksville, Miss., December 12. Death was due to apoplexy.

Watkins W. Griffiths, M.D. University of Vermont, Burlington, 1895, of Hillsborough Bridge, N. H., died recently at the Margaret Pillsbury Hospital, Concord, N. H., aged 35.

Josiah W. Willis, M.D. Homeopathic Medical College of Missouri, St. Louis, 1875, died at his home in Galesburg, Ill., December 14, from paralysis, after a short illness, aged 68.

Earl Evans, M.D. Berkshire Medical College, Pittsfield, Mass., 1856, a member of the American Medical Association, died at his home in Winchester, N. H., November 28.

Henry P. Peebles, M.D. Miami Medical College, Cincinnati, 1873, formerly of New Castle, Pa., died at Chihuahua, Mexico, November 30, after a long illness, aged 51.

George A. Hollister, M.D. Ohio Medical University, Columbus, 1895, of Toledo, Ohio, died at Bellevue, Ohio, December 9, from general paresis, after a long illness.

George Horine, M.D. Kentucky School of Medicine, Louisville, 1879, died at his home in Americus, Ga., December 8, after a long illness from lung disease, aged 47.

George Horace Brown, M.D. University of Vermont, Burlington, 1882, died suddenly at his home in Gilmanton, N. H., December 5, from apoplexy, aged 50.

A. L. Kline, M.D. Louisville Medical College, 1874, died at his home in West Enterprise, Miss., December 12, after an illness of several months, aged 57.

Hugh P. Whiteside, M.D. Kentucky School of Medicine, Louisville, 1875, of Pe Ell, Wash., died recently from typhoid fever at the Centralia Hospital.

Cornelius M. O'Leary, M.D. New York University, of New York City, 1864, was killed by a motor train in Brooklyn, December 12, aged 64.

Charles B. Ridley, M.D. New Orleans School of Medicine, 1868, died at his home in La Grange, Ga., December 14, after a prolonged illness.

Sophronia Nichols, M.D. Boston University School of Medicine, 1874, died in Barona, Cal., after a long illness, November 12, aged 68.

Henry James Ward, M.D., of Coaling, Tuskaloosa County, Ala., died in Birmingham, Ala., December 13, from paralysis, aged 61.

John Taliaferro Jones, M.D., of Charlottesville, Va., died at his home in that city, December 10, after a brief illness, aged 78.

Samuel M. C. Hawthorne, M.D. Medical College of Alabama, Mobile, 1889, died at his home in Pineapple, Ala., December 9.

Fred J. Rothacher, M.D. Detroit College of Medicine, 1902, died suddenly in his office at Detroit, December 8, aged 36.

Edward A. Everitt, M.D. Albany (N. Y.) Medical College, 1856, died recently at his home in Burlington, Pa., aged 72.

Alvinzi G. Thomas, M.D. Atlanta Medical College, 1858, died at his home in West End, Atlanta, December 14, aged 70.

Otto Fuls, M.D. Miami Medical College, Cincinnati, 1870, died at his home in Cumminsville, Cincinnati, December 10.

Charles E. Stewart, M.D. Hahnemann Medical College, Chicago, 1878, died recently at his home in Streator, Ill.

N. B. Ridgway, M.D. Starling Medical College, Columbus, 1870, died at his home in Galion, Ohio, December 12.

Frank W. Burlingame, M.D. Homeopathic Hospital College, Cleveland, 1882, of McKeesport, Pa., died recently.

J. A. Williamson, M.D. Vanderbilt University, Nashville, 1884, died recently at his home in Newark, Ark.

Lincoln C. Sappington, M.D., died from hemorrhage at his home in St. Louis, December 14, aged 46.

Carlton D. Ashley, M.D., died at his home in Cleveland, Ohio, December 9, aged 81.

Medical Organization.

Indiana.

GENERAL REPORT.—Dr. Paul J. Barcus, Crawfordsville, councilor for the Ninth District, reports that all of the counties in his district have been reorganized and have adopted the new constitution and by-laws. Each of the societies has an increased membership, some having increased more than 100 per cent. during 1903. He says that he has visited nearly all of the societies, and that while some are not doing much at present, "there is a splendid prospect for a general revival of interest in all the counties of this district."

Maryland.

GENERAL REPORT.—Dr. Henry O. Reik, Baltimore, reports that the work of reorganization in Maryland is progressing steadily and satisfactorily; that twelve county societies have been organized during the past month. Since there are only twenty-four counties in Maryland, this report is very encouraging.

GARRETT COUNTY MEDICAL SOCIETY.—The physicians of Garrett County organized at Oakland, December 10, with the following officers: President, Dr. William H. Ravenscroft; vice-president, Dr. Henry W. McComas; secretary and treasurer, Dr. John E. Legge, all of Oakland, and censors, Drs. Mahlon C. Hinebaugh, Oakland, W. G. Drinkwater and H. R. Boyer.

DORCHESTER COUNTY MEDICAL SOCIETY.—The physicians of Dorchester County, Eastern Shore, organized a society at Cambridge, December 5, with the following officers: Dr. Benjamin L. Smith, Madison, president; Dr. Thomas H. Williams, Cambridge, vice-president; Dr. Guy Steele, Cambridge, secretary; Dr. John Mace, Cambridge, treasurer, and Drs. Robert J. Price, Vienna, Sidney A. Stokes, Cornersville, and Eldridge E. Wolff, Cambridge, censors.

North Carolina.

JACKSON COUNTY MEDICAL SOCIETY.—On November 18 the physicians of the county met at Dillsboro and organized on the standard plan with all the licensed physicians as charter members. Dr. J. M. Candler, Dillsboro, was elected president, and Dr. George P. Edwards, Sylva, secretary. A charter has been granted by the Medical Society of the State of North Carolina.

Therapeutics.

[Our readers are invited to send favorite prescriptions—such as have been tried and found useful—for publication in these columns. In each case the name of the sender must accompany the prescription, but the name will be published or omitted, as the sender may prefer.]

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Injection in Syphilis.

The following combination is recommended by Anthony in the treatment of syphilis:

R.	Hydrarg. biniodidi	gr. iss .	09
	Potass. iodidi	gr. ix	60
	Sodii phos.	gr. xv	1
	Aquæ destil.	ʒii	60
	Sol. sodii chloridi (decinormal)	ʒii	60

M. Sig.: Sixteen drops by hypodermic injection once daily

Caffein Hypodermically.

Caffein, according to *Merck's Archives,* is not suitable, as a rule, for hypodermic injection owing to its comparative insolubility—being soluble in not less than eighty parts of water. Its solubility is greatly increased by the addition of equal parts of sodium benzoate or sodium salicylate or perhaps antipyrin. The following combinations are consequently suitable for hypodermic use:

R.	Caffeinæ		
	Sodium salicylatis, āā	3i	4
	Aquæ destil.	3ii	8

M. Sig.: Five to ten drops hypodermically; or:

R.	Caffeinæ	3iii	12
	Sodii benzoatis	3ii	8
	Aquæ destil	3v	20

M. Sig.: Five to ten drops hypodermically.

Caffein in Alcoholic Toxemia.

Caffein is of value as a diuretic and in cases of venous congestion; it refreshes and stimulates the nervous system and is a vasomotor tonic. It is of great use in attacks of dyspnea caused by sclerosis of the coronary arteries, governing to some

extent the caliber of the blood vessels and so sustains the circulation. It increases the loss of carbon by the organism and does not restrain the loss of nitrogen. Caffein seems to take the place of alcohol and to quench the desire for it.

It is, therefore, of service, according to A. J. Hall in *Med. News*, in the treatment of alcoholic toxemia because it increases the kidney secretion, corrects the insomnia, corrects the defective circulation, stimulates the heart and promotes the elimination of the toxins.

Medicolegal.

Expert Evidence with Regard to Time of Death.—The Supreme Court of Utah holds, in the murder case of State vs. Mortensen, that there was no error in admitting the testimony of a physician relating to the probable length of time which intervened from the time the deceased had eaten his supper until his death, as indicated by the appearance of the contents of the stomach and the stage of digestion, the witness, as an expert, having made an examination of the stomach of the deceased.

Damages for Fracture of the Coccyx and a Sprain.—The United States District Court holds, in the case of the City of Portsmouth, a disembarking passenger having sprained her ankle and fractured the coccyx by falling between the boat and dock, that an award of $4,000 damages was only reasonable and would be allowed, medical experts having testified that the injuries sustained were all permanent in character, and that from same she would suffer all of her life, their tendency being to make her an invalid and a nervous wreck.

Physical Examinations in Oklahoma.—The Supreme Court of Oklahoma holds, in City of Kingfisher vs. Altizer, that the courts of that territory can not order a party bringing an action for an injury to the person to submit to a surgical examination in advance of or during the trial of the cause. It says that one may expose his body, if he chooses, with due regard to decency, and with the permission of the court; but he can not be compelled to do so in a civil action without his consent. Where a person unreasonably refuses to show his injuries when requested to do so, that fact may be considered by the jury as bearing on his good faith, as in any other case of a party declining to produce the best evidence in his power and under his control.

Furnishing of Medical Treatment by Employers.—The Court of Civil Appeals of Texas says, in Galveston, Harrisburg & San Antonio Railway Company vs. Hennigan, that while, independent of a contract, no duty rests on a master to furnish his servants with medical and surgical treatment, yet, if he undertakes to furnish such treatment, the law imposes on him the duty to use reasonable care in engaging the services of a competent and skillful physician and surgeon for that purpose. And if, through his failure so to do, the physician employed is incompetent and unskillful, and through such incompetency, etc., in the treatment of the servant injures him, the law holds the master responsible for his failure to discharge the aforesaid legal duty. Such liability is independent of any duty arising from a contract.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

December 12.

1 *The Function of Maternal Milk in Developing the Stomach; a Factor Hitherto Overlooked in Artificial Infant Feeding. Henry Dwight Chapin.
2 *Cyclical Albuminuria. Arthur R. Elliott.
3 *Muscle Tonus and Tendon Phenomena. Joseph Fraenkel and Joseph Collins.
4 A Rare Case of Patent Diverticulum Ilei. August A. Strasser.
5 *The Treatment of Cancer by Caustic Paste. Charles W. Allen.

1. **Maternal Milk.**—Chapin reviews the comparative anatomy of the stomach and shows that infants and their mothers are adapted to each other functionally as well as anatomically. Cow's milk is what we have to use where mother's milk fails. As the proteid does not fit the baby's stomach it must be altered in some way or other. In the cow, digestion is principally gastric and food slowly leaves the stomach. Cow's milk curdles in large masses that can not readily pass onward, while human milk does not form solid curds. An alteration of this character of cow's milk may be brought about by various methods, one succeeding where another fails. He makes use of the alkalies, the dilution of cow's milk with the plain gruels and dextrinized gruels and points out that no one rule, but only a perfect adaptation to the condition of the individual infant can be followed. Experience and study will enable the infant feeder to do what nature does automatically.

2. **Cyclical Albuminuria.**—Elliott considers this anomaly an evidence of defective glomerular condition, a few leaky glomerules as yet imperfectly repaired, after some localized glomerulitis, permitting under the high interglomerular blood-pressure of the upright position the passage of albumin into the urine. Every cyclical albuminuria must be looked on as simply a phase or a mild degree of true nephritis which has preceded it. This may have been latent and escaped detection. The view does not necessarily imply a serious prognosis. The disease is not active and progressing, but tends to disappearance under proper care.

3. **Muscle Tonus and Tendon Phenomena.**—The conclusions of Fraenkel and Collins' studies are: 1. That disease of the posterior columns causes hypotonia and decrease of reflexes, and that the tendon phenomena are absent or diminished unless additional disease of the descending tracts counterbalance this influence. (Return of knee-jerks in cases of tabes after hemiplegic attacks.) 2. That disease of the pyramidal tracts causes hypertonia and increase of reflexes, including the tendon jerks unless additional disease of the ascending tracts, anterior horns or peripheral neurons, neutralizes this influence. 3. Histologic hypertonia and hypotonia modify the above-stated relations to a slight degree when the disease has not advanced to its full clinical representation. 4. There is a large group of more or less normotonic registrations found in their lists with approximately normal behavior of the tendon phenomena. 5. There is also a smaller group with more or less marked hypotonic registrations, the tendon phenomena being mostly diminished, not easily elicited, and the muscular contraction is sluggish and vermicular and quickly exhausted. This is not influenced by a well-executed reinforcement.

5. **Cancer.**—Allen objects to the statement by Campbell White that the caustic treatment of cancer has been rejected except by charlatans. He thinks Dr. White would not mean to class him among charlatans, though he still uses this method. In looking over his records he finds that the final results of the caustic treatment and of the *x*-ray are almost identical.

American Medicine, Philadelphia.

December 12.

6 *The Relative Importance to the Community of Pneumonia and Tuberculosis. Arnold C. Klebs.
7 *Address on Hernia. John B. Deaver.
8 *Amputations. Thomas H. Manley.
9 Amyotrophic Lateral Sclerosis. Alexander McPhedran.
10 *Infections of the Knee-Joint. I. R. Trimble.
11 *Care of the Uterine Cervix. H. Wellington Yates.
12 The Brain of Children and Some Suggestions from the Standpoint of the Physician as to How It Should Be Regarded by the Teacher. Henry L. Swain.

6. **Pneumonia and Tuberculosis.**—Klebs' paper (which has been published in the *Illinois Medical Journal*, December, page 486) ends with the following conclusions:

1. The relative economic importance of pneumonia and tuberculosis can not be estimated by a mere comparison of total mortality figures for each disease.

2. The apparently high mortality figure and its increase of late, for pneumonia is produced by the enormous death rate and its increase attributed to this disease, in early childhood.

3. Therefore, the high mortality from pneumonia and to a certain extent its increase is due to a classification of different ill-defined pathologic conditions under one name, while that from tuberculosis represents that of a well-defined morbid entity.

4. For this reason and on account of the relative shortness of disabling sickness and frequent recovery in pneumonia, the great length of disabling sickness and infrequent recovery in tuberculosis, the relative importance of the two diseases is so vastly different, that a comparison on economic grounds reveals the overpowering danger from tuberculosis.

5. The steady decrease of the tuberculosis death rate can be explained on the grounds of increasing improvement of hygienic conditions in late years and as the result of specific prophylactic measures.

6. The increase of the pneumonia death rate occurring in a time of improving hygienic and sanitary conditions and of a general application of antiseptic principles, shows its independence of these features.

7. Therefore, and in view of the still enormous mortality from tuberculosis, its demonstrated preventability and the possibility of its arrest only in its earliest stages, the institution of educational measures in regard to personal and public hygiene widely and specifically applied, for the prevention of this disease, seems to be distinctly indicated.

8. Since for pneumonia, as pointed out by E. F. Wells, "the fundamental information on which prophylactic rules may be formulated is not yet at hand" this subject needs further investigation from a bacteriologic and epidemiologic standpoint as well, before "exaggerated and irrational notions in regard to its dangers and its avoidance" are communicated to the public, which in view of the facts given are out of all proportion.

7. **Hernia.**—Deaver's article is a general review, pointing out the methods he employs under various conditions.

8. **Amputations.**—Manley insists on the modern tendency to conservatism in amputations.

10. **Knee-Joint Infections.**—The points emphasized by Trimble are the need of careful diagnosis in every case of inflammation in or about the joint, and, when purulent inflammation is present, the early opening of the joint and means taken to prevent the formation of pockets of pus.

11. **Care of the Uterine Cervix.**—Yates insists on the importance of thorough excision of scars in trachelorrhaphy, not the mere denuding of the surfaces and suturing, but the complete removal of foreign tissues. We should be careful in ascribing symptoms to cervical laceration, for not all the reflex symptoms that occur can be properly so referred.

Medical News, New York.

December 12.

13 *The Home in Its Relation to the Tuberculosis Problem. William Osler.
14 *Syphilis and Divorce. Prince A. Morrow.
15 *Some Practical Suggestions on Physical Education in the Public Schools. Richard C. Newton.
16 *Report of Cases with Exhibition of Specimens Diagnosed by the Cystoscope. John R. Wathen.
17 *Hysteria. William B. Young.
18 *Enlarged Bronchial Glands. J. R. Clemens.
19 *A Humble Sterilizer. Douglas H. Stewart.

13.—See editorial last week.

14. **Syphilis and Divorce.**—Morrow gives a digest of the legal status of syphilis and divorce, and advises that under the present conditions of law, syphilis should never be invoked as the cause of action, unless it constitutes the chief or only phase of cruelty that can be alleged. The proceedings had better by far be based on charges of infidelity if they can be sustained. The inconveniences to the applicant to prove the facts for divorce are very serious and should be avoided if possible. Still there are many cases of marital infection of such aggravating character that it may be the only resource. There are so many loopholes of escape for the guilty party from the interpretation of what constitutes "willful and knowing" communication, and so many extenuating circumstances that may be pleaded, that the existing laws are not adequate. He would advise the physician not to appear in the interest of the patient, but let the proof of the communication of the disease be furnished by a medical expert appointed by the court, and especially, he says, should the attending physician avoid giving a letter or certificate as to the existence of syphilis in the plaintiff and his treatment of it. Certificates of this character are looked on with suspicion and may be rejected by the courts.

15. **Physical Education in Public Schools.**—Newton advocates dispensing with the teachers of superfluous and ornamental branches if necessary, using the money thus saved for hiring necessary medical inspectors and the obtaining of proper facilities, etc., for physical education. The evils of forcing children in schools in an ignorant way are hardly less, he thinks, than those of child labor.

16. **Cystoscopic Examinations.**—Five cases are reported to illustrate the necessity of cystoscopic examination, showing the morbid disease, calculus, foreign bodies, etc., in the bladder. Wathen insists on the importance of more thorough and accurate methods of diagnosis in this field.

17. **Hysteria.**—Young considers hysteria a psychosis due largely to the unconscious impressions of infancy and childhood in neurotic subjects. The pathology, he thinks, will be located in the adrenal system, and the treatment should be psychic. Suitable resorts should be erected for the poor. With such methods he believes hysteria would be on the decrease instead of on the increase. He accounts for the greater amount of hysteria among women than among men by the fact that female children are more under the influence of hysterical mothers than are boys.

18. **Enlarged Bronchial Glands.**—The importance of these glands, their frequent oversight and their potential toward tubercle and the danger of neglect are pointed out by Clemens.

19. **A Home-Made Sterilizer.**—Stewart suggests the use of an ordinary wash boiler. Through the flange of the boiler cover holes are punched, passing a string through each. To sterilize heavy bed linen, sheets, etc., make a criss-cross network over the fabrics after packing the cover in the inverted position; put the instruments in the boiler itself, covering with about six inches of water and add one heaping tablespoonful of washing soda, put on the cover, place the whole on a stove and boil hard for ten minutes. Then let the apparatus cool. He says there is a distinct advantage in commencing the operation with cold water and again gradually lowering the temperature after boiling. When the cover is finally lifted it is a sterile tray and should be stood bottom upward on a convenient table, the strings severed, and its contents be allowed to remain undisturbed until each is required. He suggests care in disinfecting oily instruments by boiling, as water covered with a layer of oil may be raised to about 120 C. when it begins to boil explosively; it is then safer to be out of doors than in the kitchen.

Boston Medical and Surgical Journal.

December 10.

20 *General Peritonitis Complicating Scarlet Fever. John H. McCollom and John B. Blake.
21 Was He Insane? A Study in Mental Diagnosis. (To be continued.) C. A. Drew.
22 *A New Method of Closing the Abdomen After Laparotomy. Frank A. Higgins.
23 *Albuminuric Retinitis. Allen Greenwood.
24 As to Pope Leo's Case—Pleuro-Pneumonia. Samuel Delano.
25 Rupture of the Tendon of the Extensor Longus Pollicis; Tendon Transplantation. C. L. Scudder and W. E. Paul.

20. **Peritonitis Complicating Scarlet Fever.**—Two cases are reported by McCollom and Blake, who regard them as interesting on account of the fact that this complication is not referred to at any length in text-books. In both the peritonitis occurred late in the course of the scarlatina, due to streptococcus, and without any apparent local inciting cause. It seemed to be only a part of the widely distributed general infection involving other serous cavities, excretory organs, special sense organs and part of the circulatory system. The peritoneum, they think, was affected through the blood; there is no more obvious explanation. In the treatment palliative means may do if the signs of peritoneal infection are slight, but if the pulse rises, and pain, tenderness and spasm increase, drainage is imperative. The condition of the kidneys is the most definite contraindication to anesthesia, and whenever possible cocain should be substituted for ether. The operation should consist of a rapid celiotomy, thorough irrigation with hot salt solution and drainage. The incision should be in the middle line unless there are definite local symptoms. Hot moist dressings, frequently changed, are desirable. Salt solution hypodermically or by rectum, and water by the mouth if the patient does not vomit are indicated. Stimulation should be free. Alcohol may be contraindicated by the kidney condition. Caffein, strychnia and digitalis may be used energetically. The prognosis is always grave.

22. **Closure of Laparotomy Wounds.**—Higgins uses a thin metal strip or plate over which he ties his mass suture, this underlaid by an antiseptic gauze, with a small pad of the gauze inserted under each end, thus keeping out infection. He is now testing a glass plate through which the healing of the wound can be watched.

23. **Albuminuric Retinitis.**—Two groups of this condition are recognized by Greenwood, one including those cases where endarteritis of the chorioretinal vessels is largely a part of a general arterial degeneration of which the chronic interstitial nephritis is also only a part. These cases occur in the old and middle-aged. The second group includes those cases due to uremic poisoning of the blood from acute or chronic lesions of the kidney, usually parenchymatous or diffuse. They occur mostly in youth and early adult life, showing a greater retinal destruction with consequent greater impairment of vision. The prognosis is bad in all but the cases resulting from scarlet fever and pregnancy. In the first group the chances of life are rather better. He reports briefly a number of cases of each group and gives the results. Of the 16 cases of the first group, 4 died within a year, 4 within two years, 4 within three years, and 1 lived nearly four years. One was lost sight of. Of the 2 living patients neither dates back over two and a half years. Of the 10 cases of the second group, 4 died within eight months, 1 within two years, 1 after four years and seven months, and 1 was known to be alive two and a half years after first being seen. The 2 cases occurring from pregnancy recovered, and the tenth case has been lost sight of.

New York Medical Journal.

December 13.

26 *The Administration of Antitoxin in Diphtheria by the Department of Health During 1902. J. S. Billings, Jr.
27 The Roentgen Rays in Therapeutics. Mihran K. Kassabian.
28 Report of a Case of Rupture of the Uterus in Which Hysterectomy Was Followed by Recovery. Francis T. Stewart.
29 Some of the More Infrequent Causes of Obstruction of the Common Bile Duct. Levi J. Hammond.
30 Dry Hot Air in the Treatment of Bright's Disease. (Concluded.) Clarence E. Skinner.
31 The Element of Faith in Healing. P. C. Kalloch.
32 A Case of Poisoning by Hyoscin Hydrobromate. Frederick Krauss.
33 The Treatment of Habitual Abortion. Anna S. Wilner, Frances Bradley and Eugene R. Corson.

26. **Diphtheria Antitoxin.**—Billings analyzes and tabulates the statistics of the use of diphtheria antitoxin by the health department of New York during the year 1902. In 15,792 cases injected, 1,860 died, a case fatality of 11.8 per cent.; 722 of these, however, were moribund when injected and deducting these reduces the mortality to 7.5 per cent. One fact brought out and especially emphasized in the report is the imperative necessity of the earliest possible administration of antitoxin. Of the 1,702 cases injected the first day of the disease, only 85 patients died, including the moribund cases, or less than 5 per cent.

Cincinnati Lancet-Clinic.

December 13.

34 Only a Step—Sanitation. H. H. Speers.
35 *Treatment of Lupus with Local Applications of Turpentine. W. S. Hoy.
36 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

35. **Lupus.**—Hoy advocates the use of turpentine in lupus and reports three cases in his experience where it succeeded. The method was in keeping the ulcer more or less saturated with turpentine all the while. In all of the applications, picric acid gauze or cotton was used to keep the parts moistened with the turpentine.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

1 (XXIX, No. 48.) *Zur Behandlung der akuten Mittelohrentzündung (otitis media). Heine (Lucae's clinic, Berlin).
2 *Zur Frage der Indikation und des Erfolges der Talma'schen Operation bei der atrophischen Leber-Cirrhose. R. Lenzmann.
3 Lubarsch's Technic of Rapid Hardening and Embedding. O. Lubarsch (Posen).—Ueber meine Schnellhärtungs- und Schnelleinbettungsmethode.
4 *Zur Aetiologie der Endometritis exfoliativa. S. Gottschalk.
5 *Attempt to Produce an Antibody with Aid of Blood Serum of Cancer Subjects. C. S. Engel (Berlin).—Ueber einen Versuch, mit hilfe des Blutserums Carcinomatöser einen Antikörper herzustellen.
6 Adrenalin in Severe Hemorrhage. R. Kirch.—Ueber Adrenalin und seine Anwendung bei schweren Blutungen.
7 Physiologic Requisites for a Comfortable Reclining Position. T. Schrohe.—Ueber die phys. Bedingungen einer bequemen Ruhelage.
8 Ankylostomiasis in Dortmund. G. Helmann (Berlin).—Das Auftreten der Wurmkrankheit im Oberbergamtsbezirk Dortmund.
9 Das Honorar der Spezial-Aerzte.

1. **Acute Otitis Media.**—Heine describes the principles that prevail at Lucae's clinic in the treatment of this affection. Rest and application of warmth are first advised when there is little if any pain and no fever, and also sometimes in the case of children when an exudate in the middle ear may be assumed, but the color and general aspect of the tympanum indicate that the exudate is serous. Paracentesis is done at once when the pains are very intense and interfere with sleep at night, or even in the absence of intense spontaneous pain when the mastoid process is sensitive to pressure. Paracentesis is of course indicated at once on the first suspicion of meningeal inflammation. He reports a case in which the patient died five weeks after the commencement of a sudden and acute otitis media. He was a healthy young workman, and he continued at work for three weeks before seeking a physician. The necropsy showed recent basilar meningitis originating in the ear trouble. The suppuration in the middle ear had been unable to force a way out through the peculiarly thick tympanum and had penetrated through the oval fenestra into the labyrinth. Paracentesis in time would have undoubtedly saved this patient's life, but after the third week the damage had already been done.

2. **Talma's Operation in Atrophic Cirrhosis of the Liver.**—Lenzmann adds another to the list of entirely successful operations of this class. From his experience and that of others he advocates the operation in every case of atrophic cirrhosis of the liver when the organ is not yet perceptibly shrunken, but the signs of congestion in the portal vein, development of ascites, etc., are noticeable. Also when the liver is somewhat shriveled and there is more or less ascites, but the liver tissue is still functioning to a certain extent, as shown by the absence or slight degree of icterus. On the other hand, he thinks there is little prospect of success when the icterus is pronounced or when there is urobilinuria or when hemorrhages from the mucosæ, delirium, etc., indicate complete or considerable insufficiency of the liver function responsible for the production of bile. The heart action must still be good to insure the development of collateral circulation.

4. **Etiology of Exfoliating Endometritis.**—Gottschalk describes a case in which he discovered numerous thrombi in the veins of the uterine mucosa. The membranes had become detached from their foundation by a dissecting effusion of blood, the same as in premature detachment of the placenta. The thrombi were evidently due to stagnation of the blood from weak heart action. No micro-organisms were found in the tissues. The findings in this case suggest that the routine method of treatment by abrasio is irrational.

5. **Serum Treatment of Cancer.**—Engel drew 10 to 15 c.c. of blood twice a week from each of two subjects with inoperable cancer of the stomach or esophagus and injected the serum into rabbits. His aim was to induce the production of antibodies without antialexins. To eliminate the alexins the serum was heated to 58 C. before injecting. He describes his tests of the rabbit serum thus produced. It was injected into the cancer subjects with a further supply of alexins in the form of normal serum from healthy human subjects. Tests of the serum *in vitro* indicated that antibodies had been generated in the serum of one of the rabbits, while the tests were negative with the serum from another rabbit. One of the cancer subjects showed considerable improvement after this serum treatment and became able to swallow solid foods previously impossible. He returned twice a week for the withdrawal of blood and injection of the prepared serum, but the disease continued its course, and he died in less than four months. The other patient showed no improvement and died in a little more than two months. Engel thinks that serumtherapy founded on injections of cancer tissue is more promising than that founded on injections of serum. Further researches at present under way indicate that the prospects are much better for the production of an effective animal serum by injection of human blood serum from subjects with constitutional diseases other than cancer.

GENERAL INDEX.

Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one title, and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles and the *subjects* of: editorials, society proceedings, abstracts, medicolegal, and miscellaneous matter appearing in THE JOURNAL; the titles of: "Editorials," "Book Notices," "Deaths," "Societies," "Association News," and "State Boards of Registration" are indexed and arranged under their separate headings in the "Index of Departments," instead of in the body of the "General Index." The "General Index" contains the subjects of articles in other journals which have been abstracted in THE JOURNAL. The titles and authors of all other articles from other journals are under the "Current Medical Literature Index."

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SOCIETIES.

Abbreviations:
A.—Association.
S.—Society.
M.—Medical, Medicine.
Acad.—Academy.
Phys.—Physician.
Surg.—Surgical, Surgery, Surgeons.
Coll.—College.
Ry.—Railway.
Dist.—District.
Cong.—Congress.

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